

Data Lake Insight

API Reference

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Contents

- 1 Before You Start..... 1**
- 2 Overview.....4**
- 3 Calling APIs..... 6**
 - 3.1 Making an API Request..... 6
 - 3.2 Authentication..... 10
 - 3.3 Returned Values..... 12
- 4 Getting Started..... 14**
 - 4.1 Creating and Submitting a SQL Job..... 14
 - 4.2 Creating and Submitting a Spark Job..... 16
 - 4.3 Creating and Submitting a Flink Job..... 21
 - 4.4 Creating and Using a Datasource Connection..... 24
- 5 Permission-related APIs..... 28**
 - 5.1 Granting Data Access Control to Users or Projects..... 28
 - 5.2 Checking the Permissions Granted to a User..... 33
- 6 Global Variable-related APIs..... 38**
 - 6.1 Creating a Global Variable..... 38
 - 6.2 Deleting a Global Variable..... 40
 - 6.3 Modifying a Global Variable..... 42
 - 6.4 Querying All Global Variables..... 44
- 7 Data Catalog-related APIs.....47**
 - 7.1 Obtaining Information About All Catalogs in a Project..... 47
 - 7.2 Querying Details About a Specified Catalog..... 50
 - 7.3 Binding or Unbinding a Catalog Mapping..... 52
- 8 APIs Related to Resource Tags..... 56**
 - 8.1 Batch Adding Resource Tags..... 56
 - 8.2 Batch Deleting Resource Tags..... 59
 - 8.3 Querying the Number of Resource Instances..... 63
 - 8.4 Listing Resource Instances..... 67
 - 8.5 Querying Tags of a Specified Resource Type..... 72
 - 8.6 Querying Tags of a Specified Resource Instance..... 75

9 APIs Related to Enhanced Datasource Connections.....	79
9.1 Creating an Enhanced Datasource Connection.....	79
9.2 Deleting an Enhanced Datasource Connection.....	82
9.3 Listing Enhanced Datasource Connections.....	84
9.4 Querying an Enhanced Datasource Connection.....	89
9.5 Binding a Queue.....	93
9.6 Unbinding a Queue.....	95
9.7 Modifying Host Information.....	97
9.8 Querying Authorization of an Enhanced Datasource Connection.....	99
9.9 Creating a Route.....	101
9.10 Deleting a Route.....	103
10 Datasource Authentication-related APIs.....	105
10.1 Creating Datasource Authentication.....	105
10.2 Listing Datasource Authentications.....	107
10.3 Updating Datasource Authentication.....	110
10.4 Deleting Datasource Authentication.....	112
11 Quota-related APIs.....	114
11.1 Querying Quotas.....	114
12 APIs Related to Elastic Resource Pools.....	118
12.1 Creating an Elastic Resource Pool.....	118
12.2 Querying All Elastic Resource Pools.....	122
12.3 Deleting an Elastic Resource Pool.....	126
12.4 Modifying Elastic Resource Pool Information.....	127
12.5 Querying All Queues in an Elastic Resource Pool.....	129
12.6 Associating a Queue with an Elastic Resource Pool.....	133
12.7 Viewing Scaling History of an Elastic Resource Pool.....	135
12.8 Modifying the Scaling Policy of a Queue Associated with an Elastic Resource Pool.....	138
13 Queue-related APIs (Recommended).....	142
13.1 Creating a Queue.....	142
13.2 Deleting a Queue.....	151
13.3 Querying All Queues.....	153
13.4 Querying Queue Details.....	159
13.5 Restarting, Scaling Out, and Scaling In Queues.....	163
13.6 Creating an Address Connectivity Test Request.....	165
13.7 Querying Connectivity Test Details of a Specified Address.....	167
13.8 Adding Queue Properties.....	169
13.9 Querying Queue Properties.....	172
13.10 Updating Queue Properties.....	174
13.11 Deleting Queue Properties.....	177
14 SQL Job-related APIs.....	180

14.1 Submitting a SQL Job (Recommended).....	180
14.2 Canceling a Job (Recommended).....	192
14.3 Querying All Jobs.....	194
14.4 Previewing SQL Job Query Results.....	207
14.5 Exporting Query Results.....	210
14.6 Querying Job Status.....	214
14.7 Querying Job Details.....	221
14.8 Checking SQL Syntax.....	224
14.9 Querying the Job Execution Progress.....	227
15 SQL Template-related APIs.....	232
15.1 Saving a SQL template.....	232
15.2 Checking All SQL Templates.....	234
15.3 Updating a SQL template.....	236
15.4 Deleting a SQL template.....	238
16 SQL Job Interception Rules.....	240
16.1 Creating a SQL Interception Rule.....	240
16.2 Batch Querying SQL Interception Rules.....	242
16.3 Updating a SQL Interception Rule.....	245
16.4 Deleting a SQL Interception Rule.....	248
16.5 Querying a SQL Interception Rule.....	249
16.6 Batch Querying Preset SQL Interception Rules.....	251
16.7 Querying a Preset SQL Interception Rule.....	254
17 Flink Job-related APIs.....	257
17.1 Creating a SQL Job.....	257
17.2 Updating a SQL Job.....	265
17.3 Creating a Flink Jar job.....	272
17.4 Updating a Flink Jar Job.....	280
17.5 Running Jobs in Batches.....	286
17.6 Listing Jobs.....	289
17.7 Querying Job Details.....	307
17.8 Querying the Job Execution Plan.....	316
17.9 Batch Stopping Jobs.....	318
17.10 Deleting a Job.....	320
17.11 Batch Deleting Jobs.....	322
17.12 Exporting a Flink Job.....	324
17.13 Importing a Flink Job.....	326
17.14 Generating a Static Stream Graph for a Flink SQL Job.....	328
18 APIs Related to Flink Job Templates.....	334
18.1 Creating a Template.....	334
18.2 Updating a Template.....	337
18.3 Deleting a Template.....	339

18.4 Querying the Template List..... 341

19 Flink Job Management APIs..... 345

19.1 Triggering Savepoints for Flink Jobs..... 345

19.2 Importing Savepoints for Flink Jobs..... 347

20 Spark Job-related APIs..... 350

20.1 Creating a Batch Processing Job..... 350

20.2 Listing Batch Processing Jobs..... 368

20.3 Querying Batch Job Details..... 377

20.4 Querying a Batch Job Status..... 383

20.5 Canceling a Batch Processing Job..... 385

21 APIs Related to Spark Job Templates..... 387

21.1 Creating a Job Template..... 387

21.2 Listing Job Templates..... 389

21.3 Modifying a Job Template..... 396

21.4 Obtaining a Job Template..... 398

22 Permissions Policies and Supported Actions..... 400

23 Out-of-Date APIs..... 412

23.1 Agency-related APIs (Deprecated)..... 412

23.1.1 Obtaining DLI Agency Information (Deprecated)..... 412

23.1.2 Creating a DLI Agency (Deprecated)..... 414

23.2 Package Group-related APIs (Deprecated)..... 416

23.2.1 Uploading a Package Group (Deprecated)..... 417

23.2.2 Listing Package Groups (Deprecated)..... 421

23.2.3 Uploading a JAR Package Group (Deprecated)..... 425

23.2.4 Uploading a PyFile Package Group (Deprecated)..... 428

23.2.5 Uploading a File Package Group (Deprecated)..... 432

23.2.6 Querying Resource Packages in a Group (Deprecated)..... 435

23.2.7 Deleting a Resource Package from a Group (Deprecated)..... 438

23.2.8 Changing the Owner of a Group or Resource Package (Deprecated)..... 439

23.3 Spark Batch Processing-related APIs (Deprecated)..... 442

23.3.1 Querying Batch Job Logs (Deprecated)..... 442

23.4 SQL Job-related APIs (Deprecated)..... 444

23.4.1 Importing Data (Deprecated)..... 444

23.4.2 Exporting Data (Deprecated)..... 449

23.5 Resource-related APIs (Deprecated)..... 452

23.5.1 Database-related APIs (Deprecated)..... 452

23.5.1.1 Creating a Database (Deprecated)..... 452

23.5.1.2 Deleting a Database (Deprecated)..... 455

23.5.1.3 Querying All Databases (Deprecated)..... 458

23.5.1.4 Modifying a Database Owner (Deprecated)..... 461

23.5.2 Table-related APIs (Deprecated).....	463
23.5.2.1 Creating a Table (Deprecated).....	463
23.5.2.2 Deleting a Table (Deprecated).....	469
23.5.2.3 Querying All Tables (Deprecated).....	471
23.5.2.4 Describing Table Information (Deprecated).....	475
23.5.2.5 Previewing Table Content (Deprecated).....	479
23.5.2.6 Modifying a Table Owner (Deprecated).....	481
23.5.2.7 Listing Partitions (Deprecated).....	483
23.6 Permission-related APIs (Deprecated).....	487
23.6.1 Granting Queue Permissions to a User (Deprecated).....	487
23.6.2 Querying Queue Users (Deprecated).....	490
23.6.3 Granting Data Permission to Users (Deprecated).....	492
23.6.4 Querying Database Users (Deprecated).....	496
23.6.5 Querying Table Users (Deprecated).....	498
23.6.6 Querying a User's Table Permissions (Deprecated).....	500
23.7 Queue-related APIs (Deprecated).....	502
23.7.1 Creating a Scheduled CU Change (Deprecated).....	502
23.7.2 Viewing a Scheduled CU Change (Deprecated).....	505
23.7.3 Deleting Scheduled CU Changes in Batches (Deprecated).....	508
23.7.4 Deleting a Scheduled CU Change (Deprecated).....	510
23.7.5 Modifying a Scheduled CU Change (Deprecated).....	512
23.8 Datasource Authentication-related APIs (Deprecated).....	515
23.8.1 Creating Datasource Authentication (Deprecated).....	515
23.8.2 Listing Datasource Authentication Information (Deprecated).....	517
23.8.3 Updating Datasource Authentication (Deprecated).....	520
23.8.4 Deleting Datasource Authentication (Deprecated).....	522
23.9 Enhanced Datasource Connection-related APIs (Deprecated).....	523
23.9.1 Creating a Route (Deprecated).....	524
23.9.2 Deleting a Route (Deprecated).....	525
23.10 Template-related APIs (Deprecated).....	527
23.10.1 Querying All Sample SQL Templates (Deprecated).....	527
23.11 Table-related APIs (Deprecated).....	529
23.11.1 Querying All Tables (Deprecated).....	529
23.12 SQL Job-related APIs (Deprecated).....	532
23.12.1 Submitting a SQL Job (Deprecated).....	532
23.12.2 Canceling a Job (Deprecated).....	535
23.12.3 Querying Job Execution Results (Method 1) (Deprecated).....	536
23.12.4 Querying Job Execution Results (Method 2) (Deprecated).....	538
23.13 Data Upload-related APIs (Deprecated).....	540
23.13.1 Authenticating a Created Data Uploading Job (Deprecated).....	541
23.14 Cluster-related APIs (Deprecated).....	542
23.14.1 Creating a Cluster (Deprecated).....	542

23.14.2 Deleting a Cluster (Deprecated)..... 544

23.14.3 Querying Information of a Specified Cluster (Deprecated)..... 545

23.14.4 Querying All Cluster Information (Deprecated)..... 547

23.15 Flink Job-related APIs (Deprecated)..... 549

23.15.1 Querying Job Monitoring Information (Deprecated)..... 549

23.15.2 Authorizing DLI to Access OBS (Deprecated)..... 552

24 Public Parameters..... 555

24.1 Status Codes..... 555

24.2 Error Codes..... 559

24.3 Obtaining a Project ID..... 560

24.4 Obtaining an Account ID..... 562

1 Before You Start

Welcome to Data Lake Insight API Reference.

Data Lake Insight (DLI) is a serverless data processing and analysis service fully compatible with [Apache Spark](#), [Apache Flink](#), and HetuEngine ecosystems. It requires no server management and is ready for immediate use. DLI supports multiple querying methods including standard SQL, Spark SQL, and Flink SQL, with compatibility with mainstream data formats. DLI supports SQL statements and Spark applications for heterogeneous data sources, including CloudTable, RDS, GaussDB(DWS), CSS, OBS, custom databases on ECSs, and offline databases.

You can use the APIs provided in this document to perform various operations on DLI, including managing queues, running SQL jobs, running Flink jobs, running Spark jobs, and setting up datasource connections. For a full list of supported operations, refer to [Overview](#).

Before calling DLI APIs, make sure you fully understand the relevant concepts of DLI. For details, see [Data Lake Insight Service Overview](#).

API Calling

DLI provides representational state transfer (RESTful) APIs, allowing you to call them using HTTPS. For detailed calling methods, see [Calling APIs](#).

Unless otherwise specified, DLI APIs are typically synchronous operations, where **is_success** in the response message indicates whether the request was successfully executed.

If the API is an asynchronous operation, you can execute [Querying Job Status](#) API based on the **job_id** in the response message to determine if the asynchronous operation API was successfully executed.

Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For the endpoints of all services, see [Regions and Endpoints](#).

Notes and Constraints

- The number of resources that you can create is determined by your quota. To view service quotas or increase them, see [How Do I Apply for a Higher Quota?](#)
- For detailed constraints, see the constraints described in specific APIs.

Basic Concepts

- **Account**

An account is created when registering with Huawei Cloud. The account has full access permissions for all its resources and services, enabling it to reset user passwords and grant user permissions. The account serves as the billing entity. To ensure account security, create Identity and Access Management (IAM) users and grant them permissions for routine management.

- **User**

An IAM user is created by an account in IAM to use cloud services. Each IAM user has its own identity credentials (password and access keys).

An IAM user can view the project ID on the [My Credentials](#) page of the console. The account name, username, and password will be required for API authentication.

- **Region**

Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified as common regions and dedicated regions. A common region provides common cloud services that should be made available to all tenants. A dedicated region provides services of a specific type or only for specific tenants.

For details, see [Region and AZ](#).

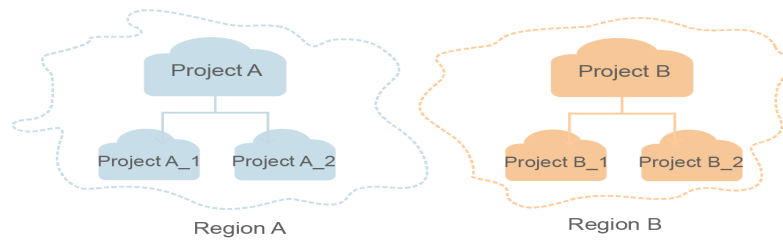
- **Availability zone (AZ)**

An AZ consists of one or more physical data centers with independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, compute, networking, storage, and other resources are logically partitioned into multiple clusters. Multiple AZs within a region are connected using high-speed fiber optics to support highly available systems across AZs.

- **Project**

A Huawei Cloud region corresponds to a project by default. This project is predefined by the system to isolate resources (including compute, storage, and networking resources) across physical regions. You can grant permissions to users to access all resources in a specific project. For more refined access control, you can create subprojects under the default project of a region, purchase resources within these subprojects, and grant permissions at the subproject level. This ensures that users can only access resources within specific subprojects, thereby achieving more precise resource permission management.

Figure 1-1 Project isolating model



To view a project ID, go to the [My Credentials](#) page.

- **Enterprise project**

Enterprise projects group and logically isolate resources. An enterprise project can contain resources from different regions, and resources can be transferred between enterprise projects.

For details about how to obtain enterprise project IDs and features, see [Enterprise Management Service User Guide](#).

2 Overview

This section describes the APIs provided by DLI.

Table 2-1 DLI APIs

Type	Description
Permission-related APIs	You can assign permissions to queues, view queue users, assign data permissions, view database users, view table users, view table user permissions, and view the permissions of authorized users.
Global variable-related APIs	You can create, delete, modify, and query global variables.
Enhanced datasource connection-related APIs	You can create, delete, and query enhanced datasource connections, as well as bind and unbind queues, modify host information, and query enhanced datasource connection permissions.
Datasource authentication-related APIs	You can create, update, and delete datasource authentication, and obtain the authentication list.
Elastic resource pool-related APIs	You can create, modify, query, and delete elastic resource pools.
Queue-related APIs (recommended)	You can create, delete, and query all queues, modify the CIDR block of a queue, restart, scale up, and scale down queues, view detailed information about queues, create and query connectivity test requests for specific addresses, create, query, modify, and delete scheduled scaling plans for queues.
SQL job-related APIs	You can import and export data, submit SQL jobs, cancel jobs, query all jobs, preview job results, query job status, query job details, check SQL syntax, and export query results.
SQL template-related APIs	You can perform operations on templates, such as saving SQL templates and creating job templates.

Type	Description
Flink job-related APIs	You can authorize DLI to OBS, create and update SQL jobs and user-defined Flink jobs, run jobs in batches, query the job list, job details, job execution plans, and job monitoring information. You can also stop jobs in batches, delete and batch delete jobs, export and import Flink jobs, create static flow diagrams for Flink SQL jobs, create IEF message channels, report Flink job status and callback Flink job actions at the edge, and report IEF system events.
Flink job template-related APIs	You can create, update, and delete a template, and query the template list.
Spark job-related APIs	Creating batch jobs, cancel batch jobs, querying batch job lists, querying batch job details, querying batch job status, and querying batch job logs.
Spark job template-related APIs	You can perform operations on templates, such as saving SQL templates and creating job templates.

3 Calling APIs

3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM service as an example to explain [how to obtain a user token](#) to call an API. The obtained token can then be used to authenticate the calling of other APIs.

Request URI

A request URI is in the following format:

{URI-scheme} :// {Endpoint} / {resource-path} ? {query-string}

Although a request URI is included in a request header, most programming languages or frameworks require the request URI to be separately transmitted, rather than being conveyed in a request message.

Table 3-1 Parameters in a URI

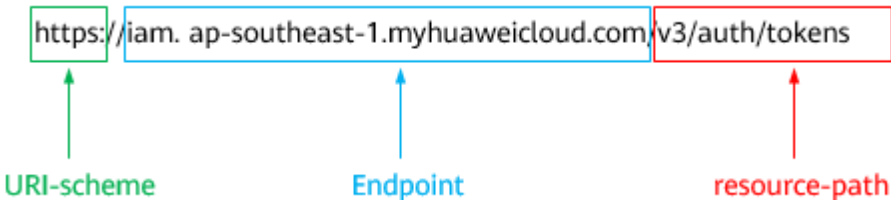
Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server bearing the REST service. Endpoints vary depending on services and regions. For the endpoints of all services, see Regions and Endpoints . For example, the endpoint of IAM in region CN-Hong Kong is iam.ap-southeast-1.myhuaweicloud.com .
resource-path	Access path of an API for performing a specified operation. Obtain the value from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .

Parameter	Description
query-string	Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of <i>Parameter name=Parameter value</i> . For example, ? limit=10 indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the **CN-Hong Kong** region, obtain the endpoint of IAM (**iam.ap-southeast-1.myhuaweicloud.com**) for this region and the **resource-path** (**/v3/auth/tokens**) in the URI of the API used to **obtain a user token**. Then, construct the URI as follows:

```
https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
```

Figure 3-1 Example URI



NOTE

To simplify the URI display, each API is provided with only a **resource-path** and a request method. This is because the **URI-scheme** value of all APIs is **HTTPS**, and the endpoints in a region are the same. Therefore, the two parts are omitted.

Request Methods

HTTP-based request methods, which are also called operations or actions, specify the type of operations that you are requesting.

Table 3-2 HTTP method

Request Method	Description
GET	Requests a server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Requests the server to delete a specific resource, for example, an object.
HEAD	Same as GET except that the server must return only the response header.

Request Method	Description
PATCH	Requests a server to update part of specified resources. If the resource is unavailable, the PATCH method is used to create a resource.

For example, in the case of the API used to [obtain a user token](#), the request method is **POST**. The request is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
```

Request Header

You can also add additional fields to a request, such as the fields required by a specified URI or an HTTP method. For example, add **Content-Type** that defines a request body type to request for the authentication information.

Table 3-3 lists common request header fields.

Table 3-3 Common request headers

Parameter	Description	Mandatory	Example
Host	Specifies the information about the requested server. The value can be obtained from the URL of the service API. The value is hostname[:port] . If the port number is not specified, the default port is used. The default port number for https is port 443 .	No This header field is mandatory if AK/SK authentication is in use.	code.test.com or code.test.com:443
Content-Type	Specifies the request body type or format. This field is mandatory and its default value is application/json. For other values, the description will be provided for specific APIs.	Yes	application/json

Parameter	Description	Mandatory	Example
Content-Length	Indicates the length of the request body. The unit is byte.	This field is mandatory for POST and PUT requests, but must be left blank for GET requests.	3495
X-Project-ID	Project ID. It is mandatory in multi-project scenarios to obtain tokens for different projects.	No	e9993fc787d94b6c886cbaa340f9c0f4
X-Auth-Token	User token. User token is a response to the API for obtaining a user token (only this API does not require authentication).	This parameter is mandatory only for authentication using tokens.	The following is part of an example token: MIIPAgYJKoZlhvc-NAQcCo...ggg1BBII NPXsidG9rZ
Authorization	Specifies the signature authentication information. The value can be obtained from the request signing result.	This header field is mandatory if AK/SK authentication is in use.	-
X-Sdk-Date	Specifies the time when the request is sent. The time is in <i>YYYYMMDD'T'HHMMSS'Z'</i> format. The value is the current Greenwich Mean Time (GMT) of the system.	This header field is mandatory if AK/SK authentication is in use.	20150907T101459Z
X-Language	Request language.	No	en-us

 NOTE

In addition to supporting token-based authentication, APIs also support authentication using access key ID/secret access key (AK/SK). During AK/SK-based authentication, an SDK is used to sign the request, and the **Authorization** (signature authentication) and **X-Sdk-Date** (time when the request is sent) header fields are automatically added to the request.

The API for **obtaining a user token** does not require authentication. Therefore, this API only requires adding the Content-Type field. The request with the added Content-Type header is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

Request Body

A request body is generally sent in a structured format. It corresponds to **Content-Type** in the request header and transfers data except for the request header.

The request body varies according to the APIs. Certain APIs do not require the request body, such as the GET and DELETE APIs.

For the API of [obtaining a user token](#), obtain the request parameters and parameter description from the API request. The following provides an example request with a body included. Replace **username**, **domainname**, ********* (login password), and **xxxxxxxxxxxxxxxxxxxxxx** (project ID) with the actual values. Obtain a project ID from [Regions and Endpoints](#).

NOTE

scope specifies where a token takes effect. In the following example, the token takes effect only on the resources specified by the project ID. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see [Obtaining a User Token](#).

POST https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username",
          "password": "*****",
          "domain": {
            "name": "domainname"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "xxxxxxxxxxxxxxxxxxxxxx"
      }
    }
  }
}
```

If all data required by a request is available, you can send the request to call an API through [curl](#), [Postman](#), or coding. In the response to the IAM API used to obtain a user token, **x-subject-token** is the desired user token. Then, you can use the token to authenticate the calling of other APIs.

3.2 Authentication

API calling is authenticated using either of the following methods:

- Token authentication: Common requests are authenticated using Tokens.
- AK/SK authentication: Requests are encrypted using the access key ID and secret access key (AK/SK pair) to provide higher security. AK/SK authentication is recommended because it provides higher security than token authentication.

Token Authentication

A token specifies certain permissions in a computer system. Authentication using a token adds the token in a request as its header during API calling to obtain permissions to operate APIs through IAM.

NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API.

When calling the API to **obtain a user token**, you must set **auth.scope** in the request body to **project**.

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username",
          "password": "*****",
          "domain": {
            "name": "domainname"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "xxxxxxx"
      }
    }
  }
}
```

After obtaining the token, add the **X-Auth-Token** header in a request to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, add **X-Auth-Token: ABCDEFJ....** in a request as follows:

```
GET https://iam.ap-southeast-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

AK/SK Authentication

In authentication using AK/SK, AK/SK is used to sign a request and add the signature in a request as its header for authentication.

NOTE

Authentication using AK/SK supports API requests with a body not larger than 12 MB. For API requests with a larger body, authentication using tokens is recommended.

- AK: access key ID, which is a unique identifier associated with a secret access key and is used in conjunction with a secret access key to sign requests cryptographically.
- SK: secret access key used in conjunction with an AK to sign requests cryptographically. It identifies a request sender and prevents the request from being modified.

In authentication using AK/SK, you can use AK/SK to sign requests based on the signature algorithm or use a dedicated signature SDK to sign the requests.

For details about how to sign requests and use the signing SDK, see [API Request Signing Guide](#).

NOTE

The signature SDK only supports signature, which is different from the SDKs provided by services.

3.3 Returned Values

Status Code

After sending a request, you will receive a response, including the status code, response header, and response body.

A status code is a group of digits ranging from 1xx to 5xx. It indicates the status of a response. For more information, see [Status Codes](#).

For example, if status code **201** is returned for calling the API used to [obtain a user token](#), the request is successful.

Response Header

A response header corresponds to a request header, for example, **Content-Type**.

[Figure 3-2](#) shows the response header fields for the API that obtains a user token. The **x-subject-token** value is the desired user token. You can use the token to authenticate other API calls.

Figure 3-2 Header of the response to the request for obtaining a user token

```
connection → keep-alive
content-type → application/json
date → Tue, 12 Feb 2019 06:52:13 GMT
server → Web Server
strict-transport-security → max-age=31536000; includeSubdomains;
transfer-encoding → chunked
via → proxy A
x-content-type-options → nosniff
x-download-options → noopen
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → MIIYXQYJKoZIhvcNAQcCoIIYJCCEoCAQExDTALBgIghkgB8ZQMEEAgEwgharBgkqhkiG9w0BBwGgghacBIIWmHsidG9rZW4iOensiZXhwaXJlc19hdCI6ijlwMTktMDItMTNUMC
fj3KJs6YgKnpVNRbW2eZSeb78SZOkqjACgklqO1wi4JlGzrpd18LGXK5tdfq4lqHCYb8P4NaY0NYejcAgz/VeFYtLWT1GSO0zxKZmlQHqJ82HBqHdglZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXI1jipPEGA270g1FrucL6jaglfKNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxjECKnoH3HRozv0vN--n5d6Nbxg==
x-xss-protection → 1; mode=block;
```

Response Body

A response body is generally returned in a structured format, corresponding to the **Content-Type** in the response header, and is used to transfer content other than the response header.

The following shows part of the response body for the API to [obtain a user token](#). The following describes only part of the request body.

```
{
  "token": {
    "expires_at": "2019-02-13T06:52:13.855000Z",
    "methods": [
      "password"
    ],
    "catalog": [
      {
        "endpoints": [
          {
            "region_id": "az-01",
            .....

```

If an error occurs during API calling, the system returns an error code and a message to you. The following shows the format of an error response body:

```
{
  "error_msg": "The format of message is error",
  "error_code": "AS.0001"
}
```

In the preceding information, **error_code** is an error code, and **error_msg** describes the error.

4 Getting Started

4.1 Creating and Submitting a SQL Job

Scenario

This section describes how to submit a SQL job to create a database and table and query data using APIs.

Involved APIs

- [Creating an Elastic Resource Pool](#)
- [Creating a Queue](#)
- [Submitting a SQL Job \(Recommended\)](#)

Procedure

1. Create an elastic resource pool named **elastic_pool_dli**.
 - API
URI format: POST /v3/{project_id}/elastic-resource-pools
 - Obtain the value of *{project_id}* by referring to [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating an Elastic Resource Pool](#).
 - Example request
 - Description: Create an elastic resource pool named **elastic_pool_dli** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST https://{endpoint}/v3/48cc2c48765f481480c7db940d6409d1/elastic-resource-pools
 - Body:

```
{  
  "elastic_resource_pool_name" : "elastic_pool_dli",
```

```
"description" : "test",
"cidr_in_vpc" : "172.16.0.0/14",
"charging_mode" : "1",
"max_cu" : 64,
"min_cu" : 64
}
```

– Example response

```
{
  "is_success": true,
  "message": ""
}
```

2. Create a queue named **queue1** in the elastic resource pool.

– API

URI format: POST /v1.0/{project_id}/queues

- Obtain the value of {project_id} by referring to [Obtaining a Project ID](#).

- For details about the request parameters, see [Creating a Queue](#).

– Example request

- Description: Create an elastic resource pool named **queue1** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.

- Example URL: POST https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/queues

- Body:

```
{
  "queue_name": "queue1",
  "queue_type": "sql",
  "description": "test",
  "cu_count": 16,
  "enterprise_project_id": "elastic_pool_dli"
}
```

– Example response

```
{
  "is_success": true,
  "message": ""
}
```

3. Submit a SQL job: Create the database **db1**, table **tb1**, insert data into the table, and query the data.

– API

URI format: POST /v1.0/{project_id}/jobs/submit-job

- Obtain the value of {project_id} by referring to [Obtaining a Project ID](#).

- For details about the request parameters, see [Submitting a SQL Job \(Recommended\)](#).

– Example request

- Description: In the project whose ID is **48cc2c48765f481480c7db940d6409d1**, submit a SQL job, create the database **db1** and table **tb1**, insert data into the table, and query the data.

- Example URL: POST `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/jobs/submit-job`
- Create a database named **db1**.

```
{  "queue_name": "queue1",  "sql": "create DATABASE db1"}
```
- Create a table named **tb1**.

```
{  "currentdb": "db1",  "queue_name": "queue1",  "sql": "create table\n  my_table (id int, name string)"}
```
- Insert data into the **tb1** table.

```
{  "currentdb": "db1",  "queue_name": "queue1",  "sql": "insert into tb1 (id, name) values (1, 'Ann'), (2, 'Jane')"}
```
- Query data in the table.

```
{  "currentdb": "db1",  "queue_name": "queue1",  "sql": "select * from tb1 limit 10",}
```
- Example response

```
{  "is_success": true,  "message": ""}
```

4.2 Creating and Submitting a Spark Job

Scenario

This section describes how to create and submit Spark jobs using APIs.

Notes and Constraints

- It takes 6 to 10 minutes to start a job using a new queue for the first time.

Involved APIs

- [Creating an Elastic Resource Pool](#): Create an elastic resource pool.
- [Creating a Queue](#): Create queues within the elastic resource pool.
- [Uploading a Package Group \(Deprecated\)](#): Upload the resource package required by the Spark job.
- [Querying Resource Packages in a Group \(Deprecated\)](#): Check whether the uploaded resource package is correct.
- [Creating a Batch Processing Job](#): Create and submit a Spark batch processing job.
- [Querying a Batch Job Status](#): View the status of a batch processing job.

- [Querying Batch Job Logs \(Deprecated\)](#): View batch processing job logs.

Procedure

1. Create an elastic resource pool named **elastic_pool_dli**.
 - API
URI format: POST /v3/{project_id}/elastic-resource-pools
 - Obtain the value of {project_id} by referring to [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating an Elastic Resource Pool](#).
 - Example request
 - Description: Create an elastic resource pool named **elastic_pool_dli** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST https://{endpoint}/v3/48cc2c48765f481480c7db940d6409d1/elastic-resource-pools
 - Body:

```
{
  "elastic_resource_pool_name": "elastic_pool_dli",
  "description": "test",
  "cidr_in_vpc": "172.16.0.0/14",
  "charging_mode": "1",
  "max_cu": 64,
  "min_cu": 64
}
```
 - Example response

```
{
  "is_success": true,
  "message": ""
}
```
2. Create a queue named **queue1** in the elastic resource pool.
 - API
URI format: POST /v1.0/{project_id}/queues
 - Obtain the value of {project_id} by referring to [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating a Queue](#).
 - Example request
 - Description: Create an elastic resource pool named **queue1** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/queues
 - Body:

```
{
  "queue_name": "queue1",
  "queue_type": "sql",
  "description": "test",
  "cu_count": 16,
}
```

```
"enterprise_project_id": "elastic_pool_dli"
}
```

– Example response

```
{
  "is_success": true,
  "message": ""
}
```

3. Upload a package group.

– API

URI format: POST `/v2.0/{project_id}/resources`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the request parameters, see [Uploading a Package Group \(Deprecated\)](#).

– Example request

- Description: Upload resources in the GATK group to the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
- Example URL: POST `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/resources`

▪ Body:

```
{
  "paths": [
    "https://test.obs.xxx.com/txr_test/jars/spark-sdv-app.jar"
  ],
  "kind": "jar",
  "group": "gatk",
  "is_async": "true"
}
```

– Example response

```
{
  "group_name": "gatk",
  "status": "READY",
  "resources": [
    "spark-sdv-app.jar",
    "wordcount",
    "wordcount.py"
  ],
  "details": [
    {
      "create_time": 0,
      "update_time": 0,
      "resource_type": "jar",
      "resource_name": "spark-sdv-app.jar",
      "status": "READY",
      "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_spark-sdv-app.jar"
    },
    {
      "create_time": 0,
      "update_time": 0,
      "resource_type": "jar",
      "resource_name": "wordcount",
      "status": "READY",
      "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_wordcount"
    },
    {
      "create_time": 0,
      "update_time": 0,
      "resource_type": "jar",
      "resource_name": "wordcount.py",

```

```
    "status": "READY",
    "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_wordcount.py"
  },
  "create_time": 1551334579654,
  "update_time": 1551345369070
}
```

4. View resource packages in a group.

– API

URI format: GET /v2.0/{*project_id*}/resources/{*resource_name*}

- Obtain the value of {*project_id*} from [Obtaining a Project ID](#).

- For details about the query parameters, see [Creating a Table \(Deprecated\)](#).

– Example request

- Description: Query the resource package named **luxor-router-1.1.1.jar** in the GATK group under the project whose ID is **48cc2c48765f481480c7db940d6409d1**.

- Example URL: GET https://{*endpoint*}/v2.0/48cc2c48765f481480c7db940d6409d1/resources/luxor-router-1.1.1.jar?group=gatk

- Body:

```
{}
```

– Example response

```
{
  "create_time": 1522055409139,
  "update_time": 1522228350501,
  "resource_type": "jar",
  "resource_name": "luxor-router-1.1.1.jar",
  "status": "uploading",
  "underlying_name": "7885d26e-c532-40f3-a755-c82c442f19b8_luxor-router-1.1.1.jar",
  "owner": "*****"
}
```

5. Create and submit a Spark batch processing job.

– API

URI format: POST /v2.0/{*project_id*}/batches

- Obtain the value of {*project_id*} from [Obtaining a Project ID](#).

- For details about the request parameters, see [Creating a Batch Processing Job](#).

– Example request

- Description: In the **48cc2c48765f481480c7db940d6409d1** project, create a batch processing job named **TestDemo4** in **queue1**.

- Example URL: POST https://{*endpoint*}/v2.0/48cc2c48765f481480c7db940d6409d1/batches

- Body:

```
{
  "sc_type": "A",
  "jars": [
```

```
"spark-examples_2.11-2.1.0.luxor.jar"
],
"driverMemory": "1G",
"driverCores": 1,
"executorMemory": "1G",
"executorCores": 1,
"numExecutors": 1,
"queue": "queue1",
"file":
"spark-examples_2.11-2.1.0.luxor.jar",
"className":
"org.apache.spark.examples.SparkPi",
"minRecoveryDelayTime": 10000,
"maxRetryTimes": 20
}
```

– Example response

```
{
  "id": "07a3e4e6-9a28-4e92-8d3f-9c538621a166",
  "appld": "",
  "name": "",
  "owner": "test1",
  "proxyUser": "",
  "state": "starting",
  "kind": "",
  "log": [],
  "sc_type": "CUSTOMIZED",
  "cluster_name": "aaa",
  "queue": "queue1",
  "create_time": 1607589874156,
  "update_time": 1607589874156
}
```

6. Query a batch job status.

– API

URI format: GET /v2.0/{*project_id*}/batches/{*batch_id*}/state

- Obtain the value of {*project_id*} from [Obtaining a Project ID](#).
- For details about the query parameters, see [Querying a Batch Job Status](#).

– Example request

- Description: Query the status of the batch processing job whose ID is **0a324461-d9d9-45da-a52a-3b3c7a3d809e** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
- Example URL: GET https://{*endpoint*}/v2.0/48cc2c48765f481480c7db940d6409d1/batches/0a324461-d9d9-45da-a52a-3b3c7a3d809e/state
- Body:
{ }

– Example response

```
{
  "id": "0a324461-d9d9-45da-a52a-3b3c7a3d809e",
  "state": "Success"
}
```

7. Query batch job logs.

– API

URI format: GET /v2.0/{*project_id*}/batches/{*batch_id*}/log

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the query parameters, see [Querying Batch Job Logs \(Deprecated\)](#).
- Example request
 - Description: Query the background logs of the batch processing job **0a324461-d9d9-45da-a52a-3b3c7a3d809e** in the **48cc2c48765f481480c7db940d6409d1** project.
 - Example URL: GET `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/batches/0a324461-d9d9-45da-a52a-3b3c7a3d809e/log`
 - Body:

```
{}
```
- Example response

```
{
  "id": "0a324461-d9d9-45da-a52a-3b3c7a3d809e",
  "from": 0,
  "total": 3,
  "log": [
    "Detailed information about job logs"
  ]
}
```

4.3 Creating and Submitting a Flink Job

Scenario

This section describes how to create and run a user-defined Flink job using APIs.

Notes and Constraints

- It takes 6 to 10 minutes to start a job using a new queue for the first time.

Involved APIs

- [Creating an Elastic Resource Pool](#): Create an elastic resource pool.
- [Creating a Queue](#): Create queues within the elastic resource pool.
- [Uploading a Package Group \(Deprecated\)](#): Upload the resource package required by the Flink custom job.
- [Querying Resource Packages in a Group \(Deprecated\)](#): Check whether the uploaded resource package is correct.
- [Creating a Flink Jar job](#): Create a user-defined Flink job.
- [Running Jobs in Batches](#): Run a user-defined Flink job.

Procedure

1. Create an elastic resource pool named **elastic_pool_dli**.
 - API
 - URI format: POST `/v3/{project_id}/elastic-resource-pools`

- Obtain the value of *{project_id}* by referring to [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating an Elastic Resource Pool](#).
 - Example request
 - Description: Create an elastic resource pool named **elastic_pool_dli** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST `https://{endpoint}/v3/48cc2c48765f481480c7db940d6409d1/elastic-resource-pools`
 - Body:

```
{
  "elastic_resource_pool_name" : "elastic_pool_dli",
  "description" : "test",
  "cidr_in_vpc" : "172.16.0.0/14",
  "charging_mode" : "1",
  "max_cu" : 64,
  "min_cu" : 64
}
```
 - Example response

```
{
  "is_success": true,
  "message": ""
}
```
2. Create a queue named **queue1** in the elastic resource pool.
- API
URI format: POST `/v1.0/{project_id}/queues`
 - Obtain the value of *{project_id}* by referring to [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating a Queue](#).
 - Example request
 - Description: Create an elastic resource pool named **queue1** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/queues`
 - Body:

```
{
  "queue_name": "queue1",
  "queue_type": "sql",
  "description": "test",
  "cu_count": 16,
  "enterprise_project_id": "elastic_pool_dli"
}
```
 - Example response

```
{
  "is_success": true,
  "message": ""
}
```

3. Upload the resource package of the user-defined Flink job. For details, see [3](#).
4. Query resource packages in a group. For details, see [4](#).
5. Create a custom flink job.

- API

URI format: POST `/v1.0/{project_id}/streaming/flink-jobs`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the request parameters, see [Creating a Database \(Deprecated\)](#).

- Example request

- Description: Create a user-defined Flink job in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
- Example URL: POST `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/streaming/flink-jobs`

- Body:

```
{
  "name": "test",
  "desc": "job for test",
  "queue_name": "queue1",
  "manager_cu_number": 1,
  "cu_number": 2,
  "parallel_number": 1,
  "tm_cus": 1,
  "tm_slot_num": 1,
  "log_enabled": true,
  "obs_bucket": "bucketName",
  "smn_topic": "topic",
  "main_class": "org.apache.flink.examples.streaming.JavaQueueStream",
  "restart_when_exception": false,
  "entrypoint": "javaQueueStream.jar",
  "entrypoint_args": "-windowSize 2000 -rate3",
  "dependency_jars": [
    "myGroup/test.jar",
    "myGroup/test1.jar"
  ],
  "dependency_files": [
    "myGroup/test.csv",
    "myGroup/test1.csv"
  ]
}
```

- Example response

```
{
  "is_success": true,
  "message": "A Flink job is created successfully.",
  "job": {
    "job_id": 138,
    "status_name": "job_init",
    "status_desc": ""
  }
}
```

6. Run jobs in batches.

- API

URI format: POST `/v1.0/{project_id}/streaming/jobs/run`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).

- For details about the request parameters, see [Running Jobs in Batches](#).
- Example request
 - Description: Run the jobs whose **job_id** is **298765** and **298766** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST `https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/streaming/jobs/run`
 - Body:

```
{  "job_ids": [131,130,138,137],  "resume_savepoint": true}
```
- Example response

```
[  {    "is_success": "true",    "message": "The request for submitting DLI jobs is delivered successfully."  },  {    "is_success": "true",    "message": "The request for submitting DLI jobs is delivered successfully."  },  {    "is_success": "true",    "message": "The request for submitting DLI jobs is delivered successfully."  },  {    "is_success": "true",    "message": "The request for submitting DLI jobs is delivered successfully."  }]
```

4.4 Creating and Using a Datasource Connection

Scenario

This section describes how to create an enhanced datasource connection using an API.

Notes and Constraints

- It takes 6 to 10 minutes to start a job using a new queue for the first time.
- Before creating an enhanced datasource connection, you need to obtain the ID of the VPC and the network ID of the subnet where the service is located.

Involved APIs

- [Creating an Elastic Resource Pool](#): Create an elastic resource pool.
- [Creating a Queue](#): Create queues within the elastic resource pool.
- [Creating an Enhanced Datasource Connection](#): Create an enhanced datasource connection.
- [Binding a Queue](#): Bind a queue.

- **Querying an Enhanced Datasource Connection:** Check whether an enhanced datasource connection is successfully created.

Procedure

1. Create an elastic resource pool named **elastic_pool_dli**.
 - API
URI format: POST /v3/{project_id}/elastic-resource-pools
 - Obtain the value of *{project_id}* by referring to [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating an Elastic Resource Pool](#).
 - Example request
 - Description: Create an elastic resource pool named **elastic_pool_dli** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST https://{endpoint}/v3/48cc2c48765f481480c7db940d6409d1/elastic-resource-pools
 - Body:

```
{
  "elastic_resource_pool_name" : "elastic_pool_dli",
  "description" : "test",
  "cidr_in_vpc" : "172.16.0.0/14",
  "charging_mode" : "1",
  "max_cu" : 64,
  "min_cu" : 64
}
```
 - Example response

```
{
  "is_success": true,
  "message": ""
}
```
2. Create a queue named **queue1** in the elastic resource pool.
 - API
URI format: POST /v1.0/{project_id}/queues
 - Obtain the value of *{project_id}* by referring to [Obtaining a Project ID](#).
 - For details about the request parameters, see [Creating a Queue](#).
 - Example request
 - Description: Create an elastic resource pool named **queue1** in the project whose ID is **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: POST https://{endpoint}/v1.0/48cc2c48765f481480c7db940d6409d1/queues
 - Body:

```
{
  "queue_name": "queue1",
  "queue_type": "sql",
}
```

```
"description": "test",
"cu_count": 16,
"enterprise_project_id": "elastic_pool_dli"
}
```

– Example response

```
{
  "is_success": true,
  "message": ""
}
```

3. Create an enhanced datasource connection.

– API

URI format: POST `/v2.0/{project_id}/datasource/enhanced-connections`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).
- For details about the request parameters, see [Creating an Enhanced Datasource Connection](#).

– Example request

- Description: Create an enhanced datasource connection named **test1** in project **48cc2c48765f481480c7db940d6409d1**.

- Example URL: POST `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/datasource/enhanced-connections`

- Body:

```
{
  "name": "test1",
  "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
  "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
  "elastic_resource_pools": "elastic_pool_dli",
  "hosts": [
    {
      "ip": "192.168.0.1",
      "name": "ecs-97f8-0001"
    },
    {
      "ip": "192.168.0.2",
      "name": "ecs-97f8-0002"
    }
  ]
}
```

– Example response

```
{
  "is_success": true,
  "message": "",
  "connection_id": "2a620c33-5609-40c9-affd-2b6453071b0f"
}
```

4. (Optional) If no queue is bound when you create an enhanced datasource connection, you can use the [Binding a Queue](#) API to bind a queue.

5. Verify that the enhanced datasource connection is created successfully.

– API

URI format: GET `/v2.0/{project_id}/datasource/enhanced-connections/{connection_id}`

- Obtain the value of `{project_id}` from [Obtaining a Project ID](#).

- For details about the query parameters, see [Creating a Database \(Deprecated\)](#).
- Example request
 - Description: Query an enhanced datasource connection whose ID is **2a620c33-5609-40c9-affd-2b6453071b0f** in project **48cc2c48765f481480c7db940d6409d1**.
 - Example URL: GET `https://{endpoint}/v2.0/48cc2c48765f481480c7db940d6409d1/datasource/enhanced-connections/2a620c33-5609-40c9-affd-2b6453071b0f`
 - Body:
`{}`
- Example response

```
{
  "is_success": true,
  "message": "",
  "name": "test1",
  "id": "2a620c33-5609-40c9-affd-2b6453071b0f",
  "elastic_resource_pools": [
    {
      "status": "ACTIVE",
      "name": "elastic_pool_dli",
      "peer_id": "2a620c33-5609-40c9-affd-2b6453071b0f",
      "err_msg": "",
      "update_time": 1566889577861
    }
  ],
  "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
  "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
  "isPrivis": true,
  "create_time": 1566888011125,
  "status": "ACTIVE",
  "hosts": [
    {
      "ip": "192.168.0.1",
      "name": "ecs-97f8-0001"
    },
    {
      "ip": "192.168.0.2",
      "name": "ecs-97f8-0002"
    }
  ]
}
```

5 Permission-related APIs

5.1 Granting Data Access Control to Users or Projects

Function

This API is used to grant data permissions for a database or data table to a specified user or project.

The user group containing the authorized user must have the **Tenant Guest** permission in the region where the user group belongs.

Permissions can only be granted to projects within the same region of the same tenant.

For details about the **Tenant Guest** permission and how to apply for the permission, see [System Permissions](#) and [Creating a User Group](#) in *Identity and Access Management User Guide*.

URI

- URI format
PUT /v1.0/{project_id}/authorization
- Parameter description

Table 5-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID . Constraints None Range The value can contain up to 64 characters. Only letters and digits are allowed. Default Value None

Request Parameters

Table 5-2 Request parameters

Parameter	Mandatory	Type	Description
user_name	No	String	Definition Name of the user who is granted, revoked, or updated permissions on a database or data table Constraints None Range The value can contain up to 256 characters. Default Value None

Parameter	Mandatory	Type	Description
projectId	No	String	Definition ID of the project that is granted permissions to access a database or data table. Once granted, the project administrator will have access to the database or data table. Constraints None Range None Default Value None
action	Yes	String	Definition Grants, revokes, or updates permissions. • grant: Grants permissions. • revoke: Revokes permissions. • update: Updates permissions. Constraints Users can perform the update operation only when they have been granted the grant and revoke permissions. Range None Default Value None
privileges	Yes	Array of objects	Definition Granted permissions. For details, see Table 5-3 . Constraints None Range None Default Value None

Table 5-3 privileges parameters

Parameter	Mandatory	Type	Description
object	Yes	String	Definition Data object permissions are granted to Constraints The naming method is as follows: • databases.Database name, all data in the database will be shared. • databases.Database name.tables.Table name, data in a specified table will be shared. • databases.Database name.tables.Table name.columns.Column name, data in a specified column will be shared. • edsconnections.Connection ID: grants the permission to use an enhanced datasource connection. Range None Default Value None
privileges	Yes	Array of strings	Definition List of permissions to be granted, revoked, or updated Constraints If action is set to update and the update list is empty, the user's all permissions on the database or data table are revoked. Range None Default Value None

Response Parameters

Table 5-4 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Definition Whether the request is successfully executed. Constraints N/A Range true indicates that the request is successfully executed. false indicates that the request fails to be executed. Default Value N/A
message	No	String	Definition System prompt. If the execution succeeds, this parameter may be left blank. Constraints None Range None Default Value None

Example Request

- Grant a project (ID: **0732e57c728025922f04c01273686950**) the permission to query data in the database **db1**, delete the data table **db1.tbl**, and query data in a specified column **db1.tbl.column1** of a data table.

```
{
  "projectId": "0732e57c728025922f04c01273686950",
  "action": "grant",
  "privileges": [
    {
      "object": "databases.db1.tables.tb2.columns.column1",
      "privileges": ["SELECT"]
    },
    {
      "object": "databases.db1.tables.tbl",
      "privileges": ["DROP_TABLE"]
    },
    {
      "object": "databases.db1",
      "privileges": ["SELECT"]
    }
  ]
}
```

- Grant the data query permission of the **dbtest** database to the **dlitest** user.

```
{
  "action": "grant",
  "privileges": [
    {
      "object": "databases.dbtest",
      "privileges": [
        "SELECT"
      ]
    }
  ],
  "user_name": "dlitest"
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

[Table 5-5](#) describes the status codes.

Table 5-5 Status codes

Status Code	Description
200	Authorization succeeds.
400	Request error.
500	Internal server error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

5.2 Checking the Permissions Granted to a User

Function

This API is used to check the permissions granted to a user.

URI

- URI format
GET /v1.0/{project_id}/authorization/privileges
- Parameter descriptions:

Table 5-6 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID, which is used for resource isolation. For how to obtain a project ID, see Obtaining a Project ID . Constraints None Range The value can contain 1 to 64 characters. Only letters and digits are allowed. Default Value None

Table 5-7 query parameter descriptions

Parameter	Mandatory	Type	Description
object	Yes	String	Data object to be assigned, which corresponds to the object in API permission assignment. • jobs.flink.Flink job ID, data in the specified job will be queried. • groups.Package group name, data in the specified package group will be queried. • resources.Package name, data in the specified package will be queried. NOTE When you view the packages in a group, the object format is resources.package group name/package name .

 NOTE

The following is an example of the URL containing the **query** parameter:
GET /v1.0/{project_id}/authorization/privileges?object={object}

Request Parameters

None

Response Parameters

Table 5-8 Response parameters

Parameter	Mandatory	Type	Description
is_success	Yes	Boolean	Whether the request is successfully executed. true indicates that the request is successfully executed.
message	Yes	String	Indicates the system prompt. If the execution succeeds, this parameter may be left blank.
object_name	No	String	Object name.
object_type	No	String	Object type. Options: • database: database. • table: data table. • column: column. • queue: queue. • datasourceauth: enhanced datasource connection. • resource: resource package. • group: resource package group. • elasticresourcepool: elastic resource pool. • variable: global variable.
privileges	No	Array of Object	Permission information. For details, see Table 5-9 .
count	No	Integer	Total number of permissions.

Table 5-9 privileges parameters

Parameter	Mandatory	Type	Description
object	No	String	Data object whose permissions are to be granted, which corresponds to the object in the permission assignment API.
is_admin	No	Boolean	Whether the database user is an administrator.
user_name	No	String	Name of the user who has permission on the current database.

Parameter	Mandatory	Type	Description
privileges	No	Array of Strings	Permission of the user on the database.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "object_name": "9561",
  "object_type": "flink",
  "count": 2,
  "privileges": [
    {
      "user_name": "testuser1",
      "is_admin": true,
      "privileges": [
        "ALL"
      ]
    },
    {
      "user_name": "user1",
      "is_admin": false,
      "privileges": [
        "GET"
      ]
    }
  ]
}
```

Status Codes

[Table 5-10](#) describes status codes.

Table 5-10 Status codes

Status Code	Description
200	Authorization succeeds.
400	Request error.
500	Internal server error.

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

Table 5-11 Error codes

Error Code	Error Message
DLI.0001	user input validation failed, object_type sql or spark is not supported now

6 Global Variable-related APIs

6.1 Creating a Global Variable

Function

This API is used to create a global variable.

URI

- URI format
POST /v1.0/{project_id}/variables
- Parameter description

Table 6-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .

Request Parameters

Table 6-2 Request parameters

Parameter	Mandatory	Type	Description
var_name	Yes	String	A global variable name can contain a maximum of 128 characters, including only digits, letters, and underscores (_), but cannot start with an underscore (_) or contain only digits.
var_value	Yes	String	Global variable value.
is_sensitive	No	Boolean	Whether to set a variable as a sensitive variable. The default value is false .

Response Parameters

Table 6-3 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	Message content.

Example Request

Create a global variable that is sensitive.

```
{
  "var_name": "string",
  "var_value": "string",
  "is_sensitive": true
}
```

Example Response

```
{
  "is_success": true,
  "message": "string"
}
```

Status Codes

[Table 6-4](#) describes status codes.

Table 6-4 Status codes

Status Code	Description
200	A variable is created successfully.
400	The input parameter is invalid.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

Table 6-5 Error codes

Error Code	Error Message
DLI.0001	Parameter check errors occur.
DLI.0999	The object exists.

6.2 Deleting a Global Variable

Function

This API is used to delete a global variable.

NOTE

Only the user who creates a global variable can delete the variable.

URI

- URI format
DELETE /v1.0/{project_id}/variables/{var_name}
- Parameter description

Table 6-6 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
var_name	Yes	String	A global variable name can contain a maximum of 128 characters, including only digits, letters, and underscores (_), but cannot start with an underscore (_) or contain only digits.

Request Parameters

None

Response Parameters

- Parameter description

Table 6-7 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "string"
}
```

Status Codes

[Table 6-8](#) describes status codes.

Table 6-8 Status codes

Status Code	Description
200	A variable is deleted successfully.
400	The input parameter is invalid.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

Table 6-9 Error codes

Error Code	Error Message
DLI.0001	Parameter check errors occur.
DLI.0999	Server-side errors occur.

6.3 Modifying a Global Variable

Function

This API is used to modify a global variable.

URI

- URI format
PUT /v1.0/{project_id}/variables/{var_name}
- Parameter description

Table 6-10 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .
var_name	Yes	String	A global variable name can contain a maximum of 128 characters, including only digits, letters, and underscores (_), but cannot start with an underscore (_) or contain only digits.

Request Parameters

Table 6-11 Request parameters

Parameter	Mandatory	Type	Description
var_value	Yes	String	Global variable value.

Response Parameters

Table 6-12 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	Message content.

Example Request

Change the value of a sensitive variable.

```
{
  "var_value": "string"
}
```

Example Response

```
{
  "is_success": true,
  "message": "string"
}
```

Status Codes

[Table 6-13](#) describes status codes.

Table 6-13 Status codes

Status Code	Description
200	A variable is modified successfully.
400	The input parameter is invalid.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

Table 6-14 Error codes

Error Code	Error Message
DLI.0001	Parameter check errors occur.
DLI.0999	Server-side errors occur.
DLI.12004	The job does not exist. Check the reason or create a job.

6.4 Querying All Global Variables

Function

This API is used to query information about all global variables in the current project.

URI

- URI format
GET /v1.0/{project_id}/variables
- Parameter description

Table 6-15 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .

Table 6-16 query parameter description

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of returned records displayed on each page. The default value is 100 .
offset	No	Integer	Offset. The default value is 0 .

Request Parameters

None

Response Parameters

Table 6-17 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
count	No	Integer	Number of global variables.
global_vars	No	Array of objects	Global variable information. For details, see Table 6-18 .

Table 6-18 global_vars parameters

Parameter	Mandatory	Type	Description
id	No	Long	Global variable ID.
var_name	Yes	String	Global variable name.
var_value	Yes	String	Global variable value.
project_id	No	String	Project ID.
user_id	No	String	User ID.
user_name	No	String	Username
is_sensitive	No	Boolean	Whether to set a variable as a sensitive variable.
create_time	No	Long	Creation time
update_time	No	Long	Update time

Example Request

None

Example Response

```
{
  "is_success": true,
```

```
"message": "string",
"count": 0,
"global_vars": [
  {
    "id": 0,
    "var_name": "string",
    "var_value": "string",
    "project_id": "string",
    "user_id": "string"
  }
]
```

Status Codes

Table 6-19 Status codes

Status Code	Description
200	All variables are queried successfully.
400	The input parameter is invalid.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

Table 6-20 Error codes

Error Code	Error Message
DLI.0001	Parameter check errors occur.
DLI.0999	Server-side errors occur.

7 Data Catalog-related APIs

7.1 Obtaining Information About All Catalogs in a Project

Function

This API is used to obtain information about all catalogs in a specified project.

URI

GET /v3/{project_id}/catalogs

Table 7-1 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For how to obtain a project ID, see Obtaining a Project ID .

Table 7-2 Query parameters

Parameter	Mandatory	Type	Description
offset	No	Integer	Offset. The default value is 0 .
limit	No	Integer	Number of returned records displayed on each page. The default value is 100 .

Request Parameters

None

Response Parameters

Status code: 200

Table 7-3 Response body parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful.
total_count	Long	Total number of catalogs.
catalogs	Array of objects	Information about all catalogs in the project. For details, see CatalogEntity .

Table 7-4 catalogs parameter descriptions

Parameter	Type	Description
name	String	Catalog mapping name on DLI.
create_time	Long	Catalog creation time.
parameters	Map<String,String>	Catalog attributes include type and externalCatalog.
description	String	Description of the catalog.
status	String	Catalog status. The options are: ● CREATING: The catalog is being created. ● ACTIVE: The catalog is available. ● FAILED: The catalog failed to create.

Status code: 400

Table 7-5 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Error message.

Status code: 500

Table 7-6 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Failure cause.

Example Request

None

Example Response

```
{
  "is_success": true,
  "total_count": 2,
  "catalogs": [
    {
      "name": "catalog_test1",
      "create_time": 1697179174000,
      "parameters": {
        "type": "lakeformation",
        "external_catalog_name": "lakeformation_catalog_test1"
      },
      "description": "dli default catalog"
    },
    {
      "name": "catalog_test2",
      "create_time": 1706595479942,
      "parameters": {
        "type": "lakeformation",
        "external_catalog_name": "lakeformation_catalog_test2"
      },
      "description": ""
    }
  ]
}
```

Status Codes

Status Code	Description
200	The request is successful.
400	Request error.
403	Access to the requested page is forbidden.
404	The server cannot find the requested page.
500	Internal server error.

Error Codes

See [Error Codes](#).

7.2 Querying Details About a Specified Catalog

Function

This API is used to query details about a specified DLI catalog.

URI

GET /v3/{project_id}/catalogs/{catalog_name}

Table 7-7 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For how to obtain a project ID, see Obtaining a Project ID .
catalog_name	Yes	String	Catalog mapping name on DLI.

Request Parameters

None

Response Parameters

Status code: 200

Table 7-8 Response body parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successful.
name	String	Catalog mapping name on DLI.
create_time	Long	Creation time.
parameters	Map<String,String>	Catalog structure information. For details, see Table 7-9 .
description	String	Catalog description.
status	String	Catalog status. The options are: ● CREATING: The catalog is being created. ● ACTIVE: The catalog is available. ● FAILED: The catalog failed to create.

Table 7-9 parameters structure parameter descriptions

Parameter	Type	Description
external_catalog_name	String	Name of an external catalog.
type	String	Catalog type. Currently, the value can only be lakeformation . lakeformation : Metadata of the LakeFormation type is used.

Status code: 400**Table 7-10** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Failure cause.

Status code: 403**Table 7-11** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Failure cause.

Status code: 404**Table 7-12** Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Failure cause.

Status code: 500

Table 7-13 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Failure cause.

Example Request

None

Example Response

```
{
  "is_success": true,
  "name": "dli_catalog_test1",
  "create_time": 1709605019153,
  "parameters": {
    "type": "lakeformation",
    "external_catalog_name": "catalog_test1"
  },
  "description": ""
}
```

Status Codes

Status Code	Description
200	The request is successful.
400	Request error.
403	Access to the requested page is forbidden.
404	The server cannot find the requested page.
500	Internal server error.

Error Codes

See [Error Codes](#).

7.3 Binding or Unbinding a Catalog Mapping

Function

This API is used to create metadata catalogs for binding/unbinding DLI to services such as LakeFormation. Currently, only LakeFormation is supported.

URI

POST /v3/{project_id}/catalogs/action

Table 7-14 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For how to obtain a project ID, see Obtaining a Project ID .

Request Parameters

Table 7-15 Request body parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Catalog operation. The options are: • bind • unbind
name	Yes	String	Catalog mapping name on DLI. Minimum length: 1 character Maximum length: 128 characters
description	No	String	Description of the catalog.
parameters	Yes	Map<String,String>	Catalog structure information. For details, see Table 7-16 .

Table 7-16 parameters structure parameter descriptions

Parameter	Type	Description
external_catalog_name	String	Name of an external catalog. When type is set to lakeformation , enter the name of the catalog to be bound to LakeFormation.
type	String	Catalog type. Currently, the value can only be lakeformation . lakeformation : Metadata of the LakeFormation type is used.

Response Parameters

Status code: 200

Table 7-17 Response body parameters

Parameter	Type	Description
message	String	System prompt. If the execution succeeds, this parameter may be left blank.

Status code: 400

Table 7-18 Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500

Table 7-19 Response body parameters

Parameter	Type	Description
error_code	String	Error code.
error_msg	String	Failure cause.

Example Request

```
{
  "action": "bind",
  "name": "dli_catalog_test1",
  "parameters": {
    "external_catalog_name": "catalog_test1",
    "type": "lakeformation"
  }
}
```

Example Response

Status code: 403

Forbidden

```
{
  "error_code" : "DLI.0003",
  "error_msg" : "Forbidden"
}
```

Status code: 404

Not Found

```
{
  "error_code" : "DLI.0002",
  "error_msg" : "Not Found"
}
```

Status code: 500

Internal Server Error

```
{
  "error_code" : "DLI.0999",
  "error_msg" : "Internal Server Error"
}
```

Status Codes

Status Code	Description
200	The request is successful.
400	Request error.
403	Access to the requested page is forbidden.
404	The server cannot find the requested page.
500	Internal server error.

Error Codes

See [Error Codes](#).

8 APIs Related to Resource Tags

8.1 Batch Adding Resource Tags

Function

This API is used to add resource tags in batches.

URI

POST /v3/{project_id}/{resource_type}/{resource_id}/tags/create

Table 8-1 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. The options are: • dli_queue: queue • dli_elastic_resource_pool: elastic resource pool • dli_enhanced_datasource: enhanced datasource connection • dli_database: database • dli_flink_job: Flink job

Parameter	Mandatory	Type	Description
resource_id	Yes	String	Resource ID. Minimum length: 1 character Maximum length: 1,000 characters Obtain it as follows: • Queue ID: Obtain it by calling Querying All Queues. queue_id in the response indicates the queue ID. • Elastic resource pool ID: Obtain it by calling Querying All Elastic Resource Pools. resource_id in the response indicates the elastic resource pool ID. • Enhanced datasource connection ID: Obtain the Connection ID on the Enhanced tab of Data Connections page of the DLI management console. • Database ID: name of the database that is passed in when adding a tag. You can view the database name on the Data Management > Databases and Tables page of the DLI console. • Flink job ID: On the Job Management > Flink Jobs page of the DLI management console, click the name of a Flink job. On the displayed Flink job details page, obtain the Flink job ID.

Request Parameters

Table 8-2 Request body parameter

Parameter	Mandatory	Type	Description
tags	Yes	Array of tags objects	Tag list. For details, see Table 8-3. • A maximum of 20 tags can be added. • Only one tag value can be added to a tag key. • Each key within a resource must be unique, and the values within the same key cannot be duplicated.

Table 8-3 tags

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (<code>_</code>:<code>+</code><code>-</code><code>@</code>) are allowed, but the value cannot start or end with a space or start with <code>_sys_</code>.
value	Yes	String	Tag value. A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (<code>_</code>:<code>+</code><code>-</code><code>@</code>) are allowed. The resource tag can be empty.

Response Parameters

None

Example Request

```
{
  "tags":[
    {
      "key":"key1",
      "value":"value1"
    }
  ]
}
```

```
    },  
    {  
      "key": "key2",  
      "value": "value2"  
    }  
  ]  
}
```

Example Response

None

Status Codes

Status Code	Description
204	The modification is successful.
400	Request error.
500	Internal server error.

Error Codes

See [Error Codes](#).

8.2 Batch Deleting Resource Tags

Function

This API is used to delete tags from a specified instance in batches.

- This API is idempotent, meaning that if the tag to be deleted does not exist, the deletion is successful.
- A maximum of 20 tags can be deleted in a batch.
- Character set validation is not performed when deleting tags.
- The **tags** structure cannot be missing during deletion, and the **key** field cannot be empty or a null string.

URI

POST /v3/{project_id}/{resource_type}/{resource_id}/tags/delete

Table 8-4 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. The options are: • dli_queue: queue • dli_elastic_resource_pool: elastic resource pool • dli_enhanced_datasource: enhanced datasource connection • dli_database: database • dli_package_resource: resource package (built-in resource packages with a module ID specified are not supported) • dli_flink_job: Flink job

Parameter	Mandatory	Type	Description
resource_id	Yes	String	Resource ID. Minimum length: 1 character Maximum length: 1,000 characters Obtain it as follows: • Queue ID: Obtain it by calling Querying All Queues. queue_id in the response indicates the queue ID. • Elastic resource pool ID: Obtain it by calling Querying All Elastic Resource Pools. resource_id in the response indicates the elastic resource pool ID. • Enhanced datasource connection ID: Obtain the Connection ID on the Enhanced tab of Data Connections page of the DLI management console. • Database ID: name of the database that is passed in when adding a tag. You can view the database name on the Data Management > Databases and Tables page of the DLI console. • Flink job ID: On the Job Management > Flink Jobs page of the DLI management console, click the name of a Flink job. On the displayed Flink job details page, obtain the Flink job ID.

Request Parameters

Table 8-5 Request body parameter

Parameter	Mandatory	Type	Description
tags	Yes	Array of tags objects	Tag list. For details, see Table 8-6. • A maximum of 20 tags can be added. • Only one tag value can be added to a tag key. • Each key within a resource must be unique, and the values within the same key cannot be duplicated.

Table 8-6 tags

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (<code>_</code>:<code>+</code><code>-</code><code>@</code>) are allowed, but the value cannot start or end with a space or start with <code>_sys_</code>.
value	Yes	String	Tag value. A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (<code>_</code>:<code>+</code><code>-</code><code>@</code>) are allowed.

Response Parameters

None

Example Request

```
{
  "tags":[
    {
      "key":"key1"
    },
    {
      "key":"key2",
      "value":"value2"
    }
  ]
}
```

```
}  
  ]  
}
```

Example Response

None

Status Codes

Status Code	Description
204	The modification is successful.
400	Request error.
500	Internal server error.

Error Codes

See [Error Codes](#).

8.3 Querying the Number of Resource Instances

Function

This API is used to query the number of resource instances.

URI

POST /v3/{project_id}/{resource_type}/resource-instances/count

Table 8-7 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
resource_type	Yes	String	Resource type. The options are: • dli_queue: queue • dli_elastic_resource_pool: elastic resource pool • dli_enhanced_datasource: enhanced datasource connection • dli_database: database • dli_package_resource: resource package (built-in resource packages with a module ID specified are not supported) • dli_flink_job: Flink job

Request Parameters

Table 8-8 Request body parameters

Parameter	Mandatory	Type	Description
without_any_tag	No	Boolean	Whether no tags are included. The default value is false . • true: No tags are included. • false: One or multiple tags are specified.
tags	No	Array of objects	Tags. For details, see tags . • A maximum of 20 tags can be added. • Each key within a resource must be unique, and the values within the same key cannot be duplicated. • If left unset, the number of all resources is returned.
matches	No	Array of objects	Search field. For details, see matches .

Table 8-9 tags

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (_.:+ -@) are allowed, but the value cannot start or end with a space or start with _sys_ .
values	Yes	Array of strings	List of tag values. A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (_.:+ -@) are allowed. The value can be an empty array but cannot be left blank. If the values are null, it indicates any_value (querying any value). All values of a tag key are in the OR relationship.

Table 8-10 matches

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. Currently, only the option resource_name is available. resource_name : resource name. By default, a fuzzy search is performed based on the prefix of the resource name entered.
value	Yes	String	Tag value. Enter a maximum of 255 characters.

Response Parameters

Table 8-11 Response parameters

Parameter	Type	Description
total_count	Integer	Total number of records.
resources	List<resource>	List of resource instances. For details, see Table 8-12 .

Table 8-12 resource field data structure descriptions

Parameter	Mandatory	Type	Description
resource_id	Yes	String	Resource ID.
resource_detail	Yes	Object	Resource details. This field is an extension field and is left blank by default.
resource_name	Yes	String	Resource name, which is an empty string by default if the resource does not have a name. If the resource is an EIP, the IP address is returned.
tags	Yes	List<resource_tag>	Tag list, which is an empty array if there are no tags. For details, see Table 8-13 .

Table 8-13 tags field data structure descriptions

Parameter	Mandatory	Type	Description
key	Yes	String	Resource tag key.
value	Yes	String	Resource tag value.

Example Request

```
{
  "tags": [
    {
      "key": "key1",
      "values": [
        "value1",
        "value2"
      ]
    },
  ],
}
```

```
{
  "key": "key2",
  "values": [
    "value1",
    "value2"
  ]
},
"matches": [
  {
    "key": "resource_name",
    "value": "resource1"
  }
],
"without_any_tag": "false"
}
```

Example Response

```
{
  "total_count": 1000
}
```

Status Codes

Status Code	Description
200	The modification is successful.
400	Request error.
500	Internal server error.

Error Codes

See [Error Codes](#).

8.4 Listing Resource Instances

Function

This API is used to list resource instances.

URI

POST /v3/{project_id}/{resource_type}/resource-instances/filter

Table 8-14 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. The options are: • dli_queue: queue • dli_elastic_resource_pool: elastic resource pool • dli_enhanced_datasource: enhanced datasource connection • dli_database: database • dli_package_resource: resource package (built-in resource packages with a module ID specified are not supported) • dli_flink_job: Flink job

Table 8-15 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on each page. The default value is 1000 .
offset	No	Integer	Query result offset. The default value is 0 .

Request Parameters

Table 8-16 Request body parameters

Parameter	Mandatory	Type	Description
without_any_tag	No	Boolean	Whether no tags are included. The default value is false . • true: No tags are included. • false: One or multiple tags are specified.
tags	No	Array of objects	Tags. For details, see tags . • A maximum of 20 tags can be added. • Each key within a resource must be unique, and the values within the same key cannot be duplicated. • If left unset, the list of all resource instances is returned.
matches	No	Array of objects	Search field. For details, see matches .

Table 8-17 tags

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (<code>_.:+-@</code>) are allowed, but the value cannot start or end with a space or start with <code>_sys_</code> .

Parameter	Mandatory	Type	Description
values	Yes	Array of strings	List of tag values. A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (_.:+ -@) are allowed. The value can be an empty array but cannot be left blank. If the values are null, it indicates any_value (querying any value). All values of a tag key are in the OR relationship.

Table 8-18 matches

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. Currently, only the option resource_name is available. resource_name : resource name. By default, a fuzzy search is performed based on the prefix of the resource name entered.
value	Yes	String	Tag value. Enter a maximum of 255 characters.

Response Parameters

Table 8-19 Response parameters

Parameter	Mandatory	Type	Description
resources	Yes	List<resource>	List of resource instances. For details, see Table 8-20 .
total_count	Yes	Integer	Total number of records.

Table 8-20 resource field data structure description

Parameter	Mandatory	Type	Description
resource_id	Yes	String	Resource ID.
resource_detail	Yes	Object	Resource details. This field is an extension field and is left blank by default.
tags	Yes	List<resource_tag>	Tag list, which is an empty array if there are no tags. For details, see Table 8-21 .
resource_name	Yes	String	Resource name, which is an empty string by default if the resource does not have a name. If the resource is an EIP, the IP address is returned.

Table 8-21 tags field data structure description

Parameter	Mandatory	Type	Description
key	Yes	String	Resource tag key.
value	Yes	String	Resource tag value.

Example Request

```
{
  "tags": [
    {
      "key": "key1",
      "values": [
        "value1",
        "value2"
      ]
    },
    {
      "key": "key2",
      "values": [
        "value1",
        "value2"
      ]
    }
  ],
  "matches": [
    {
      "key": "resource_name",
      "value": "resource1"
    }
  ],
  "without_any_tag": "false"
}
```


Example Response

```
{
  "resources": [
    {
      "resource_detail": null,
      "resource_id": "test1",
      "resource_name": "resource1",
      "tags": [
        {
          "key": "key1",
          "value": "value1"
        },
        {
          "key": "key2",
          "value": "value1"
        }
      ]
    }
  ],
  "total_count": 1000
}
```

Status Codes

Status Code	Description
200	The modification is successful.
400	Request error.
500	Internal server error.

Error Codes

See [Error Codes](#).

8.5 Querying Tags of a Specified Resource Type

Function

This API is used to query tags of a specified resource type, which refers to the collection of all resource tags within a specified project.

URI

GET /v3/{project_id}/{resource_type}/tags

Table 8-22 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. The options are: • dli_queue: queue • dli_elastic_resource_pool: elastic resource pool • dli_enhanced_datasource: enhanced datasource connection • dli_database: database • dli_package_resource: resource package (built-in resource packages with a module ID specified are not supported) • dli_flink_job: Flink job

Table 8-23 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on each page. The default value is 1000 .
offset	No	Integer	Query result offset. The default value is 0 .

Request Parameters

None

Response Parameters

Table 8-24 Response parameters

Parameter	Type	Description
tags	Array of objects	List of resource tags. For details, see Table 8-25 .
count	Long	Number of tags.

Table 8-25 tags field data structure description

Parameter	Type	Description
key	String	Resource tag key.
values	Array of strings	List of resource tag values.

Example Request

None

Example Response

```
{
  "tags": [
    {
      "key": "key1",
      "values": [
        "value1",
        "value2"
      ]
    },
    {
      "key": "key2",
      "values": [
        "value1",
        "value2"
      ]
    }
  ]
}
```

Status Codes

Status Code	Description
200	The modification is successful.
400	Request error.
500	Internal server error.

Error Codes

See [Error Codes](#).

8.6 Querying Tags of a Specified Resource Instance

Function

This API is used to query tags of a specified resource instance.

URI

GET /v3/{project_id}/{resource_type}/{resource_id}/tags

Table 8-26 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain a project ID, see Obtaining a Project ID .
resource_type	Yes	String	Resource type. The options are: • dli_queue: queue • dli_elastic_resource_pool: elastic resource pool • dli_enhanced_datasource: enhanced datasource connection • dli_database: database • dli_package_resource: resource package (built-in resource packages with a module ID specified are not supported) • dli_flink_job: Flink job

Parameter	Mandatory	Type	Description
resource_id	Yes	String	Resource ID. Minimum length: 1 character Maximum length: 1,000 characters Obtain it as follows: • Queue ID: Obtain it by calling Querying All Queues. queue_id in the response indicates the queue ID. • Elastic resource pool ID: Obtain it by calling Querying All Elastic Resource Pools. resource_id in the response indicates the elastic resource pool ID. • Enhanced datasource connection ID: Obtain the Connection ID on the Enhanced tab of Data Connections page of the DLI management console. • Database ID: name of the database that is passed in when adding a tag. You can view the database name on the Data Management > Databases and Tables page of the DLI console. • Flink job ID: On the Job Management > Flink Jobs page of the DLI management console, click the name of a Flink job. On the displayed Flink job details page, obtain the Flink job ID.

Table 8-27 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on each page. The default value is 1000 .

Parameter	Mandatory	Type	Description
offset	No	Integer	Query result offset. The default value is 0 .

Request Parameters

None

Response Parameters

Table 8-28 Response parameters

Parameter	Type	Description
count	Integer	Number of tags.
tags	Array of objects	List of resource tags. For details, see Table 8-29 .

Table 8-29 tags field data structure description

Parameter	Type	Description
key	String	Resource tag key.
value	String	List of resource tag values.

Example Request

None

Example Response

```
{
  "count": 2,
  "tags": [
    {
      "key": "key1",
      "value": "value1"
    },
    {
      "key": "key2",
      "value": "value3"
    }
  ]
}
```

Status Codes

Status Code	Description
200	The modification is successful.
400	Request error.
500	Internal server error.

Error Codes

See [Error Codes](#).

9 APIs Related to Enhanced Datasource Connections

9.1 Creating an Enhanced Datasource Connection

Function

This API is used to create an enhanced datasource connection with other services.

NOTE

- For details about how to use the console interface, see [Enhanced Datasource Connections](#) in *Data Lake Insight User Guide*.
- Datasource connections cannot be created for the default queue.

URI

- URI format
POST /v2.0/{project_id}/datasource/enhanced-connections
- Parameter description

Table 9-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request Parameters

Table 9-2 Request parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Name of the connection. - The name can contain only letters, digits, and underscores (_), and cannot be left empty. - A maximum of 64 characters are allowed.
dest_vpc_id	Yes	String	The ID of the service VPC to be connected.
dest_network_id	Yes	String	The subnet ID of the to-be-connected service.
elastic_resource_pools	No	Array of Strings	List of elastic resource pools that need to use datasource resources.
queues	No	Array of Strings	This parameter is about to be taken offline with DLI queues. Use the elastic_resource_pools parameter instead. List of queue names that are available for datasource connections. NOTE Only dedicated queues are allowed to use the enhanced datasource connections.
route_table_id	No	String	Route table associated with the subnet of the service.
hosts	No	Array of objects	The user-defined host information. A maximum of 20,000 records are supported. For details, see hosts request parameters .
tags	No	Array of objects	Tags of datasource connections. For details, see Table 9-4 .

Table 9-3 hosts request parameters

Parameter	Mandatory	Type	Description
name	No	String	The user-defined host name. The value can consist of 128 characters, including digits, letters, underscores (_), hyphens (-), and periods (.). It must start with a letter.
ip	No	String	The IPv4 address of the host.

Table 9-4 tags parameter

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key. NOTE A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (._:~+@) are allowed, but the value cannot start or end with a space or start with _sys_.
value	Yes	String	Tag value. NOTE A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (._:~+@) are allowed.

Response Parameters

Table 9-5 Response parameters

Parameter	Type	Description
is_success	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	System prompt. If execution succeeds, the message may be left blank.
connection_id	String	Connection ID. Identifies the UUID of a datasource connection.

Example Request

Create an enhanced datasource connection for a queue and configure host information.

```
{
  "name": "test",
  "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
  "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
  "elastic_resource_pools": [
    "e1"
  ],
  "hosts": [
    {
      "ip": "192.168.0.1",
      "name": "ecs-97f8-0001"
    },
    {
      "ip": "192.168.0.2",
      "name": "ecs-97f8-0002"
    }
  ]
}
```

Example Response

```
{
  "is_success": true,
  "message": "Create peer connection for queues:{Resource pool list in the request parameter}",
  "connection_id": "2a620c33-5609-40c9-affd-2b6453071b0f"
}
```

Status Codes

[Table 9-6](#) describes the status code.

Table 9-6 Status codes

Status Code	Description
201	The job is created successfully.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

9.2 Deleting an Enhanced Datasource Connection

Function

This API is used to delete an enhanced datasource connection.

NOTE

The connection that is being created cannot be deleted.

URI

- URI format
DELETE /v2.0/{project_id}/datasource/enhanced-connections/{connection_id}
- Parameter description

Table 9-7 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
connection_id	Yes	String	Connection ID. Identifies the UUID of a datasource connection. Set the value to the connection ID returned by Creating an Enhanced Datasource Connection .

Request Parameters

None

Response Parameters

Table 9-8 Response parameters

Parameter	Type	Description
is_success	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	System message. Value Deleted indicates that the operation is successful.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "Deleted"
}
```

Status Codes

[Table 9-9](#) describes the status code.

Table 9-9 Status codes

Status Code	Description
200	Deletion succeeded.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

9.3 Listing Enhanced Datasource Connections

Function

This API is used to list the created enhanced datasource connections.

URI

- URI format
GET /v2.0/{project_id}/datasource/enhanced-connections
- Parameter description

Table 9-10 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 9-11 query parameter description

Parameter	Mandatory	Type	Description
limit	No	String	The maximum number of connections to be queried. The default value is 100 . If limit is set to 0 , all datasource connections are returned.

Parameter	Mandatory	Type	Description
offset	No	String	The offset of the query result. The default value is 0 . Note that the connections are sorted by creation time.
status	No	String	Connection status. The options are as follows: - Active: The connection has been activated. - DELETED: The connection has been deleted. NOTE The connection status is case insensitive.
name	No	String	Connection name
tags	No	String	List of tag names. The value is k=v for a single tag. Multiple tags are separated by commas (,). Example: tag1=v1,tag2=v2 .

 NOTE

The following is an example of the URL containing the **query** parameter:

```
GET /v2.0/{project_id}/datasource/enhanced-connections?  
limit={limit}&offset={offset}&status={status}&name={name}
```

Request Parameters

None

Response Parameters

Table 9-12 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
connections	No	Array of objects	Datasource connection information list. For details, see Table 9-13 .

Parameter	Mandatory	Type	Description
count	No	Integer	Number of returned datasource connections.

Table 9-13 connections parameters

Parameter	Mandatory	Type	Description
id	No	String	Connection ID. Identifies the UUID of a datasource connection.
name	No	String	User-defined connection name.
status	No	String	Connection status. The options are as follows: • Active: The connection has been activated. • DELETED: The connection has been deleted.
available_queue_info	No	Array of objects	For details about how to create a datasource connection for each queue, see Table 9-14 .
dest_vpc_id	No	String	The VPC ID of the connected service.
dest_network_id	No	String	Subnet ID of the connected service.
isPrivis	No	Boolean	Whether the project permissions have been granted for the enhanced datasource connection. If the datasource connection has the permissions, the value of this field is false . Otherwise, the value is true .
create_time	No	Long	Time when a link is created. The time is converted to a UTC timestamp.
hosts	No	Array of objects	User-defined host information. For details, see Table 9-16 .
elastic_resource_pools	No	Array of objects	Information about the elastic resource pools for which you want to create VPC peering connections. For details, see Table 9-15 .

Parameter	Mandatory	Type	Description
ipv6_enable	No	boolean	Whether to enable IPv6 true : IPv6 is enabled. false : IPv6 is disabled.

Table 9-14 available_queue_info parameter description

Parameter	Mandatory	Type	Description
peer_id	No	String	ID of a datasource connection.
status	No	String	Connection status. For details about the status code, see Table 9-17 .
name	No	String	Name of a queue.
err_msg	No	String	Detailed error message when the status is FAILED .
update_time	No	Long	Time when the available queue list was updated.

Table 9-15 elastic_resource_pools parameters

Parameter	Mandatory	Type	Description
peer_id	No	String	ID of a datasource connection.
status	No	String	Connection status. For details about the status code, see Table 9-17 .
name	No	String	Elastic resource pool name
err_msg	No	String	Detailed error message when the status is FAILED .
update_time	No	Long	Time when the available queue list was updated.

Table 9-16 hosts parameters

Parameter	Mandatory	Type	Description
name	No	String	Custom host name

Parameter	Mandatory	Type	Description
ip	No	String	IPv4 address of the host

Table 9-17 Connection status

Parameter	Definition	Description
CREATING	Creating	The datasource connection is being created.
ACTIVE	Active	The datasource connection has been created, and the connection to the destination address is normal.
FAILED	Failed	Failed to create a datasource connection.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "count": 1,
  "connections": [
    {
      "name": "withvpc",
      "id": "4c693ecc-bab8-4113-a838-129cedc9a563",
      "available_queue_info": [
        {
          "status": "ACTIVE",
          "name": "resource_mode_1",
          "peer_id": "d2ae6628-fa37-4e04-806d-c59c497492d1",
          "err_msg": "",
          "update_time": 1566889577861
        }
      ],
      "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
      "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
      "isPrivis": true,
      "create_time": 1566888011125,
      "status": "ACTIVE"
    }
  ]
}
```

Status Codes

[Table 9-18](#) describes the status code.

Table 9-18 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

9.4 Querying an Enhanced Datasource Connection

Function

This API is used to query a created enhanced datasource connection.

URI

- URI format
GET /v2.0/{project_id}/datasource/enhanced-connections/{connection_id}
- Parameter description

Table 9-19 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
connection_id	Yes	String	Connection ID. Identifies the UUID of a datasource connection.

Request Parameters

None

Response Parameters

Table 9-20 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
id	No	String	Connection ID. Identifies the UUID of a datasource connection.
name	No	String	User-defined connection name.
status	No	String	Connection status. The options are as follows: - Active: The connection has been activated. - DELETED: The connection has been deleted.
available_queue_info	No	Array of objects	For details about how to create a datasource connection for each queue, see Table 9-21 .
dest_vpc_id	No	String	The VPC ID of the connected service.
dest_network_id	No	String	Subnet ID of the connected service.
create_time	No	Long	Time when a link is created. The time is converted to a UTC timestamp.
hosts	No	Array of objects	User-defined host information. For details, see hosts parameter description .
elastic_resource_pools	No	Array of objects	For details about how to create a VPC peering connection for each elastic resource pool, see Table 9-24 .
ipv6_enable	No	boolean	Whether to enable IPv6 true : IPv6 is enabled. false : IPv6 is disabled.

Table 9-21 available_queue_info parameter description

Parameter	Mandatory	Type	Description
peer_id	No	String	ID of a datasource connection.
status	No	String	Connection status. For details about the status code, see Table 9-23 .
name	No	String	Name of a queue.
err_msg	No	String	Detailed error message when the status is FAILED .
update_time	No	Long	Time when the available queue list was updated.

Table 9-22 hosts parameter description

Parameter	Mandatory	Type	Description
name	No	String	The user-defined host name.
ip	No	String	The IPv4 address of the host.

Table 9-23 Connection status

Parameter	Definition	Description
CREATING	Creating	The datasource connection is being created.
ACTIVE	Active	The datasource connection has been created, and the connection to the destination address is normal.
FAILED	Failed	Failed to create a datasource connection.

Table 9-24 elastic_resource_pools parameters

Parameter	Mandatory	Type	Description
peer_id	No	String	ID of a datasource connection.
status	No	String	Connection status. For details about the status code, see Table 9-23 .

Parameter	Mandatory	Type	Description
name	No	String	Elastic resource pool name
err_msg	No	String	Detailed error message when the status is FAILED .
update_time	No	Long	Update time

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "name": "withvpc",
  "id": "4c693ecc-bab8-4113-a838-129cedc9a563",
  "available_queue_info": [
    {
      "status": "ACTIVE",
      "name": "resource_mode_1",
      "peer_id": "d2ae6628-fa37-4e04-806d-c59c497492d1",
      "err_msg": "",
      "update_time": 1566889577861
    }
  ],
  "dest_vpc_id": "22094d8f-c310-4621-913d-4c4d655d8495",
  "dest_network_id": "78f2562a-36e4-4b39-95b9-f5aab22e1281",
  "create_time": 1566888011125,
  "status": "ACTIVE",
  "hosts": [
    {
      "ip": "192.168.0.1",
      "name": "ecs-97f8-0001"
    },
    {
      "ip": "192.168.0.2",
      "name": "ecs-97f8-0002"
    }
  ]
}
```

Status Codes

[Table 9-25](#) describes the status code.

Table 9-25 Status codes

Status Code	Description
200	The query is successful.
400	Request error.

Status Code	Description
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

9.5 Binding a Queue

Function

This API is used to bind a queue to a created enhanced datasource connection.

URI

- URI format
POST /v2.0/{project_id}/datasource/enhanced-connections/{connection_id}/associate-queue
- Parameter description

Table 9-26 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
connection_id	Yes	String	Connection ID. Identifies the UUID of a datasource connection. Set the value to the connection ID returned by Creating an Enhanced Datasource Connection .

Request Parameters

Table 9-27 Request parameters

Parameter	Mandatory	Type	Description
queues	No	Array of Strings	List of queue names that are available for datasource connections.

Parameter	Mandatory	Type	Description
elastic_resource_pools	No	Array of Strings	Elastic resource pools you want to bind to the enhanced datasource connection.

Response Parameters

Table 9-28 Response parameters

Parameter	Type	Description
is_success	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	System prompt. If execution succeeds, the message may be left blank.

Example Request

Bind created enhanced datasource connections to queues **q1** and **q2**.

```
{
  "queues": [
    "q1",
    "q2"
  ]
}
```

Example Response

```
{
  "is_success": true,
  "message": "associated peer connection for queues: {q1,q2}."
}
```

Status Codes

Table 9-29 describes the status code.

Table 9-29 Status codes

Status Code	Description
200	Resource bound succeeded.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

9.6 Unbinding a Queue

Function

This API is used to unbind a queue from an enhanced datasource connection.

URI

- URI format
POST /v2.0/{project_id}/datasource/enhanced-connections/{connection_id}/disassociate-queue
- Parameter description

Table 9-30 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
connection_id	Yes	String	Connection ID. Identifies the UUID of a datasource connection.

Request Parameters

Table 9-31 Request parameters

Parameter	Mandatory	Type	Description
queues	No	Array of String	List of queue names that are available for datasource connections.
elastic_resource_pools	No	Array of Strings	Elastic resource pools you want to unbind from the enhanced datasource connection.

Response Parameters

Table 9-32 Response parameters

Parameter	Type	Description
is_success	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	System prompt. If execution succeeds, the message may be left blank.

Example Request

Unbind queues **q1** and **q2** from enhanced datasource connections.

```
{
  "queues": [
    "q1",
    "q2"
  ]
}
```

Example Response

```
{
  "is_success": true,
  "message": "Disassociated peer connection for queues:{q1,q2}."
}
```

Status Codes

[Table 9-33](#) describes the status code.

Table 9-33 Status codes

Status Codes	Description
200	Resource unbound succeeded.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

9.7 Modifying Host Information

Function

This API is used to modify the host information of a connected datasource. Only full overwriting is supported.

URI

- URI format
PUT /v2.0/{project_id}/datasource/enhanced-connections/{connection_id}
- Parameter description

Table 9-34 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
connection_id	Yes	String	Connection ID. Identifies the UUID of a datasource connection.

Request Parameters

Table 9-35 Request parameters

Parameter	Mandatory	Type	Description
hosts	Yes	Array of objects	The user-defined host information. A maximum of 20,000 records are supported. For details, see hosts request parameters . If this parameter is left blank, all configured host information will be deleted.

Table 9-36 hosts request parameters

Parameter	Man dato ry	Type	Description
name	No	String	The user-defined host name. The value can consist of 128 characters, including digits, letters, underscores (_), hyphens (-), and periods (.). It must start with a letter.
ip	No	String	The IPv4 address of the host.

Response Parameters

Table 9-37 Response parameters

Paramete r	Type	Description
is_success	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	System prompt. If execution succeeds, the message may be left blank.

Example Request

Modify the host information of an enhanced datasource connection.

```
{
  "hosts": [
    {
      "ip": "192.168.0.1",
      "name": "ecs-97f8-0001"
    },
    {
      "ip": "192.168.0.2",
      "name": "ecs-97f8-0002"
    }
  ]
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

Table 9-38 describes the status code.

Table 9-38 Status codes

Status Code	Description
200	The modification operations are successful.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

9.8 Querying Authorization of an Enhanced Datasource Connection

Function

This API is used to query the authorization about an enhanced datasource connection.

URI

- URI format
GET /v2.0/{project_id}/datasource/enhanced-connections/{connection_id}/privileges
- Parameter description

Table 9-39 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
connection_id	Yes	String	Connection ID. Identifies the UUID of a datasource connection.

Request Parameters

None

Response Parameters

Table 9-40 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
connection_id	No	String	Enhanced datasource connection ID, which is used to identify the UUID of a datasource connection.
privileges	No	Array of Object	Datasource connection information about each authorized project. For details, see Table 9-41 .

Table 9-41 privileges parameters

Parameter	Mandatory	Type	Description
object	No	String	Object information during authorization.
applicant_project_id	No	String	ID of an authorized project.
privileges	No	Array of Strings	Authorization operation information.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "privileges": [
    {
      "object": "edsconnections.503fc86a-5e60-4349-92c2-7e399404fa8a",
      "applicant_project_id": "330e068af1334c9782f4226acc00a2e2",
      "privileges": ["BIND_QUEUE"]
    }
  ],
  "connection_id": "503fc86a-5e60-4349-92c2-7e399404fa8a"
}
```

Status Codes

[Table 9-42](#) describes status codes.

Table 9-42 Status codes

Status Code	Description
200	The query is successful.
400	The input parameter is invalid.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

Table 9-43 Error codes

Error Code	Error Message
DLI.0001	Connection 503fc86a-5e60-4349-92c2-7e399404fa8a does not exist.

9.9 Creating a Route

Function

This API is used to create a datasource connection route.

URI

- URI format
POST /v3/{project_id}/datasource/enhanced-connections/{connection_id}/routes
- Parameter description

Table 9-44 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
connection_id	Yes	String	Datasource connection ID

Request Parameters

Table 9-45 Request parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Route name. The value can contain 1 to 64 characters.
cidr	Yes	String	Route network range

Response Parameters

Table 9-46 Response parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	System prompt. If the execution succeeds, the message may be left blank.

Example Request

Create a route. Set the next-hop address of the enhanced datasource connection to **127.0.0.0**.

```
{
  "name": "route",
  "cidr": "127.0.0.0"
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

For details, see [Error Codes](#).

9.10 Deleting a Route

Function

This API is used to delete a datasource connection route.

URI

- URI format
DELETE /v3/{project_id}/datasource/enhanced-connections/{connection_id}/routes/{name}
- Parameter description

Table 9-47 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
connection_id	Yes	String	Datasource connection ID
name	Yes	String	Route name

Request Parameters

None

Response Parameters

Table 9-48 Response parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	System prompt. If the execution succeeds, the message may be left blank.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "Deleted"
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

For details, see [Error Codes](#).

10 Datasource Authentication-related APIs

10.1 Creating Datasource Authentication

Function

This API is used to create datasource authentication.

URI

- URI format
POST /v3/{project_id}/datasource/auth-infos
- Parameter descriptions

Table 10-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request Parameters

Table 10-2 Request parameters

Parameter	Mandatory	Type	Description
auth_info_name	Yes	String	Authentication information name, which is unique in a project

Parameter	Mandatory	Type	Description
user_name	No	String	Username
password	No	String	Password
certificate_location	No	String	Path of the security cluster certificate. Currently, only OBS paths and CER files are supported.
datasource_type	Yes	String	Data source type. Options: CSS , KRB , passwd , and Kafka_SSL . • CSS: applies to 6.5.4 or later CSS clusters with the security mode enabled. • KRB: applies to MRS security clusters with Kerberos authentication enabled. • Kafka_SSL: applies to Kafka with SSL enabled. • passwd: applies to GaussDB(DWS), RDS, DDS, and DCS data sources.
krb5_conf	No	String	OBS path of the krb5 configuration file
keytab	No	String	OBS path of the keytab configuration file
truststore_location	No	String	OBS path of the truststore configuration file
truststore_password	No	String	Password of the truststore configuration file
keystore_location	No	String	OBS path of the keystore configuration file
keystore_password	No	String	Password of the keystore configuration file
key_password	No	String	Key password

Response Parameters

Table 10-3 Response parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successfully executed. true indicates that the request is successfully executed.
message	String	System prompt. If the execution succeeds, this parameter may be left blank.

Example Request

Create CSS datasource authentication.

```
{
  "auth_info_name": "test",
  "user_name": "admin",
  "password": "****",
  "certificate_location": "obs://test/CloudSearchService.cer",
  "datasource_type": "CSS"
}
```

Example Response

```
{
  "is_success": true,
  "message": "Upload success."
}
```

Status Codes

Status Code	Description
201	OK

Error Codes

See [Error Codes](#).

10.2 Listing Datasource Authentications

Function

This API is used to list datasource authentications in a project.

URI

- URI format
GET /v3/{project_id}/datasource/auth-infos
- Parameter descriptions

Table 10-4 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 10-5 query parameter descriptions

Parameter	Mandatory	Type	Description
limit	No	String	The maximum number of connections to be queried. The default value is 100 .
offset	No	String	The offset of the query result. The default value is 0 . Note that the connections are sorted by creation time.
auth_info_name	Yes	String	Authentication information name, which is unique in a project

Request Parameters

None

Response Parameters

Table 10-6 Response parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successfully executed. true indicates that the request is successfully executed.
message	String	System prompt. If the execution succeeds, this parameter may be left blank.
count	int	Number of certificates

Parameter	Type	Description
auth_infos	List	Authentication information list. For details, see Table 10-7 .

Table 10-7 auth_infos parameter descriptions

Parameter	Type	Description
auth_info_name	String	Username for logging in to the security cluster
user_name	String	Password for logging in to the security cluster
certificate_location	String	OBS path of the certificate specified during authentication creation
datasource_type	String	Data source type. Options: • CSS: applies to 6.5.4 or later CSS clusters with the security mode enabled. • KRB: applies to MRS security clusters with Kerberos authentication enabled. • Kafka_SSL: applies to Kafka data sources with SSL enabled. • passwd: applies to GaussDB(DWS), RDS, DDS, and DCS data sources.
create_time	Int	Timestamp when the authentication is created
update_time	Int	Timestamp when the authentication is updated
krb5_conf	String	OBS path of the krb5 configuration file
keytab	String	OBS path of the keytab configuration file
truststore_location	String	OBS path of the truststore configuration file
keystore_location	String	OBS path of the keystore configuration file
owner	String	Username

Example Request

None

Example Response

```
{
  "count": 19,
  "auth_infos": [{
    "auth_info_name": "lan2",
    "datasource_type": "Kafka_SSL",
    "create_time": 1578896427789,
    "update_time": 1578898059677,
    "owner": "ei_dlics_d00352221",
    "truststore_location": "obs://lan-1/cer/truststore.jks",
    "keystore_location": "obs://lan-1/cer/keystore.jks"
  }, {
    "auth_info_name": "lan3",
    "datasource_type": "Kafka_SSL",
    "create_time": 1578899029971,
    "update_time": 1578901678150,
    "owner": "ei_dlics_d00352221",
    "truststore_location": "obs://lan-1/cer/truststore1.jks",
    "keystore_location": "obs://lan-1/cer/keystore.jks"
  }]
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

See [Error Codes](#).

10.3 Updating Datasource Authentication

Function

This API is used to update authentication information.

URI

- URI format
PUT /v3/{project_id}/datasource/auth-infos
- Parameter description

Table 10-8 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request Parameters

Parameter	Mandatory	Type	Description
auth_info_name	Yes	String	Name of the updated datasource authentication
user_name	No	String	New username for logging in to the security cluster
password	No	String	New password for logging in to the security cluster
krb5_conf	No	String	OBS path of the krb5 configuration file
keytab	No	String	OBS path of the keytab configuration file
truststore_location	No	String	OBS path of the truststore configuration file
truststore_password	No	String	Password of the truststore configuration file
keystore_location	No	String	OBS path of the keystore configuration file
keystore_password	No	String	Password of the keystore configuration file

Response Parameters

Table 10-9 Response parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	None

Example Request

Change the username and password for CSS datasource authentication.

```
{
  "auth_info_name": "test001",
  "user_name": "root",
  "password": "*****"
}
```

Example Response

```
{
  "is_success": true,
  "message": "Update success."
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

For details, see [Error Codes](#).

10.4 Deleting Datasource Authentication

Function

This API is used to delete datasource authentication.

URI

- URI format
DELETE /v3/{project_id}/datasource/auth-infos/{auth_info_name}
- Parameter description

Table 10-10 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Parameter	Mandatory	Type	Description
auth_info_name	Yes	String	Name of the authentication information you want to delete

Response

Table 10-11 Response parameters

Parameter	Type	Description
is_success	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	String	None

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "Deleted success."
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

For details, see [Error Codes](#).

11 Quota-related APIs

11.1 Querying Quotas

Function

This API is used to obtain the quota list of a user.

URI

GET /v3/{project_id}/quotas

Table 11-1 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For how to obtain a project ID, see Obtaining a Project ID .

Request Parameters

None

Response Parameters

Status code: 200

Table 11-2 Response body parameters

Parameter	Type	Description
is_success	Boolean	Whether the query is successful.

Parameter	Type	Description
quotas	object	Quota list. For details, see Table 11-3 .

Table 11-3 quotas

Parameter	Type	Description
resources	Array of objects	Quota resource details. For details, see Table 11-4 .

Table 11-4 resources

Parameter	Type	Description
type	String	Quota type. Options: • CU: compute unit • QUEUE: resource queue • DATABASE: database • TABLE: table • TEMPLATE: template • SL_PKG_RESOURCE: Spark resource package • SL_SESSION: Spark session • JOB_CU: job compute unit • IAM_USER: number of IAM users • ELASTIC_RESOURCE_POOL: elastic resource pool
min	Integer	Minimum quota.
max	Integer	Maximum quota.
quota	Integer	Current quota.
used	Integer	Used quota.

Status code: 400**Table 11-5** Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Status code: 500

Table 11-6 Response body parameters

Parameter	Type	Description
error_code	String	Error code
error_msg	String	Error message

Example Request

None

Example Response

```
{
  "quotas": {
    "resources": [
      {
        "type": "CU",
        "min": 0,
        "max": 100000,
        "quota": 2500,
        "used": 992
      },
      {
        "type": "QUEUE",
        "min": 0,
        "max": 1000,
        "quota": 50000,
        "used": 53
      },
      {
        "type": "DATABASE",
        "min": 0,
        "max": 500,
        "quota": 1000,
        "used": 593
      },
      {
        "type": "TABLE",
        "min": 0,
        "max": 10000,
        "quota": 50000,
        "used": 8548
      },
      {
        "type": "TEMPLATE",
        "min": 0,
        "max": 10000,
        "quota": 1000,
        "used": 130
      },
      {
        "type": "SL_PKG_RESOURCE",
        "min": 0,
        "max": 2000,
        "quota": 50000,
        "used": 525
      }
    ]
  }
}
```

```
},
{
  "type": "SL_SESSION",
  "min": 0,
  "max": 1000,
  "quota": 300,
  "used": 2
},
{
  "type": "JOB_CU",
  "min": 0,
  "max": 400,
  "quota": 400,
  "used": 0
},
{
  "type": "ELASTIC_RESOURCE_POOL",
  "min": 0,
  "max": 1024,
  "quota": 5000,
  "used": 3
}
],
"is_success": true
}
```

Status Codes

Status Code	Description
200	Returned result.
400	Error type and description.
500	Internal server error.

Error Codes

See [Error Codes](#).

12 APIs Related to Elastic Resource Pools

12.1 Creating an Elastic Resource Pool

Function

This API is used to create elastic resource pools.

URI

- URI format
POST /v3/{project_id}/elastic-resource-pools
- Parameter description

Table 12-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For how to obtain the project ID, see Obtaining a Project ID .

Request Parameters

Table 12-2 Request parameters

Parameter	Mandatory	Type	Description
elastic_resource_pool_name	Yes	String	Name of a new elastic resource pool. Only digits, letters, and underscores (_) are allowed, but the value cannot contain only digits or start with an underscore (_). The value can contain 1 to 128 characters. NOTE If the name contains uppercase letters, the system automatically converts them to lowercase letters.
description	No	String	Description. The value can contain a maximum of 256 characters.
cidr_in_vpc	No	String	VPC CIDR associated with the virtual cluster. If it is not specified, the default value 172.16.0.0/12 is used.
max_cu	Yes	Integer	Maximum number of CUs. The value of this parameter must be greater than or equal to the sum of maximum CUs allowed for any queue in the resource pool, and greater than min_cu . • Standard edition: The minimum value is 64 CUs. • Basic edition: The minimum value is 16 CUs, and the maximum value is 64 CUs.

Parameter	Mandatory	Type	Description
min_cu	Yes	Integer	Minimum number of CUs. The value of this parameter must be greater than or equal to the sum of the minimum CUs allowed for each queue in the resource pool. The minimum value is 64 . • Standard edition: The minimum value is 64 CUs. • Basic edition: The minimum value is 16 CUs, and the maximum value is 64 CUs.
charging_mode	No	Integer	Billing mode. The default value is 1 , which indicates the pay-per-use billing mode.
enterprise_project_id	No	String	Enterprise ID. If this parameter is left blank, the default value 0 is used.
tags	No	Array of objects	Queue tags for identifying cloud resources. A tag consists of a key and a value. For details, see Table 12-3 .
label	No	Object	Attribute field of the elastic resource pool. To purchase the basic version, set this parameter to {"spec": "basic"} . If not set, the default is the standard version.
ipv6_enable	No	boolean	Whether to enable IPv6 Once enabled, the resource pool will be automatically assigned an IPv6 CIDR block. Custom IPv6 CIDR blocks are not currently supported. IPv6 cannot be disabled once enabled. The default value is false . true : IPv6 is enabled. false : IPv6 is disabled.

Table 12-3 tags parameters

Parameter	Mandatory	Type	Description
key	Yes	String	Tag key NOTE A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (_.:+ -@) are allowed, but the value cannot start or end with a space or start with <code>_sys_</code> .
value	Yes	String	Tag value NOTE A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (_.:+ -@) are allowed.

Response Parameters

Table 12-4 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	Message content, for example, Success to get tsdb list .
elastic_resource_pool_name	No	String	Elastic resource pool name, for example, elastic_pool_0623_02 .

Example Request

Create an elastic resource pool with maximum CUs of 684 and minimum CUs of 684.

```
{
  "elastic_resource_pool_name": "elastic_pool_0623_02",
  "description": "test",
  "cidr_in_vpc": "172.16.0.0/14",
  "charging_mode": "1",
  "max_cu": 684,
  "min_cu": 684
}
```

Example Response

```
{
  "is_success": true,
  "message": "Success to get tsdb list",
  "elastic_resource_pool_name": "elastic_pool_0623_02"
}
```

Status Codes

Status Code	Description
200	OK
400	Incorrect parameters. For example, creating an existing elastic resource pool.
403	Forbidden

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

12.2 Querying All Elastic Resource Pools

Function

This API is used to query all elastic resource pools.

URI

- URI format
GET /v3/{project_id}/elastic-resource-pools
- Parameter description

Table 12-5 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 12-6 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Page size. The default value is 100 .
name	No	String	Fuzzy match based on the elastic resource pool name.
offset	No	Integer	Offset. The default value is 0 .
status	No	String	Status of the elastic resource pool. The options are: • AVAILABLE • SCALING • CREATING • FAILED
tags	No	String	Query results are filtered by tag.

Request Parameters

None

Response Parameters

Table 12-7 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the message may be left blank.
count	No	Long	Total number of records.
elastic_resource_pools	No	Array of objects	Elastic resource pool information. For details, see Table 12-8 .

Table 12-8 elastic_resource_pools parameters

Parameter	Mandatory	Type	Description
owner	No	String	Account used to create an elastic resource pool.
elastic_resource_pool_name	No	String	Elastic resource pool name.
description	No	String	Elastic resource pool description information.
max_cu	No	Integer	Maximum number of CUs.
min_cu	No	Integer	Minimum number of CUs.
actual_cu	No	Integer	Actual number of CUs.
cidr_in_vpc	No	String	Subnet information of the elastic resource pool.
create_time	No	Long	Time when the elastic resource pool is created.
update_time	No	Long	Time when the elastic resource pool is updated.
current_cu	No	Integer	Number of current CUs.
status	No	String	Status of the elastic resource pool. The options are: • AVAILABLE • SCALING • CREATING • FAILED
resource_id	No	String	Resource ID of the elastic resource pool.
fail_reason	No	String	Cause of the elastic resource pool creation failure.
enterprise_project_id	No	String	Enterprise project ID.
prepay_cu	No	Integer	Number of prepaid CUs.
charging_mode	No	Integer	Billing mode.
queues	No	Array of Strings	Information about the queue the elastic resource pool belongs to.
manager	No	String	Type of the elastic resource pool.

Parameter	Mandatory	Type	Description
label	No	Map<string, string>	Label used to identify the elastic resource pool. Currently, only the developer label is supported. The value is "label": {"billing_spec_code": "developer"}.
ipv6_enable	No	boolean	Whether to enable IPv6 true : IPv6 is enabled. false : IPv6 is disabled.
ipv6_cidr_in_subnet	No	String	IPv6 subnet CIDR block
id	No	Long	ID of the elastic resource pool

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "count": 2,
  "elastic_resource_pools": [
    {
      "owner": "ei_dlics_d00352221",
      "id": 1026,
      "elastic_resource_pool_name": "elastic_pool_0622_10",
      "description": "",
      "max_cu": 0,
      "min_cu": 0,
      "actual_cu": 0,
      "cidr_in_vpc": "172.16.0.0/12",
      "create_time": 1624366266826,
      "current_cu": 64,
      "status": "AVAILABLE",
      "resource_id": "ecc98d89-3fd1-4dec-b572-aa6e2ef82391",
      "fail_reason": "",
      "enterprise_project_id": "0",
      "prepay_cu": 0,
      "charging_mode": 1
    },
    {
      "owner": "ei_dlics_d00352221",
      "id": 1002,
      "elastic_resource_pool_name": "elastic_pool_0622_0",
      "description": "test",
      "max_cu": 684,
      "min_cu": 0,
      "actual_cu": 0,
      "cidr_in_vpc": "172.16.0.0/12",
      "create_time": 1624353878084,
      "status": "AVAILABLE",
      "resource_id": "ecc98d89-3fd1-4dec-b572-aa6e2ef82391",
    }
  ]
}
```

```
"fail_reason": "",  
"enterprise_project_id": "0",  
"prepay_cu": 0,  
"charging_mode": 1  
}  
]  
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

12.3 Deleting an Elastic Resource Pool

Function

This API is used to delete an elastic resource pool.

URI

- URI format
DELETE /v3/{project_id}/elastic-resource-pools/{elastic_resource_pool_name}
- Parameter description

Table 12-9 URI parameters

Parameter	Mandatory	Type	Description
elastic_resource_pool_name	Yes	String	Elastic resource pool name.
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request Parameters

None

Response Parameters

Table 12-10 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the message may be left blank.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

12.4 Modifying Elastic Resource Pool Information

Function

This API is used to modify elastic resource pool information.

URI

- URI format
PUT /v3/{project_id}/elastic-resource-pools/{elastic_resource_pool_name}

- Parameter description

Table 12-11 URI parameters

Parameter	Mandatory	Type	Description
elastic_resource_pool_name	Yes	String	Elastic resource pool name.
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request Parameters

Table 12-12 Request parameters

Parameter	Mandatory	Type	Description
description	No	String	Description. The value can contain a maximum of 256 characters.
max_cu	No	Integer	Maximum CUs allowed for an elastic resource pool.
min_cu	No	Integer	Minimum CUs allowed for an elastic resource pool.

Response Parameters

Table 12-13 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the message may be left blank.

Example Request

Modify the description, maximum CUs, and minimum CUs of the elastic resource pool. After the modification, the minimum CUs is **78** and the maximum CUs is **990**.

```
{
  "description": "test_update",
  "min_cu": 78,
  "max_cu": 990
}
```

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

12.5 Querying All Queues in an Elastic Resource Pool

Function

This API is used to query all queues in an elastic resource pool.

URI

- URI format
GET /v3/{project_id}/elastic-resource-pools/{elastic_resource_pool_name}/queues
- Parameter descriptions

Table 12-14 URI parameters

Parameter	Mandatory	Type	Description
elastic_resource_pool_name	Yes	String	Name of the elastic resource pool.

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 12-15 Query parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Page size. The default value is 100 .
offset	No	Integer	Offset. The default value is 0 .
queue_name	No	String	You can filter data by queue name.

Request Parameters

None

Response Parameters

Table 12-16 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. true indicates that the request is successfully executed.
message	No	String	System prompt. If the execution succeeds, this parameter may be left blank.
queues	No	Array of objects	Resource weight of all queues in the elastic resource pool. For details about the parameters, see Table 12-17 .
count	No	Long	Number of queues bound to the elastic resource pool.

Table 12-17 queues

Parameter	Mandatory	Type	Description
queue_name	No	String	Queue name.
enterprise_project_id	No	String	Enterprise project ID.
queue_type	No	String	Queue type. Options: • sql: Queues used to run SQL jobs • general: Queues used to run Flink and Spark Jar jobs
queue_scaling_policies	No	Array of objects	Scaling policy. For details about the parameters, see priority_infos .
owner	No	String	Queue owner.
create_time	No	Long	Time when a queue is created.
engine	No	String	Queue engine type.

Table 12-18 queue_scaling_policies

Parameter	Mandatory	Type	Description
priority	No	Integer	The policy priority ranges from 1 to 100. The value 100 indicates the highest priority.
impact_start_time	No	String	Time when a policy takes effect.
impact_stop_time	No	String	Time when a policy expires.
min_cu	No	Integer	Minimum number of CUs.
max_cu	No	Integer	Maximum number of CUs.

Parameter	Mandatory	Type	Description
inherit_elastic_resource_pool_max_cu	No	Boolean	Definition Whether queues within the elastic resource pool inherit the maximum CUs of the pool The setting takes effect only within the period specified by the current scaling policy. You need to manually configure CU limits for other periods. Range true: The maximum CUs of queues equal the maximum CUs of the resource pool within the period specified by the current scaling policy. false: Queues within the elastic resource pool do not inherit the maximum CUs of the pool.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "count": 1,
  "queues": [
    {
      "queue_name": "lhm_sql",
      "enterprise_project_id": "0",
      "queue_type": "sql",
      "queue_scaling_policies": [
        {
          "priority": 50,
          "impact_start_time": "00:00",
          "impact_stop_time": "24:00",
          "min_cu": 16,
          "max_cu": 16
        },
        {
          "priority": 100,
          "impact_start_time": "00:00",
          "impact_stop_time": "12:00",
          "min_cu": 32,
          "max_cu": 64
        },
        {
          "priority": 50,
          "impact_start_time": "12:00",
          "impact_stop_time": "24:00",
          "min_cu": 16,
          "max_cu": 32
        }
      ]
    }
  ]
}
```

```
}  
]  
}  
]  
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

12.6 Associating a Queue with an Elastic Resource Pool

Function

This API is used to associate a queue with an elastic resource pool.

URI

- URI format
POST /v3/{project_id}/elastic-resource-pools/{elastic_resource_pool_name}/queues
- Parameter description

Table 12-19 URI parameters

Parameter	Mandatory	Type	Description
elastic_resource_pool_name	Yes	String	Elastic resource pool name.
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Request Parameters

Table 12-20 Request parameter

Parameter	Mandatory	Type	Description
queue_name	Yes	String	Queue name.

Response Parameters

Table 12-21 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the message may be left blank.

Example Request

Associate the **lhm_sql** queue with the elastic resource pool.

```
{  
  "queue_name": "lhm_sql"  
}
```

Example Response

```
{  
  "is_success": true,  
  "message": ""  
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

12.7 Viewing Scaling History of an Elastic Resource Pool

Function

This API is used to view scaling history of an elastic resource pool.

URI

GET /v3/{project_id}/elastic-resource-pools/{elastic_resource_pool_name}/scale-records

Table 12-22 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
elastic_resource_pool_name	Yes	String	Elastic resource pool name The value can contain 1 to 128 characters.

Table 12-23 query parameters

Parameter	Mandatory	Type	Description
start_time	No	Long	Start time of the historical scaling records you want to query. The time must be 30 days earlier than the current time and earlier than the end_time. The value is a UNIX timestamp in milliseconds. • If start_time is left empty, data generated in the recent seven days before end_time will be queried. The end_time cannot be later than 30 days after the current time. • If both start_time and end_time are left empty, data generated in the recent 15 days before the current time will be queried.
end_time	No	Long	End time of the historical scaling records. The value cannot be earlier than the start_time or later than the current time. The value is a UNIX timestamp in milliseconds. • If end_time is left empty, data generated since the start_time will be queried. • If both start_time and end_time are left empty, data generated in the recent 15 days before the current time will be queried.
status	No	String	Scaling status Enumerated values: • success • fail
offset	No	Integer	Offset Minimum value: 0

Parameter	Mandatory	Type	Description
limit	No	Integer	Number of records displayed on a page Minimum value: 0 Maximum value: 100

Request Parameters

None

Response Parameters

Table 12-24 Response body parameters

Parameter	Type	Description
count	Integer	Number of elements in the array
items	Array of arrays	Data returned in the array For details, see Table 12-25 .

Table 12-25 items parameters

Parameter	Type	Description
max_cu	Integer	Maximum number of CUs
min_cu	Integer	Minimum number of CUs
current_cu	Integer	Scaled number of CUs
origin_cu	Integer	Original number of CUs
target_cu	Integer	Target number of CUs
record_time	Long	Operation completion time
status	String	Scaling status, which can be success or failure
fail_reason	String	Failure cause

Example Request

```
GET https://{endpoint}/v3/{project_id}/elastic-resource-pools/{elastic_resource_pool_name}/scale-records?start_time=1650784624000&end_time=1652625304002&status=&limit=20&offset=1
```

Example Response

The following is an example for a successful query:

```
{
  "count" : 1,
  "items" : [ {
    "max_cu" : 64,
    "min_cu" : 16,
    "current_cu" : 16,
    "target_cu" : 16,
    "origin_cu" : 16,
    "record_time" : 1650784624000,
    "status" : "fail",
    "fail_reason" : "Internal error, please contact technical support."
  } ]
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

For details, see [Error Codes](#).

12.8 Modifying the Scaling Policy of a Queue Associated with an Elastic Resource Pool

Function

This API is used to modify the scaling policy of a queue associated with an elastic resource pool.

URI

- URI format
PUT /v3/{project_id}/elastic-resource-pools/{elastic_resource_pool_name}/queues/{queue_name}
- Parameter description

Table 12-26 URI parameters

Parameter	Mandatory	Type	Description
elastic_resource_pool_name	Yes	String	Elastic resource pool name.

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID, which is used for resource isolation. For how to obtain a project ID, see Obtaining a Project ID . Example: 48cc2c48765f481480c7db940d6409d1 Constraints None Range The value can contain up to 64 characters. Only letters and digits are allowed. Default Value None
queue_name	Yes	String	Name of a bound queue.

Request Parameters

Table 12-27 Request parameter

Parameter	Mandatory	Type	Description
queue_scaling_policies	Yes	Array of objects	Scaling policy of a queue in an elastic resource pool. A policy contains the period, priority, and CU range. There must be a default scaling policy (period [00:00, 24:00]) for each queue. For details about the parameters, see Table 12-28 .

Table 12-28 queue_scaling_policies

Parameter	Mandatory	Type	Description
impact_start_time	Yes	String	Time when a policy takes effect.
impact_stop_time	Yes	String	Time when a policy expires.

Parameter	Mandatory	Type	Description
priority	Yes	Integer	Priority.
min_cu	Yes	Integer	Minimum number of CUs.
max_cu	Yes	Integer	Maximum number of CUs.
inherit_elastic_resource_pool_max_cu	No	Boolean	Definition Whether queues within the elastic resource pool inherit the maximum CUs of the pool Constraints The setting takes effect only within the period specified by the current scaling policy. You need to manually configure CU limits for other periods. Range true : The maximum CUs of queues equal the maximum CUs of the resource pool within the period specified by the current scaling policy. false : Queues within the elastic resource pool do not inherit the maximum CUs of the pool. Default Value None

Response Parameters

Table 12-29 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the message may be left blank.

Example Request

Modify the scaling policy of a queue associated with an elastic resource pool.

```
{
  "queue_scaling_policies" : [
    {
      "priority" : 1,
      "impact_start_time" : "00:00",
      "impact_stop_time" : "24:00",
      "min_cu": "64",
      "max_cu": "752"
    },
    {
      "priority" : 100,
      "impact_start_time" : "10:00",
      "impact_stop_time" : "22:00",
      "min_cu": "64",
      "max_cu": "752"
    },
    {
      "priority" : 50,
      "impact_start_time" : "22:00",
      "impact_stop_time" : "10:00",
      "min_cu": "64",
      "max_cu": "752"
    }
  ]
}
```

Example Response

```
{
  "is_success" : true,
  "message" : ""
}
```

Status Codes

Status Code	Description
200	OK

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

13 Queue-related APIs (Recommended)

13.1 Creating a Queue

Function

This API is used to create a queue. The queue will be bound to specified compute resources.

NOTE

It takes 5 to 15 minutes to start a job using a new queue for the first time.

URI

- URI format
POST /v1.0/{project_id}/queues
- Parameter description

Table 13-1 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID, which is used for resource isolation. For how to obtain a project ID, see Obtaining a Project ID . Example: 48cc2c48765f481480c7db940d6409d1 Constraints None Range The value can contain up to 64 characters. Only letters and digits are allowed. Default Value None

Request Parameters

Table 13-2 Request parameters

Parameter	Mandatory	Type	Description
queue_name	Yes	String	Name of the new queue Definition Name of the new queue Constraints • The name cannot contain only digits or start with an underscore (_). Only digits, letters, and underscores (_) are allowed. • The value can contain up to 128 characters. • The queue name is case-insensitive. Uppercase letters will be automatically converted to lowercase letters. Range None Default Value None

Parameter	Mandatory	Type	Description
queue_type	No	String	Definition Queue type Constraints If not specified, the default value sql is used. Range • sql: Queues used to run SQL jobs • general: Queues used to run Flink and Spark Jar jobs Default Value None
description	No	String	Definition Queue description Constraints None Range None Default Value None
cu_count	Yes	Integer	Definition Minimum number of CUs bound to a queue Constraints None Range The options are 16 , 64 , and 256 . Default Value None
charging_mode	No	Integer	Definition Billing mode of a queue Constraints None Range The value can only be 1 , indicating that the billing is based on the CUH. Default Value None

Parameter	Mandatory	Type	Description
enterprise_project_id	No	String	Definition Enterprise project ID. The value 0 indicates the default enterprise project. Constraints Only users who have enabled Enterprise Management can set this parameter to bind a specified project. Range None Default Value None
platform	No	String	Definition CPU architecture of queue compute resources Constraints None Range x86_64 Default Value None
resource_mode	No	Integer	Definition Queue resource mode Constraints None Range 0 : shared resource mode 1 : dedicated resource mode Default Value None

Parameter	Mandatory	Type	Description
labels	No	Array of Strings	Definition Tag information of the queue to be created. Currently, the tag information includes whether the queue is cross-AZ (JSON string). The value can only be 2 , that is, a dual-AZ queue whose compute resources are distributed in two AZs is created. Constraints None Range None Default Value None
feature	No	String	Definition Type of images used by the queue Constraints None Range • basic: basic type • ai: AI-enhanced (available only for SQL x86_64 dedicated queues). An AI image is loaded to the queue. The image integrates AI-related algorithm packages based on the base image. Default Value The default value is basic .
tags	No	Array of objects	Definition Queue tags for identifying cloud resources. A tag consists of a key and tag value. For details, see Table 13-3 . Constraints None Range None Default Value None

Parameter	Mandatory	Type	Description
elastic_resource_pool_name	No	String	Definition Name of the elastic resource pool the new queue belongs to Constraints The name can contain only digits, lowercase letters, and underscores (_), but cannot contain only digits or start with an underscore (_). The value can contain 1 to 128 characters. To add a queue to an elastic resource pool, set resource_mode to dedicated. Otherwise, this parameter does not take effect. Range None Default Value None
engine	No	String	Definition Engine type of the queue Constraints This parameter is available only when queue_type is set to sql . Range The options are spark and hetuEngine . • spark: Spark engine • hetuEngine: HetuEngine engine For details about the engine types and descriptions, see DLI Overview . Default Value The default value is spark .

Parameter	Mandatory	Type	Description
properties	No	object	Definition Queue properties. For details, see Table 13-4 . Constraints Currently, Spark Native attributes can be set only in the following regions: • AP-Bangkok • AP-Singapore Range For details, see Table 13-4 . Default Value None

Table 13-3 tags parameters

Parameter	Mandatory	Type	Description
Key	Yes	String	Definition Tag key Constraints None Range A tag key can contain up to 128 characters, cannot start or end with a space, and cannot start with _sys_ . Only letters, digits, spaces, and the following special characters are allowed: _ : + - @ Default Value None
value	Yes	String	Definition Tag value Constraints None Range A tag value can contain up to 255 characters. Only letters, digits, spaces, and the following special characters are allowed: _ : + - @ Default Value None

Table 13-4 properties parameter descriptions

Parameter	Mandatory	Type	Description
computeEngine.spark.nativeEnabled	No	String	Definition Spark Native is a core component of Apache Spark designed to enhance the performance of Spark SQL computations. By utilizing vectorized C++ acceleration libraries, it accelerates the performance of Spark operators. Enables the Spark Native engine to improve Spark SQL job performance and reduce CPU and memory usage. Whether to enable Spark Native for a queue. This function can be currently enabled for Scan and Filter operators. Constraints Modifying the properties of an existing queue requires a restart for the changes to take effect. Range Currently, Spark Native can be enabled only for Scan and Filter operators. • Scan: The Scan operator is typically triggered by query statements, such as select * from test_table. Spark Native can be enabled for Scan operators only when the following conditions are met: – Hive tables and datasource tables in Parquet format – Datasource tables in ORC format • Filter: The Filter operator is typically triggered by WHERE clauses, such as select * from test_table where id = xxx. Using the EXPLAIN statement, you can view the types of operators triggered

Parameter	Mandatory	Type	Description
			by SQL commands, for example, Explain select * from test_table . Default Value None

Response Parameters

Table 13-5 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Definition Whether the request is successfully executed. true indicates that the request is successfully executed. Range None
message	No	String	Definition System prompt. If the execution succeeds, this parameter may be left blank. Range None
queue_name	No	String	Definition Name of the created queue. The queue name is case-insensitive. Uppercase letters will be automatically converted to lowercase letters. Range None

Example Request

Create a dedicated general-purpose queue named **queue1**, with specifications of 16 CUs and compute resources distributed in two AZs.

```
{
  "queue_name": "queue1",
  "description": "test",
  "cu_count": 16,
  "resource_mode": 1,
  "enterprise_project_id": "0",
  "queue_type": "general",
```

```
{  "labels": ["multi_az=2"]}
```

Creating a queue in a specified elastic resource pool

```
{  "queue_name": "queue2",  "description": "test_esp",  "cu_count": 16,  "resource_mode": 1,  "enterprise_project_id": "0",  "queue_type": "general",  "labels": ["multi_az=2"],  "elastic_resource_pool_name": "elastic_pool_0622_10"}
```

Example Response

```
{  "is_success": true,  "message": "",  "queue_name": "queue1"}
```

Status Codes

[Table 13-6](#) describes the status codes.

Table 13-6 Status codes

Status Code	Description
200	The job is created successfully.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

13.2 Deleting a Queue

Function

This API is used to delete a specified queue.

NOTE

If a task is being executed in a specified queue, the queue cannot be deleted.

URI

- URI format
DELETE /v1.0/{project_id}/queues/{queue_name}
- Parameter description

Table 13-7 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of a queue to be deleted.

Request Parameters

None

Response Parameters

Table 13-8 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": ""
}
```

Status Codes

[Table 13-9](#) describes the status code.

Table 13-9 Status codes

Status Code	Description
200	Deletion succeeded.
400	Request error.
500	Internal service error.

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

13.3 Querying All Queues

Function

This API is used to list all queues under the project.

URI

- URI format
GET /v1.0/{project_id}/queues
- Parameter descriptions

Table 13-10 URI parameter

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .

Table 13-11 query parameter descriptions

Parameter	Mandatory	Type	Description
queue_type	No	String	Type of the queue. The options are as follows: • sql: queues for SQL jobs • general: queues for Flink and Spark Jar jobs • all: queues of all types If this parameter is not specified, the default value sql is used.
with-priv	No	Boolean	Whether to return permission information.
with-charge-info	No	Boolean	Whether to return billing information.
page-size	No	Integer	Maximum number of lines displayed on each page. The default value is Integer.MAX_VALUE , indicating that all results are displayed on one page.
current-page	No	Integer	Current page number. The default value is 1 .
order	No	String	Queue sorting method The default value is queue_name_asc (alphabetically ascending order on queue names). Other options are queue_name_desc (alphabetically descending order on queue names), cu_asc (ascending order on CUs), and cu_desc (descending order on CUs).
tags	No	String	Query results are filtered by tag.
limit	No	Integer	Number of records to be displayed of the page-based query.
offset	No	Integer	Specifies the offset of the page-based query.

Request Parameters

None

Response Parameters

Table 13-12 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. true indicates that the request is successfully executed.
message	No	String	System prompt. If the execution succeeds, this parameter may be left blank.
queues	No	Array of Object	Queue information For details, see Table 13-13 .

Table 13-13 queues parameter descriptions

Parameter	Mandatory	Type	Description
queue_id	No	Long	Queue ID
queue_name	No	String	Queue name.
description	No	String	Queue description.
owner	No	String	User who creates a queue.
create_time	No	Long	Time when the queue is created. The timestamp is in milliseconds.
queue_type	No	String	Queue type. • sql • general • all If this parameter is not specified, the default value sql is used.
engine	No	String	Engine type. The options are spark and hetuEngine .
used_cu	No	Float	CUs used by all queues.
cu_count	No	Integer	Number of compute units (CUs) bound to a queue, that is, the number of CUs in the current queue.

Parameter	Mandatory	Type	Description
charging_mode	No	Integer	Billing mode of a queue. - Value 0 indicates the default queue. You will be charged based on the amount of data scanned. - Value 1 indicates that queues are billed based on the used CUH.
resource_id	No	String	Resource ID of a queue.
enterprise_project_id	No	String	Enterprise project ID. 0 indicates the default enterprise project. NOTE Users who have enabled Enterprise Management can set this parameter to bind a specified project.
cidr_in_vpc	No	String	The VPC CIDR block of the queue. For example, 10.0.0.0/8–24, 172.16.0.0/12–24, and 192.168.0.0/16–24.
cidr_in_mgmtsubnet	No	String	CIDR block of the management subnet
cidr_in_subnet	No	String	Subnet CIDR block
resource_mode	No	Integer	Resource mode 0: Shared queue 1: Dedicated queue
platform	No	String	CPU architecture of queue compute resources. x86_64
is_restarting	No	Boolean	Whether to restart the queue. The default value is false .
labels	No	String	Tag information of the queue to be created, currently including the JSON string indicating whether the queue is cross-AZ. Currently, only the value 2 is supported, indicating that two queues are created.

Parameter	Mandatory	Type	Description
feature	No	String	Type of image used by the queue. The options are as follows: • basic: basic type • ai: AI-enhanced (Only the SQL x86_64 dedicated queue supports this option.) The default value is basic . NOTE AI-enhanced means that the queue is loaded with an AI image that integrates algorithm packages related to AI on top of the base image.
queue_resource_type	No	String	Type of the resource to which a queue belongs. • vm: ECF cluster • container: container cluster (Kubernetes)
cu_spec	No	Integer	Specifications of a queue. For a yearly/monthly queue, this parameter indicates the CU value of the yearly/monthly part. For a pay-per-use queue, this parameter indicates the initial value when a user purchases a queue.
cu_scale_out_limit	No	Integer	Upper limit of the CU value for elastic scaling of the current queue.
cu_scale_in_limit	No	Integer	Lower limit of the CU value for elastic scaling of the current queue.
elastic_resource_pool_name	Yes	String	Name of the elastic resource pool
support_spark_versions	No	Array[String]	Spark version supported by the queue
default_spark_version	No	String	Default Spark version of the queue
support_hetu_engine_versions	No	Array[String]	HetuEngine version supported by the queue
default_hetu_engine_version	No	String	Default HetuEngine version of the queue
support_flink_sql_versions	No	Array[String]	Flink SQL version supported by the queue
default_flink_sql_version	No	String	Default Flink SQL version of the queue

Parameter	Mandatory	Type	Description
support_flink_jar_versions	No	Array[String]	Flink Jar version supported by the queue
default_flink_jar_version	No	String	Default Flink Jar version of the queue
support_opensource_flink_versions	No	Array[String]	Flink OpenSource SQL versions supported by the queues.

Example Request

None

Example Response

```
{
  "is_success": "true",
  "message": "",
  "queues": [
    {
      "queue_name": "test",
      "owner": "testuser",
      "description": "",
      "create_time": 1562221422671,
      "queue_type": "spark",
      "cu_count": 16,
      "charging_mode": 2,
      "resource_id": "26afb850-d3c9-42c1-81c0-583d1163e80f",
      "enterprise_project_id": "0",
      "cidr_in_vpc": "10.0.0.0/8",
      "cidr_in_subnet": "10.0.0.0/24",
      "cidr_in_mgmtsubnet": "10.23.128.0/24",
      "resource_mode": 1,
      "platform": "x86_64",
      "is_restarting": "false",
      "labels": "multi_az=2",
      "resource_type": "vm",
      "cu_spec": 16
    }
  ]
}
```

Status Codes

Table 13-14 describes status codes.

Table 13-14 Status codes

Status Code	Description
200	The query is successful.
400	Request error.

Status Code	Description
500	Internal server error.

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

13.4 Querying Queue Details

Function

This API is used to list details of a specific queue in a project.

URI

- URI format
GET /v1.0/{project_id}/queues/{queue_name}
- Parameter descriptions

Table 13-15 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For how to obtain a project ID, see Obtaining a Project ID .
queue_name	Yes	String	Specifies the name of a queue to be queried. NOTE The queue name is case-insensitive. The uppercase letters will be automatically converted to lowercase letters.

Request Parameters

None

Response Parameters

Table 13-16 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. true indicates that the request is successfully executed.
message	No	String	System prompt. If the execution succeeds, this parameter may be left blank.
queueName	No	String	Queue name. NOTE The queue name is case-insensitive. The uppercase letters will be automatically converted to lowercase letters.
description	No	String	Queue description.
owner	No	String	User who creates a queue.
createTime	No	Long	Time when the queue is created. The timestamp is in milliseconds.
queueType	No	String	Queue type. Options: • sql: Queues used to run SQL jobs • general: Queues used to run Flink and Spark Jar jobs If this parameter is not specified, the default value sql is used.
cuCount	No	Integer	Number of compute units (CUs) bound to a queue, that is, the number of CUs in the current queue.
chargingMode	No	integer	Billing mode of a queue. • Value 0 indicates the default queue. You will be charged based on the amount of data scanned. • Value 1 indicates that queues are billed based on the used CUH.
resource_id	No	String	Resource ID of a queue.
resource_mode	No	Integer	Resource mode • 0: Shared queue • 1: Dedicated queue

Parameter	Mandatory	Type	Description
enterprise_project_id	No	String	Enterprise project ID. 0 indicates the default enterprise project. NOTE Users who have enabled Enterprise Management can set this parameter to bind a specified project.
resource_type	No	String	Resource type. - vm: ECF cluster - container: container cluster (Kubernetes)
cu_spec	No	Integer	Specifications of a queue. For a yearly/monthly queue, this parameter indicates the CU value of the yearly/monthly part. For a pay-per-use queue, this parameter indicates the initial value when a user purchases a queue.
cu_scale_out_limit	No	Integer	Upper limit of the CU value for elastic scaling of the current queue.
cu_scale_in_limit	No	Integer	Lower limit of the CU value for elastic scaling of the current queue.
elastic_resource_pool_name	No	String	Name of the elastic resource pool.
support_spark_versions	No	Array[String]	Spark version supported by the queue
default_spark_version	No	String	Default Spark version of the queue
support_hetu_engine_versions	No	Array[String]	HetuEngine version supported by the queue
default_hetu_engine_version	No	String	Default HetuEngine version of the queue
support_flink_sql_versions	No	Array[String]	Flink SQL version supported by the queue
default_flink_sql_version	No	String	Default Flink SQL version of the queue

Parameter	Mandatory	Type	Description
support_flink_jar_versions	No	Array[String]	Flink Jar version supported by the queue
default_flink_jar_version	No	String	Default Flink Jar version of the queue

Example Request

None

Example Response

```
{
  "is_success": true,
  "message": "",
  "owner": "testuser",
  "description": "",
  "queueName": "test",
  "create_time": 1587613028851,
  "queueType": "general",
  "cuCount": 16,
  "chargingMode": 1,
  "resource_id": "03d51b88-db63-4611-b779-9a72ba0cf58b",
  "resource_mode": 0,
  "enterprise_project_id": "0",
  "resource_type": "vm",
  "cu_spec": 16
}
```

Status Codes

[Table 13-17](#) describes status codes.

Table 13-17 Status codes

Status Code	Description
200	The query is successful.
400	Request error.
500	Internal server error.

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

13.5 Restarting, Scaling Out, and Scaling In Queues

Function

This API is used to restart, scale out, and scale in queues.

NOTE

- Only SQL queues in the **Available** state can be restarted. (The queue status is **Available** only after the SQL job is successfully executed.)
- This API cannot be used to scale out or scale in queues within an elastic resource pool. For how to scale out or scale in queues within an elastic resource pool, refer to [Modifying the Scaling Policy of a Queue Associated with an Elastic Resource Pool](#).

URI

- URI format
PUT /v1.0/{project_id}/queues/{queue_name}/action
- Parameter description

Table 13-18 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Project ID, which is used for resource isolation. For details about how to obtain its value, see Obtaining a Project ID .
queue_name	Yes	String	Name of a queue.

Request Parameters

Table 13-19 Request parameters

Parameter	Mandatory	Type	Description
action	Yes	String	Operations to be performed: restart: Restart a service. Only queues for SQL jobs can be restarted. scale_out: Scale out the queue scale_in: Scale in the queue NOTE Currently, only restart , scale_out , and scale_in operations are supported.

Parameter	Mandatory	Type	Description
force	No	Boolean	Specifies whether to forcibly restart the queue. This parameter is optional when action is set to restart . The default value is false .
cu_count	No	Integer	Number of CUs to be scaled in or out. This parameter is optional when action is set to scale_out or scale_in . The value of cu_count must be a multiple of 16.

Response Parameters

Table 13-20 Response parameters

Parameter	Mandatory	Type	Description
is_success	No	Boolean	Indicates whether the request is successfully executed. Value true indicates that the request is successfully executed.
message	No	String	System prompt. If execution succeeds, the parameter setting may be left blank.
job_id	No	String	Specifies the job ID returned when force is set to true .
queue_name	No	String	Name of the queue to be scaled in or out.
result	No	Boolean	Indicates the scaling result.

Example Request

- Restart a queue.

```
{  "action": "restart",  "force": "false"}
```
- Increase the number of CUs of the queue to 16.

```
{  "action": "scale_out",  "cu_count": 16}
```

Example Response

- Set **force** to **false**.

```
{  "is_success": true,
```

- ```
 "message": "Restart success"
 }

```
- Set **force** to **true**.

```
{
 "is_success": true,
 "message": "Submit restart job success, it need some time to cancel jobs, please wait for a while and check job status",
 "job_id": "d90396c7-3a25-4944-ad1e-99c764d902e7"
}
```
  - Scaling

```
{
 "queue_name": "myQueue",
 "result": true
}
```

Status Codes

[Table 13-21](#) describes the status code.

Table 13-21 Status codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | The operation is successful. |
| 400         | Request error.               |
| 500         | Internal service error.      |

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

Table 13-22 Error codes

| Error Code | Error Message                                                                                |
|------------|----------------------------------------------------------------------------------------------|
| DLI.0015   | Token info for token is null, return.                                                        |
| DLI.0013   | X-Auth-Token is not defined in request. It is mandatory. Please define and send the request. |

13.6 Creating an Address Connectivity Test Request

Function

This API is used to send an address connectivity test request to a specified queue and insert the test address into the table.

## URI

- URI format  
POST /v1.0/{project\_id}/queues/{queue\_name}/connection-test
- Parameter description

**Table 13-23** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| queue_name | Yes       | String | Name of a queue.                                                                                                                          |

## Request Parameters

**Table 13-24** Request parameters

| Parameter | Mandatory | Type   | Description                                                         |
|-----------|-----------|--------|---------------------------------------------------------------------|
| address   | Yes       | String | Test address. The format is <i>IP address or domain name:port</i> . |

## Response Parameters

**Table 13-25** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | Yes       | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| task_id    | Yes       | Integer | Request ID                                                                                                                     |

## Example Request

Test the connectivity between the queue and the address **iam.xxx.com:443**.

```
{
 "address": "iam.xxx.com:443"
}
```

## Example Response

```
{
 "is_success": true,
 "message": "check connectivity to address:iam.xxx.com with port: 443 successfully",
 "task_id": 9
}
```

## Status Codes

[Table 13-26](#) describes status codes.

**Table 13-26** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is created successfully. |
| 400         | Request failure.                 |
| 500         | Internal service error.          |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 13.7 Querying Connectivity Test Details of a Specified Address

## Function

This API is used to query the connectivity test result after the test is submitted.

## URI

- URI format  
GET /v1.0/{project\_id}/queues/{queue\_name}/connection-test/{task\_id}
- Parameter description



Table 13-27 URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| queue_name | Yes       | String | Name of a queue.                                                                                                                          |
| task_id    | Yes       | String | Job ID. You can call <a href="#">Creating an Address Connectivity Test Request</a> to obtain the value.                                   |

Request Parameters

None

Response Parameters

Table 13-28 Response parameters

| Parameter    | Mandatory | Type    | Description                                                                                                                    |
|--------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success   | Yes       | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message      | Yes       | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| connectivity | Yes       | String  | Indicates the connectivity test result.                                                                                        |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "Get node connectivity status successfully for addressId:9",
 "connectivity": "REACHABLE"
}
```

Status Codes

[Table 13-29](#) describes status codes.

**Table 13-29** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request failure.         |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 13.8 Adding Queue Properties

## Function

This API is used to add queue properties. You can add multiple properties at a time.

Currently, the following queue properties can be set:

Spark driver parameters: Set them to improve the scheduling efficiency of queues.

## Notes and Constraints

- Only SQL queues of the Spark engine support configuring queue properties.
- Queue properties can only be set after a queue is created.
- Currently, only queue properties related to the Spark driver can be set.
- You cannot set queue properties in batches.

## URI

- URI format  
POST /v3/{project\_id}/queues/{queue\_name}/properties
- Parameter descriptions

**Table 13-30** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

| Parameter  | Mandatory | Type   | Description |
|------------|-----------|--------|-------------|
| queue_name | Yes       | String | Queue name. |

Request Parameters

Table 13-31 Request body parameter

| Parameter  | Mandatory | Type   | Description                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------|
| properties | No        | object | Queue properties to be updated. For details, see <a href="#">Table 13-32</a> . |

Table 13-32 properties parameter descriptions

| Parameter                         | Mandatory | Type    | Description                                                                                                                                                                                      |
|-----------------------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| computeEngine.maxInstance         | No        | integer | Maximum number of Spark drivers can be started on this queue.                                                                                                                                    |
| job.maxConcurrent                 | No        | integer | Maximum number of jobs can be concurrently executed by a Spark driver.                                                                                                                           |
| computeEngine.maxPrefetchInstance | No        | integer | Maximum number of Spark drivers can be prestarted on this queue.                                                                                                                                 |
| computeEngine.spark.nativeEnabled | No        | String  | Whether to enable Spark Native. Currently, Spark Native attributes can be set only in the following regions: <ul style="list-style-type: none"><li>• AP-Bangkok</li><li>• AP-Singapore</li></ul> |

## Response Parameters

**Table 13-33** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                    |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                    |

## Example Request

Set queue properties.

```
{
 "properties" : {
 "computeEngine.maxInstance" : 2,
 "job.maxConcurrent" : 32,
 "computeEngine.maxPrefetchInstance" : 1
 }
}
```

## Example Response

None

## Status Codes

[Table 13-34](#) describes the status codes.

**Table 13-34** Status codes

| Status Code | Description                                       |
|-------------|---------------------------------------------------|
| 200         | The property addition API is successfully called. |
| 400         | Request failed.                                   |
| 500         | Internal server error.                            |

## Error Codes

If an error occurs when this API is called, an error code and message are returned. For details, see [Error Codes](#).

# 13.9 Querying Queue Properties

## Function

This API is used to query queue properties.

## URI

- URI format  
GET /v3/{project\_id}/queues/{queue\_name}/properties
- Parameter descriptions

Table 13-35 URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                       |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .                                    |
| queue_name | Yes       | String | Name of the queue for which the scheduled CU range is to be modified. The name can contain up to 128 characters. Use commas (,) to separate multiple queue names. |

Table 13-36 Query parameters

| Parameter | Mandatory | Type    | Description                                                                  |
|-----------|-----------|---------|------------------------------------------------------------------------------|
| offset    | No        | Integer | Query result offset. The default value is <b>0</b> .                         |
| limit     | No        | Integer | Number of records displayed on each page. The default value is <b>1000</b> . |

## Request Parameters

None

## Response Parameters

Status code: 200

**Table 13-37** Response body parameters

| Parameter  | Type                               | Description                                                                                                    |
|------------|------------------------------------|----------------------------------------------------------------------------------------------------------------|
| is_success | Boolean                            | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | String                             | Message content.                                                                                               |
| properties | Array of <b>properties</b> objects | For details, see <a href="#">Table 13-38</a> .                                                                 |

**Table 13-38** properties

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | <p>Key corresponding to the returned property value.</p> <ul style="list-style-type: none"><li>• <b>computeEngine.maxInstances</b>: Maximum number of Spark drivers can be started on this queue.</li><li>• <b>computeEngine.maxPrefetchInstance</b>: Maximum number of Spark drivers can be prestarted on this queue.</li><li>• <b>job.maxConcurrent</b>: Maximum number of jobs can be concurrently executed by a Spark driver.</li><li>• <b>multipleSc.support</b>: Whether multiple Spark drivers can be set.</li><li>• <b>job.saveJobResultToJobBucket</b>: Whether to use the user job bucket to save SQL query results. <b>true</b> indicates that the function is enabled.</li><li>• <b>computeEngine.spark.nativeEnabled</b>: Whether to use DLI Spark Native.</li></ul> <p>Enumerated values:</p> <ul style="list-style-type: none"><li>• <b>computeEngine.maxInstances</b></li><li>• <b>computeEngine.maxPrefetchInstance</b></li><li>• <b>job.maxConcurrent</b></li><li>• <b>multipleSc.support</b></li><li>• <b>job.saveJobResultToJobBucket</b></li><li>• <b>computeEngine.spark.nativeEnabled</b></li></ul> |
| value     | String | Value corresponding to the returned property value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

Status code: 400

Table 13-39 Response body parameters

| Parameter  | Type   | Description    |
|------------|--------|----------------|
| error_code | String | Error code.    |
| error_msg  | String | Error message. |

Example Request

None

Example Response

```
{
 "message": "ok",
 "is_success": true,
 "properties": [
 "computeEngine.maxInstance" : 2,
 "job.maxConcurrent" : 32,
 "computeEngine.maxPrefetchInstance" : 1
]
}
```

Status Codes

Table 13-40 describes the status codes.

Table 13-40 Status codes

| Status Code | Description                                      |
|-------------|--------------------------------------------------|
| 200         | The queue property list is successfully queried. |
| 400         | Request failed.                                  |
| 500         | Internal server error.                           |

Error Codes

If an error occurs when this API is called, an error code and message are returned.  
For details, see [Error Codes](#).

13.10 Updating Queue Properties

Function

This API is used to update queue properties.

## URI

- URI format  
PUT /v3/{project\_id}/queues/{queue\_name}/properties
- Parameter descriptions

**Table 13-41** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                               |
|------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .                            |
| queue_name | Yes       | String | Name of the queue whose properties are to be modified.<br><br>The name can contain up to 128 characters. Use commas (,) to separate multiple queue names. |

## Request Parameters

**Table 13-42** Request body parameter

| Parameter  | Mandatory | Type   | Description                                                             |
|------------|-----------|--------|-------------------------------------------------------------------------|
| properties | No        | object | Properties to be updated. For details, see <a href="#">properties</a> . |

**Table 13-43** properties

| Parameter                         | Mandatory | Type    | Description                                                            |
|-----------------------------------|-----------|---------|------------------------------------------------------------------------|
| computeEngine.maxInstance         | No        | Integer | Maximum number of Spark drivers can be started on this queue.          |
| job.maxConcurrent                 | No        | Integer | Maximum number of jobs can be concurrently executed by a Spark driver. |
| computeEngine.maxPrefetchInstance | No        | Integer | Maximum number of Spark drivers can be prestarted on this queue.       |
| network.cidrIpv4                  | No        | String  | Queue CIDR block.                                                      |



| Parameter                         | Mandatory | Type   | Description                                                                                                                                                                                         |
|-----------------------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job.saveJobResultToJobBucket      | No        | String | Whether to use the job bucket to save SQL query results.                                                                                                                                            |
| computeEngine.spark.nativeEnabled | No        | String | Whether to enable Spark Native.<br>Currently, Spark Native attributes can be set only in the following regions: <ul style="list-style-type: none"><li>• AP-Bangkok</li><li>• AP-Singapore</li></ul> |

## Response Parameters

**Status code: 200**

**Table 13-44** Response body parameters

| Parameter  | Type    | Description                       |
|------------|---------|-----------------------------------|
| is_success | Boolean | Whether the update is successful. |
| message    | String  | Description of the API.           |

**Status code: 400**

**Table 13-45** Response body parameters

| Parameter  | Type   | Description    |
|------------|--------|----------------|
| error_code | String | Error code.    |
| error_msg  | String | Error message. |

## Example Request

Update queue properties.

```
{
 "properties": {
 "computeEngine.maxInstance": 2,
 "job.maxConcurrent": 32,
 "computeEngine.maxPrefetchInstance": 1
 }
}
```

## Example Response

None

## Status Codes

[Table 13-46](#) describes the status codes.

**Table 13-46** Status codes

| Status Code | Description                                                                      |
|-------------|----------------------------------------------------------------------------------|
| 200         | Returned result. If <b>is_success</b> is <b>true</b> , the update is successful. |
| 400         | Request failed.                                                                  |
| 500         | Internal server error.                                                           |

## Error Codes

If an error occurs when this API is called, an error code and message are returned.  
For details, see [Error Codes](#).

# 13.11 Deleting Queue Properties

## Function

This API is used to delete queue properties. You can delete multiple property values at a time.

## URI

- URI format  
DELETE /v3/{project\_id}/queues/{queue\_name}/properties
- Parameter descriptions

**Table 13-47** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| queue_name | Yes       | String | Name of the queue whose properties are to be deleted.                                                                          |

### Request Parameters

Table 13-48 Request body parameter

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                  |
|-----------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| keys      | Yes       | Array of strings | Key of the queue property to be deleted.<br>Options: <ul style="list-style-type: none"><li>computeEngine.maxInstance</li><li>computeEngine.maxPrefetchInstance</li><li>job.maxConcurrent</li></ul> The <b>multipleSc.support</b> property cannot be deleted. |

### Response Parameters

Status code: 200

Table 13-49 Response body parameters

| Parameter  | Type    | Description                       |
|------------|---------|-----------------------------------|
| is_success | Boolean | Whether the update is successful. |
| message    | String  | Description of the API.           |

Status code: 400

Table 13-50 Response body parameters

| Parameter  | Type   | Description    |
|------------|--------|----------------|
| error_code | String | Error code.    |
| error_msg  | String | Error message. |

### Example Request

Delete the queue property **computeEngine.maxInstance**.

```
{
 "keys": [
 "computeEngine.maxInstance"
]
}
```

### Example Response

None

### Status Codes

[Table 13-51](#) describes the status codes.

**Table 13-51** Status codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | The API is successfully called. |
| 400         | Request failed.                 |
| 500         | Internal server error.          |

### Error Codes

If an error occurs when this API is called, an error code and message are returned.  
For details, see [Error Codes](#).

# 14 SQL Job-related APIs

---

## 14.1 Submitting a SQL Job (Recommended)

### Function

This API is used to submit jobs to a queue using SQL statements.

The job types support DDL, DCL, IMPORT, QUERY, and INSERT. The IMPORT function is the same as that described in [Importing Data \(Deprecated\)](#). The difference lies in the implementation method.

Additionally, you can use other APIs to query and manage jobs. For details, see the following sections:

- [Querying Job Status](#)
- [Querying Job Details](#)
- [Querying Job Execution Results \(Method 2\) \(Deprecated\)](#)
- [Exporting Query Results](#)
- [Querying All Jobs](#)
- [Canceling a Job \(Recommended\)](#)

#### NOTE

This API is synchronous if **job\_type** in the response message is **DCL**.

### URI

- URI format  
POST /v1.0/{project\_id}/jobs/submit-job
- Parameter descriptions

**Table 14-1** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Definition</b><br>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .<br>Example:<br><b>48cc2c48765f481480c7db940d6409d1</b><br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain 1 to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None |

## Request Parameters

**Table 14-2** Request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                             |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
| sql       | Yes       | String | <b>Definition</b><br>SQL statement to be executed<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

| Parameter       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| currentdb       | No        | String | <b>Definition</b><br>Database where the SQL statement is executed. This parameter does not need to be configured during database creation.<br><b>Constraints</b><br>None<br><b>Range</b><br>The value cannot contain only digits or start with an underscore (_). Only digits, letters, and underscores (_) are allowed.<br><b>Default Value</b><br>None                                           |
| current_catalog | No        | String | <b>Definition</b><br>Default catalog of the table where the job is to be submitted. If not specified, the DLI catalog is used by default.<br><b>Constraints</b><br>None<br><b>Range</b><br>The value cannot contain only digits or start with an underscore (_). Only digits, letters, and underscores (_) are allowed.<br><b>Default Value</b><br><b>dli:</b> The DLI catalog is used by default. |
| queue_name      | No        | String | <b>Definition</b><br>Name of the queue to which the job is to be submitted<br><b>Constraints</b><br>None<br><b>Range</b><br>The name cannot contain only digits or start with an underscore (_). Only digits, letters, and underscores (_) are allowed.<br><b>Default Value</b><br>None                                                                                                            |

| Parameter   | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| conf        | No        | Array of strings | <b>Definition</b><br>You can set the parameter in key-value pairs.<br><b>Constraints</b><br>None<br><b>Range</b><br>For details about the supported configuration items, see <a href="#">Table 14-3</a> .<br><b>Default Value</b><br>None                                                                                                                                                                                                                  |
| tags        | No        | Array of objects | <b>Definition</b><br>Job tags. For details, see <a href="#">Table 14-4</a> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                         |
| engine_type | No        | String           | <b>Definition</b><br>Type of the engine that executes jobs.<br><b>Constraints</b><br>None<br><b>Range</b><br>The options are <b>spark</b> and <b>hetuEngine</b> . The default value is <b>spark</b> . <ul style="list-style-type: none"><li>● <b>spark</b>: Spark engine</li><li>● <b>hetuEngine</b>: HetuEngine engine</li></ul> For details about the engine types and descriptions, see <a href="#">DLI Overview</a> .<br><b>Default Value</b><br>spark |



**Table 14-3** Configuration parameters description

| Parameter                            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| spark.sql.files.maxRecordsPerFile    | <b>Definition</b><br>Maximum number of records to be written into a single file. If the value is zero or negative, there is no limit.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>0                                                                                                                                                                                                                                                                                    |
| spark.sql.autoBroadcastJoinThreshold | <b>Definition</b><br>Maximum size of the table that displays all working nodes when a connection is executed. You can set this parameter to <b>-1</b> to disable the display.<br><b>Constraints</b><br>Currently, only the configuration unit metastore table that runs the <b>ANALYZE TABLE COMPUTE statistics noscan</b> command and the file-based data source table that directly calculates statistics based on data files are supported.<br><b>Range</b><br>None<br><b>Default Value</b><br>209715200 |
| spark.sql.shuffle.partitions         | <b>Definition</b><br>Default number of partitions used to filter data for join or aggregation.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>200                                                                                                                                                                                                                                                                                                                         |

| Parameter                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| spark.sql.dynamicPartitionOverwrite.enabled | <p><b>Definition</b></p> <p>Whether DLI deletes all partitions that meet the conditions before overwriting the partitions</p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <ul style="list-style-type: none"><li>When set to <b>false</b>, DLI will delete all partitions that meet the conditions before overwriting them.<br/>For example, if you set <b>false</b> and use INSERT OVERWRITE to write partition 2021-02 to a partitioned table that has the 2021-01 partition, this partition will be deleted.</li><li>When set to <b>true</b>, DLI will not delete partitions in advance, but will overwrite partitions with data written during runtime.</li></ul> <p><b>Default Value</b></p> <p>false</p> |
| spark.sql.files.maxPartitionBytes           | <p><b>Definition</b></p> <p>Maximum number of bytes to be packed into a single partition when a file is read.</p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <p>None</p> <p><b>Default Value</b></p> <p>134217728</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| spark.sql.badRecordsPath                    | <p><b>Definition</b></p> <p>Path of bad records</p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <p>None</p> <p><b>Default Value</b></p> <p>None</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Parameter                                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| spark.sql.legacy.correlated.scalar.query.enabled | <p><b>Definition</b></p> <p>Controls the behavior of correlated subqueries.</p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <ul style="list-style-type: none"><li>• <b>If set to true:</b><ul style="list-style-type: none"><li>– When there is no duplicate data in a subquery, executing a correlated subquery does not require deduplication from the subquery's result.</li><li>– If there is duplicate data in a subquery, executing a correlated subquery will result in an error. To resolve this, the subquery's result must be deduplicated using functions such as <b>max()</b> or <b>min()</b>.</li></ul></li><li>• <b>If set to false:</b><p>Regardless of whether there is duplicate data in a subquery, executing a correlated subquery requires deduplicating the subquery's result using functions such as <b>max()</b> or <b>min()</b>. Otherwise, an error will occur.</p></li></ul> <p><b>Default Value</b></p> <p>false</p> |

| Parameter                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dli.jobs.sql.resubmit.enable | <p><b>Definition</b></p> <p>You can control whether Spark SQL jobs are resubmitted in the event of driver failure or queue restart by setting this parameter.</p> <p><b>Constraints</b></p> <p>If set to <b>true</b>, there may be data consistency issues when performing idempotent operations such as <b>INSERT</b> (for example, <b>insert into</b>, <b>load data</b>, <b>update</b>). This means that if the driver fails and the job is retried, the data that was already inserted before the driver failure may be overwritten again.</p> <p><b>Range</b></p> <ul style="list-style-type: none"><li>• <b>false</b>: Disables job retry, all types of commands will not be resubmitted, and the job will be marked as failed once the driver fails.</li><li>• <b>true</b>: Enables job retry, meaning all types of jobs will be resubmitted in the event of driver failure.</li></ul> <p><b>Default Value</b></p> <p>null</p> |

| Parameter                                           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| spark.sql.optimizer.dynamicPartitionPruning.enabled | <p><b>Definition</b></p> <p>This parameter is used to control whether to enable dynamic partition pruning. Dynamic partition pruning can help reduce the amount of data that needs to be scanned and improve query performance when executing SQL queries.</p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <ul style="list-style-type: none"><li>• When set to <b>true</b>, dynamic partition pruning is enabled. SQL automatically detects and deletes partitions that do not meet the WHERE clause conditions during query. This is useful for tables that have a large number of partitions.</li><li>• If SQL queries contain a large number of nested left join operations and the table has a large number of dynamic partitions, a large number of memory resources may be consumed during data parsing. As a result, the memory of the driver node is insufficient and there are frequent Full GCs. To avoid such issues, you can disable dynamic partition pruning by setting this parameter to <b>false</b>. However, disabling this optimization may reduce query performance. Once disabled, Spark does not automatically prune the partitions that do not meet the requirements.</li></ul> <p><b>Default Value</b></p> <p>true</p> |

**Table 14-4** tags parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                   |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | <b>Definition</b><br>Tag key<br><b>Constraints</b><br>None<br><b>Range</b><br>A tag key can contain up to 128 characters, cannot start or end with a space, and cannot start with <b>_sys_</b> . Only letters, digits, spaces, and the following special characters are allowed: <b>_</b> <b>:</b> <b>+</b> <b>-</b> <b>@</b><br><b>Default Value</b><br>None |
| value     | Yes       | String | <b>Definition</b><br>Tag value<br><b>Constraints</b><br>None<br><b>Range</b><br>A tag value can contain up to 255 characters. Only letters, digits, spaces, and the following special characters are allowed: <b>_</b> <b>:</b> <b>+</b> <b>-</b> <b>@</b><br><b>Default Value</b><br>None                                                                    |

## Response Parameters

**Table 14-5** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                 |
|------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean | <b>Definition</b><br>Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed.<br><b>Range</b><br>None |

| Parameter | Mandatory | Type         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|-----------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| message   | Yes       | String       | <b>Definition</b><br>System prompt. If the execution succeeds, this parameter may be left blank.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| job_id    | Yes       | String       | <b>Definition</b><br>ID of a job returned after a job is generated and submitted using SQL statements. The job ID can be used to query the job status and results.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| job_type  | Yes       | String       | <b>Definition</b><br>Job type<br><b>Range</b><br><b>DDL, DCL, IMPORT, EXPORT, QUERY, and INSERT.</b> <ul style="list-style-type: none"><li>• <b>DDL</b>: jobs that create, modify, and delete metadata files</li><li>• <b>DCL</b>: jobs that grant and revoke permissions<br/>When <b>job_type</b> is set to <b>DCL</b>, the operation is synchronous.</li><li>• <b>IMPORT</b>: jobs that import external data into the database</li><li>• <b>EXPORT</b>: jobs that export data to an external database</li><li>• <b>QUERY</b>: jobs that run query statements</li><li>• <b>INSERT</b>: jobs that add new data to tables</li></ul> |
| schema    | No        | Array of Map | <b>Definition</b><br>If the statement type is DDL, the column name and type of DDL are displayed.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rows      | No        | Array of objects | <b>Definition</b><br>When the statement type is DDL and <b>dli.sql.sqlasync.enabled</b> is set to <b>false</b> , the execution results are returned directly. However, only a maximum of 1,000 rows can be returned.<br>If there are more than 1,000 rows, obtain the results asynchronously. That is, when submitting the job, set <b>xxxx</b> to <b>true</b> , and then obtain the results from the job bucket configured by DLI. The path of the results on the job bucket can be obtained from the <b>result_path</b> in the return value of the ShowSqlJobStatus API. The full data of the results will be automatically exported to the job bucket.<br><b>Range</b><br>None |
| job_mode  | No        | String           | <b>Definition</b><br>Job execution mode. Options: <ul style="list-style-type: none"><li>• <b>async</b>: asynchronous</li><li>• <b>sync</b>: synchronous</li></ul> <b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## Example Request

Submit a SQL job. The job execution database and queue are **db1** and **default**, respectively. Then, add the tags **workspace=space1** and **jobName=name1** for the job.

```
{
 "currentdb": "db1",
 "sql": "desc table1",
 "queue_name": "default",
 "conf": [
 "dli.sql.shuffle.partitions = 200"
],
 "tags": [
 {
 "key": "workspace",
 "value": "space1"
 },
 {
 "key": "jobName",
 "value": "name1"
 }
]
}
```



### Example Response

```
{
 "is_success": true,
 "message": "",
 "job_id": "8ecb0777-9c70-4529-9935-29ea0946039c",
 "job_type": "DDL",
 "job_mode": "sync",
 "schema": [
 {
 "col_name": "string"
 },
 {
 "data_type": "string"
 },
 {
 "comment": "string"
 }
],
 "rows": [
 [
 "c1",
 "int",
 null
],
 [
 "c2",
 "string",
 null
]
]
}
```

### Status Codes

[Table 14-6](#) describes status codes.

**Table 14-6** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Submitted successfully. |
| 400         | Request error.          |
| 500         | Internal server error.  |

### Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 14.2 Canceling a Job (Recommended)

### Function

This API is used to cancel a submitted job. If execution of a job completes or fails, this job cannot be canceled.

## URI

- URI format  
DELETE /v1.0/{project\_id}/jobs/{job\_id}
- Parameter description

**Table 14-7** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | String | Job ID. You can get the value by calling <a href="#">Submitting a SQL Job (Recommended)</a> .                                             |

## Request Parameters

None

## Response Parameters

**Table 14-8** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 14-9](#) describes the status code.

**Table 14-9** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Canceled.               |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 14.3 Querying All Jobs

### Function

This API is used to query information about all jobs in the current project.

### URI

- URI format  
GET /v1.0/{project\_id}/jobs
- Parameter description

**Table 14-10** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                 |
|------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Definition</b><br>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .<br>Example:<br><b>48cc2c48765f481480c7db940d6409d1</b><br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain up to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None |

**Table 14-11** query parameter description

| Parameter    | Mandatory | Type    | Description                                                                                                                                                                                                                             |
|--------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| page-size    | No        | Integer | <b>Definition</b><br>Maximum number of jobs displayed on each page, for example, 5<br><b>Constraints</b><br>None<br><b>Range</b><br>[1, 100]<br><b>Default Value</b><br>50                                                              |
| current-page | No        | Integer | <b>Definition</b><br>Current page number. The default value is <b>1</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>[1, 100]<br><b>Default Value</b><br>1                                                                        |
| start        | No        | Long    | <b>Definition</b><br>Queries jobs with a start time later than the time specified by this parameter.<br><b>Constraints</b><br>The value is a UNIX timestamp, in milliseconds.<br><b>Range</b><br>None<br><b>Default Value</b><br>None   |
| end          | No        | Long    | <b>Definition</b><br>Queries jobs with a start time earlier than the time specified by this parameter.<br><b>Constraints</b><br>The value is a UNIX timestamp, in milliseconds.<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job-type  | No        | String | <p><b>Definition</b></p> <p>Type of jobs to be queried. The options are <b>DDL</b>, <b>DCL</b>, <b>IMPORT</b>, <b>EXPORT</b>, <b>QUERY</b>, <b>INSERT</b>, <b>DATA_MIGRATION</b>, <b>UPDATE</b>, <b>DELETE</b>, <b>RESTART_QUEUE</b>, and <b>SCALE_QUEUE</b>. To query all types of jobs, enter <b>ALL</b>.</p> <p><b>job-type</b> is used to query a single type of jobs, or set to <b>ALL</b> to query all types of jobs.</p> <p>If <b>job-type</b> and <b>job_types</b> are both set, the value of <b>job-type</b> takes the intersection of the two.</p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <ul style="list-style-type: none"><li>• <b>DDL</b>: data definition jobs (such as <b>CREATE</b>, <b>ALTER</b>, and <b>DROP</b>)</li><li>• <b>DCL</b>: data control jobs (such as <b>GRANT</b> and <b>REVOKE</b>)</li><li>• <b>IMPORT</b>: data import jobs (loading data from external sources)</li><li>• <b>EXPORT</b>: data export jobs (outputting data to external systems)</li><li>• <b>QUERY</b>: query jobs (such as <b>SELECT</b> statements)</li><li>• <b>INSERT</b>: data insertion jobs (such as <b>INSERT</b> statements)</li><li>• <b>DATA_MIGRATION</b>: data migration jobs (cross-database/cross-cluster data migration)</li><li>• <b>UPDATE</b>: data update jobs (such as <b>UPDATE</b> statements)</li><li>• <b>DELETE</b>: data deletion jobs (such as <b>DELETE</b> statements)</li><li>• <b>RESTART_QUEUE</b>: queue restart jobs (resuming suspended or failed queue jobs)</li><li>• <b>SCALE_QUEUE</b>: queue scaling jobs (dynamically adjusting queue resources)</li></ul> <p><b>Default Value</b></p> <p>None</p> |

| Parameter | Mandatory | Type          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_types | No        | Array[string] | <p><b>Definition</b></p> <p>List of job types to be queried. The options are <b>DDL</b>, <b>DCL</b>, <b>IMPORT</b>, <b>EXPORT</b>, <b>QUERY</b>, <b>INSERT</b>, <b>UPDATE</b>, and <b>DELETE</b>.</p> <p><b>job_types</b> is used to query multiple types of jobs. If <b>job_types</b> and <b>job-type</b> are both set, the value of <b>job_types</b> takes the intersection of the two.</p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <ul style="list-style-type: none"><li>• <b>DDL</b>: data definition jobs (such as <b>CREATE</b>, <b>ALTER</b>, and <b>DROP</b>)</li><li>• <b>DCL</b>: data control jobs (such as <b>GRANT</b> and <b>REVOKE</b>)</li><li>• <b>IMPORT</b>: data import jobs (for example, importing data from files or external sources)</li><li>• <b>EXPORT</b>: data export jobs (exporting data to files or external systems)</li><li>• <b>QUERY</b>: query jobs (such as <b>SELECT</b> statements)</li><li>• <b>INSERT</b>: data insertion jobs (such as <b>INSERT</b> statements)</li><li>• <b>UPDATE</b>: data update jobs (such as <b>UPDATE</b> statements)</li><li>• <b>DELETE</b>: data deletion jobs (such as <b>DELETE</b> statements)</li></ul> <p><b>Default Value</b></p> <p>None</p> |

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job-status | No        | String | <b>Definition</b><br>Status of jobs to be queried<br><b>Constraints</b><br>None<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>RUNNING</b>: The job is running.</li><li>• <b>SCALING</b>: The job is modifying specifications.</li><li>• <b>LAUNCHING</b>: The job is being submitted.</li><li>• <b>FINISHED</b>: The job is completed.</li><li>• <b>FAILED</b>: The job has failed.</li><li>• <b>CANCELLED</b>: The job has been canceled.</li></ul> <b>Default Value</b><br>None |
| job-id     | No        | String | <b>Definition</b><br>ID of the job to be queried. You can get the value by calling <a href="#">Submitting a SQL Job (Recommended)</a> .<br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain up to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None                                                                                                                                                                                       |
| queue_name | No        | String | <b>Definition</b><br>Name of the queue where desired jobs are running<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                                                                    |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sql_pattern | No        | String | <b>Definition</b><br>Specifies the SQL segment as the filter. It is case insensitive.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                                                                                                                         |
| order       | No        | String | <b>Definition</b><br>Job sorting mode<br><b>Constraints</b><br>None<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>duration_desc</b>: Jobs are sorted by running duration in descending order.</li><li>• <b>duration_asc</b>: Jobs are sorted by running duration in ascending order.</li><li>• <b>start_time_desc</b>: Jobs are sorted by submission time in descending order.</li><li>• <b>start_time_asc</b>: Jobs are sorted by submission time in ascending order.</li></ul> <b>Default Value</b><br>The default value is <b>start_time_desc</b> . |
| engine_type | No        | String | <b>Definition</b><br>Engine type<br>The options are <b>spark</b> and <b>hetuEngine</b> .<br><b>Constraints</b><br>None<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>spark</b>: Spark engine</li><li>• <b>hetuEngine</b>: HetuEngine engine</li></ul> For details about the engine types and descriptions, see <a href="#">DLI Overview</a> .<br><b>Default Value</b><br>None                                                                                                                                                                          |



| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| owner     | No        | String | <b>Definition</b><br>User who submits a job<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| tags      | No        | String | Queue tags for the search. You can specify multiple tags in <b>key=value</b> format.<br><b>Definition</b><br>Job tags for filtering. You can specify multiple tags in <b>key=value</b> format.<br><b>Constraints</b><br>Currently, only fuzzy query across all tags is supported. Exact query is not supported.<br><b>Range</b> <ul style="list-style-type: none"><li>Request with one specified tag<br/>For example, GET /v1.0/{project_id}/jobs?tags=k1%3Dv1<br/>In this example, = needs to be escaped to %3D, k1 indicates the tag key, and v1 indicates the tag value.</li><li>Request with more than one tag<br/>Separate tags with commas (,) and convert the commas (,) to %2C, for example, GET /v1.0/{project_id}/jobs?.tags=k1%3Dv1%2Ck2%3Dv2.<br/>The equal sign (=) is escaped to %3D. k1 indicates a tag key, and v1 indicates the tag value. k2 indicates another tag key, and v2 indicates the tag value.</li></ul> <b>Default Value</b><br>None |

 **NOTE**

The following is an example of the URL containing the **query** parameter:

```
GET /v1.0/{project_id}/jobs?page-size={size}¤t-page={page_number}&start={start_time}&end={end_time}&job-type={QUERY}&queue_name={test}&order={duration_desc}
```

### Request Parameters

None

### Response Parameters

Table 14-12 Response parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                    |
|------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean          | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | Yes       | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| job_count  | Yes       | Integer          | Indicates the total number of jobs.                                                                                            |
| jobs       | Yes       | Array of objects | Indicates the information about a job. For details, see <a href="#">Table 14-13</a> .                                          |

Table 14-13 jobs parameters

| Parameter | Mandatory | Type   | Description                                                                                                                     |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------|
| job_id    | Yes       | String | <b>Definition</b><br>Job ID. For details about how to obtain a job ID, see <a href="#">Submitting a SQL Job (Recommended)</a> . |

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_type   | Yes       | String | <b>Definition</b><br>Type of jobs to be queried<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>DDL</b>: data definition jobs (such as <b>CREATE</b>, <b>ALTER</b>, and <b>DROP</b>)</li><li>• <b>DCL</b>: data control jobs (such as <b>GRANT</b> and <b>REVOKE</b>)</li><li>• <b>IMPORT</b>: data import jobs (loading data from external sources)</li><li>• <b>EXPORT</b>: data export jobs (outputting data to external systems)</li><li>• <b>QUERY</b>: query jobs (such as <b>SELECT</b> statements)</li><li>• <b>INSERT</b>: data insertion jobs (such as <b>INSERT</b> statements)</li><li>• <b>DATA_MIGRATION</b>: data migration jobs (cross-database/cross-cluster data migration)</li><li>• <b>UPDATE</b>: data update jobs (such as <b>UPDATE</b> statements)</li><li>• <b>DELETE</b>: data deletion jobs (such as <b>DELETE</b> statements)</li><li>• <b>RESTART_QUEUE</b>: queue restart jobs (resuming suspended or failed queue jobs)</li><li>• <b>SCALE_QUEUE</b>: queue scaling jobs (dynamically adjusting queue resources)</li><li>• <b>ALL</b>: All types of jobs are queried.</li></ul> |
| queue_name | Yes       | String | <b>Definition</b><br>Queue to which a job is submitted<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| owner      | Yes       | String | <b>Definition</b><br>User who submits a job<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time      | Yes       | Long   | <b>Definition</b><br>Job start time. The value is a timestamp in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                 |
| duration        | Yes       | Long   | <b>Definition</b><br>Job running duration (unit: millisecond).<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                 |
| status          | Yes       | String | <b>Definition</b><br>Status of a job<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>RUNNING</b>: The job is running.</li><li>• <b>SCALING</b>: The job is modifying specifications.</li><li>• <b>LAUNCHING</b>: The job is being submitted.</li><li>• <b>FINISHED</b>: The job is completed.</li><li>• <b>FAILED</b>: The job has failed.</li><li>• <b>CANCELLED</b>: The job has been canceled.</li></ul> |
| input_row_count | No        | Long   | <b>Definition</b><br>Number of records scanned during the Insert job execution<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                 |
| bad_row_count   | No        | Long   | <b>Definition</b><br>Number of error records scanned during the Insert job execution.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                          |
| input_size      | Yes       | Long   | <b>Definition</b><br>Size of scanned files during job execution.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                               |

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                          |
|--------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| result_count       | Yes       | Integer | <b>Definition</b><br>Total number of records returned by the current job or total number of records inserted by the Insert job.<br><b>Range</b><br>None                                                                                                                                                              |
| database_name      | No        | String  | <b>Definition</b><br>Name of the database where the target table resides. <b>database_name</b> is valid only for jobs of the <b>Import</b> and <b>Export</b> types.<br><b>Range</b><br>None                                                                                                                          |
| table_name         | No        | String  | <b>Definition</b><br>Name of the target table. <b>table_name</b> is valid only for jobs of the <b>Import</b> and <b>Export</b> types.<br><b>Range</b><br>None                                                                                                                                                        |
| with_column_header | No        | Boolean | <b>Definition</b><br>Import jobs, which record whether the imported data contains column names.<br><b>Range</b><br>None                                                                                                                                                                                              |
| detail             | Yes       | String  | <b>Definition</b><br>JSON string of related columns queried using SQL statements.<br><b>Range</b><br>None                                                                                                                                                                                                            |
| engine_type        | No        | String  | <b>Definition</b><br>Engine type<br>Spark or HetuEngine configured for the queue<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>spark</b>: Spark engine</li><li>• <b>hetuEngine</b>: HetuEngine engine</li></ul> For details about the engine types and descriptions, see <a href="#">DLI Overview</a> . |

| Parameter     | Mandatory | Type             | Description                                                                                                   |
|---------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------|
| statement     | Yes       | String           | <b>Definition</b><br>SQL statements of a job<br><b>Range</b><br>None                                          |
| message       | No        | String           | <b>Definition</b><br>System prompt.<br><b>Range</b><br>None                                                   |
| end_time      | No        | Long             | <b>Definition</b><br>Job end time. The timestamp is in milliseconds.<br><b>Range</b><br>None                  |
| tags          | No        | Array of objects | <b>Definition</b><br>Job tags. For details, see <a href="#">Table 14-14</a> .<br><b>Range</b><br>None         |
| output_byte   | No        | String           | <b>Definition</b><br>Number of output bytes of a job.<br><b>Range</b><br>None                                 |
| cpu_cost      | No        | String           | <b>Definition</b><br>Total CPU used by jobs<br><b>Range</b><br>None                                           |
| result_format | No        | String           | <b>Definition</b><br>Storage format of job results. Currently, only CSV is supported.<br><b>Range</b><br>None |
| result_path   | No        | String           | <b>Definition</b><br>OBS path of job results<br><b>Range</b><br>None                                          |

| Parameter              | Mandatory | Type   | Description                                                                                                                                                           |
|------------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| execution_details_path | No        | String | <b>Definition</b><br>Path used to store the job execution plan.<br>Example: <b>obs://bucketName/jobs/execution_details/xxx/2023/11/10/xxx</b><br><b>Range</b><br>None |

Table 14-14 tags parameters

| Parameter | Mandatory | Type   | Description                                            |
|-----------|-----------|--------|--------------------------------------------------------|
| key       | Yes       | String | <b>Definition</b><br>Tag key<br><b>Range</b><br>None   |
| value     | Yes       | String | <b>Definition</b><br>Tag value<br><b>Range</b><br>None |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "",
 "job_count": 1,
 "jobs": [
 {
 "detail": "{\\\"type\\\":\\\"struct\\\",\\\"fields\\\":[{\\\"name\\\":\\\"name\\\",\\\"type\\\":\\\"string\\\",\\\"nullable\\\":true,\\\"metadata\\\":{}},{\\\"name\\\":\\\"age\\\",\\\"type\\\":\\\"integer\\\",\\\"nullable\\\":true,\\\"metadata\\\":{}}]}",
 "duration": 17731,

 "end_time": 1502349821460,
 "input_size": 0,
 "job_id": "37286cc7-0508-4ffd-b636-951c8a5c75de",
 "job_type": "QUERY",
 "message": "",
 "owner": "tenant1",
 "queue_name": "queue1",
 "result_count": 3,
 "start_time": 1502349803729,
 "statement": "select * from t_json_002",
 }
]
}
```

```
"status": "FINISHED",
 "with_column_header": false
}
]
}
```

## Status Codes

[Table 14-15](#) describes the status code.

**Table 14-15** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 14.4 Previewing SQL Job Query Results

## Function

This API is used to view the job execution result after a job is executed using SQL query statements. Currently, you can only query execution results of jobs of the **QUERY** type.

This API can be used to view only the first 1000 result records and does not support pagination query. To view all query results, you need to export the query results first. For details, see [Exporting Query Results](#).

## URI

- URI format  
GET /v1.0/{project\_id}/jobs/{job\_id}/preview
- Parameter descriptions



**Table 14-16** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | String | Job ID                                                                                                                         |

**Table 14-17** query parameter descriptions

| Parameter  | Mandatory | Type   | Description                                                                                                                  |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------|
| page-size  | No        | Long   | Number of result rows. The value ranges from 1 to 1000. The default rate limit is <b>1000</b> .                              |
| queue-name | No        | String | Name of the execution queue for obtaining job results. If this parameter is not specified, the default system queue is used. |

 **NOTE**

The following is an example of the URL containing the **query** parameter:

```
GET /v1.0/{project_id}/jobs/{job_id}/preview?page-size={size}&queue-name={queue_name}
```

## Request Parameters

None

## Response Parameters

**Table 14-18** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                    |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                    |

| Parameter  | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_id     | No        | String           | Job ID You can get the value by calling <a href="#">Submitting a SQL Job (Recommended)</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| job_type   | No        | String           | <p>Job type. Options: <b>DDL</b>, <b>DCL</b>, <b>IMPORT</b>, <b>EXPORT</b>, <b>QUERY</b>, <b>INSERT</b>, <b>DATA_MIGRATION</b>, <b>UPDATE</b>, <b>DELETE</b>, <b>RESTART_QUEUE</b> and <b>SCALE_QUEUE</b>.</p> <p>Currently, you can only query execution results of jobs of the <b>QUERY</b> type.</p> <ul style="list-style-type: none"><li>• <b>DDL</b>: jobs that create, modify, and delete metadata files</li><li>• <b>DCL</b>: jobs that grant and revoke permissions<br/>When <b>job_type</b> is set to <b>DCL</b>, the operation is synchronous.</li><li>• <b>IMPORT</b>: jobs that import external data into the database</li><li>• <b>EXPORT</b>: jobs that export data to an external database</li><li>• <b>QUERY</b>: jobs that run query statements</li><li>• <b>INSERT</b>: jobs that add new data to tables</li><li>• <b>DATA_MIGRATION</b>: data migration jobs</li><li>• <b>UPDATE</b>: jobs that update table data</li><li>• <b>DELETE</b>: jobs that delete data from tables</li><li>• <b>RESTART_QUEUE</b>: jobs that restart specified queues</li><li>• <b>SCALE_QUEUE</b>: jobs that scale in or out specified queues</li></ul> |
| row_count  | No        | Integer          | Total number of job results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| input_size | No        | Long             | Amount of data scanned during job execution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| schema     | No        | Array of Map     | Name and type of the job result column.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| rows       | No        | Array of objects | Job results set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Example Request

None

### Example Response

```
{
 "is_success": true,
 "message": "",
 "job_id": "ead0b276-8ed4-4eb5-b520-58f1511e7033",
 "job_type": "QUERY",
 "row_count": 1,
 "input_size": 74,
 "schema": [
 {
 "c1": "int"
 },
 {
 "c2": "string"
 }
],
 "rows": [
 [
 23,
 "sda"
]
]
}
```

### Status Codes

[Table 14-19](#) describes status codes.

**Table 14-19** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal server error.   |

### Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 14.5 Exporting Query Results

### Function

This API is used to export results returned from the query using SQL statements to OBS. Only the query result of **QUERY** jobs can be exported.

- This API is asynchronous.
- Currently, data can be exported only to OBS, and the OBS path must be specified to the folder level. The OBS path cannot contain commas (.). The OBS bucket name cannot end with the regular expression format "[0-9]+(.\*)".

Specifically, if the bucket name contains dots (.), the last dot (.) cannot be followed by a digit, for example, "\*\*\*.12abc" and "\*\*\*.12".

## URI

- URI format  
POST /v1.0/{project\_id}/jobs/{job\_id}/export-result
- Parameter description

**Table 14-20** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | String | Job ID.                                                                                                                                   |

## Request Parameters

**Table 14-21** Request parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| data_path  | Yes       | String | Path for storing the exported data. Currently, data can be stored only on OBS. The OBS path cannot contain folders, for example, the <b>path</b> folder in the sample request.            |
| compress   | No        | String | Compression format of exported data. Currently, <b>gzip</b> , <b>bzip2</b> , and <b>deflate</b> are supported. The default value is <b>none</b> , indicating that data is not compressed. |
| data_type  | Yes       | String | Storage format of exported data. Currently, only CSV and JSON are supported.                                                                                                              |
| queue_name | No        | String | Name of the queue that is specified to execute a task. If no queue is specified, the default queue is used.                                                                               |

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| export_mode        | No        | String  | <p>Export mode. The parameter value can be <b>ErrorIfExists</b> or <b>Overwrite</b>. If <b>export_mode</b> is not specified, this parameter is set to <b>ErrorIfExists</b> by default.</p> <ul style="list-style-type: none"><li>• <b>ErrorIfExists</b>: Ensure that the specified export directory does not exist. If the specified export directory exists, an error is reported and the export operation cannot be performed.</li><li>• <b>Overwrite</b>: If you add new files to a specific directory, existing files will be deleted.</li></ul> |
| with_column_header | No        | Boolean | <p>Whether to export column names when exporting CSV and JSON data.</p> <ul style="list-style-type: none"><li>• If this parameter is set to <b>true</b>, the column names are exported.</li><li>• If this parameter is set to <b>false</b>, the column names are not exported.</li><li>• If this parameter is left blank, the default value <b>false</b> is used.</li></ul>                                                                                                                                                                          |
| limit_num          | No        | Integer | <p>Number of data records to be exported. The default value is <b>0</b>, indicating that all data records are exported.</p>                                                                                                                                                                                                                                                                                                                                                                                                                          |
| encoding_type      | No        | String  | <p>Encoding format of the data to be exported. The default value is <b>utf-8</b>.</p> <p>The options include:</p> <ul style="list-style-type: none"><li>• utf-8</li><li>• gb2312</li><li>• gbk</li></ul>                                                                                                                                                                                                                                                                                                                                             |
| quote_char         | No        | String  | <p>User-defined quote character.</p> <p>The default value is double quotes (").</p> <p>This parameter is available and can be set only when <b>Data Format</b> is <b>csv</b>.</p> <p>Quotation characters are used to identify the beginning and end of text fields when exporting job results, and are used to separate fields.</p> <p>Only one character can be set.</p> <p>This is mainly used to handle data that contains spaces, special characters, or characters that are the same as the delimiter.</p>                                     |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| escape_char | No        | String | <p>User-defined escape character.</p> <p>The default value is a backslash (\).</p> <p>This parameter is available and can be set only when <b>Data Format</b> is <b>csv</b>.</p> <p>If special characters, such as quotation marks, need to be included in the exported results, they can be represented using escape characters (backslash \).</p> <p>Only one character can be set.</p> <p>Common scenarios for using escape characters are:</p> <ul style="list-style-type: none"><li>• If there is a third quotation mark between two quotation marks, add an escape character before the third quotation mark to avoid the field content being split.</li><li>• If there is already an escape character in the data content, add another escape character before the existing one to avoid the original character being used as an escape character.</li></ul> |

## Response Parameters

Table 14-22 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                     |
|------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean | Indicates whether the request is successfully sent. Value <b>true</b> indicates that the request is successfully sent.                                          |
| message    | Yes       | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                  |
| job_id     | No        | String  | ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results.                |
| job_mode   | No        | String  | Job execution mode. The options are as follows: <ul style="list-style-type: none"><li>• <b>async</b>: asynchronous</li><li>• <b>sync</b>: synchronous</li></ul> |

## Example Request

Export query results of SQL statements to OBS and stores the results in JSON format.

```
{
 "data_path": "obs://obs-bucket1/path",
 "data_type": "json",
 "compress": "gzip",
 "with_column_header": "true",
 "queue_name": "queue2",
 "limit_num": 10
}
```

## Example Response

```
{
 "is_success": true,
 "message": "",
 "job_id": "37a40ef9-86f5-42e6-b4c6-8febec89cc20",
 "job_mode": "async"
}
```

## Status Codes

[Table 14-23](#) describes the status code.

**Table 14-23** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Export successful.      |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 14.6 Querying Job Status

## Function

This API is used to query the status of a submitted job.

## URI

- URI format  
GET /v1.0/{project\_id}/jobs/{job\_id}/status
- Parameter descriptions

Table 14-24 URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                             |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Definition</b><br>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .<br>Example: <b>48cc2c48765f481480c7db940d6409d1</b><br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain 1 to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None |
| job_id     | Yes       | String | <b>Definition</b><br>Job ID. For details about how to obtain a job ID, see <a href="#">Querying Job Details</a> .<br>Example: <b>6d2146a0-c2d5-41bd-8ca0-ca9694ada992</b><br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain 1 to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None                               |

Request Parameters

None



## Response Parameters

Table 14-25 Response parameters

| Parameter  | Type    | Description                                                                                                                                                                                                            |
|------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | <b>Definition</b><br>Whether the request is successfully executed<br><b>Range</b><br><b>true</b> indicates that the request is successfully executed.<br><b>false</b> indicates that the request fails to be executed. |
| message    | String  | <b>Definition</b><br>System prompt. If the execution succeeds, this parameter is left blank.<br><b>Range</b><br>None                                                                                                   |
| job_id     | String  | <b>Definition</b><br>Job ID<br><b>Range</b><br>None                                                                                                                                                                    |

| Parameter  | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_type   | String | <b>Definition</b><br>Job type<br><b>Range</b><br>Options: <b>DDL</b> , <b>DCL</b> , <b>IMPORT</b> , <b>EXPORT</b> , <b>QUERY</b> , <b>INSERT</b> , <b>DATA_MIGRATION</b> , <b>UPDATE</b> , <b>DELETE</b> , <b>RESTART_QUEUE</b> , and <b>SCALE_QUEUE</b> . <ul style="list-style-type: none"><li>• <b>DDL</b>: jobs that create, modify, and delete metadata files</li><li>• <b>DCL</b>: jobs that grant and revoke permissions</li><li>• <b>IMPORT</b>: jobs that import external data into the database</li><li>• <b>EXPORT</b>: jobs that export data to an external database</li><li>• <b>QUERY</b>: jobs that run query statements</li><li>• <b>INSERT</b>: jobs that add new data to tables</li><li>• <b>DATA_MIGRATION</b>: jobs that migrate data across sources</li><li>• <b>UPDATE</b>: jobs that update table data</li><li>• <b>DELETE</b>: jobs that delete data from specified tables</li><li>• <b>RESTART_QUEUE</b>: jobs that restart specified queues</li><li>• <b>SCALE_QUEUE</b>: jobs that scale in or out specified queues</li></ul> |
| job_mode   | String | <b>Definition</b><br>Job execution mode<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>async</b>: asynchronous</li><li>• <b>sync</b>: synchronous</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| queue_name | String | <b>Definition</b><br>Name of the queue where the job is submitted<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| owner      | String | <b>Definition</b><br>User who submits a job<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter       | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time      | Long   | <b>Definition</b><br>Time when a job is started. The timestamp is in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                              |
| duration        | Long   | <b>Definition</b><br>Job running duration, in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                     |
| status          | String | <b>Definition</b><br>Job status<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>RUNNING</b>: The job is running.</li><li>• <b>SCALING</b>: The job is modifying specifications.</li><li>• <b>LAUNCHING</b>: The job is being submitted.</li><li>• <b>FINISHED</b>: The job has been completed.</li><li>• <b>FAILED</b>: The job has failed.</li><li>• <b>CANCELLED</b>: The job has been canceled.</li></ul> |
| input_row_count | Long   | <b>Definition</b><br>Number of records scanned during the Insert job execution<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                  |
| bad_row_count   | Long   | <b>Definition</b><br>Number of error records scanned during the Insert job execution<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                            |
| input_size      | Long   | <b>Definition</b><br>Size of files scanned during job execution, in bytes<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                       |

| Parameter     | Type             | Description                                                                                                                                                                                                                            |
|---------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| result_count  | Integer          | <b>Definition</b><br>Total number of records returned by the current job or total number of records inserted by the Insert job.<br><b>Range</b><br>None                                                                                |
| database_name | String           | <b>Definition</b><br>Name of the database where the target table resides. <b>database_name</b> is valid only for jobs of the <b>IMPORT EXPORT</b> , and <b>QUERY</b> types.<br><b>Range</b><br>None                                    |
| table_name    | String           | <b>Definition</b><br>Name of the target table. <b>table_name</b> is valid only for jobs of the <b>IMPORT EXPORT</b> , and <b>QUERY</b> types.<br><b>Range</b><br>None                                                                  |
| detail        | String           | <b>Definition</b><br>JSON string for information about related columns<br><b>Default Value</b><br>None                                                                                                                                 |
| statement     | String           | <b>Definition</b><br>SQL statements of a job<br><b>Range</b><br>None                                                                                                                                                                   |
| tags          | Array of objects | <b>Definition</b><br>Job tags. For details, see <a href="#">Table 14-26</a> .<br><b>Range</b><br>None                                                                                                                                  |
| user_conf     | String           | <b>Definition</b><br>Spark parameters configured when a user submits a SQL job.<br><b>Range</b><br>You can set the parameter in key-value pairs. For details about the supported configuration items, see <a href="#">Table 14-3</a> . |

| Parameter              | Type   | Description                                                                                             |
|------------------------|--------|---------------------------------------------------------------------------------------------------------|
| result_format          | String | <b>Definition</b><br>Storage format of job results<br><b>Range</b><br>Currently, only CSV is supported. |
| result_path            | String | <b>Definition</b><br>OBS path of job results<br><b>Range</b><br>None                                    |
| execution_details_path | String | <b>Definition</b><br>OBS path of the job query execution plan.<br><b>Range</b><br>None                  |

Table 14-26 tags parameters

| Parameter | Mandatory | Type   | Description                                            |
|-----------|-----------|--------|--------------------------------------------------------|
| key       | Yes       | String | <b>Definition</b><br>Tag key<br><b>Range</b><br>None   |
| value     | Yes       | String | <b>Definition</b><br>Tag value<br><b>Range</b><br>None |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "",
 "job_id": "208b08d4-0dc2-4dd7-8879-ddd4c020d7aa",
 "job_type": "QUERY",
 "job_mode": "async",
 "queue_name": "default",
 "owner": "test",
 "start_time": 1509335108918,
 "duration": 2523,
 "status": "FINISHED",
```

```
"input_size": 22,
"result_count": 4,
"database_name": "dbtest",
"table_name": "tbtest",
"detail": "{\n \"type\": \"struct\",\n \"fields\": [\n {\n \"name\": \"id\",\n \"type\": \"integer\",\n \"nullable\": true,\n \"metadata\": {\n \"name\": \"name\",\n \"type\": \"string\",\n \"nullable\": true,\n \"metadata\": {}\n }\n }\n],\n \"statement\": \"select * from t1\"\n}"
```

Status Codes

Table 14-27 describes status codes.

Table 14-27 Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal server error.   |

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

14.7 Querying Job Details

Function

This API is used to query details about jobs, including **database name**, **table name**, **file size**, and **export mode**.

URI

- URI format  
GET /v1.0/{project\_id}/jobs/{job\_id}/detail
- Parameter descriptions

Table 14-28 URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

| Parameter | Mandatory | Type   | Description                                                                                   |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------|
| job_id    | Yes       | String | Job ID. You can get the value by calling <a href="#">Submitting a SQL Job (Recommended)</a> . |

## Request Parameters

None

## Response Parameters

**Table 14-29** Response parameters

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success  | Yes       | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed.                                                                                                                                                                                                                                                                                                                                                                      |
| message     | Yes       | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                                                                                                                                                                                                                                                                                                                                                                                         |
| job_id      | Yes       | String  | Job ID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| owner       | Yes       | String  | User who submits a job.                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| start_time  | Yes       | Long    | Time when a job is started. The timestamp is in milliseconds.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| duration    | Yes       | Long    | Duration for executing the job (unit: millisecond).                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| export_mode | No        | String  | Specified export mode during data export and query result saving.<br>Options: <b>ErrorIfExists</b> and <b>Overwrite</b> . <ul style="list-style-type: none"><li>● <b>ErrorIfExists</b>: Ensure that the specified export directory does not exist. If the specified export directory exists, an error is reported and the export operation cannot be performed.</li><li>● <b>Overwrite</b>: If you add new files to a specific directory, existing files will be deleted.</li></ul> |
| data_path   | Yes       | String  | Path to imported or exported files.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| data_type   | Yes       | String  | Type of data to be imported or exported. Currently, only CSV and JSON are supported.                                                                                                                                                                                                                                                                                                                                                                                                |

| Parameter          | Mandatory | Type             | Description                                                                               |
|--------------------|-----------|------------------|-------------------------------------------------------------------------------------------|
| database_name      | Yes       | String           | Name of the database where the table, where data is imported or exported, resides.        |
| table_name         | Yes       | String           | Name of the table where data is imported or exported.                                     |
| with_column_header | No        | Boolean          | Whether the imported data contains the column name during the execution of an import job. |
| delimiter          | No        | String           | User-defined data delimiter set when the import job is executed.                          |
| quote_char         | No        | String           | User-defined quotation character set when the import job is executed.                     |
| escape_char        | No        | String           | User-defined escape character set when the import job is executed.                        |
| date_format        | No        | String           | Table date format specified when the import job is executed.                              |
| timestamp_format   | No        | String           | Table time format specified when the import job is executed.                              |
| compress           | No        | String           | Compression mode specified when the export job is executed.                               |
| tags               | No        | Array of objects | Job tags. For details, see <a href="#">Table 14-30</a> .                                  |

Table 14-30 tags parameters

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| key       | Yes       | String | Tag key     |
| value     | Yes       | String | Tag value   |

Example Request

None

Example Response

- Querying jobs of the **Import** type

```
{
 "is_success": true,
 "message": ""
}
```



```
"data_path": "obs://DLI/computeCharging/test.csv",
"data_type": "json",
"database_name": "iam_exist",
"date_format": "yyyy-MM-dd",
"delimiter": ",",
"duration": 1623,
"escape_char": "\\\"",
"job_id": "a85d7298-ecef-47f9-bb31-499d2099d112",
"owner": "iam_exist",
"quote_char": "\"\"",
"start_time": 1517385246111,
"table_name": "DLI_table20",
"timestamp_format": "yyyy-MM-dd HH:mm:ss",
"with_column_header": false
}
```

• Query jobs of the **Export** type

```
{
 "is_success": true,
 "message": "",
 "compress": "none",
 "data_path": "obs://xxx/dli/path6",
 "data_type": "json",
 "database_name": "submitjob",
 "duration": 4142,
 "export_mode": "Overwrite",
 "job_id": "b89fccb2-de6a-4c6c-b9b2-21f08a2eb85e",
 "owner": "test",
 "start_time": 1524107798024,
 "table_name": "autotest"
}
```

Status Codes

[Table 14-31](#) describes status codes.

**Table 14-31** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal server error.   |

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

14.8 Checking SQL Syntax

Function

This API is used to check the SQL syntax.

## URI

- URI format  
POST /v1.0/{project\_id}/jobs/check-sql
- Parameter descriptions

**Table 14-32** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 14-33** Request parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sql        | Yes       | String | SQL statement that you want to execute.                                                                                                                                                                                                                                                                                                                                                                                            |
| current db | No        | String | Database where the SQL statement is executed.<br><b>NOTE</b> <ul style="list-style-type: none"><li>• If the SQL statement contains <b>db_name</b>, for example, <b><i>select * from db1.t1</i></b>, you do not need to set this parameter.</li><li>• If the SQL statement does not contain <b>db_name</b>, the semantics check will fail when you do not set this parameter or set this parameter to an incorrect value.</li></ul> |

## Response Parameters

**Table 14-34** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                    |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                    |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_type  | No        | String | Job type. Options: <b>DDL</b> , <b>DCL</b> , <b>IMPORT</b> , <b>EXPORT</b> , <b>QUERY</b> , and <b>INSERT</b> . <ul style="list-style-type: none"><li>• <b>DDL</b>: jobs that create, modify, and delete metadata files</li><li>• <b>DCL</b>: jobs that grant and revoke permissions</li><li>• <b>IMPORT</b>: jobs that import external data into the database</li><li>• <b>EXPORT</b>: jobs that export data to an external database</li><li>• <b>QUERY</b>: jobs that run query statements</li><li>• <b>INSERT</b>: jobs that add new data to tables</li></ul> |

Example Request

Check the syntax of the SQL statement **select \* from t1**.

```
{
 "currentdb": "db1",
 "sql": "select * from t1"
}
```

Example Response

```
{
 "is_success": true,
 "message": "the sql is ok",
 "job_type": "QUERY"
}
```

Status Codes

[Table 14-35](#) describes status codes.

Table 14-35 Status codes

| Status Code | Description                |
|-------------|----------------------------|
| 200         | The request is successful. |
| 400         | Request error.             |
| 500         | Internal server error.     |

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 14.9 Querying the Job Execution Progress

### Function

This API is used to obtain the job execution progress. If a job is being executed, information about its subjobs can be obtained. If a job has just started or has ended, information about its subjobs cannot be obtained.

### URI

- URI format  
GET /v1/{project\_id}/jobs/{job\_id}/progress
- Parameter descriptions

**Table 14-36** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | String | Job ID                                                                                                                                    |

### Request Parameters

None

### Response Parameters

**Table 14-37** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                      |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean | Indicates whether the request is successfully sent. <b>true</b> indicates that the request is successfully sent.                                 |
| message    | Yes       | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                                                      |
| job_id     | No        | String  | ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results. |

| Parameter  | Mandatory | Type            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------|-----------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status     | Yes       | String          | Job status. Options: <ul style="list-style-type: none"><li>• <b>RUNNING</b>: The job is running.</li><li>• <b>SCALING</b>: The job is modifying specifications.</li><li>• <b>LAUNCHING</b>: The job is being submitted.</li><li>• <b>FINISHED</b>: The job has been completed.</li><li>• <b>FAILED</b>: The job has failed.</li><li>• <b>CANCELLED</b>: The job has been canceled.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| sub_job_id | No        | Integer         | ID of a subjob that is running. If the subjob is not running or it is already finished, the subjob ID may be empty.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| progress   | No        | Double          | Progress of a running subjob or the entire job. The value can only be a rough estimate of the subjob progress and does not indicate the detailed job progress. <ul style="list-style-type: none"><li>• If the job is just started or being submitted, the progress is displayed as <b>0</b>. If the job execution is complete, the progress is displayed as <b>1</b>. In this case, progress indicates the running progress of the entire job. Because no subjob is running, <b>sub_job_id</b> is not displayed.</li><li>• If a subjob is running, the running progress of the subjob is displayed. The calculation method of progress is as follows: Number of completed tasks of the subjob/Total number of tasks of the subjob. In this case, progress indicates the running progress of the subjob, and <b>sub_job_id</b> indicates the subjob ID.</li></ul> |
| sub_jobs   | No        | Array of Object | Details about a subjob of a running job. A job may contain multiple subjobs. For details, see <a href="#">Table 14-38</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**Table 14-38** Parameters in the **sub\_jobs** field

| Parameter | Mandatory | Type    | Description                                                                     |
|-----------|-----------|---------|---------------------------------------------------------------------------------|
| id        | No        | Integer | Subjob ID, corresponding to <b>jobId</b> of the open-source spark JobData.      |
| name      | No        | String  | Subjob name, corresponding to the <b>name</b> of the open-source spark JobData. |

| Parameter             | Mandatory | Type             | Description                                                                                                                   |
|-----------------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------|
| description           | No        | String           | Description of a subjob, corresponding to the <b>description</b> of the open-source spark JobData.                            |
| submission_time       | No        | String           | Submission time of a subjob, corresponding to the <b>submissionTime</b> of open-source Spark JobData.                         |
| completion_time       | No        | String           | Completion time of a subjob, corresponding to the <b>completionTime</b> of the open-source Spark JobData.                     |
| stage_ids             | No        | Array of Integer | Stage ID of the subjob, corresponding to the <b>stageIds</b> of the open-source spark JobData.                                |
| job_group             | No        | String           | ID of a DLI job, corresponding to the <b>jobGroup</b> of open-source Spark JobData.                                           |
| status                | No        | String           | Subjob status, corresponding to the <b>status</b> of open-source spark JobData.                                               |
| num_tasks             | No        | Integer          | Number of subjobs, corresponding to <b>numTasks</b> of the open-source Spark JobData.                                         |
| num_active_tasks      | No        | Integer          | Number of running tasks in a subjob, corresponding to <b>numActiveTasks</b> of the open-source Spark JobData.                 |
| num_completed_tasks   | No        | Integer          | Number of tasks that have been completed in a subjob, corresponding to <b>numCompletedTasks</b> of open-source Spark JobData. |
| num_skipped_tasks     | No        | Integer          | Number of tasks skipped in a subjob, corresponding to <b>numSkippedTasks</b> of open-source Spark JobData.                    |
| num_failed_tasks      | No        | Integer          | Number of subtasks that fail to be skipped, corresponding to <b>numFailedTasks</b> of open-source Spark JobData.              |
| num_killed_tasks      | No        | Integer          | Number of tasks killed in the subjob, corresponding to <b>numKilledTasks</b> of the open-source Spark JobData.                |
| num_completed_indices | No        | Integer          | Subjob completion index, corresponding to the <b>numCompletedIndices</b> of the open-source Spark JobData.                    |

| Parameter            | Mandatory | Type                | Description                                                                                                                           |
|----------------------|-----------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| num_active_stages    | No        | Integer             | Number of stages that are running in the subjob, corresponding to <b>numActiveStages</b> of the open-source Spark JobData.            |
| num_completed_stages | No        | Integer             | Number of stages that have been completed in the subjob, corresponding to <b>numCompletedStages</b> of the open-source Spark JobData. |
| num_skipped_stages   | No        | Integer             | Number of stages skipped in the subjob, corresponding to <b>numSkippedStages</b> of the open-source Spark JobData.                    |
| num_failed_stages    | No        | Integer             | Number of failed stages in a subjob, corresponding to <b>numFailedStages</b> of the open-source Spark JobData.                        |
| killed_tasks_summary | No        | Map<string,integer> | Summary of the killed tasks in the subjob, corresponding to <b>killedTasksSummary</b> of open-source spark JobData.                   |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "job_id": "85798b38-ae44-48eb-bb90-7cf0dcdae7b",
 "status": "RUNNING",
 "sub_job_id": 0,
 "progress": 0,
 "sub_jobs": [
 {
 "id": 0,
 "name": "runJob at FileFormatWriter.scala:266",
 "submission_time": "Mon Jul 27 17:24:03 CST 2020",
 "stage_ids": [
 0
],
 "job_group": "85798b38-ae44-48eb-bb90-7cf0dcdae7b",
 "status": "RUNNING",
 "num_tasks": 1,
 "num_active_tasks": 1,
 "num_completed_tasks": 0,
 "num_skipped_tasks": 0,
 "num_failed_tasks": 0,
 "num_killed_tasks": 0,
 "num_completed_indices": 0,
 "num_active_stages": 1,
 "num_completed_stages": 0,
 "num_skipped_stages": 0,
 }
]
}
```

```
 "num_failed_stages": 0
 }
]
```

Status Codes

[Table 14-39](#) describes status codes.

**Table 14-39** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

**Table 14-40** Error codes

| Error Code | Error Message                                              |
|------------|------------------------------------------------------------|
| DLI.0999   | The queue backend version is too old or the queue is busy. |



# 15 SQL Template-related APIs

## 15.1 Saving a SQL template

### Function

This API is used to store specified SQL statements for future reuse.

### URI

- URI format  
POST /v1.0/{project\_id}/sqls
- Parameter description

Table 15-1 URI parameter

| Parameter  | Mandator<br>y | Type   | Description                                                                                                                               |
|------------|---------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes           | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

Table 15-2 Parameters

| Parameter | Mandato<br>ry | Type   | Description       |
|-----------|---------------|--------|-------------------|
| sql       | Yes           | String | New SQL template. |

| Parameter   | Mandatory | Type   | Description                                                                                |
|-------------|-----------|--------|--------------------------------------------------------------------------------------------|
| sql_name    | Yes       | String | Name of the SQL template you want to save. The name must be unique in the current project. |
| description | No        | String | Description of the SQL template. The value can be an empty string.                         |
| group       | No        | String | Name of the template group                                                                 |

## Response Parameters

Table 15-3 Parameters

| Parameter  | Type    | Description                                                                                                                         |
|------------|---------|-------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successful                                                                                                   |
| message    | String  | System prompt. If execution succeeds, the message may be left blank. If the execution fails, the value is the cause of the failure. |
| sql_id     | String  | ID of the SQL template                                                                                                              |
| group      | String  | Name of the template group                                                                                                          |

## Example Request

Create a SQL template.

```
{
 "sql": "select * from t1",
 "sql_name": "sql1",
 "description": "use to select t1",
 "group": ""
}
```

## Example Response

```
{
 "is_success": true,
 "message": "",
 "sql_id": "1994b029-3f76-4281-9e35-e370cb4ee26d1501998934432"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

# 15.2 Checking All SQL Templates

## Function

This API is used to check all SQL templates saved by a user.

## URI

- URI format  
GET /v1.0/{project\_id}/sqls
- Parameter description

**Table 15-4** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 15-5** query parameters

| Parameter | Mandatory | Type   | Description                   |
|-----------|-----------|--------|-------------------------------|
| keyword   | No        | String | Keyword of SQL template names |

## Request Parameters

None

## Response Parameters

Table 15-6 Response parameters

| Parameter  | Type            | Description                                                                                                                              |
|------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean         | Whether the request is successful.                                                                                                       |
| message    | String          | System prompt. If execution succeeds, the message may be left blank. If the execution fails, the value will be the cause of the failure. |
| sql_count  | Int             | Total number of SQL templates                                                                                                            |
| sqls       | Array of Object | SQL template information. For details, see <a href="#">Table 15-7</a> .                                                                  |

Table 15-7 sqls parameters

| Parameter   | Type   | Description                    |
|-------------|--------|--------------------------------|
| sql_id      | String | SQL template ID                |
| sql_name    | String | Name of an SQL template        |
| sql         | String | SQL template text              |
| description | String | Description of an SQL template |
| owner       | String | Creator of the SQL template    |
| group       | String | Name of the template group     |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "sql_count": 1,
 "sqls": [
 {
 "description": "use to select t1",
 "owner": "tenant1",
 "sql": "select * from t1",
 "sql_id": "1994b029-3f76-4281-9e35-e370cb4ee26d1501998934432",
 "sql_name": "sql1",
 "group": ""
 }
]
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

# 15.3 Updating a SQL template

## Function

This API is used to update an SQL template.

## URI

- URI format  
PUT /v1.0/{project\_id}/sqls/{sql\_id}
- Parameter description

**Table 15-8** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| sql_id     | Yes       | String | SQL template ID                                                                                                                           |

## Request Parameters

**Table 15-9** Request parameters

| Parameter | Mandatory | Type   | Description                                                                       |
|-----------|-----------|--------|-----------------------------------------------------------------------------------|
| sql       | No        | String | Updated SQL template text.                                                        |
| sql_name  | No        | String | Name of the updated SQL template. The name must be unique in the current project. |

| Parameter   | Mandatory | Type   | Description                                                       |
|-------------|-----------|--------|-------------------------------------------------------------------|
| description | No        | String | Description of an SQL template. This parameter can be left blank. |
| group       | No        | String | SQL template group information.                                   |

## Response Parameters

**Table 15-10** Response parameters

| Parameter  | Type    | Description                                                                                                                              |
|------------|---------|------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successful.                                                                                                       |
| message    | String  | System prompt. If execution succeeds, the message may be left blank. If the execution fails, the value will be the cause of the failure. |

## Example Request

Update information about the SQL template, including the SQL statements, template name, template description, and template group information.

```
{
 "sql": "select * from t1",
 "sql_name": "sql1",
 "description": "use to select t1",
 "group": ""
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

## 15.4 Deleting a SQL template

### Function

This API is used to delete SQL templates in batches.

### URI

- URI format  
POST /v1.0/{project\_id}/sqls-deletion
- Parameter description

**Table 15-11** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 15-12** Request parameter

| Parameter | Mandatory | Type          | Description                              |
|-----------|-----------|---------------|------------------------------------------|
| sql_ids   | Yes       | Array<String> | IDs of SQL templates you want to delete. |

### Response Parameters

**Table 15-13** Response parameters

| Parameter  | Type    | Description                                                                                                                              |
|------------|---------|------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successful.                                                                                                       |
| message    | String  | System prompt. If execution succeeds, the message may be left blank. If the execution fails, the value will be the cause of the failure. |

## Example Request

Delete the SQL template whose ID is **27b79c50-4ac6-4050-8b81-8f0dbd7be184**.

```
{
 "sql_ids": ["27b79c50-4ac6-4050-8b81-8f0dbd7be184"]
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).



# 16 SQL Job Interception Rules

## 16.1 Creating a SQL Interception Rule

### Function

This API is used to create a SQL interception rule to intercept SQL statements that match the rule.

### URI

POST /v1/{project\_id}/sql-defend-rules

Table 16-1 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 16-2** Request parameters

| Parameter    | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_name    | Yes       | String           | Rule name.<br>For details, see SQL inspection system rules that DLI supports in <i>Data Lake Insight User Guide</i> .<br>Minimum length: 1 character<br>Maximum length: 32 characters                                                                                                                                                                                                                                           |
| rule_id      | Yes       | String           | Rule type.<br>Options: <ul style="list-style-type: none"><li>• <b>static_0001</b></li><li>• <b>static_0002</b></li><li>• <b>static_0003</b></li><li>• <b>static_0004</b></li><li>• <b>static_0005</b></li><li>• <b>static_0006</b></li><li>• <b>static_0007</b></li><li>• <b>dynamic_0001</b></li><li>• <b>dynamic_0002</b></li><li>• <b>running_0002</b></li><li>• <b>running_0003</b></li><li>• <b>running_0004</b></li></ul> |
| category     | Yes       | String           | Rule status type.<br>Options: <ul style="list-style-type: none"><li>• <b>static</b></li><li>• <b>dynamic</b></li><li>• <b>running</b></li></ul>                                                                                                                                                                                                                                                                                 |
| engine_rules | Yes       | Object           | Rule details.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| queue_names  | No        | Array of strings | Queue name.                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Response Parameters

**Table 16-3** Response parameters

| Parameter  | Type    | Description                                                                                                    |
|------------|---------|----------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                    |

## Example Request

None

## Example Response

None

## Status Codes

| Status Code | Description                       |
|-------------|-----------------------------------|
| 201         | The rule is successfully created. |
| 400         | Request error.                    |
| 500         | Internal server error.            |

## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

# 16.2 Batch Querying SQL Interception Rules

## Function

This API is used to query SQL interception rules in batches.

## URI

GET /v1/{project\_id}/sql-defend-rules

**Table 16-4** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

**Table 16-5** Query parameters

| Parameter  | Mandatory | Type    | Description        |
|------------|-----------|---------|--------------------|
| queue_name | No        | String  | Queue name.        |
| rule_name  | No        | String  | Rule name.         |
| offset     | No        | Integer | Pagination offset. |
| limit      | No        | Integer | Page size.         |

## Request Parameters

None

## Response Parameters

**Status code: 201**

**Table 16-6** Response body parameters

| Parameter   | Type                                              | Description            |
|-------------|---------------------------------------------------|------------------------|
| rules       | Array of <a href="#">SqlDefendRuleDto</a> objects | User-defined rule.     |
| total_count | Integer                                           | Total number of rules. |

**Table 16-7** SqlDefendRuleDto

| Parameter  | Type   | Description                                                                        |
|------------|--------|------------------------------------------------------------------------------------|
| rule_uuid  | String | Unique ID of a rule.<br>Maximum length: 64 characters                              |
| project_id | String | Project ID, which is used for resource isolation.<br>Maximum length: 64 characters |

| Parameter    | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_name    | String           | Rule name.<br>Minimum length: 1 character<br>Maximum length: 32 characters                                                                                                                                                                                                                                                                                                                                                      |
| rule_id      | String           | Rule type.<br>Options: <ul style="list-style-type: none"><li>• <b>static_0001</b></li><li>• <b>static_0002</b></li><li>• <b>static_0003</b></li><li>• <b>static_0004</b></li><li>• <b>static_0005</b></li><li>• <b>static_0006</b></li><li>• <b>static_0007</b></li><li>• <b>dynamic_0001</b></li><li>• <b>dynamic_0002</b></li><li>• <b>running_0002</b></li><li>• <b>running_0003</b></li><li>• <b>running_0004</b></li></ul> |
| category     | String           | Rule status type.<br>Options: <ul style="list-style-type: none"><li>• <b>static</b></li><li>• <b>dynamic</b></li><li>• <b>running</b></li></ul>                                                                                                                                                                                                                                                                                 |
| engine_rules | Object           | Rule details.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| queue_names  | Array of strings | Queue name.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| desc         | String           | User rule description.<br>Maximum length: 2,000 characters                                                                                                                                                                                                                                                                                                                                                                      |
| sys_desc     | String           | System rule description.                                                                                                                                                                                                                                                                                                                                                                                                        |
| create_time  | Long             | Time when a rule was created.                                                                                                                                                                                                                                                                                                                                                                                                   |
| update_time  | Long             | Time when a rule was updated.                                                                                                                                                                                                                                                                                                                                                                                                   |

**Status code: 400**

**Table 16-8** Response body parameters

| Parameter  | Type   | Description    |
|------------|--------|----------------|
| error_code | String | Error code.    |
| error_msg  | String | Error message. |

### Example Request

None

### Example Response

None

### Status Codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 201         | Rules are successfully queried. |
| 400         | Request error.                  |
| 500         | Internal server error.          |

### Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 16.3 Updating a SQL Interception Rule

### Function

This API is used to update a SQL interception rule to intercept SQL statements that match the rule.

### URI

PUT /v1/{project\_id}/sql-defend-rules/{rule\_id}

**Table 16-9** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| rule_id    | Yes       | String | Unique ID of an interception rule.                                                                                             |

## Request Parameters

**Table 16-10** Request body parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_name    | Yes       | String | Rule name.<br>Minimum length: 1 character<br>Maximum length: 32 characters                                                                                                                                                                                                                                                                                                                                                      |
| rule_id      | Yes       | String | Rule type.<br>Options: <ul style="list-style-type: none"><li>• <b>static_0001</b></li><li>• <b>static_0002</b></li><li>• <b>static_0003</b></li><li>• <b>static_0004</b></li><li>• <b>static_0005</b></li><li>• <b>static_0006</b></li><li>• <b>static_0007</b></li><li>• <b>dynamic_0001</b></li><li>• <b>dynamic_0002</b></li><li>• <b>running_0002</b></li><li>• <b>running_0003</b></li><li>• <b>running_0004</b></li></ul> |
| category     | Yes       | String | Rule status type.<br>Options: <ul style="list-style-type: none"><li>• <b>static</b></li><li>• <b>dynamic</b></li><li>• <b>running</b></li></ul>                                                                                                                                                                                                                                                                                 |
| engine_rules | Yes       | Object | Rule details.                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Parameter   | Mandatory | Type             | Description |
|-------------|-----------|------------------|-------------|
| queue_names | No        | Array of strings | Queue name. |

## Response Parameters

**Table 16-11** Response body parameters

| Parameter  | Type    | Description                                                                                                    |
|------------|---------|----------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                    |

## Example Request

None

## Example Response

None

## Status Codes

| Status Code | Description                       |
|-------------|-----------------------------------|
| 201         | The rule is successfully updated. |
| 400         | Request error.                    |
| 500         | Internal server error.            |

## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).



## 16.4 Deleting a SQL Interception Rule

### Function

This API is used to delete a SQL interception rule.

### URI

DELETE /v1/{project\_id}/sql-defend-rules/{rule\_id}

**Table 16-12** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| rule_id    | Yes       | String | Unique ID of an interception rule.                                                                                             |

### Request Parameters

None

### Response Parameters

**Table 16-13** Response body parameters

| Parameter  | Type    | Description                                                                                                    |
|------------|---------|----------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                    |

### Example Request

None

### Example Response

None

## Status Codes

| Status Code | Description                       |
|-------------|-----------------------------------|
| 201         | The rule is successfully deleted. |
| 400         | Request error.                    |
| 500         | Internal server error.            |

## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

# 16.5 Querying a SQL Interception Rule

## Function

This API is used to query a single SQL interception rule.

## URI

GET /v1/{project\_id}/sql-defend-rules/{rule\_id}

**Table 16-14** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| rule_id    | Yes       | String | Unique ID of an interception rule.                                                                                             |

## Request Parameters

None

## Response Parameters

**Table 16-15** Response body parameters

| Parameter    | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_uuid    | String           | Unique ID of a rule.<br>Maximum length: 64 characters                                                                                                                                                                                                                                                                                                                                                                           |
| project_id   | String           | Project ID.<br>Maximum length: 64 characters                                                                                                                                                                                                                                                                                                                                                                                    |
| rule_name    | String           | Rule name.<br>Minimum length: 1 character<br>Maximum length: 32 characters                                                                                                                                                                                                                                                                                                                                                      |
| rule_id      | String           | Rule type.<br>Options: <ul style="list-style-type: none"><li>• <b>static_0001</b></li><li>• <b>static_0002</b></li><li>• <b>static_0003</b></li><li>• <b>static_0004</b></li><li>• <b>static_0005</b></li><li>• <b>static_0006</b></li><li>• <b>static_0007</b></li><li>• <b>dynamic_0001</b></li><li>• <b>dynamic_0002</b></li><li>• <b>running_0002</b></li><li>• <b>running_0003</b></li><li>• <b>running_0004</b></li></ul> |
| category     | String           | Rule status type.<br>Options: <ul style="list-style-type: none"><li>• <b>static</b></li><li>• <b>dynamic</b></li><li>• <b>running</b></li></ul>                                                                                                                                                                                                                                                                                 |
| engine_rules | Object           | Rule details.                                                                                                                                                                                                                                                                                                                                                                                                                   |
| queue_names  | Array of strings | Queue name.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| desc         | String           | Rule description.<br>Maximum length: 2,000 characters                                                                                                                                                                                                                                                                                                                                                                           |
| sys_desc     | String           | System rule description.                                                                                                                                                                                                                                                                                                                                                                                                        |
| create_time  | Long             | Time when a rule was created.                                                                                                                                                                                                                                                                                                                                                                                                   |

| Parameter   | Type | Description                   |
|-------------|------|-------------------------------|
| update_time | Long | Time when a rule was updated. |

## Example Request

None

## Example Response

None

## Status Codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 201         | A rule is successfully queried. |
| 400         | Request error.                  |
| 500         | Internal server error.          |

## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

# 16.6 Batch Querying Preset SQL Interception Rules

## Function

This API is used to query preset SQL interception rules in batches.

## URI

GET /v1/{project\_id}/sql-defend-sys-rules

**Table 16-16** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

None

### Response Parameters

Table 16-17 Response body parameters

| Parameter   | Type                                                 | Description            |
|-------------|------------------------------------------------------|------------------------|
| rules       | Array of <a href="#">SqlDefendSysRuleDto</a> objects | Preset rules.          |
| total_count | Long                                                 | Total number of rules. |

Table 16-18 SqlDefendSysRuleDto

| Parameter | Type             | Description                                                                                                                                                                                                                                                                                                                                 |
|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_id   | String           | Rule type.<br>Options: <ul style="list-style-type: none"><li>• static_0001</li><li>• static_0002</li><li>• static_0003</li><li>• static_0004</li><li>• static_0005</li><li>• static_0006</li><li>• static_0007</li><li>• dynamic_0001</li><li>• dynamic_0002</li><li>• running_0002</li><li>• running_0003</li><li>• running_0004</li></ul> |
| category  | String           | Rule status type.<br>Options: <ul style="list-style-type: none"><li>• static</li><li>• dynamic</li><li>• running</li></ul>                                                                                                                                                                                                                  |
| actions   | Array of strings | Action that can be performed.                                                                                                                                                                                                                                                                                                               |
| engines   | Array of strings | Engines supported.                                                                                                                                                                                                                                                                                                                          |

| Parameter | Type                                | Description                                           |
|-----------|-------------------------------------|-------------------------------------------------------|
| no_limit  | Boolean                             | Whether the rule has a limit value.                   |
| desc      | String                              | Rule description.<br>Maximum length: 2,000 characters |
| param     | <a href="#">SysRuleParam</a> object | Configuration parameters of system rules.             |

Table 16-19 SysRuleParam

| Parameter    | Type   | Description                                           |
|--------------|--------|-------------------------------------------------------|
| max          | Long   | Upper threshold                                       |
| min          | Long   | Lower threshold                                       |
| defaultValue | Long   | Default threshold                                     |
| desc         | String | Rule description.<br>Maximum length: 2,000 characters |

Example Request

None

Example Response

None

Status Codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 201         | Rules are successfully queried. |
| 400         | Request error.                  |
| 500         | Internal server error.          |

Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

# 16.7 Querying a Preset SQL Interception Rule

## Function

This API is used to query a single preset SQL interception rule.

## URI

GET /v1/{project\_id}/sql-defend-sys-rules/{rule\_id}

**Table 16-20** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| rule_id    | Yes       | String | Unique ID of a system rule.                                                                                                    |

## Request Parameters

None

## Response Parameters

**Table 16-21** Response body parameters

| Parameter | Type                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rule_id   | String                     | Rule type.<br>Options: <ul style="list-style-type: none"><li>• <b>static_0001</b></li><li>• <b>static_0002</b></li><li>• <b>static_0003</b></li><li>• <b>static_0004</b></li><li>• <b>static_0005</b></li><li>• <b>static_0006</b></li><li>• <b>static_0007</b></li><li>• <b>dynamic_0001</b></li><li>• <b>dynamic_0002</b></li><li>• <b>running_0002</b></li><li>• <b>running_0003</b></li><li>• <b>running_0004</b></li></ul> |
| category  | String                     | Rule status type.<br>Options: <ul style="list-style-type: none"><li>• <b>static</b></li><li>• <b>dynamic</b></li><li>• <b>running</b></li></ul>                                                                                                                                                                                                                                                                                 |
| actions   | Array of strings           | Action that can be performed.                                                                                                                                                                                                                                                                                                                                                                                                   |
| engines   | Array of strings           | Engines supported.                                                                                                                                                                                                                                                                                                                                                                                                              |
| no_limit  | Boolean                    | Whether the rule has a limit value.                                                                                                                                                                                                                                                                                                                                                                                             |
| desc      | String                     | Rule description.<br>Maximum length: 2,000 characters                                                                                                                                                                                                                                                                                                                                                                           |
| param     | <b>SysRuleParam</b> object | Configuration parameters of system rules.                                                                                                                                                                                                                                                                                                                                                                                       |

**Table 16-22** SysRuleParam

| Parameter | Type | Description     |
|-----------|------|-----------------|
| max       | Long | Upper threshold |



| Parameter    | Type   | Description                                           |
|--------------|--------|-------------------------------------------------------|
| min          | Long   | Lower threshold                                       |
| defaultValue | Long   | Default threshold                                     |
| desc         | String | Rule description.<br>Maximum length: 2,000 characters |

## Example Request

None

## Example Response

None

## Status Codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 201         | A rule is successfully queried. |
| 400         | Request error.                  |
| 500         | Internal server error.          |

## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

# 17 Flink Job-related APIs

## 17.1 Creating a SQL Job

### Function

This API is used to create a Flink streaming SQL job.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/sql-jobs
- Parameter description

Table 17-1 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

Table 17-2 Request parameters

| Parameter | Mandatory | Type   | Description                                                |
|-----------|-----------|--------|------------------------------------------------------------|
| name      | Yes       | String | Name of the job. The value can contain 1 to 57 characters. |
| desc      | No        | String | Job description. Length range: 0 to 512 characters.        |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| template_id | No        | Integer | Template ID.<br>If both <b>template_id</b> and <b>sql_body</b> are specified, <b>sql_body</b> is used. If <b>template_id</b> is specified but <b>sql_body</b> is not, fill <b>sql_body</b> with the <b>template_id</b> value.                                                                                                                                                                                               |
| queue_name  | No        | String  | Name of a queue. The value can contain 0 to 128 characters.                                                                                                                                                                                                                                                                                                                                                                 |
| sql_body    | No        | String  | Stream SQL statement, which includes at least the following three parts: source, query, and sink. Length range: 1,024 x 1,024 characters.                                                                                                                                                                                                                                                                                   |
| run_mode    | No        | String  | Job running mode. The options are as follows: <ul style="list-style-type: none"><li>• <b>shared_cluster</b>: indicates that the job is running on a shared cluster.</li><li>• <b>exclusive_cluster</b>: indicates that the job is running on an exclusive cluster.</li><li>• <b>edge_node</b>: indicates that the job is running on an edge node.</li></ul> The default value is <b>shared_cluster</b> .                    |
| cu_number   | No        | Integer | Number of CUs selected for a job. The default value is 2.<br><br>Sum of the number of compute units and job manager CUs of DLI. CU is also the billing unit of DLI. One CU equals one vCPU and 4 GB of memory. The value is the number of CUs required for job running and cannot exceed the number of CUs in the bound queue. For details about how to set the number of CUs of JobManager, see <b>manager_cu_number</b> . |

| Parameter           | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| parallel_number     | No        | Integer | <p>Number of parallel jobs set by a user. The default value is <b>1</b>.</p> <p>Number of Flink SQL jobs that run at the same time. Properly increasing the number of parallel threads improves the overall computing capability of the job. However, the switchover overhead caused by the increase of threads must be considered. This value cannot be greater than four times the compute units (number of CUs minus the number of JobManager CUs). For details about how to set the number of JobManager CUs, see <b>manager_cu_number</b>.</p> |
| checkpoint_enabled  | No        | Boolean | <p>Whether to enable the automatic job snapshot function.</p> <ul style="list-style-type: none"><li>• <b>true</b>: indicates to enable the automatic job snapshot function.</li><li>• <b>false</b>: indicates to disable the automatic job snapshot function.</li><li>• Default value: <b>false</b></li></ul>                                                                                                                                                                                                                                       |
| checkpoint_mode     | No        | Integer | <p>Snapshot mode. There are two options:</p> <ul style="list-style-type: none"><li>• <b>1: ExactlyOnce</b>, indicates that data is processed only once.</li><li>• <b>2: AtLeastOnce</b>, indicates that data is processed at least once.</li></ul> <p>The default value is <b>1</b>.</p>                                                                                                                                                                                                                                                            |
| checkpoint_interval | No        | Integer | <p>Snapshot interval. The unit is second. The default value is <b>10</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| obs_bucket          | No        | String  | <p>OBS bucket where users are authorized to save the snapshot. This parameter is valid only when <b>checkpoint_enabled</b> is set to <b>true</b>.</p> <p>OBS bucket where users are authorized to save the snapshot. This parameter is valid only when <b>log_enabled</b> is set to <b>true</b>.</p>                                                                                                                                                                                                                                                |
| log_enabled         | No        | Boolean | <p>Whether to enable the function of uploading job logs to users' OBS buckets. The default value is <b>false</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                               |
| smn_topic           | No        | String  | <p>SMN topic. If a job fails, the system will send a message to users subscribed to the SMN topic.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| Parameter              | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| restart_when_exception | No        | Boolean | Whether to enable the function of automatically restarting a job upon job exceptions. The default value is <b>false</b> .                                                                                                                                                                                                                                                                                                                                              |
| idle_state_retention   | No        | Integer | Retention time of the idle state. The unit is second. The default value is <b>3600</b> .                                                                                                                                                                                                                                                                                                                                                                               |
| job_type               | No        | String  | Job type. The options include <b>flink_sql_job</b> and <b>flink_opensource_sql_job</b> .<br>The default value is <b>flink_opensource_sql_job</b> . <ul style="list-style-type: none"><li>• If <b>run_mode</b> is set to <b>exclusive_cluster</b>, <b>job_type</b> must be set to <b>flink_sql_job</b> or <b>flink_opensource_sql_job</b>.</li><li>• If <b>run_mode</b> is set to <b>shared_cluster</b>, <b>job_type</b> must be set to <b>flink_sql_job</b>.</li></ul> |
| dirty_data_strategy    | No        | String  | Dirty data policy of a job. <ul style="list-style-type: none"><li>• <b>2:obsDir</b>: Save. <b>obsDir</b> specifies the path for storing dirty data.</li><li>• <b>1</b>: Trigger a job exception</li><li>• <b>0</b>: Ignore</li></ul> The default value is <b>0</b> .                                                                                                                                                                                                   |
| udf_jar_url            | No        | String  | Name of the resource package that has been uploaded to the DLI resource management system. The UDF Jar file of the SQL job is specified by this parameter.<br>For Flink 1.15 or later, only OBS packages can be selected when creating jobs, and DLI packages are not supported.                                                                                                                                                                                       |
| manager_cu_number      | No        | Integer | Number of CUs in the JobManager selected for a job. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                                                                                    |
| tm_cus                 | No        | Integer | Number of CUs for each TaskManager. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                                                                                                    |
| tm_slot_num            | No        | Integer | Number of slots in each TaskManager. The default value is <b>(parallel_number*tm_cus)/(cu_number-manager_cu_number)</b> .                                                                                                                                                                                                                                                                                                                                              |
| resume_checkpoint      | No        | Boolean | Whether the abnormal restart is recovered from the checkpoint.                                                                                                                                                                                                                                                                                                                                                                                                         |

| Parameter               | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resume_max_num          | No        | Integer          | Maximum number of retry times upon exceptions. The unit is times/hour. Value range: -1 or greater than 0. The default value is <b>-1</b> , indicating that the number of times is unlimited.                                                                                                                                                                                                                                                                                             |
| tags                    | No        | Array of objects | Label of a Flink SQL job. For details, see <a href="#">Table 17-3</a> .                                                                                                                                                                                                                                                                                                                                                                                                                  |
| runtime_config          | No        | String           | Customizes optimization parameters when a Flink job is running.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| flink_version           | No        | String           | Flink version.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| execution_agency_urn    | No        | String           | Name of the agency authorized to DLI. This parameter is configurable in Flink 1.15.                                                                                                                                                                                                                                                                                                                                                                                                      |
| resource_config_version | No        | String           | Resource configuration version. The value can be <b>v1</b> or <b>v2</b> . The default value is <b>v1</b> . Compared with the v1 template, the v2 template does not support the setting of the number of CUs. The v2 template supports the setting of <b>Job Manager Memory</b> and <b>Task Manager Memory</b> .<br><b>v1</b> : applicable to Flink 1.12, 1.13, and 1.15<br><b>v2</b> : applicable to Flink 1.13, 1.15, and 1.17.<br>You are advised to use the parameter settings of v2. |
| resource_config         | No        | Object           | Resource configuration of a Flink job. For detailed parameter descriptions, refer to <a href="#">Table 17-4</a> .<br>When the resource configuration version is <b>v2</b> , the configuration takes effect; when the resource configuration version is <b>v1</b> , the configuration is invalid.                                                                                                                                                                                         |

**Table 17-3** tags parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                  |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Tag key<br><b>NOTE</b><br>A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters ( _.:+@ ) are allowed, but the value cannot start or end with a space or start with _sys_. |
| value     | Yes       | String | Tag value<br><b>NOTE</b><br>A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters ( _.:+@ ) are allowed.                                                                 |

**Table 17-4** resource\_config parameters

| Parameter                 | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max_slot                  | No        | integer | Number of parallel tasks that a single TaskManager can support. Each task slot can execute one task in parallel. Increasing task slots enhances the parallel processing capacity of the TaskManager but also increases resource consumption.<br><br>The number of task slots is linked to the CPU count of the TaskManager since each CPU can offer one task slot.<br><br>By default, a single TM slot is set to 1. The minimum parallelism must not be less than 1. |
| parallel_number           | No        | integer | Number of tasks concurrently executed by each operator in a job. The default value is 1.                                                                                                                                                                                                                                                                                                                                                                             |
| jobmanager_resource_spec  | No        | Object  | JobManager resource specifications. For details about the parameters, see <a href="#">Table 17-5</a> .                                                                                                                                                                                                                                                                                                                                                               |
| taskmanager_resource_spec | No        | Object  | TaskManager resource specifications. For details about the parameters, see <a href="#">Table 17-6</a> .                                                                                                                                                                                                                                                                                                                                                              |

**Table 17-5** jobmanager\_resource\_spec parameters

| Parameter | Mandatory | Type   | Description                                                                                                                           |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------|
| cpu       | No        | double | Number of CPU cores available for JobManager. The default value is <b>1.0</b> CPU core, with a minimum of no less than 0.5 CPU cores. |
| memory    | No        | string | Memory that can be used by JobManager, in MB or GB. The default unit is GB. The default value is 4 GB, and the minimum value is 2 GB. |

**Table 17-6** taskmanager\_resource\_spec parameters

| Parameter | Mandatory | Type   | Description                                                                                                                            |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------|
| cpu       | No        | double | Number of CPU cores available for TaskManager. The default value is <b>1.0</b> CPU core, with a minimum of no less than 0.5 CPU cores. |
| memory    | No        | string | Memory that can be used by TaskManager, in MB or GB. The default unit is GB. The default value is 4 GB, and the minimum value is 2 GB. |

## Response Parameters

**Table 17-7** Response parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | String | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String | Message content.                                                                                                               |
| job        | No        | Object | Information about the job status. For details, see <a href="#">Table 17-8</a> .                                                |



**Table 17-8** job parameters

| Parameter   | Mandatory | Type   | Description                                                                                                               |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------|
| job_id      | Yes       | Long   | Job ID.                                                                                                                   |
| status_name | No        | String | Name of job status. For details, see the description of the <b>status</b> field in <a href="#">Querying Job Details</a> . |
| status_desc | No        | String | Status description. Causes and suggestions for the abnormal status.                                                       |

## Example Request

Use the template whose ID is **100000** to create a Flink SQL job named **myjob**. The job runs in dedicated mode on the **testQueue** queue.

```
{
 "name": "myjob",
 "desc": "This is a job used for counting characters.",
 "template_id": 100000,
 "queue_name": "testQueue",
 "sql_body": "select * from source_table",
 "run_mode": "exclusive_cluster",
 "cu_number": 2,
 "parallel_number": 1,
 "checkpoint_enabled": false,
 "checkpoint_mode": "exactly_once",
 "checkpoint_interval": 0,
 "obs_bucket": "my_obs_bucket",
 "log_enabled": false,
 "restart_when_exception": false,
 "idle_state_retention": 3600,
 "job_type": "flink_sql_job",
 "dirty_data_strategy": "0",
 "execution_agency_urn": "myAgencyName",
 "udf_jar_url": "group/test.jar"
}
```

## Example Response

```
{
 "is_success": "true",
 "message": "A DLI job is created successfully.",
 "job": {
 "job_id": 148,
 "status_name": "job_init",
 "status_desc": ""
 }
}
```

## Status Codes

[Table 17-9](#) describes status codes.

**Table 17-9** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is created successfully. |
| 400         | The input parameter is invalid.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 17.2 Updating a SQL Job

### Function

This API is used to modify a Flink SQL job.

### URI

- URI format  
PUT /v1.0/{project\_id}/streaming/sql-jobs/{job\_id}
- Parameter description

**Table 17-10** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | Long   | Job ID. Refer to <a href="#">Creating a SQL Job</a> to obtain the value.                                                                     |

### Request Parameters

**Table 17-11** Request parameters

| Parameter | Mandatory | Type   | Description                                      |
|-----------|-----------|--------|--------------------------------------------------|
| name      | No        | String | Name of a job. Length range: 0 to 57 characters. |

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| desc               | No        | String  | Job description. Length range: 0 to 512 characters.                                                                                                                                                                                                                                                                                                                                                      |
| queue_name         | No        | String  | Name of a queue. The value can contain 0 to 128 characters.                                                                                                                                                                                                                                                                                                                                              |
| sql_body           | No        | String  | Stream SQL statement, which includes at least the following three parts: source, query, and sink. Length range: 0 to 1024 x 1024 characters.                                                                                                                                                                                                                                                             |
| run_mode           | No        | String  | Job running mode. The options are as follows: <ul style="list-style-type: none"><li>• <b>shared_cluster</b>: indicates that the job is running on a shared cluster.</li><li>• <b>exclusive_cluster</b>: indicates that the job is running on an exclusive cluster.</li><li>• <b>edge_node</b>: indicates that the job is running on an edge node.</li></ul> The default value is <b>shared_cluster</b> . |
| cu_number          | No        | Integer | Number of CUs selected for a job. The default value is <b>2</b> .                                                                                                                                                                                                                                                                                                                                        |
| parallel_number    | No        | Integer | Number of parallel jobs set by a user. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                                   |
| checkpoint_enabled | No        | Boolean | Whether to enable the automatic job snapshot function. <ul style="list-style-type: none"><li>• <b>true</b>: indicates to enable the automatic job snapshot function.</li><li>• <b>false</b>: indicates to disable the automatic job snapshot function.</li><li>• Default value: <b>false</b></li></ul>                                                                                                   |
| checkpoint_mode    | No        | Integer | Snapshot mode. There are two options: <ul style="list-style-type: none"><li>• <b>1: ExactlyOnce</b>, indicates that data is processed only once.</li><li>• <b>2: at_least_once</b>, indicates that data is processed at least once.</li></ul> The default value is <b>1</b> .                                                                                                                            |

| Parameter              | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                 |
|------------------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| checkpoint_interval    | No        | Integer          | Snapshot interval. The unit is second. The default value is <b>10</b> .                                                                                                                                                                                                                     |
| obs_bucket             | No        | String           | OBS bucket where users are authorized to save the snapshot. This parameter is valid only when <b>checkpoint_enabled</b> is set to <b>true</b> .<br>OBS bucket where users are authorized to save the snapshot. This parameter is valid only when <b>log_enabled</b> is set to <b>true</b> . |
| log_enabled            | No        | Boolean          | Whether to enable the function of uploading job logs to users' OBS buckets. The default value is <b>false</b> .                                                                                                                                                                             |
| smn_topic              | No        | String           | SMN topic. If a job fails, the system will send a message to users subscribed to the SMN topic.                                                                                                                                                                                             |
| restart_when_exception | No        | Boolean          | Whether to enable the function of automatically restarting a job upon job exceptions. The default value is <b>false</b> .                                                                                                                                                                   |
| idle_state_retention   | No        | Integer          | Expiration time, in seconds. The default value is <b>3600</b> .                                                                                                                                                                                                                             |
| edge_group_ids         | No        | Array of strings | List of edge computing group IDs. Use commas (,) to separate multiple IDs.                                                                                                                                                                                                                  |
| dirty_data_strategy    | No        | String           | Dirty data policy of a job. <ul style="list-style-type: none"><li>● <b>2:obsDir</b>: Save. <b>obsDir</b> specifies the path for storing dirty data.</li><li>● <b>1</b>: Trigger a job exception</li><li>● <b>0</b>: Ignore</li></ul> The default value is <b>0</b> .                        |
| udf_jar_url            | No        | String           | Name of the resource package that has been uploaded to the DLI resource management system. The UDF Jar file of the SQL job is specified by this parameter.<br>For Flink 1.15 or later, you can only select packages from OBS, instead of DLI.                                               |

| Parameter               | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| manager_cu_number       | No        | Integer | Number of CUs in the JobManager selected for a job. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                  |
| tm_cus                  | No        | Integer | Number of CUs for each TaskManager. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                  |
| tm_slot_num             | No        | Integer | Number of slots in each TaskManager. The default value is <b>(parallel_number*tm_cus)/(cu_number-manager_cu_number)</b> .                                                                                                                                                                                                                                                            |
| operator_config         | No        | String  | Degree of parallelism (DOP) of an operator.                                                                                                                                                                                                                                                                                                                                          |
| resume_checkpoint       | No        | Boolean | Whether the abnormal restart is recovered from the checkpoint.                                                                                                                                                                                                                                                                                                                       |
| resume_max_num          | No        | Integer | Maximum number of retry times upon exceptions. The unit is times/hour. Value range: -1 or greater than 0. The default value is <b>-1</b> , indicating that the number of times is unlimited.                                                                                                                                                                                         |
| static_estimator_config | No        | String  | Traffic or hit ratio of each operator, which is a string in JSON format. Example:<br><pre>{"operator_list": [{"id": "0a448493b4782967b150582570326227", "rate_factor": 0.55}, {"id": "6d2677a0ecc3fd8df0b72ec675edf8f4", "rate_factor": 1}, {"id": "ea632d67b7d595e5b851708ae9ad79d6", "rate_factor": 0.55}, {"id": "bc764cd8ddf7a0cff126f51c16239658", "output_rate": 2000}]}</pre> |
| runtime_config          | No        | String  | Customizes optimization parameters when a Flink job is running.                                                                                                                                                                                                                                                                                                                      |
| flink_version           | No        | String  | Flink version.                                                                                                                                                                                                                                                                                                                                                                       |
| execution_agency_urn    | No        | String  | Name of the agency authorized to DLI. This parameter is configurable in Flink 1.15.                                                                                                                                                                                                                                                                                                  |

| Parameter               | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resource_config_version | No        | String | <p>Resource configuration version. The value can be <b>v1</b> or <b>v2</b>. The default value is <b>v1</b>.</p> <p>Compared with the v1 template, the v2 template does not support the setting of the number of CUs. The v2 template supports the setting of <b>Job Manager Memory</b> and <b>Task Manager Memory</b>.</p> <p><b>v1</b>: applicable to Flink 1.12, 1.13, and 1.15</p> <p><b>v2</b>: applicable to Flink 1.13, 1.15, and 1.17.</p> <p>You are advised to use the parameter settings of v2.</p> |
| resource_config         | No        | Object | <p>Resource configuration of a Flink job. For detailed parameter descriptions, refer to <a href="#">Table 17-12</a>.</p> <p>When the resource configuration version is <b>v2</b>, the configuration takes effect; when the resource configuration version is <b>v1</b>, the configuration is invalid.</p>                                                                                                                                                                                                     |

**Table 17-12** resource\_config parameters

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max_slot        | No        | integer | <p>Number of parallel tasks that a single TaskManager can support. Each task slot can execute one task in parallel. Increasing task slots enhances the parallel processing capacity of the TaskManager but also increases resource consumption.</p> <p>The number of task slots is linked to the CPU count of the TaskManager since each CPU can offer one task slot.</p> <p>By default, a single TM slot is set to <b>1</b>. The minimum parallelism must not be less than <b>1</b>.</p> |
| parallel_number | No        | integer | <p>Number of tasks concurrently executed by each operator in a job. The default value is <b>1</b>.</p>                                                                                                                                                                                                                                                                                                                                                                                    |

| Parameter                 | Mandatory | Type   | Description                                                                                              |
|---------------------------|-----------|--------|----------------------------------------------------------------------------------------------------------|
| jobmanager_resource_spec  | No        | Object | JobManager resource specifications. For details about the parameters, see <a href="#">Table 17-13</a> .  |
| taskmanager_resource_spec | No        | Object | TaskManager resource specifications. For details about the parameters, see <a href="#">Table 17-14</a> . |

**Table 17-13** jobmanager\_resource\_spec parameters

| Parameter | Mandatory | Type   | Description                                                                                                                           |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------|
| cpu       | No        | double | Number of CPU cores available for JobManager. The default value is <b>1.0</b> CPU core, with a minimum of no less than 0.5 CPU cores. |
| memory    | No        | string | Memory that can be used by JobManager, in MB or GB. The default unit is GB. The default value is 4 GB, and the minimum value is 2 GB. |

**Table 17-14** taskmanager\_resource\_spec parameters

| Parameter | Mandatory | Type   | Description                                                                                                                            |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------|
| cpu       | No        | double | Number of CPU cores available for TaskManager. The default value is <b>1.0</b> CPU core, with a minimum of no less than 0.5 CPU cores. |
| memory    | No        | string | Memory that can be used by TaskManager, in MB or GB. The default unit is GB. The default value is 4 GB, and the minimum value is 2 GB. |

## Response Parameters

**Table 17-15** Response parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | String | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String | Message content.                                                                                                               |
| job        | No        | Object | Information about job update. For details, see <a href="#">Table 17-16</a> .                                                   |

**Table 17-16** job parameter

| Parameter   | Mandatory | Type | Description                                |
|-------------|-----------|------|--------------------------------------------|
| update_time | No        | Long | Job update time, expressed by milliseconds |

## Example Request

Update an existing SQL job. The updated job is named **myjob** and runs on **testQueue** in shared mode.

```
{
 "name": "myjob",
 "desc": "My first job",
 "queue_name": "testQueue",
 "sql_body": "select * from source_table",
 "run_mode": "shared_cluster",
 "cu_number": 4,
 "parallel_number": 4,
 "checkpoint_enabled": false,
 "checkpoint_mode": "exactly_once",
 "checkpoint_interval": 10,
 "obs_bucket": "",
 "log_enabled": false,
 "smn_topic": "",
 "restart_when_exception": false,
 "idle_state_retention": 3600,
 "edge_group_ids": [
 "62de1e1c-066e-48a8-a79d-f461a31b2ee1",
 "2eb00f85-99f2-4144-bcb7-d39ff47f9002"
],
 "dirty_data_strategy": "0",
 "execution_agency_urn": "myAgencyName",
 "udf_jar_url": "group/test.jar"
}
```



## Example Response

```
{
 "is_success": "true",
 "message": "The job is updated successfully.",
 "job": {
 "update_time": 1578905682534
 }
}
```

## Status Codes

[Table 17-17](#) describes status codes.

**Table 17-17** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is updated successfully. |
| 400         | The input parameter is invalid.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 17.3 Creating a Flink Jar job

## Function

This API is used to create custom jobs, which currently support the JAR format and run in dedicated queues.

## URI

- URI format  
POST /v1.0/{project\_id}/streaming/flink-jobs
- Parameter description

**Table 17-18** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 17-19** Parameter description

| Parameter              | Mandatory | Type    | Description                                                                                                                                                                                                                                               |
|------------------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name                   | Yes       | String  | Name of the job. The value can contain 1 to 57 characters.                                                                                                                                                                                                |
| desc                   | No        | String  | Job description. Length range: 0 to 512 characters.                                                                                                                                                                                                       |
| queue_name             | No        | String  | Name of a queue. The value can contain 0 to 128 characters.                                                                                                                                                                                               |
| cu_number              | No        | Integer | Number of CUs selected for a job.                                                                                                                                                                                                                         |
| manager_cu_number      | No        | Integer | Number of CUs on the management node selected by the user for a job, which corresponds to the number of Flink job managers. The default value is <b>1</b> .                                                                                               |
| parallel_number        | No        | Integer | Number of parallel operations selected for a job.                                                                                                                                                                                                         |
| log_enabled            | No        | Boolean | Whether to enable the job log function. <ul style="list-style-type: none"><li>• <b>true</b>: indicates to enable the job log function.</li><li>• <b>false</b>: indicates to disable the job log function.</li><li>• Default value: <b>false</b></li></ul> |
| obs_bucket             | No        | String  | OBS bucket where users are authorized to save logs when <b>log_enabled</b> is set to <b>true</b> .                                                                                                                                                        |
| smn_topic              | No        | String  | SMN topic. If a job fails, the system will send a message to users subscribed to the SMN topic.                                                                                                                                                           |
| main_class             | No        | String  | Job entry class.                                                                                                                                                                                                                                          |
| entrypoint_args        | No        | String  | Job entry parameter. Multiple parameters are separated by spaces.                                                                                                                                                                                         |
| restart_when_exception | No        | Boolean | Whether to enable the function of restart upon exceptions. The default value is <b>false</b> .                                                                                                                                                            |

| Parameter        | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| entrypoint       | No        | String           | Name of the package uploaded to OBS. You can customize the JAR file where the main job class is.<br>For Flink 1.15 or later, you can only select packages from OBS, instead of DLI.<br>Example: <b>obs://bucket_name/test.jar</b>                                                                                                                                                                                                                                                                                                                                                                                    |
| dependency_jars  | No        | Array of strings | Name of the package uploaded to OBS. You can customize other dependency packages of the job.<br>For Flink 1.15 or later, you can only select packages from OBS, instead of DLI.<br>Example: <b>obs://bucket_name/test1.jar, obs://bucket_name/test2.jar</b>                                                                                                                                                                                                                                                                                                                                                          |
| dependency_files | No        | Array of strings | Name of the resource package uploaded to OBS. You can customize the dependency files of the job.<br>For Flink 1.15 or later, you can only select packages from OBS, instead of DLI.<br>Example: <b>[obs://bucket_name/file1, obs://bucket_name/file2]</b><br>You can add the following content to the application to access the corresponding dependency file: In the command, <b>fileName</b> indicates the name of the file to be accessed, and <b>ClassName</b> indicates the name of the class that needs to access the file.<br><code>ClassName.class.getClassLoader().getResource("user Data/fileName")</code> |
| tm_cus           | No        | Integer          | Number of CUs for each TaskManager. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| tm_slot_num      | No        | Integer          | Number of slots in each TaskManager. The default value is <b>(parallel_number*tm_cus)/(cu_number-manager_cu_number)</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| feature          | No        | String           | Job feature. Type of the Flink image used by a job. <ul style="list-style-type: none"><li>• <b>basic</b>: indicates that the basic Flink image provided by DLI is used.</li><li>• <b>custom</b>: indicates that the user-defined Flink image is used.</li></ul>                                                                                                                                                                                                                                                                                                                                                      |

| Parameter            | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| flink_version        | No        | String           | Flink version. This parameter is valid only when <b>feature</b> is set to <b>basic</b> . You can use this parameter with the <b>feature</b> parameter to specify the version of the DLI basic Flink image used for job running.                                                                                                                                                      |
| execution_agency_urn | No        | String           | Name of the agency authorized to DLI. This parameter is configurable in Flink 1.15.                                                                                                                                                                                                                                                                                                  |
| image                | No        | String           | Custom image. The format is <b>Organization name/Image name:Image version</b> .<br><br>This parameter is valid only when <b>feature</b> is set to <b>custom</b> . You can use this parameter with the <b>feature</b> parameter to specify a user-defined Flink image for job running. For details about how to use custom images, see <a href="#">Data Lake Insight User Guide</a> . |
| resume_checkpoint    | No        | Boolean          | Whether the abnormal restart is recovered from the checkpoint.                                                                                                                                                                                                                                                                                                                       |
| resume_max_num       | No        | Integer          | Maximum number of retry times upon exceptions. The unit is times/hour. Value range: -1 or greater than 0. The default value is -1, indicating that the number of times is unlimited.                                                                                                                                                                                                 |
| checkpoint_path      | No        | String           | Storage address of the checkpoint in the JAR file of the user. The path must be unique.                                                                                                                                                                                                                                                                                              |
| tags                 | No        | Array of objects | Label of a Flink JAR job. For details, see <a href="#">Table 17-20</a> .                                                                                                                                                                                                                                                                                                             |
| runtime_config       | No        | String           | Customizes optimization parameters when a Flink job is running.                                                                                                                                                                                                                                                                                                                      |

| Parameter               | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resource_config_version | No        | String | <p>Resource configuration version. The value can be <b>v1</b> or <b>v2</b>. The default value is <b>v1</b>.</p> <p>Compared with the v1 template, the v2 template does not support the setting of the number of CUs. The v2 template supports the setting of <b>Job Manager Memory</b> and <b>Task Manager Memory</b>.</p> <p><b>v1</b>: applicable to Flink 1.12, 1.13, and 1.15</p> <p><b>v2</b>: applicable to Flink 1.13, 1.15, and 1.17.</p> <p>You are advised to use the parameter settings of v2.</p> |
| resource_config         | No        | Object | <p>Resource configuration of a Flink job. For detailed parameter descriptions, refer to <a href="#">Table 17-21</a>.</p> <p>When the resource configuration version is <b>v2</b>, the configuration takes effect; when the resource configuration version is <b>v1</b>, the configuration is invalid.</p>                                                                                                                                                                                                     |

**Table 17-20** tags parameter

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                           |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | <p>Tag key.</p> <p><b>NOTE</b></p> <p>A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (<code>_.:=-@</code>) are allowed, but the value cannot start or end with a space or start with <code>_sys_</code>.</p> |
| value     | Yes       | String | <p>Tag value.</p> <p><b>NOTE</b></p> <p>A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (<code>_.:=-@</code>) are allowed. The value cannot start or end with a space.</p>                                  |

**Table 17-21** resource\_config parameters

| Parameter                 | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max_slot                  | No        | integer | <p>Number of parallel tasks that a single TaskManager can support. Each task slot can execute one task in parallel. Increasing task slots enhances the parallel processing capacity of the TaskManager but also increases resource consumption.</p> <p>The number of task slots is linked to the CPU count of the TaskManager since each CPU can offer one task slot.</p> <p>By default, a single TM slot is set to <b>1</b>. The minimum parallelism must not be less than 1.</p> |
| parallel_number           | No        | integer | Number of tasks concurrently executed by each operator in a job. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                                                                                   |
| jobmanager_resource_spec  | No        | Object  | JobManager resource specifications. For details about the parameters, see <a href="#">Table 17-22</a> .                                                                                                                                                                                                                                                                                                                                                                            |
| taskmanager_resource_spec | No        | Object  | TaskManager resource specifications. For details about the parameters, see <a href="#">Table 17-23</a> .                                                                                                                                                                                                                                                                                                                                                                           |

**Table 17-22** jobmanager\_resource\_spec parameters

| Parameter | Mandatory | Type   | Description                                                                                                                           |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------|
| cpu       | No        | double | Number of CPU cores available for JobManager. The default value is <b>1.0</b> CPU core, with a minimum of no less than 0.5 CPU cores. |
| memory    | No        | string | Memory that can be used by JobManager, in MB or GB. The default unit is GB. The default value is 4 GB, and the minimum value is 2 GB. |

**Table 17-23** taskmanager\_resource\_spec parameters

| Parameter | Mandatory | Type   | Description                                                                                                                            |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------|
| cpu       | No        | double | Number of CPU cores available for TaskManager. The default value is <b>1.0</b> CPU core, with a minimum of no less than 0.5 CPU cores. |
| memory    | No        | string | Memory that can be used by TaskManager, in MB or GB. The default unit is GB. The default value is 4 GB, and the minimum value is 2 GB. |

## Response Parameters

**Table 17-24** Response parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | String | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String | Message content.                                                                                                               |
| job        | No        | Object | Information about the job status. For details, see <a href="#">Table 17-25</a> .                                               |

**Table 17-25** job parameters

| Parameter   | Mandatory | Type   | Description                                                         |
|-------------|-----------|--------|---------------------------------------------------------------------|
| job_id      | Yes       | Long   | Job ID.                                                             |
| status_name | No        | String | Name of job status.                                                 |
| status_desc | No        | String | Status description. Causes and suggestions for the abnormal status. |

## Example Request

Create a Flink Jar job named **test**, set the job to be executed on **testQueue**, set the number of CUs used by the job, and enable the job log function.

```
{
 "name": "test",
```

```
{
 "desc": "job for test",
 "queue_name": "testQueue",
 "manager_cu_number": 1,
 "cu_number": 2,
 "parallel_number": 1,
 "tm_cus": 1,
 "tm_slot_num": 1,
 "log_enabled": true,
 "obs_bucket": "bucketName",
 "smn_topic": "topic",
 "main_class": "org.apache.flink.examples.streaming.JavaQueueStream",
 "restart_when_exception": false,
 "entrypoint": "javaQueueStream.jar",
 "entrypoint_args": "-windowSize 2000 -rate 3",
 "dependency_jars": [
 "myGroup/test.jar",
 "myGroup/test1.jar"
],
 "execution_agency_urn": "myAgencyName",
 "dependency_files": [
 "myGroup/test.csv",
 "myGroup/test1.csv"
]
}
```

## Example Response

```
{
 "is_success": true,
 "message": "A Flink job is created successfully.",
 "job": {
 "job_id": 138,
 "status_name": "job_init",
 "status_desc": ""
 }
}
```

## Status Codes

[Table 17-26](#) describes status codes.

**Table 17-26** Status codes

| Status Code | Description                                   |
|-------------|-----------------------------------------------|
| 200         | The custom Flink job is created successfully. |
| 400         | The input parameter is invalid.               |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).



## 17.4 Updating a Flink Jar Job

### Function

This API is used to update custom jobs, which currently support the JAR format and run in dedicated queues.

### URI

- URI format  
`PUT /v1.0/{project_id}/streaming/flink-jobs/{job_id}`
- Parameter descriptions

Table 17-27 URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | Long   | Job ID. Refer to <a href="#">Creating a Flink Jar job</a> to obtain the value.                                                               |

### Request Parameters

Table 17-28 Parameter descriptions

| Parameter         | Mandatory | Type    | Description                                                                                                                                                 |
|-------------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name              | No        | String  | Name of the job. Length range: 0 to 57 characters.                                                                                                          |
| desc              | No        | String  | Job description. Length range: 0 to 512 characters.                                                                                                         |
| queue_name        | No        | String  | Queue name. Length range: 1 to 128 characters.                                                                                                              |
| cu_number         | No        | Integer | Number of CUs selected for a job. The default value is <b>2</b> .                                                                                           |
| manager_cu_number | No        | Integer | Number of CUs on the management node selected by the user for a job, which corresponds to the number of Flink job managers. The default value is <b>1</b> . |

| Parameter              | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                         |
|------------------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| parallel_number        | No        | Integer          | Number of parallel operations selected for a job. The default value is <b>1</b> .                                                                                                                                                                                                                                   |
| log_enabled            | No        | Boolean          | Whether to enable the job log function. <ul style="list-style-type: none"><li>• <b>true</b>: indicates to enable the job log function.</li><li>• <b>false</b>: indicates to disable the job log function.</li><li>• Default value: <b>false</b></li></ul>                                                           |
| obs_bucket             | No        | String           | OBS bucket where users are authorized to save logs when <b>log_enabled</b> is set to <b>true</b> .                                                                                                                                                                                                                  |
| smn_topic              | No        | String           | SMN topic. If a job fails, the system will send a message to users subscribed to the SMN topic.                                                                                                                                                                                                                     |
| main_class             | No        | String           | Job entry class.                                                                                                                                                                                                                                                                                                    |
| entrypoint_args        | No        | String           | Job entry parameter. Multiple parameters are separated by spaces.                                                                                                                                                                                                                                                   |
| restart_when_exception | No        | Boolean          | Whether to enable the function of restart upon exceptions. The default value is <b>false</b> .                                                                                                                                                                                                                      |
| entrypoint             | No        | String           | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize the JAR file where the job main class is located.<br><br>For Flink 1.15 or later, you can only select packages from OBS, instead of DLI.<br>Example: <b>obs://bucket_name/test.jar</b>        |
| dependency_jars        | No        | Array of strings | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize other dependency packages.<br><br>For Flink 1.15 or later, you can only select packages from OBS, instead of DLI.<br>Example: <b>obs://bucket_name/test1.jar, obs://bucket_name/test2.jar</b> |

| Parameter            | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dependency_files     | No        | Array of strings | Name of the resource package that has been uploaded to the DLI resource management system. This parameter is used to customize dependency files.<br>For Flink 1.15 or later, you can only select packages from OBS, instead of DLI.<br>Example: <b>[obs://bucket_name/file1, obs://bucket_name/file2]</b>                                                                        |
| tm_cus               | No        | Integer          | Number of CUs for each TaskManager. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                              |
| tm_slot_num          | No        | Integer          | Number of slots in each TaskManager. The default value is <b>(parallel_number*tm_cus)/(cu_number-manager_cu_number)</b> .                                                                                                                                                                                                                                                        |
| feature              | No        | String           | Job feature. Type of the Flink image used by a job. <ul style="list-style-type: none"><li>• <b>basic</b>: indicates that the basic Flink image provided by DLI is used.</li><li>• <b>custom</b>: indicates that the user-defined Flink image is used.</li></ul>                                                                                                                  |
| flink_version        | No        | String           | Flink version. This parameter is valid only when <b>feature</b> is set to <b>basic</b> . You can use this parameter with the <b>feature</b> parameter to specify the version of the DLI basic Flink image used for job running.                                                                                                                                                  |
| execution_agency_urn | No        | String           | Name of the agency authorized to DLI. This parameter is configurable in Flink 1.15.                                                                                                                                                                                                                                                                                              |
| image                | No        | String           | Custom image. The format is <b>Organization name/Image name:Image version</b> .<br>This parameter is valid only when <b>feature</b> is set to <b>custom</b> . You can use this parameter with the <b>feature</b> parameter to specify a user-defined Flink image for job running. For details about how to use custom images, see <a href="#">Data Lake Insight User Guide</a> . |
| resume_checkpoint    | No        | Boolean          | Whether the abnormal restart is recovered from the checkpoint.                                                                                                                                                                                                                                                                                                                   |

| Parameter               | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resume_max_num          | No        | Integer | Maximum number of retry times upon exceptions. The unit is times/hour. Value range: -1 or greater than 0. The default value is <b>-1</b> , indicating that the number of times is unlimited.                                                                                                                                                                                                                                                                                           |
| checkpoint_path         | No        | String  | Storage address of the checkpoint in the JAR file of the user. The path must be unique.                                                                                                                                                                                                                                                                                                                                                                                                |
| runtime_config          | No        | String  | Customizes optimization parameters when a Flink job is running.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| job_type                | No        | String  | Job types.<br><b>flink_jar_job</b> : User-defined Flink job                                                                                                                                                                                                                                                                                                                                                                                                                            |
| resource_config_version | No        | String  | Resource configuration version. The value can be <b>v1</b> or <b>v2</b> . The default value is <b>v1</b> . Compared with the v1 template, the v2 template does not support the setting of the number of CUs. The v2 template supports the setting of <b>Job Manager Memory</b> and <b>Task Manager Memory</b> .<br><b>v1</b> : applicable to Flink 1.12, 1.13, and 1.15.<br><b>v2</b> : applicable to Flink 1.13, 1.15, and 1.17. You are advised to use the parameter settings of v2. |
| resource_config         | No        | Object  | Resource configuration of a Flink job. For detailed parameter descriptions, refer to <a href="#">Table 17-29</a> .<br>When the resource configuration version is <b>v2</b> , the configuration takes effect; when the resource configuration version is <b>v1</b> , the configuration is invalid.                                                                                                                                                                                      |

**Table 17-29** resource\_config parameters

| Parameter                 | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| max_slot                  | No        | integer | <p>Number of parallel tasks that a single TaskManager can support. Each task slot can execute one task in parallel. Increasing task slots enhances the parallel processing capacity of the TaskManager but also increases resource consumption.</p> <p>The number of task slots is linked to the CPU count of the TaskManager since each CPU can offer one task slot.</p> <p>By default, a single TM slot is set to <b>1</b>. The minimum parallelism must not be less than 1.</p> |
| parallel_number           | No        | integer | Number of tasks concurrently executed by each operator in a job. The default value is <b>1</b> .                                                                                                                                                                                                                                                                                                                                                                                   |
| jobmanager_resource_spec  | No        | Object  | JobManager resource specifications. For details about the parameters, see <a href="#">Table 17-30</a> .                                                                                                                                                                                                                                                                                                                                                                            |
| taskmanager_resource_spec | No        | Object  | TaskManager resource specifications. For details about the parameters, see <a href="#">Table 17-31</a> .                                                                                                                                                                                                                                                                                                                                                                           |

**Table 17-30** jobmanager\_resource\_spec parameters

| Parameter | Mandatory | Type   | Description                                                                                                                           |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------|
| cpu       | No        | double | Number of CPU cores available for JobManager. The default value is <b>1.0</b> CPU core, with a minimum of no less than 0.5 CPU cores. |
| memory    | No        | string | Memory that can be used by JobManager, in MB or GB. The default unit is GB. The default value is 4 GB, and the minimum value is 2 GB. |

**Table 17-31** taskmanager\_resource\_spec parameters

| Parameter | Mandatory | Type   | Description                                                                                                                            |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------|
| cpu       | No        | double | Number of CPU cores available for TaskManager. The default value is <b>1.0</b> CPU core, with a minimum of no less than 0.5 CPU cores. |
| memory    | No        | string | Memory that can be used by TaskManager, in MB or GB. The default unit is GB. The default value is 4 GB, and the minimum value is 2 GB. |

## Response Parameters

**Table 17-32** Response parameters

| Parameter  | Mandatory | Type   | Description                                                                                                    |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------|
| is_success | No        | String | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String | Message content.                                                                                               |
| job        | No        | object | Information about job update. For details, see <a href="#">Table 17-33</a> .                                   |

**Table 17-33** job parameter

| Parameter   | Mandatory | Type | Description                                          |
|-------------|-----------|------|------------------------------------------------------|
| update_time | No        | Long | Time when a job is updated. The unit is millisecond. |

## Example Request

Update the Flink Jar job information. After the update, the job name is **test1**, the job execution queue is **testQueue**, and the job log function is disabled.

```
{
 "name": "test1",
 "desc": "job for test",
 "job_type": "flink_jar_job",
 "queue_name": "testQueue",
 "manager_cu_number": 1,
 "cu_number": 2,
```

```
{
 "parallel_number": 1,
 "log_enabled": false,
 "main_class": "org.apache.flink.examples.streaming.JavaQueueStream",
 "restart_when_exception": false,
 "entrypoint": "FemaleInfoCollec.jar",
 "dependency_jars": [
 "myGroup/test.jar",
 "myGroup/test1.jar"
],
 "execution_agency_urn": "myAgencyName",
 "dependency_files": [
 "myGroup/test.csv",
 "myGroup/test1.csv"
]
}
```

### Example Response

```
{
 "is_success": true,
 "message": "The Flink job is updated successfully.",
 "job": {
 "update_time": 1516952770835
 }
}
```

### Status Codes

[Table 17-34](#) describes status codes.

**Table 17-34** Status codes

| Status Code | Description                                   |
|-------------|-----------------------------------------------|
| 200         | The custom Flink job is updated successfully. |
| 400         | The input parameter is invalid.               |

### Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 17.5 Running Jobs in Batches

### Function

This API is used to trigger batch job running.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/run
- Parameter description

**Table 17-35** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 17-36** Request parameters

| Parameter        | Mandatory | Type          | Description                                                                                                                                                                                                                                                                                                                                                     |
|------------------|-----------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_ids          | Yes       | Array of Long | Batch job ID. You can obtain the job ID by calling the API for creating a job or the API for querying a job.                                                                                                                                                                                                                                                    |
| resume_savepoint | No        | Boolean       | Whether to restore a job from the latest savepoint. <ul style="list-style-type: none"><li>If <b>resume_savepoint</b> is set to <b>true</b>, the job is restored from the latest savepoint.</li><li>If <b>resume_savepoint</b> is set to <b>false</b>, the job is started normally, not from a specific savepoint.</li></ul> The default value is <b>false</b> . |

## Response Parameters

**Table 17-37** Response parameter

| Parameter      | Mandatory | Type             | Description                                                                                 |
|----------------|-----------|------------------|---------------------------------------------------------------------------------------------|
| Array elements | No        | Array of objects | The response message returned is as follows: For details, see <a href="#">Table 17-38</a> . |



**Table 17-38** Array element parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                     |

## Example Request

Run the jobs whose IDs are **131**, **130**, **138**, and **137** and allow the jobs to be restored from their latest savepoints.

```
{
 "job_ids": [131,130,138,137],
 "resume_savepoint": true
}
```

## Example Response

```
[
 {
 "is_success": "true",
 "message": "The request for submitting DLI jobs is delivered successfully."
 },
 {
 "is_success": "true",
 "message": "The request for submitting DLI jobs is delivered successfully."
 },
 {
 "is_success": "true",
 "message": "The request for submitting DLI jobs is delivered successfully."
 },
 {
 "is_success": "true",
 "message": "The request for submitting DLI jobs is delivered successfully."
 }
]
```

## Status Codes

[Table 17-39](#) describes status codes.

**Table 17-39** Status codes

| Status Code | Description                           |
|-------------|---------------------------------------|
| 200         | Jobs are successfully run in batches. |
| 400         | The input parameter is invalid.       |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 17.6 Listing Jobs

### Function

This API is used to list the current user's jobs. You can set the job ID as the ID and query jobs whose IDs are greater than or less than the ID. You can also query jobs in specific status, for example, in running status or other. By default, all jobs are queried.

### URI

- URI format  
GET /v1.0/{project\_id}/streaming/jobs
- Parameter description

Table 17-40 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                 |
|------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Definition</b><br>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .<br>Example:<br><b>48cc2c48765f481480c7db940d6409d1</b><br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain up to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None |

**Table 17-41** query parameter description

| Parameter | Mandat<br>ory | Type   | Description                                                                                                                                                                                                                                                                                                                   |
|-----------|---------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_type  | No            | String | <b>Definition</b><br>Job type<br><b>Constraints</b><br>None<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>flink_sql_job</b>: Flink SQL job</li><li>• <b>flink_opensource_sql_job</b>: Flink<br/>OpenSource SQL job</li><li>• <b>flink_jar_job</b>: User-defined Flink job</li></ul> <b>Default Value</b><br>None |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status    | No        | String | <p><b>Definition</b><br/>Job status</p> <p><b>Constraints</b><br/>None</p> <p><b>Range</b></p> <ul style="list-style-type: none"><li>• <b>job_init</b>: The job is in the draft status.</li><li>• <b>job_submitting</b>: The job is being submitted.</li><li>• <b>job_submit_fail</b>: The job fails to be submitted.</li><li>• <b>job_running</b>: The job is running. (The billing starts. After the job is submitted, a normal result is returned.)</li><li>• <b>job_running_exception</b> (The billing stops. The job stops running due to an exception.)</li><li>• <b>job_downloading</b>: The job is being downloaded.</li><li>• <b>job_idle</b>: The job is idle.</li><li>• <b>job_canceling</b>: The job is being stopped.</li><li>• <b>job_cancel_success</b>: The job has been stopped.</li><li>• <b>job_cancel_fail</b>: The job fails to be stopped.</li><li>• <b>job_savepointing</b>: The savepoint is being created.</li><li>• <b>job_arrearage_stopped</b>: The job is stopped because the account is in arrears. (The billing ends. The job is stopped because the user account is in arrears.)</li><li>• <b>job_arrearage_recovering</b>: The recharged job is being restored. (The account in arrears is recharged, and the job is being restored).</li><li>• <b>job_finish</b>: The job is completed.</li></ul> <p><b>Default Value</b><br/>None</p> |

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                   |
|------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| queue_name | No        | String  | <b>Definition</b><br>Queue name<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                         |
| order      | No        | String  | <b>Definition</b><br>Sorting style of the query results.<br><b>Constraints</b><br>None<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>asc</b>: by time in ascending order</li><li>• <b>desc</b>: by time in descending order</li></ul> <b>Default Value</b><br>The default value is <b>desc</b> . |
| limit      | No        | Integer | <b>Definition</b><br>Number of returned data records<br><b>Constraints</b><br>The maximum value is <b>100</b> .<br><b>Range</b><br>0-100<br><b>Default Value</b><br>The default value is <b>10</b> .                                                                                                          |
| name       | No        | String  | <b>Definition</b><br>Job name<br><b>Constraints</b><br>The value can contain 0 to 57 characters.<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                      |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                    |
|-------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset      | No        | Integer | <b>Definition</b><br>Job offset.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                         |
| show_detail | No        | Boolean | <b>Definition</b><br>Whether to return job details. The default value is <b>false</b> . If this parameter is set to <b>true</b> , the job details are returned. For details, see <a href="#">Querying Job Details</a> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>false |
| user_name   | No        | String  | <b>Definition</b><br>Username, which can be used as a filter<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                             |
| tags        | No        | String  | <b>Definition</b><br>Specifies a label for filtering.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                    |

Request Parameters

None

Response Parameters

Table 17-42 Response parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                            |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | String | <b>Definition</b><br>Whether the request is successfully executed<br><b>Range</b><br><b>true</b> indicates that the request is successfully executed.<br><b>false</b> indicates that the request fails to be executed. |
| message    | No        | String | <b>Definition</b><br>System prompt. If the execution succeeds, this parameter is left blank.<br><b>Range</b><br>None                                                                                                   |
| job_list   | No        | Object | <b>Definition</b><br>Information about a job list. For details, see <a href="#">Table 17-43</a> .<br><b>Range</b><br>None                                                                                              |

Table 17-43 job\_list parameters

| Parameter   | Mandatory | Type             | Description                                                                                                          |
|-------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------|
| total_count | No        | Integer          | <b>Definition</b><br>Number of records in the query result<br><b>Range</b><br>None                                   |
| jobs        | No        | Array of objects | <b>Definition</b><br>Information about a job. For details, see <a href="#">Table 17-44</a> .<br><b>Range</b><br>None |

Table 17-44 Jobs parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                     |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_id    | No        | Long   | <b>Definition</b><br>Job ID<br><b>Range</b><br>None                                                                                                                                                                                                             |
| name      | No        | String | <b>Definition</b><br>Name of the job.<br><b>Range</b><br>The value can contain 0 to 57 characters.                                                                                                                                                              |
| desc      | No        | String | <b>Definition</b><br>Job description.<br><b>Range</b><br>The value can contain 0 to 512 characters.                                                                                                                                                             |
| username  | No        | String | <b>Definition</b><br>Username. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .<br><b>Range</b><br>The value can contain up to 128 characters.                                                                                     |
| job_type  | No        | String | <b>Definition</b><br>Job type<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>flink_sql_job</b>: Flink SQL job</li><li>• <b>flink_opensource_sql_job</b>: Flink open-source SQL job</li><li>• <b>flink_jar_job</b>: User-defined Flink job</li></ul> |



| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status      | No        | String | <b>Definition</b><br>Job status.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>job_init</b>: The job is in the draft state.</li><li>• <b>job_submitting</b>: The job is being submitted.</li><li>• <b>job_submit_fail</b>: The job fails to be submitted.</li><li>• <b>job_running</b>: The job is running.</li><li>• <b>job_running_exception</b>: The job is running abnormally.</li><li>• <b>job_downloading</b>: The job is being downloaded.</li><li>• <b>job_idle</b>: The job is idle.</li><li>• <b>job_canceling</b>: The job is being stopped.</li><li>• <b>job_cancel_success</b>: The job has been stopped.</li><li>• <b>job_cancel_fail</b>: The job fails to be stopped.</li><li>• <b>job_savepointing</b>: A savepoint is being created.</li><li>• <b>job_arrearage_stopped</b>: The job is stopped due to arrears.</li><li>• <b>job_arrearage_recovering</b>: The job in arrears is being restored.</li><li>• <b>job_finish</b>: The job is completed.</li></ul> |
| status_desc | No        | String | <b>Definition</b><br>Description of job status.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| create_time | No        | Long   | <b>Definition</b><br>Time when a job is created. Example:<br><b>1516952770835</b><br><b>Range</b><br>An integer greater than or equal to 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

| Parameter            | Mandatory | Type    | Description                                                                                                                                                                                                              |
|----------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time           | No        | Long    | <b>Definition</b><br>Time when a job is started. The value <b>0</b> indicates that the process is not started.<br>Example: <b>1516952710740</b><br><b>Range</b><br>An integer greater than or equal to 0                 |
| duration             | No        | Long    | <b>Definition</b><br>Running duration of a job. Unit: ms. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .<br><b>Range</b><br>An integer greater than or equal to 0                         |
| root_id              | No        | Long    | <b>Definition</b><br>Parent job ID. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .<br><b>Range</b><br>None                                                                                |
| graph_editor_enabled | No        | Boolean | <b>Definition</b><br>Whether the flow diagram can be edited. Value <b>true</b> indicates that the flow diagram can be edited, and <b>false</b> indicates that the flow diagram cannot be edited.<br><b>Range</b><br>None |
| has_savepoint        | No        | Boolean | <b>Definition</b><br>Whether a job has a savepoint. Value <b>true</b> indicates that the job has a savepoint, and <b>false</b> indicates that the job does not have a savepoint.<br><b>Range</b><br>None                 |
| user_id              | No        | String  | <b>Definition</b><br>ID of the user who creates the job. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> .<br><b>Range</b><br>None                                                            |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | No        | String | <b>Definition</b><br>ID of the project to which a job belongs. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> .<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                        |
| sql_body     | No        | String | <b>Definition</b><br>Stream SQL statement. This parameter is returned only when <b>show_detail</b> is set to <b>true</b> .<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                         |
| run_mode     | No        | String | <b>Definition</b><br>Job running mode. The options are as follows:<br>The value can be <b>shared_cluster</b> , <b>exclusive_cluster</b> , or <b>edge_node</b> . This parameter is valid only when <b>show_detail</b> is set to <b>true</b> .<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>shared_cluster</b>: indicates that the job is running on a shared cluster.</li><li>• <b>exclusive_cluster</b>: indicates that the job is running on an exclusive cluster.</li><li>• <b>edge_node</b>: indicates that the job is running on an edge node.</li></ul> |
| job_config   | No        | Object | <b>Definition</b><br>Job configuration. This parameter is returned only when <b>show_detail</b> is set to <b>true</b> . For details, see <a href="#">Table 17-45</a> .<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                             |
| main_classes | No        | String | <b>Definition</b><br>Main class of a JAR package. This parameter is returned only when <b>show_detail</b> is set to <b>true</b> .<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Parameter       | Mandatory | Type             | Description                                                                                                                                                                                                   |
|-----------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| entrypoint_args | No        | String           | <b>Definition</b><br>Job running parameter of the JAR file. Multiple parameters are separated by spaces. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> .<br><b>Range</b><br>None |
| execution_graph | No        | String           | <b>Definition</b><br>Job execution plan. This parameter is returned only when <b>show_detail</b> is set to <b>true</b> .<br><b>Range</b><br>None                                                              |
| update_time     | No        | Long             | <b>Definition</b><br>Time when a job is updated. This parameter is returned only when <b>show_detail</b> is set to <b>true</b> .<br><b>Range</b><br>None                                                      |
| queue_name      | No        | String           | <b>Definition</b><br>Queue name<br><b>Range</b><br>None                                                                                                                                                       |
| edge_group_ids  | No        | Array of Strings | <b>Definition</b><br>List of edge computing group IDs. Use commas (,) to separate multiple IDs.<br><b>Range</b><br>None                                                                                       |
| restart_times   | No        | Integer          | <b>Definition</b><br>Number of restart times<br><b>Range</b><br>None                                                                                                                                          |
| savepoint_path  | No        | String           | <b>Definition</b><br>Path for storing manually generated checkpoints<br><b>Range</b><br>None                                                                                                                  |

Table 17-45 job\_config parameters

| Parameter               | Man<br>dato<br>ry | Type    | Description                                                                                                                                                                                                                                                                                                                |
|-------------------------|-------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| checkpoint_ena<br>bled  | No                | Boolean | <b>Definition</b><br>Whether to enable the automatic job snapshot function.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>true</b>: enabled</li><li>• <b>false</b>: disabled</li></ul> The default value is <b>false</b> .                                                                                    |
| checkpoint_mo<br>de     | No                | String  | <b>Definition</b><br>Snapshot mode<br><b>Range</b><br>There are two options: <ul style="list-style-type: none"><li>• <b>exactly_once</b>: indicates that data is processed only once.</li><li>• <b>at_least_once</b>: indicates that data is processed at least once.</li></ul> The default value is <b>exactly_once</b> . |
| checkpoint_inte<br>rval | No                | Integer | <b>Definition</b><br>Snapshot interval. The unit is second. The default value is <b>10</b> .<br><b>Range</b><br>None                                                                                                                                                                                                       |
| log_enabled             | No                | Boolean | <b>Definition</b><br>Whether to enable the log storage function. The default value is <b>false</b> .<br><b>Range</b><br><b>true</b> : Enable log storage.<br><b>false</b> : Disable log storage.                                                                                                                           |
| obs_bucket              | No                | String  | <b>Definition</b><br>Name of an OBS bucket.<br><b>Range</b><br>None                                                                                                                                                                                                                                                        |

| Parameter         | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                               |
|-------------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| smn_topic         | No        | String           | <b>Definition</b><br>SMN topic name. If a job fails, the system will send a message to users subscribed to the SMN topic.<br><b>Range</b><br>None                                                                                                                                                         |
| root_id           | No        | Integer          | <b>Definition</b><br>Parent job ID.<br><b>Range</b><br>None                                                                                                                                                                                                                                               |
| edge_group_ids    | No        | Array of Strings | <b>Definition</b><br>List of edge computing group IDs. Use commas (,) to separate multiple IDs.<br><b>Range</b><br>None                                                                                                                                                                                   |
| manager_cu_number | No        | Integer          | <b>Definition</b><br>Number of CUs of the management unit. The default value is <b>1</b> .<br><b>Range</b><br>None                                                                                                                                                                                        |
| cu_number         | No        | Integer          | <b>Definition</b><br>Number of CUs selected for a job. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> . <ul style="list-style-type: none"><li>• Minimum value: <b>2</b></li><li>• Maximum value: <b>400</b></li></ul> The default value is <b>2</b> .<br><b>Range</b><br>None |

| Parameter              | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                       |
|------------------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| parallel_number        | No        | Integer | <b>Definition</b><br>Number of concurrent jobs set by a user. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> . <ul style="list-style-type: none"><li>• Minimum value: <b>1</b></li><li>• Maximum value: <b>2000</b></li></ul> The default value is <b>1</b> .<br><b>Range</b><br>None |
| restart_when_exception | No        | Boolean | <b>Definition</b><br>Whether to enable the function of restart upon exceptions.<br><b>Range</b><br>None                                                                                                                                                                                                           |
| idle_state_retention   | No        | Integer | <b>Definition</b><br>Expiration time.<br><b>Range</b><br>None                                                                                                                                                                                                                                                     |
| udf_jar_url            | No        | String  | <b>Definition</b><br>Name of the package that has been uploaded to the DLI resource management system. The <b>UDF Jar</b> file of the SQL job is uploaded through this parameter.<br><b>Range</b><br>None                                                                                                         |
| dirty_data_strategy    | No        | String  | <b>Definition</b><br>Dirty data policy of a job<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>2:obsDir</b>: Save. <b>obsDir</b> specifies the path for storing dirty data.</li><li>• <b>1</b>: Trigger a job exception</li><li>• <b>0</b>: Ignore</li></ul>                                          |

| Parameter            | Mandatory | Type             | Description                                                                                                                                                                                                          |
|----------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| entrypoint           | No        | String           | <b>Definition</b><br>Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize the JAR file where the job main class is located.<br><b>Range</b><br>None |
| dependency_jars      | No        | Array of Strings | <b>Definition</b><br>Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize other dependency packages.<br><b>Range</b><br>None                        |
| dependency_files     | No        | Array of Strings | <b>Definition</b><br>Name of the resource package that has been uploaded to the DLI resource management system. This parameter is used to customize dependency files.<br><b>Range</b><br>None                        |
| executor_number      | No        | Integer          | <b>Definition</b><br>Number of compute nodes in a job.<br><b>Range</b><br>None                                                                                                                                       |
| executor_cpu_number  | No        | Integer          | <b>Definition</b><br>Number of CUs on a compute node<br><b>Range</b><br>None                                                                                                                                         |
| execution_agency_urn | No        | String           | <b>Definition</b><br>Name of the agency authorized to DLI. This parameter is configurable in Flink 1.15.<br><b>Range</b><br>None                                                                                     |



| Parameter            | Mandatory | Type    | Description                                                                                                                                                                                   |
|----------------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resume_checkpoint    | No        | Boolean | <b>Definition</b><br>Whether to restore data from the latest checkpoint when the system automatically restarts upon an exception. The default value is <b>false</b> .<br><b>Range</b><br>None |
| runtime_config       | No        | String  | <b>Definition</b><br>Customizes optimization parameters when a Flink job is running.<br><b>Range</b><br>None                                                                                  |
| graph_editor_enabled | No        | Boolean | <b>Definition</b><br>Whether to enable flow diagram editing. The default value is <b>false</b> .<br><b>Range</b><br>None                                                                      |
| graph_editor_data    | No        | String  | <b>Definition</b><br>Edited stream graph data. The default value is <b>null</b> .<br><b>Range</b><br>None                                                                                     |
| resume_max_num       | No        | Integer | <b>Definition</b><br>Maximum retry attempts. <b>-1</b> indicates there is no upper limit.<br><b>Range</b><br>None                                                                             |
| checkpoint_path      | No        | String  | <b>Definition</b><br>Path for saving the checkpoint.<br><b>Range</b><br>None                                                                                                                  |
| config_url           | No        | String  | <b>Definition</b><br>OBS path of the <b>config</b> package uploaded by the user.<br><b>Range</b><br>None                                                                                      |

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tm_cus        | No        | int    | <b>Definition</b><br>Number of CUs per TaskManager node.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                              |
| tm_slot_num   | No        | int    | <b>Definition</b><br>Number of slots per TaskManager node.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                            |
| image         | No        | String | <b>Definition</b><br>Custom image. The format is <b>Organization name/Image name:Image version</b> .<br>This parameter is valid only when <b>feature</b> is set to <b>custom</b> . You can use this parameter with the <b>feature</b> parameter to specify a user-defined Flink image for job running. For details about how to use custom images, see <a href="#">Data Lake Insight User Guide</a> .<br><b>Range</b><br>None |
| feature       | No        | String | <b>Definition</b><br>User-defined job feature. Type of the Flink image used by a job.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>basic</b>: indicates that the basic Flink image provided by DLI is used.</li><li>• <b>custom</b>: indicates that the user-defined Flink image is used.</li></ul>                                                                                                             |
| flink_version | No        | String | <b>Definition</b><br>Flink version. This parameter is valid only when <b>feature</b> is set to <b>basic</b> . You can use this parameter with the <b>feature</b> parameter to specify the version of the DLI basic Flink image used for job running.<br><b>Range</b><br>None                                                                                                                                                  |

| Parameter               | Man<br>dato<br>ry | Type    | Description                                                                                                                                                      |
|-------------------------|-------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| operator_config         | No                | String  | <b>Definition</b><br>Operator's parallelism degree. The operator ID and degree of parallelism are displayed in JSON format.<br><b>Range</b><br>None              |
| static_estimator_config | No                | String  | <b>Definition</b><br>Estimation of static flow diagram resources.<br><b>Range</b><br>None                                                                        |
| real_cu_number          | No                | Integer | <b>Definition</b><br>Number of actually used CUs. The default value is <b>0</b> , indicating that the value of <b>cu_number</b> is used.<br><b>Range</b><br>None |

Example Request

None

Example Response

```
{
 "is_success": "true",
 "message": "Querying of the job list succeeds.",
 "job_list": {
 "total_count": 26,
 "jobs": [
 {
 "job_id": 146,
 "name": "aaaaa",
 "desc": "",
 "user_name": "",
 "job_type": "flink_sql_job",
 "status": "job_init",
 "status_desc": "",
 "create_time": 1578892414688,
 "duration": 0,
 "root_id": -1,
 "graph_editor_enabled": false,
 "has_savepoint": false
 }
]
 }
}
```

## Status Codes

[Table 17-46](#) describes the status code.

**Table 17-46** Status codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | Job list query succeeds.        |
| 400         | The input parameter is invalid. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 17.7 Querying Job Details

## Function

This API is used to query details of a job.

## URI

- URI format  
GET /v1.0/{project\_id}/streaming/jobs/{job\_id}
- Parameter description

**Table 17-47** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | String | Job ID.                                                                                                                                   |

## Request Parameters

None

## Response Parameters

**Table 17-48** Response parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | String | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| job_detail | No        | Object | Job details. For details, see <a href="#">Table 17-49</a> .                                                                    |

**Table 17-49** job\_detail parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_id    | No        | Long   | Job ID.                                                                                                                                                                                                                    |
| name      | No        | String | Name of the job. Length range: 0 to 57 characters.                                                                                                                                                                         |
| desc      | No        | String | Job description. Length range: 0 to 512 characters.                                                                                                                                                                        |
| job_type  | No        | String | Job type. <ul style="list-style-type: none"><li>• <b>flink_sql_job</b>: Flink SQL job</li><li>• <b>flink_opensource_sql_job</b>: Flink OpenSource SQL job</li><li>• <b>flink_jar_job</b>: User-defined Flink job</li></ul> |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status      | No        | String | Job status.<br>Available job statuses are as follows: <ul style="list-style-type: none"><li>• <b>job_init</b>: The job is in the draft status.</li><li>• <b>job_submitting</b>: The job is being submitted.</li><li>• <b>job_submit_fail</b>: The job fails to be submitted.</li><li>• <b>job_running</b>: The job is running. (The billing starts. After the job is submitted, a normal result is returned.)</li><li>• <b>job_running_exception</b> (The billing stops. The job stops running due to an exception.)</li><li>• <b>job_downloading</b>: The job is being downloaded.</li><li>• <b>job_idle</b>: The job is idle.</li><li>• <b>job_canceling</b>: The job is being stopped.</li><li>• <b>job_cancel_success</b>: The job has been stopped.</li><li>• <b>job_cancel_fail</b>: The job fails to be stopped.</li><li>• <b>job_savepointing</b>: The savepoint is being created.</li><li>• <b>job_arrearage_stopped</b>: The job is stopped because the account is in arrears. (The billing ends. The job is stopped because the user account is in arrears.)</li><li>• <b>job_arrearage_recovering</b>: The recharged job is being restored. (The account in arrears is recharged, and the job is being restored).</li><li>• <b>job_finish</b>: The job is completed.</li></ul> |
| status_desc | No        | String | Description of job status.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| create_time | No        | Long   | Time when a job is created.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| start_time  | No        | Long   | Time when a job is started.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| user_id     | No        | String | ID of the user who creates the job.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| queue_name  | No        | String | Name of a queue. Length range: 1 to 128 characters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| project_id  | No        | String | ID of the project to which a job belongs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| sql_body    | No        | String | Stream SQL statement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter            | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| savepoint_path       | No        | String           | Path for storing manually generated checkpoints.                                                                                                                                                                                                                                                                                                            |
| run_mode             | No        | String           | Job running mode. The options are as follows: <ul style="list-style-type: none"><li>• <b>shared_cluster</b>: indicates that the job is running on a shared cluster.</li><li>• <b>exclusive_cluster</b>: indicates that the job is running on an exclusive cluster.</li><li>• <b>edge_node</b>: indicates that the job is running on an edge node.</li></ul> |
| job_config           | No        | Object           | Job configurations. Refer to <a href="#">Table 17-50</a> for details.                                                                                                                                                                                                                                                                                       |
| main_class           | No        | String           | Main class of a JAR package, for example, <b>org.apache.spark.examples.streaming.JavaQueueStream</b> .                                                                                                                                                                                                                                                      |
| entrypoint_args      | No        | String           | Running parameter of a JAR package job. Multiple parameters are separated by spaces.                                                                                                                                                                                                                                                                        |
| execution_graph      | No        | String           | Job execution plan.                                                                                                                                                                                                                                                                                                                                         |
| update_time          | No        | Long             | Time when a job is updated.                                                                                                                                                                                                                                                                                                                                 |
| user_name            | No        | String           | Username. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                                                                                                                                                                                                     |
| duration             | No        | Long             | Running duration of a job. Unit: ms. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                                                                                                                                                                          |
| root_id              | No        | Long             | Parent job ID. This parameter is valid only when <b>show_detail</b> is set to <b>false</b> .                                                                                                                                                                                                                                                                |
| graph_editor_enabled | No        | Boolean          | Whether the stream graph of a job can be edited. Value <b>true</b> indicates that the flow diagram can be edited, and <b>false</b> indicates that the flow diagram cannot be edited.                                                                                                                                                                        |
| has_savepoint        | No        | Boolean          | Whether savepointing is enabled for the job. Value <b>true</b> indicates that the job has a savepoint, and <b>false</b> indicates that the job does not have a savepoint.                                                                                                                                                                                   |
| edge_group_ids       | No        | Array of Strings | List of edge computing group IDs. Use commas (,) to separate multiple IDs.                                                                                                                                                                                                                                                                                  |
| restart_times        | No        | Integer          | Number of restart times                                                                                                                                                                                                                                                                                                                                     |

**Table 17-50** job\_config parameters

| Parameter                | Man<br>dato<br>ry | Type                | Description                                                                                                                                                                                                                                                                         |
|--------------------------|-------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| checkpoint_ena<br>bled   | No                | Boolean             | Whether to enable the automatic job snapshot function. <ul style="list-style-type: none"><li>• <b>true</b>: The automatic job snapshot function is enabled.</li><li>• <b>false</b>: The automatic job snapshot function is disabled.</li></ul> The default value is <b>false</b> .  |
| checkpoint_inte<br>rval  | No                | Integer             | Snapshot interval. The unit is second. The default value is <b>10</b> .                                                                                                                                                                                                             |
| checkpoint_mo<br>de      | No                | String              | Snapshot mode. There are two options: <ul style="list-style-type: none"><li>• <b>exactly_once</b>: indicates that data is processed only once.</li><li>• <b>at_least_once</b>: indicates that data is processed at least once.</li></ul> The default value is <b>exactly_once</b> . |
| log_enabled              | No                | Boolean             | Whether to enable the log storage function. The default value is <b>false</b> .                                                                                                                                                                                                     |
| obs_bucket               | No                | String              | Name of an OBS bucket.                                                                                                                                                                                                                                                              |
| root_id                  | No                | Integer             | Parent job ID.                                                                                                                                                                                                                                                                      |
| edge_group_ids           | No                | Array of<br>Strings | List of edge computing group IDs. Use commas (,) to separate multiple IDs.                                                                                                                                                                                                          |
| manager_cu_nu<br>mber    | No                | Integer             | Number of CUs of the management unit. The default value is <b>1</b> .                                                                                                                                                                                                               |
| graph_editor_e<br>nabled | No                | Boolean             | Whether to enable flow diagram editing. The default value is <b>false</b> .                                                                                                                                                                                                         |
| graph_editor_d<br>ata    | No                | String              | Data of flow diagram editing. The default value is <b>null</b> .                                                                                                                                                                                                                    |
| executor_numb<br>er      | No                | Integer             | Number of compute nodes in a job.                                                                                                                                                                                                                                                   |
| executor_cu_nu<br>mber   | No                | Integer             | Number of CUs in a compute node.                                                                                                                                                                                                                                                    |



| Parameter              | Mandatory | Type    | Description                                                                                                                                                                                                                                                          |
|------------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cu_number              | No        | Integer | Number of CUs selected for a job. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> . <ul style="list-style-type: none"><li>• Minimum value: <b>2</b></li><li>• Maximum value: <b>400</b></li></ul> The default value is <b>2</b> .         |
| parallel_number        | No        | Integer | Number of concurrent jobs set by a user. This parameter is valid only when <b>show_detail</b> is set to <b>true</b> . <ul style="list-style-type: none"><li>• Minimum value: <b>1</b></li><li>• Maximum value: <b>2000</b></li></ul> The default value is <b>1</b> . |
| smn_topic              | No        | String  | SMN topic name. If a job fails, the system will send a message to users subscribed to this SMN topic.                                                                                                                                                                |
| restart_when_exception | No        | Boolean | Whether to enable the function of restart upon exceptions.                                                                                                                                                                                                           |
| resume_checkpoint      | No        | Boolean | Whether to restore data from the latest checkpoint when the system automatically restarts upon an exception. The default value is <b>false</b> .                                                                                                                     |
| resume_max_num         | No        | Integer | Maximum retry attempts. <b>-1</b> indicates there is no upper limit.                                                                                                                                                                                                 |
| checkpoint_path        | No        | String  | Path for saving the checkpoint.                                                                                                                                                                                                                                      |
| idle_state_retention   | No        | Integer | Expiration time.                                                                                                                                                                                                                                                     |
| config_url             | No        | String  | OBS path of the <b>config</b> package uploaded by the user.                                                                                                                                                                                                          |
| udf_jar_url            | No        | String  | Name of the package that has been uploaded to the DLI resource management system. The <b>UDF Jar</b> file of the SQL job is uploaded through this parameter.                                                                                                         |
| dirty_data_strategy    | No        | String  | Dirty data policy of a job. <ul style="list-style-type: none"><li>• <b>2:obsDir</b>: Save. <b>obsDir</b> specifies the path for storing dirty data.</li><li>• <b>1</b>: Trigger a job exception</li><li>• <b>0</b>: Ignore</li></ul>                                 |

| Parameter               | Mandatory | Type             | Description                                                                                                                                                                                                                                                                       |
|-------------------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| entrypoint              | No        | String           | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize the JAR file where the job main class is located.                                                                                                           |
| dependency_jars         | No        | Array of Strings | Name of the package that has been uploaded to the DLI resource management system. This parameter is used to customize other dependency packages.                                                                                                                                  |
| dependency_files        | No        | Array of Strings | Name of the resource package that has been uploaded to the DLI resource management system. This parameter is used to customize dependency files.                                                                                                                                  |
| tm_cus                  | No        | int              | Number of CUs per TaskManager node.                                                                                                                                                                                                                                               |
| tm_slot_num             | No        | int              | Number of slots per TaskManager node.                                                                                                                                                                                                                                             |
| image                   | No        | String           | Custom image. The format is <b>Organization name/Image name:Image version</b> .<br>This parameter is valid only when <b>feature</b> is set to <b>custom</b> . You can use this parameter with the <b>feature</b> parameter to specify a user-defined Flink image for job running. |
| feature                 | No        | String           | User-defined job feature. Type of the Flink image used by a job. <ul style="list-style-type: none"><li>• <b>basic</b>: indicates that the basic Flink image provided by DLI is used.</li><li>• <b>custom</b>: indicates that the user-defined Flink image is used.</li></ul>      |
| flink_version           | No        | String           | Flink version. This parameter is valid only when <b>feature</b> is set to <b>basic</b> . You can use this parameter with the <b>feature</b> parameter to specify the version of the DLI basic Flink image used for job running.                                                   |
| execution_agency_urn    | No        | String           | Name of the agency authorized to DLI. This parameter is configurable in Flink 1.15.                                                                                                                                                                                               |
| operator_config         | No        | String           | Operator's parallelism degree. The operator ID and degree of parallelism are displayed in JSON format.                                                                                                                                                                            |
| static_estimator_config | No        | String           | Estimation of static flow diagram resources.                                                                                                                                                                                                                                      |

| Parameter          | Man<br>dato<br>ry | Type    | Description                                                                                                         |
|--------------------|-------------------|---------|---------------------------------------------------------------------------------------------------------------------|
| runtime_config     | No                | String  | Customizes optimization parameters when a Flink job is running.                                                     |
| real_cu_numbe<br>r | No                | Integer | Number of actually used CUs. The default value is <b>0</b> , indicating that the value of <b>cu_number</b> is used. |

## Example Request

None

## Example Response

- The following example takes the **flink\_jar\_job** type as an example:

```
{
 "is_success": "true",
 "message": "Job detail query succeeds.",
 "job_detail": {
 "job_id": 104,
 "user_id": "011c99a26ae84a1bb963a75e7637d3fd",
 "queue_name": "flinktest",
 "project_id": "330e068af1334c9782f4226acc00a2e2",
 "name": "jptest",
 "desc": "",
 "sql_body": "",
 "run_mode": "exclusive_cluster",
 "job_type": "flink_jar_job",
 "job_config": {
 "checkpoint_enabled": false,
 "checkpoint_interval": 10,
 "checkpoint_mode": "exactly_once",
 "log_enabled": false,
 "obs_bucket": null,
 "root_id": -1,
 "edge_group_ids": null,
 "graph_editor_enabled": false,
 "graph_editor_data": "",
 "manager_cu_number": 1,
 "executor_number": null,
 "executor_cu_number": null,
 "cu_number": 2,
 "parallel_number": 1,
 "smn_topic": null,
 "restart_when_exception": false,
 "idle_state_retention": 3600,
 "config_url": null,
 "udf_jar_url": null,
 "dirty_data_strategy": null,
 "entrypoint": "FemaleInfoCollection.jar",
 "execution_agency_urn": "myAgencyName",
 "dependency_jars": [
 "FemaleInfoCollection.jar",
 "ObsBatchTest.jar"
],
 "dependency_files": [
 "FemaleInfoCollection.jar",
 "ReadFromResource"
]
 }
 }
}
```

```
 "main_class": null,
 "entrypoint_args": null,
 "execution_graph": null,
 "status": "job_init",
 "status_desc": "",
 "create_time": 1578466221525,
 "update_time": 1578467395713,
 "start_time": null
 }
}
```

- The following example takes the **flink\_opensource\_sql\_job** type as an example:

```
{
 "is_success": "true",
 "message": "The job information query succeeds.",
 "job_detail": {
 "job_type": "flink_opensource_sql_job",
 "status_desc": "",
 "create_time": 1637632872828,
 "sql_body": "xxx",
 "savepoint_path": null,
 "main_class": null,
 "queue_name": "xie_container_general",
 "execution_graph": "xxx",
 "start_time": 1638433497621,
 "update_time": 1638449337993,
 "job_config": {
 "checkpoint_enabled": true,
 "checkpoint_interval": 600,
 "checkpoint_mode": "exactly_once",
 "log_enabled": true,
 "obs_bucket": "dli-test",
 "root_id": -1,
 "edge_group_ids": null,
 "graph_editor_enabled": false,
 "graph_editor_data": "",
 "manager_cu_number": 1,
 "executor_number": null,
 "executor_cu_number": null,
 "cu_number": 2,
 "parallel_number": 3,
 "smn_topic": "",
 "restart_when_exception": true,
 "resume_checkpoint": true,
 "resume_max_num": -1,
 "checkpoint_path": null,
 "idle_state_retention": 3600,
 "config_url": null,
 "udf_jar_url": "test/flink_test-1.0-SNAPSHOT-jar-with-dependencies.jar",
 "dirty_data_strategy": "0",
 "entrypoint": "test/flink_test-1.0-SNAPSHOT-jar-with-dependencies.jar",
 "dependency_jars": null,
 "dependency_files": null,
 "tm_cus": 1,
 "tm_slot_num": 3,
 "image": null,
 "feature": null,
 "flink_version": null,
 "operator_config": "xxx",
 "static_estimator_config": "xxx",
 "execution_agency_urn": "myAgencyName",
 "runtime_config": null
 },
 "user_id": "xxx",
 "project_id": "xxx",
 "run_mode": "exclusive_cluster",
 "job_id": 90634,
 "name": "test_guoquan",
 "desc": ""
 }
}
```

```
"entrypoint_args": null,
"status": "job_cancel_success"
}
}
```

### Status Codes

[Table 17-51](#) describes the status codes.

**Table 17-51** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | Querying details of a job succeeds. |
| 400         | The input parameter is invalid.     |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 17.8 Querying the Job Execution Plan

### Function

This API is used to query a job execution plan.

### URI

- URI format  
GET /v1.0/{project\_id}/streaming/jobs/{job\_id}/execute-graph
- Parameter descriptions

**Table 17-52** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | Long   | Job ID.                                                                                                                                      |

### Request Parameters

None

## Response Parameters

**Table 17-53** Response parameters

| Parameter     | Mandatory | Type   | Description                                                                                |
|---------------|-----------|--------|--------------------------------------------------------------------------------------------|
| is_success    | No        | String | Whether the request is successful.                                                         |
| message       | No        | String | Message content.                                                                           |
| execute_graph | No        | Object | Response parameter for querying a job plan. For details, see <a href="#">Table 17-54</a> . |

**Table 17-54** execute\_graph parameters

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| jid         | No        | String  | ID of a Flink job.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| name        | No        | String  | Name of a Flink job.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| isStoppable | No        | Boolean | Whether a job can be stopped.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| state       | No        | String  | Execution status of a job. Options: <ul style="list-style-type: none"><li>• <b>INITIALIZING</b>: The job is being initialized.</li><li>• <b>CREATED</b>: The job has been created.</li><li>• <b>RUNNING</b>: The job is running.</li><li>• <b>FAILING</b>: A failure occurs.</li><li>• <b>FAILED</b>: The job has failed.</li><li>• <b>CANCELLING</b>: The job is being canceled.</li><li>• <b>CANCELED</b>: The job has been canceled.</li><li>• <b>FINISHED</b>: The job has been completed.</li><li>• <b>RESTARTING</b>: The job is being restarted.</li><li>• <b>SUSPENDED</b>: The job has been suspended.</li><li>• <b>RECONCILING</b>: The system is performing self-check.</li></ul> |
| start-time  | No        | Long    | Time when a job is started.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| end-time    | No        | Long    | Time when a job is stopped.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| duration    | No        | Long    | Running duration of a job.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### Example Request

None

### Example Response

```
{
 "is_success": "true",
 "message": "Querying the job execution graph succeeds.",
 "execute_graph": {
 "jid": "4e966f43f2c90b0e1bf3188ecf55504b",
 "name": "",
 "isStoppable": false,
 "state": "RUNNING",
 "start-time": 1578904488436,
 "end-time": -1,
 "duration": 516274
 }
}
```

### Status Codes

Table 17-55 Status codes

| Status Code | Description                               |
|-------------|-------------------------------------------|
| 200         | Querying the job execution plan succeeds. |
| 400         | The input parameter is invalid.           |

### Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 17.9 Batch Stopping Jobs

### Function

This API is used to stop running jobs in batches.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/stop
- Parameter description

**Table 17-56** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 17-57** Request parameters

| Parameter         | Mandatory | Type          | Description                                                                                                                                                                                                                                                                                                                                              |
|-------------------|-----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_ids           | Yes       | Array of Long | Job ID.                                                                                                                                                                                                                                                                                                                                                  |
| trigger_savepoint | No        | Boolean       | Whether to create a savepoint for a job to store the job status information before stopping it. The data type is Boolean. <ul style="list-style-type: none"><li>If this parameter is set to <b>true</b>, a savepoint is created.</li><li>If this parameter is set to <b>false</b>, no savepoint is created. The default value is <b>false</b>.</li></ul> |

## Response Parameters

**Table 17-58** Response parameters

| Parameter      | Mandatory | Type             | Description                                                                                 |
|----------------|-----------|------------------|---------------------------------------------------------------------------------------------|
| Array elements | No        | Array of objects | The response message returned is as follows: For details, see <a href="#">Table 17-59</a> . |

**Table 17-59** Array element parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |



| Parameter | Mandatory | Type   | Description     |
|-----------|-----------|--------|-----------------|
| message   | No        | String | Message content |

## Example Request

Stop the jobs whose IDs are **128** and **137**.

```
{
 "job_ids": [128, 137],
 "trigger_savepoint": false
}
```

## Example Response

```
{
 "is_success": "true",
 "message": "The request for stopping DLI jobs is delivered successfully."
}
```

## Status Codes

[Table 17-60](#) describes status codes.

**Table 17-60** Status codes

| Status Code | Description                                         |
|-------------|-----------------------------------------------------|
| 200         | The request of stopping a job is sent successfully. |
| 400         | The input parameter is invalid.                     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 17.10 Deleting a Job

## Function

This API is used to delete a Flink job in any state.

### NOTE

The job records will not be deleted.

## URI

- URI format  
DELETE /v1.0/{project\_id}/streaming/jobs/{job\_id}

- Parameter description

Table 17-61 URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| job_id     | Yes       | Long   | Job ID.                                                                                                                                      |

Request Parameters

None

Response Parameters

Table 17-62 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |

Example Request

None

Example Response

```
{
 "is_success": "true",
 "message": "The job is deleted successfully.",
}
```

Status Codes

[Table 17-63](#) describes status codes.

Table 17-63 Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is deleted successfully. |

| Status Code | Description                     |
|-------------|---------------------------------|
| 400         | The input parameter is invalid. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 17.11 Batch Deleting Jobs

## Function

This API is used to batch delete jobs in any state.

## URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/delete
- Parameter description

**Table 17-64** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 17-65** Request parameter

| Parameter | Mandatory | Type   | Description |
|-----------|-----------|--------|-------------|
| job_ids   | Yes       | [Long] | Job ID.     |

## Response Parameters

**Table 17-66** Response parameters

| Parameter      | Mandatory | Type             | Description                                                               |
|----------------|-----------|------------------|---------------------------------------------------------------------------|
| Array elements | No        | Array of Objects | Returned response message. For details, see <a href="#">Table 17-67</a> . |

**Table 17-67** Array element parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                     |

## Example Request

Delete the jobs whose IDs are **12** and **232**.

```
{
 "job_ids": [12, 232]
}
```

## Example Response

```
[{
 "is_success": "true",
 "message": "The job is deleted successfully.",
}]
```

## Status Codes

[Table 17-68](#) describes status codes.

**Table 17-68** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is deleted successfully. |
| 400         | The input parameter is invalid.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 17.12 Exporting a Flink Job

### Function

This API is used to export Flink job data.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/export
- Parameter description

**Table 17-69** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 17-70** Request parameters

| Parameter    | Mandatory | Type           | Description                                                                                                                                                                                            |
|--------------|-----------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| obs_dir      | Yes       | String         | OBS path for storing exported job files.                                                                                                                                                               |
| is_selected  | Yes       | Boolean        | Whether to export a specified job.                                                                                                                                                                     |
| job_selected | No        | Array of Longs | This parameter indicates the ID set of jobs to be exported if <b>is_selected</b> is set to <b>true</b> .<br><b>NOTE</b><br>This parameter is mandatory when <b>is_selected</b> is set to <b>true</b> . |

## Response Parameters

**Table 17-71** Response parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                    |
|------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | String           | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| zip_file   | No        | Array of Strings | Name of the ZIP package containing exported jobs. The ZIP package is stored on OBS.                                            |

## Example Request

Export the job whose ID is **100** to OBS.

```
{
 "obs_dir": "obs-test",
 "is_selected": true,
 "job_selected": [100]
}
```

## Example Response

```
{
 "is_success": true,
 "message": "The job is exported successfully.",
 "zip_file": ["obs-test/aggregate_1582677879475.zip"]
}
```

## Status Codes

[Table 17-72](#) describes status codes.

**Table 17-72** Status codes

| Status Code | Description                       |
|-------------|-----------------------------------|
| 200         | The job is exported successfully. |
| 400         | The input parameter is invalid.   |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 17.13 Importing a Flink Job

### Function

This API is used to import Flink job data.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/import
- Parameter description

**Table 17-73** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 17-74** Request parameters

| Parameter | Mandatory | Type    | Description                                                                                                                                                                     |
|-----------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| zip_file  | Yes       | String  | Path of the job ZIP file imported from OBS. You can enter a folder path to import all ZIP files in the folder.<br><b>NOTE</b><br>The folder can contain only <b>.zip</b> files. |
| is_cover  | No        | Boolean | Whether to overwrite an existing job if the name of the imported job is the same as that of the existing job in the service.                                                    |

## Response Parameters

**Table 17-75** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                    |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success  | No        | String           | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message     | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| job_mapping | No        | Array of objects | Information about the imported job. For details, see <a href="#">Table 17-76</a> .                                             |

**Table 17-76** job\_mapping parameter description

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                         |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| old_job_id | No        | Long   | ID of a job before being imported.                                                                                                                                                  |
| new_job_id | No        | Long   | ID of a job after being imported. If <b>is_cover</b> is set to <b>false</b> and a job with the same name exists in the service, the returned value of this parameter is <b>-1</b> . |
| remark     | No        | String | Results about an imported job.                                                                                                                                                      |

## Example Request

Whether to overwrite the existing job if the name of the imported job is the same as that of an existing job when Flink job data is imported from OBS.

```
{
 "zip_file": "test/gggregate_1582677879475.zip",
 "is_cover": true
}
```

## Example Response

```
{
 "is_success": true,
 "message": "The job is imported successfully.",
 "job_mapping": [
 {
 "old_job_id": "100",
 "new_job_id": "200",
 "remark": "Job successfully created"
 }
]
}
```



## Status Codes

[Table 17-77](#) describes status codes.

**Table 17-77** Status codes

| Status Code | Description                       |
|-------------|-----------------------------------|
| 200         | The job is imported successfully. |
| 400         | The input parameter is invalid.   |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 17.14 Generating a Static Stream Graph for a Flink SQL Job

## Function

This API is used to generate a static stream graph for a Flink SQL job.  
Flink 1.15 does not support the generation of static stream graphs.

## URI

- URI format  
POST /v3/{*project\_id*}/streaming/jobs/{*job\_id*}/gen-graph
- Parameter description

**Table 17-78** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 17-79** Request parameters

| Parameter         | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sql_body          | Yes       | String  | SQL                                                                                                                                                                                                                                                                                                                                                                                   |
| cu_number         | No        | Integer | Total number of CUs used by the job configured on the job editing page, which should match the actual number of CUs used. The actual number of CUs used is determined by the number of parallel operators.<br><br>Total number of CUs used by the job = Number of manager CUs + (Total number of concurrent operators / Number of slots of a TaskManager) x Number of TaskManager CUs |
| manager_cu_number | No        | Integer | Number of CUs of the management unit.                                                                                                                                                                                                                                                                                                                                                 |
| parallel_number   | No        | Integer | Maximum degree of parallelism.<br>Concurrent tasks of each job operator. Appropriately increasing the value will improve the overall computing performance of a job. Considering switchover overheads due to increasing threads, the maximum value is four times the number of CUs. One to two times the number of CUs is the optimal.                                                |
| tm_cus            | No        | Integer | Number of CUs in a TaskManager.                                                                                                                                                                                                                                                                                                                                                       |
| tm_slot_num       | No        | Integer | Number of slots in a taskManager.                                                                                                                                                                                                                                                                                                                                                     |
| operator_config   | No        | String  | Operator configurations.<br>You can call this API to obtain the operator ID. That is, the ID in <b>operator_list</b> contained in <b>stream_graph</b> in the response message is the operator ID.                                                                                                                                                                                     |
| static_estimator  | No        | Boolean | Whether to estimate static resources.<br>If this parameter is set to <b>true</b> , resources used by the job are estimated based on the operator ID and traffic.                                                                                                                                                                                                                      |

| Parameter               | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| static_estimator_config | No        | String | <p>Traffic or hit ratio of each operator, which is a string in JSON format.</p> <p>This parameter is mandatory when <b>static_estimator</b> is set to <b>true</b>. During the configuration, the operator ID and operator traffic configuration are required.</p> <ul style="list-style-type: none"><li>You can call this API to obtain the operator ID. That is, the ID in <b>operator_list</b> contained in <b>stream_graph</b> in the response message is the operator ID.</li><li>The operator traffic is estimated based on the actual service conditions.</li></ul> |
| job_type                | No        | String | <p>Job types.</p> <p>Only <b>flink_opensource_sql_job</b> is supported.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| graph_type              | No        | String | <p>Stream graph type. Currently, the following two types of stream graphs are supported:</p> <ul style="list-style-type: none"><li><b>simple_graph</b>: Simplified stream graph</li><li><b>job_graph</b>: Static stream graph</li></ul>                                                                                                                                                                                                                                                                                                                                   |
| flink_version           | No        | String | <p>Flink version. Currently, only 1.10 and 1.12 are supported.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Response Parameters

Table 17-80 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | Yes       | String  | System prompt. If execution succeeds, the message may be left blank.                                                           |
| error_code | Yes       | String  | Error codes.                                                                                                                   |

| Parameter    | Mandatory | Type   | Description                           |
|--------------|-----------|--------|---------------------------------------|
| stream_graph | Yes       | String | Description of a static stream graph. |

## Example Request

Generate a static stream graph for a Flink SQL job.

```
{
 "job_type": "flink_opensource_sql_job",
 "graph_type": "job_graph",
 "sql_body": "create table orders(\r\n name string,\r\n num int\r\n) with (\r\n 'connector' = 'datagen',\r\n 'rows-per-second' = '1', --Generates a data record per second.\r\n 'fields.name.kind' = 'random', --\r\n Specify a random generator for the user_id field.\r\n 'fields.name.length' = '5' --Limit the length of user_id\r\n to 3.\r\n);\r\n\r\nCREATE TABLE sink_table (\r\n name string,\r\n num int\r\n) WITH (\r\n 'connector' =\r\n 'print'\r\n);\r\nINSERT into sink_table SELECT * FROM orders;",
 "cu_number": 2,
 "manager_cu_number": 1,
 "parallel_number": 2,
 "tm_cus": 1,
 "tm_slot_num": 0,
 "operator_config": "",
 "static_estimator": true,
 "flink_version": "1.12",
 "static_estimator_config": "{\r\n \"operator_list\": [{\r\n \"id\r\n \": \"0a448493b4782967b150582570326227\",\r\n \"output_rate\": 1000,\r\n {\r\n \"id\r\n \": \"bc764cd8ddf7a0cff126f51c16239658\",\r\n \"output_rate\": 1000\r\n }\r\n]\r\n}"
}
```

## Example Response

```
{
 "message": "",
 "is_success": true,
 "error_code": "",
 "stream_graph": "{\r\n \"jid\": \"44334c4259f6714bdeff1ac525364052\",\r\n \"name\": \"\r\n InternalJob_1715392878428\",\r\n \"nodes\": [\r\n {\r\n \"id\": \"\r\n 0a448493b4782967b150582570326227\",\r\n \"parallelism\": 1,\r\n \"operator\": \"Sink\",\r\n \"operator_strategy\": \"Sink\",\r\n \"description\": \"Sink:\r\n Sink(table=[default_catalog.default_database.sink_table], fields=[name, num])\",\r\n \"chain_operators_id\": \"\r\n [\"0a448493b4782967b150582570326227\"]\",\r\n \"inputs\": [\r\n {\r\n \"num\": 0,\r\n \"id\": \"\r\n bc764cd8ddf7a0cff126f51c16239658\",\r\n \"ship_strategy\": \"FORWARD\",\r\n \"exchange\": \"\r\n pipelined_bounded\"\r\n }\r\n],\r\n \"optimizer_properties\": {\r\n \"id\": \"\r\n bc764cd8ddf7a0cff126f51c16239658\",\r\n \"parallelism\": 2,\r\n \"operator\": \"Source\",\r\n \"operator_strategy\": \"Source\",\r\n \"description\": \"Source: TableSourceScan(table=[[default_catalog,\r\n default_database, orders]], fields=[name, num])\",\r\n \"chain_operators_id\": \"\r\n [\"bc764cd8ddf7a0cff126f51c16239658\"]\",\r\n \"optimizer_properties\": {\r\n \"id\": \"\r\n 0a448493b4782967b150582570326227\",\r\n \"name\": \"Sink:\r\n Sink(table=[default_catalog.default_database.sink_table], fields=[name, num])\",\r\n \"type\": \"Sink\",\r\n \"contents\": \"Sink(table=[default_catalog.default_database.sink_table], fields=[name, num])\",\r\n \"parallelism\": 1,\r\n \"tags\": \"[SINK]\",\r\n \"input_operators_id\": \"\r\n [\"bc764cd8ddf7a0cff126f51c16239658\"]\",\r\n \"id\": \"\r\n bc764cd8ddf7a0cff126f51c16239658\",\r\n \"name\": \"Source: TableSourceScan(table=[[default_catalog, default_database, orders]], fields=[name,\r\n num])\",\r\n \"type\": \"Source\",\r\n \"contents\": \"TableSourceScan(table=[[default_catalog,\r\n default_database, orders]], fields=[name, num])\",\r\n \"parallelism\": 2,\r\n \"tags\": \"[PROCESS, UDF]\",\r\n \"input_operators_id\": [\r\n {\r\n \"id\": \"\r\n 65b6a7b0c1ad95b1722a92b49d2f6eba\",\r\n \"name\": \"InternalJob_1715392245413\",
 }\r\n]\r\n }\r\n }\r\n }\r\n]\r\n}"
}
```

To make it easier to view the response information, we format **stream\_graph** as follows:

```
"jid": "65b6a7b0c1ad95b1722a92b49d2f6eba",
"name": "InternalJob_1715392245413",
```

```
"nodes": [
 {
 "id": "0a448493b4782967b150582570326227",
 "parallelism": 1,
 "operator": "",
 "operator_strategy": "",
 "description": "Sink: Sink(table=[default_catalog.default_database.sink_table], fields=[name, num])",
 "chain_operators_id": [
 "0a448493b4782967b150582570326227"
],
 "inputs": [
 {
 "num": 0,
 "id": "bc764cd8ddf7a0cff126f51c16239658",
 "ship_strategy": "FORWARD",
 "exchange": "pipelined_bounded"
 }
],
 "optimizer_properties": {
 }
 },
 {
 "id": "bc764cd8ddf7a0cff126f51c16239658",
 "parallelism": 2,
 "operator": "",
 "operator_strategy": "",
 "description": "Source: TableSourceScan(table=[[default_catalog, default_database, orders]],
fields=[name, num])",
 "chain_operators_id": [
 "bc764cd8ddf7a0cff126f51c16239658"
],
 "optimizer_properties": {
 }
 }
],
"operator_list": [
 {
 "id": "0a448493b4782967b150582570326227",
 "name": "Sink: Sink(table=[default_catalog.default_database.sink_table], fields=[name, num])",
 "type": "Sink",
 "contents": "Sink(table=[default_catalog.default_database.sink_table], fields=[name, num])",
 "parallelism": 1,
 "tags": "[SINK]",
 "input_operators_id": [
 "bc764cd8ddf7a0cff126f51c16239658"
]
 },
 {
 "id": "bc764cd8ddf7a0cff126f51c16239658",
 "name": "Source: TableSourceScan(table=[[default_catalog, default_database, orders]],
fields=[name, num])",
 "type": "Source",
 "contents": "TableSourceScan(table=[[default_catalog, default_database, orders]], fields=[name,
num])",
 "parallelism": 2,
 "tags": "[PROCESS, UDF]",
 "input_operators_id": [
]
 }
]
}
```

## Status Codes

[Table 17-81](#) describes status codes.

**Table 17-81** Status codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | The operation is successful.    |
| 400         | The input parameter is invalid. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 18 APIs Related to Flink Job Templates

## 18.1 Creating a Template

### Function

This API is used to create a user template for the DLI service. A maximum of 100 user templates can be created.

### URI

- URI format  
POST /v1.0/{project\_id}/streaming/job-templates
- Parameter descriptions

**Table 18-1** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 18-2** Request parameters

| Parameter | Mandatory | Type   | Description                                              |
|-----------|-----------|--------|----------------------------------------------------------|
| name      | Yes       | String | Template name. The value can contain 1 to 64 characters. |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| desc      | No        | String           | Template description. Length range: 0 to 512 characters.                                                                                                                                                                                                                                                                    |
| sql_body  | No        | String           | Stream SQL statement, which includes at least the following three parts: source, query, and sink. The value can contain 0 to 10,000 characters.                                                                                                                                                                             |
| tags      | No        | Array of objects | Label of a Flink job template. For details, see <a href="#">Table 18-3</a> .                                                                                                                                                                                                                                                |
| job_type  | No        | String           | Flink job template type. The default value is <b>flink_sql_job</b> . You can only set this parameter to <b>flink_sql_job</b> or <b>flink_opensource_sql_job</b> . <ul style="list-style-type: none"><li>• <b>flink_sql_job</b>: Flink SQL job</li><li>• <b>flink_opensource_sql_job</b>: Flink OpenSource SQL job</li></ul> |

Table 18-3 tags parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                               |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Tag key.<br><b>NOTE</b><br>A tag key can contain up to 128 characters, cannot start or end with a space, and cannot start with <b>_sys_</b> . Only letters, digits, spaces, and the following special characters are allowed: <b>_:+@</b> |
| value     | Yes       | String | Tag value.<br><b>NOTE</b><br>A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters ( <b>_:+@</b> ) are allowed.                                                                       |

## Response Parameters

Table 18-4 Response parameters

| Parameter  | Mandatory | Type    | Description                                  |
|------------|-----------|---------|----------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successful. |



| Parameter | Mandatory | Type   | Description                                                                 |
|-----------|-----------|--------|-----------------------------------------------------------------------------|
| message   | No        | String | Message content.                                                            |
| template  | No        | Object | Information about job update. For details, see <a href="#">Table 18-5</a> . |

**Table 18-5** template parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                           |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| template_id | No        | Long   | Template ID.                                                                                                                                                                          |
| name        | No        | String | Template name.                                                                                                                                                                        |
| desc        | No        | String | Template description.                                                                                                                                                                 |
| create_time | No        | Long   | Time when the template is created.                                                                                                                                                    |
| job_type    | No        | String | Job template type. Options: <ul style="list-style-type: none"><li>• <b>flink_sql_job</b>: Flink SQL job</li><li>• <b>flink_opensource_sql_job</b>: Flink OpenSource SQL job</li></ul> |

## Example Request

Create a job template named **simple\_stream\_sql**.

```
{
 "name": "simple_stream_sql",
 "desc": "Example of quick start",
 "sql_body": "select * from source_table",
 "job_type": "flink_sql_job"
}
```

## Example Response

```
{
 "is_success": true,
 "message": "A template is created successfully.",
 "template": {
 "template_id": 0,
 "name": "IoT_example",
 "desc": "Example of quick start",
 "create_time": 1516952710040,
 "job_type": "flink_opensource_sql_job"
 }
}
```

## Status Codes

[Table 18-6](#) describes status codes.

**Table 18-6** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | A template is created successfully. |
| 400         | The input parameter is invalid.     |

## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

# 18.2 Updating a Template

## Function

This API is used to update existing templates in DLI.

## URI

- URI format  
PUT /v1.0/{project\_id}/streaming/job-templates/{template\_id}
- Parameter description

**Table 18-7** URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                  |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| template_id | Yes       | String | Template ID.                                                                                                                                 |

## Request Parameters

**Table 18-8** Request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                     |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | Template name. The value can contain 0 to 64 characters.                                                                                        |
| desc      | No        | String | Template description. Length range: 0 to 512 characters.                                                                                        |
| sql_body  | No        | String | Stream SQL statement, which includes at least the following three parts: source, query, and sink. The value can contain 0 to 10,000 characters. |

## Response Parameters

**Table 18-9** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |

## Example Request

Update job template information, including the template name, template description, and template SQL statements.

```
{
 "name": "simple_stream_sql",
 "desc": "Example of quick start",
 "sql_body": "select * from source_table"
}
```

## Example Response

```
{
 "is_success": "true",
 "message": "The template is updated successfully.",
}
```

## Status Codes

**Table 18-10** describes status codes.

**Table 18-10** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | A template is updated successfully. |
| 400         | The input parameter is invalid.     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 18.3 Deleting a Template

### Function

This API is used to delete a template. A template used by jobs can also be deleted.

### URI

- URI format  
DELETE /v1.0/{project\_id}/streaming/job-templates/{template\_id}
- Parameter description

**Table 18-11** URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                  |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |
| template_id | Yes       | String | Template ID.                                                                                                                                 |

### Request Parameters

None

### Response Parameters

- Parameter description

**Table 18-12** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                  |
|------------|-----------|---------|----------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the response is successful. Value <b>true</b> indicates success.           |
| message    | No        | String  | Message content.                                                                             |
| template   | No        | Object  | Information about the template to be deleted. For details, see <a href="#">Table 18-13</a> . |

**Table 18-13** template parameters

| Parameter   | Mandatory | Type | Description  |
|-------------|-----------|------|--------------|
| template_id | No        | Long | Template ID. |

## Example Request

None

## Example Response

```
{
 "is_success": "true",
 "message": "The template is deleted successfully.",
 "template": {
 "template_id": 2
 }
}
```

## Status Codes

[Table 18-14](#) describes status codes.

**Table 18-14** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | A template is deleted successfully. |
| 400         | The input parameter is invalid.     |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 18.4 Querying the Template List

### Function

This API is used to list job templates. Currently, only custom templates can be queried.

### URI

- URI format  
GET /v1.0/{project\_id}/streaming/job-templates
- Parameter descriptions

**Table 18-15** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

**Table 18-16** query parameter descriptions

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                              |
|-----------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String  | Template name. Fuzzy query by name is supported.                                                                                                                                                                                                                         |
| tags      | No        | String  | List of tag names. The value is <b>k=v</b> for a single tag. Multiple tags are separated by commas (,). Example: <b>tag1=v1,tag2=v2</b> .                                                                                                                                |
| offset    | No        | Long    | Job offset.                                                                                                                                                                                                                                                              |
| limit     | No        | Integer | Number of returned data records. The default value is <b>10</b> .                                                                                                                                                                                                        |
| order     | No        | String  | Sorting style of the query results. <ul style="list-style-type: none"><li>• <b>asc</b>: The query results are displayed in ascending order.</li><li>• <b>desc</b>: The query results are displayed in the descending order.</li></ul> The default value is <b>desc</b> . |

## Request Parameters

None

## Response Parameters

**Table 18-17** Response parameters

| Parameter     | Mandatory | Type    | Description                                                                         |
|---------------|-----------|---------|-------------------------------------------------------------------------------------|
| is_success    | No        | Boolean | Indicates whether the request is successful.                                        |
| message       | No        | String  | Message content.                                                                    |
| template_list | No        | Object  | Information about the template list. For details, see <a href="#">Table 18-18</a> . |

**Table 18-18** template\_list parameters

| Parameter   | Mandatory | Type             | Description                                                                           |
|-------------|-----------|------------------|---------------------------------------------------------------------------------------|
| total_count | No        | Integer          | Total number of templates.                                                            |
| templates   | No        | Array of objects | Detailed information about a template. For details, see <a href="#">Table 18-19</a> . |

**Table 18-19** templates parameters

| Parameter   | Mandatory | Type    | Description                                                                                       |
|-------------|-----------|---------|---------------------------------------------------------------------------------------------------|
| template_id | No        | Integer | Template ID.                                                                                      |
| name        | No        | String  | Template name.                                                                                    |
| desc        | No        | String  | Template description.                                                                             |
| create_time | No        | Long    | Time when the template is created.                                                                |
| update_time | No        | Long    | Time when the template is updated.                                                                |
| sql_body    | No        | String  | Stream SQL statement. Contains at least the <b>source</b> , <b>query</b> , and <b>sink</b> parts. |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                       |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_type  | No        | String | Job template type. Options: <ul style="list-style-type: none"><li><b>flink_sql_job</b>: Flink SQL job</li><li><b>flink_opensource_sql_job</b>: Flink OpenSource SQL job</li></ul> |

Example Request

None

Example Response

```
{
 "is_success": "true",
 "message": "The template list is obtained successfully.",
 "template_list": {
 "total_count": 2,
 "templates": [
 {
 "template_id": 2,
 "name": "updatetest",
 "desc": "Example of quick start",
 "create_time": 1578748092000,
 "update_time": 1578748092000,
 "sql_body": "select * from source_table",
 "job_type": "flink_sql_job"
 },
 {
 "template_id": 1,
 "name": "we",
 "desc": "qwe",
 "create_time": 1577951045000,
 "update_time": 1577951045000,
 "sql_body": ""
 }
]
 }
}
```

Status Codes

Table 18-20 describes status codes.

Table 18-20 Status codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | Template list query succeeds.   |
| 400         | The input parameter is invalid. |



## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

# 19 Flink Job Management APIs

## 19.1 Triggering Savepoints for Flink Jobs

### Function

This API is used to trigger savepoints for Flink jobs.

### URI

POST /v1.0/{project\_id}/streaming/jobs/{job\_id}/savepoint

Table 19-1 URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| job_id     | Yes       | String | ID of a Flink job                                                                                                              |
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

Table 19-2 Request body parameters

| Parameter | Mandatory | Type   | Description                                  |
|-----------|-----------|--------|----------------------------------------------|
| action    | Yes       | String | Operation type<br>Options:<br><b>TRIGGER</b> |

| Parameter      | Mandatory | Type   | Description                                                                                                                    |
|----------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| savepoint_path | Yes       | String | Savepoint path. Make sure you have authorized operations on OBS before using it.<br>Example: <b>bucket-name/dir/savepoint/</b> |

## Response Parameters

**Status code: 200**

**Table 19-3** Response body parameters

| Parameter  | Type    | Description                                                                                                    |
|------------|---------|----------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                    |

**Status code: 400**

**Table 19-4** Response body parameters

| Parameter  | Type   | Description   |
|------------|--------|---------------|
| error_code | String | Error code    |
| error_msg  | String | Error message |

**Status code: 500**

**Table 19-5** Response body parameters

| Parameter  | Type   | Description   |
|------------|--------|---------------|
| error_code | String | Error code    |
| error_msg  | String | Error message |

## Example Request

Trigger savepoints for a Flink job.

```
{
 "action": "TRIGGER",
}
```

```
"savepoint_path": "bucket-name/dir/savepoint"
}
```

### Example Response

```
{
 "is_success": true,
 "message": "{\"is_success\":\"true\",\"message\":\"api.msg.deal_savepoint_success\"}"
}
```

### Status Codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | The modification is successful. |
| 400         | Request error.                  |
| 500         | Internal server error.          |

### Error Codes

See [Error Codes](#).

## 19.2 Importing Savepoints for Flink Jobs

### Function

This API is used to import savepoints for Flink jobs.

### URI

POST /v1.0/{project\_id}/streaming/jobs/{job\_id}/import-savepoint

Table 19-6 URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------|
| job_id     | Yes       | String | ID of a Flink job                                                                                                              |
| project_id | Yes       | String | Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 19-7** Request body parameters

| Parameter      | Mandatory | Type   | Description                                       |
|----------------|-----------|--------|---------------------------------------------------|
| job_id         | Yes       | Long   | ID of a Flink job                                 |
| savepoint_path | Yes       | String | Savepoint path<br>Example: <b>bucket-name/dir</b> |

## Response Parameters

**Status code: 200**

**Table 19-8** Response body parameters

| Parameter  | Type    | Description                                                                                                    |
|------------|---------|----------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If the execution succeeds, this parameter may be left blank.                                    |

**Status code: 400**

**Table 19-9** Response body parameters

| Parameter  | Type   | Description   |
|------------|--------|---------------|
| error_code | String | Error code    |
| error_msg  | String | Error message |

**Status code: 500**

**Table 19-10** Response body parameters

| Parameter  | Type   | Description   |
|------------|--------|---------------|
| error_code | String | Error code    |
| error_msg  | String | Error message |

### Example Request

```
{
 "job_id": 137228,
 "savepoint_path": "bucket-name/dir/savepoint/"
}
```

### Example Response

```
{
 "is_success": true,
 "message": "The job is updated successfully."
}
```

### Status Codes

| Status Code | Description                     |
|-------------|---------------------------------|
| 200         | The modification is successful. |
| 400         | Request error.                  |
| 500         | Internal server error.          |

### Error Codes

See [Error Codes](#).

# 20 Spark Job-related APIs

---

## 20.1 Creating a Batch Processing Job

### Function

This API is used to create a batch processing job in a queue.

#### NOTE

During the Spark job submission process, if the job fails to acquire resources successfully for an extended period, the job status will change to **dead** after waiting for approximately 3 hours. For details about Spark job statuses, see [Table 20-7](#).

### URI

- URI format  
POST /v2.0/{project\_id}/batches
- Parameter descriptions

Table 20-1 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Definition</b><br>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .<br>Example:<br><b>48cc2c48765f481480c7db940d6409d1</b><br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain 1 to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None |

## Request Parameters

Table 20-2 Request parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| file      | Yes       | String | <b>Definition</b><br>Name of the package that is of the JAR or pyFile type and has been uploaded to the DLI resource management system.<br>You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .<br><b>Constraints</b><br>Spark 3.3.x or later supports only packages in OBS paths.<br><b>Range</b><br>None<br><b>Default Value</b><br>None |



| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| className    | Yes       | String | <b>Definition</b><br>Java/Spark main class of the batch processing job<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                   |
| queue        | No        | String | <b>Definition</b><br>Queue name. Set this parameter to the name of the created DLI queue. The queue must be of the general-purpose type.<br><b>Constraints</b> <ul style="list-style-type: none"><li>• This parameter is compatible with the <b>cluster_name</b> parameter. That is, if <b>cluster_name</b> is used to specify a queue, the queue is still valid.</li><li>• The <b>queue</b> parameter is recommended. If <b>queue</b> and <b>cluster_name</b> are both set, the value of <b>queue</b> is used.</li></ul> <b>Range</b><br>None<br><b>Default Value</b><br>None |
| cluster_name | No        | String | <b>Definition</b><br>Queue name. Set this parameter to the created DLI queue name.<br><b>Constraints</b><br>You are advised to use the <b>queue</b> parameter. The <b>queue</b> and <b>cluster_name</b> parameters cannot coexist.<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                     |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                               |
|-----------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| args      | No        | Array of strings | <b>Definition</b><br>Input parameters of the main class, that is, application parameters.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                           |
| sc_type   | No        | String           | <b>Definition</b><br>Compute resource type. Currently, resource types A, B, and C are available. If this parameter is not specified, the minimum configuration (type A) is used. For details about resource types, see <a href="#">Table 20-3</a> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |
| jars      | No        | Array of strings | <b>Definition</b><br>Name of the package that is of the JAR type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                   |
|-----------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pyFiles   | No        | Array of strings | <b>Definition</b><br>Name of the package that is of the PyFile type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |
| files     | No        | Array of strings | <b>Definition</b><br>Name of the package that is of the file type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None   |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| modules   | No        | Array of strings | <b>Definition</b><br>Name of the dependency system resource module. You can check the module name using the <a href="#">Querying Resource Packages in a Group (Deprecated)</a> API.<br><b>Constraints</b><br>None<br><b>Range</b><br>DLI provides dependencies for executing datasource jobs. The following table lists the dependency modules corresponding to different services. <ul style="list-style-type: none"><li>• CloudTable/MRS HBase: sys.datasource.hbase</li><li>• CloudTable/MRS OpenTSDB: sys.datasource.opentsdb</li><li>• RDS MySQL: sys.datasource.rds</li><li>• RDS Postgre: preset</li><li>• DWS: preset</li><li>• CSS: sys.datasource.css</li></ul> <b>Default Value</b><br>None |
| resources | No        | Array of objects | <b>Definition</b><br>JSON object list, including the name and type of the JSON package that has been uploaded to the queue. For details, see <a href="#">Table 20-4</a> .<br><b>Constraints</b><br>Spark 3.3.x or later does not support this parameter. Configure resource package information in <b>jars</b> , <b>pyFiles</b> , and <b>files</b> .<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                           |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| groups    | No        | Array of objects | <b>Definition</b><br>JSON object list, including the package group resource. For details about the format, see the request example. If the type of the <b>name</b> in <b>resources</b> is not verified, the package with the name exists in the group. For details, see <a href="#">Table 20-5</a> .<br><b>Constraints</b><br>Spark 3.3.x or later does not support group information configuration.<br><b>Range</b><br>None<br><b>Default Value</b><br>None |
| conf      | No        | Object           | <b>Definition</b><br><b>Batch</b> configuration item. For details, see <a href="#">Spark Configuration</a> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                           |
| name      | No        | String           | <b>Definition</b><br>Batch processing task name. The value contains a maximum of 128 characters.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                       |

| Parameter      | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                            |
|----------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| driverMemory   | No        | String  | <b>Definition</b><br>Driver memory of the Spark application, for example, <b>2 GB</b> and <b>2048 MB</b> . This configuration will replace the default settings in <b>sc_type</b> . When using it, you must include the unit, otherwise it will fail to start.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None   |
| driverCores    | No        | Integer | <b>Definition</b><br>Number of CPU cores of the Spark application driver. This configuration item replaces the default parameter in <b>sc_type</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                             |
| executorMemory | No        | String  | <b>Definition</b><br>Executor memory of the Spark application, for example, <b>2 GB</b> and <b>2048 MB</b> . This configuration will replace the default settings in <b>sc_type</b> . When using it, you must include the unit, otherwise it will fail to start.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

| Parameter     | Mandatory | Type    | Description                                                                                                                                                                                                                                          |
|---------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| executorCores | No        | Integer | <b>Definition</b><br>Number of CPU cores of each Executor in the Spark application. This configuration item replaces the default parameter in <b>sc_type</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |
| numExecutors  | No        | Integer | <b>Definition</b><br>Number of Executors in a Spark application. This configuration item replaces the default parameter in <b>sc_type</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                    |
| obs_bucket    | No        | String  | <b>Definition</b><br>OBS bucket for storing the Spark jobs. Set this parameter when you need to save jobs.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                     |

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                  |
|-----------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| auto_recover    | No        | Boolean | <b>Definition</b><br>Whether to enable the retry function. If enabled, Spark jobs will be automatically retried after an exception occurs. The default value is <b>false</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>false        |
| max_retry_times | No        | Integer | <b>Definition</b><br>Maximum retry times. The maximum value is <b>100</b> , and the default value is <b>20</b> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>20                                                                         |
| feature         | No        | String  | <b>Definition</b><br>Job feature. Type of the Spark image used by a job.<br><b>Constraints</b><br>None<br><b>Range</b><br><ul style="list-style-type: none"><li>● <b>custom</b>: indicates that the user-defined Spark image is used.</li></ul> <b>Default Value</b><br>None |



| Parameter            | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| spark_version        | No        | String | <b>Definition</b><br>Version of the Spark component<br><b>Constraints</b><br>None<br><b>Range</b> <ul style="list-style-type: none"><li>If the in-use Spark version is 2.3.2, this parameter is not required.</li></ul> <b>Default Value</b><br>None                                                                                                                                                                                                                                |
| execution_agency_urn | No        | String | <b>Definition</b><br>Name of the agency authorized to DLI. This parameter is configurable in Spark 3.3.1.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                     |
| image                | No        | String | <b>Definition</b><br>Custom image. The format is <b>Organization name/Image name:Image version</b> .<br><b>Constraints</b><br>This parameter is valid only when <b>feature</b> is set to <b>custom</b> . You can use this parameter with the <b>feature</b> parameter to specify a user-defined Spark image for job running. For details about how to use custom images, see <a href="#">Data Lake Insight User Guide</a> .<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

| Parameter    | Mandatory | Type   | Description                                                                                                                                               |
|--------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| catalog_name | No        | String | <b>Definition</b><br>To access metadata, set this parameter to dli.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

Table 20-3 Resource types

| Resource Type | Physical Resource       | driverCores | executorCores | driverMemory | executorMemory | numExecutor |
|---------------|-------------------------|-------------|---------------|--------------|----------------|-------------|
| A             | 8 vCPUs, 32 GB memory   | 2           | 1             | 7 GB         | 4 GB           | 6           |
| B             | 16 vCPUs, 64 GB memory  | 2           | 2             | 7 GB         | 8 GB           | 7           |
| C             | 32 vCPUs, 128 GB memory | 4           | 2             | 15 GB        | 8 GB           | 14          |

Table 20-4 resources parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                     |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | <b>Definition</b><br>Resource name You can also specify an OBS path, for example, <i>obs://Bucket name/Package name</i> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |
| type      | No        | String | <b>Definition</b><br>Resource type.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                       |

Table 20-5 groups parameters

| Parameter | Mandatory | Type   | Description                                                                                                                |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | <b>Definition</b><br>User group name<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                  |
|-----------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resources | No        | Array of objects | <b>Definition</b><br>User group resource For details, see <a href="#">Table 20-4</a> .<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

## Response Parameters

**Table 20-6** Response parameters

| Parameter | Mandatory | Type   | Description                                                                                                              |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------|
| id        | No        | String | <b>Definition</b><br>ID of a batch processing job.<br><b>Range</b><br>None                                               |
| appld     | No        | String | <b>Definition</b><br>Back-end application ID of a batch processing job.<br><b>Range</b><br>None                          |
| name      | No        | String | <b>Definition</b><br>Batch processing task name. The value contains a maximum of 128 characters.<br><b>Range</b><br>None |
| owner     | No        | String | <b>Definition</b><br>Owner of a batch processing job.<br><b>Range</b><br>None                                            |

| Parameter | Mandatory | Type             | Description                                                                                                                  |
|-----------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------|
| proxyUser | No        | String           | <b>Definition</b><br>Proxy user (resource tenant) to which a batch processing job belongs.<br><b>Range</b><br>None           |
| state     | No        | String           | <b>Definition</b><br>Status of a batch processing job. For details, see <a href="#">Table 20-7</a> .<br><b>Range</b><br>None |
| kind      | No        | String           | <b>Definition</b><br>Type of a batch processing job. Only Spark parameters are supported.<br><b>Range</b><br>None            |
| log       | No        | Array of strings | <b>Definition</b><br>Last 10 records of the current batch processing job.<br><b>Range</b><br>None                            |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sc_type      | No        | String | <b>Definition</b><br>Compute resource type. Currently, the value can be <b>A</b> , <b>B</b> , or <b>C</b> . If the compute resource type is customized, value <b>CUSTOMIZED</b> is returned.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>A</b>: physical resources, with 8 vCPUs and 32 GB of memory<ul style="list-style-type: none"><li>– driverCores: 2;</li><li>– executorCores: 1;</li><li>– driverMemory: 7G;</li><li>– executorMemory: 4G;</li><li>– numExecutor: 6.</li></ul></li><li>• <b>B</b>: physical resources, with 16 vCPUs and 64 GB of memory<ul style="list-style-type: none"><li>– driverCores: 2;</li><li>– executorCores: 2;</li><li>– driverMemory: 7G;</li><li>– executorMemory: 8G;</li><li>– numExecutor: 7.</li></ul></li><li>• <b>C</b>: physical resources, with 32 vCPUs and 128 GB of memory<ul style="list-style-type: none"><li>– driverCores: 4;</li><li>– executorCores: 2;</li><li>– driverMemory: 15G;</li><li>– executorMemory: 8G;</li><li>– numExecutor: 14.</li></ul></li></ul> |
| cluster_name | No        | String | <b>Definition</b><br>Queue where a batch processing job is located.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Parameter   | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| queue       | Yes       | String | <b>Definition</b><br>Queue name. Set this parameter to the name of the created DLI queue. <ul style="list-style-type: none"><li>This parameter is compatible with the <b>cluster_name</b> parameter. That is, if <b>cluster_name</b> is used to specify a queue, the queue is still valid.</li><li>You are advised to use the <b>queue</b> parameter. The <b>queue</b> and <b>cluster_name</b> parameters cannot coexist.</li></ul> <b>Range</b><br>None |
| image       | No        | String | <b>Definition</b><br>Custom image. The format is <b>Organization name/Image name:Image version</b> .<br><b>Range</b><br>This parameter is valid only when <b>feature</b> is set to <b>custom</b> . You can use this parameter with the <b>feature</b> parameter to specify a user-defined Spark image for job running. For details about how to use custom images, see <a href="#">Data Lake Insight User Guide</a> .                                    |
| create_time | No        | Long   | <b>Definition</b><br>Time when a batch processing job is created. The timestamp is in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                              |
| update_time | No        | Long   | <b>Definition</b><br>Time when a batch processing job is updated. The timestamp is in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                              |
| duration    | No        | Long   | <b>Definition</b><br>Job running duration, in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                      |

**Table 20-7** Batch processing job statuses

| Parameter  | Type   | Description                                        |
|------------|--------|----------------------------------------------------|
| starting   | String | The batch processing job is being started.         |
| running    | String | The batch processing job is executing a task.      |
| dead       | String | The batch processing job has exited.               |
| success    | String | The batch processing job is successfully executed. |
| recovering | String | The batch processing job is being restored.        |

## Example Request

Create a Spark job. Set the Spark main class of the job to **org.apache.spark.examples.SparkPi**, specify the program package to **batchTest/spark-examples\_2.11-2.1.0.luxor.jar**, and load the program package whose type is **jar** and the resource package whose type is **files**.

```
{
 "file": "batchTest/spark-examples_2.11-2.1.0.luxor.jar",
 "className": "org.apache.spark.examples.SparkPi",
 "sc_type": "A",
 "jars": ["demo-1.0.0.jar"],
 "files": ["count.txt"],
 "resources": [
 {"name": "groupTest/testJar.jar", "type": "jar"},
 {"name": "kafka-clients-0.10.0.0.jar", "type": "jar"}],
 "groups": [
 {"name": "groupTestJar", "resources": [{"name": "testJar.jar", "type": "jar"}, {"name": "testJar1.jar", "type": "jar"}]},
 {"name": "batchTest", "resources": [{"name": "luxor.jar", "type": "jar"}]}],
 "queue": "test",
 "name": "TestDemo4",
 "feature": "basic",
 "execution_agency_urn": "myAgencyName",
 "spark_version": "2.3.2"
}
```

### NOTE

The **batchTest/spark-examples\_2.11-2.1.0.luxor.jar** file has been uploaded through API involved in [Uploading a Package Group \(Deprecated\)](#).

## Example Response

```
{
 "id": "07a3e4e6-9a28-4e92-8d3f-9c538621a166",
 "appId": "",
 "name": "",
 "owner": "test1",
 "proxyUser": "",
 "state": "starting",
 "kind": "",
 "log": [],
 "sc_type": "CUSTOMIZED",
 "cluster_name": "aaa",
 "queue": "aaa",
 "create_time": 1607589874156,
 "update_time": 1607589874156
}
```



## Status Codes

[Table 20-8](#) describes status codes.

**Table 20-8** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is created successfully. |
| 400         | Request error.                   |
| 500         | Internal server error.           |

## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 20.2 Listing Batch Processing Jobs

### Function

This API is used to list batch processing jobs in a queue of a project.

### URI

- URI format  
GET /v2.0/{project\_id}/batches
- Parameter description

Table 20-9 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                 |
|------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Definition</b><br>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .<br>Example:<br><b>48cc2c48765f481480c7db940d6409d1</b><br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain up to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None |

Table 20-10 query parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                          |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_name  | No        | String | <b>Definition</b><br>Name of a batch processing job.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                           |
| job-id    | No        | String | <b>Definition</b><br>Job ID used to query a batch job.<br>Example: <b>03923a72-5ace-466a-a573-e8c7b08b8cf3</b><br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

| Parameter    | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                     |
|--------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cluster_name | No        | String  | <b>Definition</b><br>DLI queue name. If this parameter is left blank, the names of all batch processing jobs in the current project are obtained. You are advised to specify this parameter, instead of leaving it blank.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None |
| queue_name   | No        | String  | <b>Definition</b><br>DLI queue name. You can query batch jobs based on the queue name. This method is recommended.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                        |
| from         | No        | Integer | <b>Definition</b><br>Index number of the start batch processing job. By default, the index number starts from 0.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                          |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| size      | No        | Integer | <b>Definition</b><br>Number of batch processing jobs to be queried<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                                    |
| state     | No        | String  | <b>Definition</b><br>Job status by which batch jobs are queried<br><b>Constraints</b><br>None<br><b>Range</b><br><ul style="list-style-type: none"><li>● <b>starting</b>: A job is being started.</li><li>● <b>running</b>: A job is being executed.</li><li>● <b>dead</b>: A session has exited.</li><li>● <b>success</b>: A session is successfully stopped.</li><li>● <b>recovering</b>: A job is being restored.</li></ul> <b>Default Value</b><br>None |
| owner     | No        | String  | <b>Definition</b><br>User who submits a job.<br><b>Constraints</b><br>None<br><b>Range</b><br>None<br><b>Default Value</b><br>None                                                                                                                                                                                                                                                                                                                          |

Request Parameters

None

## Response Parameters

**Table 20-11** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                        |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------|
| from        | No        | Integer          | <b>Definition</b><br>Index number of the start batch processing job.<br><b>Range</b><br>None                       |
| total       | No        | Integer          | <b>Definition</b><br>Total number of batch processing jobs.<br><b>Range</b><br>None                                |
| sessions    | No        | Array of objects | <b>Definition</b><br>Batch job information. For details, see <a href="#">Table 20-12</a> .<br><b>Range</b><br>None |
| create_time | No        | Long             | <b>Definition</b><br>Time when a batch processing job is created.<br><b>Range</b><br>None                          |

**Table 20-12** sessions parameters

| Parameter | Mandatory | Type   | Description                                                                           |
|-----------|-----------|--------|---------------------------------------------------------------------------------------|
| duration  | No        | Long   | <b>Definition</b><br>Job running duration (unit: millisecond)<br><b>Range</b><br>None |
| id        | No        | String | <b>Definition</b><br>ID of a batch processing job<br><b>Range</b><br>None             |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| state     | No        | String           | <b>Definition</b><br>Status of a batch processing job<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>starting</b>: A job is being started.</li><li>• <b>running</b>: A job is being executed.</li><li>• <b>dead</b>: A session has exited.</li><li>• <b>success</b>: A session is successfully stopped.</li><li>• <b>recovering</b>: A job is being restored.</li></ul> |
| appld     | No        | String           | <b>Definition</b><br>Backend application ID of a batch processing job<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                       |
| log       | No        | Array of Strings | <b>Definition</b><br>Last 10 records of the current batch processing job<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                    |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sc_type      | No        | String | <b>Definition</b><br>Type of a computing resource. Currently, the value can be <b>A</b> , <b>B</b> , or <b>C</b> . If the computing resource type is customized, value <b>CUSTOMIZED</b> is returned.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>A</b>: physical resources, with 8 vCPUs and 32 GB of memory<ul style="list-style-type: none"><li>– driverCores: 2;</li><li>– executorCores: 1;</li><li>– driverMemory: 7G;</li><li>– executorMemory: 4G;</li><li>– numExecutor: 6.</li></ul></li><li>• <b>B</b>: physical resources, with 16 vCPUs and 64 GB of memory<ul style="list-style-type: none"><li>– driverCores: 2;</li><li>– executorCores: 2;</li><li>– driverMemory: 7G;</li><li>– executorMemory: 8G;</li><li>– numExecutor: 7.</li></ul></li><li>• <b>C</b>: physical resources, with 32 vCPUs and 128 GB of memory<ul style="list-style-type: none"><li>– driverCores: 4;</li><li>– executorCores: 2;</li><li>– driverMemory: 15G;</li><li>– executorMemory: 8G;</li><li>– numExecutor: 14.</li></ul></li></ul> |
| cluster_name | No        | String | <b>Definition</b><br>Queue where a batch processing job is located.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| create_time  | No        | Long   | <b>Definition</b><br>Time when a batch processing job is created. The timestamp is in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                             |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String | <b>Definition</b><br>Name of a batch processing job.<br><b>Range</b><br>None                                                                                                                                                                                                                                            |
| owner     | No        | String | <b>Definition</b><br>Owner of a batch processing job.<br><b>Range</b><br>None                                                                                                                                                                                                                                           |
| proxyUser | No        | String | <b>Definition</b><br>Proxy user (resource tenant) to which a batch processing job belongs.<br><b>Range</b><br>None                                                                                                                                                                                                      |
| kind      | No        | String | <b>Definition</b><br>Type of a batch processing job. Only Spark parameters are supported.<br><b>Range</b><br>None                                                                                                                                                                                                       |
| queue     | No        | String | <b>Definition</b><br>Queue where a batch processing job is located.<br><b>Range</b><br>None                                                                                                                                                                                                                             |
| image     | No        | String | <b>Definition</b><br>Custom image. <b>The format is Organization name/Image name:Image version.</b><br>This parameter is valid only when <b>feature</b> is set to <b>custom</b> . You can use this parameter with the <b>feature</b> parameter to specify a custom Spark image for job running.<br><b>Range</b><br>None |
| req_body  | No        | String | <b>Definition</b><br>Request parameter details.<br><b>Range</b><br>None                                                                                                                                                                                                                                                 |



| Parameter   | Mand<br>atory | Type | Description                                                                                                                 |
|-------------|---------------|------|-----------------------------------------------------------------------------------------------------------------------------|
| update_time | No            | Long | <b>Definition</b><br>Time when a batch processing job is updated. The timestamp is in milliseconds.<br><b>Range</b><br>None |

### Example Request

None

### Example Response

```
{
 "from": 0,
 "total": 1,
 "sessions": [
 {
 "id": "178fa687-2e8a-41ed-a439-b00de60bb176",
 "state": "dead",
 "appld": null,
 "log": [
 "stdout: ",
 "stderr: ",
 "YARN Diagnostics: "
],
 "sc_type": "A",
 "cluster_name": "test",
 "create_time": 1531906043036
 }
]
}
```

### Status Codes

[Table 20-13](#) describes the status code.

**Table 20-13** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 20.3 Querying Batch Job Details

### Function

This API is used to query details about a batch processing job based on the job ID.

### URI

- URI format  
GET /v2.0/{project\_id}/batches/{batch\_id}
- Parameter descriptions

**Table 20-14** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <p><b>Definition</b></p> <p>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p>Example:<br/><b>48cc2c48765f481480c7db940d6409d1</b></p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <p>The value can contain 1 to 64 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b></p> <p>None</p> |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| batch_id  | Yes       | String | <b>Definition</b><br>ID of a batch processing job. For details about how to obtain an ID, see <b>appld</b> in the response parameters in <a href="#">Listing Batch Processing Jobs</a> .<br><br>Example: <b>0a324461-d9d9-45da-a52a-3b3c7a3d809e</b><br><b>Constraints</b><br>The parameter value must be a string matching the regular expression <b>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$</b> .<br><b>Range</b><br>None<br><b>Default Value</b><br>None |

Request Parameters

None

Response Parameters

Table 20-15 Response parameters

| Parameter | Mandatory | Type   | Description                                                                                                                          |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| id        | No        | String | <b>Definition</b><br>ID of a batch processing job, which is in the universal unique identifier (UUID) format<br><b>Range</b><br>None |
| appld     | No        | String | <b>Definition</b><br>Back-end application ID of a batch processing job.<br><b>Range</b><br>None                                      |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | No        | String           | <b>Definition</b><br>Name of a batch processing job.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                        |
| owner     | No        | String           | <b>Definition</b><br>Owner of a batch processing job.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                       |
| proxyUser | No        | String           | <b>Definition</b><br>Proxy user (resource tenant) to which a batch processing job belongs.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                  |
| state     | No        | String           | <b>Definition</b><br>Status of a batch processing job<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>starting</b>: A job is being started.</li><li>• <b>running</b>: A job is being executed.</li><li>• <b>dead</b>: A session has exited.</li><li>• <b>success</b>: A session is successfully stopped.</li><li>• <b>recovering</b>: A job is being restored.</li></ul> |
| kind      | No        | String           | <b>Definition</b><br>Type of a batch processing job. Only Spark parameters are supported.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                   |
| log       | No        | Array of Strings | <b>Definition</b><br>Last 10 records of the current batch processing job.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                   |

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sc_type      | No        | String | <b>Definition</b><br>Compute resource type. Currently, the value can be <b>A</b> , <b>B</b> , or <b>C</b> . If the compute resource type is customized, value <b>CUSTOMIZED</b> is returned.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>A</b>: physical resources, with 8 vCPUs and 32 GB of memory<ul style="list-style-type: none"><li>– driverCores: 2;</li><li>– executorCores: 1;</li><li>– driverMemory: 7G;</li><li>– executorMemory: 4G;</li><li>– numExecutor: 6.</li></ul></li><li>• <b>B</b>: physical resources, with 16 vCPUs and 64 GB of memory<ul style="list-style-type: none"><li>– driverCores: 2;</li><li>– executorCores: 2;</li><li>– driverMemory: 7G;</li><li>– executorMemory: 8G;</li><li>– numExecutor: 7.</li></ul></li><li>• <b>C</b>: physical resources, with 32 vCPUs and 128 GB of memory<ul style="list-style-type: none"><li>– driverCores: 4;</li><li>– executorCores: 2;</li><li>– driverMemory: 15G;</li><li>– executorMemory: 8G;</li><li>– numExecutor: 14.</li></ul></li></ul> |
| cluster_name | No        | String | <b>Definition</b><br>Queue where a batch processing job is located.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| queue        | No        | String | <b>Definition</b><br>Queue where a batch processing job is located.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time   | No        | Long   | <b>Definition</b><br>Time when a batch processing job is created. The timestamp is in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                           |
| update_time   | No        | Long   | <b>Definition</b><br>Time when a batch processing job is updated. The timestamp is in milliseconds.<br><b>Range</b><br>None                                                                                                                                                                                                                                                                                           |
| feature       | No        | String | <b>Definition</b><br>Job feature. Type of the Spark image used by a job.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>basic</b>: indicates that the basic Spark image provided by DLI is used.</li><li>• <b>custom</b>: indicates that the user-defined Spark image is used.</li><li>• <b>ai</b>: indicates that the AI image provided by DLI is used.</li></ul>                                        |
| spark_version | No        | String | <b>Definition</b><br>Version of the Spark component used by a job. Set this parameter when <b>feature</b> is set to <b>basic</b> or <b>ai</b> . If left blank, the default Spark version 2.3.2 is used.<br><b>Range</b><br>None                                                                                                                                                                                       |
| image         | No        | String | <b>Definition</b><br>Custom image. The format is <b>Organization name/Image name:Image version</b> .<br><b>Range</b><br>This parameter is valid only when <b>feature</b> is set to <b>custom</b> . You can use this parameter with the <b>feature</b> parameter to specify a user-defined Spark image for job running. For details about how to use custom images, see <a href="#">Data Lake Insight User Guide</a> . |

| Parameter | Mandatory | Type   | Description                                                             |
|-----------|-----------|--------|-------------------------------------------------------------------------|
| req_body  | No        | String | <b>Definition</b><br>Request parameter details.<br><b>Range</b><br>None |

### Example Request

None

### Example Response

```
{
 "id": "0a324461-d9d9-45da-a52a-3b3c7a3d809e",
 "appId": "",
 "name": "",
 "owner": "",
 "proxyUser": "",
 "state": "starting",
 "kind": "",
 "log": [
 {
 "stdout": "",
 "stderr": "",
 "YARN Diagnostics": ""
 }
],
 "sc_type": "A",
 "cluster_name": "test",
 "queue": "test",
 "create_time": 1531906043036,
 "update_time": 1531906043036
}
```

### Status Codes

[Table 20-16](#) describes status codes.

**Table 20-16** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal server error.   |

### Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 20.4 Querying a Batch Job Status

### Function

This API is used to obtain the execution status of a batch processing job.

### URI

- URI format  
GET /v2.0/{project\_id}/batches/{batch\_id}/state
- Parameter descriptions

**Table 20-17** URI parameters

| Parameter  | Mandatory | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | <p><b>Definition</b></p> <p>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a>.</p> <p>Example: <b>48cc2c48765f481480c7db940d6409d1</b></p> <p><b>Constraints</b></p> <p>None</p> <p><b>Range</b></p> <p>The value can contain 1 to 64 characters. Only letters and digits are allowed.</p> <p><b>Default Value</b></p> <p>None</p>                                                                                                                       |
| batch_id   | Yes       | <p><b>Definition</b></p> <p>ID of a batch processing job. For details about how to obtain an ID, see <b>appId</b> in the response parameters in <a href="#">Listing Batch Processing Jobs</a>.</p> <p>Example: <b>0a324461-d9d9-45da-a52a-3b3c7a3d809e</b></p> <p><b>Constraints</b></p> <p>The parameter value must be a string matching the regular expression <b>^[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12}\$</b>.</p> <p><b>Range</b></p> <p>None</p> <p><b>Default Value</b></p> <p>None</p> |



## Request Parameters

None

## Response Parameters

**Table 20-18** Response parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id        | No        | String | <b>Definition</b><br>ID of a batch processing job, which is in the universal unique identifier (UUID) format.<br><b>Range</b><br>None                                                                                                                                                                                                                                               |
| state     | No        | String | <b>Definition</b><br>Status of a batch processing job<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>starting</b>: A job is being started.</li><li>• <b>running</b>: A job is being executed.</li><li>• <b>dead</b>: A session has exited.</li><li>• <b>success</b>: A session is successfully stopped.</li><li>• <b>recovering</b>: A job is being restored.</li></ul> |

## Example Request

None

## Example Response

```
{"id":"0a324461-d9d9-45da-a52a-3b3c7a3d809e","state":"Success"}
```

## Status Codes

**Table 20-19** describes status codes.

**Table 20-19** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal server error.   |

## Error Codes

If an error occurs when this API is called, the system does not return the result similar to the preceding example, but returns an error code and error message. For details, see [Error Codes](#).

## 20.5 Canceling a Batch Processing Job

### Function

This API is used to cancel a batch processing job.

#### NOTE

Batch processing jobs in the **Successful** or **Failed** state cannot be canceled.

### URI

- URI format  
DELETE /v2.0/{project\_id}/batches/{batch\_id}
- Parameter description

**Table 20-20** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| batch_id   | Yes       | String | ID of a batch processing job. Set the value to the job ID obtained in <a href="#">Creating a Batch Processing Job</a> .                   |

### Request Parameters

None

### Response Parameters

**Table 20-21** Response parameter

| Parameter | Mandatory | Type   | Description                                                                             |
|-----------|-----------|--------|-----------------------------------------------------------------------------------------|
| msg       | No        | String | If the batch processing job is successfully canceled, value <b>deleted</b> is returned. |

### Example Request

None

### Example Response

```
{
 "msg": "deleted"
}
```

### Status Codes

[Table 20-22](#) describes the status code.

**Table 20-22** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Deletion succeeded.     |
| 400         | Request error.          |
| 500         | Internal service error. |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 21 APIs Related to Spark Job Templates

## 21.1 Creating a Job Template

### Function

This API is used to create a job template.

### URI

- URI format  
POST /v3/{project\_id}/templates
- Parameter description

Table 21-1 URI parameter

| Parameter  | Mandator<br>y | Type   | Description                                                                                                                               |
|------------|---------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes           | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

Table 21-2 Parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                                                       |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type        | Yes       | String | Template type. Available values are as follows: <ul style="list-style-type: none"><li>• <b>SQL</b>: SQL template</li><li>• <b>SPARK</b>: Spark template</li></ul> |
| name        | Yes       | String | Template name                                                                                                                                                     |
| body        | Yes       | String | Template content                                                                                                                                                  |
| group       | No        | String | Template group name                                                                                                                                               |
| description | No        | String | Description of the template                                                                                                                                       |
| language    | No        | String | Language                                                                                                                                                          |

## Response

Table 21-3 Parameters

| Parameter | Type   | Description |
|-----------|--------|-------------|
| id        | String | Template ID |

## Example Request

Create a SQL job template whose content is **test sql**.

```
{
 "type": "SQL",
 "name": "test",
 "description": "",
 "body": "test sql",
 "group": ""
}
```

## Example Response

```
{
 "id": "85aad9e5-3766-46c2-b3c0-16c2832e52e8"
}
```

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

Error Codes

For details, see [Error Codes](#).

21.2 Listing Job Templates

Function

This API is used to list job templates.

URI

- URI format  
GET /v3/{project\_id}/templates
- Parameter descriptions

Table 21-4 URI parameter

| Parameter  | Mandator<br>y | Type   | Description                                                                                                                               |
|------------|---------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes           | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

Table 21-5 query parameters

| Parameter | Mandator<br>y | Type   | Description                                                                                                                                                  |
|-----------|---------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type      | Yes           | String | Template type.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>SPARK</b>: Spark template</li></ul> Currently, only Spark templates are supported. |
| keyword   | No            | String | Keyword used for searching for template names. Fuzzy match is supported.                                                                                     |

| Parameter    | Mandatory | Type    | Description                                                                                             |
|--------------|-----------|---------|---------------------------------------------------------------------------------------------------------|
| page-size    | No        | Integer | Maximum number of lines displayed on each page. Value range: [1, 100]. The default value is <b>50</b> . |
| current-page | No        | Integer | Current page number. The default value is <b>1</b> .                                                    |

## Request Parameters

None

## Response Parameters

**Table 21-6** Response parameters

| Parameter  | Type             | Description                                                                                                    |
|------------|------------------|----------------------------------------------------------------------------------------------------------------|
| is_success | Boolean          | Whether the request is successfully executed. <b>true</b> indicates that the request is successfully executed. |
| message    | String           | System prompt. If the execution succeeds, this parameter may be left blank.                                    |
| count      | Integer          | Number of returned templates                                                                                   |
| templates  | Array of objects | Template information list. For details, see <a href="#">Table 21-7</a> .                                       |

**Table 21-7** templates parameters

| Parameter | Type   | Description                                                                                                |
|-----------|--------|------------------------------------------------------------------------------------------------------------|
| type      | String | Template type. Options:<br><b>SPARK</b> : Spark template<br>Currently, only Spark templates are supported. |
| id        | String | Template ID                                                                                                |
| name      | String | Template name                                                                                              |
| body      | Object | Template content. For details, see <a href="#">Table 21-8</a> .                                            |
| group     | String | Template group                                                                                             |

| Parameter   | Type   | Description                 |
|-------------|--------|-----------------------------|
| description | String | Description of the template |
| language    | String | Language                    |
| owner       | String | Creator of the template     |

Table 21-8 body parameters

| Parameter    | Type             | Description                                                                                                                                                                                               |
|--------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| file         | String           | Name of the package that is of the JAR or pyFile type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> . |
| className    | String           | Java/Spark main class of the template.                                                                                                                                                                    |
| cluster_name | String           | Queue name. Set this parameter to the created DLI queue name.<br><b>NOTE</b><br>You are advised to use the <b>queue</b> parameter. The <b>queue</b> and <b>cluster_name</b> parameters cannot coexist.    |
| args         | Array of strings | Input parameters of the main class, that is, application parameters.                                                                                                                                      |



| Parameter | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sc_type   | String           | <p>Compute resource type. Currently, the value can be <b>A</b>, <b>B</b>, or <b>C</b>. If this parameter is not specified, the minimum configuration (type A) is used. If the compute resource type is customized, value <b>CUSTOMIZED</b> is returned.</p> <p><b>Range</b></p> <ul style="list-style-type: none"><li>• <b>A</b>: physical resources, with 8 vCPUs and 32 GB of memory<ul style="list-style-type: none"><li>– driverCores: 2;</li><li>– executorCores: 1;</li><li>– driverMemory: 7G;</li><li>– executorMemory: 4G;</li><li>– numExecutor: 6.</li></ul></li><li>• <b>B</b>: physical resources, with 16 vCPUs and 64 GB of memory<ul style="list-style-type: none"><li>– driverCores: 2;</li><li>– executorCores: 2;</li><li>– driverMemory: 7G;</li><li>– executorMemory: 8G;</li><li>– numExecutor: 7.</li></ul></li><li>• <b>C</b>: physical resources, with 32 vCPUs and 128 GB of memory<ul style="list-style-type: none"><li>– driverCores: 4;</li><li>– executorCores: 2;</li><li>– driverMemory: 15G;</li><li>– executorMemory: 8G;</li><li>– numExecutor: 14.</li></ul></li></ul> |
| jars      | Array of strings | Name of the package that is of the JAR type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| pyFiles   | Array of strings | Name of the package that is of the PyFile type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Parameter | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| files     | Array of strings | Name of the package that is of the file type and has been uploaded to the DLI resource management system. You can also specify an OBS path, for example, <b>obs://Bucket name/Package name</b> .                                                                                                                                                                                                                                                                                                                                                                                                                  |
| modules   | Array of strings | <p>Name of the dependency system resource module. You can check the module name using the <a href="#">Querying Resource Packages in a Group (Deprecated)</a> API.</p> <p>DLI provides dependencies for executing datasource jobs. The following table lists the dependency modules corresponding to different services.</p> <ul style="list-style-type: none"><li>• CloudTable/MRS HBase: sys.datasource.hbase</li><li>• CloudTable/MRS OpenTSDB: sys.datasource.opentsdb</li><li>• RDS MySQL: sys.datasource.rds</li><li>• RDS Postgre: preset</li><li>• DWS: preset</li><li>• CSS: sys.datasource.css</li></ul> |
| resources | Array of objects | JSON object list, including the name and type of the JSON package that has been uploaded to the queue. For details, see <a href="#">Table 20-4</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| groups    | Array of objects | JSON object list, including the package group resource. For details about the format, see the request example. If the type of the <b>name</b> in <b>resources</b> is not verified, the package with the name exists in the group. For details, see <a href="#">Table 20-5</a> .                                                                                                                                                                                                                                                                                                                                   |
| conf      | Object           | <b>Batch</b> configuration item. For details, see <a href="#">Spark Configuration</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| name      | String           | Batch processing task name. The value contains a maximum of 128 characters.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| Parameter       | Type    | Description                                                                                                                                                                                                                                 |
|-----------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| driverMemory    | String  | Driver memory of the Spark application, for example, <b>2 GB</b> and <b>2048 MB</b> . This configuration will replace the default settings in <b>sc_type</b> . When using it, you must include the unit, otherwise it will fail to start.   |
| driverCores     | Integer | Number of CPU cores of the Spark application driver. This configuration item replaces the default parameter in <b>sc_type</b> .                                                                                                             |
| executorMemory  | String  | Executor memory of the Spark application, for example, <b>2 GB</b> and <b>2048 MB</b> . This configuration will replace the default settings in <b>sc_type</b> . When using it, you must include the unit, otherwise it will fail to start. |
| executorCores   | Integer | Number of CPU cores of each Executor in the Spark application. This configuration item replaces the default parameter in <b>sc_type</b> .                                                                                                   |
| numExecutors    | Integer | Number of Executors in a Spark application. This configuration item replaces the default parameter in <b>sc_type</b> .                                                                                                                      |
| obs_bucket      | String  | OBS bucket for storing the Spark jobs. Set this parameter when you need to save jobs.                                                                                                                                                       |
| auto_recover    | Boolean | Whether to enable the retry function. If enabled, Spark jobs will be automatically retried after an exception occurs. The default value is <b>false</b> .                                                                                   |
| max_retry_times | Integer | Maximum retry times. The maximum value is <b>100</b> , and the default value is <b>20</b> .                                                                                                                                                 |

| Parameter     | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| feature       | String | Job feature. Type of the Spark image used by a job. <ul style="list-style-type: none"><li>• <b>basic</b>: indicates that the basic Spark image provided by DLI is used.</li><li>• <b>custom</b>: indicates that the user-defined Spark image is used.</li><li>• <b>ai</b>: indicates that the AI image provided by DLI is used.</li></ul>                                                                                                                                        |
| spark_version | String | Version of the Spark component <ul style="list-style-type: none"><li>• If the in-use Spark version is 2.3.2, this parameter is not required.</li><li>• If the current Spark version is 2.3.3, this parameter is required when <b>feature</b> is <b>basic</b> or <b>ai</b>. If this parameter is not set, the default Spark version 2.3.2 is used.</li></ul>                                                                                                                      |
| image         | String | Custom image. The format is <b>Organization name/Image name:Image version</b> .                                                                                                                                                                                                                                                                                                                                                                                                  |
| queue         | String | Queue name. Set this parameter to the name of the created DLI queue. The queue must be of the general-purpose type.<br><b>NOTE</b> <ul style="list-style-type: none"><li>• This parameter is compatible with the <b>cluster_name</b> parameter. That is, if <b>cluster_name</b> is used to specify a queue, the queue is still valid.</li><li>• You are advised to use the <b>queue</b> parameter. The <b>queue</b> and <b>cluster_name</b> parameters cannot coexist.</li></ul> |
| catalog_name  | String | To access metadata, set this parameter to <b>dli</b> .                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "templates": [
 {
```

```
{
 "name": "test2",
 "body": {
 "auto_recovery": false,
 "max_retry_times": 20,
 },
 "group": "",
 "description": "",
 "type": "SPARK",
 "id": "3c92c202-b17c-4ed7-b353-ea08629dd671"
},
"count": 1
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

# 21.3 Modifying a Job Template

## Function

This API is used to modify a job template.

## URI

- URI format  
PUT /v3/{project\_id}/templates/{template\_id}
- Parameter description

**Table 21-9** URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                               |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| template_id | Yes       | String | Template ID.                                                                                                                              |

## Request Parameters

**Table 21-10** Parameters

| Parameter   | Mandatory | Type   | Description                 |
|-------------|-----------|--------|-----------------------------|
| name        | Yes       | String | Template name               |
| body        | Yes       | String | Template content            |
| group       | No        | String | Template group              |
| description | No        | String | Description of the template |

## Response Parameters

**Table 21-11** Parameters

| Parameter  | Type    | Description                                                                                                          |
|------------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If execution succeeds, the message may be left blank.                                                 |

## Example Request

Modify the name and content of a job template.

```
{
 "name": "test1",
 "body": "ss"
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

# 21.4 Obtaining a Job Template

## Function

This API is used to obtain a job template.

## URI

- URI format  
GET /v3/{project\_id}/templates/{template\_id}
- Parameter descriptions

Table 21-12 URI parameters

| Parameter   | Mandatory | Type   | Description                                                                                                                               |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id  | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| template_id | Yes       | String | Template ID.                                                                                                                              |

## Request Parameters

None

## Response Parameters

Table 21-13 Response parameters

| Parameter | Type   | Description                                                                                                |
|-----------|--------|------------------------------------------------------------------------------------------------------------|
| type      | String | Template type. Options:<br><b>SPARK</b> : Spark template<br>Currently, only Spark templates are supported. |
| id        | String | Template ID                                                                                                |
| name      | String | Template name                                                                                              |
| body      | Object | Template content For details, see <a href="#">Table 21-8</a> .                                             |

| Parameter   | Type   | Description                 |
|-------------|--------|-----------------------------|
| group       | String | Template group              |
| description | String | Description of the template |
| language    | String | Language                    |
| owner       | String | Creator of the template     |

Example Request

None

Example Response

```
{
 "name": "test2",
 "body": {
 "auto_recovery": false,
 "max_retry_times": 20,
 },
 "group": "",
 "description": "",
 "type": "SPARK",
 "id": "3c92c202-b17c-4ed7-b353-ea08629dd671"
}
```

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

Error Codes

See [Error Codes](#).



# 22 Permissions Policies and Supported Actions

---

This section describes fine-grained permissions management for your DLI. If your Huawei Cloud account does not need individual IAM users, then you may skip this section.

By default, new IAM users do not have permissions assigned. You need to add them to one or more groups, and attach permissions policies or roles to these groups. Users inherit permissions from the groups to which they are added. After authorization, the user can perform specified operations on MRS based on the permissions.

Based on the authorization precision, permissions are classified into **roles** and **policies**.

- Roles are a type of coarse-grained authorization mechanism that defines permissions related to user responsibilities.
- Policies define API-based permissions for operations on specific resources under certain conditions, allowing for more fine-grained, secure access control of cloud resources.

## NOTE

Policy-based authorization is useful if you want to allow or deny the access to an API.

An account has all the permissions required to call all APIs, but IAM users must be assigned the required permissions. The permissions required for calling an API are determined by the actions supported by the API. Only users who have been granted permissions allowing the actions can call the API successfully. For example, if an IAM user needs to create buckets using an API, the user must have been granted permissions that allow the **dli:queue:create\_queue** action.

## Supported Actions

VBS provides system-defined policies that can be directly used in IAM. You can also create custom policies and use them to supplement system-defined policies, implementing more refined access control. Operations supported by policies are specific to APIs. The following are common concepts related to policies:

- Permissions: Allow or deny operations on specified resources under specific conditions.
- APIs: RESTful APIs that can be called in a custom policy.
- Actions: added to a custom policy to control permissions for specific operations.
- Dependencies: actions which a specific action depends on. When allowing an action for a user, you also need to allow any existing action dependencies for that user.
- IAM or enterprise projects: Type of projects for which an action will take effect. Policies that contain actions supporting both IAM and enterprise projects can be assigned to user groups and take effect in both IAM and Enterprise Management. Policies that only contain actions supporting IAM projects can be assigned to user groups and only take effect for IAM. Such policies will not take effect if they are assigned to user groups in Enterprise Project.

For details about the differences between IAM and enterprise projects, see [Differences Between IAM and Enterprise Management](#).

Only the APIs listed in [Table 22-1](#) support custom authorization.

 **NOTE**

The check mark (√) indicates that an action takes effect. The cross mark (x) indicates that an action does not take effect.

DLI supports the following actions that can be defined in custom policies:

**Table 22-1** Actions

| Permission       | API                                           | Actions                | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|------------------|-----------------------------------------------|------------------------|-----------------------|-----------------------------------------|
| Creating a queue | POST /v1.0/{project_id}/queues                | dli:queue:create Queue | √                     | √                                       |
| Deleting a queue | DELETE /v1.0/{project_id}/queues/{queue_name} | dli:queue:dropQueue    | √                     | √                                       |
| Submitting a job | POST /v1.0/{project_id}/jobs/submit-job       | dli:queue:submit Job   | √                     | ×                                       |
| Canceling a job  | DELETE /v1.0/{project_id}/jobs/{job_id}       | dli:queue:cancelJob    | √                     | ×                                       |

| Permission                                            | API                                               | Actions                                 | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|-------------------------------------------------------|---------------------------------------------------|-----------------------------------------|-----------------------|-----------------------------------------|
| Viewing queue permissions of other users              | GET /v1.0/{project_id}/queues/{queue_name}/users  | dli:queue:showPrivileges                | √                     | ×                                       |
| Restarting a queue                                    | PUT /v1.0/{project_id}/queues/{queue_name}/action | dli:queue:restart                       | √                     | ×                                       |
| Scaling out/in a queue                                | PUT /v1.0/{project_id}/queues/{queue_name}/action | dli:queue:scaleQueue                    | √                     | ×                                       |
| Granting elastic resource pool permissions            | PUT /v1.0/{project_id}/user-authorization         | dli:elasticresourcepool:grantPrivilege  | √                     | ×                                       |
| Revoking elastic resource pool permissions            | PUT /v1.0/{project_id}/user-authorization         | dli:elasticresourcepool:revokePrivilege | √                     | ×                                       |
| Obtaining information about all catalogs in a project | GET /v3/{project_id}/catalogs                     | dli:catalog:list                        | √                     | ×                                       |
| Querying details about a specified catalog            | GET /v3/{project_id}/catalogs/{catalog_name}      | dli:catalog:get                         | √                     | ×                                       |
| Binding a catalog                                     | POST /v3/{project_id}/catalogs/action             | dli:catalog:bind                        | √                     | ×                                       |
| Unbinding a catalog                                   | POST /v3/{project_id}/catalogs/action             | dli:catalog:unbind                      | √                     | ×                                       |

| Permission                                        | API                                                             | Actions                              | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|---------------------------------------------------|-----------------------------------------------------------------|--------------------------------------|-----------------------|-----------------------------------------|
| Creating a database                               | POST /v1.0/{project_id}/databases                               | dli:database:createDatabase          | √                     | ×                                       |
| Deleting a database                               | DELETE /v1.0/{project_id}/databases/{database_name}             | dli:database:dropDatabase            | √                     | ×                                       |
| Modifying database configuration                  | POST /v1.0/{project_id}/jobs/submit-job                         | dli:database:alterDatabaseProperties | √                     | ×                                       |
| Explaining the SQL statement as an execution plan | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:explain                 | √                     | ×                                       |
| Creating a table                                  | POST /v1.0/{project_id}/databases/{database_name}/tables        | dli:database:createTable             | √                     | ×                                       |
| Creating a view                                   | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:createView              | √                     | ×                                       |
| Creating a function                               | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:createFunction          | √                     | ×                                       |
| Describing a function                             | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:describeFunction        | √                     | ×                                       |
| Deleting a function                               | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:dropFunction            | √                     | ×                                       |

| Permission                                                       | API                                                             | Actions                     | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------|-----------------------|-----------------------------------------|
| Displaying a function                                            | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:showFunctions  | √                     | ×                                       |
| Creating a role                                                  | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:createRole     | √                     | ×                                       |
| Deleting a role                                                  | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:dropRole       | √                     | ×                                       |
| Displaying a role                                                | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:showRoles      | √                     | ×                                       |
| Displaying all roles                                             | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:showAllRoles   | √                     | ×                                       |
| Binding a role                                                   | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:grantRole      | √                     | ×                                       |
| Unbinding a role                                                 | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:revokeRole     | √                     | ×                                       |
| Displaying the binding relationships between all roles and users | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking | dli:database:showUsers      | √                     | ×                                       |
| Viewing database permissions of other users                      | GET /v1.0/{project_id}/databases/{database_name}/users          | dli:database:showPrivileges | √                     | ×                                       |

| Permission                                        | API                                                                          | Actions                          | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|---------------------------------------------------|------------------------------------------------------------------------------|----------------------------------|-----------------------|-----------------------------------------|
| Displaying a database                             | GET /v1.0/{project_id}/databases                                             | dli:database:displayDatabase     | √                     | ×                                       |
| Displaying all databases                          | GET /v1.0/{project_id}/databases                                             | dli:database:displayAllDatabases | √                     | ×                                       |
| Displaying all tables                             | GET /v1.0/{project_id}/databases                                             | dli:database:displayAllTables    | √                     | ×                                       |
| Granting database permissions to a specified user | PUT /v1.0/{project_id}/user-authorization                                    | dli:database:grantPrivilege      | √                     | ×                                       |
| Removing database permissions of a specified user | PUT /v1.0/{project_id}/user-authorization                                    | dli:database:revokePrivilege     | √                     | ×                                       |
| Deleting a table                                  | DELETE /v1.0/{project_id}/databases/{database_name}/tables/{table_name}      | dli:table:dropTable              | √                     | ×                                       |
| Displaying the table structure                    | GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}         | dli:table:describeTable          | √                     | ×                                       |
| Querying a table                                  | GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/preview | dli:table:select                 | √                     | ×                                       |
| Displaying table configuration                    | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:showTableProperties    | √                     | ×                                       |

| Permission                                   | API                                                                          | Actions                              | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|----------------------------------------------|------------------------------------------------------------------------------|--------------------------------------|-----------------------|-----------------------------------------|
| Displaying the table creation statement      | GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/preview | dli:table:showCreateTable            | √                     | ×                                       |
| Displaying all partitions                    | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:showPartitions             | √                     | ×                                       |
| Setting table configuration                  | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:alterTableSetProperties    | √                     | ×                                       |
| Adding a column                              | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:alterTableAddColumns       | √                     | ×                                       |
| Adding partitions to a partitioned table     | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:alterTableAddPartition     | √                     | ×                                       |
| Renaming a table partition                   | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:alterTableRenamePartition  | √                     | ×                                       |
| Deleting partitions from a partitioned table | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:alterTableDropPartition    | √                     | ×                                       |
| Restoring a table partition                  | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:alterTableRecoverPartition | √                     | ×                                       |
| Renaming a table                             | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking              | dli:table:alterTableRename           | √                     | ×                                       |

| Permission                               | API                                                                        | Actions                          | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|------------------------------------------|----------------------------------------------------------------------------|----------------------------------|-----------------------|-----------------------------------------|
| Setting the partition path               | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking            | dli:table:alterTableSetLocation  | √                     | ×                                       |
| Inserting table data                     | POST /v1.0/{project_id}/jobs/submit-job, statement invoking                | dli:table:insertIntoTable        | √                     | ×                                       |
| Rewriting table data                     | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking            | dli:table:insertOverwriteTable   | √                     | ×                                       |
| Viewing table permissions of other users | GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/users | dli:table:showPrivileges         | √                     | ×                                       |
| Clearing a table                         | POST /v1.0/{project_id}/jobs/submit-job                                    | dli:table:truncateTable          | √                     | ×                                       |
| Updating a table                         | POST /v1.0/{project_id}/jobs/submit-job                                    | dli:table:update                 | √                     | ×                                       |
| Deleting table data                      | POST /v1.0/{project_id}/jobs/submit-job                                    | dli:table:delete                 | √                     | ×                                       |
| Modifying column information             | POST /v1.0/{project_id}/jobs/submit-job                                    | dli:table:alterTableChangeColumn | √                     | ×                                       |
| Deleting a column                        | POST /v1.0/{project_id}/jobs/submit-job                                    | dli:table:alterTableDropColumns  | √                     | ×                                       |
| Displaying data segments                 | POST /v1.0/{project_id}/jobs/submit-job                                    | dli:table:showSegments           | √                     | ×                                       |
| Merging data segments                    | POST /v1.0/{project_id}/jobs/submit-job                                    | dli:table:compaction             | √                     | ×                                       |



| Permission                                                                     | API                                                                             | Actions                           | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------|-----------------------|-----------------------------------------|
| Modifying a view                                                               | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking                 | dli:table:alterView               | √                     | ×                                       |
| Displaying the table structure                                                 | POST /v1.0/{project_id}/jobs/submit-job, executing corresponding SQL statements | dli:table:describeTable           | √                     | ×                                       |
| Granting data table permissions to a specified user                            | PUT /v1.0/{project_id}/user-authorization                                       | dli:table:grantPrivilege          | √                     | ×                                       |
| Removing data table permissions of a specified user                            | PUT /v1.0/{project_id}/user-authorization                                       | dli:table:revokePrivilege         | √                     | ×                                       |
| Viewing the security authentication information permission list of other users | GET /v1.0/{project_id}/datasource/auth-infos/{auth_name}/users                  | dli:datasourceauth:showPrivileges | √                     | ×                                       |
| Using security authentication information                                      | POST /v1.0/{project_id}/jobs/submit-job                                         | dli:datasourceauth:useAuth        | √                     | ×                                       |

| Permission                                                       | API                                                              | Actions                            | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------|-----------------------|-----------------------------------------|
| Deleting security authentication information                     | DELETE /v2.0/{project_id}/datasource/auth-infos/{auth_info_name} | dli:datasourceauth:dropAuth        | √                     | ×                                       |
| Updating security authentication information                     | PUT /v2.0/{project_id}/datasource/auth-infos                     | dli:datasourceauth:updateAuth      | √                     | ×                                       |
| Granting security authentication permissions to a specified user | PUT /v1.0/{project_id}/user-authorization                        | dli:datasourceauth:grantPrivilege  | √                     | ×                                       |
| Removing security authentication permissions of a specified user | PUT /v1.0/{project_id}/user-authorization                        | dli:datasourceauth:revokePrivilege | √                     | ×                                       |
| Removing job permissions of a specified user                     | PUT /v1.0/{project_id}/authorization                             | dli:jobs:revokePrivilege           | √                     | ×                                       |
| Querying a Column                                                | POST /v1.0/{project_id}/jobs/submit-job, SQL statement invoking  | dli:column:select                  | √                     | ×                                       |

| Permission                                     | API                                                  | Actions                    | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|------------------------------------------------|------------------------------------------------------|----------------------------|-----------------------|-----------------------------------------|
| Granting permissions to a specified user queue | PUT /v1.0/{project_id}/user-authorization            | dli:column:grant Privilege | √                     | ×                                       |
| Removing permissions of a specified user queue | PUT /v1.0/{project_id}/user-authorization            | dli:column:revokePrivilege | √                     | ×                                       |
| Listing Flink jobs                             | GET /v1.0/{project_id}/streaming/jobs                | dli:jobs:listAll           | √                     | ×                                       |
| Querying Flink job details                     | GET /v1.0/{project_id}/streaming/jobs/{job_id}       | dli:jobs:get               | √                     | ×                                       |
| Creating a Flink SQL job                       | POST /v1.0/{project_id}/streaming/sql-jobs           | dli:jobs:create            | √                     | ×                                       |
| Creating a Flink Jar job                       | POST /v1.0/{project_id}/streaming/flink-jobs         | dli:jobs:create            | √                     | ×                                       |
| Updating a Flink SQL job                       | PUT /v1.0/{project_id}/streaming/sql-jobs/{job_id}   | dli:jobs:update            | √                     | ×                                       |
| Updating a Flink Jar job                       | PUT /v1.0/{project_id}/streaming/flink-jobs/{job_id} | dli:jobs:update            | √                     | ×                                       |
| Deleting a Flink job                           | DELETE /v1.0/{project_id}/streaming/jobs/{job_id}    | dli:jobs:delete            | √                     | ×                                       |
| Running Flink jobs in batches                  | POST /v1.0/{project_id}/streaming/jobs/run           | dli:jobs:start             | √                     | ×                                       |

| Permission           | API                                                   | Actions       | IAM Project (Project) | Enterprise Project (Enterprise Project) |
|----------------------|-------------------------------------------------------|---------------|-----------------------|-----------------------------------------|
| Stopping a Flink job | POST /v1.0/{project_id}/streaming/jobs/stopob_id/stop | dli:jobs:stop | √                     | ×                                       |

# 23 Out-of-Date APIs

## 23.1 Agency-related APIs (Deprecated)

### 23.1.1 Obtaining DLI Agency Information (Deprecated)

#### Function

This API is used to obtain the agency information of a DLI user.

 **NOTE**

This API has been deprecated and is not recommended.

#### URI

- URI format  
GET /v2/{project\_id}/agency
- Parameter description

**Table 23-1** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

#### Request Parameters

None

## Response Parameters

Table 23-2 Response parameters

| Parameter     | Man<br>dato<br>ry | Type                       | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|-------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success    | No                | Boole<br>an                | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| message       | No                | String                     | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| version       | No                | String                     | Agency version information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| current_roles | No                | Array<br>of<br>String<br>s | Role. The supported values are as follows:<br><b>obs_admin</b> : Administrator permissions for accessing and using the Object Storage Service.<br><b>dis_admin</b> : Administrator permissions for using Data Ingestion Service data as the data source<br><b>ctable_admin</b> : Administrator permissions for accessing and using the CloudTable service<br><b>vpc_netadm</b> : Administrator permissions for using the Virtual Private Cloud service<br><b>smn_admin</b> : Administrator permissions for using the Simple Message Notification service<br><b>te_admin</b> : Tenant Administrator permissions |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "version": "v2",
 "current_roles": [
 "ctable_admin",
 "vpc_netadm",
 "ief_admin",
 "dis_admin",
 "smn_admin",
 "obs_admin"
]
}
```

## Status Codes

Table 23-3 describes status codes.

**Table 23-3** Status codes

| Status Code | Description                         |
|-------------|-------------------------------------|
| 200         | The agency information is obtained. |
| 400         | Request failure.                    |
| 404         | Not found.                          |
| 500         | Internal service error.             |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

**Table 23-4** Error codes

| Error Code | Error Message             |
|------------|---------------------------|
| DLI.0002   | The object does not exist |
| DLI.0999   | An internal error occurs  |

## 23.1.2 Creating a DLI Agency (Deprecated)

### Function

This API is used to create an agency for a DLI user.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
POST /v2/{project\_id}/agency
- Parameter description

Table 23-5 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

Table 23-6 Request parameters

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| roles     | Yes       | Array of Strings | <p>Role.</p> <p>Currently, only <b>obs_adm</b>, <b>dis_adm</b>, <b>ctable_adm</b>, <b>vpc_netadm</b>, <b>smn_adm</b>, and <b>te_admin</b> are supported.</p> <ul style="list-style-type: none"><li>• <b>obs_adm</b>: Administrator permissions for accessing and using the Object Storage Service.</li><li>• <b>dis_adm</b>: Administrator permissions for using Data Ingestion Service data as the data source</li><li>• <b>ctable_adm</b>: Administrator permissions for accessing and using the CloudTable service</li><li>• <b>vpc_netadm</b>: Administrator permissions for using the Virtual Private Cloud service</li><li>• <b>smn_adm</b>: Administrator permissions for using the Simple Message Notification service</li><li>• <b>te_admin</b>: Tenant Administrator permissions</li></ul> |

## Response Parameters

Table 23-7 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |



| Parameter | Mandatory | Type   | Description                                                                    |
|-----------|-----------|--------|--------------------------------------------------------------------------------|
| message   | No        | String | System prompt. If execution succeeds, the parameter setting may be left blank. |

## Example Request

Create a DLI user agency. The agency has the following permissions: **CloudTable Administrator** for accessing and using CloudTable, **VPC Administrator** for using VPC, **DIS Administrator** for accessing and using DIS, **SMN Administrator** for using SMN, and accessing and using OBS.

```
{
 "roles": [
 "ctable_adm",
 "vpc_netadm",
 "dis_adm",
 "smn_adm",
 "obs_adm"
]
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 23-8](#) describes status codes.

**Table 23-8** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is created successfully. |
| 400         | Request failure.                 |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.2 Package Group-related APIs (Deprecated)

## 23.2.1 Uploading a Package Group (Deprecated)

### Function

This API is used to upload a package group to a **project**. The function is similar to creating a package on the management console.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
POST /v2.0/{project\_id}/resources
- Parameter description

Table 23-9 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

Table 23-10 Request parameters

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| paths     | Yes       | Array of Strings | List of OBS object paths. The OBS object path refers to the OBS object URL.                                                                                                                                                                                                                                                                                                          |
| kind      | Yes       | String           | File type of a package group. <ul style="list-style-type: none"><li>• <b>jar</b>: JAR file</li><li>• <b>pyFile</b>: User Python file</li><li>• <b>file</b>: User file</li><li>• <b>modelFile</b>: User AI model file</li></ul> <b>NOTE</b><br>If the same group of packages to be uploaded contains different file types, select <b>file</b> as the type of the file to be uploaded. |
| group     | Yes       | String           | Name of the group to be created.                                                                                                                                                                                                                                                                                                                                                     |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                        |
|-----------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_async  | No        | Boolean          | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| tags      | No        | Array of objects | Resource tag. For details, see <a href="#">Table 23-11</a> .                                                                                                                                                       |

**Table 23-11** tags parameter

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                     |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | <b>Definition</b><br>Tag key.<br><b>Constraints</b><br>None<br><b>Range</b><br>A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters ( _ . : + - @ ) are allowed, but the value cannot start or end with a space or start with <b>_sys_</b> .<br><b>Default Value</b><br>None |
| value     | Yes       | String | <b>Definition</b><br>Tag value.<br><b>Constraints</b><br>None<br><b>Range</b><br>A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters ( _ . : + - @ ) are allowed.<br><b>Default Value</b><br>None                                                                         |

## Response Parameters

**Table 23-12** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                                                                                                        |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| group_name  | No        | String           | Group name.                                                                                                                                                                                                        |
| status      | No        | String           | Status of a package group to be uploaded.                                                                                                                                                                          |
| resources   | No        | Array of strings | List of names of resource packages contained in the group.                                                                                                                                                         |
| details     | No        | Array of body    | Details about a group resource package. For details, see <a href="#">Table 23-13</a> .                                                                                                                             |
| create_time | No        | Long             | UNIX timestamp when a package group is uploaded.                                                                                                                                                                   |
| update_time | No        | Long             | UNIX timestamp when a package group is updated.                                                                                                                                                                    |
| is_async    | No        | Boolean          | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| owner       | No        | String           | Owner of a resource package.                                                                                                                                                                                       |

**Table 23-13** details parameter description

| Parameter     | Mandatory | Type   | Description                                                                                 |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------|
| create_time   | Yes       | Long   | UNIX time when a resource package is uploaded. The timestamp is in milliseconds.            |
| update_time   | No        | Long   | UNIX time when the uploaded resource package is uploaded. The timestamp is in milliseconds. |
| resource_type | Yes       | String | Resource type.                                                                              |
| resource_name | No        | String | Resource name.                                                                              |

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                 |
|-----------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status          | No        | String  | <ul style="list-style-type: none"><li>Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li><li>Value <b>READY</b> indicates that the resource package has been uploaded.</li><li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li></ul> |
| underlying_name | No        | String  | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                   |
| is_async        | No        | Boolean | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode.                                                                                          |

## Example Request

Upload a JAR file from OBS to DLI and name the group **gatk**.

```
{
 "paths": [
 "https://xkftest.obs.xxx.com/txr_test/jars/spark-sdv-app.jar",
 "https://xkftest.obs.xxx.com/txr_test/jars/wordcount",
 "https://xkftest.obs.xxx.com/txr_test/jars/wordcount.py"
],
 "kind": "jar",
 "group": "gatk",
 "is_async": "true"
}
```

## Example Response

```
{
 "group_name": "gatk",
 "status": "READY",
 "resources": [
 "spark-sdv-app.jar",
 "wordcount",
 "wordcount.py"
],
 "details": [
 {
 "create_time": 0,
 "update_time": 0,
 "resource_type": "jar",
 "resource_name": "spark-sdv-app.jar",
 "status": "READY",
 "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_spark-sdv-app.jar"
 },
 {
 "create_time": 0,
 "update_time": 0,
 "resource_type": "jar",
 "resource_name": "wordcount",
 "status": "READY",

```

```
 "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_wordcount"
 },
 {
 "create_time": 0,
 "update_time": 0,
 "resource_type": "jar",
 "resource_name": "wordcount.py",
 "status": "READY",
 "underlying_name": "987e208d-d46e-4475-a8c0-a62f0275750b_wordcount.py"
 }
],
"create_time": 1551334579654,
"update_time": 1551345369070
}
```

## Status Codes

[Table 23-14](#) describes the status code.

**Table 23-14** Status codes

| Status Code | Description                        |
|-------------|------------------------------------|
| 201         | The file is successfully uploaded. |
| 400         | Request error.                     |
| 500         | Internal service error.            |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.2.2 Listing Package Groups (Deprecated)

### Function

This API is used to query all resources in a project, including groups.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
GET /v2.0/{project\_id}/resources
- Parameter description

**Table 23-15** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 23-16** query parameter description

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                           |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| kind      | No        | String | Specifies the file type. The options are as follows: <ul style="list-style-type: none"><li>• <b>jar</b>: JAR file</li><li>• <b>pyFile</b>: User Python file</li><li>• <b>file</b>: User file</li><li>• <b>modelFile</b>: User AI model file</li></ul> |
| tags      | No        | String | Specifies a label for filtering.                                                                                                                                                                                                                      |

## Request Parameters

None

## Response Parameters

**Table 23-17** Response parameters

| Parameter | Mandatory | Type             | Description                                                                                              |
|-----------|-----------|------------------|----------------------------------------------------------------------------------------------------------|
| resources | No        | Array of objects | List of names of uploaded user resources. For details about resources, see <a href="#">Table 23-18</a> . |
| modules   | No        | Array of objects | List of built-in resource groups. For details about the groups, see <a href="#">Table 23-19</a> .        |
| groups    | No        | Array of objects | Uploaded package groups of a user.                                                                       |
| total     | Yes       | Integer          | Total number of returned resource packages.                                                              |

**Table 23-18** resources parameters

| Parameter       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                           |
|-----------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time     | No        | Long   | UNIX timestamp when a resource package is uploaded.                                                                                                                                                                                                                                                   |
| update_time     | No        | Long   | UNIX timestamp when the uploaded resource package is uploaded.                                                                                                                                                                                                                                        |
| resource_type   | No        | String | Resource type.                                                                                                                                                                                                                                                                                        |
| resource_name   | No        | String | Resource name.                                                                                                                                                                                                                                                                                        |
| status          | No        | String | <ul style="list-style-type: none"><li>Value <b>UPLOADING</b> indicates that the resource package is being uploaded.</li><li>Value <b>READY</b> indicates that the resource package has been uploaded.</li><li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li></ul> |
| underlying_name | No        | String | Name of the resource package in the queue.                                                                                                                                                                                                                                                            |
| owner           | No        | String | Owner of the resource package.                                                                                                                                                                                                                                                                        |

**Table 23-19** modules parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                  |
|-------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| module_name | No        | String           | Module name.                                                                                                                                                                                                                                                                                 |
| module_type | No        | String           | Module type.                                                                                                                                                                                                                                                                                 |
| status      | No        | String           | <ul style="list-style-type: none"><li>Value <b>UPLOADING</b> indicates that the package group is being uploaded.</li><li>Value <b>READY</b> indicates that the package group has been uploaded.</li><li>Value <b>FAILED</b> indicates that the package group fails to be uploaded.</li></ul> |
| resources   | No        | Array of Strings | List of names of resource packages contained in the group.                                                                                                                                                                                                                                   |
| description | No        | String           | Module description.                                                                                                                                                                                                                                                                          |
| create_time | No        | Long             | UNIX timestamp when a package group is uploaded.                                                                                                                                                                                                                                             |



| Parameter   | Mand<br>atory | Type | Description                                     |
|-------------|---------------|------|-------------------------------------------------|
| update_time | No            | Long | UNIX timestamp when a package group is updated. |

Example Request

None

Example Response

```
{
 "resources": [
 {
 "create_time": 1521532893736,
 "update_time": 1521552364503,
 "resource_type": "jar",
 "resource_name": "luxor-router-1.1.1.jar",
 "status": "READY",
 "underlying_name": "3efffb4f-40e9-455e-8b5a-a23b4d355e46_luxor-router-1.1.1.jar"
 }
],
 "groups": [
 {
 "group_name": "groupTest",
 "status": "READY",
 "resources": [
 "part-00000-9dfc17b1-2feb-45c5-b81d-bff533d6ed13.csv.gz",
 "person.csv"
],
 "details": [
 {
 "create_time": 1547090015132,
 "update_time": 1547090015132,
 "resource_type": "jar",
 "resource_name": "part-00000-9dfc17b1-2feb-45c5-b81d-bff533d6ed13.csv.gz",
 "status": "READY",
 "underlying_name": "db50c4dc-7187-4eb9-a5d0-73ba8102ea5e_part-00000-9dfc17b1-2feb-45c5-b81d-bff533d6ed13.csv.gz"
 },
 {
 "create_time": 1547091098668,
 "update_time": 1547091098668,
 "resource_type": "file",
 "resource_name": "person.csv",
 "status": "READY",
 "underlying_name": "a4243a8c-bca6-4e77-a968-1f3b00217474_person.csv"
 }
],
 "create_time": 1547090015131,
 "update_time": 1547091098666
 }
],
 "modules": [
 {
 "module_name": "gatk",
 "status": "READY",
 "resources": [
 "gatk.jar",
 "tika-core-1.18.jar",
 "s3fs-2.2.2.jar"
],
 "create_time": 1521532893736,
```

```
 "update_time": 1521552364503
 }
]
```

### Status Codes

[Table 23-20](#) describes the status code.

**Table 23-20** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.2.3 Uploading a JAR Package Group (Deprecated)

### Function

This API is used to upload a group of JAR packages to a **project**.

When a resource group with the same name is uploaded, the new group overwrites the old group.

 **NOTE**

This API has been deprecated and is not recommended.

### URI

- URI format  
POST /v2.0/{project\_id}/resources/jars
- Parameter description

**Table 23-21** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

Table 23-22 Request parameters

| Parameter | Mandatory | Type             | Description                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------|
| paths     | Yes       | Array of Strings | List of OBS object paths. The OBS object path refers to the OBS object URL. |
| group     | Yes       | String           | Name of a package group.                                                    |

## Response Parameters

Table 23-23 Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                                                                                                        |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| group_name  | No        | String           | Group name.                                                                                                                                                                                                        |
| status      | No        | String           | Status of a package group to be uploaded.                                                                                                                                                                          |
| resources   | No        | Array of strings | List of names of resource packages contained in the group.                                                                                                                                                         |
| details     | No        | Array of body    | Details about a group resource package. For details, see <a href="#">Table 23-24</a> .                                                                                                                             |
| create_time | No        | Long             | UNIX timestamp when a package group is uploaded.                                                                                                                                                                   |
| update_time | No        | Long             | UNIX timestamp when a package group is updated.                                                                                                                                                                    |
| is_async    | No        | Boolean          | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| owner       | No        | String           | Owner of a resource package.                                                                                                                                                                                       |
| description | No        | String           | Description of a resource module.                                                                                                                                                                                  |
| module_name | No        | String           | Name of a resource module.                                                                                                                                                                                         |
| module_type | No        | String           | Type of a resource module. <ul style="list-style-type: none"><li>• <b>jar</b>: User JAR file</li><li>• <b>pyFile</b>: User Python file</li><li>• <b>file</b>: User file</li></ul>                                  |

**Table 23-24** details parameter description

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                 |
|-----------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time     | No        | Long    | UNIX time when a resource package is uploaded. The timestamp is in milliseconds.                                                                                                                                                                                                                            |
| update_time     | No        | Long    | UNIX time when the uploaded resource package is uploaded. The timestamp is in milliseconds.                                                                                                                                                                                                                 |
| resource_type   | No        | String  | Resource type. Set this parameter to <b>jar</b> .                                                                                                                                                                                                                                                           |
| resource_name   | No        | String  | Resource name.                                                                                                                                                                                                                                                                                              |
| status          | No        | String  | <ul style="list-style-type: none"><li>Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li><li>Value <b>READY</b> indicates that the resource package has been uploaded.</li><li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li></ul> |
| underlying_name | No        | String  | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                   |
| is_async        | No        | Boolean | Indicates whether to upload a resource package asynchronously.                                                                                                                                                                                                                                              |

**Example Request**

Upload a JAR file from OBS to DLI and name the group **gatk**.

```
{
 "paths": [
 "https://test.obs.xxx.com/test_dli.jar"
],
 "group": "gatk"
}
```

**Example Response**

```
{
 "group_name": "gatk",
 "status": "READY",
 "resources": [
 "test_dli.jar"
],
 "details": [
 {
 "create_time": 1608804435312,
 "update_time": 1608804435312,
 "resource_type": "jar",
 "resource_name": "test_dli.jar",
 }
]
}
```

```
{
 "status": "READY",
 "underlying_name": "test_dli.jar"
},
{
 "create_time": 1521532893736,
 "update_time": 1521552364503,
 "is_async": false
}
```

## Status Codes

[Table 23-25](#) describes the status code.

**Table 23-25** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 201         | Upload succeeded.       |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.2.4 Uploading a PyFile Package Group (Deprecated)

### Function

This API is used to upload a group of **PyFile** packages to a **project**. When a group with the same name as the PyFile package is uploaded, the new group overwrites the old group.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
POST /v2.0/{project\_id}/resources/pyfiles
- Parameter description

**Table 23-26** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 23-27** Request parameters

| Parameter | Mandatory | Type             | Description                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------|
| paths     | Yes       | Array of strings | List of OBS object paths. The OBS object path refers to the OBS object URL. |
| group     | Yes       | String           | Name of a package group.                                                    |

## Response Parameters

**Table 23-28** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                            |
|-------------|-----------|------------------|----------------------------------------------------------------------------------------|
| group_name  | No        | String           | Group name.                                                                            |
| status      | No        | String           | Status of a package group to be uploaded.                                              |
| resources   | No        | Array of strings | List of names of resource packages contained in the group.                             |
| details     | No        | Array of body    | Details about a group resource package. For details, see <a href="#">Table 23-29</a> . |
| create_time | No        | Long             | UNIX timestamp when a package group is uploaded.                                       |
| update_time | No        | Long             | UNIX timestamp when a package group is updated.                                        |

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                        |
|-------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_async    | No        | Boolean | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| owner       | No        | String  | Owner of a resource package.                                                                                                                                                                                       |
| description | No        | String  | Description of a resource module.                                                                                                                                                                                  |
| module_name | No        | String  | Name of a resource module.                                                                                                                                                                                         |
| module_type | No        | String  | Type of a resource module. <ul style="list-style-type: none"><li>• <b>jar</b>: User JAR file</li><li>• <b>pyFile</b>: User Python file</li><li>• <b>file</b>: User file</li></ul>                                  |

Table 23-29 details parameter description

| Parameter       | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                       |
|-----------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time     | No        | Long   | UNIX time when a resource package is uploaded. The timestamp is in milliseconds.                                                                                                                                                                                                                                  |
| update_time     | No        | Long   | UNIX time when the uploaded resource package is uploaded. The timestamp is in milliseconds.                                                                                                                                                                                                                       |
| resource_type   | No        | String | Resource type. Set this parameter to <b>pyFile</b> .                                                                                                                                                                                                                                                              |
| resource_name   | No        | String | Resource name.                                                                                                                                                                                                                                                                                                    |
| status          | No        | String | <ul style="list-style-type: none"><li>• Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li><li>• Value <b>READY</b> indicates that the resource package has been uploaded.</li><li>• Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li></ul> |
| underlying_name | No        | String | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                         |

| Parameter | Mandatory | Type    | Description                                                    |
|-----------|-----------|---------|----------------------------------------------------------------|
| is_async  | No        | Boolean | Indicates whether to upload a resource package asynchronously. |

Example Request

Upload a Python file from OBS to DLI and name the group **gatk**.

```
{
 "paths": [
 "https://test.obs.xxx.com/dli_tf.py"
],
 "group": " gatk"
}
```

Example Response

```
{
 "group_name": "gatk",
 "status": "READY",
 "resources": [
 "dli_tf.py"
],
 "details": [
 {
 "create_time": 1608804435312,
 "update_time": 1608804435312,
 "resource_type": "pyFile",
 "resource_name": "dli_tf.py",
 "status": "READY",
 "underlying_name": "dli_tf.py"
 }
],
 "create_time": 1521532893736,
 "update_time": 1521552364503,
 "is_async": false
}
```

Status Codes

[Table 23-30](#) describes the status code.

Table 23-30 Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 201         | Upload succeeded.       |
| 400         | Request error.          |
| 500         | Internal service error. |



## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.2.5 Uploading a File Package Group (Deprecated)

### Function

This API is used to upload a group of **File** packages to a **project**. When the **File** package group with the same name is uploaded, the new group overwrites the old group.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
POST /v2.0/{project\_id}/resources/files
- Parameter description

**Table 23-31** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 23-32** Request parameters

| Parameter | Mandatory | Type             | Description                                                                 |
|-----------|-----------|------------------|-----------------------------------------------------------------------------|
| paths     | Yes       | Array of Strings | List of OBS object paths. The OBS object path refers to the OBS object URL. |
| group     | Yes       | String           | Name of a package group.                                                    |

## Response Parameters

**Table 23-33** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                                                                                                                        |
|-------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| group_name  | No        | String           | Group name.                                                                                                                                                                                                        |
| status      | No        | String           | Status of a package group to be uploaded.                                                                                                                                                                          |
| resources   | No        | Array of strings | List of names of resource packages contained in the group.                                                                                                                                                         |
| details     | No        | Array of body    | Details about a group resource package. For details, see <a href="#">Table 23-34</a> .                                                                                                                             |
| create_time | No        | Long             | UNIX timestamp when a package group is uploaded.                                                                                                                                                                   |
| update_time | No        | Long             | UNIX timestamp when a package group is updated.                                                                                                                                                                    |
| is_async    | No        | Boolean          | Whether to upload resource packages in asynchronous mode. The default value is <b>false</b> , indicating that the asynchronous mode is not used. You are advised to upload resource packages in asynchronous mode. |
| owner       | No        | String           | Owner of a resource package.                                                                                                                                                                                       |
| description | No        | String           | Description of a resource module.                                                                                                                                                                                  |
| module_name | No        | String           | Name of a resource module.                                                                                                                                                                                         |
| module_type | No        | String           | Type of a resource module. <ul style="list-style-type: none"><li>• <b>jar</b>: User JAR file</li><li>• <b>pyFile</b>: User Python file</li><li>• <b>file</b>: User file</li></ul>                                  |

**Table 23-34** details parameter description

| Parameter   | Mandatory | Type | Description                                                                                |
|-------------|-----------|------|--------------------------------------------------------------------------------------------|
| create_time | No        | Long | UNIX time when a resource package is uploaded. The timestamp is expressed in milliseconds. |

| Parameter       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                 |
|-----------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| update_time     | No        | Long    | UNIX time when the uploaded resource package is uploaded. The timestamp is expressed in milliseconds.                                                                                                                                                                                                       |
| resource_type   | No        | String  | Resource type. Set this parameter to <b>file</b> .                                                                                                                                                                                                                                                          |
| resource_name   | No        | String  | Resource name.                                                                                                                                                                                                                                                                                              |
| status          | No        | String  | <ul style="list-style-type: none"><li>Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li><li>Value <b>READY</b> indicates that the resource package has been uploaded.</li><li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li></ul> |
| underlying_name | No        | String  | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                   |
| is_async        | No        | Boolean | Indicates whether to upload a resource package asynchronously.                                                                                                                                                                                                                                              |

## Example Request

Upload a file from OBS to DLI and name the group **gatk**.

```
{
 "paths": [
 "https://test.obs.xxx.com/test_dli.jar",
 "https://test.obs.xxx.com/dli_tf.py"
],
 "group": "gatk"
}
```

## Example Response

```
{
 "group_name": "gatk",
 "status": "READY",
 "resources": [
 "test_dli.jar",
 "dli_tf.py"
],
 "details": [
 {
 "create_time": 1608804435312,
 "update_time": 1608804435312,
 "resource_type": "file",
 "resource_name": "test_dli.jar",
 "status": "READY",
 "underlying_name": "test_dli.jar"
 },
 {
 "create_time": 1608804435312,
```

```
"update_time":1608804435312,
"resource_type":"file",
"resource_name":"dli_tf.py",
"status":"READY",
"underlying_name":"dli_tf.py"
},
"create_time": 1521532893736,
"update_time": 1521552364503,
"is_async":false
}
```

Status Codes

Table 23-35 describes the status code.

Table 23-35 Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 201         | Upload succeeded.       |
| 400         | Request error.          |
| 500         | Internal service error. |

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

23.2.6 Querying Resource Packages in a Group (Deprecated)

Function

This API is used to query resource information of a package group in a **Project**.

 NOTE

This API has been deprecated and is not recommended.

URI

- URI format  
GET /v2.0/{project\_id}/resources/{resource\_name}
- Parameter description

**Table 23-36** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| resource_name | Yes       | String | Name of the resource package that is uploaded.                                                                                            |

**Table 23-37** query parameter description

| Parameter | Mandatory | Type   | Description                                                               |
|-----------|-----------|--------|---------------------------------------------------------------------------|
| group     | No        | String | Name of the package group returned when the resource package is uploaded. |

 **NOTE**

The following is an example of the URL containing the **query** parameter:  
GET /v2.0/{project\_id}/resources/{resource\_name}?group={group}

## Request Parameters

None

## Response Parameters

**Table 23-38** Response parameters

| Parameter     | Type   | Description                                                                                           |
|---------------|--------|-------------------------------------------------------------------------------------------------------|
| create_time   | Long   | UNIX time when a resource package is uploaded. The timestamp is expressed in milliseconds.            |
| update_time   | Long   | UNIX time when the uploaded resource package is uploaded. The timestamp is expressed in milliseconds. |
| resource_type | String | Resource type.                                                                                        |
| resource_name | String | Resource name.                                                                                        |

| Parameter       | Type   | Description                                                                                                                                                                                                                                                                                                 |
|-----------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status          | String | <ul style="list-style-type: none"><li>Value <b>UPLOADING</b> indicates that the resource package group is being uploaded.</li><li>Value <b>READY</b> indicates that the resource package has been uploaded.</li><li>Value <b>FAILED</b> indicates that the resource package fails to be uploaded.</li></ul> |
| underlying_name | String | Name of the resource packages in a queue.                                                                                                                                                                                                                                                                   |
| owner           | String | Owner of a resource package.                                                                                                                                                                                                                                                                                |

Example Request

None

Example Response

```
{
 "create_time": 1522055409139,
 "update_time": 1522228350501,
 "resource_type": "jar",
 "resource_name": "luxor-ommanager-dist.tar.gz",
 "status": "uploading",
 "underlying_name": "7885d26e-c532-40f3-a755-c82c442f19b8_luxor-ommanager-dist.tar.gz"
}
```

Status Codes

[Table 23-39](#) describes the status code.

**Table 23-39** Status codes

| Status Codes | Description              |
|--------------|--------------------------|
| 200          | The query is successful. |
| 400          | Request error.           |
| 500          | Internal service error.  |

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.2.7 Deleting a Resource Package from a Group (Deprecated)

### Function

This API is used to delete resource packages in a group in a **Project**.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
DELETE /v2.0/{project\_id}/resources/{resource\_name}
- Parameter description

**Table 23-40** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| resource_name | Yes       | String | Name of the resource package that is uploaded.                                                                                            |

**Table 23-41** query parameter description

| Parameter | Mandatory | Type   | Description                                                               |
|-----------|-----------|--------|---------------------------------------------------------------------------|
| group     | No        | String | Name of the package group returned when the resource package is uploaded. |

#### NOTE

The following is an example of the URL containing the **query** parameter:  
DELETE /v2.0/{project\_id}/resources/{resource\_name}?group={group}

### Request Parameters

None

### Response Parameters

- Code 200 is returned if you successfully delete a resource package.

- Code 404 is returned if you initiate a request to delete a resource package that does not exist.

## Example Request

None

## Example Response

None

## Status Codes

[Table 23-42](#) describes the status code.

**Table 23-42** Status codes

| Status Code | Description         |
|-------------|---------------------|
| 200         | Deletion succeeded. |
| 404         | Not found.          |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.2.8 Changing the Owner of a Group or Resource Package (Deprecated)

### Function

This API is used to change the owner of a program package.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
PUT /v2.0/{project\_id}/resources/owner
- Parameter description



**Table 23-43** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 23-44** Request parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                             |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| new_owner     | Yes       | String | New username. The name contains 5 to 32 characters, including only digits, letters, underscores (_), and hyphens (-). It cannot start with a digit.                                                                                                                                                                                                     |
| group_name    | Yes       | String | Group name. The name contains a maximum of 64 characters. Only digits, letters, periods (.), underscores (_), and hyphens (-) are allowed.                                                                                                                                                                                                              |
| resource_name | No        | String | Package name. The name can contain only digits, letters, underscores (_), exclamation marks (!), hyphens (-), and periods (.), but cannot start with a period. The length (including the file name extension) cannot exceed 128 characters.<br><br><b>This parameter is mandatory if you want to change the owner of a resource package in a group.</b> |

### NOTE

**group\_name** and **resource\_name** can be used independently or together.

- To change the owner of a group, use **group\_name**.
- To change the owner of a resource package, use **resource\_name**.
- To change the owner of a resource package in a group, use **group\_name** and **resource\_name** at the same time.

## Response Parameters

**Table 23-45** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |

## Example Request

Change the group name of the program package to **groupName** and the user name to **scuser1**.

```
{
 "new_owner": "scuser1",
 "group_name": "groupName"
}
```

## Example Response

```
{
 "is_success": "true",
 "message": ""
}
```

## Status Codes

[Table 23-46](#) describes the status code.

**Table 23-46** Status codes

| Status Code | Description                                 |
|-------------|---------------------------------------------|
| 200         | The modification operations are successful. |
| 404         | Request error.                              |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

**Table 23-47** Error codes

| Error Code | Error Message                  |
|------------|--------------------------------|
| DLI.0002   | No such user. userName:ssssss. |

## 23.3 Spark Batch Processing-related APIs (Deprecated)

### 23.3.1 Querying Batch Job Logs (Deprecated)

#### Function

This API is used to query the back-end logs of batch processing jobs.

#### NOTE

This API has been deprecated and is not recommended.

#### URI

- URI format  
GET /v2.0/{project\_id}/batches/{batch\_id}/log
- Parameter description

**Table 23-48** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| batch_id   | Yes       | String | ID of a batch processing job.                                                                                                             |

**Table 23-49** Request parameters

| Parameter | Mandatory | Type    | Description                                                                                                                                                            |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| from      | No        | Integer | Start line of the log to be displayed. By default, the last 100 lines of the log are displayed. If a log file contains fewer than 100 lines, line 0 is the start line. |
| size      | No        | Integer | Number of logs to be queried.                                                                                                                                          |

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                    |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type      | No        | String  | If <b>type</b> is set to <b>driver</b> , the Spark Driver log is generated.                                                                                                                                                                                                                                                                    |
| index     | No        | Integer | When a submitted job is retried, multiple driver logs are generated. This parameter specifies the <b>index</b> number of the specified driver log. The default value is <b>0</b> . This parameter must be used together with the <b>type</b> parameter. If only <b>index</b> is specified, the default value of <b>type</b> is <b>driver</b> . |

Request Parameters

None

Response Parameters

Table 23-50 Response parameters

| Parameter | Mandatory | Type             | Description                              |
|-----------|-----------|------------------|------------------------------------------|
| id        | No        | String           | ID of a batch processing job.            |
| from      | No        | Integer          | Start index of a log.                    |
| total     | No        | Long             | Total number of records in a log.        |
| log       | No        | Array of Strings | Log of the current batch processing job. |

Example Request

None

Example Response

```
{
 "id": "0a324461-d9d9-45da-a52a-3b3c7a3d809e",
 "from": 0,
 "total": 3,
 "log": [
 "Detailed information about job logs"
]
}
```

Status Codes

Table 23-51 describes the status code.

**Table 23-51** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.4 SQL Job-related APIs (Deprecated)

### 23.4.1 Importing Data (Deprecated)

#### Function

This API is used to import data from a file to a DLI or OBS table. Currently, only OBS data can be imported to a DLI or OBS table.

#### NOTE

- This API has been deprecated and is not recommended.
- This API is asynchronous.
- When importing data, you can select an existing OBS bucket path or create an OBS bucket path, but only one OBS bucket path can be specified.
- If you need to create an OBS bucket, ensure that the bucket name complies with the following naming rules:
  - The name must be globally unique in OBS.
  - The name must contain 3 to 63 characters. Only lowercase letters, digits, hyphens (-), and periods (.) are allowed.
  - The name cannot start or end with a period (.) or hyphen (-), and cannot contain two consecutive periods (.) or contain a period (.) and a hyphen (-) adjacent to each other.
  - The name cannot be an IP address.
  - If the name contains any period (.), the security certificate verification may be triggered when you access the bucket or objects in the bucket.
- If the type of a column in the source file to be imported does not match that of the target table, the query result of the row will be null.
- Two or more concurrent tasks of importing data to the same table are not allowed.

#### URI

- URI format  
POST /v1.0/{project\_id}/jobs/import-table

- Parameter description

**Table 23-52** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 23-53** Request parameters

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                                                                         |
|--------------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| data_path          | Yes       | String  | Path to the data to be imported. Currently, only OBS data can be imported.                                                                                                                                                          |
| data_type          | Yes       | String  | Type of the data to be imported. Currently, data types of CSV, Parquet, ORC, JSON, and Avro are supported.<br><b>NOTE</b><br>Data in <b>Avro</b> format generated by Hive tables cannot be imported.                                |
| database_name      | Yes       | String  | Name of the database where the table to which data is imported resides.                                                                                                                                                             |
| table_name         | Yes       | String  | Name of the table to which data is imported.                                                                                                                                                                                        |
| with_column_header | No        | Boolean | Whether the first line of the imported data contains column names, that is, headers. The default value is <b>false</b> , indicating that column names are not contained. This parameter can be specified when CSV data is imported. |
| delimiter          | No        | String  | User-defined data delimiter. The default value is a comma (,). This parameter can be specified when CSV data is imported.                                                                                                           |
| quote_char         | No        | String  | User-defined quotation character. The default value is double quotation marks ("). This parameter can be specified when CSV data is imported.                                                                                       |
| escape_char        | No        | String  | User-defined escape character. The default value is a backslash (\). This parameter can be specified when CSV data is imported.                                                                                                     |

| Parameter        | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| date_format      | No        | String  | Specified date format. The default value is <b>yyyy-MM-dd</b> . For details about the characters involved in the date format, see <a href="#">Table 23-54</a> . This parameter can be specified when data in the CSV or JSON format is imported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| bad_records_path | No        | String  | <b>Bad records</b> storage directory during job execution. After configuring this item, the <b>bad records</b> is not imported into the target table.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| timestamp_format | No        | String  | Specified time format. The default value is <b>yyyy-MM-dd HH:mm:ss</b> . For definitions about characters in the time format, see <a href="#">Table 23-54</a> . This parameter can be specified when data in the CSV or JSON format is imported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| queue_name       | No        | String  | Name of the queue that is specified to execute a task. If no queue is specified, the default queue is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| overwrite        | No        | Boolean | Whether to overwrite data. The default value is <b>false</b> , indicating appending write. If the value is <b>true</b> , it indicates overwriting.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| partition_spec   | No        | Object  | Partition to which data is to be imported. <ul style="list-style-type: none"><li>• If this parameter is not set, the entire table data is dynamically imported. The imported data must contain the data in the partition column.</li><li>• If this parameter is set and all partition information is configured during data import, data is imported to the specified partition. The imported data cannot contain data in the partition column.</li><li>• If not all partition information is configured during data import, the imported data must contain all non-specified partition data. Otherwise, abnormal values such as <b>null</b> exist in the partition field column of non-specified data after data import.</li></ul> |

| Parameter | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| conf      | No        | Array of Strings | User-defined parameter that applies to the job. Currently, <b>dli.sql.dynamicPartitionOverwrite.enabled</b> can be set to <b>false</b> by default. If it is set to <b>true</b> , data in a specified partition is overwritten. If it is set to <b>false</b> , data in the entire DataSource table is dynamically overwritten.<br><br><b>NOTE</b><br>For dynamic overwrite of Hive partition tables, only the involved partition data can be overwritten. The entire table data cannot be overwritten. |

**Table 23-54** Definition of characters involved in the date and time patterns

| Character | Date or Time Element  | Example                      |
|-----------|-----------------------|------------------------------|
| G         | Epoch ID              | AD                           |
| y         | Year                  | 1996; 96                     |
| M         | Month                 | July; Jul; 07                |
| w         | Which week in a year  | 27 (Week 27 in the year)     |
| W         | Which week in a month | 2 (Second week in the month) |
| D         | Which day in a year   | 189 (Day 189 in the year)    |
| d         | Which day in a month  | 10 (Day 10 in the month)     |
| u         | Which day in a week   | 1 (Monday), ..., 7 (Sunday)  |
| a         | am/pm flag            | pm (Afternoon)               |
| H         | Hour time (0-23)      | 2                            |
| h         | Hour time (1-12)      | 12                           |
| m         | Minute time           | 30                           |
| s         | Second time           | 55                           |
| S         | Which milliseconds    | 978                          |



| Character | Date or Time Element | Example                               |
|-----------|----------------------|---------------------------------------|
| z         | Time zone            | Pacific Standard Time; PST; GMT-08:00 |

## Response Parameters

Table 23-55 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                     |
|------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully sent. Value <b>true</b> indicates that the request is successfully sent.                                          |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                  |
| job_id     | No        | String  | ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results.                |
| job_mode   | No        | String  | Job execution mode. The options are as follows: <ul style="list-style-type: none"><li>• <b>async</b>: asynchronous</li><li>• <b>sync</b>: synchronous</li></ul> |

## Example Request

Import the CSV data stored on OBS to **db2.t2**.

```
{
 "data_path": "obs://home/data1/DLI/t1.csv",
 "data_type": "csv",
 "database_name": "db2",
 "table_name": "t2",
 "with_column_header": false,
 "delimiter": ",",
 "quote_char": "\"",
 "escape_char": "\\\"",
 "date_format": "yyyy-MM-dd",
 "timestamp_format": "yyyy-MM-dd'T'HH:mm:ss.SSSZ",
 "queue_name": "queue2",
 "overwrite": false,
 "partition_spec": {
 "column1": "2020-01-01",
 "column2": "columnPartValue"
 }
}
```

## Example Response

```
{
 "is_success": true,
```

```
"message": "import data to table t2 started",
"job_id": "6b29eb77-4c16-4e74-838a-2cf7959e9202",
"job_mode": "async"
}
```

## Status Codes

[Table 23-56](#) describes the status code.

**Table 23-56** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Import succeeded.       |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.4.2 Exporting Data (Deprecated)

### Function

This API is used to export data from a DLI table to a file.

- This API is asynchronous.
- Currently, data can be exported only from a DLI table to OBS, and the OBS path must be specified to the folder level. The OBS path cannot contain commas (.). The OBS bucket name cannot end with the regular expression format **.[0-9]+(.\*)**. Specifically, if the bucket name contains dots (.), the last dot (.) cannot be followed by a digit, for example, **\*\*.12abc** and **\*\*.12**.
- Data can be exported across accounts. That is, after account B authorizes account A, account A can export data to the OBS path of account B if account A has the permission to read the metadata and permission information about the OBS bucket of account B and read and write the path.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
POST /v1.0/{project\_id}/jobs/export-table
- Parameter description

Table 23-57 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

Table 23-58 Request parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| data_path     | Yes       | String | Path for storing the exported data. Currently, data can be stored only on OBS. If <b>export_mode</b> is set to <b>errorifexists</b> , the OBS path cannot contain the specified folder, for example, the <b>test</b> folder in the example request.                                                                                                                                                                                                                                                                                            |
| data_type     | Yes       | String | Type of data to be exported. Currently, only CSV and JSON are supported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| database_name | Yes       | String | Name of the database where the table from which data is exported resides.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| table_name    | Yes       | String | Name of the table from which data is exported.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| compress      | Yes       | String | Compression mode for exported data. Currently, the compression modes <b>gzip</b> , <b>bzip2</b> , and <b>deflate</b> are supported. If you do not want to compress data, enter <b>none</b> .                                                                                                                                                                                                                                                                                                                                                   |
| queue_name    | No        | String | Name of the queue that is specified to execute a task. If no queue is specified, the default queue is used.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| export_mode   | No        | String | Export mode. The parameter value can be <b>ErrorIfExists</b> or <b>Overwrite</b> . If <b>export_mode</b> is not specified, this parameter is set to <b>ErrorIfExists</b> by default. <ul style="list-style-type: none"><li>• <b>ErrorIfExists</b>: Ensure that the specified export directory does not exist. If the specified export directory exists, an error is reported and the export operation cannot be performed.</li><li>• <b>Overwrite</b>: If you add new files to a specific directory, existing files will be deleted.</li></ul> |

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                    |
|--------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| with_column_header | No        | Boolean | Whether to export column names when exporting CSV and JSON data. <ul style="list-style-type: none"><li>If this parameter is set to <b>true</b>, the column names are exported.</li><li>If this parameter is set to <b>false</b>, the column names are not exported.</li><li>If this parameter is left blank, the default value <b>false</b> is used.</li></ul> |

## Response Parameters

**Table 23-59** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                 |
|------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully sent. Value <b>true</b> indicates that the request is successfully sent.                                                |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                              |
| job_id     | No        | String  | ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results.            |
| job_mode   | No        | String  | Job execution mode. The options are as follows: <ul style="list-style-type: none"><li><b>async</b>: asynchronous</li><li><b>sync</b>: synchronous</li></ul> |

## Example Request

Export data from **db2.t2** to OBS and store the data in JSON format.

```
{
 "data_path": "obs://home/data1/DLI/test",
 "data_type": "json",
 "database_name": "db2",
 "table_name": "t2",
 "compress": "gzip",
 "with_column_header": "true",
 "queue_name": "queue2"
}
```

## Example Response

```
{
 "is_success": true,
 "message": "export all data from table db2.t2 to path obs://home/data1/DLI/test started",
}
```

```
"job_id": "828d4044-3d39-449b-b32c-957f7cfadfc9",
"job_mode": "async"
}
```

## Status Codes

[Table 23-60](#) describes the status code.

**Table 23-60** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Export successful.      |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.5 Resource-related APIs (Deprecated)

### 23.5.1 Database-related APIs (Deprecated)

#### 23.5.1.1 Creating a Database (Deprecated)

##### Function

This API is used to add a database.

##### NOTE

This API has been deprecated and is not recommended.

##### URI

- URI format  
POST /v1.0/{project\_id}/databases
- Parameter description

**Table 23-61** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 23-62** Request parameters

| Parameter             | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| database_name         | Yes       | String           | Name of the created database. <ul style="list-style-type: none"><li>The database name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).</li><li>The database name is case insensitive and cannot be left blank.</li><li>The length of the database name cannot exceed 128 characters.</li></ul> <b>NOTE</b><br>The <b>default</b> database is a built-in database. You cannot create a database named <b>default</b> . |
| description           | No        | String           | Information about the created database.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| enterprise_project_id | No        | String           | Enterprise project ID. The value <b>0</b> indicates the default enterprise project.<br><b>NOTE</b><br>Users who have enabled Enterprise Management can set this parameter to bind a specified project.                                                                                                                                                                                                                                                                                      |
| tags                  | No        | Array of objects | Database tag. For details, see <a href="#">Table 23-63</a> .                                                                                                                                                                                                                                                                                                                                                                                                                                |

**Table 23-63** tags parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                  |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Key       | Yes       | String | Tag key.<br><b>NOTE</b><br>A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (._:~+@) are allowed, but the value cannot start or end with a space or start with _sys_. |
| value     | Yes       | String | Tag value.<br><b>NOTE</b><br>A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (._:~+@) are allowed.                                                                 |

## Response Parameters

**Table 23-64** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |

## Example Request

Create a test database named **db1**.

```
{
 "database_name": "db1",
 "description": "this is for test"
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 23-65](#) describes the status code.

**Table 23-65** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is created successfully. |
| 400         | Request error.                   |
| 500         | Internal service error.          |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

### 23.5.1.2 Deleting a Database (Deprecated)

#### Function

This API is used to delete an empty database. If there are tables in the database to be deleted, delete all tables first. For details about the API used to delete tables, see [Deleting a Table \(Deprecated\)](#).

#### NOTE

This API has been deprecated and is not recommended.

#### URI

- URI format  
DELETE /v1.0/{project\_id}/databases/{database\_name}
- Parameter description

**Table 23-66** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of the database to be deleted.                                                                                                       |



**Table 23-67** query parameter description

| Parameter | Mandatory | Type    | Description                                                                                                                                 |
|-----------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------|
| cascade   | No        | Boolean | Specifies whether to forcibly delete the database. The value can be <b>true</b> or <b>false</b> . Default value: <b>false</b> .             |
| async     | No        | Boolean | Specifies whether to delete the database in asynchronous mode. The value can be <b>true</b> or <b>false</b> . Default value: <b>false</b> . |

 **NOTE**

The following is an example of the URL containing the **query** parameter:

```
DELETE /v1.0/{project_id}/databases/{database_name}?
cascade={is_cascade}&async={is_async}
```

## Request Parameters

None

## Response Parameters

**Table 23-68** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                       |
|------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed.                                                              |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                                    |
| job_id     | No        | String  | Returned job ID, which can be used to obtain the job status and result.                                                                                                           |
| job_type   | No        | String  | Type of a job. The options are as follows: <ul style="list-style-type: none"><li>• DDL</li><li>• DCL</li><li>• IMPORT</li><li>• EXPORT</li><li>• QUERY</li><li>• INSERT</li></ul> |

| Parameter | Mandator y | Type   | Description                                                                                                                                                     |
|-----------|------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_mode  | No         | String | Job execution mode. The options are as follows: <ul style="list-style-type: none"><li>• <b>async</b>: asynchronous</li><li>• <b>sync</b>: synchronous</li></ul> |

### Example Request

None

### Example Response

- The following is an example of a successful response in synchronous mode:

```
{
 "is_success": true,
 "message": "",
 "job_mode": "sync"
}
```
- The following is an example of a successful response in asynchronous mode:

```
{
 "is_success": true,
 "message": "",
 "job_id": "208b08d4-0dc2-4dd7-8879-ddd4c020d7aa",
 "job_type": "DDL",
 "job_mode": "async"
}
```

 **NOTE**

- If the database is deleted asynchronously, you can view the current job status by calling the API for querying job status. For details, see [Querying Job Status](#).
- If **cascade** is set to **true**, all tables in the database will be deleted. Exercise caution when performing this operation.

### Status Codes

[Table 23-69](#) describes the status code.

**Table 23-69** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Deletion succeeded.     |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

### 23.5.1.3 Querying All Databases (Deprecated)

#### Function

This API is used to query the information about all the databases.

 **NOTE**

This API has been deprecated and is not recommended.

#### URI

- URI format  
GET /v1.0/{project\_id}/databases
- Parameter description

**Table 23-70** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 23-71** query parameter description

| Parameter | Mandatory | Type    | Description                                                                                                                                 |
|-----------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------|
| with-priv | No        | Boolean | Specifies whether to display the permission information. The value can be <b>true</b> or <b>false</b> . The default value is <b>false</b> . |
| offset    | No        | Integer | The value should be no less than <b>0</b> . The default value is <b>0</b> .                                                                 |
| limit     | No        | Integer | Number of returned data records. The value must be greater than or equal to <b>0</b> . By default, all data records are returned.           |
| keyword   | No        | String  | Database name filtering keyword. Fuzzy match is used to obtain all databases whose names contain the keyword.                               |

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tags      | No        | String | <p>Database tags. The format is <b>key=value</b>.</p> <ul style="list-style-type: none"><li>Request with one specified tag</li></ul> <p>GET /v1.0/{project_id}/databases?offset=0&amp;limit=10&amp;with-priv=true&amp;tags=k1%3Dv1</p> <p>The equal sign (=) is escaped to <b>%3D</b>, <b>k1</b> indicates the tag key, and <b>v1</b> indicates the tag value.</p> <ul style="list-style-type: none"><li>Request with more than one tag</li></ul> <p>Use commas (,) to separate tags. The commas (,) must be escaped to <b>%2C</b>. For example:</p> <p>GET /v1.0/{project_id}/databases?offset=0&amp;limit=10&amp;with-priv=true&amp;tags=k1%3Dv1%2Ck2%3Dv2</p> <p>The equal sign (=) is escaped to <b>%3D</b>. <b>k1</b> indicates a tag key, and <b>v1</b> indicates the tag value. <b>k2</b> indicates another tag key, and <b>v2</b> indicates the tag value.</p> <p>Currently, only fuzzy query is supported. Exact query is not supported.</p> |

 NOTE

The following is an example of the URL containing the **query** parameter:

GET /v1.0/{project\_id}/databases?with-priv={is\_with\_priv}&offset={offsetValue}&limit={limitValue}&keyword={keywordValue}&tags={tagsValue}

Request Parameters

None

Response Parameters

Table 23-72 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |

| Parameter      | Mandatory | Type             | Description                                                                    |
|----------------|-----------|------------------|--------------------------------------------------------------------------------|
| message        | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank. |
| database_count | No        | Integer          | Total number of databases.                                                     |
| databases      | No        | Array of objects | Database information. For details, see <a href="#">Table 23-73</a> .           |

Table 23-73 databases parameters

| Parameter             | Mandatory | Type    | Description                                                                                                                                                                                            |
|-----------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| database_name         | No        | String  | Name of a database.                                                                                                                                                                                    |
| owner                 | No        | String  | Creator of a database.                                                                                                                                                                                 |
| table_number          | No        | Integer | Number of tables in a database.                                                                                                                                                                        |
| description           | No        | String  | Information about a database.                                                                                                                                                                          |
| enterprise_project_id | Yes       | String  | Enterprise project ID. The value <b>0</b> indicates the default enterprise project.<br><b>NOTE</b><br>Users who have enabled Enterprise Management can set this parameter to bind a specified project. |
| resource_id           | Yes       | String  | Resource ID.                                                                                                                                                                                           |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "",
 "database_count": 1,
 "databases": [
 {
 "database_name": "db2",
 "description": "this is for test",
 "owner": "tenant1",
 "table_number": 15
 }
]
}
```

## Status Codes

[Table 23-74](#) describes the status code.

**Table 23-74** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

### 23.5.1.4 Modifying a Database Owner (Deprecated)

#### Function

This API is used to modify the owner of a database.

#### NOTE

This API has been deprecated and is not recommended.

#### URI

- URI format  
PUT /v1.0/{project\_id}/databases/{database\_name}/owner
- Parameter description

**Table 23-75** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of a database.                                                                                                                       |

## Request Parameters

**Table 23-76** Request parameters

| Parameter | Mandatory | Type   | Description                                                                   |
|-----------|-----------|--------|-------------------------------------------------------------------------------|
| new_owner | Yes       | String | Name of the new owner. The new user must be a sub-user of the current tenant. |

## Response Parameters

**Table 23-77** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |

## Example Request

Change the owner of the database to **scuser1**.

```
{
 "new_owner": "scuser1"
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 23-78](#) describes the status code.

**Table 23-78** Status codes

| Status Code | Description                                 |
|-------------|---------------------------------------------|
| 200         | The modification operations are successful. |
| 400         | Request error.                              |

| Status Code | Description             |
|-------------|-------------------------|
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.5.2 Table-related APIs (Deprecated)

### 23.5.2.1 Creating a Table (Deprecated)

#### Function

This API is used to create a table. This API is a synchronous API.

#### NOTE

This API has been deprecated and is not recommended.

#### URI

- URI format  
POST /v1.0/{project\_id}/databases/{database\_name}/tables
- Parameter description

**Table 23-79** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of the database where the new table resides.                                                                                         |



## Request Parameters

**Table 23-80** Request parameters

| Parameter        | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| table_name       | Yes       | String           | Name of the created table. <ul style="list-style-type: none"><li>• The table name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).</li><li>• The table name is case insensitive and cannot be left unspecified.</li><li>• The table name can contain the dollar sign (\$). Example: <b>\$test</b></li><li>• The length of the database name cannot exceed 128 characters.</li></ul> |
| data_location    | Yes       | String           | Location where data is stored. The options are as follows: <ul style="list-style-type: none"><li>• OBS: OBS table</li><li>• DLI: DLI table</li><li>• VIEW: VIEW table</li></ul>                                                                                                                                                                                                                                                                           |
| description      | No        | String           | Information about the new table.                                                                                                                                                                                                                                                                                                                                                                                                                          |
| columns          | Yes       | Array of Objects | Columns of the new table. For details about column parameters, see <a href="#">Table 23-82</a> . This parameter is optional when <b>data_location</b> is <b>VIEW</b> .                                                                                                                                                                                                                                                                                    |
| select_statement | No        | String           | Query statement required for creating a view. The database to which the table belongs needs to be specified in the query statement, in the format of <i>database.table</i> . This parameter is mandatory when <b>data_location</b> is <b>VIEW</b> .                                                                                                                                                                                                       |
| data_type        | No        | String           | Type of the data to be added to the OBS table. The options are as follows: Parquet, ORC, CSV, JSON, and Avro.<br><b>NOTE</b><br>This parameter is mandatory for an OBS table.                                                                                                                                                                                                                                                                             |

| Parameter          | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                          |
|--------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| data_path          | No        | String           | Storage path of data in the new OBS table, which must be a path on OBS and must begin with <b>obs</b> .<br><b>NOTE</b><br>This parameter is mandatory for an OBS table.<br>Do not set this parameter to the OBS root directory. Otherwise, all data in the root directory will be cleared when you clear table data. |
| with_column_header | No        | Boolean          | Whether the table header is included in the OBS table data. Only data in CSV files has this attribute. This parameter is mandatory when <b>data_location</b> is <b>OBS</b> .                                                                                                                                         |
| delimiter          | No        | String           | User-defined data delimiter. Only data in CSV files has this attribute. This parameter is mandatory when <b>data_location</b> is <b>OBS</b> .                                                                                                                                                                        |
| quote_char         | No        | String           | User-defined reference character. Double quotation marks ("") are used by default. Only data in CSV files has this attribute. This parameter is mandatory when <b>data_location</b> is <b>OBS</b> .                                                                                                                  |
| escape_char        | No        | String           | User-defined escape character. Backslashes (\\) are used by default. Only data in CSV files has this attribute. This parameter is mandatory when <b>data_location</b> is <b>OBS</b> .                                                                                                                                |
| date_format        | No        | String           | User-defined date type. <b>yyyy-MM-dd</b> is used by default. For details about the characters involved in the date format, see <a href="#">Table 23-54</a> . Only data in CSV and JSON files has this attribute. This parameter is mandatory when <b>data_location</b> is <b>OBS</b> .                              |
| timestamp_format   | No        | String           | User-defined timestamp type. <b>yyyy-MM-dd HH:mm:ss</b> is used by default. For definitions about characters in the timestamp format, see <a href="#">Table 23-54</a> . Only data in CSV and JSON files has this attribute. This parameter is mandatory when <b>data_location</b> is <b>OBS</b> .                    |
| tags               | No        | Array of objects | Database tag. For details about this object, see <a href="#">tags parameters</a> .                                                                                                                                                                                                                                   |

**Table 23-81** tags parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                        |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Tag key<br><b>NOTE</b><br>A tag key can contain a maximum of 128 characters. Only letters, digits, spaces, and special characters (._:~@) are allowed, but the value cannot start or end with a space or start with <b>_sys_</b> . |
| value     | Yes       | String | Tag value<br><b>NOTE</b><br>A tag value can contain a maximum of 255 characters. Only letters, digits, spaces, and special characters (._:~@) are allowed.                                                                         |

**Table 23-82** columns parameters

| Parameter           | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| column_name         | Yes       | String  | Name of a column.                                                                                                                                                                                                                                                                                                                                             |
| type                | Yes       | String  | Data type of a column.                                                                                                                                                                                                                                                                                                                                        |
| description         | No        | String  | Description of a column.                                                                                                                                                                                                                                                                                                                                      |
| is_partition_column | No        | Boolean | Whether the column is a partition column. The value <b>true</b> indicates a partition column, and the value <b>false</b> indicates a non-partition column. The default value is <b>false</b> .<br><b>NOTE</b><br>When creating a partition table, ensure that at least one column in the table is a non-partition column. For details, see "Request example". |

## Response Parameters

**Table 23-83** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |

| Parameter | Mandatory | Type   | Description                                                                    |
|-----------|-----------|--------|--------------------------------------------------------------------------------|
| message   | No        | String | System prompt. If execution succeeds, the parameter setting may be left blank. |

## Example Request

- Create a table whose **data\_location** is **OBS** and data format of CSV.

```
{
 "table_name": "tb1",
 "data_location": "OBS",
 "description": "",
 "data_type": "csv",
 "data_path": "obs://obs/path1",
 "columns": [
 {
 "column_name": "column1",
 "type": "string",
 "description": "",
 "is_partition_column": true
 },
 {
 "column_name": "column2",
 "type": "string",
 "description": "",
 "is_partition_column": false
 }
],
 "with_column_header": true,
 "delimiter": ",",
 "quote_char": "\"",
 "escape_char": "\\ ",
 "date_format": "yyyy-MM-dd",
 "timestamp_format": "yyyy-MM-dd HH:mm:ss"
}
```

### NOTE

The values of **date\_format** and **timestamp\_format** must be the same as the time format in the imported CSV file.

- Create a table whose **data\_location** is **DLI**.

```
{
 "table_name": "tb2",
 "data_location": "DLI",
 "columns": [
 {
 "column_name": "column1",
 "type": "string",
 "description": "",
 "is_partition_column": true
 },
 {
 "column_name": "column2",
 "type": "string",
 "description": "",
 "is_partition_column": false
 }
],
 "tags": [
 {

```

```
 "key": "quarterly",
 "value": "Q3"
 },
 {
 "key": "author",
 "value": "user"
 }
]
```

- Create a table whose **data\_location** is **VIEW**.

```
{
 "table_name": "tb3",
 "data_location": "VIEW",
 "columns": [
 {
 "column_name": "column1",
 "type": "string",
 "description": "",
 "is_partition_column": true
 },
 {
 "column_name": "column2",
 "type": "string",
 "description": "",
 "is_partition_column": false
 }
],
 "select_statement": "select * from db1.tb1"
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 23-84](#) describes the status code.

**Table 23-84** Status codes

| Status Code | Description                      |
|-------------|----------------------------------|
| 200         | The job is created successfully. |
| 400         | Request error.                   |
| 500         | Internal service error.          |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.5.2.2 Deleting a Table (Deprecated)

### Function

This API is used to delete a specified table.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
DELETE /v1.0/{project\_id}/databases/{database\_name}/tables/{table\_name}
- Parameter description

**Table 23-85** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of the database where the table to be deleted resides.                                                                               |
| table_name    | Yes       | String | Name of the table to be deleted.                                                                                                          |

**Table 23-86** query parameter description

| Parameter | Mandatory | Type    | Description                                                                                                                                 |
|-----------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------|
| async     | No        | Boolean | Specifies whether to delete the database in asynchronous mode. The value can be <b>true</b> or <b>false</b> . Default value: <b>false</b> . |

#### NOTE

The following is an example of the URL containing the **query** parameter:

```
DELETE /v1.0/{project_id}/databases/{database_name}/tables/{table_name}?
async={is_async}
```

### Request Parameters

None

## Response Parameters

**Table 23-87** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                     |
|------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed.                                  |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                  |
| job_mode   | No        | String  | Job execution mode. The options are as follows: <ul style="list-style-type: none"><li>• <b>async</b>: asynchronous</li><li>• <b>sync</b>: synchronous</li></ul> |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 23-88](#) describes the status code.

**Table 23-88** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Deletion succeeded.     |
| 400         | Request error.          |
| 500         | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

### 23.5.2.3 Querying All Tables (Deprecated)

#### Function

This API is used to query information about tables that meet the filtering criteria or all the tables in the specified database.

#### NOTE

This API has been deprecated and is not recommended.

#### URI

- URI format  
GET /v1.0/{project\_id}/databases/{database\_name}/tables
- Parameter description

**Table 23-89** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of the database where the table resides.                                                                                             |

**Table 23-90** query parameter description

| Parameter    | Mandatory | Type    | Description                                                                                                       |
|--------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------|
| keyword      | No        | String  | Keywords used to filter table names.                                                                              |
| with-detail  | No        | Boolean | Whether to obtain detailed information about tables (such as owner and size). The default value is <b>false</b> . |
| page-size    | No        | Integer | Paging size. The minimum value is <b>1</b> and the maximum value is <b>100</b> .                                  |
| current-page | No        | Integer | Current page number. The minimum value is <b>1</b> .                                                              |
| with-priv    | No        | Boolean | Whether to return permission information.                                                                         |



| Parameter         | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                  |
|-------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| table-type        | No        | String  | Database table type. The options are as follows: <ul style="list-style-type: none"><li>• <b>MANAGED_TABLE</b>: DLI table</li><li>• <b>EXTERNAL_TABLE</b>: OBS table</li><li>• <b>VIRTUAL_VIEW</b>: view</li></ul>                                                                                            |
| datasource-type   | No        | String  | Data source type. The options are as follows: <ul style="list-style-type: none"><li>• CloudTable</li><li>• CSS</li><li>• DLI</li><li>• GaussDB(DWS)</li><li>• Geomesa</li><li>• HBase</li><li>• JDBC</li><li>• Mongo</li><li>• OBS</li><li>• ODPS</li><li>• OpenTSDB</li><li>• Redis</li><li>• RDS</li></ul> |
| without-tablemeta | No        | Boolean | Whether to obtain the metadata of a table. The default value is <b>false</b> . If this parameter is set to <b>true</b> , the response speed can be greatly improved.                                                                                                                                         |

 **NOTE**

The following is an example of the URL containing the **query** parameter:

GET /v1.0/{project\_id}/databases/{database\_name}/tables?keyword=tb&with-detail=true

## Request Parameters

None

## Response Parameters

**Table 23-91** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                          |
|-------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------|
| is_success  | Yes       | Boolean          | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message     | Yes       | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |
| table_count | Yes       | Integer          | Total number of tables.                                                                                              |
| tables      | Yes       | Array of objects | Table information. For details, see <a href="#">Table 23-92</a> .                                                    |

**Table 23-92** tables parameters

| Parameter        | Mandatory | Type   | Description                                                                                                                                                                      |
|------------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time      | Yes       | Long   | Time when a table is created. The timestamp is expressed in milliseconds.                                                                                                        |
| data_type        | No        | String | Type of the data to be added to the OBS table. The options are as follows: Parquet, ORC, CSV, JSON, and Avro.<br><b>NOTE</b><br>This parameter is available only for OBS tables. |
| data_location    | Yes       | String | Data storage location, which can be DLI or OBS.                                                                                                                                  |
| last_access_time | Yes       | Long   | Time when the table was last updated. The timestamp is expressed in milliseconds.                                                                                                |
| location         | No        | String | Storage path on the OBS table.<br><b>NOTE</b><br>This parameter is available only for OBS tables.                                                                                |
| owner            | Yes       | String | Table owner.                                                                                                                                                                     |
| table_name       | Yes       | String | Name of a table.                                                                                                                                                                 |
| table_size       | Yes       | Long   | Size of a DLI table. Set parameter to <b>0</b> for non-DLI tables. The unit is byte.                                                                                             |

| Parameter         | Mandatory | Type             | Description                                                                                                                                                                                           |
|-------------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| table_type        | Yes       | String           | Type of a table. <ul style="list-style-type: none"><li>● <b>EXTERNAL</b>: Indicates an OBS table.</li><li>● <b>MANAGED</b>: Indicates a DLI table.</li><li>● <b>VIEW</b>: Indicates a view.</li></ul> |
| partition_columns | No        | Array of Strings | Partition field. This parameter is valid only for OBS partition tables.                                                                                                                               |
| page-size         | No        | Integer          | Paging size. The minimum value is <b>1</b> and the maximum value is <b>100</b> .                                                                                                                      |
| current-page      | No        | Integer          | Current page number. The minimum value is <b>1</b> .                                                                                                                                                  |

 **NOTE**

If **with-detail** is set to **false** in the URI, only values of tables-related parameters **data\_location**, **table\_name**, and **table\_type** are returned.

**Example Request**

None

**Example Response**

```
{
 "is_success": true,
 "message": "",
 "table_count": 1,
 "tables": [
 {
 "create_time": 1517364268000,
 "data_location": "OBS",
 "data_type": "csv",
 "last_access_time": 1517364268000,
 "location": "obs://DLI/sqldata/data.txt",
 "owner": "test",
 "partition_columns": ["a0"],
 "table_name": "obs_t",
 "table_size": 0,
 "table_type": "EXTERNAL"
 }
]
}
```

**Status Codes**

[Table 23-93](#) describes the status code.

**Table 23-93** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

### 23.5.2.4 Describing Table Information (Deprecated)

#### Function

This API is used to describe metadata information in the specified table.

 **NOTE**

This API has been deprecated and is not recommended.

#### URI

- URI format  
GET /v1.0/{project\_id}/databases/{database\_name}/tables/{table\_name}
- Parameter description

**Table 23-94** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of the database where the target table resides.                                                                                      |
| table_name    | Yes       | String | Name of the target table.                                                                                                                 |

#### Request Parameters

None

## Response Parameters

**Table 23-95** Response parameters

| Parameter          | Mandatory | Type             | Description                                                                                                                                                                                              |
|--------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success         | Yes       | Boolean          | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed.                                                                           |
| message            | Yes       | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                                                           |
| column_count       | Yes       | Integer          | Total number of columns in the table.                                                                                                                                                                    |
| columns            | Yes       | Array of objects | Column information, including the column name, type, and description. For details, see <a href="#">Table 23-96</a> .                                                                                     |
| table_type         | Yes       | String           | Table type. The options are as follows:<br><b>MANAGED</b> : DLI table<br><b>EXTERNAL</b> : OBS table<br><b>VIEW</b> : view                                                                               |
| data_type          | No        | String           | Data type, including <b>CSV</b> , <b>Parquet</b> , <b>ORC</b> , <b>JSON</b> , and <b>Avro</b> .                                                                                                          |
| data_location      | No        | String           | Path for storing data, which is an OBS path.                                                                                                                                                             |
| storage_properties | No        | Array of objects | Storage attribute, which is in the format of <b>key/value</b> and includes parameters <b>delimiter</b> , <b>escape</b> , <b>quote</b> , <b>header</b> , <b>dateformat</b> , and <b>timestampformat</b> . |
| table_comment      | No        | String           | Table comment.                                                                                                                                                                                           |
| create_table_sql   | No        | String           | Statement used to create a table.                                                                                                                                                                        |

**Table 23-96** columns parameters

| Parameter   | Mandatory | Type   | Description              |
|-------------|-----------|--------|--------------------------|
| column_name | Yes       | String | Column name.             |
| description | Yes       | String | Description of a column. |

| Parameter           | Mandatory | Type    | Description                                                                                                                                                                                                                                    |
|---------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type                | Yes       | String  | Data type of a column.                                                                                                                                                                                                                         |
| is_partition_column | Yes       | Boolean | Indicates whether the column is a partition column. The value <b>true</b> indicates that the column is a partition column, and the value <b>false</b> indicates that the column is not a partition column. The default value is <b>false</b> . |

## Example Request

None

## Example Response

- **MANAGED** type table

```
{
 "is_success": true,
 "message": "",
 "column_count": 3,
 "columns": [
 {
 "column_name": "id",
 "description": "",
 "type": "int",
 "is_partition_column": false
 },
 {
 "column_name": "name",
 "description": "",
 "type": "string",
 "is_partition_column": false
 },
 {
 "column_name": "level",
 "description": "",
 "type": "string",
 "is_partition_column": true
 }
],
 "table_type": "MANAGED"
}
```

- **EXTERNAL** type table

```
{
 "is_success": true,
 "message": "",
 "column_count": 2,
 "columns": [
 {
 "type": "string",
 "description": "",
 "column_name": "col2",
 "is_partition_column": false
 },
 {
 "type": "string",
 "description": ""
 }
]
}
```

```
 "column_name": "col1",
 "is_partition_column": true
 },
 "table_type": "EXTERNAL",
 "data_type": "parquet",
 "data_location": "obs://obs-wangtao/savepoint/savepoint-d95437-039668840fff/_metadata",
 "storage_properties": [
 {
 "key": "timestampformat",
 "value": "yyyy-MM-dd HH:mm:ss"
 },
 {
 "key": "quote",
 "value": "\""
 },
 {
 "key": "dateformat",
 "value": "yyyy-MM-dd"
 },
 {
 "key": "escape",
 "value": "\\"
 },
 {
 "key": "header",
 "value": "false"
 },
 {
 "key": "delimiter",
 "value": ","
 }
],
 "table_comment": "",
 "create_table_sql": "CREATE TABLE `default`.`wan_test` (`col2` STRING, `col1` STRING)\nUSING\nparquet\nOPTIONS (\n `timestampformat` 'yyyy-MM-dd HH:mm:ss',\n `quote` '\"',\n `dateformat`\n'yyyy-MM-dd',\n `escape` '\\\\',\n `header` 'false',\n `delimiter` ','\n)\nPARTITIONED BY\n(col1)\nCOMMENT '\nLOCATION 'obs://obs-wangtao/savepoint/savepoint-d95437-039668840fff/\n_metadata'\nTBLPROPERTIES (\n 'hive.serialization.extend.nesting.levels' = 'true'\n)\n"
```

- **VIEW type table**

```
{
 "is_success": true,
 "message": "",
 "column_count": 3,
 "columns": [
 {
 "column_name": "id",
 "description": "",
 "type": "int",
 "is_partition_column": false
 },
 {
 "column_name": "name",
 "description": "",
 "type": "string",
 "is_partition_column": false
 },
 {
 "column_name": "level",
 "description": "",
 "type": "string",
 "is_partition_column": true
 }
],
 "table_type": "VIEW",
 "create_table_sql": "CREATE VIEW `default`.`view1` (id, name) AS\nselect * from a_gff.testtable\n"
```

## Status Codes

[Table 23-97](#) describes the status code.

**Table 23-97** Status codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | The operation is successful. |
| 400         | Request error.               |
| 500         | Internal service error.      |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

### 23.5.2.5 Previewing Table Content (Deprecated)

#### Function

This API is used to preview the first 10 rows in a table.

 **NOTE**

This API has been deprecated and is not recommended.

#### URI

- URI format  
GET /v1.0/{project\_id}/databases/{database\_name}/tables/{table\_name}/  
preview
- Parameter description

**Table 23-98** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of the database where the table to be previewed resides.                                                                             |
| table_name    | Yes       | String | Name of the table to be previewed.                                                                                                        |



Table 23-99 query parameter description

| Parameter | Mandatory | Type   | Description                                                                                           |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------|
| mode      | No        | String | Preview table mode. The options are <b>SYNC</b> and <b>ASYNC</b> . The default value is <b>SYNC</b> . |

 NOTE

The following is an example of the URL containing the **query** parameter:  
GET /v1.0/{project\_id}/databases/{database\_name}/tables/{table\_name}/preview?  
mode={previewMode}

Request Parameters

None

Response Parameters

Table 23-100 Response parameters

| Parameter  | Mandatory | Type             | Description                                                                                                          |
|------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean          | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |
| schema     | No        | Array of Map     | Column name and type of a table.                                                                                     |
| rows       | No        | Array of objects | Previewed table content.                                                                                             |

Example Request

None

Example Response

The following is an example of a successful response in synchronous mode:

```
{
 "is_success": true,
 "message": "",
 "schema": [
 {
 "id": "int"
 }
]
}
```

```
 },
 {
 "name": "string"
 },
 {
 "address": "string"
 }
],
 "rows": [
 [
 "1",
 "John",
 "xxx"
],
 [
 "2",
 "Lily",
 "xxx"
]
]
}
```

 **NOTE**

In asynchronous request mode, a job ID is returned. You can obtain the preview information based on the job ID.

**Status Codes**

[Table 23-101](#) describes the status code.

**Table 23-101** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request error.           |
| 500         | Internal service error.  |

**Error Codes**

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

**23.5.2.6 Modifying a Table Owner (Deprecated)**

**Function**

This API is used to modify the owner of a table in the database.

 **NOTE**

This API has been deprecated and is not recommended.

## URI

- URI format  
PUT /v1.0/{project\_id}/databases/{database\_name}/tables/{table\_name}/owner
- Parameter description

**Table 23-102** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of a database.                                                                                                                       |
| table_name    | Yes       | String | Name of a table.                                                                                                                          |

## Request Parameters

**Table 23-103** Request parameters

| Parameter | Mandatory | Type   | Description            |
|-----------|-----------|--------|------------------------|
| new_owner | Yes       | String | Name of the new owner. |

## Response Parameters

**Table 23-104** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |

### Example Request

Change the owner of the table in the database to **scuser1**.

```
{
 "new_owner": "scuser1"
}
```

### Example Response

```
{
 "is_success": true,
 "message": ""
}
```

### Status Codes

[Table 23-105](#) describes the status code.

Table 23-105 Status codes

| Status Code | Description                                 |
|-------------|---------------------------------------------|
| 200         | The modification operations are successful. |
| 400         | Request error.                              |
| 500         | Internal service error.                     |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

### 23.5.2.7 Listing Partitions (Deprecated)

#### Function

This API is used to list partitions.

 **NOTE**

This API has been deprecated and is not recommended.

#### URI

- URI format  
GET /v1.0/{project\_id}/databases/{database\_name}/tables/{table\_name}/partitions
- Parameter description

**Table 23-106** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of a database.                                                                                                                       |
| table_name    | Yes       | String | Name of a table.                                                                                                                          |

**Table 23-107** query parameter description

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | No        | Integer | Number of returned records displayed on each page. The default value is <b>100</b> .                                                                                                                                                                                                                                                                                                                                                                        |
| offset    | No        | Integer | Offset.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| filter    | No        | String  | Filtering condition. Currently, only the = condition is supported. For example, <b>name=name1</b> indicates that the data whose name is <b>name1</b> in the partition is filtered. <b>name</b> indicates the name of the partition column, and <b>name1</b> indicates the value of the partition column. The key and value are case insensitive.<br><br>Example: GET /v1.0/{project_id}/databases/{database_name}/tables/{table_name}/partitions?part=part2 |

## Request Parameters

None

## Response Parameters

**Table 23-108** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |

| Parameter  | Mandatory | Type   | Description                                                                    |
|------------|-----------|--------|--------------------------------------------------------------------------------|
| message    | No        | String | System prompt. If execution succeeds, the parameter setting may be left blank. |
| partitions | No        | Object | Partition information. For details, see <a href="#">Table 23-109</a> .         |

Table 23-109 partitions parameter description

| Parameter       | Mandatory | Type             | Description                                                         |
|-----------------|-----------|------------------|---------------------------------------------------------------------|
| total_count     | Yes       | Long             | Total number of partitions.                                         |
| partition_infos | Yes       | Array of objects | List of partitions. For details, see <a href="#">Table 23-110</a> . |

Table 23-110 partition\_infos parameter description

| Parameter        | Mandatory | Type             | Description                                                |
|------------------|-----------|------------------|------------------------------------------------------------|
| partition_name   | Yes       | String           | Partition name.                                            |
| create_time      | Yes       | Long             | Time when a partition is created.                          |
| last_access_time | Yes       | Long             | Last update time.                                          |
| locations        | No        | Array of Strings | Path. This parameter is displayed only for non-DLI tables. |
| last_ddl_time    | No        | Long             | Execution time of the last DDL statement, in seconds.      |
| num_rows         | No        | Long             | Total rows in the partition.                               |
| num_files        | No        | Long             | Number of files in a partition.                            |
| total_size       | No        | Long             | Total size of data in the partition, in bytes.             |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "list partitions succeed",
}
```

```
"partitions": {
 "total_count": 5,
 "partition_infos": [
 {
 "partition_name": "name=test",
 "create_time": 1579520179000,
 "last_access_time": 1579520179000,
 "locations": [
 "obs://test/partition"
]
 },
 {
 "partition_name": "name=test1",
 "create_time": 1579521406000,
 "last_access_time": 1579521406000,
 "locations": [
 "obs://test/partition"
]
 },
 {
 "partition_name": "name=test2",
 "create_time": 1579521884000,
 "last_access_time": 1579521884000,
 "locations": [
 "obs://test/partition"
]
 },
 {
 "partition_name": "name=test3",
 "create_time": 1579522085000,
 "last_access_time": 1579522085000,
 "locations": [
 "obs://test/partition"
]
 },
 {
 "partition_name": "name=name1/age=age1",
 "create_time": 1581409182000,
 "last_access_time": 1581409182000,
 "locations": [
 "obs://test/0117"
],
 "last_ddl_time": 1581409182,
 "total_size": 2130,
 "num_rows": -1,
 "num_files": 2
 }
]
}
```

Status Codes

Table 23-111 describes the status code.

Table 23-111 Status codes

| Status Code | Description                  |
|-------------|------------------------------|
| 200         | The operation is successful. |
| 400         | Request error.               |
| 500         | Internal service error.      |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 23.6 Permission-related APIs (Deprecated)

## 23.6.1 Granting Queue Permissions to a User (Deprecated)

### Function

This API is used to share a specific queue with other users. You can grant users with the permission to use the specified queue or revoke the permission.

The user group the user belongs to must have the **Tenant Guest** permission in the region where the user group belongs.

For details about the **Tenant Guest** permission and how to apply for the permission, see [System Permissions](#) and [Creating a User Group](#) in *Identity and Access Management User Guide*.

 **NOTE**

This API has been deprecated and is not recommended.

### URI

- URI format  
PUT /v1.0/{project\_id}/queues/user-authorization
- Parameter description

**Table 23-112** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |



## Request Parameters

**Table 23-113** Request parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| queue_name | Yes       | String           | Name of a queue. Example value: <b>queue1</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| user_name  | Yes       | String           | Name of the user who is granted with usage permission on a queue or whose queue usage permission is revoked or updated. Example value: <b>tenant2</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| action     | Yes       | String           | Grants or revokes the permission. The parameter value can be <b>grant</b> , <b>revoke</b> , or <b>update</b> . Users can perform the <b>update</b> operation only when they have been granted with the <b>grant</b> and <b>revoke</b> permissions. Example value: <b>grant</b> . <ul style="list-style-type: none"><li>• <b>grant</b>: Indicates to grant users with permissions.</li><li>• <b>revoke</b>: Indicates to revoke permissions.</li><li>• <b>update</b>: Indicates to clear all the original permissions and assign the permissions in the provided permission array.</li></ul>                                                                                                                                                                                                                                                              |
| privileges | Yes       | Array of Strings | List of permissions to be granted, revoked, or updated. The following permissions are supported: Example value: [ <b>DROP_QUEUE</b> , <b>SUBMIT_JOB</b> ]. <ul style="list-style-type: none"><li>• <b>SUBMIT_JOB</b>: indicates to submit a job.</li><li>• <b>CANCEL_JOB</b>: indicates to cancel a job.</li><li>• <b>DROP_QUEUE</b>: indicates to delete a queue.</li><li>• <b>GRANT_PRIVILEGE</b>: indicates to assign a permission.</li><li>• <b>REVOKE_PRIVILEGE</b>: indicates to revoke a permission.</li><li>• <b>SHOW_PRIVILEGES</b>: indicates to view the permissions of other users</li><li>• <b>RESTART</b>: indicates to restart the queue.</li><li>• <b>SCALE_QUEUE</b>: indicates to change the queue specifications.</li></ul> <b>NOTE</b><br>If the update list is empty, all permissions of the queue granted to the user are revoked. |

## Response Parameters

**Table 23-114** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                 |
|------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. Example value: <b>true</b> . |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank. Example value: left blank.                                                   |

## Example Request

Grant a user the permission to submit jobs on queue1 and delete queue1.

```
{
 "queue_name": "queue1",
 "user_name": "tenant2",
 "action": "grant",
 "privileges": ["DROP_QUEUE", "SUBMIT_JOB"]
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 23-115](#) describes the status code.

**Table 23-115** Status codes

| Status Codes | Description             |
|--------------|-------------------------|
| 200          | Authorization succeeds. |
| 400          | Request error.          |
| 500          | Internal service error. |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.6.2 Querying Queue Users (Deprecated)

### Function

This API is used to query names of all users who can use a specified queue.

 **NOTE**

This API has been deprecated and is not recommended.

### URI

- URI format  
GET /v1.0/{project\_id}/queues/{queue\_name}/users
- Parameter description

**Table 23-116** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| queue_name | Yes       | String | Name of a queue.                                                                                                                          |

**Table 23-117** query parameter description

| Parameter | Mandatory | Type    | Description                                                |
|-----------|-----------|---------|------------------------------------------------------------|
| limit     | Yes       | Integer | Number of records to be displayed of the page-based query. |
| offset    | Yes       | Integer | Specifies the offset of the page-based query.              |

### Request Parameters

None

## Response Parameters

Table 23-118 Response parameters

| Parameter  | Mandatory | Type            | Description                                                                                                                                                    |
|------------|-----------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean         | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. Example value: <b>true</b> .              |
| message    | No        | String          | System prompt. If execution succeeds, the parameter setting may be left blank. Example value: left blank.                                                      |
| queue_name | No        | String          | Name of a queue. Example value: <b>queue1</b> .                                                                                                                |
| privileges | No        | Array of Object | Users who are granted with the permission to use this queue and the permission array to which users belong.<br>For details, see <a href="#">Table 23-119</a> . |
| count      | No        | Long            | Total number of users                                                                                                                                          |

Table 23-119 privileges parameters

| Parameter  | Mandatory | Type             | Description                                                                             |
|------------|-----------|------------------|-----------------------------------------------------------------------------------------|
| is_admin   | No        | Boolean          | Whether the database user is an administrator. Example value: <b>false</b> .            |
| user_name  | No        | String           | Name of the user who has permission on the current queue. Example value: <b>user2</b> . |
| privileges | No        | Array of Strings | Permission of the user on the queue. Example value: [ <b>SUBMIT_JOB</b> ].              |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "",
 "count": 2,
 "privileges": [
 {
```

```
{
 "is_admin": true,
 "privileges": [
 "ALL"
],
 "user_name": "tenant1"
},
{
 "is_admin": false,
 "privileges": [
 "SUBMIT_JOB"
],
 "user_name": "user2"
}
],
"queue_name": "queue1"
}
```

Status Codes

Table 23-120 describes the status code.

Table 23-120 Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Authorization succeeds. |
| 400         | Request error.          |
| 500         | Internal service error. |

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

23.6.3 Granting Data Permission to Users (Deprecated)

Function

This API is used to grant database or table data usage permission to specified users.

The user group containing the authorized user must have the **Tenant Guest** permission in the region where the user group belongs.

For details about the **Tenant Guest** permission and how to apply for the permission, see [System Permissions](#) and [Creating a User Group](#) in *Identity and Access Management User Guide*.

 NOTE

This API has been deprecated and is not recommended.

URI

- URI format  
PUT /v1.0/{project\_id}/user-authorization
- Parameter description

Table 23-121 URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

Request Parameters

Table 23-122 Request parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| user_name  | Yes       | String           | Name of the user who is granted with usage permission on a queue or whose queue usage permission is revoked or updated. Example value: <b>user2</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| action     | Yes       | String           | Grants or revokes the permission. The parameter value can be <b>grant</b> , <b>revoke</b> , or <b>update</b> . Example value: <b>grant</b> . <ul style="list-style-type: none"><li>• <b>grant</b>: Indicates to grant users with permissions.</li><li>• <b>revoke</b>: Indicates to revoke permissions.</li><li>• <b>update</b>: Indicates to clear all the original permissions and assign the permissions in the provided permission array.</li></ul> <b>NOTE</b><br>Users can perform the <b>update</b> operation only when they have been granted with the <b>grant</b> and <b>revoke</b> permissions. |
| privileges | Yes       | Array of objects | Permission granting information. For details, see <a href="#">Table 23-123</a> . Example value:<br>[{"object": "databases.db1.tables.tb2.columns.column1", "privileges": ["SELECT"]}, {"object": "databases.db1.tables.tbl", "privileges": ["DROP_TABLE"]}]                                                                                                                                                                                                                                                                                                                                                |

Table 23-123 privileges parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| object     | Yes       | String           | Data objects to be assigned. If they are named: <ul style="list-style-type: none"><li>• <b>databases.</b><i>Database name</i>, data in the entire database will be shared.</li><li>• <b>databases.</b><i>Database name</i>.<b>tables.</b><i>Table name</i>, data in the specified table will be shared.</li><li>• <b>databases.</b><i>Database name</i>.<b>tables.</b><i>Table name</i>.<b>columns.</b><i>Column name</i>, data in the specified column will be shared.</li><li>• <b>jobs.flink.</b><i>Flink job ID</i>, data the specified job will be shared.</li><li>• <b>groups.</b><i>Package group name</i>, data in the specified package group will be shared.</li><li>• <b>resources.</b><i>Package name</i>, data in the specified package will be shared.</li></ul> Example value:<br><b>databases.db1.tables.tb2.columns.column1.</b> |
| privileges | Yes       | Array of Strings | List of permissions to be granted, revoked, or updated. For details about available permissions, see <a href="#">Data Permission List</a> . Example value: <b>[SELECT]</b> .<br><b>NOTE</b><br>If <b>Action</b> is <b>Update</b> and the update list is empty, all permissions of the user in the database or table are revoked.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## Response Parameters

Table 23-124 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                       |
|------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. Example value: <b>true</b> . |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank. Example value: left blank.                                         |

### Example Request

Grant **user2** the permission to query data in the database **db1**, delete the data table **db1.tbl**, and query data in a specified column **db1.tbl.column1** of a data table.

```
{
 "user_name": "user2",
 "action": "grant",
 "privileges": [
 {
 "object": "databases.db1.tables.tb2.columns.column1",
 "privileges": [
 "SELECT"
]
 },
 {
 "object": "databases.db1.tables.tbl",
 "privileges": [
 "DROP_TABLE"
]
 },
 {
 "object": "databases.db1",
 "privileges": [
 "SELECT"
]
 }
]
}
```

### Example Response

```
{
 "is_success": true,
 "message": ""
}
```

### Status Codes

[Table 23-125](#) describes the status code.

**Table 23-125** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Authorization succeeds. |
| 400         | Request error.          |
| 500         | Internal service error. |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).



## 23.6.4 Querying Database Users (Deprecated)

### Function

This API is used query names of all users who have permission to use or access the database.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
GET /v1.0/{project\_id}/databases/{database\_name}/users
- Parameter description

**Table 23-126** URI parameters

| Parameter     | Mandatory | Description                                                                                                                               |
|---------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | Name of the database to be queried.                                                                                                       |

### Request Parameters

None

### Response Parameters

**Table 23-127** Response parameters

| Parameter     | Mandatory | Type    | Description                                                                                                                                       |
|---------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success    | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. Example value: <b>true</b> . |
| message       | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank. Example value: left blank.                                         |
| database_name | No        | String  | Name of the database to be queried. Example value: <b>dsstest</b> .                                                                               |

| Parameter  | Mandatory | Type             | Description                                                             |
|------------|-----------|------------------|-------------------------------------------------------------------------|
| privileges | No        | Array of objects | Permission information. For details, see <a href="#">Table 23-128</a> . |

Table 23-128 privileges parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                                          |
|------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_admin   | No        | Boolean          | Whether the database user is an administrator. Example value: <b>true</b> .                                                                          |
| user_name  | No        | String           | Name of the user who has permission on the current database. Example value: <b>test</b> .                                                            |
| privileges | No        | Array of Strings | Permission of the user on the database. For details, see <a href="#">Data Permissions List</a> . Example value: <b>[ALTER_TABLE_ADD_PARTITION]</b> . |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "",
 "database_name": "dsstest",
 "privileges": [
 {
 "is_admin": true,
 "privileges": [
 "ALL"
],
 "user_name": "test"
 },
 {
 "is_admin": false,
 "privileges": [
 "ALTER_TABLE_ADD_PARTITION"
],
 "user_name": "scuser1"
 },
 {
 "is_admin": false,
 "privileges": [
 "CREATE_TABLE"
],
 "user_name": "scuser2"
 }
]
}
```

 NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.6.5 Querying Table Users (Deprecated)

### Function

This API is used to query users who have permission to access the specified table or column in the table.

 NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
GET /v1.0/{project\_id}/databases/{database\_name}/tables/{table\_name}/users
- Parameter description

**Table 23-129** URI parameters

| Parameter     | Mandatory | Description                                                                                                                               |
|---------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | Name of the database where the table to be queried resides.                                                                               |
| table_name    | Yes       | Name of a table that is to be queried.                                                                                                    |

### Request Parameters

None

### Response Parameters

**Table 23-130** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |

| Parameter  | Mandatory | Type           | Description                                                                    |
|------------|-----------|----------------|--------------------------------------------------------------------------------|
| message    | No        | String         | System prompt. If execution succeeds, the parameter setting may be left blank. |
| privileges | No        | Array<Objects> | Permission information. For details, see <a href="#">Table 23-131</a> .        |

Table 23-131 privileges parameters

| Parameter  | Mandatory | Type          | Description                                                                                                                                                                                                                                                                                                                                                               |
|------------|-----------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_admin   | No        | Boolean       | Determines whether a user is an administrator. The value <b>false</b> indicates that the user is not an administrator, and the value <b>true</b> indicates that the user is an administrator.                                                                                                                                                                             |
| object     | No        | String        | Objects on which a user has permission. <ul style="list-style-type: none"><li>If the object is in the format of <b>databases.Database name.tables.Table name</b>, the user has permission on the database.</li><li>If the object is in the format of <b>databases.Database name.tables.Table namecolumns.Column name</b>, the user has permission on the table.</li></ul> |
| privileges | No        | Array<String> | Permission of the user on the object.                                                                                                                                                                                                                                                                                                                                     |
| user_name  | No        | String        | Name of the user who has the permission.                                                                                                                                                                                                                                                                                                                                  |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "",
 "privileges": [
 {
 "is_admin": false,
 "object": "databases.dsstest.tables.csv_par_table",
 "privileges": [
 "SELECT"
],
 "user_name": "tent2"
 }
]
}
```

```
},
{
 "is_admin": true,
 "object": "databases.dsstest.tables.csv_par_table",
 "privileges": [
 "ALL"
],
 "user_name": "tent4"
}
]
```

 **NOTE**

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

### 23.6.6 Querying a User's Table Permissions (Deprecated)

#### Function

This API is used to query the permission of a specified user on a table.

 **NOTE**

This API has been deprecated and is not recommended.

#### URI

- URI format  
GET /v1.0/{project\_id}/databases/{database\_name}/tables/{table\_name}/users/{user\_name}
- Parameter description

**Table 23-132** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| database_name | Yes       | String | Name of the database where the table to be queried resides.                                                                               |
| table_name    | Yes       | String | Name of a table that is to be queried.                                                                                                    |
| user_name     | Yes       | String | Name of the user whose permission is to be queried.                                                                                       |

#### Request Parameters

None

### Response Parameters

Table 23-133 Response parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                                       |
|------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean          | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. Example value: <b>true</b> . |
| message    | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank. Example value: left blank.                                         |
| username   | No        | String           | Name of the user whose permission is to be queried.                                                                                               |
| privileges | No        | Array Of objects | Permission information. For details, see <a href="#">Table 23-134</a> .                                                                           |

Table 23-134 privileges parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| object     | No        | String           | Objects on which a user has permission. <ul style="list-style-type: none"><li>If the object is in the format of <b>databases.Database name.tables.Table name</b>, the user has permission on the database.</li><li>If the object is in the format of <b>databases.Database name.tables.Table namecolumns.Column name</b>, the user has permission on the table.</li></ul> Example value:<br><b>databases.dsstest.tables.obs_231</b> . |
| privileges | No        | Array of Strings | Permission of the user on a specified object. Example value: [ <b>DESCRIBE_TABLE</b> ]. For details about table permissions, see <a href="#">Permissions Management</a> .                                                                                                                                                                                                                                                             |

### Example Request

None

### Example Response

```
{
 "is_success": true,
```

```
"message": "",
"privileges": [
 {
 "object": "databases.dsstest.tables.obs_2312",
 "privileges": [
 "DESCRIBE_TABLE"
]
 },
 {
 "object": "databases.dsstest.tables.obs_2312.columns.id",
 "privileges": [
 "SELECT"
]
 }
],
"user_name": "scuser1"
}
```

Status Codes

Table 23-135 describes the status code.

Table 23-135 Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Authorization succeeds. |
| 400         | Request error.          |
| 500         | Internal service error. |

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see Error Codes.

23.7 Queue-related APIs (Deprecated)

23.7.1 Creating a Scheduled CU Change (Deprecated)

Function

This API is used to create a scheduled CU change, that is, to create a scheduled CU change for a specified queue.

NOTE

This API has been deprecated and is not recommended.

URI

- URI format  
POST /v1/{project\_id}/queues/{queue\_name}/plans

- Parameter description

**Table 23-136** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                                                                                                    |
| queue_name | Yes       | String | Name of the queue for which you want to set a scheduled scaling plan. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_). The name contains 1 to 128 characters. |

## Request Parameters

**Table 23-137** Request parameters

| Parameter        | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| plan_name        | Yes       | String           | Name of a CU change. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).                                                                                                                                                                                                                            |
| target_cu        | Yes       | Integer          | Target value of the CU in the scheduled CU change.                                                                                                                                                                                                                                                                                                                              |
| start_hour       | Yes       | Integer          | Specifies the start hour of the scheduled CU change.                                                                                                                                                                                                                                                                                                                            |
| start_minute     | Yes       | Integer          | Specifies the start minute of a scheduled CU change.                                                                                                                                                                                                                                                                                                                            |
| repeat_day       | Yes       | Array of strings | Specifies the repetition period of a scheduled CU change. You can select one or more days from Monday to Sunday, or do not select any day. If this parameter is not specified, the scheduled CU change will be executed at the time specified by <b>start_hour: start_minute</b> after the current time. Example:<br>"repeat_day": ["MONDAY", "TUESDAY", "WEDNESDAY", "SUNDAY"] |
| valid_date_begin | No        | Long             | Start time of the validity period (13-digit timestamp)                                                                                                                                                                                                                                                                                                                          |



| Parameter      | Mandatory | Type    | Description                                                                                                                         |
|----------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------|
| valid_date_end | No        | Long    | End time of the validity period (13-digit timestamp)                                                                                |
| activate       | No        | Boolean | Indicates whether the scheduled CU change is activated. The default value is <b>true</b> , indicating that the change is activated. |

## Response Parameters

Table 23-138 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |

## Example Request

Create a scaling plan named **plan\_A** for the queue. According to the plan, the queue is scaled out at 20:30 on Monday, Tuesday, Wednesday, and Sunday, to 64 CUs.

```
{
 "plan_name": "plan_A",
 "target_cu": 64,
 "start_hour": 20,
 "start_minute": 30,
 "repeat_day": [
 "MONDAY",
 "TUESDAY",
 "WEDNESDAY",
 "SUNDAY"
],
 "valid_date_begin": 1590949800000,
 "valid_date_end": 1591727400000,
 "activate": true
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 23-139](#) describes status codes.

**Table 23-139** Status codes

| Status Code | Description                               |
|-------------|-------------------------------------------|
| 200         | Scheduled CU change created successfully. |
| 400         | Request failure.                          |
| 500         | Internal service error.                   |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

**Table 23-140** Error codes

| Error Code | Error Message                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------|
| DLI.0999   | Queue plans create failed. The plan plan_A can not generate a scale plan, please check all time settings for the plan. |

## 23.7.2 Viewing a Scheduled CU Change (Deprecated)

### Function

This API is used to query the scheduled CU changes and list the changes of a specified queue.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
GET /v1/{project\_id}/queues/{queue\_name}/plans
- Parameter description

**Table 23-141** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                   |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                     |
| queue_name | Yes       | String | Name of the queue for which the scheduled CU change is to be deleted. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names. |

## Request Parameters

None

## Response Parameters

**Table 23-142** Response parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                    |
|------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean          | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |
| plans      | No        | Array of objects | Scheduled scaling plan information. For details, see <a href="#">Table 23-143</a> .                                            |

**Table 23-143** plans parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                          |
|------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| id         | No        | Long    | ID of a scheduled CU change.                                                                                                                         |
| plan_name  | No        | String  | Name of a CU change. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_). |
| target_cu  | No        | Integer | Target value of the CU in the scheduled CU change.                                                                                                   |
| start_hour | No        | Integer | Start hour of a queue scaling plan, in the 24-hour format.                                                                                           |

| Parameter         | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_minute      | No        | Integer          | Specifies the start minute of a scheduled CU change.                                                                                                                                                                                                                                                                                                                                       |
| repeat_day        | Yes       | Array of strings | Specifies the repetition period of a scheduled CU change. You can select one or more days from Monday to Sunday, or do not select any day. If this parameter is not specified, the scheduled CU change will be executed at the time specified by <b>start_hour</b> : <b>start_minute</b> after the current time.<br>Example:<br>"repeat_day": ["MONDAY", "TUESDAY", "WEDNESDAY", "SUNDAY"] |
| valid_date_begin  | No        | Long             | Start time of the validity period (13-digit timestamp)                                                                                                                                                                                                                                                                                                                                     |
| valid_date_end    | No        | Long             | End time of the validity period (13-digit timestamp)                                                                                                                                                                                                                                                                                                                                       |
| activate          | No        | Boolean          | Indicates whether the scheduled CU change is activated. The default value is <b>true</b> , indicating that the change is activated.                                                                                                                                                                                                                                                        |
| last_execute_time | No        | Long             | Time when the scaling plan was last executed.                                                                                                                                                                                                                                                                                                                                              |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "",
 "plans": [
 {
 "id": 1,
 "plan_name": "plan_Aa",
 "target_cu": 32,
 "start_hour": 11,
 "start_minute": 15,
 "repeat_day": [
 "MONDAY",
 "TUESDAY",
 "WEDNESDAY",
 "SUNDAY"
],
 "activate": true,
 "last_execute_time": 1593573428857
 },
 {
 "id": 6,
 "plan_name": "plan_Ab",
 "target_cu": 16,

```

```
 "start_hour": 14,
 "start_minute": 25,
 "repeat_day": [
 "MONDAY",
 "TUESDAY",
 "WEDNESDAY",
 "SUNDAY",
 "THURSDAY",
 "FRIDAY",
 "SATURDAY"
],
 "activate": true,
 "last_execute_time": 1593584829260
 }
]
```

### Status Codes

[Table 23-144](#) describes status codes.

**Table 23-144** Status codes

| Status Code | Description              |
|-------------|--------------------------|
| 200         | The query is successful. |
| 400         | Request failure.         |
| 500         | Internal service error.  |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

**Table 23-145** Error codes

| Error Code | Error Message                   |
|------------|---------------------------------|
| DLI.0008   | There is no queue named queue1. |

## 23.7.3 Deleting Scheduled CU Changes in Batches (Deprecated)

### Function

This API is used to delete scheduled CU changes in batches.

 **NOTE**

This API has been deprecated and is not recommended.

## URI

- URI format  
POST /v1/{project\_id}/queues/{queue\_name}/plans/batch-delete
- Parameter description

**Table 23-146** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                   |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                     |
| queue_name | Yes       | String | Name of the queue for which the scheduled CU change is to be deleted. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names. |

## Request Parameters

**Table 23-147** Request parameters

| Parameter | Mandatory | Type          | Description                                                                                                                                                    |
|-----------|-----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| plan_ids  | Yes       | Array of Long | Scaling policy IDs of the queues you want to delete. For details, see <a href="#">Viewing a Scheduled CU Change (Deprecated)</a> . Example: "plan_ids": [8,10] |

## Response Parameters

**Table 23-148** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |

### Example Request

Delete the scaling plans whose IDs are 3 and 4.

```
{
 "plan_ids": [3,4]
}
```

### Example Response

```
{
 "is_success": true,
 "message": ""
}
```

### Status Codes

[Table 23-149](#) describes status codes.

**Table 23-149** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Deletion succeeded.     |
| 400         | Request failure.        |
| 500         | Internal service error. |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

**Table 23-150** Error codes

| Error Code | Error Message                        |
|------------|--------------------------------------|
| DLI.0002   | The plans with id 8, 9 do not exist. |

## 23.7.4 Deleting a Scheduled CU Change (Deprecated)

### Function

This API is used to delete a scheduled CU change for a queue with a specified ID.



#### NOTE

This API has been deprecated and is not recommended.

## URI

- URI format  
DELETE /v1/{project\_id}/queues/{queue\_name}/plans/{plan\_id}
- Parameter description

**Table 23-151** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                   |
|------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                     |
| queue_name | Yes       | String | Name of the queue for which the scheduled CU change is to be deleted. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names. |
| plan_id    | Yes       | Long   | ID of scheduled CU change to be deleted. For details about how to obtain the IDs, see <a href="#">Viewing a Scheduled CU Change (Deprecated)</a> .            |

## Request Parameters

None

## Response Parameters

**Table 23-152** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |

## Example Request

None



## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

[Table 23-153](#) describes status codes.

**Table 23-153** Status codes

| Status Code | Description                            |
|-------------|----------------------------------------|
| 200         | The directory is successfully deleted. |
| 400         | Request failure.                       |
| 500         | Internal service error.                |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

**Table 23-154** Error codes

| Error Code | Error Message                      |
|------------|------------------------------------|
| DLI.0002   | The plan with id 8 does not exist. |

## 23.7.5 Modifying a Scheduled CU Change (Deprecated)

### Function

This API is used to modify a scheduled CU change for a queue with a specified ID.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
PUT /v1/{project\_id}/queues/{queue\_name}/plans/{plan\_id}
- Parameter description

**Table 23-155** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> .                                                    |
| queue_name | Yes       | String | Name of the queue for which the scheduled CU change is to be modified. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names.                               |
| plan_id    | Yes       | String | ID of scheduled CU change to be modified. Use commas (,) to separate multiple IDs. For details about how to obtain the IDs, see <a href="#">Viewing a Scheduled CU Change (Deprecated)</a> . |

## Request Parameters

**Table 23-156** Request parameters

| Parameter        | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                     |
|------------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| plan_name        | Yes       | String           | Name of a CU change. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).                                                                                                                                                                                                                            |
| target_cu        | Yes       | Integer          | Target value of the CU in the scheduled CU change.                                                                                                                                                                                                                                                                                                                              |
| start_hour       | Yes       | Integer          | Specifies the start hour of the scheduled CU change.                                                                                                                                                                                                                                                                                                                            |
| start_minute     | Yes       | Integer          | Specifies the start minute of a scheduled CU change.                                                                                                                                                                                                                                                                                                                            |
| repeat_day       | Yes       | Array of strings | Specifies the repetition period of a scheduled CU change. You can select one or more days from Monday to Sunday, or do not select any day. If this parameter is not specified, the scheduled CU change will be executed at the time specified by <b>start_hour: start_minute</b> after the current time. Example:<br>"repeat_day": ["MONDAY", "TUESDAY", "WEDNESDAY", "SUNDAY"] |
| valid_date_begin | No        | Long             | Start time of the validity period (13-digit timestamp)                                                                                                                                                                                                                                                                                                                          |

| Parameter      | Mandatory | Type    | Description                                                                                                                         |
|----------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------|
| valid_date_end | No        | Long    | End time of the validity period (13-digit timestamp)                                                                                |
| activate       | No        | Boolean | Indicates whether the scheduled CU change is activated. The default value is <b>true</b> , indicating that the change is activated. |

## Response Parameters

Table 23-157 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                    |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed.                                 |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                 |
| queue_name | No        | String  | Name of the queue for which the scheduled CU change is to be modified. The name contains 1 to 128 characters. Use commas (,) to separate multiple queue names. |
| plan_id    | No        | Integer | ID of scheduled CU change to be modified. Use commas (,) to separate multiple IDs.                                                                             |

## Example Request

Modify the scaling plan named **plan\_A**. After the modification, the number of CUs of the queue is scaled to 64 at 19:30 on Thursday and Friday, and the scaling plan is not activated.

```
{
 "plan_name": "plan_A",
 "target_cu": 64,
 "start_hour": 19,
 "start_minute": 30,
 "repeat_day": ["THURSDAY", "FRIDAY"],
 "activate": false
}
```

## Example Response

```
{
 "is_success": true,
 "message": "",
 "queue_name": "queue1",
}
```

```
"plan_id": 3
}
```

Status Codes

Table 23-158 describes status codes.

Table 23-158 Status codes

| Status Code | Description                                 |
|-------------|---------------------------------------------|
| 200         | The modification operations are successful. |
| 400         | Request failure.                            |
| 500         | Internal service error.                     |

Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see Error Codes.

Table 23-159 Error codes

| Error Code | Error Message                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------|
| DLI.0999   | Queue plans create failed. The plan plan_A can not generate a scale plan, please check all time settings for the plan. |

23.8 Datasource Authentication-related APIs (Deprecated)

23.8.1 Creating Datasource Authentication (Deprecated)

Function

This API is used to create datasource authentication.

NOTE

This API has been deprecated and is not recommended. Instead, you are advised to use [Creating Datasource Authentication](#).

URI

- URI format  
POST /v2.0/{project\_id}/datasource/auth-infos

- Parameter description

**Table 23-160** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

**Table 23-161** Parameters

| Parameter            | Mandatory | Type   | Description                                                                                             |
|----------------------|-----------|--------|---------------------------------------------------------------------------------------------------------|
| auth_info_name       | Yes       | String | Authentication information name, which is unique in a project.                                          |
| user_name            | No        | String | Username                                                                                                |
| password             | No        | String | Password                                                                                                |
| certificate_location | No        | String | Path of the security cluster certificate. Currently, only OBS paths and CER files are supported.        |
| datasource_type      | Yes       | String | Data source type. Available values are <b>CSS</b> , <b>KRB</b> , <b>passwd</b> , and <b>Kafka_SSL</b> . |
| krb5_conf            | No        | String | OBS path of the <b>krb5</b> configuration file                                                          |
| keytab               | No        | String | OBS path of the <b>keytab</b> configuration file                                                        |
| truststore_location  | No        | String | OBS path of the <b>truststore</b> configuration file                                                    |
| truststore_password  | No        | String | Password of the <b>truststore</b> configuration file                                                    |
| keystore_location    | No        | String | OBS path of the <b>keystore</b> configuration file                                                      |
| keystore_password    | No        | String | Password of the <b>keystore</b> configuration file                                                      |
| key_password         | No        | String | Key password                                                                                            |

## Response Parameters

**Table 23-162** Parameters

| Parameter  | Type    | Description                                                                                                          |
|------------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If execution succeeds, the message may be left blank.                                                 |

## Example Request

Create a CSS datasource authentication.

```
{
 "auth_info_name": "test",
 "user_name": "admin",
 "password": "****",
 "certificate_location": "obs://test/CloudSearchService.cer",
 "datasource_type": "CSS"
}
```

## Example Response

```
{
 "is_success": true,
 "message": "Upload success."
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

## 23.8.2 Listing Datasource Authentication Information (Deprecated)

### Function

This API is used to list the datasource authentication information in a project.

 NOTE

This API has been deprecated and is not recommended. Instead, you are advised to use [Listing Datasource Authentications](#).

## URI

- URI format  
GET /v2.0/{project\_id}/datasource/auth-infos
- Parameter description

**Table 23-163** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

**Table 23-164** query parameters

| Parameter      | Mandatory | Type   | Description                                                                                                            |
|----------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------|
| limit          | No        | String | The maximum number of connections to be queried. The default value is <b>100</b> .                                     |
| offset         | No        | String | The offset of the query result. The default value is <b>0</b> . Note that the connections are sorted by creation time. |
| auth_info_name | Yes       | String | Authentication information name, which is unique in a project.                                                         |

## Request Parameters

None

## Response Parameters

**Table 23-165** Parameters

| Parameter  | Type    | Description                                                                                                          |
|------------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |

| Parameter  | Type   | Description                                                                      |
|------------|--------|----------------------------------------------------------------------------------|
| message    | String | System prompt. If execution succeeds, the message may be left blank.             |
| count      | int    | Number of certificates                                                           |
| auth_infos | List   | Authentication information list. For details, see <a href="#">Table 23-166</a> . |

**Table 23-166** auth\_infos parameters

| Parameter            | Type   | Description                                                          |
|----------------------|--------|----------------------------------------------------------------------|
| auth_info_name       | String | Username for logging in to the security cluster                      |
| user_name            | String | Password for logging in to the security cluster                      |
| certificate_location | String | OBS path of the certificate specified during authentication creation |
| datasource_type      | String | Data source type                                                     |
| create_time          | Int    | Timestamp when the authentication is created                         |
| update_time          | Int    | Timestamp when the authentication is updated                         |
| krb5_conf            | String | OBS path of the <b>krb5</b> configuration file                       |
| keytab               | String | OBS path of the <b>keytab</b> configuration file                     |
| truststore_location  | String | OBS path of the <b>truststore</b> configuration file                 |
| keystore_location    | String | OBS path of the <b>keystore</b> configuration file                   |
| owner                | String | Username                                                             |

**Example Request**

None

**Example Response**

```
{
 "count": 19,
```



```
"auth_infos": [{
 "auth_info_name": "lan2",
 "datasource_type": "Kafka_SSL",
 "create_time": 1578896427789,
 "update_time": 1578898059677,
 "owner": "ei_dlics_d00352221",
 "truststore_location": "obs://lan-1/cer/truststore.jks",
 "keystore_location": "obs://lan-1/cer/keystore.jks"
}, {
 "auth_info_name": "lan3",
 "datasource_type": "Kafka_SSL",
 "create_time": 1578899029971,
 "update_time": 1578901678150,
 "owner": "ei_dlics_d00352221",
 "truststore_location": "obs://lan-1/cer/truststore1.jks",
 "keystore_location": "obs://lan-1/cer/keystore.jks"
}]
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

## 23.8.3 Updating Datasource Authentication (Deprecated)

### Function

This API is used to update authentication information.

#### NOTE

This API has been deprecated and is not recommended. Instead, you are advised to use [Updating Datasource Authentication](#).

### URI

- URI format  
PUT /v2.0/{project\_id}/datasource/auth-infos
- Parameter description

**Table 23-167** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

| Parameter           | Mandatory | Type   | Description                                          |
|---------------------|-----------|--------|------------------------------------------------------|
| auth_info_name      | Yes       | String | Name of the updated datasource authentication.       |
| user_name           | No        | String | New username for logging in to the security cluster  |
| password            | No        | String | New password for logging in to the security cluster  |
| krb5_conf           | No        | String | OBS path of the <b>krb5</b> configuration file       |
| keytab              | No        | String | OBS path of the <b>keytab</b> configuration file     |
| truststore_location | No        | String | OBS path of the <b>truststore</b> configuration file |
| truststore_password | No        | String | Password of the <b>truststore</b> configuration file |
| keystore_location   | No        | String | OBS path of the <b>keystore</b> configuration file   |
| keystore_password   | No        | String | Password of the <b>keystore</b> configuration file   |

## Response Parameters

**Table 23-168** Parameters

| Parameter  | Type    | Description                                                                                                          |
|------------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | None                                                                                                                 |

### Example Request

Change the name of datasource authentication to **rds3**.

```
{
 "auth_info_name": "rds3"
}
```

### Example Response

```
{
 "is_success": true,
 "message": "Update success."
}
```

### Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

### Error Codes

For details, see [Error Codes](#).

## 23.8.4 Deleting Datasource Authentication (Deprecated)

### Function

This API is used to delete datasource authentication.

 **NOTE**

This API has been deprecated and is not recommended. Instead, you are advised to use [Deleting Datasource Authentication](#).

### URI

- URI format  
DELETE /v2.0/{project\_id}/datasource/auth-infos/{auth\_info\_name}
- Parameter description

**Table 23-169** URI parameters

| Parameter  | Mandatory | Type   | Description                                                                                                                               |
|------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

| Parameter      | Mandatory | Type   | Description                                                |
|----------------|-----------|--------|------------------------------------------------------------|
| auth_info_name | Yes       | String | Name of the authentication information you want to delete. |

## Response Parameters

**Table 23-170** Parameters

| Parameter  | Type    | Description                                                                                                          |
|------------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | None                                                                                                                 |

## Example Request

None

## Example Response

```
{
 "is_success": true,
 "message": "Deleted success."
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

## 23.9 Enhanced Datasource Connection-related APIs (Deprecated)

## 23.9.1 Creating a Route (Deprecated)

### Function

This API is used to create a datasource connection route.

#### NOTE

This API has been deprecated and is not recommended. Instead, you are advised to use [Creating a Route](#).

### URI

- URI format  
POST /v2.0/{project\_id}/datasource/enhanced-connections/{connection\_id}/routes
- Parameter description

**Table 23-171** URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| connection_id | Yes       | String | Datasource connection ID                                                                                                                  |

### Request Parameters

**Table 23-172** Parameters

| Parameter | Mandatory | Type   | Description                                           |
|-----------|-----------|--------|-------------------------------------------------------|
| name      | Yes       | String | Route name. The value can contain 1 to 64 characters. |
| cidr      | Yes       | String | Route network range                                   |

## Response Parameters

**Table 23-173** Parameters

| Parameter  | Type    | Description                                                                                                          |
|------------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If execution succeeds, the message may be left blank.                                                 |

## Example Request

Create a route. Set the next-hop address of the enhanced datasource connection to **127.0.0.0**.

```
{
 "name": "route",
 "cidr": "127.0.0.0"
}
```

## Example Response

```
{
 "is_success": true,
 "message": ""
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

## 23.9.2 Deleting a Route (Deprecated)

### Function

This API is used to delete a datasource connection route.

#### NOTE

This API has been deprecated and is not recommended. Instead, you are advised to use [Deleting a Route](#).

URI

- URI format  
DELETE /v2.0/{project\_id}/datasource/enhanced-connections/{connection\_id}/  
routes/{name}
- Parameter description

Table 23-174 URI parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                               |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| connection_id | Yes       | String | Datasource connection ID                                                                                                                  |
| name          | Yes       | String | Route name                                                                                                                                |

Request Parameters

None

Response Parameters

Table 23-175 Parameters

| Parameter  | Type    | Description                                                                                                          |
|------------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | String  | System prompt. If execution succeeds, the message may be left blank.                                                 |

Example Request

None

Example Response

```
{
 "is_success": true,
 "message": "Deleted"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

For details, see [Error Codes](#).

# 23.10 Template-related APIs (Deprecated)

## 23.10.1 Querying All Sample SQL Templates (Deprecated)

### Function

This API is used to query all sample SQL templates.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
GET /v1.0/{project\_id}/sqls/sample
- Parameter description

**Table 23-176** URI parameter

| Parameter  | Mandator<br>y | Type   | Description                                                                                                                               |
|------------|---------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes           | String | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

None



### Response Parameters

Table 23-177 Parameters

| Parameter  | Type            | Description                                                                                                                                 |
|------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean         | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed.                        |
| message    | String          | System prompt. If execution succeeds, the message may be left blank.<br>If the execution fails, the value will be the cause of the failure. |
| sqls       | Array of Object | Sample template information. For details, see <a href="#">Table 23-178</a> .                                                                |
| sqlCount   | Integer         | Number of sample templates.                                                                                                                 |

Table 23-178 sqls parameters

| Parameter   | Type   | Description               |
|-------------|--------|---------------------------|
| lang        | String | Language                  |
| name        | String | Name of a sample template |
| sql         | String | Template content          |
| description | String | Template description      |
| group       | String | Template group            |

### Example Request

None

### Example Response

```
{
 "is_success": true,
 "message": "",
 "sqlCount": 1,
 "sqls": [
 {
 "lang": "zh",
 "name": "Q1_ Price Summary Report",
 "sql": "-- Q1: Query pricing reports.\r\n-- Query statistics on paid and delivered offerings in a specified period in a single table lineitem, including the charging, delivery, discount, tax, and average price.\r\n-- Feature: single-table query with grouping, sorting, and aggregate operations. This query read 95% to 97% rows of data in the table.\r\nSELECT\r\n l_returnflag,\r\n l_linestatus,\r\n sum(l_quantity) AS sum_qty,\r\n sum(l_extendedprice) AS sum_base_price,\r\n sum(l_extendedprice * (1 - l_discount)) AS sum_disc_price,\r\n sum(l_extendedprice * (1 - l_discount) * (1 + l_tax)) AS sum_charge,\r\n avg(l_quantity) AS avg_qty,\r\n avg(l_extendedprice) AS avg_price,\r\n avg(l_discount) AS avg_disc,\r\n count(*) AS count_order\r\nFROM\r\n tpch.lineitem\r\nWHERE\r\n l_shipdate <= DATE '1998-12-01' -
```

```
INTERVAL \"90\" DAY\r\nGROUP BY\r\n _returnflag,\r\n _linestatus\r\nORDER BY\r\n _returnflag,\r\n _linestatus;\",\n \"description\": \" Query the lineitem of a table for statistics on paid and delivered offerings in a specified\n period, including the charging, delivery, discount, tax, and average price information.\",\n \"group\": \"tpchQuery\"\n}\n]\n}
```

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

Error Codes

For details, see [Error Codes](#).

23.11 Table-related APIs (Deprecated)

23.11.1 Querying All Tables (Deprecated)

Function

This API is used to query information about tables that meet the filtering criteria or all the tables in the specified database.

 NOTE

This API has been deprecated and is not recommended.

URI

- URI format  
GET /v1.0/{project\_id}/databases/{database\_name}?keyword=tb&with-detail=true
- Parameter description

Table 23-179 URI parameters

| Parameter  | Man<br>dator<br>y | Description                                                                                                                               |
|------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes               | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

| Parameter     | Mandatory | Description                                                                   |
|---------------|-----------|-------------------------------------------------------------------------------|
| database_name | Yes       | Name of the database where the table resides.                                 |
| keyword       | No        | Keywords used to filter table names.                                          |
| with-detail   | No        | Whether to obtain detailed information about tables (such as owner and size). |

## Request Parameters

None

## Response Parameters

**Table 23-180** Response parameters

| Parameter   | Mandatory | Type             | Description                                                                                                          |
|-------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------|
| is_success  | Yes       | Boolean          | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message     | Yes       | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |
| table_count | Yes       | Integer          | Total number of tables.                                                                                              |
| tables      | Yes       | Array of objects | Table information. For details, see <a href="#">Table 23-181</a> .                                                   |

**Table 23-181** tables parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                   |
|---------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time   | Yes       | Long   | Time when a table is created. The timestamp is expressed in milliseconds.                                                                                                     |
| data_type     | No        | String | Type of data in the OBS table. Currently, the parameter value can be <b>parquet</b> , <b>ORC</b> , <b>CSV</b> , or <b>JSON</b> . This parameter is valid only for OBS tables. |
| data_location | Yes       | String | Data storage location. OBS tables, DLI tables, and views are available.                                                                                                       |

| Parameter         | Mandatory | Type             | Description                                                                                                                                                                                           |
|-------------------|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| last_access_time  | Yes       | Long             | Time when the table was last updated. The timestamp is expressed in milliseconds.                                                                                                                     |
| location          | No        | String           | Storage path on the OBS table.                                                                                                                                                                        |
| owner             | Yes       | String           | Table owner.                                                                                                                                                                                          |
| table_name        | Yes       | String           | Name of a table.                                                                                                                                                                                      |
| table_size        | Yes       | Long             | Size of a DLI table. Set this parameter to <b>0</b> for non-DLI tables.                                                                                                                               |
| table_type        | Yes       | String           | Type of a table. <ul style="list-style-type: none"><li>● <b>EXTERNAL</b>: Indicates an OBS table.</li><li>● <b>MANAGED</b>: Indicates a DLI table.</li><li>● <b>VIEW</b>: Indicates a view.</li></ul> |
| partition_columns | No        | Array of Strings | Partition field. This parameter is valid only for OBS partition tables.                                                                                                                               |

 **NOTE**

If **with-detail** is set to **false** in the URI, only values of parameters **data\_location**, **table\_name**, and **table\_type** are returned.

## Example

- Example request  
None
- Example response (successful request)

```
{
 "is_success": true,
 "message": "",
 "table_count": 1,
 "tables": [
 {
 "create_time": 1517364268000,
 "data_location": "OBS",
 "data_type": "csv",
 "last_access_time": 1517364268000,
 "location": "obs://DLI/sqldata/data.txt",
 "owner": "test",
 "partition_columns": ["a0"],
 "table_name": "obs_t",
 "table_size": 0,
 "table_type": "EXTERNAL"
 }
]
}
```

 **NOTE**

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.12 SQL Job-related APIs (Deprecated)

### 23.12.1 Submitting a SQL Job (Deprecated)

#### Function

This API is used to submit jobs to a queue using SQL statements.

#### NOTE

This API has been deprecated and is not recommended.

The job types support DDL, DCL, IMPORT, EXPORT, QUERY, and INSERT. Functions of IMPORT and EXPORT are the same as those described in [Importing Data \(Deprecated\)](#) and [Exporting Data \(Deprecated\)](#). The difference lies in the implementation method.

Additionally, you can use other APIs to query and manage jobs. For details, see the following sections:

- [Querying Job Status](#)
- [Querying Job Details](#)
- [Querying Job Execution Results \(Method 1\) \(Deprecated\)](#)
- [Exporting Query Results](#)
- [Querying All Jobs](#)
- [Canceling a Job \(Deprecated\)](#)

#### NOTE

- This API is synchronous if **job\_type** in the response message is **DCL**.
- Information described in this section has been disused. You are advised to view the information described in [Submitting a SQL Job \(Recommended\)](#).

#### URI

- URI format  
POST /v1.0/{project\_id}/queues/{queue\_name}/jobs/submit-job
- Parameter description

**Table 23-182** URI parameters

| Parameter  | Mandatory | Description                                                                                                                               |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

| Parameter  | Mandatory | Description                                                                                  |
|------------|-----------|----------------------------------------------------------------------------------------------|
| queue_name | Yes       | Current queue name. Resources of the queue are used for computing if SQL requires resources. |

## Request Parameters

**Table 23-183** Request parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sql        | Yes       | String           | SQL statement that you want to execute.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| current db | No        | String           | Database where the SQL statement is executed. This parameter does not need to be configured during database creation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| conf       | No        | Array of objects | User-defined parameter that applies to the job. Currently, the following configuration items are supported: <ul style="list-style-type: none"><li>• <b>dli.sql.join.preferSortMergeJoin</b> (specifies whether SortMergeJoin is preferred)</li><li>• <b>dli.sql.autoBroadcastJoinThreshold</b> (specifies the data volume threshold to use BroadcastJoin. If the data volume exceeds the threshold, BroadcastJoin will be automatically enabled.)</li><li>• <b>dli.sql.caseSensitive</b> (specifies whether SQL statements are case-sensitive)</li><li>• <b>dli.sql.shuffle.partitions</b> (specifies the number of partitions during shuffling)</li><li>• <b>dli.sql.cbo.enabled</b> (specifies whether to enable the CBO optimization policy)</li><li>• <b>dli.sql.cbo.joinReorder.enabled</b> (specifies whether join reordering is allowed when CBO optimization is enabled)</li></ul> |

## Response Parameters

**Table 23-184** Response parameters

| Parameter  | Mandatory | Type             | Description                                                                                                                                                                             |
|------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | Yes       | Boolean          | If <b>job_type</b> is set to <b>DCL</b> , this parameter indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | Yes       | String           | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                                          |
| job_id     | Yes       | String           | ID of a job returned after a job is generated and submitted by using SQL statements. The job ID can be used to query the job status and results.                                        |
| job_type   | Yes       | String           | Type of a job. Job types include the following: <ul style="list-style-type: none"><li>• DDL</li><li>• DCL</li><li>• IMPORT</li><li>• EXPORT</li><li>• QUERY</li><li>• INSERT</li></ul>  |
| schema     | No        | Array of Map     | If the statement type is DDL, the column name and type of DDL are displayed.                                                                                                            |
| rows       | No        | Array of objects | When the statement type is DDL, results of the DDL are displayed.                                                                                                                       |

## Example

- Example request

```
{
 "currentdb": "db1",
 "sql": "desc table1",
 "conf": [
 "dli.sql.shuffle.partitions = 200"
]
}
```

- Example response (successful request)

```
{
 "is_success": true,
 "message": "",
 "job_id": "8ecb0777-9c70-4529-9935-29ea0946039c",
 "job_type": "DDL",
 "schema": [
 {
 "col_name": "string"
 }
]
}
```

```
 },
 {
 "data_type": "string"
 },
 {
 "comment": "string"
 }
],
 "rows": [
 [
 "c1",
 "int",
 null
],
 [
 "c2",
 "string",
 null
]
]
}
```

 **NOTE**

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.12.2 Canceling a Job (Deprecated)

### Function

This API is used to cancel a submitted job. If execution of a job completes or fails, this job cannot be canceled.

 **NOTE**

This API has been deprecated and is not recommended.

### URI

- URI format  
DELETE /v1.0/{project\_id}/queues/{queue\_name}/jobs/{job\_id}
- Parameter description

**Table 23-185** URI parameters

| Parameter  | Mandatory | Description                                                                                                                               |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| queue_name | Yes       | Name of the queue where the job to be canceled resides.                                                                                   |
| job_id     | Yes       | Job ID.                                                                                                                                   |



## Request Parameters

None

## Response Parameters

Table 23-186 Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                    |
|------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                 |

## Example

- Example request  
None
- Example response (successful request)

```
{
 "is_success": true,
 "message": ""
}
```

### NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.12.3 Querying Job Execution Results (Method 1) (Deprecated)

### Function

This API is used to view the job execution result after a job is executed using SQL query statements. Currently, you can only query execution results of jobs of the **QUERY** type.

### NOTE

- This API has been deprecated and is not recommended.
- You can view the first 1000 result records only. To view all result records, export them first. For details, see [Exporting Query Results](#).

### URI

- URI format  
`GET/v1.0/{project_id}/queues/{queue_name}/jobs/{job_id}?page-size=size&current-page=page_number`

- Parameter description

**Table 23-187** URI parameters

| Parameter    | Mandatory | Description                                                                                                                               |
|--------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| queue_name   | Yes       | Current queue name. SQL uses resources of the current queue for computing.                                                                |
| job_id       | Yes       | Job ID.                                                                                                                                   |
| page-size    | No        | Maximum number of lines displayed on each page. The value range is as follows: [1, 100]. The default value is <b>50</b> .                 |
| current-page | No        | Current page number. The default value is <b>1</b> .                                                                                      |

## Request Parameters

None

## Response Parameters

**Table 23-188** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                           |
|------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed.                                                                                  |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                                                                                                        |
| job_id     | No        | String  | Job ID.                                                                                                                                                                                               |
| job_type   | No        | String  | Job type, including <b>DDL</b> , <b>DCL</b> , <b>IMPORT</b> , <b>EXPORT</b> , <b>QUERY</b> , and <b>INSERT</b> .<br>Currently, you can only query execution results of jobs of the <b>QUERY</b> type. |
| row_count  | No        | Integer | Total number of job results.                                                                                                                                                                          |

| Parameter  | Mandatory | Type             | Description                                  |
|------------|-----------|------------------|----------------------------------------------|
| input_size | No        | Long             | Amount of data scanned during job execution. |
| schema     | No        | Array of Map     | Name and type of the job result column.      |
| rows       | No        | Array of objects | Job results set.                             |

## Example

- Example request

None

- Example response (successful request)

```
{
 "is_success": true,
 "message": "",
 "job_id": "ead0b276-8ed4-4eb5-b520-58f1511e7033",
 "job_type": "QUERY",
 "row_count": 1,
 "input_size": 74,
 "schema": [
 {
 "c1": "int"
 },
 {
 "c2": "string"
 }
],
 "rows": [
 [
 23,
 "sda"
]
]
}
```

### NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.12.4 Querying Job Execution Results (Method 2) (Deprecated)

### Function

This API is used to view the job execution result after a job is executed using SQL query statements. Currently, you can only query execution results of jobs of the **QUERY** type.

You can view the first 1000 result records only. To view all result records, export them first. For details, see [Exporting Query Results](#).

 NOTE

This API has been deprecated and is not recommended.

## URI

- URI format  
GET/v1.0/{project\_id}/jobs/{job\_id}?page-size={size}&current-page={page\_number}&queue-name={queue\_name}
- Parameter description

**Table 23-189** URI parameters

| Parameter    | Mandatory | Description                                                                                                                               |
|--------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| job_id       | Yes       | Job ID.                                                                                                                                   |
| page-size    | No        | Maximum number of lines displayed on each page. The value range is as follows: [1, 100]. The default value is <b>50</b> .                 |
| current-page | No        | Current page number. The default value is <b>1</b> .                                                                                      |
| queue-name   | No        | Name of the execution queue for obtaining job results. If this parameter is not specified, the default system queue is used.              |

## Request Parameters

None

## Response Parameters

**Table 23-190** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | System prompt. If execution succeeds, the parameter setting may be left blank.                                       |
| job_id     | No        | String  | Job ID.                                                                                                              |

| Parameter  | Mandatory | Type             | Description                                                                                                                                                                                                                                                                                             |
|------------|-----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| job_type   | No        | String           | Job type, including <b>DDL</b> , <b>DCL</b> , <b>IMPORT</b> , <b>EXPORT</b> , <b>QUERY</b> , <b>INSERT</b> , <b>DATA_MIGRATION</b> , <b>UPDATE</b> , <b>DELETE</b> , <b>RESTART_QUEUE</b> and <b>SCALE_QUEUE</b> .<br>Currently, you can only query execution results of jobs of the <b>QUERY</b> type. |
| row_count  | No        | Integer          | Total number of job results.                                                                                                                                                                                                                                                                            |
| input_size | No        | Long             | Amount of data scanned during job execution.                                                                                                                                                                                                                                                            |
| schema     | No        | Array of Map     | Name and type of the job result column.                                                                                                                                                                                                                                                                 |
| rows       | No        | Array of objects | Job results set.                                                                                                                                                                                                                                                                                        |

## Example

- Example request  
None
- Example response (successful request)

```
{
 "is_success": true,
 "message": "",
 "job_id": "ead0b276-8ed4-4eb5-b520-58f1511e7033",
 "job_type": "QUERY",
 "row_count": 1,
 "input_size": 74,
 "schema": [
 {
 "c1": "int"
 },
 {
 "c2": "string"
 }
],
 "rows": [
 [
 23,
 "sda"
]
]
}
```

### NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.13 Data Upload-related APIs (Deprecated)

## 23.13.1 Authenticating a Created Data Uploading Job (Deprecated)

### Function

This API is used to check whether a created data uploading job is valid and, if valid, authorize the job to upload data to DLI.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
POST /v1.0/{project\_id}/uploader/authentication
- Parameter description

**Table 23-191** URI parameter

| Parameter  | Mandatory | Description                                                                                                                               |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

### Request Parameters

**Table 23-192** Request parameters

| Parameter | Mandatory | Type   | Description                                             |
|-----------|-----------|--------|---------------------------------------------------------|
| job_id    | Yes       | String | Job ID, which is used to identify a data uploading job. |

### Response Parameters

**Table 23-193** Response parameters

| Parameter  | Type    | Description                                                                                                                    |
|------------|---------|--------------------------------------------------------------------------------------------------------------------------------|
| is_success | Boolean | Indicates whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |

| Parameter | Type             | Description                                                                    |
|-----------|------------------|--------------------------------------------------------------------------------|
| message   | String           | System prompt. If execution succeeds, the parameter setting may be left blank. |
| mask      | Array of strings | Authorization mask information.                                                |

## Example

- Example request

```
{
 "job_id": "6b29eb77-4c16-4e74-838a-2cf7959e9203"
}
```

- Example response (successful request)

```
{
 "is_success": "true",
 "message": "check upload id success",
 "mask": [
 "mask_str_01",
 "mask_str_02"
]
}
```

### NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.14 Cluster-related APIs (Deprecated)

### 23.14.1 Creating a Cluster (Deprecated)

#### Function

This API is used to create a cluster. The cluster will be bound to specified compute resources.

### NOTE

This API has been deprecated and is not recommended.

#### URI

- URI format  
POST /v2.0/{project\_id}/clusters
- Parameter description

**Table 23-194** URI parameter

| Parameter  | Mandatory | Description                                                                                                                               |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

## Request Parameters

In addition to the common request header parameters involved in cluster creation, the special request header parameters described in [Table 23-195](#) are also involved.

**Table 23-195** Header description

| Parameter    | Mandatory | Description                                         |
|--------------|-----------|-----------------------------------------------------|
| X-Auth-Token | Yes       | User token obtained from IAM.                       |
| Accept       | Yes       | The default value is <b>application/json</b> .      |
| Content-Type | Yes       | The value is specified to <b>application/json</b> . |
| charset      | Yes       | The encoding format is specified to <b>UTF8</b> .   |

[Table 23-196](#) describes the request parameters.

**Table 23-196** Request parameters

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                    |
|--------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cluster_name       | Yes       | String  | Name of a new cluster. The name can contain only digits, letters, and underscores (_), but cannot contain only digits or start with an underscore (_).                         |
| description        | No        | String  | Description of a cluster.                                                                                                                                                      |
| cu_count           | Yes       | Integer | Number of compute units (units to be billed) bound to a cluster. You can select 16 CUs, 64 CUs, or 256 CUs. If you need a larger quota, contact the DLI service administrator. |
| cidr_in_vpc        | No        | String  | VPC CIDR block                                                                                                                                                                 |
| cidr_in_mgmtsubnet | No        | String  | CIDR block of the management subnet                                                                                                                                            |



| Parameter      | Mandatory | Type   | Description               |
|----------------|-----------|--------|---------------------------|
| cidr_in_subnet | No        | String | Special subnet CIDR block |

## Response Parameters

- Return code  
Code 201 is returned if the operation is successful.
- Response parameter  
None

## Example

- Example request

```
{
 "cluster_name": "cluster1",
 "description": "test cluster",
 "cu_count": 16
}
```
- Example response (successful request)  
None

### NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.14.2 Deleting a Cluster (Deprecated)

### Function

This API is used to delete a specified cluster.

### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
DELETE /v2.0/{*project\_id*}/clusters/{*cluster\_name*}
- Parameter description

Table 23-197 URI parameters

| Parameter    | Mandatory | Description                                                                                                                               |
|--------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| cluster_name | Yes       | Cluster name.                                                                                                                             |

Request Parameters

None

Response Parameters

- Return code  
Code 200 is returned if the operation is successful.
- Response parameters  
None

Example

- Example request  
None
- Example response (successful request)  
None

NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

23.14.3 Querying Information of a Specified Cluster (Deprecated)

Function

This API is used to query information about a specified cluster, including the name, description, and number of bound computing resources.

NOTE

This API has been deprecated and is not recommended.

URI

- URI format  
GET /v2.0/{project\_id}/clusters/{cluster\_name}

- Parameter description

**Table 23-198** URI parameters

| Parameter    | Mandatory | Description                                                                                                                               |
|--------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id   | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |
| cluster_name | Yes       | Cluster name                                                                                                                              |

## Request Parameters

None

## Response Parameters

- Return code  
Code 200 is returned if the operation is successful.
- Response parameters  
[Table 23-199](#) describes the response parameters.

**Table 23-199** Response parameters

| Parameter     | Mandatory | Type    | Description                                                                                                      |
|---------------|-----------|---------|------------------------------------------------------------------------------------------------------------------|
| create_time   | Yes       | Long    | Time when a cluster is created. The timestamp is expressed in milliseconds.                                      |
| description   | No        | String  | Description of a cluster.                                                                                        |
| cu_count      | Yes       | Integer | Number of CUs that are bound to a cluster.                                                                       |
| owner         | Yes       | String  | User who creates the cluster.                                                                                    |
| cluster_name  | Yes       | String  | Cluster name                                                                                                     |
| status        | Yes       | String  | Cluster status. For details, see <a href="#">Table 23-200</a> .                                                  |
| resource_mode | Yes       | Integer | Cluster type. <ul style="list-style-type: none"><li>• 0: Shared cluster</li><li>• 1: Dedicated cluster</li></ul> |

**Table 23-200** Cluster status

| Parameter  | Description                                                                                                                                                             |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CREATING   | The cluster is being created and is unavailable now.                                                                                                                    |
| AVAILABLE  | The cluster is available.                                                                                                                                               |
| SUSPENDED  | The cluster is suspended because it is not used for a long time. You can reactivate the cluster by using the <a href="#">Creating a Batch Processing Job</a> interface. |
| RECOVERING | The cluster is being recovered from the suspending state. The cluster is available again after its status changes to <b>AVAILABLE</b> .                                 |

## Example

- Example request  
None
- Example response (successful request)

```
{
 "create_time": 1508143955000,
 "cu_count": 16,
 "description": "test",
 "owner": "tenant1",
 "cluster_name": "cluster1",
 "status": "AVAILABLE",
 "resource_mode": 0
}
```

### NOTE

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.14.4 Querying All Cluster Information (Deprecated)

### Function

This API is used to list all clusters under the project.

### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
GET/v2.0/{project\_id}/clusters
- Parameter description

Table 23-201 URI parameter

| Parameter  | Mandatory | Description                                                                                                                               |
|------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | Project ID, which is used for resource isolation. For details about how to obtain its value, see <a href="#">Obtaining a Project ID</a> . |

Request Parameters

None

Response Parameters

- Return code  
Code 200 is returned if the operation is successful.
- Response parameters

Table 23-202 Response parameters

| Parameter     | Mandatory | Type    | Description                                                                                                  |
|---------------|-----------|---------|--------------------------------------------------------------------------------------------------------------|
| create_time   | Yes       | Long    | Time when a cluster is created                                                                               |
| description   | No        | String  | Description of a cluster.                                                                                    |
| cu_count      | Yes       | Integer | Number of CUs that are bound to a cluster.                                                                   |
| owner         | Yes       | String  | User who creates the cluster.                                                                                |
| cluster_name  | Yes       | String  | Cluster name                                                                                                 |
| status        | Yes       | String  | Cluster status. For details, see <a href="#">Table 23-200</a> .                                              |
| resource_mode | Yes       | Integer | Cluster type. <ul style="list-style-type: none"><li>0: Shared cluster</li><li>1: Dedicated cluster</li></ul> |

Example

- Example request  
None
- Example response (successful request)

```
{
 "clusters": [
 {
 "create_time": 1508143955000,
 "cu_count": 16,
```

```
"description": "test",
"owner": "tenant1",
"cluster_name": "cluster1",
"status": "AVAILABLE",
"resource_mode": 0
}
]
```

 **NOTE**

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.15 Flink Job-related APIs (Deprecated)

### 23.15.1 Querying Job Monitoring Information (Deprecated)

#### Function

This API is used to query job monitoring information. You can query monitoring information about multiple jobs at the same time.

 **NOTE**

This API has been deprecated and is not recommended.

#### URI

- URI format  
POST /v1.0/{project\_id}/streaming/jobs/metrics
- Parameter description

**Table 23-203** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                  |
|------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | Project ID, which is used for resource isolation. For details about how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> . |

#### Request Parameters

**Table 23-204** Request parameter

| Parameter | Mandatory | Type          | Description      |
|-----------|-----------|---------------|------------------|
| job_ids   | Yes       | Array of Long | List of job IDs. |

## Response Parameters

**Table 23-205** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                   |
|------------|-----------|---------|-------------------------------------------------------------------------------|
| is_success | No        | Boolean | Indicates whether the request is successful.                                  |
| message    | No        | String  | Message content.                                                              |
| metrics    | No        | Object  | Information about a job list. For details, see <a href="#">Table 23-206</a> . |

**Table 23-206** payload parameters

| Parameter | Mandatory | Type             | Description                                                                            |
|-----------|-----------|------------------|----------------------------------------------------------------------------------------|
| jobs      | No        | Array of objects | Monitoring information about all jobs. For details, see <a href="#">Table 23-207</a> . |

**Table 23-207** jobs parameters

| Parameter | Mandatory | Type   | Description                                                                                              |
|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------|
| job_id    | No        | Long   | Job ID.                                                                                                  |
| metrics   | No        | Object | All input and output monitoring information about a job. For details, see <a href="#">Table 23-208</a> . |

**Table 23-208** metrics parameters

| Parameter       | Mandatory | Type             | Description                                                         |
|-----------------|-----------|------------------|---------------------------------------------------------------------|
| sources         | No        | Array of objects | All source streams. For details, see <a href="#">Table 23-209</a> . |
| sinks           | No        | Array of objects | All sink streams. For details, see <a href="#">Table 23-209</a> .   |
| total_read_rate | No        | Double           | Total read rate.                                                    |

| Parameter        | Mandatory | Type   | Description       |
|------------------|-----------|--------|-------------------|
| total_write_rate | No        | Double | Total write rate. |

**Table 23-209 source/sinks parameters**

| Parameter         | Mandatory | Type   | Description                        |
|-------------------|-----------|--------|------------------------------------|
| name              | No        | String | Name of the source or sink stream. |
| records           | No        | Long   | Total number of records.           |
| corrupted_records | No        | Long   | Number of dirty data records.      |

## Example

- Example request

```
{
 "job_ids": [298765, 298766]
}
```

- Example response

```
{
 "is_success": true,
 "message": "Message content",
 "metrics": {
 "jobs": [
 {
 "job_id": 0,
 "metrics": {
 "sources": [
 {
 "name": "Source: KafKa_6070_KAFKA_SOURCE",
 "records": 0,
 "corrupted_records": 0
 }
],
 "sinks": [
 {
 "name": "Source: KafKa_6070_KAFKA_SOURCE",
 "records": 0,
 "corrupted_records": 0
 }
],
 "total_read_rate": 100,
 "total_write_rate": 100
 }
 }
]
 }
}
```



## Status Codes

**Table 23-210** Status codes

| Status Code | Description                                       |
|-------------|---------------------------------------------------|
| 200         | The query of job monitoring information succeeds. |
| 400         | The input parameter is invalid.                   |

## Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

## 23.15.2 Authorizing DLI to Access OBS (Deprecated)

### Function

This API is used to grant DLI the permission to access OBS buckets for saving job checkpoints and run logs.

#### NOTE

This API has been deprecated and is not recommended.

### URI

- URI format  
POST /v1.0/{project\_id}/dli/obs-authorize
- Parameter description

**Table 23-211** URI parameter

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                 |
|------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | String | <b>Definition</b><br>Project ID, which is used for resource isolation. For how to obtain a project ID, see <a href="#">Obtaining a Project ID</a> .<br>Example:<br><b>48cc2c48765f481480c7db940d6409d1</b><br><b>Constraints</b><br>None<br><b>Range</b><br>The value can contain up to 64 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>None |

## Request Parameters

**Table 23-212** Request parameter

| Parameter   | Mandatory | Type             | Description          |
|-------------|-----------|------------------|----------------------|
| obs_buckets | Yes       | Array of Strings | List of OBS buckets. |

## Response Parameters

**Table 23-213** Response parameters

| Parameter  | Mandatory | Type    | Description                                                                                                          |
|------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| is_success | No        | Boolean | Whether the request is successfully executed. Value <b>true</b> indicates that the request is successfully executed. |
| message    | No        | String  | Message content.                                                                                                     |

### Example Request

Grant DLI the permission to access the OBS bucket **bucket1** so that DLI can save job checkpoints and run logs to the bucket.

```
{
 "obs_buckets": [
 "bucket1"
]
}
```

### Example Response

```
{
 "is_success": "true",
 "message": "The following OBS bucket is authorized successfully, bucket1."
}
```

### Status Codes

[Table 23-214](#) describes the status code.

**Table 23-214** Status codes

| Status Code | Description             |
|-------------|-------------------------|
| 200         | Authorization succeeds. |
| 400         | Request error.          |

### Error Codes

If an error occurs when this API is invoked, the system does not return the result similar to the preceding example, but returns the error code and error information. For details, see [Error Codes](#).

# 24Public Parameters

## 24.1 Status Codes

Table 24-1 describes status codes.

Table 24-1 Status codes

| Status Code | Message                       | Description                                                                                                                                                                             |
|-------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 100         | Continue                      | The client should continue with its request. This interim response is used to inform the client that part of the request has been received and has not yet been rejected by the server. |
| 101         | Switching Protocols           | The protocol should be switched. The protocol can only be switched to a newer protocol. For example, the current HTTP protocol is switched to a later version of HTTP.                  |
| 200         | Success                       | The request has been fulfilled. This indicates that the server has provided the requested web page.                                                                                     |
| 201         | Created                       | The request is successful and the server has created a new resource.                                                                                                                    |
| 202         | Accepted                      | The request has been accepted, but the processing has not been completed.                                                                                                               |
| 203         | Non-Authoritative Information | Unauthorized information. The request is successful.                                                                                                                                    |

| Status Code | Message           | Description                                                                                                                                                                                                                       |
|-------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 204         | NoContent         | The server has successfully processed the request, but does not return any content.<br>The status code is returned in response to an HTTP OPTIONS request.                                                                        |
| 205         | Reset Content     | The server has successfully processed the request, but does not return any content.                                                                                                                                               |
| 206         | Partial Content   | The server has successfully processed the partial GET request.                                                                                                                                                                    |
| 300         | Multiple Choices  | There are multiple options for the location of the requested resource. The response contains a list of resource characteristics and addresses from which a user terminal (such as a browser) can choose the most appropriate one. |
| 301         | Moved Permanently | The requested resource has been assigned a new permanent URI, and the new URI is contained in the response.                                                                                                                       |
| 302         | Found             | The requested resource resides temporarily under a different URI.                                                                                                                                                                 |
| 303         | See Other         | The response to the request can be found under a different URI,<br>and should be retrieved using a GET or POST method.                                                                                                            |
| 304         | Not Modified      | The requested resource has not been modified. In such a case, there is no need to retransmit the resource since the client still has a previously-downloaded copy.                                                                |
| 305         | Use Proxy         | The requested resource is available only through a proxy.                                                                                                                                                                         |
| 306         | Unused            | The HTTP status code is no longer used.                                                                                                                                                                                           |
| 400         | BadRequest        | Invalid request.<br>The client should not repeat the request without modifications.                                                                                                                                               |
| 401         | Unauthorized      | This status code is returned after the client provides the authentication information, indicating that the authentication information is incorrect or invalid.                                                                    |
| 402         | Payment Required  | This status code is reserved for future use.                                                                                                                                                                                      |

| Status Code | Message                       | Description                                                                                                                                                                                                                                                                |
|-------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 403         | Forbidden                     | The server has received the request and understood it, but the server is refusing to respond to it.<br>The client should modify the request instead of re-initiating it.                                                                                                   |
| 404         | NotFound                      | The requested resource cannot be found.<br>The client should not repeat the request without modifications.                                                                                                                                                                 |
| 405         | MethodNotAllowed              | A request method is not supported for the requested resource.<br>The client should not repeat the request without modifications.                                                                                                                                           |
| 406         | Not Acceptable                | The server could not fulfill the request according to the content characteristics of the request.                                                                                                                                                                          |
| 407         | Proxy Authentication Required | This code is similar to 401, but indicates that the client must first authenticate itself with the proxy.                                                                                                                                                                  |
| 408         | Request Time-out              | The server has timed out waiting for the request.<br>The client may repeat the request without modifications at any time later.                                                                                                                                            |
| 409         | Conflict                      | The request could not be processed due to a conflict in the request.<br>This status code indicates that the resource that the client is attempting to create already exists, or that the request has failed to be processed because of the update of the conflict request. |
| 410         | Gone                          | The requested resource cannot be found.<br>The status code indicates that the requested resource has been deleted permanently.                                                                                                                                             |
| 411         | Length Required               | The server is refusing to process the request without a defined <b>Content-Length</b> .                                                                                                                                                                                    |
| 412         | Precondition Failed           | The server does not meet one of the preconditions that the requester puts on the request.                                                                                                                                                                                  |

| Status Code | Message                         | Description                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 413         | Request Entity Too Large        | The server is refusing to process a request because the request entity is too large for the server to process. The server may disable the connection to prevent the client from sending requests consecutively. If the server is only temporarily unable to process the request, the response will contain a <b>Retry-After</b> header field.                                  |
| 414         | Request-URI Too Large           | The Request-URI is too long for the server to process.                                                                                                                                                                                                                                                                                                                         |
| 415         | Unsupported Media Type          | The server does not support the media type in the request.                                                                                                                                                                                                                                                                                                                     |
| 416         | Requested range not satisfiable | The requested range is invalid.                                                                                                                                                                                                                                                                                                                                                |
| 417         | Expectation Failed              | The server has failed to meet the requirements of the <b>Expect</b> request-header field.                                                                                                                                                                                                                                                                                      |
| 422         | UnprocessableEntity             | The request was well-formed but was unable to be followed due to semantic errors.                                                                                                                                                                                                                                                                                              |
| 429         | TooManyRequests                 | The client sends excessive requests to the server within a given time (exceeding the limit on the access frequency of the client), or the server receives excessive requests within a given time (beyond its processing capability). In this case, the client should resend the request after the time specified in the <b>Retry-After</b> header of the response has elapsed. |
| 500         | InternalServerError             | The server is able to receive the request but unable to understand it.                                                                                                                                                                                                                                                                                                         |
| 501         | Not Implemented                 | The server does not support the requested function.                                                                                                                                                                                                                                                                                                                            |
| 502         | Bad Gateway                     | The server was acting as a gateway or proxy and received an invalid request from the remote server.                                                                                                                                                                                                                                                                            |
| 503         | ServiceUnavailable              | The requested service is invalid.<br>The client should not repeat the request without modifications.                                                                                                                                                                                                                                                                           |
| 504         | ServerTimeout                   | The request cannot be fulfilled within a given time. This status code is returned to the client only when the <b>Timeout</b> parameter is specified in the request.                                                                                                                                                                                                            |

| Status Code | Message                    | Description                                                                |
|-------------|----------------------------|----------------------------------------------------------------------------|
| 505         | HTTP Version not supported | The server does not support the HTTP protocol version used in the request. |

## 24.2 Error Codes

If an error occurs in API calling, no result is returned. Identify the cause of error based on the error codes of each API. If an error occurs in API calling, HTTP status code 4xx or 5xx is returned. The response body contains the specific error code and information. If you are unable to identify the cause of an error, contact technical personnel and provide the error code so that we can help you solve the problem as soon as possible.

### Format of an Error Response Body

If an error occurs during API calling, the system returns an error code and a message to you. The following shows the format of an error response body:

```
{
 "error_msg": "The format of message is error",
 "error_code": "DLI.0001"
}
```

In the preceding information, **error\_code** is an error code, and **error\_msg** describes the error.

**Table 24-2** Exceptions

| Parameter  | Parameter Type | Description                                               |
|------------|----------------|-----------------------------------------------------------|
| error_code | String         | Error code. For details, see <a href="#">Table 24-3</a> . |
| error_msg  | String         | Error details.                                            |

### Error Code Description

If an error code starting with **APIGW** is returned after you call an API, rectify the fault by referring to the instructions provided in [Error Codes](#).

**Table 24-3** Error codes

| Status Code | Error Code | Error Message                 |
|-------------|------------|-------------------------------|
| 400         | DLI.0001   | Parameter check errors occur. |
| 400         | DLI.0002   | The object does not exist.    |



| Status Code | Error Code | Error Message                        |
|-------------|------------|--------------------------------------|
| 400         | DLI.0003   | SQL permission verification fails.   |
| 400         | DLI.0004   | SQL syntax parsing errors occur.     |
| 400         | DLI.0005   | SQL semantics parsing errors occur.  |
| 400         | DLI.0006   | The object exists.                   |
| 400         | DLI.0007   | The operation is not supported.      |
| 400         | DLI.0008   | Metadata errors occur.               |
| 400         | DLI.0009   | System restrictions.                 |
| 400         | DLI.0011   | The file permission check fails.     |
| 400         | DLI.0012   | Resource objects are unavailable.    |
| 401         | DLI.0013   | User authentication errors occur.    |
| 401         | DLI.0014   | Service authentication errors occur. |
| 400         | DLI.0015   | Token parsing error.                 |
| 400         | DLI.0016   | The identity and role are incorrect. |
| 400         | DLI.0018   | Data conversion errors occur.        |
| 400         | DLI.0019   | The task times out.                  |
| 400         | DLI.0100   | The result expires.                  |
| 404         | DLI.0023   | No related resources were found.     |
| 400         | DLI.0999   | Server-side errors occur.            |
| 400         | DLI.1028   | The quota is insufficient.           |

Example

If no queue named **testqueue** exists, the following error message is displayed when you submit a job submission request:

```
{
 "error_code": "DLI.0002",
 "error_msg": "There is no queue named testqueue"
}
```

24.3 Obtaining a Project ID

Scenario

A project ID is required for some URLs when an API is called. Obtain a project ID using either of the following methods:

- [Obtain the Project ID by Calling an API](#)
- [Obtain the Project ID from the Console](#)

## Obtaining a Project ID by Calling an API

You can obtain a project ID by calling the API used to [Querying Project Information](#).

The API for obtaining a project ID is **GET https://{Endpoint}/v3/projects**. **{Endpoint}** indicates the endpoint of IAM, which can be obtained from [Regions and Endpoints](#).

```
{
 "projects": [
 {
 "domain_id": "65382450e8f64ac0870cd180d14e684b",
 "is_domain": false,
 "parent_id": "65382450e8f64ac0870cd180d14e684b",
 "name": "project_name",
 "description": "",
 "links": {
 "next": null,
 "previous": null,
 "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
 },
 "id": "a4a5d4098fb4474fa22cd05f897d6b99",
 "enabled": true
 }
],
 "links": {
 "next": null,
 "previous": null,
 "self": "https://www.example.com/v3/projects"
 }
}
```

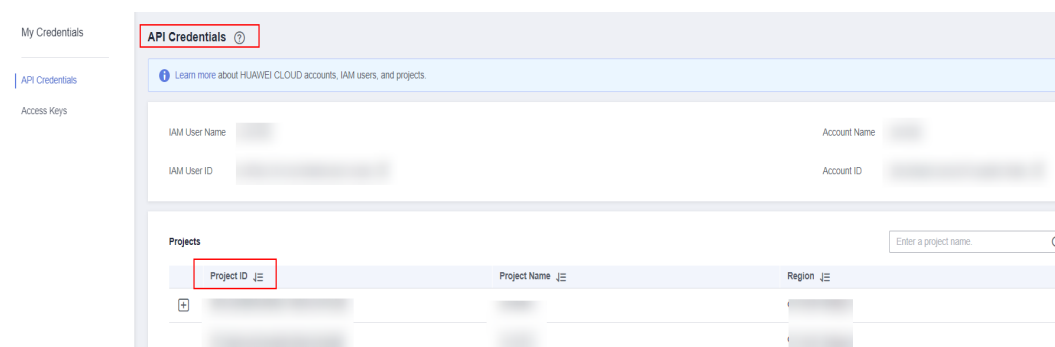
## Obtaining a Project ID from the Management Console

To obtain a project ID from the Console, perform the following operations:

1. Log in to the management console.
2. Hover the mouse pointer over the username in the upper right corner and choose **My Credentials** from the drop-down list.

On the **Projects** tab of the **API Credentials** page, view project IDs.

**Figure 24-1** Viewing the project ID



## 24.4 Obtaining an Account ID

An account ID (domain-id) is required for some URLs when an API is called. To obtain an account ID, perform the following operations:

1. Log in to the management console.
2. Hover the cursor on the username in the upper right corner and select **My Credentials** from the drop-down list.
3. On the **API Credentials** page, view **Account ID**.

**Figure 24-2** Obtaining an account ID

