

GaussDB

API Reference

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1 Before You Start

GaussDB is a distributed relational database developed by Huawei. GaussDB supports distributed transactions and intra-city deployment across AZs for zero data loss, storage for petabytes of data, and scale-out to more than 1,000 nodes. It is highly available, secure, and scalable and provides services including quick deployment, backup, restoration, monitoring, and alarm reporting for enterprises.

This document describes how to use application programming interfaces (APIs) to perform operations on instances, such as creating, deleting, querying and scaling out instances. For operation details, see [API Overview](#).

If you plan to access GaussDB through an API, ensure that you are familiar with GaussDB concepts. For details, see [Service Overview](#).

Endpoints

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

Concepts

- Account

An account is created upon successful registration. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity, which should not be used directly to perform routine management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.
- User

A user is created using an account to use cloud services. Each user has its own identity credentials (password and access keys).

The account name, username, and password will be required for API authentication.
- Region

A region is a geographic area in which cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other.

Deploying cloud resources in different regions can better suit certain user requirements or comply with local laws or regulations.

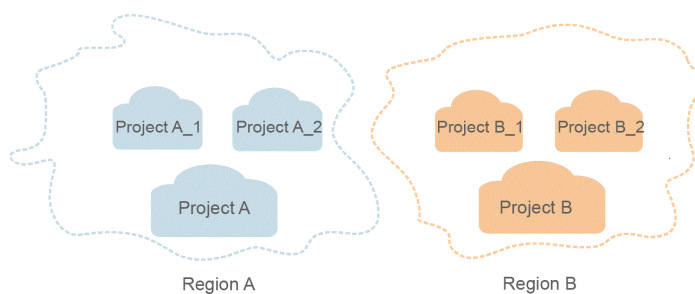
- AZ

An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to support cross-AZ high-availability systems.

- Project

Projects group and isolate compute, storage, and network resources across physical regions. A default project is provided for each region, and subprojects can be created under each default project. Users can be granted permissions to access all resources in a specific project. For more refined access control, create subprojects under a project and purchase resources in the subprojects. Users can then be assigned permissions to access only specific resources in the subprojects.

Figure 1-1 Project isolating model



2 API Overview

You can use GaussDB APIs to create and delete DB instances, query DB instances, obtain and modify DB instance parameters, and configure and query automated backup policies. For details, see the following table.

Type	Subtype	Description
GaussDB APIs	DB Engine versions and specifications	Query DB engine versions, query instance specifications, query DB engines, and query specifications that a DB instance can be changed to.
GaussDB APIs	Storage management	Query the disk type of a DB instance.
GaussDB APIs	Instance Management	Manage DB instances, including creating a DB instance, scaling up storage, deleting a DB instance, querying DB instances, obtaining specified DB instances, adding CNs, adding DN shards, resetting a database password, changing a DB instance name, querying the components of a DB instance, changing vCPUs and memory of a DB instance, switching roles of primary and standby DNs in shards, rebooting a DB instance, checking whether host load is unbalanced due to a primary/standby switchover, querying solution template settings, querying EIPs bound to DB instances, validating password strength, binding and unbinding an EIP, querying the SSL certificate download address of a DB instance, and querying instance quotas of a tenant.

Type	Subtype	Description
GaussDB APIs	Parameter Configuration	Modify parameters of a specified DB instance, obtain parameter templates, obtain the parameters of a specified DB instance, create a parameter template, delete a parameter template, query details about a parameter template, replicate a parameter template, reset a parameter template, obtain the differences of two parameter templates, query instances that a parameter template can be applied to, check whether a parameter template name is unique, apply a parameter template, query application records of a parameter template, and query change history of a parameter template.
GaussDB APIs	Backup and Restoration	Configure an automated backup policy, query an automated backup policy, query backups, create a manual backup, delete a manual backup, query the restoration time range, restore data to a new DB instance, query instances that can be used for backups and restorations, and query information about the original instance based on a specific point of time or a backup file.
GaussDB APIs	Database and Account Management	Create a database, create a database account, create a database schema, configure permissions of database accounts, reset a password for a database account, query databases, query database users, and query database schemas.
GaussDB APIs	Tag Management	Query instance tags, query project tags, query predefined tags, and add tags for instances.
GaussDB APIs	Quota Management	Modify enterprise project quotas and query enterprise project quotas
GaussDB APIs	Task Management	Obtain task information, query tasks, and delete a task record.
GaussDB APIs	Recycle Bin	Set the recycle bin policy, query the recycling policy, and query all DB engine instances in the recycle bin.

3 Calling APIs

3.1 Making an API Request

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

Request URI

A request URI consists of the following:

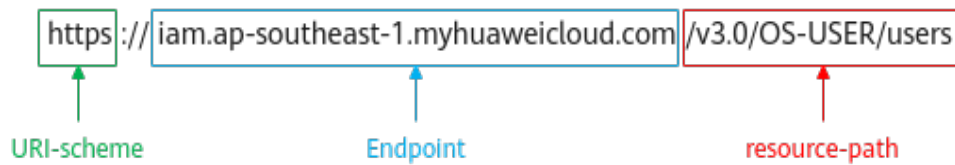
{URI-scheme}://{Endpoint}/{resource-path}?{query-string}

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.

- **URI-scheme:** protocol used to transmit requests. All APIs use HTTPS.
- **Endpoint:** domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from [Regions and Endpoints](#).
For example, the endpoint of IAM in the CN-Hong Kong region is **iam.ap-southeast-1.myhuaweicloud.com**.
- **resource-path:** API access path. Obtain the value from the URI of an API. For example, **resource-path** of the API used to create an IAM user as the administrator is **/v3.0/OS-USER/users**.
- **query-string:** query parameters, which are optional. Ensure that a question mark (?) is included in front of each query parameter that is in the format of *<parameter-name>=<parameter-value>*. For example, **?limit=10** indicates that a maximum of 10 data records will be queried.

IAM is a global service. You can create an IAM user using the endpoint of IAM in any region. For example, to create an IAM user in the CN-Hong Kong region, obtain the endpoint of IAM (**iam.ap-southeast-1.myhuaweicloud.com**) for this region and **resource-path** (**/v3.0/OS-USER/users**) in the URI of the API for [creating an IAM user](#). Then, construct the URI as follows:

```
https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
```

Figure 3-1 Example URI**NOTE**

To simplify the URI display, each API is provided only with a resource-path and a request method. The **URI-scheme** of all APIs is **HTTPS**, and the endpoints of all APIs in the same region are identical.

Request Methods

The HTTP protocol defines the following request methods that can be used to send a request to the server.

- **GET**: requests the 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 specified resources, for example, an object.

For example, in the case of the API for [creating an IAM user](#), the request method is **POST**. An example request is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
```

Request Header

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

Common request header fields are as follows:

- **Content-Type**: request body type or format. This field is mandatory and its default value is **application/json**. Other values of this field will be provided for specific APIs if any.
- **Authorization**: signature authentication information. This field is optional. When AK/SK-based authentication is enabled, this field is automatically specified when SDK is used to sign the request. For more information, see [AK/SK-based Authentication](#).
- **X-Sdk-Date**: time when a request is sent. This field is optional. When AK/SK-based authentication is enabled, this field is automatically specified when SDK is used to sign the request. For more information, see [AK/SK-based Authentication](#).
- **X-Auth-Token**: user token only for token-based API authentication. The user token is a response to the API used to [obtain a user token](#). This API is the only one that does not require authentication.

- **X-Project-ID**: subproject ID. This field is optional and can be used in multi-project scenarios. It is mandatory in the request header for accessing resources in a subproject through AK/SK-based authentication.
- **X-Domain-ID**: account ID. This field is optional. It is mandatory in the request header for calling APIs of global services through AK/SK-based authentication.

The API used to [create an IAM user](#) does not require authentication. Therefore, only the **Content-Type** field needs to be added to requests for calling the API. An example of such requests is as follows:

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
Content-Type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****
```

(Optional) Request Body

This part is optional. A request body is generally sent in a structured format (for example, JSON or XML), corresponding to **Content-Type** in the request header, and is used to transfer content other than the request header. If the request body contains full-width characters, these characters must be coded in UTF-8.

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 used to [create an IAM user](#), the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included.

- *accountid*: account ID of an IAM user
- *username*: name of an IAM user
- *email*: email of an IAM user
- *******: password of the IAM user

```
POST https://iam.ap-southeast-1.myhuaweicloud.com/v3.0/OS-USER/users
Content-Type: application/json
X-Sdk-Date: 20240416T095341Z
Authorization: SDK-HMAC-SHA256 Access=*****, SignedHeaders=content-type;host;x-sdk-date,
Signature=*****

{
  "user": {
    "domain_id": "accountid",
    "name": "username",
    "password": "*****",
    "email": "email",
    "description": "IAM User Description"
  }
}
```

If all data required for the API request is available, you can send the request to call the API through curl, Postman, or coding.

3.2 Authentication

Requests for calling an API can be authenticated using either of the following methods:

- Token-based authentication: Requests are authenticated using a token.
- AK/SK-based authentication: Requests are authenticated by encrypting the request body using an AK/SK pair. Authentication using AK/SK is recommended because it is more secure than authentication using tokens.

Token Authentication

NOTE

The validity period of a token is 24 hours. If a token is required, the system caches the token to avoid frequent calling.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to requests to get permissions for calling the API.

When [calling an 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"
      }
    }
  }
}
```

In [Making an API Request](#), the process of calling the API used to [obtain a user token](#) is used as an example to describe how to call an API.

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

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

AK/SK-based Authentication

NOTE

AK/SK-based authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token-based authentication is recommended.

In AK/SK-based authentication, AK/SK is used to sign requests and the signature is then added to the requests for authentication.

- 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 AK/SK-based authentication, you can use an AK/SK to sign requests based on the signature algorithm or use the signing SDK to sign requests. For details about how to sign requests or use the signing SDK, see [API Request Signing Guide](#). The signing SDK is only used for signing requests and is different from the SDKs provided by services.

3.3 Response

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

Similar to a request, a response also has a header, for example, **Content-Type**.

[Figure 3-2](#) shows the response header for the API used to [obtain a user token](#). The **x-subject-token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

Figure 3-2 Header fields 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
→ MIIYXQYJKoZIhvcNAQcCoIIYTCCEoCAQExDQALBgghkgBZQMEAgEwgharBgkqhkiG9w0BBwGgghacBIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IiwMTktMDItMTNUMC
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqjACgklqO1wi4JIGzrpd18LGXK5bdfq4lqHCYb8P4NaY0NYejcAgz/VeFYtLWT1GSO0zxKZmlQHq82HBqHdgIZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jipPEGA270g1FruooL6jgglFkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HROzv0vN--n5d6Nbxg==

x-xss-protection → 1; mode=block;
```

(Optional) Response Body

This part is optional. The body of a response is often returned in structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body for the API used to [obtain a user token](#).

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

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

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

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

4 APIs (Recommended)

4.1 DB Engine Versions and Specifications

4.1.1 Querying DB Engine Versions

Function

This API is used to query DB engine versions supported by a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/datastore/versions

Table 4-1 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-2 Response parameter description

Name	Type	Description
versions	Array of strings	Definition DB engine versions supported by GaussDB.

Example Request

Querying DB engine versions

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/datastore/versions
```

Example Response

DB engine versions queried.

```
{
  "versions": [
    "1.4",
    "2.3"
  ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.1.2 Querying Instance Specifications

Function

This API is used to query instance specifications. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.2/{*project_id*}/flavors?
limit={limit}&offset={offset}&ha_mode={ha_mode}&version={version}&spec_code={spec_code}

Table 4-3 Parameter description

Name	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
version	No	String	Definition DB version number. You can query the specifications supported by a specified DB version, for example, V2.0-1.4. Constraints N/A Range N/A Default Value N/A
spec_code	No	String	Definition Specification code. Constraints N/A Range N/A Default Value N/A

Name	Mandatory	Type	Description
ha_mode	No	String	Definition Instance type. You can query the specifications supported by a specified instance type. Constraints N/A Range - Primary/standby: centralization_standard - Distributed (independent deployment): enterprise - Distributed (combined deployment): combined Default Value N/A
limit	No	Integer	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1, 100] Default Value 100
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 1 and limit is set to 10 , only the 2nd to 11th records are displayed. Constraints N/A Range [0, 2 ³¹ -1] Default Value 0 : The query starts from the first data record.

Request Parameters

None

Response Parameters

Table 4-4 Parameter description

Name	Type	Description
flavors	Array of objects	Definition Specification details. For details, see Table 4-5 .
total	Integer	Definition Total number of records. Range The actual return value depends on the query result.

Table 4-5 flavors description

Name	Type	Description
vcpus	String	Definition Number of vCPUs. Range N/A
ram	String	Definition Memory size in GB. Range N/A
spec_code	String	Definition Resource specification code. For details, see DB Instance Specifications . Range N/A
availability_zone	Array of strings	Definition AZ that supports the specifications.
az_status	Map<String,String>	Definition key indicates the AZ ID, and value indicates the specification status in the AZ.

Name	Type	Description
version	String	Definition DB engine version supported by the specifications. Range N/A
name	String	Definition DB engine. Range N/A
group_type	String	Definition Performance specifications. Range • normal: dedicated (1:8) • normal2: dedicated (1:4) • armFlavors: Kunpeng dedicated (1:8) • exclusive: dedicated (1:4). It is only suitable for centralized instances of the basic edition. • armExclusive: Kunpeng dedicated (1:4). It is only suitable for centralized instances of the basic edition. • economical: favored (1:4) • economical2: favored (1:8) • armFlavors2: Kunpeng dedicated (1:4) • general: general-purpose (1:4)

Example Request

- Querying specifications of a centralized instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/flavors?offset=0&limit=10&ha_mode=centralization_standard&version=V2.0-3.100&spec_code=gaussdb.opengauss.ee.km1.2xlarge.arm8.ha
```

- Querying specifications of a distributed instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/flavors?offset=0&limit=10&ha_mode=enterprise&version=V2.0-3.100&spec_code=gaussdb.opengauss.ee.dn.m4.2xlarge.8.in
```

Example Response

Instance specifications queried.

```
{
  "flavors": [
    {
      "vcpus": "2",
      "ram": "16",
      "availability_zone": [
        "az2xahz",
        "az1xahz",
        "az3xahz"
      ],
      "version": "V2.0-1.4",
      "name": "GaussDB",
      "spec_code": "gaussdb.opengauss.ee.dn.m6.large.8.in",
      "az_status": {
        "az2xahz": "normal",
        "az1xahz": "normal",
        "az3xahz": "normal"
      },
      "group_type": "normal2"
    }
  ],
  "total": 1
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.1.3 Querying DB Engines

Function

This API is used to query DB engines. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.1/{project_id}/datastores

Table 4-6 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-7 Parameter description

Name	Type	Description
datastores	Array of objects	Definition DB engines. For details, see Table 4-8 .

Table 4-8 dataStores field data structure description

Parameter	Type	Description
supported_versions	Array of strings	Definition Engine versions supported by the deployment model.
instance_model	String	Definition Deployment model. Range • ha: centralized • independent: independent

Example Request

Querying DB engines

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/datastores
```

Example Response

DB engines queried.

```
{
  "datastores": [
    {
      "supported_versions": [
        "V2.0-2.0",
        "V2.0-2.3",
        "V2.0-2.6",
        "V2.0-2.9"
      ],
      "instance_mode": "ha"
    }
  ]
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.1.4 Querying Specifications that a DB Instance Can Be Changed To

Function

This API is used to query specifications that a DB instance can be changed to. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

```
GET /v3/{project_id}/instances/{instance_id}/available-flavors
```

Table 4-9 Parameter description

Name	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition DB instance ID. Constraints N/A Range N/A Default Value N/A
limit	No	Integer	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints The value cannot be a negative number. Range [1, 100] Default Value 100

Name	Mandatory	Type	Description
offset	No	Integer	Definition Index offset. For example, if this parameter is set to 1 and limit is set to 10 , only the 2nd to 11th records are displayed. Constraints The value must be a non-negative integer. Range N/A Default Value 0 : The query starts from the first data record.

Request Parameters

None

Response Parameters

Table 4-10 Parameter description

Name	Type	Description
flavors	Array of objects	Definition Specification details. For details, see Table 4-11 .
total_count	integer	Definition Total number of records. Range N/A

Table 4-11 flavors description

Name	Type	Description
vcpus	string	Definition Number of vCPUs. Range N/A

Name	Type	Description
ram	string	Definition Memory size in GB. Range N/A
spec_code	string	Definition Resource specification code, for example, gaussdb.opengauss.ee.dn.m6.4xlarge.8.in . Range N/A
az_status	Map<String,String>	Definition key indicates the AZ ID, and value indicates the specification status in the AZ. Its value can be any of the following: • normal: available. • unsupported: not supported. • sellout: sold out.

Example Request

Querying specifications that a DB instance can be changed to (The number of query records is 10, and the offset is 0.)

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsdae3435in14/available-flavors
```

Example Response

Instance specifications queried.

```
{
  "flavors": [ {
    "spec_code": "gaussdb.opengauss.ee.m6.2xlarge.x868.ha",
    "vcpus": "8",
    "ram": "64",
    "az_status": [ {
      "az2xahz": "normal"
    } ]
  } ],
  "total_count": 1
}
```

Status Codes

- Normal
200

- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.1.5 Querying Instances by Engine Version

Function

This API is used to query instances by engine version. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{*project_id*}/datastore/instances

Table 4-12 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
limit	No	Integer	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints The value cannot be a negative number. Range [1, 100] Default Value 100

Parameter	Mandatory	Type	Description
offset	No	Integer	Definition Index offset. For example, if this parameter is set to 1 and limit is set to 10 , only the 2nd to 11th records are displayed. Constraints The value must be a non-negative integer. Range N/A Default Value 0 : The query starts from the first data record.

Request Parameters

None

Response Parameters

Table 4-13 Parameter description

Parameter	Type	Description
engine_instance_details	Array of Table 3 InstanceEngineDetail objects	Definition Instance engine details.
total_count	Integer	Definition Total number of records. Range N/A

Table 4-14 InstanceEngineDetail description

Parameter	Type	Description
engine_version	String	Definition Engine version. Range N/A

Parameter	Type	Description
instances	Array of Table 4 InstanceDetail objects	Definition Instance details.

Table 4-15 InstanceDetail description

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A
instance_name	String	Definition Instance name. Range N/A
status	String	Definition Instance status. Range N/A
type	String	Definition Instance type. Range N/A
solution	String	Definition Instance deployment model. Range N/A
hotfix_versions	String	Definition Updated hot patch version. Range N/A

Example Request

Querying instances by engine versions

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/datastore/instances
```


Example Response

Instances by engine version queried.

```
{
  "engine_instance_details": [
    {
      "engine_version": "V2.0-3.220.0",
      "instances": [
        {
          "status": "normal",
          "type": "centralization_standard",
          "solution": "single",
          "instance_id": "0fd6cb8f0ffe4bba9e98af6f4b403ae8in14",
          "instance_name": "gauss-472e",
          "hotfix_versions": ""
        },
        {
          "status": "normal",
          "type": "centralization_standard",
          "solution": "single",
          "instance_id": "1b5022523d1749abbf2c7a1307cf4378in14",
          "instance_name": "gauss-2ea0",
          "hotfix_versions": "3.220.0.11"
        },
        {
          "status": "normal",
          "type": "centralization_standard",
          "solution": "triset",
          "instance_id": "da46dcee6c414a2eae89203804103981in14",
          "instance_name": "gauss-515d",
          "hotfix_versions": "3.220.0.11"
        }
      ]
    },
    {
      "engine_version": "V2.0-8.102.0",
      "instances": [
        {
          "status": "normal",
          "type": "distributed",
          "solution": "hcs2",
          "instance_id": "a731423300c14a8c866b2f96243ee9cbin14",
          "instance_name": "gauss-c704",
          "hotfix_versions": ""
        }
      ]
    }
  ],
  "total_count": 2
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.2 Storage Management

4.2.1 Querying the Storage Usage of a DB Instance

Function

This API is used to query the total storage and used storage of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/volume-usage

Table 4-16 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-17 Parameter description

Parameter	Type	Description
used	String	Definition Used storage space of the current instance, in GB. Range N/A
total	String	Definition Total storage space of the current instance, in GB. Range N/A

Example Request

Querying the storage usage of a DB instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in14/volume-usage
```

Example Response

Instance storage usage queried.

```
{
  "used" : "15.0",
  "total" : "185.0"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.2.2 Querying the Disk Type of a DB Instance

Function

This API is used to query the disk type of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/storage-type?version={version}&ha_mode={ha_mode}

Table 4-18 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
version	Yes	String	Definition DB version number. To obtain the DB version number, see Querying DB Engine Versions . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
ha_mode	No	String	Definition Instance mode. The value is case-insensitive. Constraints N/A Range • enterprise (distributed) • centralization_standard (centralized) Default Value N/A

Request Parameters

None

Response Parameters

Table 4-19 Response parameters

Parameter	Type	Description
storage_type	Array of objects	Definition Storage type information. For details, see Table 4-20 .

Table 4-20 storage_type field data structure description

Parameter	Type	Description
name	String	Explanation: disk type name. Range • ULTRAHIGH: indicates the SSD. • ESSD: indicates the extreme SSD.

Parameter	Type	Description
az_status	map<String, String>	Definition key indicates the AZ ID, and value indicates the specification status in the AZ. Range • normal: on sale. • unsupported: not supported. • sellout: sold out.
support_compute_group_type	List<String>	Definition Performance specifications. Range • normal: dedicated (1:8) • normal2: dedicated (1:4) • armFlavors: Kunpeng dedicated (1:8) • armFlavors2: Kunpeng dedicated (1:4) • armFlavors2Shared: Kunpeng general computing-plus II (shared) • general: general-purpose (1:4) • exclusive: dedicated (1:4). It is only suitable for centralized instances of the basic edition. • armExclusive: Kunpeng dedicated (1:4). It is only suitable for centralized instances of the basic edition. • economical: favored (1:4) • economical2: favored (1:8)

Example Request

- Querying the disk type of a distributed instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/storage-type?version=2.1&ha_mode=enterprise
```

- Querying the disk type of a centralized instance

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/storage-type?version=2.1&ha_mode=centralization_standard
```

Example Response

Disk types of the instances queried.

```
{
  "storage_type": [
    {
      "name": "ULTRAHIGH",
```

```
    "az_status": {
      "aaa": "normal",
      "bbb": "normal",
      "ccc": "normal"
    },
    "support_compute_group_type": [
      "normal",
      "armFlavors",
      "armFlavors2Shared",
      "normal2"
    ]
  },
  {
    "name": "ESSD",
    "az_status": {
      "az2xahz": "normal",
      "az1xahz": "normal",
      "az3xahz": "normal"
    },
    "support_compute_group_type": [
      "normal",
      "armFlavors",
      "armFlavors2Shared",
      "normal2"
    ]
  }
]
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3 Instance Management

4.3.1 Creating a DB Instance (v3.2)

Function

This API is used to create a GaussDB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3.2/{project_id}/instances

Table 4-21 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-22 Request parameters

Name	Mandatory	Type	Description
name	Yes	String	Definition Instance name. Instances of the same type can have same names under the same tenant. Constraints N/A Range The name can contain 4 to 64 characters and must start with a letter. Only letters (case-sensitive), digits, hyphens (-), and underscores (_) are allowed. Default Value N/A
datastore	Yes	Object	Definition Database information. For details, see Table 4-23 . Constraints N/A

Name	Mandatory	Type	Description
ha	Yes	Object	Definition Instance deployment model. For details, see Table 4-24 . Constraints N/A
configuration_id	No	String	Definition Parameter template ID. Constraints N/A Range N/A Default Value If this parameter is not specified, the default parameter template is used and this parameter is not returned in the response body.
port	No	String	Definition Port for applications to access the database. Constraints The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124. Range 1024–39998 Default Value 8000

Name	Mandatory	Type	Description
password	Yes	String	Definition Database password. Constraints N/A Range Contain 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters. Supported special characters: ~!@#%^*_-=+?, A strong password helps improve security and mitigate potential threats like brute force attacks. Default Value N/A
backup_strategy	No	Object	Definition Backup policy. For details, see Table 4-25 . Constraints N/A
enterprise_project_id	No	String	Definition Enterprise project ID. For details, see id in the enterprise_project field data structure table in Querying Enterprise Projects of <i>Enterprise Management API Reference</i> . Constraints This parameter is suitable only for enterprise tenants. Range N/A Default Value N/A

Name	Mandatory	Type	Description
disk_encryption_id	No	String	Definition ID of the key used for disk encryption. For details about key grant, see Creating a Grant in the <i>Data Encryption Workshop User Guide</i> . Constraints N/A Range N/A Default Value It is left blank by default.
flavor_ref	Yes	String	Definition Specification code. To obtain its value, see the spec_code field in Querying Instance Specifications . Constraints The value cannot be left blank. Range N/A Default Value N/A
volume	Yes	Object	Definition Volume information. For details, see Table 4-26 . Constraints N/A
region	Yes	String	Definition Region ID. For details, see Regions and Endpoints . Constraints The value cannot be left blank. Range N/A Default Value N/A

Name	Mandatory	Type	Description
availability_zone	Yes	String	Definition AZ ID. Constraints The value cannot be left blank. Range You can specify one or multiple AZs to deploy a GaussDB instance. Use commas (,) to separate AZs. The AZ ID can be obtained from the response returned after the API Querying Instance Specifications is called. Default Value N/A
vpc_id	Yes	String	Definition VPC ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to the VPC console and view the VPC ID in the VPC details page. • Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs. Constraints N/A Range N/A Default Value N/A

Name	Mandatory	Type	Description
subnet_id	Yes	String	Definition Network ID of the subnet. To obtain this parameter value, use either of the following methods: - Method 1: Log in to the VPC console and click the target subnet on the Subnets page. You can view the network ID on the displayed page. - Method 2: Query the subnet ID through the VPC API. For details, see Querying Subnets. Constraints N/A Range N/A Default Value N/A
security_group_id	Yes	String	Definition Security group which the instance is associated with. To obtain this parameter value, use either of the following methods: If you do not need to specify a security group, contact customer service. - Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page. - Method 2: Query the security group through the VPC API. For details, see Querying Security Groups. Constraints N/A Range N/A Default Value N/A

Name	Mandatory	Type	Description
charge_info	No	Object	Definition Billing mode, which can be pay-per-use or yearly/monthly. For details, see Table 4-27 . Constraints N/A
time_zone	No	String	Definition UTC time zone. Constraints N/A Range - If this parameter is not specified, GaussDB uses UTC in the International website by default. - If this parameter is specified, the value ranges from UTC-12:00 to UTC+12:00 at the full hour. For example, the parameter can be UTC+08:00 rather than UTC+08:30. Default Value UTC time for GaussDB in the international website
sharding_num	No	Integer	Definition Number of shards. Constraints This parameter is available only for distributed instances. Range 1-256 Default Value N/A

Name	Mandatory	Type	Description
coordinator_num	No	Integer	Definition Number of CNs. Constraints This parameter is available only for distributed instances. The number of CNs cannot exceed twice the number of shards. Range 1~256 Default Value N/A
replica_num	No	Integer	Definition Number of replicas. Constraints N/A Range The value can be 3. Default Value 3
enable_force_switch	No	Boolean	Definition Whether to enable the function of forcibly promoting a standby node to primary. NOTE If the primary node fails, this function enables a standby node to be forcibly promoted to primary to provide services, ensuring the instance availability. When an instance is faulty, a forcible switchover enables the instance to run normally as soon as possible at the cost of losing some data. This is an escape method used when the instance is unavailable. Constraints This function is available only for instances of version 1.2.2 or later. Range • true: The function of forcibly promoting a standby node to primary is enabled. • false: The function of forcibly promoting a standby node to primary is disabled. Default Value false

Name	Mandatory	Type	Description
enable_single_float_ip	No	Boolean	Definition Single private IP address policy. Constraints This parameter is only available for centralized instances of V2.0-3.207 or later. Range • true: This policy is enabled. Only one floating IP address is bound to the primary node of a DB instance. If a primary/standby failover occurs, the floating IP address does not change. • false: The policy is disabled. Each node is bound to a floating IP address. If a primary/standby failover occurs, the floating IP addresses change. Default Value false

Table 4-23 datastore field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Definition Database engine. Constraints N/A Range GaussDB (case-insensitive): indicates the GaussDB engine. Default Value GaussDB

Name	Mandatory	Type	Description
version	No	String	Definition DB engine version. For details about the versions supported by GaussDB, see Querying DB Engine Versions . Constraints N/A Range N/A Default Value The latest version.

Table 4-24 ha field data structure description

Name	Mandatory	Type	Description
mode	Yes	String	Definition Instance type. Constraints N/A Range Deployment model. The value is case-insensitive and can be enterprise (enterprise edition) for distributed instances and centralization_standard for centralized instances. Default Value N/A

Name	Mandatory	Type	Description
consistency	Yes	String	Definition Transaction consistency type. Constraints N/A Range The value is case-insensitive. • strong: strong consistency • eventual: eventual consistency Default Value N/A
replication_mode	Yes	String	Definition Replication mode for the standby instance. Constraints N/A Range sync : indicates synchronous replication. Default Value sync
instance_mode	No	String	Definition Edition type of the instance to be created. Constraints N/A Range • enterprise: An instance of the enterprise edition will be created. • basic: An instance of the basic edition will be created. • ecology: An instance of the ecosystem edition will be created. Default Value enterprise

Table 4-25 backup_strategy field data structure description

Name	Mandatory	Type	Description
start_time	Yes	String	Definition Backup time window. Automated backups will be created during the backup time window. Constraints N/A Range The value cannot be left blank or negative. It must be a valid value in the hh:mm-HH:MM format. The current time is the UTC time. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00. Example value: • 08:00-09:00 • 23:00-00:00 Default Value N/A
keep_days	No	Integer	Definition Retention days for specific backup files. Constraints N/A Range 1-36500. Default Value The default value is 7.

Table 4-26 volume field data structure description

Name	Mandatory	Type	Description
type	Yes	String	Definition Disk type. Constraints N/A Range The value is case-sensitive and can only be ULTRAHIGH (SSD storage) or ESSD (extreme SSD storage). Default Value N/A
size	Yes	Integer	Definition Storage. For example, if this parameter is set to 40 , 40 GB of storage is allocated to the created instance. Constraints N/A Range ECS-based deployment: The value ranges from (<i>number_of_shards</i> x 40 GB) to (<i>number_of_shards</i> x 24 TB) and must be a multiple of (<i>number_of_shards</i> x 4 GB).

Table 4-27 chargeInfo field data structure description

Name	Mandatory	Type	Description
charge_mode	Yes	String	Definition Billing mode. Constraints N/A Range postPaid: pay-per-use billing. prePaid: yearly/monthly billing. Default Value N/A

Name	Mandatory	Type	Description
period_type	No	String	Definition Subscription type. Constraints This parameter is valid and mandatory only when charge_mode is set to prePaid . Range • month: monthly subscription. • year: yearly subscription. Default Value N/A
period_num	No	Integer	Definition Subscription time. Constraints This parameter is valid and mandatory only when charge_mode is set to prePaid . Range • If period_type is set to month, this parameter value ranges from 1 to 9. • If period_type is set to year, the value ranges from 1 to 3. When a floating-point value is used, the value is automatically truncated to an integer. Default Value N/A

Name	Mandatory	Type	Description
is_auto_renew	No	Boolean	Definition Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed. Constraints N/A Range • true: Automatic renewal is enabled. • false: Automatic renewal is disabled. Default Value false
is_auto_pay	No	Boolean	Definition Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. Constraints N/A Range • true: The order will be automatically paid. • false: The order will be manually paid. Default Value false

Response Parameters

Table 4-28 Response parameters

Name	Type	Description
instance	Object	Definition Instance information. For details, see Table 4-29 .
job_id	String	Definition ID of the job for creating an instance. This parameter is returned only when pay-per-use instances are created. Range N/A
order_id	String	Definition Order ID. This parameter is returned only for the creation of yearly/monthly instances. Range N/A

Table 4-29 instance description

Name	Type	Description
id	String	Definition Instance ID. Range N/A
name	String	Definition Instance name. Instances of the same type can have same names under the same tenant. Range The value must start with a letter and contain 4 to 64 characters. Only letters (case-insensitive), digits, hyphens (-), and underscores (_) are allowed.

Name	Type	Description
status	String	Definition Instance status. For example, BUILD indicates that the instance is being created. This parameter is returned only when pay-per-use instances are created. Range N/A
datastore	Object	Definition Database information. For details, see Table 4-30 .
ha	Object	Definition Database deployment model. For details, see Table 4-31 .
replica_num	Integer	Definition Number of replicas. Range N/A
port	String	Definition Database port, which is the same as the request parameter. Range N/A
backup_strategy	Object	Definition Automated backup policy. For details, see Table 4-32 .
enterprise_project_id	String	Definition Project ID. Range N/A
flavor_ref	String	Definition Specification code. Range N/A
volume	Object	Definition Volume information. For details, see Table 4-33 .

Name	Type	Description
region	String	Definition Region ID. Range N/A
availability_zone	String	Definition AZ ID. Range N/A
vpc_id	String	Definition VPC ID. Range N/A
subnet_id	String	Definition Network ID of the subnet. Range N/A
security_group_id	String	Definition Security group to which the instance belongs. Range N/A
charge_info	Object	Definition Payment mode. For details, see Table 4-34 .

Table 4-30 datastore field data structure description

Name	Type	Description
type	String	Definition Database engine. Range GaussDB
version	String	Definition DB engine version. Range N/A

Table 4-31 ha field data structure description

Name	Type	Description
mode	String	Definition Deployment model. The value is case-insensitive and can be enterprise (enterprise edition) for distributed instances and centralization_standard for centralized instances. Range N/A
replication_mode	String	Definition Replication mode for the standby instance. Range sync : The data is synchronized in synchronous mode.
consistency	String	Definition (GaussDB reserved parameter) Instance consistency type. Range • strong: strong consistency • eventual: eventual consistency
consistency_protocol	String	Definition Replica consistency protocol. If it is not specified, the default value quorum is used. Range • quorum • paxos

Table 4-32 backup_strategy field data structure description

Name	Type	Description
start_time	String	Definition Backup time window. Automated backups will be created during the backup time window. Range The value cannot be left blank. It must be a valid value in the hh:mm-HH:MM format. The current time is the UTC time. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00. Example value: • 08:00-09:00 • 23:00-00:00 If backup_strategy in the request body is left blank, 02:00-03:00 is returned for start_time by default.
keep_days	Integer	Definition Retention days for specific backup files. Range 1-732. If the backup_strategy field is not specified in the request body, keep_days in the response body is set to 7 days by default.

Table 4-33 volume field data structure description

Name	Type	Description
type	String	Definition Disk type. Range The value is case-sensitive. • ULTRAHIGH: SSD. • ESSD: extreme SSD.
size	Integer	Definition Storage. Range N/A

Table 4-34 charge_Info field data structure description

Name	Type	Description
charge_mode	String	Definition Billing mode. Range postPaid : pay-per-use billing. prePaid : yearly/monthly billing.
period_type	String	Definition Subscription type. This parameter is valid and mandatory only when charge_mode is set to prePaid . Range • month: monthly subscription. • year: yearly subscription.
period_num	Integer	Definition Subscription period. This parameter is valid and mandatory only when charge_mode is set to prePaid . Range If period_type is set to month , the value ranges from 1 to 9. If period_type is set to year , the value ranges from 1 to 3.
is_auto_renew	Boolean	Definition Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed. Range • true: Automatic renewal is enabled. • false (default value): Automatic renewal is disabled.

Name	Type	Description
is_auto_pay	Boolean	Definition Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. Range • true: The order is automatically paid from the account. • false: The order is manually paid from the account.

Example Request

- Creating a distributed instance with the following configurations: independent deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, three CNs, three shards, three replicas, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.2/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "user1-v3-independent-02",
  "datastore": {
    "type": "GaussDB",
    "version": "V2.0-2.7"
  },
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
  "region": "aaa",
  "availability_zone": "bbb,ccc,ddd",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "password": "xxxxxx",
  "configuration_id": "",
  "enterprise_project_id": "",
  "time_zone": "UTC+08:00",
  "ha": {
    "mode": "enterprise",
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "sharding_num": 3,
  "coordinator_num": 3,
```

```
"replica_num": 3,  
"port": 8000,  
"enable_force_switch": true  
}
```

- Creating a centralized instance with the following configurations: 1 primary + 2 standby deployment, pay-per-use billing, DB engine V2.0-2.7, single AZ, and 8 vCPUs | 64 GB

POST <https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/instances>

```
{  
  "name": "user1-v3-ha-01",  
  "datastore": {  
    "type": "GaussDB",  
    "version": "V2.0-2.7"  
  },  
  "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",  
  "volume": {  
    "type": "ULTRAHIGH",  
    "size": 120  
  },  
  "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",  
  "region": "aaa",  
  "availability_zone": "bbb,bbb,bbb",  
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",  
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",  
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",  
  "backup_strategy": {  
    "start_time": "17:00-18:00",  
    "keep_days": 7  
  },  
  "charge_info": {  
    "charge_mode": "postPaid"  
  },  
  "password": "xxxxxx",  
  "configuration_id": "",  
  "enterprise_project_id": "",  
  "time_zone": "UTC+08:00",  
  "ha": {  
    "mode": "centralization_standard",  
    "consistency": "strong",  
    "replication_mode": "sync"  
  },  
  "replica_num": 3,  
  "port": 8000,  
  "enable_force_switch": true  
}
```

- Creating a centralized instance with the following configurations: 1 primary + 2 standby deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, and 8 vCPUs | 64 GB

POST <https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/instances>

```
{  
  "name": "user1-v3-ha-02",  
  "datastore": {  
    "type": "GaussDB",  
    "version": "V2.0-2.7"  
  },  
  "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",  
  "volume": {  
    "type": "ULTRAHIGH",  
    "size": 120  
  },  
  "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",  
  "region": "aaa",  
  "availability_zone": "bbb,ccc,ddd",  
}
```

```
{
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "password": "xxxxxx",
  "configuration_id": "",
  "enterprise_project_id": "",
  "time_zone": "UTC+08:00",
  "ha": {
    "mode": "centralization_standard",
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "replica_num": 3,
  "port": 8000,
  "enable_force_switch": true
}
```

Example Response

- Distributed instance in the independent deployment (pay-per-use billing, DB engine V2.0-2.7, single AZ, 3 CNs, 3 shards, 3 replicas, 8 vCPUs and 64 GB) created.

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbbebb3143in14",
    "name": "user1-v3-independent-01",
    "status": "BUILD",
    "datastore": {
      "type": "GaussDB",
      "version": "V2.0-2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "replica_num": 3,
    "region": "aaa",
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,bbb,bbb",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
    "charge_info": {
      "charge_mode": "postPaid"
    }
  }
}
```

- ```
"job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```
- Distributed instance (one-year yearly/monthly billing, DB engine V2.0-2.7, three AZs, three CNs, three shards, three replicas, 8 vCPUs and 64 GB) created.

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
 "name": "user1-v3-independent-02",
 "datastore": {
 "type": "GaussDB",
 "version": "V2.0-2.7"
 },
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "replica_num": 3,
 "region": "aaa",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,bbb,bbb",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1,
 "is_auto_renew": false,
 "is_auto_pay": false
 }
 },
 "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine V2.0-2.7, single AZ, and 8 vCPUs | 64 GB

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
 "name": "user1-v3-ha-01",
 "status": "BUILD",
 "datastore": {
 "type": "GaussDB",
 "version": "V2.0-2.7"
 },
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",

```



```
 "size": 120
 },
 "region": "aaa",
 "replica_num": 3,
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,bbb,bbb",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f"
},
"job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, and 8 vCPUs | 64 GB

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbabb3143in14",
 "name": "user1-v3-ha-02",
 "datastore": {
 "type": "GaussDB",
 "version": "V2.0-2.7"
 },
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "replica_num": 3,
 "region": "aaa",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,bbb,bbb",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1,
 "is_auto_renew": false,
 "is_auto_pay": false
 }
 },
 "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

## Status Codes

- Normal  
202
- Abnormal  
For details, see [Status Codes](#).

## Error Codes

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

## 4.3.2 Creating a DB Instance (v5)

### Function

This API is derived from the API for creating a DB instance (v3.1). The **Subscription-Agency** field is added to the request header of the API. This field is only available when a shared key is used to create a yearly/monthly GaussDB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

### Constraints

- The current API supports only the new IAM plane authentication.
- When using a shared KMS key to create a yearly/monthly instance, you need to create an agency for the Billing service and authorize the system policy **ServicePolicyForGaussDBFulfillment** to the agency. You can obtain the agency URN in the format of "iam::{account\_id}:agency:{agency\_name}". When calling this API, you add the Subscription-Agency header to the request and set its value to the agency URN.

### URI

POST /v5/{project\_id}/instances

**Table 4-35** Parameter description

| Name       | Mandatory | Description                                                                                                                                                                                                                                                                            |
|------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id | Yes       | <b>Definition</b><br>Project ID of a tenant in a region.<br>To obtain the value, see <a href="#">Obtaining a Project ID</a> .<br><b>Constraints</b><br>N/A<br><b>Range</b><br>The value can contain 32 characters. Only letters and digits are allowed.<br><b>Default Value</b><br>N/A |

## Request Parameters

**Table 4-36** Request parameters

| Name      | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                            |
|-----------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name      | Yes       | String | <b>Definition</b><br>Instance name.<br>Instances of the same type can have same names under the same tenant.<br><b>Constraints</b><br>N/A<br><b>Range</b><br>The name can contain 4 to 64 characters and must start with a letter. Only letters (case-sensitive), digits, hyphens (-), and underscores (_) are allowed.<br><b>Default Value</b><br>N/A |
| datastore | Yes       | Object | <b>Definition</b><br>Database information.<br>For details, see <a href="#">Table 4-37</a> .<br><b>Constraints</b><br>N/A                                                                                                                                                                                                                               |

| Name             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                   |
|------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha               | Yes       | Object | <b>Definition</b><br>Instance deployment model. For details, see <a href="#">Table 4-38</a> .<br><b>Constraints</b><br>N/A                                                                                                                                                                                                    |
| configuration_id | No        | String | <b>Definition</b><br>Parameter template ID.<br><b>Constraints</b><br>N/A<br><b>Range</b><br>N/A<br><b>Default Value</b><br>If this parameter is not specified, the default parameter template is used and this parameter is not returned in the response body.                                                                |
| port             | No        | String | <b>Definition</b><br>Port for applications to access the database.<br><b>Constraints</b><br>The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124.<br><b>Range</b><br>1024–39998<br><b>Default Value</b><br>8000 |

| Name                  | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| password              | Yes       | String | <b>Definition</b><br>Database password.<br><b>Constraints</b><br>N/A<br><b>Range</b><br>Contain 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters. Supported special characters: ~!@#%^*-_+=?,<br>A strong password helps improve security and mitigate potential threats like brute force attacks.<br><b>Default Value</b><br>N/A |
| backup_strategy       | No        | Object | <b>Definition</b><br>Backup policy.<br>For details, see <a href="#">Table 4-39</a> .<br><b>Constraints</b><br>N/A                                                                                                                                                                                                                                                                                                    |
| enterprise_project_id | No        | String | <b>Definition</b><br>Enterprise project ID.<br>For details, see <b>id</b> in the <b>enterprise_project field data structure</b> table in <a href="#">Querying Enterprise Projects</a> of <i>Enterprise Management API Reference</i> .<br><b>Constraints</b><br>This parameter is suitable only for enterprise tenants.<br><b>Range</b><br>N/A<br><b>Default Value</b><br>N/A                                         |

| Name               | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                       |
|--------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| disk_encryption_id | No        | String | <b>Definition</b><br>ID of the key used for disk encryption.<br>For details about key grant, see <a href="#">Creating a Grant</a> in the <i>Data Encryption Workshop User Guide</i> .<br><b>Constraints</b><br>N/A<br><b>Range</b><br>N/A<br><b>Default Value</b><br>It is left blank by default. |
| flavor_ref         | Yes       | String | <b>Definition</b><br>Specification code. To obtain its value, see the <b>spec_code</b> field in <a href="#">Querying Instance Specifications</a> .<br><b>Constraints</b><br>The value cannot be left blank.<br><b>Range</b><br>N/A<br><b>Default Value</b><br>N/A                                 |
| volume             | Yes       | Object | <b>Definition</b><br>Volume information.<br>For details, see <a href="#">Table 4-40</a> .<br><b>Constraints</b><br>N/A                                                                                                                                                                            |
| region             | Yes       | String | <b>Definition</b><br>Region ID.<br>For details, see <a href="#">Regions and Endpoints</a> .<br><b>Constraints</b><br>The value cannot be left blank.<br><b>Range</b><br>N/A<br><b>Default Value</b><br>N/A                                                                                        |

| Name              | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| availability_zone | Yes       | String | <p><b>Definition</b><br/>AZ ID.</p> <p><b>Constraints</b><br/>The value cannot be left blank.</p> <p><b>Range</b><br/>You can specify one or multiple AZs to deploy a GaussDB instance. Use commas (,) to separate AZs.<br/>The AZ ID can be obtained from the response returned after the API <a href="#">Querying Instance Specifications</a> is called.</p> <p><b>Default Value</b><br/>N/A</p>                                                      |
| vpc_id            | Yes       | String | <p><b>Definition</b><br/>VPC ID. To obtain this parameter value, use either of the following methods:</p> <ul style="list-style-type: none"> <li>Method 1: Log in to the VPC console and view the VPC ID in the VPC details page.</li> <li>Method 2: Query the VPC ID through the VPC API. For details, see <a href="#">Querying VPCs</a>.</li> </ul> <p><b>Constraints</b><br/>N/A</p> <p><b>Range</b><br/>N/A</p> <p><b>Default Value</b><br/>N/A</p> |

| Name              | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| subnet_id         | Yes       | String | <b>Definition</b><br>Network ID of the subnet. To obtain this parameter value, use either of the following methods: <ul style="list-style-type: none"><li>Method 1: Log in to the VPC console and click the target subnet on the <b>Subnets</b> page. You can view the network ID on the displayed page.</li><li>Method 2: Query the subnet ID through the VPC API. For details, see <a href="#">Querying Subnets</a>.</li></ul> <b>Constraints</b><br>N/A<br><b>Range</b><br>N/A<br><b>Default Value</b><br>N/A                                                                                                                                                                                                                  |
| security_group_id | Yes       | String | <b>Definition</b><br>Security group which the instance is associated with. To obtain this parameter value, use either of the following methods: If you do not need to specify a security group, contact customer service. <ul style="list-style-type: none"><li>Method 1: Log in to the VPC console. Choose <b>Access Control &gt; Security Groups</b> in the navigation pane on the left. On the displayed page, click the target security group. You can view the security group ID on the displayed page.</li><li>Method 2: Query the security group through the VPC API. For details, see <a href="#">Querying Security Groups</a>.</li></ul> <b>Constraints</b><br>N/A<br><b>Range</b><br>N/A<br><b>Default Value</b><br>N/A |



| Name         | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| charge_info  | No        | Object  | <b>Definition</b><br>Billing mode, which can be pay-per-use or yearly/monthly.<br>For details, see <a href="#">Table 4-41</a> .<br><b>Constraints</b><br>N/A                                                                                                                                                                                                                                                                                                                                     |
| time_zone    | No        | String  | <b>Definition</b><br>UTC time zone.<br><b>Constraints</b><br>N/A<br><b>Range</b> <ul style="list-style-type: none"><li>If this parameter is not specified, GaussDB uses UTC in the International website by default.</li><li>If this parameter is specified, the value ranges from UTC-12:00 to UTC+12:00 at the full hour. For example, the parameter can be <b>UTC+08:00</b> rather than <b>UTC+08:30</b>.</li></ul> <b>Default Value</b><br>UTC time for GaussDB in the international website |
| sharding_num | No        | Integer | <b>Definition</b><br>Number of shards.<br><b>Constraints</b><br>This parameter is available only for distributed instances.<br><b>Range</b><br>1-256<br><b>Default Value</b><br>N/A                                                                                                                                                                                                                                                                                                              |

| Name                | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| coordinator_num     | No        | Integer | <b>Definition</b><br>Number of CNs.<br><b>Constraints</b><br>This parameter is available only for distributed instances. The number of CNs cannot exceed twice the number of shards.<br><b>Range</b><br>1~256<br><b>Default Value</b><br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| replica_num         | No        | Integer | <b>Definition</b><br>Number of replicas.<br><b>Constraints</b><br>N/A<br><b>Range</b><br>The value can be 3.<br><b>Default Value</b><br>3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| enable_force_switch | No        | Boolean | <b>Definition</b><br>Whether to enable the function of forcibly promoting a standby node to primary.<br><b>NOTE</b><br>If the primary node fails, this function enables a standby node to be forcibly promoted to primary to provide services, ensuring the instance availability. When an instance is faulty, a forcible switchover enables the instance to run normally as soon as possible at the cost of losing some data. This is an escape method used when the instance is unavailable.<br><b>Constraints</b><br>This function is available only for instances of version 1.2.2 or later.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>true:</b> The function of forcibly promoting a standby node to primary is enabled.</li><li>• <b>false:</b> The function of forcibly promoting a standby node to primary is disabled.</li></ul> <b>Default Value</b><br>false |

| Name                   | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enable_single_float_ip | No        | Boolean | <b>Definition</b><br>Single private IP address policy.<br><b>Constraints</b><br>This parameter is only available for centralized instances of V2.0-3.207 or later.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>true:</b> This policy is enabled. Only one floating IP address is bound to the primary node of a DB instance. If a primary/standby failover occurs, the floating IP address does not change.</li><li>• <b>false:</b> The policy is disabled. Each node is bound to a floating IP address. If a primary/standby failover occurs, the floating IP addresses change.</li></ul> <b>Default Value</b><br>false |

**Table 4-37** datastore field data structure description

| Name | Mandatory | Type   | Description                                                                                                                                                                               |
|------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type | Yes       | String | <b>Definition</b><br>Database engine.<br><b>Constraints</b><br>N/A<br><b>Range</b><br><b>GaussDB</b> (case-insensitive): indicates the GaussDB engine.<br><b>Default Value</b><br>GaussDB |

| Name    | Mandatory | Type   | Description                                                                                                                                                                                                                                          |
|---------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| version | No        | String | <b>Definition</b><br>DB engine version.<br>For details about the versions supported by GaussDB, see <a href="#">Querying DB Engine Versions</a> .<br><b>Constraints</b><br>N/A<br><b>Range</b><br>N/A<br><b>Default Value</b><br>The latest version. |

**Table 4-38** ha field data structure description

| Name | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                  |
|------|-----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode | Yes       | String | <b>Definition</b><br>Instance type.<br><b>Constraints</b><br>N/A<br><b>Range</b><br>Deployment model. The value is case-insensitive and can be <b>enterprise</b> (enterprise edition) for distributed instances and <b>centralization_standard</b> for centralized instances.<br><b>Default Value</b><br>N/A |

| Name             | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| consistency      | Yes       | String | <p><b>Definition</b><br/>Transaction consistency type.</p> <p><b>Constraints</b><br/>N/A</p> <p><b>Range</b><br/>The value is case-insensitive.</p> <ul style="list-style-type: none"> <li>• <b>strong</b>: strong consistency</li> <li>• <b>eventual</b>: eventual consistency</li> </ul> <p><b>Default Value</b><br/>N/A</p>                                                                                                                                      |
| replication_mode | Yes       | String | <p><b>Definition</b><br/>Replication mode for the standby instance.</p> <p><b>Constraints</b><br/>N/A</p> <p><b>Range</b><br/><b>sync</b>: indicates synchronous replication.</p> <p><b>Default Value</b><br/>sync</p>                                                                                                                                                                                                                                              |
| instance_mode    | No        | String | <p><b>Definition</b><br/>Edition type of the instance to be created.</p> <p><b>Constraints</b><br/>N/A</p> <p><b>Range</b></p> <ul style="list-style-type: none"> <li>• <b>enterprise</b>: An instance of the enterprise edition will be created.</li> <li>• <b>basic</b>: An instance of the basic edition will be created.</li> <li>• <b>ecology</b>: An instance of the ecosystem edition will be created.</li> </ul> <p><b>Default Value</b><br/>enterprise</p> |

**Table 4-39** backup\_strategy field data structure description

| Name       | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | Yes       | String  | <b>Definition</b><br>Backup time window. Automated backups will be created during the backup time window.<br><b>Constraints</b><br>N/A<br><b>Range</b><br>The value cannot be left blank or negative. It must be a valid value in the hh:mm-HH:MM format. The current time is the UTC time. <ul style="list-style-type: none"><li>• The <b>HH</b> value must be 1 greater than the <b>hh</b> value.</li><li>• The values of <b>mm</b> and <b>MM</b> must be the same and must be set to <b>00</b>.</li></ul> Example value: <ul style="list-style-type: none"><li>• 08:00-09:00</li><li>• 23:00-00:00</li></ul> <b>Default Value</b><br>N/A |
| keep_days  | No        | Integer | <b>Definition</b><br>Retention days for specific backup files.<br><b>Constraints</b><br>N/A<br><b>Range</b><br>1-36500.<br><b>Default Value</b><br>The default value is 7.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**Table 4-40** volume field data structure description

| Name | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                 |
|------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type | Yes       | String  | <b>Definition</b><br>Disk type.<br><b>Constraints</b><br>N/A<br><b>Range</b> <ul style="list-style-type: none"><li>The value is case-sensitive and can only be <b>ULTRAHIGH</b> (SSD storage) or <b>ESSD</b> (extreme SSD storage).</li></ul> <b>Default Value</b><br>N/A                                                                                                   |
| size | Yes       | Integer | <b>Definition</b><br>Storage. For example, if this parameter is set to <b>40</b> , 40 GB of storage is allocated to the created instance.<br><b>Constraints</b><br>N/A<br><b>Range</b><br>ECS-based deployment: The value ranges from ( <i>number_of_shards</i> x 40 GB) to ( <i>number_of_shards</i> x 24 TB) and must be a multiple of ( <i>number_of_shards</i> x 4 GB). |

**Table 4-41** chargeInfo field data structure description

| Name        | Mandatory | Type   | Description                                                                                                                                                                                                                                       |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| charge_mode | Yes       | String | <b>Definition</b><br>Billing mode.<br><b>Constraints</b><br>N/A<br><b>Range</b> <ul style="list-style-type: none"><li><b>postPaid</b>: pay-per-use billing.</li><li><b>prePaid</b>: yearly/monthly billing.</li></ul> <b>Default Value</b><br>N/A |

| Name        | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| period_type | No        | String  | <b>Definition</b><br>Subscription type.<br><b>Constraints</b><br>This parameter is valid and mandatory only when <b>charge_mode</b> is set to <b>prePaid</b> .<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>month</b>: monthly subscription.</li><li>• <b>year</b>: yearly subscription.</li></ul> <b>Default Value</b><br>N/A                                                                                                                                                                                         |
| period_num  | No        | Integer | <b>Definition</b><br>Subscription time.<br><b>Constraints</b><br>This parameter is valid and mandatory only when <b>charge_mode</b> is set to <b>prePaid</b> .<br><b>Range</b> <ul style="list-style-type: none"><li>• If <b>period_type</b> is set to <b>month</b>, this parameter value ranges from 1 to 9.</li><li>• If <b>period_type</b> is set to <b>year</b>, the value ranges from 1 to 3.</li></ul> When a floating-point value is used, the value is automatically truncated to an integer.<br><b>Default Value</b><br>N/A |



| Name          | Mandatory | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_auto_renew | No        | Boolean | <b>Definition</b><br>Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed.<br><b>Constraints</b><br>N/A<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>true</b>: Automatic renewal is enabled.</li><li>• <b>false</b>: Automatic renewal is disabled.</li></ul> <b>Default Value</b><br><b>false</b> |
| is_auto_pay   | No        | Boolean | <b>Definition</b><br>Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal.<br><b>Constraints</b><br>N/A<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>true</b>: The order will be automatically paid.</li><li>• <b>false</b>: The order will be manually paid.</li></ul> <b>Default Value</b><br><b>false</b>                                                                                                                                                     |

## Response Parameters

**Table 4-42** Response parameters

| Name     | Type   | Description                                                                                                                                                    |
|----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| instance | Object | <b>Definition</b><br>Instance information.<br>For details, see <a href="#">Table 4-43</a> .                                                                    |
| job_id   | String | <b>Definition</b><br>ID of the job for creating an instance.<br>This parameter is returned only when pay-per-use instances are created.<br><b>Range</b><br>N/A |
| order_id | String | <b>Definition</b><br>Order ID. This parameter is returned only for the creation of yearly/monthly instances.<br><b>Range</b><br>N/A                            |

**Table 4-43** instance description

| Name | Type   | Description                                                                                                                                                                                                                                                                            |
|------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id   | String | <b>Definition</b><br>Instance ID.<br><b>Range</b><br>N/A                                                                                                                                                                                                                               |
| name | String | <b>Definition</b><br>Instance name. Instances of the same type can have same names under the same tenant.<br><b>Range</b><br>The value must start with a letter and contain 4 to 64 characters. Only letters (case-insensitive), digits, hyphens (-), and underscores (_) are allowed. |

| Name                  | Type    | Description                                                                                                                                                                                                     |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status                | String  | <b>Definition</b><br>Instance status. For example, <b>BUILD</b> indicates that the instance is being created.<br>This parameter is returned only when pay-per-use instances are created.<br><b>Range</b><br>N/A |
| datastore             | Object  | <b>Definition</b><br>Database information.<br>For details, see <a href="#">Table 4-44</a> .                                                                                                                     |
| ha                    | Object  | <b>Definition</b><br>Database deployment model.<br>For details, see <a href="#">Table 4-45</a> .                                                                                                                |
| replica_num           | Integer | <b>Definition</b><br>Number of replicas.<br><b>Range</b><br>N/A                                                                                                                                                 |
| port                  | String  | <b>Definition</b><br>Database port, which is the same as the request parameter.<br><b>Range</b><br>N/A                                                                                                          |
| backup_strategy       | Object  | <b>Definition</b><br>Automated backup policy.<br>For details, see <a href="#">Table 4-46</a> .                                                                                                                  |
| enterprise_project_id | String  | <b>Definition</b><br>Project ID.<br><b>Range</b><br>N/A                                                                                                                                                         |
| flavor_ref            | String  | <b>Definition</b><br>Specification code.<br><b>Range</b><br>N/A                                                                                                                                                 |
| volume                | Object  | <b>Definition</b><br>Volume information.<br>For details, see <a href="#">Table 4-47</a> .                                                                                                                       |

| Name              | Type   | Description                                                                               |
|-------------------|--------|-------------------------------------------------------------------------------------------|
| region            | String | <b>Definition</b><br>Region ID.<br><b>Range</b><br>N/A                                    |
| availability_zone | String | <b>Definition</b><br>AZ ID.<br><b>Range</b><br>N/A                                        |
| vpc_id            | String | <b>Definition</b><br>VPC ID.<br><b>Range</b><br>N/A                                       |
| subnet_id         | String | <b>Definition</b><br>Network ID of the subnet.<br><b>Range</b><br>N/A                     |
| security_group_id | String | <b>Definition</b><br>Security group to which the instance belongs.<br><b>Range</b><br>N/A |
| charge_info       | Object | <b>Definition</b><br>Payment mode.<br>For details, see <a href="#">Table 4-48</a> .       |

**Table 4-44** datastore field data structure description

| Name    | Type   | Description                                                      |
|---------|--------|------------------------------------------------------------------|
| type    | String | <b>Definition</b><br>Database engine.<br><b>Range</b><br>GaussDB |
| version | String | <b>Definition</b><br>DB engine version.<br><b>Range</b><br>N/A   |

**Table 4-45** ha field data structure description

| Name                 | Type   | Description                                                                                                                                                                                                                           |
|----------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mode                 | String | <b>Definition</b><br>Deployment model. The value is case-insensitive and can be <b>enterprise</b> (enterprise edition) for distributed instances and <b>centralization_standard</b> for centralized instances.<br><b>Range</b><br>N/A |
| replication_mode     | String | <b>Definition</b><br>Replication mode for the standby instance.<br><b>Range</b><br><b>sync</b> : The data is synchronized in synchronous mode.                                                                                        |
| consistency          | String | <b>Definition</b><br>(GaussDB reserved parameter) Instance consistency type.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>strong</b>: strong consistency</li><li>• <b>eventual</b>: eventual consistency</li></ul>      |
| consistency_protocol | String | <b>Definition</b><br>Replica consistency protocol. If it is not specified, the default value <b>quorum</b> is used.<br><b>Range</b> <ul style="list-style-type: none"><li>• quorum</li><li>• paxos</li></ul>                          |

**Table 4-46** backup\_strategy field data structure description

| Name       | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| start_time | String  | <b>Definition</b><br>Backup time window. Automated backups will be created during the backup time window.<br><b>Range</b><br>The value cannot be left blank. It must be a valid value in the hh:mm-HH:MM format. The current time is the UTC time. <ul style="list-style-type: none"><li>• The <b>HH</b> value must be 1 greater than the <b>hh</b> value.</li><li>• The values of <b>mm</b> and <b>MM</b> must be the same and must be set to <b>00</b>.</li></ul> Example value: <ul style="list-style-type: none"><li>• 08:00-09:00</li><li>• 23:00-00:00</li></ul> If <b>backup_strategy</b> in the request body is left blank, <b>02:00-03:00</b> is returned for <b>start_time</b> by default. |
| keep_days  | Integer | <b>Definition</b><br>Retention days for specific backup files.<br><b>Range</b><br>1-732. If the <b>backup_strategy</b> field is not specified in the request body, <b>keep_days</b> in the response body is set to 7 days by default.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

**Table 4-47** volume field data structure description

| Name | Type    | Description                                                                                                                                                                                  |
|------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type | String  | <b>Definition</b><br>Disk type.<br><b>Range</b><br>The value is case-sensitive. <ul style="list-style-type: none"><li>• <b>ULTRAHIGH</b>: SSD.</li><li>• <b>ESSD</b>: extreme SSD.</li></ul> |
| size | Integer | <b>Definition</b><br>Storage.<br><b>Range</b><br>N/A                                                                                                                                         |

**Table 4-48** charge\_Info field data structure description

| Name          | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| charge_mode   | String  | <b>Definition</b><br>Billing mode.<br><b>Range</b><br><b>postPaid</b> : pay-per-use billing.<br><b>prePaid</b> : yearly/monthly billing.                                                                                                                                                                                                                                                                                                                                                                                              |
| period_type   | String  | <b>Definition</b><br>Subscription type. This parameter is valid and mandatory only when <b>charge_mode</b> is set to <b>prePaid</b> .<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>month</b>: monthly subscription.</li><li>• <b>year</b>: yearly subscription.</li></ul>                                                                                                                                                                                                                                               |
| period_num    | Integer | <b>Definition</b><br>Subscription period. This parameter is valid and mandatory only when <b>charge_mode</b> is set to <b>prePaid</b> .<br><b>Range</b><br>If <b>period_type</b> is set to <b>month</b> , the value ranges from 1 to 9. If <b>period_type</b> is set to <b>year</b> , the value ranges from 1 to 3.                                                                                                                                                                                                                   |
| is_auto_renew | Boolean | <b>Definition</b><br>Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>true</b>: Automatic renewal is enabled.</li><li>• <b>false</b> (default value): Automatic renewal is disabled.</li></ul> |

| Name        | Type    | Description                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| is_auto_pay | Boolean | <b>Definition</b><br>Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal.<br><b>Range</b> <ul style="list-style-type: none"><li>• <b>true</b>: The order is automatically paid from the account.</li><li>• <b>false</b>: The order is manually paid from the account.</li></ul> |

## Example Request

- Creating a distributed instance with the following configurations: independent deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, three CNs, three shards, three replicas, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/instances
{
 "name": "user1-v3-independent-02",
 "datastore": {
 "type": "GaussDB",
 "version": "V2.0-2.7"
 },
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
 "region": "aaa",
 "availability_zone": "bbb,ccc,ddd",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1
 },
 "password": "xxxxxx",
 "configuration_id": "",
 "enterprise_project_id": "",
 "time_zone": "UTC+08:00",
 "ha": {
 "mode": "enterprise",
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "sharding_num": 3,
 "coordinator_num": 3,
```



```
"replica_num": 3,
"port": 8000,
"enable_force_switch": true
}
```

- Creating a centralized instance with the following configurations: 1 primary + 2 standby deployment, pay-per-use billing, DB engine V2.0-2.7, single AZ, and 8 vCPUs | 64 GB

POST <https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/instances>

```
{
 "name": "user1-v3-ha-01",
 "datastore": {
 "type": "GaussDB",
 "version": "V2.0-2.7"
 },
 "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
 "region": "aaa",
 "availability_zone": "bbb,bbb,bbb",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "charge_info": {
 "charge_mode": "postPaid"
 },
 "password": "xxxxxx",
 "configuration_id": "",
 "enterprise_project_id": "",
 "time_zone": "UTC+08:00",
 "ha": {
 "mode": "centralization_standard",
 "consistency": "strong",
 "replication_mode": "sync"
 },
 "replica_num": 3,
 "port": 8000,
 "enable_force_switch": true
}
```

- Creating a centralized instance with the following configurations: 1 primary + 2 standby deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, and 8 vCPUs | 64 GB

POST <https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/instances>

```
{
 "name": "user1-v3-ha-02",
 "datastore": {
 "type": "GaussDB",
 "version": "V2.0-2.7"
 },
 "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
 "region": "aaa",
 "availability_zone": "bbb,ccc,ddd",
}
```

```
"vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
"subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
"security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
"backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
},
"charge_info": {
 "charge_mode": "prePaid",
 "period_type": "year",
 "period_num": 1
},
"password": "xxxxxx",
"configuration_id": "",
"enterprise_project_id": "",
"time_zone": "UTC+08:00",
"ha": {
 "mode": "centralization_standard",
 "consistency": "strong",
 "replication_mode": "sync"
},
"replica_num": 3,
"port": 8000,
"enable_force_switch": true
}
```

## Example Response

- Distributed instance in the independent deployment (pay-per-use billing, DB engine V2.0-2.7, single AZ, 3 CNs, 3 shards, 3 replicas, 8 vCPUs and 64 GB) created.

```
{
 "instance": {
 "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
 "name": "user1-v3-independent-01",
 "status": "BUILD",
 "datastore": {
 "type": "GaussDB",
 "version": "V2.0-2.7"
 },
 "ha": {
 "mode": "Enterprise",
 "replication_mode": "sync",
 "consistency": "strong"
 },
 "port": "8000",
 "volume": {
 "type": "ULTRAHIGH",
 "size": 120
 },
 "replica_num": 3,
 "region": "aaa",
 "backup_strategy": {
 "start_time": "17:00-18:00",
 "keep_days": 7
 },
 "enterprise_project_id": "0",
 "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
 "availability_zone": "bbb,bbb,bbb",
 "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
 "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
 "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
 "charge_info": {
 "charge_mode": "postPaid"
 }
 }
}
```

- ```
"job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
```
- Distributed instance (one-year yearly/monthly billing, DB engine V2.0-2.7, three AZs, three CNs, three shards, three replicas, 8 vCPUs and 64 GB) created.

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-independent-02",
    "datastore": {
      "type": "GaussDB",
      "version": "V2.0-2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "replica_num": 3,
    "region": "aaa",
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,bbb,bbb",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
    "charge_info": {
      "charge_mode": "prePaid",
      "period_type": "year",
      "period_num": 1,
      "is_auto_renew": false,
      "is_auto_pay": false
    }
  },
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine V2.0-2.7, single AZ, and 8 vCPUs | 64 GB

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-ha-01",
    "status": "BUILD",
    "datastore": {
      "type": "GaussDB",
      "version": "V2.0-2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",

```

```
    "size": 120
  },
  "region": "aaa",
  "replica_num": 3,
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "enterprise_project_id": "0",
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "availability_zone": "bbb,bbb,bbb",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "charge_info": {
    "charge_mode": "postPaid"
  },
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f"
},
"job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, yearly/monthly billing (1 year), DB engine V2.0-2.7, three AZs, and 8 vCPUs | 64 GB

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbabb3143in14",
    "name": "user1-v3-ha-02",
    "datastore": {
      "type": "GaussDB",
      "version": "V2.0-2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "replica_num": 3,
    "region": "aaa",
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,bbb,bbb",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
    "charge_info": {
      "charge_mode": "prePaid",
      "period_type": "year",
      "period_num": 1,
      "is_auto_renew": false,
      "is_auto_pay": false
    }
  },
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.3 Adding CNs and DN shards and Scaling up Storage

Function

This API is used to add CNs, add DN shards, and scale up storage. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- Scaling up storage
 - The storage space must be a multiple of (Number of shards x 4 GB).
 - All nodes must be available.

URI

POST /v3/{project_id}/instances/{instance_id}/action

Table 4-49 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-50 Parameter description

Name	Mandatory	Type	Description
expand_cluster	No	Object	Definition Configuration for adding CNs or shards. For details, see Table 4-51 . Constraints This parameter is mandatory when you add CNs or shards.
enlarge_volume	No	Object	Definition Target storage space after scale-up. For details, see Table 4-54 . Constraints This parameter is mandatory for scaling up instance storage.

Name	Mandatory	Type	Description
is_auto_pay	No	String	Definition Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. Constraints N/A Range • true: The order is automatically paid from the account. • false: The order is manually paid from the account. Default Value false

Table 4-51 expand_cluster field data structure description

Name	Mandatory	Type	Description
coordinators	No	Array of Coordinators objects	Definition Configuration for adding CNs. For details, see Table 4-52 . Constraints This parameter is mandatory for adding CNs. When the number of nodes reaches the maximum, new nodes cannot be added.
shard	No	Shard object	Definition Configuration for adding shards. For details, see Table 4-53 . Constraints This parameter is mandatory for adding shards. When the number of nodes reaches the maximum, new nodes cannot be added.

Table 4-52 coordinators parameter description

Name	Mandatory	Type	Description
az_code	Yes	String	Definition AZs to which CNs are to be added. If multiple CNs need to be added, enter the AZ where each CN is located. For details about AZs in different regions, see Regions and Endpoints . Constraints When the number of nodes reaches the maximum, new nodes cannot be added. Range N/A Default Value N/A

Table 4-53 shard parameter description

Name	Mandatory	Type	Description
count	Yes	Integer	Definition Number of shards to be added. Constraints When the number of nodes reaches the maximum, new nodes cannot be added. Range [1,min(255 - <i>number-of-current-shards</i> ,64)] Default Value N/A

Table 4-54 enlarge_volume field data structure description

Name	Mandatory	Type	Description
size	Yes	Integer	Definition Storage space of a GaussDB instance. Constraints The storage space must be a multiple of the number of shards multiplied by 4 GB. Range (<i>number_of_shards</i> x 40 GB) to (<i>number_of_shards</i> x 24 TB) Default Value N/A

Response Parameters

Table 4-55 Response parameters

Name	Type	Description
job_id	String	Definition Job ID. This parameter is returned when your instance is billed at a pay-per-use basis. Range N/A
order_id	String	Definition Order ID. This parameter is returned only when your instance is billed at a yearly/monthly basis. Range N/A

Example Request

- Adding a CN

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/
```

```
dsfae23fsfdsae3435in14/action
```

```
{
  "expand_cluster": {
    "coordinators": [
      {
        "az_code": "az_code"
      }
    ]
  }
}
```

- Adding multiple CNs

POST <https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/action>

```
{
  "expand_cluster": {
    "coordinators": [
      {
        "az_code": "az_code"
      },
      {
        "az_code": "az_code"
      },
      {
        "az_code": "az_code"
      }
    ]
  }
}
```

- Adding a DN shard

POST <https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/action>

```
{
  "expand_cluster": {
    "shard": {
      "count": 1
    }
  }
}
```

- Scaling up storage to 400 GB

POST <https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/action>

```
{
  "enlarge_volume": {
    "size": 400
  }
}
```

Example Response

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Code

- Normal
202

- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.3.4 Deleting a DB Instance

Function

This API is used to delete a DB instance. Currently, instances billed on a yearly/monthly basis cannot be deleted. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

DELETE /v3/{project_id}/instances/{instance_id}

Table 4-56 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-57 Parameter description

Name	Type	Description
job_id	String	Definition ID of the instance deletion task. Range UUID format
order_id	string	Definition Order ID. This parameter is returned only when your instance is billed at a yearly/monthly basis. No information is returned when you unsubscribe from a yearly/monthly instance that has expired. Range N/A

Example Request

Deleting a DB instance

```
DELETE https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsdsae3435in01
```

Example Response

```
{
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.3.5 Querying DB Instances

Function

This API is used to query DB instances and their details. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.3/{project_id}/instances?
id={id}&name={name}&type={type}&datastore_type={datastore_type}&vpc_id={vp
c_id}&subnet_id={subnet_id}&offset={offset}&limit={limit}

Table 4-58 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Table 4-59 Query parameters

Parameter	Mandatory	Type	Description
id	No	String	Definition Instance ID. The asterisk (*) is reserved for the system. If the instance ID starts with *, fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance ID. The value cannot only contain asterisks (*). Constraints N/A Range N/A Default Value N/A
name	No	String	Definition Instance name. The asterisk (*) is reserved for the system. If the instance name starts with *, fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance name. The value cannot only contain asterisks (*). Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
type	No	String	Definition Instance type. The value is case-sensitive. Constraints N/A Range • Enterprise (case-sensitive): distributed instances (in the independent deployment) • Centralization_standard (case-sensitive): centralized instances. Default Value N/A
datastore_type	No	String	Definition Database type. Its value is case-sensitive and can be GaussDB. Constraints N/A Range GaussDB: GaussDB database. Default Value GaussDB

Parameter	Mandatory	Type	Description
vpc_id	No	String	Definition VPC ID. • Method 1: Log in to the VPC console and query the VPC ID in the VPC details page. • Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs. • Method 2: See "Querying VPCs" in <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range N/A Default Value N/A
subnet_id	No	String	Definition Network ID of the subnet. • Method 1: Log in to the VPC console and click the target subnet on the Subnets page. You can view the network ID on the displayed page. • Method 2: Query the VPC ID through the VPC API. For details, see Querying Subnets. • Method 2: See "Querying Subnets" in <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
offset	No	Integer	Definition Index offset. If offset is set to N, the query starts from the $N + 1$ piece of data. If action is set to filter, offset is 0 by default, indicating that the query starts from the first piece of data. Constraints N/A Range 0–2147483647 Default Value 0
limit	No	Integer	Definition Number of records returned by a query. Constraints N/A Range 1–100 Default Value 100

Parameter	Mandatory	Type	Description
tags	No	Array	Definition Tag key-value pairs of the instance. • <i>{key}</i> indicates the tag key. It must be unique and cannot be empty. Each tag key can contain a maximum of 127 Unicode characters. key cannot be an empty string, a space, or left blank. Before using key, delete single-byte character (SBC) spaces before and after it. The value cannot contain the following special characters: +/?#&=,% • <i>{value}</i> indicates the tag value, which can be empty. Each tag value can contain a maximum of 255 Unicode characters. Before using value, delete SBC spaces before and after it. The value cannot contain the following special characters: +/?#&=,% If the tag value is left blank, it indicates any_value (querying any value). To query instances with multiple tag key-value pairs, separate the pairs with commas (.). A maximum of 10 key-value pairs are supported. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
charge_mode	No	String	Definition Billing mode. Constraints N/A Range • postPaid: pay-per-use billing. • prePaid: yearly/monthly billing. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-60 Response parameters

Parameter	Type	Description
instances	Array of Table 4-61 objects	Definition Instance information.
total_count	Integer	Definition Total number of records. Range N/A

Table 4-61 instances

Parameter	Type	Description
id	String	Definition Instance ID. Range N/A

Parameter	Type	Description
name	String	Definition Instance name. Range N/A

Parameter	Type	Description
status	String	Definition Instance status. Range • BUILD: The instance is being created. • BUILD_FAILED: The instance creation failed. • ACTIVE: The instance is normal. • FAILED: The instance is abnormal. • FROZEN: The instance is frozen. • MODIFYING: The storage is being scaled up or instance specifications are being changed. • EXPANDING: Read replicas, CNs, or DN shards are being added to the instance. • REBOOTING: The instance is being rebooted. • REDUCING: Read replicas are being deleted. • UPGRADING: The instance is being upgraded. • RESTORING: The instance is being restored. • SWITCHOVER: A primary/standby switchover is being performed. • MIGRATING: The instance is being migrated. • BACKING UP: The instance is being backed up. • UPGRADE TO BE OBSERVED: The instance upgrade is in the observation period. • MODIFYING DATABASE PORT: The database port is being changed. • STORAGE FULL: The instance storage is full. • REPAIRING: The instance is being repaired. • SHUTDOWN: The instance is stopped.

Parameter	Type	Description
private_ips	Array of strings	Definition Private IP address list. The value is an empty string until ECSs where CNs of distributed instances are deployed or ECSs where DN of centralized instances are deployed are created.
public_ips	Array of strings	Definition EIPs bound to the instance. This parameter cannot be left blank after an EIP is bound.
port	Integer	Definition Database port number. Range The GaussDB database port ranges from 1024 to 39998 (excluding the following which are occupied by the system and cannot be used: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 20049, 20050, 21731, and 21732). If this parameter is not specified, the default port number 8000 is used.
type	String	Definition Instance type. The value is case-sensitive. Range • Enterprise: distributed instance (enterprise edition) • centralization_standard: centralized instance • Combined: distributed instance (combined deployment)
ha	Table 4-62 object	Definition This parameter is returned for distributed and centralized instances.
replica_num	Integer	Definition Number of replicas. Range N/A

Parameter	Type	Description
region	String	Definition Region where the instance is deployed. Range N/A
datastore	Table 4-63 object	Definition Database information.
created	String	Definition Creation time in the yyyy-mm-dd hh:mm:ss timezone format. timezone indicates the time zone. When the instance is being created, the value is the time when the creation request is delivered. After the instance is created, the value is the time when the creation is complete, for example, 2024-07-02 08:32:07 UTC. Range N/A
updated	String	Definition Update time. The format is the same as that of the created field. The value is empty when the instance is being created. After the instance is created, the value is not empty. Range N/A
db_username	String	Definition Default username. Range N/A
vpc_id	String	Definition VPC ID. Range N/A

Parameter	Type	Description
subnet_id	String	Definition Network ID of the subnet. Range N/A
security_group_id	String	Definition Security group ID. Range N/A
flavor_ref	String	Definition Specification code. To obtain its value, see the spec_code field in Querying Instance Specifications . Range N/A
flavor_info	Table 4-65 object	Definition Flavor information.
volume	Table 4-66 object	Definition Volume information.
switch_strategy	String	Definition Database failover priority. If you do not configure failover priority during instance creation, this parameter will not be displayed. The value can be Reliability or Availability , indicating that the reliability or availability is given priority during the failover, respectively. If no failover priority is selected during the creation, the failover priority is not displayed. Range N/A
backup_strategy	Table 4-67 object	Definition Backup policy.

Parameter	Type	Description
maintenance_window	String	Definition Maintenance window, in the UTC format. Range N/A
nodes	Array of Table 4-68 objects	Definition Instance node information.
disk_encryption_id	String	Definition Disk encryption key ID. This parameter is displayed only when the instance disk is encrypted. Range N/A
enterprise_project_id	String	Definition Enterprise project tag ID. If an instance does not belong to any enterprise project, the default value is 0 . Range N/A
instance_mode	String	Definition Instance mode. Range • basic: basic edition • enterprise: enterprise edition
disk_encryption_id	String	Definition Disk encryption key ID. This parameter is displayed only when the instance disk is encrypted. Range N/A
charge_info	Table 4-69 object	Definition Billing mode, which can be pay-per-use or yearly/monthly.
time_zone	String	Definition Time zone. Range N/A

Parameter	Type	Description
tags	Array of Table 4-70 objects	Definition Tags. This parameter is not returned if there is no tag.
disk_usage	String	Definition Available disk usage of the instance. Range [0–1]. The value can contain four decimal places.
mysql_compatibility	Table 14 mysql_compatibility object	Definition M compatibility configuration of the instance.

Table 4-62 ha

Parameter	Type	Description
consistency	String	Definition Database consistency type. It is only suitable for distributed instances. Range • strong: strong consistency • eventual: eventual consistency
replication_mode	String	Definition Replication mode for the standby instance. Range The value cannot be empty. It can be sync , indicating that data is synchronized in synchronous mode.

Table 4-63 datastore

Parameter	Type	Description
type	String	Definition Database engine. Range N/A

Parameter	Type	Description
version	String	Definition Major version of the database. Range N/A
complete_version	String	Definition Minor version of the database. Range N/A
target_version	String	Definition Target version that the database is being upgraded to. Range N/A
complete_kernel_version	String	Definition Database kernel version. Range N/A
hotfix_version_infos	Array of Table 4-64 objects	Definition Hot patch information.

Table 4-64 hotfix_version_infos

Parameter	Type	Description
version	String	Definition Hot patch version. Range N/A
upgrade_finished_time	String	Definition List of time when the hot patch update is complete. The time when the hot patch update is complete is expressed in the "yyyy-mm-dd hh:mm:ss timezone" format. timezone indicates the time zone. Range N/A

Table 4-65 flavor_info

Parameter	Type	Description
vcpu	Integer	Definition Number of vCPUs. Range N/A
mem	Integer	Definition Memory size. Range N/A

Table 4-66 volume

Parameter	Type	Description
type	String	Definition Disk type. Range ULTRAHIGH (SSD storage) or ESSD (extreme SSD storage). The value is case-sensitive.
size	Integer	Definition Storage. Range N/A

Table 4-67 backup_strategy

Parameter	Type	Description
start_time	String	Definition Backup time window. Automated backups will be created during the backup time window. The time is in the UTC format. Range N/A

Parameter	Type	Description
keep_days	Integer	Definition Number of days to retain the generated backup files. Range 1–732.

Table 4-68 nodes

Parameter	Type	Description
id	String	Definition Node ID. Range N/A
name	String	Definition Node name. Range N/A
role	String	Definition Node type. Range • master: primary node • slave: standby node • secondary: log node • readreplica: read replica.
status	String	Definition Node status. Range BUILD_FAILED : The node fails to be created.
availability_zone	String	Definition AZ. Range N/A

Parameter	Type	Description
private_ip	String	Definition Private IP address of the node. For distributed instances, this parameter is valid only for CNs. For centralized instances, this parameter is valid for all nodes. The parameter value is returned after an ECS is created. Range N/A
public_ip	String	Definition EIP that has been bound. For distributed instances, this parameter is valid only for CNs. For centralized instances, this parameter is valid for all nodes. The parameter value is returned after an ECS is created and an EIP is bound to a DB instance. Range N/A
component_names	String	Definition Component information on the node (for example, <i>component ID:distributed ID</i>). Separate information of multiple components with semicolons (;). Range N/A

Table 4-69 charge_info

Parameter	Type	Description
charge_mode	String	Definition Billing mode. Range • postPaid: pay-per-use billing. • prePaid: yearly/monthly billing.

Table 4-70 tags

Parameter	Type	Description
key	String	Definition Tag key. Range N/A
value	String	Definition Tag value. Range N/A

Table 4-71 mysql_compatibility

Parameter	Type	Description
port	String	Definition Port for M compatibility. Range N/A

Example Request

- Querying instances based on search criteria

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.3/97b026aa9cc4417888c14c84a1ad9860/instances?id=ed7cc6166ec24360a5ed5c9c2ed726in14&name=hy&type=Enterprise&datastore_type=GaussDB&vpc_id=19e5d45d-70fd-4a91-87e9-b27e71c9891f&subnet_id=bd51fb45-2dcb-4296-8783-8623bfe89bb7&offset=0&limit=10
```

- Querying all instances

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.3/97b026aa9cc4417888c14c84a1ad9860/instances
```

Example Response

- Instances queried.

```
{
  "instances": [ {
    "id": "b331ed66cc3249f78bc20737308c01f4in14",
    "status": "ACTIVE",
    "name": "gauss-9e88",
    "port": 8000,
    "type": "enterprise",
    "ha": {
      "consistency": "strong",
      "replication_mode": "sync"
    },
    "region": "cn-xianhz-1",
    "datastore": {
      "type": "GaussDB",
```

```
"version" : "V2.0-2.7",
"complete_version" : "V2.0-2.7.2",
"target_version" : "V2.0-3.208.0",
"complete_kernel_version" : "V500R002C10SPC610"
},
"created" : "2021-01-15 01:46:40 UTC",
"updated" : "2021-01-15 02:05:03 UTC",
"volume" : {
  "type" : "ULTRAHIGH",
  "size" : 120
},
"nodes" : [ {
  "id" : "02ebf757aaf94074855f49cc6e0e4712no14",
  "name" : "gauss-9e88_gaussdbv5cn_2",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "cn_5001:"
}, {
  "id" : "0a87b8ecbfef46aba1409cfc0f0d5c34no14",
  "name" : "gauss-9e88_gaussdbv5cn_0",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "cn_5002:"
}, {
  "id" : "2d9fec1ab3834936b074d63acf48b1f2no14",
  "name" : "gauss-9e88_gaussdbv5dn3_2",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6003:60073"
}, {
  "id" : "48bb08a2d635435891ac0caa1c0bf2e3no14",
  "name" : "gauss-9e88_gaussdbv5dn1_0",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6001:60011"
}, {
  "id" : "5df830f652204827ada32f8bc28b107eno14",
  "name" : "gauss-9e88_gaussdbv5dn1_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6002:60011"
}, {
  "id" : "8a97a246cee841b38c5b47290d4c9c38no14",
  "name" : "gauss-9e88_gaussdbv5cn_1",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "cn_5003:"
}, {
  "id" : "8c1a3f8eacca4d9e9974a868bb6dd942no14",
  "name" : "gauss-9e88_gaussdbv5dn2_0",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6004:60042"
}, {
  "id" : "9bd0c80b8a684cc9bd7d99dd5adffb07no14",
  "name" : "gauss-9e88_gaussdbv5dn3_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6005:60073"
}, {
  "id" : "9e2a3cd541e249d4af5aa57c5d3a7f39no14",
```



```
"name" : "gauss-9e88_gaussdbv5dn1_2",
"role" : "slave",
"status" : "ACTIVE",
"availability_zone" : "az2xahz",
"component_names" : "dn_6006:60011"
}, {
  "id" : "b046d28989ec4ae5a1a9ab20fe65f248no14",
  "name" : "gauss-9e88_gaussdbv5dn2_2",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6007:60042"
}, {
  "id" : "b614cc12fd3742dbb230245f88a7bf00no14",
  "name" : "gauss-9e88_gaussdbv5dn3_0",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6008:60073"
}, {
  "id" : "caba8e88c3c84ae58202f1f589490611no14",
  "name" : "gauss-9e88_gaussdbv5dn2_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6009:60042"
} ],
"private_ips" : [ "192.168.28.81 / 192.168.27.52 / 192.168.16.253" ],
"public_ips" : [ ],
"db_user_name" : "root",
"vpc_id" : "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id" : "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id" : "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref" : "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info" : {
  "vcpu" : 2,
  "mem" : 16
},
"switch_strategy" : "Reliability",
"charge_info" : {
  "charge_mode" : "prePaid"
},
"backup_strategy" : {
  "start_time" : "19:00-20:00",
  "keep_days" : 7
},
"maintenance_window" : "18:00-22:00",
"disk_encryption_id" : "24ae42b5-4009-4ea2-b66a-0b211e424dab",
"enterprise_project_id" : "6e76681b-a2f5-4c5f-97c5-ba4fd3c0dfb2",
"instance_mode" : "enterprise",
"time_zone" : "UTC+08:00",

"disk_usage" : "0.9890",
"mysql_compatibility" : {
  "port" : 3306
}
}, {
  "id" : "226b4afcfc84c86bf1b9cb345d3b00fin14",
  "status" : "ACTIVE",
  "name" : "UTS-gauss-ad53-2C3D",
  "port" : 8000,
  "type" : "enterprise",
  "ha" : {
    "consistency" : "strong",
    "replication_mode" : "sync"
  },
  "region" : "cn-xianhz-1",
  "datastore" : {
    "type" : "GaussDB",
```

```
"version" : "V2.0-2.7",
"complete_version" : "V2.0-2.7.2",
"complete_kernel_version" : "V500R002C10SPC610",
"target_version" : "V2.0-3.208.0",
"hotfix_version_infos" : [ {
  "version" : "V2.0-2.7.2.1",
  "upgrade_finished_time" : "2020-12-23 03:21:41 UTC"
}, {
  "version" : "V2.0-2.7.2.2",
  "upgrade_finished_time" : "2020-12-23 03:22:41 UTC"
} ]
}, {
  "created" : "2021-01-08 09:18:27 UTC",
  "updated" : "2021-01-14 13:25:03 UTC",
  "volume" : {
    "type" : "ULTRAHIGH",
    "size" : 120
  },
  "nodes" : [ {
    "id" : "07538a1def584cee99e2a5685eeab36ano14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn1_1",
    "role" : "slave",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6009:60072"
  }, {
    "id" : "21f41baba1e2454f82331b7cb5aeabe5no14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn1_2",
    "role" : "master",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6008:60042"
  }, {
    "id" : "2909771a3b3e4e3998f9388e77d22391no14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn1_0",
    "role" : "slave",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6007:60011"
  }, {
    "id" : "2bd9a90a5da242a6b0743a7f597f6106no14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn2_2",
    "role" : "master",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6006:60042"
  }, {
    "id" : "77092f1dadb74d3ea13d28269cdd3590no14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn3_2",
    "role" : "master",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6005:60072"
  }, {
    "id" : "a46bfaa6d5a24355a60fce7432b964cano14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn3_0",
    "role" : "slave",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6004:60072"
  }, {
    "id" : "aa5277736f3844e2a7adeb9de529e2b1no14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn2_1",
    "role" : "slave",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6003:60042"
  }, {
    "id" : "b1d798e4ea7344dfa95032984bc6cfd7no14",
```

```
"name" : "UTS-gauss-ad53-2C3D_gaussdbv5cn_1",
"role" : "master",
"status" : "ACTIVE",
"availability_zone" : "az2xahz",
"component_names" : "cn_5002:"
}, {
  "id" : "b9a46540186f4c0781eabaa2a79594cbno14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn1_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6002:60011"
}, {
  "id" : "d283813030364060ab64371d50294977no14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn2_0",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6001:60042"
}, {
  "id" : "eb7bce29b2284cd290405eaddc1b1a1eno14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5cn_0",
  "role" : "master",
  "status" : "FAILED",
  "availability_zone" : "az2xahz",
  "component_names" : "cn_5001:"
} ],
"private_ips" : [ "192.168.30.44 / 192.168.29.231" ],
"public_ips" : [ "10.154.217.248" ],
"db_user_name" : "root",
"vpc_id" : "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id" : "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id" : "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref" : "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info" : {
  "vcpu" : 2,
  "mem" : 16
},
"switch_strategy" : "Reliability",
"charge_info" : {
  "charge_mode" : "prePaid"
},
"backup_strategy" : {
  "start_time" : "18:00-19:00",
  "keep_days" : 7
},
"maintenance_window" : "18:00-22:00",
"enterprise_project_id" : "0",
"instance_mode" : "enterprise",
"time_zone" : "UTC+08:00",
"disk_usage" : "1.0000",
"mysql_compatibility" : {
  "port" : 3306
}
}, {
  "id" : "706c65c3dd7d497ab16f5b3a113690abin14",
  "status" : "ACTIVE",
  "name" : "UTS-gauss-7362",
  "port" : 8000,
  "type" : "enterprise",
  "ha" : {
    "replication_mode" : "sync"
  },
  "region" : "cn-xianhz-1",
  "datastore" : {
    "type" : "GaussDB",
    "version" : "2.7",
    "complete_version" : "2.7.2",
    "complete_kernel_version" : "V500R002C10SPC610",
```

```
"target_version" : "3.208.0",
"hotfix_version_infos" : [ {
  "version" : "2.7.2.1",
  "upgrade_finished_time" : "2020-12-23 03:21:41 UTC"
}, {
  "version" : "2.7.2.2",
  "upgrade_finished_time" : "2020-12-23 03:22:41 UTC"
} ]
},
"created" : "2020-12-23 03:21:41 UTC",
"updated" : "2021-01-15 02:32:13 UTC",
"volume" : {
  "type" : "ULTRAHIGH",
  "size" : 80
},
"nodes" : [ {
  "id" : "25b7f16ee4084b7884d52f1bdfab4e68no14",
  "name" : "UTS-gauss-7362_gaussdbv5dn1_2",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6003:60011"
}, {
  "id" : "ad6f02f31744422fa8ce487e81c9e7afno14",
  "name" : "UTS-gauss-7362_gaussdbv5cn_0",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "cn_5001:"
}, {
  "id" : "b30c56582bf44a548e3bb5b5af6c4773no14",
  "name" : "UTS-gauss-7362_gaussdbv5dn1_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6002:60011"
}, {
  "id" : "f79ea0600cba42b2888bd9bd67e52a79no14",
  "name" : "UTS-gauss-7362_gaussdbv5dn1_0",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6001:60011"
} ],
"private_ips" : [ "192.168.26.70" ],
"public_ips" : [ ],

"db_user_name" : "root",
"vpc_id" : "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id" : "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id" : "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref" : "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info" : {
  "vcpu" : 2,
  "mem" : 16
},
"switch_strategy" : "Reliability",
"charge_info" : {
  "charge_mode" : "postPaid"
},
"backup_strategy" : {
  "start_time" : "16:00-17:00",
  "keep_days" : 7
},
"maintenance_window" : "18:00-22:00",
"enterprise_project_id" : "0",
"instance_mode" : "enterprise",
"time_zone" : "UTC+08:00",
"disk_usage" : "0.9940",
```

```
"mysql_compatibility" : {
  "port" : 3306
}, {
  "id" : "4ad42d079a3948d88c28d6236211b21ein14",
  "status" : "ACTIVE",
  "name" : "UTS-gauss-4336",
  "port" : 8000,
  "type" : "enterprise",
  "ha" : {
    "replication_mode" : "sync"
  },
  "region" : "cn-xianhz-1",
  "datastore" : {
    "type" : "GaussDB",
    "version" : "2.7",
    "complete_version" : "2.7.2",
    "complete_kernel_version" : "V500R002C10SPC610",
    "target_version" : "3.208.0",
    "hotfix_version_infos" : [ {
      "version" : "2.7.2.1",
      "upgrade_finished_time" : "2020-12-23 03:21:41 UTC"
    }, {
      "version" : "2.7.2.2",
      "upgrade_finished_time" : "2020-12-23 03:22:41 UTC"
    } ]
  },
  "created" : "2020-12-03 14:28:53 UTC",
  "updated" : "2021-01-14 13:20:10 UTC",
  "volume" : {
    "type" : "ULTRAHIGH",
    "size" : 40
  },
  "nodes" : [ {
    "id" : "254dbda6f03643519ad64b39481bd11cno14",
    "name" : "UTS-gauss-4336_gaussdbv5dn1_2",
    "role" : "master",
    "status" : "ACTIVE",
    "availability_zone" : "az1xahz",
    "component_names" : "dn_6001:60011"
  }, {
    "id" : "6ad76d4db26443c2a93b280739a31558no14",
    "name" : "UTS-gauss-4336_gaussdbv5dn1_1",
    "role" : "slave",
    "status" : "ACTIVE",
    "availability_zone" : "az1xahz",
    "component_names" : "dn_6002:60011"
  }, {
    "id" : "9fdebfb821bdf444a8689b19c0ff588ceno14",
    "name" : "UTS-gauss-4336_gaussdbv5cn_0",
    "role" : "master",
    "status" : "FAILED",
    "availability_zone" : "az1xahz",
    "component_names" : "cn_5001:"
  }, {
    "id" : "dd64bdbbc02a542d88823b1582f772d25no14",
    "name" : "UTS-gauss-4336_gaussdbv5cn_1",
    "role" : "master",
    "status" : "ACTIVE",
    "availability_zone" : "az1xahz",
    "component_names" : "cn_5002:"
  }, {
    "id" : "de3c41461045466faf6c2b96eb709540no14",
    "name" : "UTS-gauss-4336_gaussdbv5dn1_0",
    "role" : "slave",
    "status" : "ACTIVE",
    "availability_zone" : "az1xahz",
    "component_names" : "dn_6001:60011"
  } ],
```

```
"private_ips": [ "192.168.30.93 / 192.168.29.232" ],
"public_ips": [ ],
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
},
"switch_strategy": "Reliability",
"charge_info": {
  "charge_mode": "postPaid"
},
"backup_strategy": {
  "start_time": "18:00-19:00",
  "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"enterprise_project_id": "0",
"instance_mode": "basic",
"time_zone": "UTC+08:00",
"disk_usage": "1.0000",
"mysql_compatibility": {
  "port": 3306
}
}],
"total_count": 4
}
```

- Instance details queried.

```
{
  "instances": [ {
    "id": "706c65c3dd7d497ab16f5b3a113690abin14",
    "status": "ACTIVE",
    "name": "UTS-gauss-7362",
    "port": 8000,
    "type": "enterprise",
    "ha": {
      "replication_mode": "sync"
    },
    "region": "cn-xianhz-1",
    "datastore": {
      "type": "GaussDB",
      "version": "2.7",
      "complete_version": "2.7.2",
      "complete_kernel_version": "V500R002C10SPC610",
      "target_version": "3.208.0",
      "hotfix_version_infos": [ {
        "version": "2.7.2.1",
        "upgrade_finished_time": "2020-12-23 03:21:41 UTC"
      }, {
        "version": "2.7.2.2",
        "upgrade_finished_time": "2020-12-23 03:22:41 UTC"
      } ]
    },
    "created": "2020-12-23 03:21:41 UTC",
    "updated": "2021-01-15 02:32:13 UTC",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 80
    },
    "nodes": [ {
      "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
      "name": "UTS-gauss-7362_gaussdbv5dn1_2",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "az2xahz",
      "component_names": "dn_6003:60011"
    }
  ]
}
```

```
{
  "id": "ad6f02f31744422fa8ce487e81c9e7afno14",
  "name": "UTS-gauss-7362_gaussdbv5cn_0",
  "role": "master",
  "status": "ACTIVE",
  "availability_zone": "az2xahz",
  "component_names": "cn_6004:"
}, {
  "id": "b30c56582bf44a548e3bb5b5af6c4773no14",
  "name": "UTS-gauss-7362_gaussdbv5dn1_1",
  "role": "slave",
  "status": "ACTIVE",
  "availability_zone": "az2xahz",
  "component_names": "dn_6002:60011"
}, {
  "id": "f79ea0600cba42b2888bd9bd67e52a79no14",
  "name": "UTS-gauss-7362_gaussdbv5dn1_0",
  "role": "slave",
  "status": "ACTIVE",
  "availability_zone": "az2xahz",
  "component_names": "dn_6001:60011"
} ],
"private_ips": [ "192.168.26.70" ],
"public_ips": [ ],
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
},
"switch_strategy": "Reliability",
"charge_info": {
  "charge_mode": "postPaid"
},
"backup_strategy": {
  "start_time": "16:00-17:00",
  "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"disk_encryption_id": "",
"enterprise_project_id": "0",
"instance_mode": "enterprise",
"time_zone": "UTC+08:00",
"disk_usage": "0.9670"
} ],
"total_count": 1
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.3.6 Resetting a Database Password

Function

This API is used to reset a database password. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{*project_id*}/instances/{*instance_id*}/password

Table 4-72 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-73 Parameter description

Name	Mandatory	Type	Description
password	Yes	String	Definition Password for user root . The password must: Constraints Weak passwords are not allowed. For details about password strength verification, see Validating Password Strength . Range - Consist of 8 to 32 characters. - Contain at least three types of the following characters: Uppercase letters, lowercase letters, digits, and the following special characters: ~! @# %^*_-=+?, Default Value N/A

Response Parameters

None

Example Request

Changing the password of user **root**

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/password
{
  "password": "*****"
}
```

Example Response

```
{}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.7 Changing a DB Instance Name

Function

This API is used to change an instance name. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{*project_id*}/instances/{*instance_id*}/name

Table 4-74 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-75 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Definition DB instance name. Instances can have same names under the same tenant. Constraints N/A Range The name can contain 4 to 64 characters and must start with a letter. Only letters (case-sensitive), digits, hyphens (-), and underscores (_) are allowed. Default Value N/A

Response Parameters

Table 4-76 Response parameters

Name	Type	Description
job_id	String	Definition Task ID for changing the instance name. Range N/A

Example Request

Changing the instance name to **instance-name**

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in14/name
{
  "name": "instance-name"
}
```

Example Response

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.8 Rebooting a DB Instance

Function

This API is used to reboot a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The instance cannot reboot when it is being created, scaled, restored, frozen, or its instance specifications is being changed.

URI

POST /v3/{project_id}/instances/{instance_id}/restart

Table 4-77 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-78 Response parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/restart
```

Example Response

```
{  "job_id": "2b414788a6004883a02390e2eb0ea227"}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.9 Switching Roles of the Primary and Standby DN in Shards

Function

This API is used to perform a primary/standby DN switchover for one or more shards. In a shard, only one standby node can be promoted to primary. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

```
POST /v3/{project_id}/instances/{instance_id}/switch-shard
```

Table 4-79 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-80 Parameter description

Name	Mandatory	Type	Description
shards	Yes	Array	Definition Nodes. You can switch standby DN's of multiple shards to primary DN's. The node information is the node IDs and component IDs of shards whose standby DN's are promoted to primary. For details, see Table 4-81 . Constraints The maximum number of elements in the array is 1,000.

Table 4-81 shards parameter description

Name	Mandatory	Type	Description
node_id	Yes	String	Definition ID of the node where the standby DN to be promoted to primary is deployed. Constraints N/A Range N/A Default Value N/A

Name	Mandatory	Type	Description
component_id	Yes	String	Definition ID of the standby DN to be promoted to primary. For details about how to obtain the component ID, see Querying the Components of a DB Instance . Constraints N/A Range It can contain up to 7 characters. It cannot be null, an empty string, or spaces. Before verifying and using it, spaces are automatically filtered out. It can contain at least three types of the following: uppercase letters, lowercase letters, digits, and underscores (_). Default Value N/A

Response Parameters

Table 4-82 Response parameters

Name	Type	Description
job_id	String	Definition ID of the task for switching standby DN's of multiple shards to primary DN's. Range N/A

Example Request

Switching roles of primary and standby DN's in multiple shards

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/switch-shard
```

```
{
  "shards": [
    {
      "node_id": "0bc478b4d132494a8f7b804da521b4b2no14",
      "component_id": "dn_6001"
    },
    {
      "node_id": "53dee94c50574d36a0060db0a6b644f6no14",
      "component_id": "dn_6004"
    }
  ]
}
```

Example Response

Roles of the primary and standby DN in the shards switched.

```
{
  "job_id": "e96bbb23-e053-4bd0-b0b7-16ad3f5d9b6d"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.3.10 Querying the Components of a DB Instance

Function

This API is used to query components of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/components

Table 4-83 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	String	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
limit	Integer	No	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range 1–100 Default Value 100

Name	Type	Mandator y	Description
offset	Integer	No	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th data records are displayed. Constraints The value must be a non-negative integer. Range 1–100 Default Value 0 : The query starts from the first data record.
component_type	String	No	Definition Component type, which is used to filter the component information of the required component type. If the parameter is transferred, the corresponding component information is queried. Constraints N/A Range • ALL: All component types are queried. • CN: The CN component type is queried. • DN: The DN component type is queried. • CM: The CMS component type is queried. • GTM: The GTM component type is queried. • ETCD: The ETCD component type is queried. Default Value ALL

Name	Type	Mandator y	Description
availability_zone_id	String	No	Definition ID of the AZ where the primary component is located. The default value is ALL , indicating that component information of nodes in all AZs of the instance is queried. When you query the AZ where a primary DN is located, the information of all DNs in the same shard as the primary DN is displayed. When you query the AZ where a CN is located, only the CN information in the AZ is displayed. When you query the AZ where a component (except CNs or DNs) is located, information about all components of the same type is returned. If there is no such a component, no information is returned. Constraints N/A Range N/A Default Value

Request Parameters

None

Response Parameters

Table 4-84 Parameter description

Name	Type	Description
nodes	Array of objects	Definition Component details. For details, see Table 4-85 .
total_count	Integer	Definition Total number of records. Range N/A

Table 4-85 nodes description

Name	Type	Description
id	String	Definition Node ID. Range N/A
components	Array of objects	Component information under the instance node. For details, see Table 4-86 .
name	String	Definition Node name. Range N/A
availability_zone_id	String	Definition Code of the AZ where the node is located. Range N/A
description	String	Definition AZ description. Range N/A
status	String	Definition Node status. Range N/A

Table 4-86 components description

Name	Type	Description
id	String	Definition Component ID. Range • Global Transaction Manager (GTM): manages the status of transactions. • Cluster Management Server (CMS): manages the instance status. • Data node (DN): stores and queries table data. • Coordinator node (CN): stores database metadata, distributes and executes query tasks, and then returns the query results from DNs to applications. • Editable Text Configuration Daemon (ETCD): serves as a distributed key-value storage system used for configuration sharing and service discovery (registration and search).
role	String	Definition Node role. Range • master: primary node • slave: standby node
status	String	Definition Component status. Range • Primary: primary component • Normal: The component is normal. • Down: The component is abnormal. • Standby: standby component • StateFollower: standby ETCD • StateLeader: primary ETCD • StateCandidate: arbitration ETCD

Name	Type	Description
distributed_id	String	Definition Group ID. This parameter is used to identify DNs in the same shard. For other components, the value is an empty string. Range N/A
type	String	Definition Node type. Range • DN: DN type • CN: CN type • GTM: GTM type • CM: CMS type • ETCD: ETCD type
detail	String	Definition Details. Range N/A

Example Request

Querying the components of a DB instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dd93e98e103b4fc4b5a978a6bd6f03a9in14/components
```

Example Response

Components of the centralized instance queried.

```
{
  "nodes": [
    {
      "components": [
        {
          "id": "cm_1",
          "role": "master",
          "status": "Primary",
          "distributed_id": "",
          "type": "CM",
          "detail": ""
        }
      ],
      {
        "id": "etcd_7001",
        "role": "master",
        "status": "StateLeader",
        "distributed_id": "",

```



```

    "type": "ETCD",
    "detail": ""
  },
  {
    "id": "dn_6001",
    "role": "master",
    "status": "Primary",
    "distributed_id": "60011",
    "type": "DN",
    "detail": "Normal"
  }
],
"id": "7d19f72f8f514564bd92962a6fbddb7dno14",
"name": "gauss-9e1a_root_0",
"availability_zone_id": "cn-southwest-244a",
"description": "az1",
"status": "normal"
},
{
  "components": [
    {
      "id": "cm_3",
      "role": "slave",
      "status": "Standby",
      "distributed_id": "",
      "type": "CM",
      "detail": ""
    },
    {
      "id": "etcd_7003",
      "role": "slave",
      "status": "StateFollower",
      "distributed_id": "",
      "type": "ETCD",
      "detail": ""
    },
    {
      "id": "dn_6003",
      "role": "slave",
      "status": "Standby",
      "distributed_id": "60011",
      "type": "DN",
      "detail": "Normal"
    }
  ],
  "id": "aafc2e14234d4c9eadb481fb0a09a865no14",
  "name": "gauss-9e1a_root_2",
  "availability_zone_id": "cn-southwest-244a",
  "description": "az1",
  "status": "normal"
},
{
  "components": [
    {
      "id": "cm_2",
      "role": "slave",
      "status": "Standby",
      "distributed_id": "",
      "type": "CM",
      "detail": ""
    },
    {
      "id": "etcd_7002",
      "role": "slave",
      "status": "StateFollower",
      "distributed_id": "",
      "type": "ETCD",
      "detail": ""
    }
  ]
}

```

```
{
  {
    "id": "dn_6002",
    "role": "slave",
    "status": "Standby",
    "distributed_id": "60011",
    "type": "DN",
    "detail": "Normal"
  }
],
"id": "d6c6c6e6b48c41d79d99d7240751d744no14",
"name": "gauss-9e1a_root_1",
"availability_zone_id": "cn-southwest-244a",
"description": "az1",
"status": "normal"
}
],
"total_count": 3
}
```

Components of the distributed instance in the independent deployment queried.

```
{
  "nodes": [
    {
      "components": [
        {
          "id": "cn_5001",
          "role": "master",
          "status": "Normal",
          "distributed_id": "",
          "type": "CN",
          "detail": ""
        }
      ],
      "id": "e0c39a9b9e91421cacbf75c47e0c9dno14",
      "name": "gauss-6b36_gaussdbv5cn_0",
      "hostname": null,
      "availability_zone_id": "cn-southwest-244a",
      "description": "az1",
      "status": "normal"
    },
    {
      "components": [
        {
          "id": "gtm_1002",
          "role": "slave",
          "status": "Standby",
          "distributed_id": "",
          "type": "GTM",
          "detail": "Connection ok"
        }
      ],
      "id": "a19a1844ab93407489d8a63ca298f908no14",
      "name": "gauss-6b36_gaussdbv5gtm_0",
      "hostname": null,
      "availability_zone_id": "cn-southwest-244a",
      "description": "az1",
      "status": "normal"
    },
    {
      "components": [
        {
          "id": "gtm_1003",
          "role": "slave",
          "status": "Standby",
          "distributed_id": "",
          "type": "GTM",
          "detail": "Connection ok"
        }
      ],
      "id": "fd949ad6b00c4d72b7af5f015817d4d9no14",

```

```
"name": "gauss-6b36_gaussdbv5gtm_1",
"hostname": null,
"availability_zone_id": "cn-southwest-244b",
"description": "az2",
"status": "normal"
},
{
  "components": [
    {
      "id": "cm_2",
      "role": "slave",
      "status": "Standby",
      "distributed_id": "",
      "type": "CM",
      "detail": ""
    },
    {
      "id": "etcd_7002",
      "role": "slave",
      "status": "StateFollower",
      "distributed_id": "",
      "type": "ETCD",
      "detail": ""
    }
  ],
  "id": "ac7e24fc9626479c96ab6215f2107faeno14",
  "name": "gauss-6b36_gaussdbv5cms_1",
  "hostname": null,
  "availability_zone_id": "cn-southwest-244b",
  "description": "az2",
  "status": "normal"
},
{
  "components": [
    {
      "id": "dn_6001",
      "role": "master",
      "status": "Primary",
      "distributed_id": "60011",
      "type": "DN",
      "detail": "Normal"
    }
  ],
  "id": "0989068696f94631a45b3f2b13ac7810no14",
  "name": "gauss-6b36_gaussdbv5dn1_0",
  "hostname": null,
  "availability_zone_id": "cn-southwest-244a",
  "description": "az1",
  "status": "normal"
},
{
  "components": [
    {
      "id": "cm_1",
      "role": "master",
      "status": "Primary",
      "distributed_id": "",
      "type": "CM",
      "detail": ""
    },
    {
      "id": "etcd_7001",
      "role": "master",
      "status": "StateFollower",
      "distributed_id": "",
      "type": "ETCD",
      "detail": ""
    }
  ]
},
]
```

```
"id": "912ca1f9f12f41968d60d82a7f630bedno14",
"name": "gauss-6b36_gaussdbv5cms_2",
"hostname": null,
"availability_zone_id": "cn-southwest-244c",
"description": "az3",
"status": "normal"
},
{
  "components": [
    {
      "id": "dn_6002",
      "role": "slave",
      "status": "Standby",
      "distributed_id": "60011",
      "type": "DN",
      "detail": "Normal"
    }
  ],
  "id": "365261e60ac14dff846480e8cc555d66no14",
  "name": "gauss-6b36_gaussdbv5dn1_1",
  "hostname": null,
  "availability_zone_id": "cn-southwest-244b",
  "description": "az2",
  "status": "normal"
},
{
  "components": [
    {
      "id": "dn_6003",
      "role": "slave",
      "status": "Standby",
      "distributed_id": "60011",
      "type": "DN",
      "detail": "Normal"
    }
  ],
  "id": "3ce7e13a25524e7b81d78cad9afd9464no14",
  "name": "gauss-6b36_gaussdbv5dn1_2",
  "hostname": null,
  "availability_zone_id": "cn-southwest-244c",
  "description": "az3",
  "status": "normal"
},
{
  "components": [
    {
      "id": "cm_3",
      "role": "slave",
      "status": "Standby",
      "distributed_id": "",
      "type": "CM",
      "detail": ""
    },
    {
      "id": "etcd_7003",
      "role": "slave",
      "status": "StateLeader",
      "distributed_id": "",
      "type": "ETCD",
      "detail": ""
    }
  ],
  "id": "e0deb77337604d149a76ce02b5060d86no14",
  "name": "gauss-6b36_gaussdbv5cms_0",
  "hostname": null,
  "availability_zone_id": "cn-southwest-244a",
  "description": "az1",
  "status": "normal"
},
}
```

```
{
  "components": [
    {
      "id": "gtm_1001",
      "role": "master",
      "status": "Primary",
      "distributed_id": "",
      "type": "GTM",
      "detail": "Connection ok"
    }
  ],
  "id": "9a88dc2a3f3e4f8c844f86dc032fde84no14",
  "name": "gauss-6b36_gaussdbv5gtm_2",
  "hostname": null,
  "availability_zone_id": "cn-southwest-244c",
  "description": "az3",
  "status": "normal"
},
"total_count": 10
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.11 Changing the vCPUs and Memory of a DB Instance

Function

This API is used to change the vCPUs and memory of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- The OS architecture of the new specifications must be the same as that of the old specifications.

URI

PUT /v3/{project_id}/instance/{instance_id}/flavor

Table 4-87 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-88 Parameter description

Name	Mandatory	Type	Description
flavor_ref	Yes	String	Definition New specification code. To obtain its value, see the Specification Code column in Table 7-4 . To obtain its value, see Querying Instance Specifications . Constraints N/A Range N/A Default Value N/A
is_auto_pay	No	Boolean	Definition Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. Constraints N/A Range • true: The order is automatically paid from the account. • false: The order is manually paid from the account. Default Value false

Response Parameters

Table 4-89 Response parameter description

Name	Type	Description
job_id	String	Definition ID of changing instance specifications. This parameter is returned only when DB instances are billed at a pay-per-use basis. Range N/A
order_id	String	Definition Order ID. This parameter is returned only when you change the specifications of a yearly/monthly instance. Range N/A

Example Request

Changing the specifications of a pay-per-use instance to 16 vCPUs and 128 GB

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0483b6b16e954cb88930a360d2c4e663/instance/dsf23fsfsae3435in14/flavor
{
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.4xlarge.8.in"
}
```

Changing the specifications of a yearly/monthly DB instance from 8 vCPUs and 64 GB to 16 vCPUs and 128 GB

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0483b6b16e954cb88930a360d2c4e663/instance/dsf23fsfsae3435in14/flavor
{
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.4xlarge.8.in",
  "is_auto_pay": true
}
```

Example Response

Instance specifications changed.

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```


Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.3.12 Checking Whether Host Load Is Unbalanced Due to a Primary/Standby Switchover

Function

This API is used to check whether the host load is unbalanced due to a primary/standby switchover. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/balance

Table 4-90 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-91 Parameter description

Name	Type	Description
balanced	Boolean	Definition Whether the host load is unbalanced due to a primary/standby switchover. Range • true: balanced. • false: unbalanced.

Example Request

Checking whether host load is unbalanced due to a primary/standby switchover

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0483b6b16e954cb88930a360d2c4e663/instance/dsf23fsfdae3435in14/balance
```

Example Response

The host load is balanced.

```
{
  "balanced": true
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.13 Querying Solution Template Settings

Function

This API is used to query the number of replicas, shards, and nodes corresponding to a specified instance or deployment mode. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The request parameters **solution** and **instance_id** cannot be both empty. If the parameters are both configured, the value of **instance_id** is used.

URI

GET /v3/{project_id}/deployment-form

Table 4-92 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Mandatory	Description
instance_id	No	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
solution	No	Definition Solution template name. Constraints N/A Range • triset: HA (1 primary + 2 standby) • hcs2: distributed combined deployment. Only DB instances of version V2.0-3.223 or later are supported. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-93 Parameter description

Name	Type	Description
initial_node_num	Integer	Definition Number of initial nodes. If solution is set to triset , this parameter is returned. Otherwise, null is returned. Range N/A

Name	Type	Description
solution	String	Definition Solution template name. Range • triset: HA (1 primary + 2 standby) • hcs2: distributed combined deployment. Only DB instances of version V2.0-3.223 or later are supported.
shard_num	Integer	Definition Number of shards. Range N/A
replica_num	Integer	Definition Number of replicas. Range N/A

Example Request

Querying solution template settings

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/fff3cb7f644d4fc9a3c58f2bfe239b9e/deployment-form?solution=triset
```

Example Response

Solution template settings queried.

```
{
  "initial_node_num" : 3,
  "solution" : "triset",
  "shard_num" : 1,
  "replica_num" : 3
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.14 Querying EIPs Bound to a DB Instance

Function

This API is used to query EIPs bound to a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/public-ips?
offset={offset}&limit={limit}

Table 4-94 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	String	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Name	Type	Mandatory	Description
offset	Integer	No	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints N/A Range The value must be a non-negative integer. Default Value 0: The query starts from the first data record.
limit	Integer	No	Definition Number of records returned by a query. Constraints N/A Range 1-50 Default Value 50

Request Parameters

None

Response Parameters

Table 4-95 Parameter description

Name	Type	Description
public_ips	Array of objects	Definition EIPs bound to an instance. For details, see Table 4-96 .
total_count	Integer	Definition Total number of records. Range N/A

Table 4-96 public_ips field data structure description

Name	Type	Description
public_ip_id	String	Definition EIP ID. Range N/A
public_ip_type	String	Definition EIP type. Range N/A
port_id	String	Definition Port ID. Range N/A
public_ip_addresses	String	Definition EIP. Range N/A
private_ip_addresses	String	Definition Private IP address. Range N/A
bandwidth_id	String	Definition Bandwidth ID. Range N/A
bandwidth_name	String	Definition Bandwidth name. Range N/A
bandwidth_share_type	String	Definition Bandwidth sharing type. Range N/A

Name	Type	Description
bandwidth_size	Integer	Definition Bandwidth range. Range N/A
applied_at	String	Definition Modification time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +08:00 . Range N/A

Example Request

Querying EIPs bound to a DB instance

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/599628f2665841b2a66fa2780fadc025/instances/e0984e23578c4296950336e613d99d32in14/public-ips?offset=0&limit=1
```

Example Response

EIPs bound to the instance queried.

```
{
  "public_ips": [ {
    "public_ip_id": "78458261-5175-4254-8242-5959115d379a",
    "public_ip_type": "5_g-vm",
    "port_id": "a8d606bf-7e20-463d-afed-b7fc2909aa7d",
    "public_ip_address": "100.95.156.144",
    "private_ip_address": "192.168.0.133",
    "applied_at": "2022-08-09T03:06:52+0800",
    "bandwidth_id": "7ae23d75-3150-4957-94ae-9352b15f140e",
    "bandwidth_name": "Bandwidth_2021-12-08-16-39-27",
    "bandwidth_size": 5,
    "bandwidth_share_type": "PER"
  } ],
  "total_count": 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.15 Validating Password Strength

Function

This API is used to verify the security of user **root** password. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/weak-password-verification

Table 4-97 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-98 Parameter description

Name	Mandatory	Type	Description
password	Yes	String	Definition Password of the database account. Constraints N/A Range It must contain 8 to 32 characters, including at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters. Supported special characters: ~ ! @ # % ^ * - _ = + ? , Default Value N/A

Response Parameters

Table 4-99 Parameter description

Parameter	Type	Description
is_weak_password	Boolean	Definition Whether the password is weak. Range ● true: It is a weak password. ● false: It is not a weak password.

Example Request

Checking whether the password of a database account is weak

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/weak-password-verification
{
  "password": "*****"
}
```

Example Response

Weak password verification succeeded.

```
{  
  "is_weak_password" : false  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.16 Binding or Unbinding an EIP

Function

This API is used to bind an EIP to an instance node or unbind an EIP from an instance node. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/nodes/{node_id}/public-ip

Table 4-100 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
node_id	Yes	Definition Node ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 4-101 Parameter description

Parameter	Mandatory	Type	Description
action	Yes	String	Definition Operation identifier. Constraints N/A Range • BIND: An EIP is bound. • UNBIND: An EIP is unbound. Default Value N/A

Parameter	Mandatory	Type	Description
public_ip	Yes	String	Definition EIP. Constraints N/A Range IPv4 address. Default Value N/A
public_ip_id	Yes	String	Definition EIP ID. Constraints N/A Range The value is in UUID format. Default Value N/A

Response Parameters

Table 4-102 Parameter description

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

- Binding an EIP to a GaussDB instance

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsdae3435in14/nodes/0bc478b4d132494a8f7b804da521b4b2no14/public-ip
{
  "action": "BIND",
  "public_ip": "10.154.218.161",
  "public_ip_id": "45da4782-e0c8-4aa4-a290-b8740014f710"
}
```

- Unbinding an EIP from a GaussDB instance

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/
```

```
dsfae23fsfdsae3435in14/nodes/0bc478b4d132494a8f7b804da521b4b2no14/public-ip
{
  "action": "UNBIND",
  "public_ip": "10.154.218.161",
  "public_ip_id": "45da4782-e0c8-4aa4-a290-b8740014f710"
}
```

Example Response

EIP bounded or unbounded.

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.17 Querying the SSL Certificate Download Address of a DB Instance

Function

This API is used to query the address for downloading the SSL certificate of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/ssl-cert/download-link

Table 4-103 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-104 Parameter description

Parameter	Type	Description
download_link	String	Definition Download address of the SSL certificate. Range N/A

Example Request

Querying the address for downloading the SSL certificate of a DB instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/ssl-cert/download-link
```

Example Response

Address for downloading the SSL certificate queried.

```
{
  "download_link": "https://***/Certificate_Download.zip"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.18 Querying the Instance Quotas of a Tenant

Function

This API is used to query the instance quotas of a tenant. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/project-quotas

Table 4-105 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-106 Parameter description

Parameter	Type	Description
quotas	object	Definition Instance quota of a tenant. For details, see Table 4-107 .

Table 4-107 quotas

Parameter	Type	Description
resources	Array of objects	Definition Resource objects. For details, see Table 4-108 .

Table 4-108 resources

Parameter	Type	Description
type	String	Definition Quota of a specified type. Range instance : indicates the instance quota.
used	Integer	Definition Number of created resources. Range N/A
quota	Integer	Definition Maximum resource quota. Range N/A

Example Request

Querying the instance quotas of a tenant

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/project-quotas
```

Example Response

Instance quotas of the tenant queried.

```
{
  "quotas": {
    "resources": [ {
      "type": "instance",
      "used": 4,
      "quota": 50
    } ]
  }
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.19 Starting a DB Instance or Node

Function

This API is used to start a DB instance or node. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/db-startup

Table 4-109 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-110 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Table 4-111 Request body parameters

Parameter	Mandatory	Type	Description
node_ids	Yes	Array of strings	Definition ID of the node to be started. The value cannot be null. If the value is left blank, the instance is started. Constraints N/A

Response Parameters

Table 4-112 Parameter description

Parameter	Type	Description
job_id	String	Definition ID of the asynchronous task for starting a DB instance or node. Range N/A

Example Request

Starting a node

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/cc94568cb5a54e4a8ab5dff95e64a5e0br14/instances/d8e6ca5a624745bcb546a227aa3ae1cfin14/db-startup
{
  "node_ids": ["187ff420e15c467eaaef226154eb1578no14","4ed9cbb0d61144e0802a82c0ab0e1de5no14"]
}
```

Example Response

Node started.

```
{
  "job_id": "bf26cf3c-d046-4080-bb45-f114be7afa5f"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.20 Stopping a DB Instance or Node

Function

This API is used to stop a DB instance or node. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/db-stop

Table 4-113 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-114 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Table 4-115 Request body parameters

Parameter	Mandatory	Type	Description
node_ids	Yes	Array of strings	Definition IDs of the nodes to be stopped. Constraints The value cannot be null . If this parameter is left blank, the instance is stopped.

Response Parameters

Table 4-116 Parameter description

Parameter	Type	Description
job_id	String	Definition ID of the asynchronous task for stopping a DB instance or node. Range N/A

Example Request

Stopping a DB instance and enabling Transparent Data Encryption

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/d8e6ca5a624745bcb546a227aa3ae1cfin14/db-stop
{
  "node_ids": ["187ff420e15c467eaaef226154eb1578no14","4ed9cbb0d61144e0802a82c0ab0e1de5no14"]
}
```

Example Response

Instance stopped.

```
{
  "job_id" : "bf26cf3c-d046-4080-bb45-f114be7afa5f"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.3.21 Enabling M Compatibility Port

Function

This API is used to enable the M compatibility port. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

To enable this function, you need to ensure that there is the **templatem** template database in your DB instance. If there is no the template database, it will be automatically created. The **templatem** template database cannot be created for DB instances whose replica consistency protocol is Paxos.

URI

POST /v3/{project_id}/instances/{instance_id}/mysql-compatibility

Table 4-117 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-118 Request body parameters

Parameter	Mandatory	Type	Description
port	Yes	string	Definition Port for M compatibility. Constraints This port cannot be one of the following: 2378, 2379, 2380, 2400, 4999, 5000, 5001, 5100, 5500, 5999, 6000, 6001, 6009, 6010, 6500, 8015, 8097, 8098, 8181, 9090, 9100, 9180, 9187, 9200, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, 32124, 32125, 32126, 39001, and any port in the range $[database\_port, database\_port + 10]$. Range 1024–39989 Default Value N/A

Response Parameters

Table 4-119 Parameter description

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

Enabling M compatibility port and setting it to 3306

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/1bb786201ae54b179b45c17e0f332f4bin14/mysql-compatibility
{
  "port" : 3306
}
```

Example Response

M compatibility port enabled.

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.3.22 Changing or Disabling M Compatibility Port

Function

This API is used to change or disable the M compatibility port. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

To change or disable this function, you need to ensure that there is the **templatem** template database in your DB instance. If there is no the template database, it will be automatically created. The **templatem** template database cannot be created for DB instances whose replica consistency protocol is Paxos.

URI

PUT /v3/{project_id}/instances/{instance_id}/mysql-compatibility

Table 4-120 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-121 Request body parameters

Parameter	Mandatory	Type	Description
port	Yes	string	Definition Port for M compatibility. Constraints This port cannot be one of the following: 2378, 2379, 2380, 2400, 4999, 5000, 5001, 5100, 5500, 5999, 6000, 6001, 6009, 6010, 6500, 8015, 8097, 8098, 8181, 9090, 9100, 9180, 9187, 9200, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, 32124, 32125, 32126, 39001, and any port in the range $[database\_port, database\_port + 10]$. Range 0, 1024–39989 Default Value 0 : The port is disabled.

Response Parameters

Table 4-122 Parameter description

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

- Changing the M compatibility port to 3307

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/1bb786201ae54b179b45c17e0f332f4bin14/mysql-compatibility
{
  "port": "3307"
}
```

- Disabling M compatibility port

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/instances/1bb786201ae54b179b45c17e0f332f4bin14/mysql-compatibility
{
  "port" : "0"
}
```

Example Response

M compatibility port changed or disabled.

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.3.23 Querying CNs

Function

This API is used to query CNs. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/coordinators

Table 4-123 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints The value must be a non-negative integer. Range N/A Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records returned by a query. Constraints The value cannot be a negative number. Range 1–200 Default Value 200

Request Parameters

None

Response Parameters

Table 4-124 Response body parameters

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A
max_reduction_num	Integer	Definition Maximum number of nodes that can be deleted at a time. Range N/A
nodes	Array of Table 4-125 objects	Definition Node information list.

Table 4-125 CnInfoBeforeReduce

Parameter	Type	Description
id	String	Definition Node ID. Range N/A
name	String	Definition Node name. Range N/A
status	String	Definition Node status. Range • normal: The node is normal. • abnormal: The node is abnormal. • creating: The node is being created. • createfail: The node fails to be created.
availability_zone	String	Definition AZ. Range N/A
support_reduce	Boolean	Definition Whether the node can be deleted. Range N/A

Example Request

Querying CNs

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/cc6fd964d93f4003851dfc29d57d30a5in14/coordinators
```

Example Response

CNs queried.

```
{  "instance_id": "cc6fd964d93f4003851dfc29d57d30a5in14",  "max_reduction_num": 10,  "nodes": [ {    "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
```

```
"name" : "UTS-gauss-7362_gaussdbv5cn_0",
"status" : "normal",
"availability_zone" : "az2",
"support_reduce" : true
}, {
  "id" : "ad6f02f31744422fa8ce487e81c9e7afno14",
  "name" : "UTS-gauss-7362_gaussdbv5cn_1",
  "status" : "normal",
  "availability_zone" : "az3",
  "support_reduce" : true
}]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.24 Querying Storage Autoscaling Policies of a DB Instance

Function

This API is used to query storage autoscaling policies of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/auto-enlarge-policy

Table 4-126 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-127 Response body parameters

Parameter	Type	Description
switch_option	Boolean	Definition Whether to enable or disable storage autoscaling. Range N/A

Parameter	Type	Description
limit_volume_size	Integer	Definition Maximum storage that can be automatically scaled to. Range N/A
min_volume_size	Integer	Definition Minimum storage that can be automatically scaled to. Range N/A
max_volume_size	Integer	Definition Maximum storage that the system can provide for the instance. Range N/A
trigger_available_percent	Integer	Definition Percentage of available storage. The storage will be automatically scaled up if the available storage drops to or below the value of this parameter. Range N/A
percents	Array of integers	Definition Percentages of available storage that you can choose from. Range N/A
step_size	Integer	Definition Scaling step when the storage is scaled by fixed size. Range N/A
step_percent	Integer	Definition Scaling step when the storage is scaled by percentage. Range N/A

Example Request

Querying storage autoscaling policies of a DB instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/054e292c9880d4992f02c0196d3ea468/instances/cc6fd964d93f4003851dfc29d57d30a5in14/auto-enlarge-policy
```

Example Response

Storage autoscaling policies queried.

```
{  "switch_option" : true,  "limit_volume_size" : 200,  "min_volume_size" : 160,  "max_volume_size" : 240,  "trigger_available_percent" : 20,  "percents": [    20,    25,    50  ],  "step_size": 200,  "step_percent": null}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.25 Querying Advanced Features

Function

This API is used to query the advanced features of the current instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

```
GET /v3/{project_id}/instances/{instance_id}/advance-features
```

Table 4-128 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-129 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-130 Response body parameters

Parameter	Type	Description
features	Array of Table 4-130 FeatureResult	Definition Advanced features.

Table 4-131 FeatureResult

Parameter	Type	Description
name	String	Definition Feature name. Range N/A
status	String	Definition Whether the feature is enabled. Range • true • false
description	String	Definition Feature description. Range N/A
type	String	Definition Feature value type. Range • integer • string • boolean
value	String	Definition Feature value. Range N/A
range	String	Definition Feature value range. Range N/A
range_description	String	Definition Feature scope description. Range N/A

Example Request

Querying the advanced features of the current instance and checking whether each feature is enabled

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/e73893ef73754465a8bd2e0857bbf13ein14/advance-features
```

Example Response

```
{
  "features": [
    {
      "name": "ledger",
      "status": "off",
      "description": "anti-proof database,"
      "type": "boolean",
      "range": "on|off",
      "value": "off",
      "range_description": "Whether to enable the ledger database function. The value on indicates the function is enabled, and the value off indicates that the function is disabled. If it is enabled, a new tamper-proof mode can be created and the common mode can be changed to the tamper-proof mode."
    },
    {
      "name": "ilm",
      "status": "off",
      "description": "Advanced compression",
      "type": "boolean",
      "range": "on|off",
      "value": "off",
      "range_description": "Whether to enable OLTP table compression for data lifecycle management. The value on indicates that the function is enabled, and the value off indicates that the function is disabled."
    },
    {
      "name": "security",
      "status": "off",
      "description": "Dynamic data masking",
      "type": "boolean",
      "range": "on|off",
      "value": "off",
      "range_description": "Set this parameter to on when a security policy is required. However, this occupies system resources and affects system performance."
    }
  ]
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.3.26 Enabling or Disabling Advanced Features

Function

This API is used to enable or disable advanced features. Before calling this API:

- Learn how to [authenticate](#) this API.

- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/advance-features

Table 4-132 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-133 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range - zh-cn - en-us Default Value en-us

Table 4-134 Request body parameters

Parameter	Mandatory	Type	Description
params	Yes	Object	Definition Features to be modified. Its value is in JSON format and can be obtained from the response parameters in Querying Advanced Features . The key and value , respectively, correspond to name and range_description in the response parameters of the API for querying advanced features. <pre>{ "key" : "value" }</pre> Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-135 Parameter description

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

Enabling or disabling advanced feature

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/e73893ef73754465a8bd2e0857bbf13ein14/advance-features
{
  "params": {
    "ledger": "on",
    "security": "on",
```

```
{
  "ilm": "on",
  "vectordb": "on"
}
```

Example Response

```
{
  "job_id": "9cb66b27111669609799e022d08d6c3a"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4 Parameter Configuration

4.4.1 Obtaining Parameter Templates

Function

This API is used to obtain parameter templates, including all databases' default and custom parameter templates. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.2/{project_id}/configurations?offset={offset}&limit={limit}

Table 4-136 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records to be queried. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1, 100] Default Value 100

Request Parameters

None

Response Parameters

Table 4-137 Parameter description

Parameter	Type	Description
configurations	Array of objects	Definition Parameter template information. For details, see Table 4-138 .
count	Integer	Definition Total number of records. Range [0, 2 ³¹ - 1]

Table 4-138 configurations field data structure description

Parameter	Type	Description
id	String	Definition Unique ID of a parameter template. Range The value can contain 36 characters. Only letters and digits are allowed.
name	String	Definition Parameter template name. Range The value can contain 1 to 64 characters and is case-sensitive. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed
description	String	Definition Parameter template description. Range The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! <"='>&

Parameter	Type	Description
datastore_version	String	Definition Engine version. Range N/A
datastore_name	String	Definition Engine name. Range GaussDB
ha_mode	String	Definition Instance type. Range The value is case-sensitive. The value Enterprise indicates the distributed instance (Enterprise Edition). The value centralization_standard indicates the centralized instance.
created	String	Definition Creation time in the yyyy-MM-dd HH:mm:ss format. for example, 2024-07-03 14:18:55. Range N/A
updated	String	Definition Update time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55. Range N/A
user_defined	Boolean	Definition Whether the parameter template is a custom template. Range ● false: The parameter template is a default template. ● true: The parameter template is a custom template.

Example Request

Obtaining parameter templates

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.2/0483b6b16e954cb88930a360d2c4e663/configurations?offset=1&limit=3
```

Example Response

Parameter templates queried.

```
{
  "count": 3,
  "configurations": [
    {
      "id": "b000d7c91f1749da87315700793a11d4pr14",
      "name": "Default-GaussDB-EE-1.0-Dist-Combined (4 replicas)",
      "description": "Default parameter template for GaussDB-Enterprise Edition-1.0-Distributed-
combined (4 replicas)",
      "created": "2022-03-23 07:20:11",
      "updated": "2022-03-23 07:20:11",
      "datastore_version": "V2.0-1.0",
      "datastore_name": "GaussDB",
      "ha_mode": "combined",
      "user_defined": false
    },
    {
      "id": "8d99f260ea1b4493a1b349e7abce5c09pr14",
      "name": "Default-Finance-Edition-GaussDB-1.3-Combined",
      "description": "Default parameter template for Finance Edition GaussDB 1.3-Combined",
      "created": "2022-03-23 07:20:11",
      "updated": "2022-03-23 07:20:11",
      "datastore_version": "V2.0-1.1",
      "datastore_name": "GaussDB",
      "ha_mode": "combined",
      "user_defined": false
    },
    {
      "id": "0f44b65521a8414d8b8811df810d94ccpr14",
      "name": "Default-Finance-Disaster-GaussDB-1.3-Combined",
      "description": "Default parameter template for Finance Disaster GaussDB 1.3-Combined",
      "created": "2022-03-23 07:20:11",
      "updated": "2022-03-23 07:20:11",
      "datastore_version": "V2.0-1.2",
      "datastore_name": "GaussDB",
      "ha_mode": "combined",
      "user_defined": false
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.2 Obtaining the Parameters of a Specified DB Instance

Function

This API is used to obtain parameters of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.2/{project_id}/instances/{instance_id}/configurations

Table 4-139 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-140 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-141 Parameter description

Parameter	Type	Description
datastore_version	String	Definition Engine version. Range N/A

Parameter	Type	Description
datastore_name	String	Definition Engine name. Range N/A
created	String	Definition Creation time in the yyyy-MM-dd HH:mm:ss format. Range N/A
updated	String	Definition Update time in the yyyy-MM-ddHH:mm:ss format. Range N/A
configuration_parameters	Array of objects	Definition Parameters defined by users based on the default parameter templates. For details, see Table 4-142 .

Table 4-142 configuration_parameters field data structure description

Parameter	Type	Description
name	String	Definition Parameter name. Range N/A
value	String	Definition Parameter value. Range N/A
restart_required	Boolean	Definition Whether a reboot is required after the parameter is modified. Range N/A

Parameter	Type	Description
value_range	String	Definition Parameter value range. Range N/A
type	String	Definition Parameter type. Range • string • integer • boolean • list • float
description	String	Definition Parameter description. Range N/A

Example Request

Obtaining parameters of a specified DB instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in14/configurations
```

Example Response

Parameters of the instance queried.

```
{
  "created": "2022-04-11 10:46:59",
  "updated": "2022-04-11 10:46:59",
  "datastore_version": "V2.0-2.0",
  "datastore_name": "GaussDB",
  "configuration_parameters": [
    {
      "name": "audit_system_object",
      "value": "12295",
      "type": "integer",
      "description": "Determines whether to audit the CREATE, DROP, and ALTER operations on GaussDB Kernel database objects. GaussDB Kernel database objects include databases, users, schemas, and tables. You can change the parameter value to audit only the operations on required database objects. During a forcible primary/standby failover, set audit_system_object to the maximum value and audit all DDL objects. If the parameter value is incorrectly changed, DDL audit logs will be lost. Contact customer service personnel to change it.",
      "restart_required": false,
      "value_range": "0-2097151"
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.3 Modifying Parameters of a Specified DB Instance

Function

This API is used to modify parameters in the parameter template of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The values of the modified parameters must be within the default value range of the specified database version. For details about the range of parameter values, see "Viewing and Modifying Instance Parameters" in the *GaussDB User Guide*.

URI

PUT /v3/{project_id}/instances/{instance_id}/configurations

Table 4-143 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-144 Parameter description

Name	Mandatory	Type	Description
values	Yes	Map<String,String>	Definition Parameter values defined by users based on the default parameter templates. Example: For failed_login_attempts: 4 , failed_login_attempts indicates the parameter name, and 4 indicated the changed parameter value. Constraints N/A

Response Parameters

Table 4-145 Parameter description

Name	Type	Description
restart_required	Boolean	Definition Whether the instance needs to be rebooted. Range • true: A reboot is required. • false: A reboot is not required.
job_id	String	Definition Task ID for modifying the parameters of a specified instance. Range N/A

Example Request

- Changing the value of **failed_login_attempts** to **4** (The change is applied without a DB instance reboot.)

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/configurations
{
  "values": {
    "failed_login_attempts": "4"
  }
}
```

- Changing the value of **track_activity_query_size** to **2048** and the value of **max_replication_slots** to **25** (The changes are applied after the instance is rebooted.)

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/configurations
{
  "values": {
    "track_activity_query_size": "2048",
    "max_replication_slots": "25"
  }
}
```

Example Response

- Parameter modified (The instance does not need to be rebooted).

```
{
  "restart_required": false,
```

```
"job_id": "5a08604b-7820-4cf1-9356-b378c4fac694"
}
```

- Parameter modified (The instance needs to be rebooted).

```
{
  "restart_required": true,
  "job_id": "e51532df-b94d-4fbc-9cf0-aea030ade45d"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.4 Creating a Parameter Template

Function

This API is used to create a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/configurations

Table 4-146 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-147 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Definition Parameter template name. Constraints The value must be unique. Range The template name can contain 1 to 64 characters. Only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed. Default Value N/A
description	No	String	Definition Parameter template description. Constraints N/A Range Up to 256 characters are displayed. Carriage return characters and the following special characters are not allowed: > ! < " & ' = Default Value It is left blank by default.
parameter_values	No	Map<String,String>	Definition Mapping between parameter names and parameter values. You can specify parameter values based on a default parameter template. Constraints N/A

Name	Mandatory	Type	Description
datastore	Yes	object	Definition DB engine information. To obtain the value, see Querying DB Engine Versions . For details, see Table 4-148 . Constraints N/A

Table 4-148 datastore parameter description

Name	Mandatory	Type	Description
engine_version	Yes	String	Definition DB engine version. Constraints N/A Range N/A Default Value N/A
instance_mode	Yes	String	Definition Deployment model. Constraints N/A Range • ha: centralized deployment • ha:readonly: read replicas of the centralized deployment • independent: distributed independent deployment Default Value N/A

Response Parameters

Table 4-149 Parameter description

Parameter	Type	Description
id	String	Definition Parameter template ID. Range N/A
name	String	Definition Parameter template name. Range N/A
created_at	String	Definition Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as +0800 . Range N/A

Example Request

- Creating a parameter template for GaussDB 2.3 centralized instances

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/configurations
{
  "name": "paramTemplate",
  "description": "",
  "parameter_values": {
    "audit_system_object": "12294"
  },
  "datastore": {
    "engine_version": "2.3",
    "instance_mode": "ha"
  }
}
```

- Creating a parameter template with multiple user-defined parameters for GaussDB 2.3 distributed instances in the independent deployment

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/configurations
{
  "name": "paramTemplate",
  "description": "",
  "parameter_values": {
    "audit_system_object": "12294",
    "dn:effective_cache_size": "262143",
    "checkpoint_segments": "2048"
  },
}
```

```
"datastore": {  
  "engine_version": "2.3",  
  "instance_mode": "independent"  
}
```

Example Response

Parameter template created.

```
{  
  "id" : "137eeaf0cc884ca4adffa9ebd101c115pr14",  
  "name" : "paramTemplate-del",  
  "created_at" : "2022-08-09T03:06:52+0800"  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.5 Deleting a Parameter Template

Function

This API is used to delete a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

DELETE /v3/{project_id}/configurations/{config_id}

Table 4-150 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
config_id	Yes	String	Definition Parameter template ID. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

None

Example Request

Deleting a parameter template

```
DELETE https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.6 Querying Details About a Parameter Template

Function

This API is used to query details about a parameter template based on the parameter template ID. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.1/{project_id}/configurations/{config_id}

Table 4-151 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
config_id	Yes	String	Definition Parameter template ID. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-152 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-153 Parameter description

Parameter	Type	Description
id	String	Definition Parameter template ID. Range N/A
name	String	Definition Parameter template name. Range N/A
description	String	Definition Parameter template description. Range N/A
engine_version	String	Definition Engine version. Range N/A
instance_model	String	Definition Deployment model. Range • ha: centralized deployment • independent: independent

Parameter	Type	Description
created_at	String	Definition Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A
updated_at	String	Definition Modification time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A
configuration_parameters	Array of objects	Definition Parameter details. For details about the parameters, see Table 4-154 .

Table 4-154 configuration_parameters field data structure description

Parameter	Type	Description
name	String	Definition Name of a specific parameter. Range N/A
value	String	Definition Value of a specific parameter. Range N/A
need_restart	Boolean	Definition Whether the instance needs to be rebooted. Range ● true: A reboot is required. ● false: A reboot is not required.

Parameter	Type	Description
readonly	Boolean	Definition Whether the parameter is read-only. Range • true: read only • false: editable
value_range	String	Definition Parameter value range. Range N/A
data_type	String	Definition Parameter type. Range The value can be string , integer , boolean , list , all , or float .
description	String	Definition Parameter description. Range N/A

Example Request

Querying details about a parameter template

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14
```

Example Response

Parameter template details queried.

```
{
  "id": "3ca44134a16d4bbab8eb701e025b19f7pr14",
  "name": "GaussDB_2b87a799-515",
  "description": "ParamGroup for instance.",
  "engine_version": "V2.0-2.3",
  "instance_mode": "ha",
  "created_at": "2022-08-05T08:15:07+0800",
  "updated_at": "2022-08-09T03:06:52+0800",
  "configuration_parameters": [
    {
      "name": "audit_system_object",
      "value": "12294",
      "need_restart": false,
      "readonly": false,
      "value_range": "1-65536",
      "data_type": "integer",
      "description": "This parameter determines whether to audit the CREATE, DROP, and ALTER operations on GaussDB Kernel database objects. GaussDB Kernel database objects include DATABASE,
```

```
USER, SCHEMA, and TABLE. You can change the value of this parameter to audit only the operations on
required database objects. In scenarios where a standby node is forcibly elected as primary, you are advised
to set audit_system_object to the maximum value and audit all DDL objects. Improper modification of this
parameter will cause loss of DDL audit logs. Contact the customer service to change the parameter value."
    }
  ]
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.4.7 Replicating a Parameter Template

Function

This API is used to replicate a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/configurations/{config_id}/copy

Table 4-155 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
config_id	Yes	String	Definition Parameter template ID. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-156 Parameter description

Name	Mandatory	Type	Description
name	Yes	String	Definition Name of a parameter template generated after replication. Constraints The name must be unique. Range The template name can contain 1 to 64 characters. Only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed. Default Value N/A

Name	Mandatory	Type	Description
description	No	String	Definition Parameter template description. Constraints N/A Range The description can contain a maximum of 256 characters. Carriage return characters and the following special characters are not allowed: >!<"&'= Default Value It is left blank by default.

Response Parameters

Table 4-157 Parameter description

Parameter	Type	Description
config_id	String	Definition ID of the replicated parameter template. Range N/A

Example Request

Replicating a parameter template

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/copy
{
  "name" : "paramTemplate-1233",
  "description": "Description"
}
```

Example Response

Parameter template replicated.

```
{
  "config_id" : "3ca44134a16d4bbab8eb701e025b19f7pr14"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.8 Resetting a Parameter Template

Function

This API is used to reset a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

Only custom parameter templates can be reset.

URI

POST /v3/{project_id}/configurations/{config_id}/reset

Table 4-158 Parameter description

Name	Type	Mandatory	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Type	Mandatory	Description
config_id	String	Yes	Definition Parameter template ID. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

None

Example Request

Resetting a parameter template

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/reset
```

Example Response

None

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.4.9 Obtaining the Differences of Two Parameter Templates

Function

This API is used to obtain the differences of two parameter templates. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/configurations/comparison

Table 4-159 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-160 Parameter description

Name	Mandatory	Type	Description
source_id	Yes	String	Definition ID of the source parameter template to be compared. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
target_id	Yes	String	Definition ID of the target parameter template to be compared. The deployment model of the target parameter template must be the same as that of the source parameter template. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-161 Parameter description

Parameter	Type	Description
differences	Array of objects	Definition Differences between parameter templates. For details, see Table 4-162 .

Table 4-162 differences field data structure description

Parameter	Type	Description
name	String	Definition Parameter name. Range N/A
source_value	String	Definition Parameter value of the source parameter template. Range N/A
target_value	String	Definition Parameter value of the target parameter template. Range N/A

Example Request

Obtaining the differences of two parameter templates

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/configurations/comparison
{
  "source_id": "3e9f722f27c9477089bdf576b33f9d8epr14",
  "target_id": "a51fcdde022a4ea8a016a3c4671644f4pr14"
}
```

Example Response

Differences of two parameter templates queried.

```
{
  "differences": [ {
    "name": "audit_system_object",
    "source_value": "12289",
    "target_value": "12295"
  } ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.10 Querying Instances That a Parameter Template Can Be Applied To

Function

This API is used to query the instances that the current parameter template can be applied to. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/configurations/{config_id}/applicable-instances

Table 4-163 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
config_id	Yes	String	Definition Parameter template ID. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th data records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1, 100] Default Value 100

Request Parameters

None

Response Parameters

Table 4-164 Parameter description

Parameter	Type	Description
instances	Array of objects	Definition Parameter template information. For details, see Table 4-165 .

Parameter	Type	Description
total_count	Integer	Definition Total number of records. Range N/A

Table 4-165 instances field data structure description

Parameter	Type	Description
instance_id	String	Definition DB instance ID. Range N/A
instance_name	String	Definition DB instance name. Range N/A

Example Request

Querying instances that the current parameter template can be applied to

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/applicable-instances
```

Example Response

Instances that the current parameter template can be applied to queried.

```
{
  "instances": [
    {
      "instance_id": "1995a67680474481b3e42ac1474e32e0in14",
      "instance_name": "gauss-a283"
    },
    {
      "instance_id": "8303819fd8744ef69f34595e9710a33din14",
      "instance_name": "gauss-2423-lt-master"
    }
  ],
  "total_count": 2
}
```

Status Codes

- Normal
200

- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.11 Checking Whether the Parameter Template Name Exists

Function

This API is used to check whether the parameter template name exists. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/configurations/name-validation?name={name}

Table 4-166 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Parameter template name. Constraints N/A Range The template name can contain 1 to 64 characters. Only letters (case-sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-167 Parameter description

Parameter	Type	Description
exist	Boolean	Definition Verification result. Range • true: The name already exists. • false: The name does not exist.

Example Request

Checking whether the parameter template name exists

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/configurations/name-validation?name=paramTemplate-a9f3
```

Example Response

Check result returned.

```
{
  "exist" : false
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.12 Applying a Parameter Template

Function

This API is used to apply a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{project_id}/configurations/{config_id}/apply

Table 4-168 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
config_id	Yes	String	Definition Parameter template ID. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-169 Parameter description

Parameter	Mandatory	Type	Description
instance_ids	Yes	Array of strings	Definition Instance IDs. Constraints N/A

Response Parameters

Table 4-170 Parameter description

Parameter	Type	Description
job_id	String	Definition Asynchronous task ID for applying a parameter template. Range N/A

Example Request

Applying a parameter template

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/apply
```

```
{
  "instance_ids" : [ "5362449138da4e408dbae5152ca26640in14",
    "ea926816f0154066830d12ebeb8562din14" ]
}
```

Example Response

Parameter template applied.

```
{
  "job_id" : "bf26cf3c-d046-4080-bb45-f114be7afa5f"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Code

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

4.4.13 Querying Application Records of a Parameter Template

Function

This API is used to view application records of a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/configurations/{config_id}/applied-histories

Table 4-171 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
config_id	Yes	String	Definition Parameter template ID. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th data records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1, 100] Default Value 100

Request Parameters

None

Response Parameters

Table 4-172 Parameter description

Parameter	Type	Description
histories	Array of objects	Definition Application records. For details, see Table 4-173 .
total_count	Integer	Definition Total number of records. Range N/A

Table 4-173 histories field data structure description

Parameter	Type	Description
instance_id	String	Definition DB instance ID. Range N/A

Parameter	Type	Description
instance_name	String	Definition DB instance name. Range N/A
apply_result	String	Definition Application status. Range • SUCCESS • FAILED • APPLYING
applied_at	String	Definition Application time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as +0800 . Range N/A
error_code	String	Definition Error code of the failure cause, for example, DBS.280005. Range N/A

Example Request

Querying application records of a parameter template

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/applied-histories
```

Example Response

Application records of the parameter template queried.

```
{
  "histories": [
    {
      "instance_id": "1995a67680474481b3e42ac1474e32e0in14",
      "instance_name": "gauss-a283",
      "apply_result": "SUCCESS",
      "applied_at": "2022-08-09T03:06:52+0800",
      "error_code": ""
    }
  ]
}
```

```
    },
    {
      "instance_id": "8303819fd8744ef69f34595e9710a33din14",
      "instance_name": "gauss-2423-lt-master",
      "apply_result": "FAILED",
      "applied_at": "2022-08-09T03:06:52+0800",
      "error_code": "DBS.280005"
    }
  ],
  "total_count": 2
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.4.14 Querying Change History of a Parameter Template

Function

This API is used to query the change history of a parameter template. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/configurations/{config_id}/histories

Table 4-174 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
config_id	Yes	String	Definition Parameter template ID. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th data records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1, 100] Default Value 100

Request Parameters

None

Response Parameters

Table 4-175 Parameter description

Parameter	Type	Description
histories	Array of objects	Definition Parameter template information. For details, see Table 4-176 .
total_count	Integer	Definition Total number of records. Range N/A

Table 4-176 histories field data structure description

Parameter	Type	Description
parameter_name	String	Definition Parameter name. Range N/A

Parameter	Type	Description
old_value	String	Definition Old parameter value. Range N/A
new_value	String	Definition New parameter value. Range N/A
update_result	String	Definition Change status. Range • SUCCESS • FAILED
updated_at	String	Definition Modification time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A

Example Request

Querying the change history of a parameter template

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14/histories
```

Example Response

Change history of the parameter template queried.

```
{
  "histories" : [ {
    "parameter_name" : "audit_system_object",
    "old_value" : "12295",
    "new_value" : "12298",
    "update_result" : "SUCCESS",
    "updated_at" : "2022-08-09T03:06:52+0800"
  } ],
  "total_count" : 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.5 Version Upgrade

4.5.1 Querying Versions That a DB Instance Can Be Upgraded To

Function

This API is used to query versions that a DB instance can be upgraded to. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.1/{project_id}/instances/{instance_id}/db-upgrade/candidate-versions

Table 4-177 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-178 Response parameters

Parameter	Type	Description
upgrade_type_list	Array of Table 4-179 objects	Definition Upgrade types.
rollback_enabled	Boolean	Definition Whether rollback is supported. Range • true: Rollback is supported. • false: Rollback is not supported.
source_version	String	Definition Source instance version. Range N/A
target_version	String	Definition Target version. The target version is only returned when the instance is in the rolling upgrade phase, or no information is returned. Range N/A

Parameter	Type	Description
roll_upgrade_progress	Table 4-181 object	Definition DN or AZ information during the rolling upgrade.
upgrade_candidate_versions	Array of strings	Definition Versions that can be upgraded to, including minor and major versions. An empty array is returned during a rolling upgrade.
hotfix_upgrade_candidate_versions	Array of strings	Definition Hot patch versions that can be updated. An empty array is returned during a rolling upgrade.
hotfix_rollback_candidate_versions	Array of strings	Definition Hot patch versions that can be rolled back. An empty array is returned during a rolling upgrade.
hotfix_upgrade_infos	Array of Table 4-182 objects	Definition Information about hot patch versions that can be installed.
hotfix_rollback_infos	Array of Table 4-183 objects	Definition Information about hot patch versions that can be rolled back.

Table 4-179 upgrade_type_list

Parameter	Type	Description
upgrade_type	String	Definition Upgrade type. Range ● grey: Gray upgrade ● inplace: In-place upgrade ● hotfix: Hot patch update
enable	Boolean	Definition Whether the upgrade type is available. Range ● true: yes ● false: no

Parameter	Type	Description
upgrade_action_list	Array of Table 4-180 objects	Definition Upgrade actions.
is_parallel_upgrade	Boolean	Definition Whether intra-AZ parallel upgrade is supported. Range • true: The current instance is in the rolling upgrade phase of the gray upgrade. The intra-AZ parallel upgrade is supported. Once this parameter is configured, it cannot be changed later. • false: The current instance is being upgraded. The intra-AZ parallel upgrade is not supported. Once this parameter is configured, it cannot be changed later. • null: The current instance is not in the upgrade process.

Table 4-180 upgrade_action_list

Parameter	Type	Description
upgrade_action	String	Definition Upgrade action. Range • upgrade: Rolling upgrade • upgradeAutoCommit: Auto-commit • commit: Commit • rollback: Rollback
enable	Boolean	Definition Whether the upgrade action is available. Range • true: yes • false: no

Table 4-181 roll_upgrade_progress

Parameter	Type	Description
upgraded_dn_group_numbers	String	Definition Number of shards that have been upgraded. Range N/A
total_dn_group_numbers	String	Definition Total number of shards. Range N/A
not_fully_upgraded_az	String	Definition AZs that have not been upgraded. Multiple AZs are separated by commas (.). For instances in the independent deployment, null is returned. Range N/A
already_upgraded_az	String	Definition AZs that have been upgraded. Multiple AZs are separated by commas (.). For instances in the independent deployment, null is returned. Range N/A
az_description_map	Map<String,String>	Definition AZ description.

Table 4-182 hotfix_upgrade_infos

Parameter	Type	Description
version	String	Definition Hot patch version. Range N/A
common_patch	String	Definition Patch type. Range • common: common patch • certain: custom patch

Parameter	Type	Description
backup_sensitive	Boolean	Definition Whether the patch is related to backups. Range N/A
description	String	Definition Description of the patch. Range N/A

Table 4-183 hotfix_rollback_infos

Parameter	Type	Description
version	String	Definition Hot patch version. Range N/A
common_patch	String	Definition Patch type. Range • common: common patch • certain: custom patch
backup_sensitive	Boolean	Definition Whether the patch is related to backups. Range N/A
description	String	Definition Description of the patch. Range N/A

Example Request

Querying versions that a DB instance can be upgraded to

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
```

v3.1/0483b6b16e954cb88930a360d2c4e663/instances/cc6fd964d93f4003851dfc29d57d30a5in14/db-upgrade/candidate-versions

Example Response

Target version, shard status, and AZ status in the rolling upgrade returned.

```
{
  "upgrade_type_list": [
    {
      "upgrade_type": "grey",
      "upgrade_action_list": [
        {
          "upgrade_action": "commit",
          "enable": false
        },
        {
          "upgrade_action": "rollback",
          "enable": false
        },
        {
          "upgrade_action": "upgrade",
          "enable": true
        },
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": true
        }
      ],
      "enable": true,
      "is_parallel_upgrade": null
    },
    {
      "upgrade_type": "hotfix",
      "upgrade_action_list": null,
      "enable": false,
      "is_parallel_upgrade": null
    },
    {
      "upgrade_type": "inplace",
      "upgrade_action_list": [
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": true
        }
      ],
      "enable": true,
      "is_parallel_upgrade": null
    }
  ],
  "rollback_enabled": false,
  "source_version": "V2.0-8.102.0",
  "target_version": null,
  "roll_upgrade_progress": {
    "not_fully_upgraded_az": "cn-southwest-244a,cn-southwest-244b,cn-southwest-244c",
    "already_upgraded_az": "",
    "az_description_map": {
      "cn-southwest-244c": "az3",
      "cn-southwest-244b": "az2",
      "cn-southwest-244a": "az1"
    }
  },
  "upgrade_candidate_versions": [
    "V2.0-8.300.0",
    "V2.0-8.103.0"
  ],
  "hotfix_upgrade_candidate_versions": [],
  "hotfix_rollback_candidate_versions": [],
  "hotfix_upgrade_infos": []
}
```

```
"hotfix_rollback_infos": []  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.5.2 Upgrading the Kernel Version of a DB Instance

Function

This API is used to upgrade kernel version of a DB instance. There are three upgrade types: in-place upgrade, gray upgrade, and hot patch update.

- In-place upgrade
Services are interrupted for about 30 minutes during the in-place upgrade. All nodes in a DB instance are upgraded at a time and you need to stop all services during the upgrade.
- Gray upgrade
Services are interrupted for 10s during the upgrade of each primary DN or CN. The management plane is upgraded first, and then the data plane from the standby nodes to the primary nodes. You can select auto-commit after the upgrade or perform a rolling upgrade.
 - Auto-commit: All nodes are upgraded at the same time. Services are interrupted for about 10s during the upgrade.
 - Rolling upgrade: You can observe service status before committing the upgrade. There are upgrade and commit phases.
 - In the upgrade phase, DB instances can be upgraded by shard or AZ based on the deployment model.
 - Distributed instances are upgraded by shard.
 - Centralized instances are upgraded by AZ.
 - In the commit phase, you can test services on your instance after the upgrade is complete, and then either commit or roll back the upgrade based on test results.
 - Commit: After the upgrade is complete and services are normal, commit the upgrade.
 - Rollback: When the upgrade is complete and enters the commit phase, you can roll back the instance to the source version as required.
- Hot patch update

- Auto-commit: Hot patches are automatically updated and committed without downtime.
- Rollback: Services are not interrupted when the hot patches are rolled back.
- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3.1/{project_id}/instances/{instance_id}/db-upgrade

Table 4-184 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-185 Request body parameters

Parameter	Mandatory	Type	Description
upgrade_type	Yes	String	Definition Instance upgrade type. The value is case-sensitive. Constraints N/A Range • inplace: In-place upgrade • grey: Gray upgrade • hotfix: Hot patch update Default Value N/A
upgrade_action	No	String	Definition Instance upgrade action. The value is case-sensitive. For the in-place upgrade, this parameter is optional. For the gray upgrade, this parameter can be set to upgradeAutoCommit , upgrade , commit , or rollback . For the hot patch update, this parameter can be set to upgradeAutoCommit or rollback . Constraints N/A Range • upgradeAutoCommit: Auto-commit • upgrade: Rolling upgrade • commit: Commit • rollback: Rollback Default Value N/A

Parameter	Mandatory	Type	Description
target_version	No	String	Definition Target version that the instance will be upgraded to. Constraints In a hot patch update, multiple hot patch versions can be configured. Range N/A Default Value N/A
upgrade_shard_num	No	Integer	Definition Number of shards to be upgraded in a gray upgrade for a distributed instance. This parameter is mandatory when upgrade action is set to upgrade (rolling upgrade). The value cannot be greater than the number of shards that have not been upgraded. Constraints N/A Range N/A Default Value N/A
upgrade_az	No	String	Definition AZ to be upgraded in a gray upgrade. This parameter is mandatory when upgrade action is set to upgrade (rolling upgrade). Multiple AZs can be upgraded at the same time. Use commas (,) to separate AZs. You cannot enter an AZ that does not belong to the instance. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-186 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. For pay-per-use instances, only the task ID is returned. Range N/A
order_id	String	Definition Order ID. This parameter is returned only when your instance is billed at a yearly/monthly basis. Range N/A

Example Request

- In-place upgrade

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/cc6fd964d93f4003851dfc29d57d30a5in14/db-
upgrade
{
  "upgrade_type": "inplace",
  "target_version": "xxx"
}
```

- Hot patch update

- Updating hot patches

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/
cc6fd964d93f4003851dfc29d57d30a5in14/db-upgrade
{
  "upgrade_type": "hotfix",
  "target_version": "xxxx,xxxx,xxxx",
  "upgrade_action": "upgradeAutoCommit"
}
```

- Rolling back hot patches

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/
cc6fd964d93f4003851dfc29d57d30a5in14/db-upgrade
{
  "upgrade_type": "hotfix",
  "target_version": "xxxx,xxxx,xxxx",
  "upgrade_action": "rollback"
}
```

- Gray upgrade

- Setting **upgrade_action** to **upgradeAutoCommit**

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/
cc6fd964d93f4003851dfc29d57d30a5in14/db-upgrade
{
  "upgrade_type": "grey",
  "target_version": "xxx",
  "upgrade_action": "upgradeAutoCommit"
}
```

- Setting **upgrade_action** to **upgrade**

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/
cc6fd964d93f4003851dfc29d57d30a5in14/db-upgrade
{
  "upgrade_type": "grey",
  "target_version": "xxx",
  "upgrade_action": "upgrade",
  "upgrade_shard_num": 1,
}
```

- Rolling back the upgrade when the instance is in the rolling upgrade phase (All upgraded shards will be rolled back. After the instance becomes available, the rollback is successful.)

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/
cc6fd964d93f4003851dfc29d57d30a5in14/db-upgrade
{
  "upgrade_type": "grey",
  "target_version": "xxx",
  "upgrade_action": "rollback"
}
```

- Committing the upgrade when the instance is in the rolling upgrade phase (After all upgraded shards are upgraded, you can commit the upgrade.) (After the instance is available, the upgrade is complete.)

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/
cc6fd964d93f4003851dfc29d57d30a5in14/db-upgrade
{
  "upgrade_type": "grey",
  "target_version": "xxx",
  "upgrade_action": "commit"
}
```

- Upgrading a centralized instance in the gray method (upgrade action is rolling upgrade)

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/cc6fd964d93f4003851dfc29d57d30a5in14/db-
upgrade
{
  "upgrade_type": "grey",
  "upgrade_action": "upgrade",
  "target_version": "xxx",
  "upgrade_az": "az1,az2"
}
```

Example Response

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```


Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.5.3 Querying Upgrade Types and Versions That Instances Can Be Upgraded to in Batches

Function

This API is used to query the available upgrade types and versions that instances can be upgraded to in batches. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3.1/{project_id}/instances/db-upgrade/candidate-versions

Table 4-187 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-188 Request body parameters

Parameter	Mandatory	Type	Description
instance_ids	No	Array of strings	Definition Instance IDs for batch upgrade. Constraints N/A

Response Parameters

Table 4-189 Response parameters

Parameter	Type	Description
upgrade_type_list	Array of Table 4-190 objects	Definition Upgrade types. Array length: 0 to 1000
target_version	String	Definition Target version. The target version is only returned when the instance is in the rolling upgrade phase, or no information is returned. Range Minimum length: 0 Maximum characters: 1000
upgrade_candidate_versions	Array of strings	Definition Versions that can be upgraded, including major and minor versions. Minimum length: 0 Maximum characters: 1000 Array length: 0 to 1000
hotfix_upgrade_infos	Array of Table 4-192 objects	Definition Information about hot patch versions that can be updated. Array length: 0 to 1000
hotfix_rollback_infos	Array of Table 4-192 objects	Definition Information about hot patch versions that can be rolled back.

Table 4-190 upgrade_type_list

Parameter	Type	Description
upgrade_type	String	Definition Upgrade type. Range • grey: Gray upgrade • inplace: In-place upgrade • hotfix: Hot patch update
enable	Boolean	Definition Check if the upgrade type is available. Range • true: yes. • false: no.
upgrade_action_list	Array of Table 4-191 objects	Definition Upgrade actions. Array length: 0 to 1000
is_parallel_upgrade	Boolean	Definition Whether intra-AZ parallel upgrade is supported. Range • true: The current instance is in the rolling upgrade phase of the gray upgrade. The intra-AZ parallel upgrade is supported. Once this parameter is configured, it cannot be changed later. • false: The current instance is being upgraded. The intra-AZ parallel upgrade is not supported. Once this parameter is configured, it cannot be changed later. • null: The current instance is not in the upgrade process.

Table 4-191 upgrade_action_list

Parameter	Type	Description
upgrade_action	String	Definition Upgrade action. Range • upgrade: Upgrade • upgradeAutoCommit: Auto-commit • commit: Commit • rollback: Rollback
enable	Boolean	Definition Check if the upgrade type is available. Range • true: yes. • false: no.

Table 4-192 hotfix_upgrade_infos

Parameter	Type	Description
version	String	Definition Hot patch version. Range N/A
common_patch	String	Definition Patch type. Range • common: common patch • certain: custom patch
backup_sensitive	Boolean	Definition Whether the patch is related to backups. Range • true: The patch is related to backups. • false: The patch is not related to backups.

Parameter	Type	Description
description	String	Definition Description of the patch. Range N/A

Example Request

Querying the upgrade types and versions that instances can be upgraded to in batches.

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade/candidate-versions
{
  "instance_ids" : [ "cc0ae5c47bf94834bf9e44138f7f995ain14", "aa0ae5c47bf94834bf9e44138f7f995ain14" ]
}
```

Example Response

Querying the available upgrade types and versions that instances can be upgraded to in batches

```
{
  "upgrade_type_list": [
    {
      "upgrade_type": "grey",
      "upgrade_action_list": [
        {
          "upgrade_action": "commit",
          "enable": false
        },
        {
          "upgrade_action": "rollback",
          "enable": false
        },
        {
          "upgrade_action": "upgrade",
          "enable": true
        },
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": true
        }
      ],
      "enable": true,
      "is_parallel_upgrade": null
    },
    {
      "upgrade_type": "inplace",
      "upgrade_action_list": [
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": true
        }
      ],
      "enable": true,
      "is_parallel_upgrade": null
    }
  ],
  {
```

```
{
  "upgrade_type": "hotfix",
  "upgrade_action_list": [
    {
      "upgrade_action": "upgradeAutoCommit",
      "enable": false
    },
    {
      "upgrade_action": "rollback",
      "enable": false
    }
  ],
  "enable": false,
  "is_parallel_upgrade": null
},
"upgrade_candidate_versions": [
  "V2.0-8.100.0"
],
"target_version": null,
"hotfix_upgrade_infos": [],
"hotfix_rollback_infos": []
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.5.4 Upgrading Kernel Versions of Instances in Batches

Function

This API is used to upgrade kernel versions of instances in batches. There are three upgrade types: gray upgrade, in-place upgrade, and hot patch update. The earliest version of all selected instances must be earlier than available target versions, and they must support the same upgrade method and action. If gray upgrade is used, all AZs and shards are upgraded by default.

- In-place upgrade: Services are interrupted for about 30 minutes during the in-place upgrade. All nodes in a DB instance are upgraded at a time and you need to stop all services during the upgrade.
- Gray upgrade:
Services are interrupted for 10s during the upgrade of each primary DN or CN. The management plane is upgraded first, and then the data plane from the standby nodes to the primary nodes.
 - Auto-commit: All nodes are upgraded at the same time. Services are interrupted for about 10s during the upgrade.
 - Rolling upgrade: You can observe service status before committing the upgrade. There are upgrade and commit phases.

- In the upgrade phase, DB instances can be upgraded by shard or AZ based on the deployment model.
 - Distributed instances are upgraded by shard. When instances are upgraded in batches, all shards are upgraded by default.
 - Centralized instances are upgraded by AZ. When instances are upgraded in batches, all shards are upgraded by default.
- In the commit phase, you can test services on your instance after the upgrade is complete, and then either commit or roll back the upgrade based on test results.
 - Commit: After the upgrade is complete and services are normal, commit the upgrade.
 - Rollback: When the upgrade is complete and enters the commit phase, you can roll back the instance to the source version as required.
- Hot patch update
 - Auto-commit: Hot patches are automatically updated and committed without downtime. Only product bugs are fixed.
 - Rollback: Services are not interrupted when the hot patches are rolled back.
- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{project_id}/instances/db-upgrade

Table 4-193 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-194 Request body parameters

Parameter	Mandatory	Type	Description
instance_ids	Yes	Array of strings	Definition Instance IDs for batch upgrade. Constraints N/A
upgrade_type	Yes	String	Definition Instance upgrade type. There are three upgrade types: in-place upgrade, gray upgrade, and hot patch update. The value is case-sensitive. Constraints N/A Range • grey: Gray upgrade • inplace: In-place upgrade • hotfix: Hot patch update Default Value N/A

Parameter	Mandatory	Type	Description
upgrade_action	No	String	Definition Instance upgrade action. For an in-place upgrade, this parameter does not need to be specified. For the gray upgrade, this parameter can be set to upgradeAutoCommit, upgrade, commit, or rollback. The value is case-sensitive. Constraints N/A Range • upgrade: Upgrade • upgradeAutoCommit: Auto-commit • commit: Commit • rollback: Rollback Default Value N/A

Parameter	Mandatory	Type	Description
target_version	No	String	Definition Target version that the instances are upgraded to in batches. This parameter is optional. Constraints For a gray upgrade or an in-place upgrade, if this parameter is not specified, the instances are upgraded to the preferred version by default. For a major version upgrade, this parameter is mandatory for the gray upgrade and in-place upgrade. For a hot patch update, this parameter does not need to be specified and all available hot patches are updated by default. To obtain its value, see Querying Upgrade Types and Versions That Instances Can Be Upgraded to in Batches . Range N/A Default Value N/A

Response Parameters

Table 4-195 Response parameters

Parameter	Type	Description
job_ids	Array of strings	Definition Job ID.
succeeded_num	Integer	Definition Number of instances whose task requests are submitted successfully. Range N/A

Parameter	Type	Description
failed_num	Integer	Definition Number of instances whose task requests fail to be submitted. Range N/A
failed_instance_ids	Array of strings	Definition IDs of instances whose task requests fail to be submitted.
error_messages	Array of strings	Definition List of error information about task submission failures.

Example Request

- Upgrading instances in batches using the in-place upgrade

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade
{
  "instance_ids": [ "cc0ae5c47bf94834bf9e44138f7f995ain14",
"aa0ae5c47bf94834bf9e44138f7f995ain14" ],
  "upgrade_type": "inplace",
  "target_version": "8.100.0"
}
```

- Upgrading instances in batches using the gray upgrade with the rolling upgrade action

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade
{
  "instance_ids": [ "cc0ae5c47bf94834bf9e44138f7f995ain14",
"aa0ae5c47bf94834bf9e44138f7f995ain14" ],
  "upgrade_type": "grey",
  "upgrade_action": "upgrade",
  "target_version": "8.100.0"
}
```

- Upgrading instances in batches using the gray upgrade with the rollback action

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade
{
  "instance_ids": [ "cc0ae5c47bf94834bf9e44138f7f995ain14",
"aa0ae5c47bf94834bf9e44138f7f995ain14" ],
  "upgrade_type": "grey",
  "upgrade_action": "rollback",
  "target_version": "8.100.0"
}
```

- Upgrading instances in batches using the gray upgrade with the auto-commit action

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade
{
```

```
"instance_ids": [ "cc0ae5c47bf94834bf9e44138f7f995ain14",  
"aa0ae5c47bf94834bf9e44138f7f995ain14" ],  
"upgrade_type": "grey",  
"upgrade_action": "upgradeAutoCommit",  
"target_version": "8.100.0"  
}
```

- Upgrading instances in batches using the hot patch update with the auto-commit action

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade  
{  
  "instance_ids": [ "cc0ae5c47bf94834bf9e44138f7f995ain14",  
"aa0ae5c47bf94834bf9e44138f7f995ain14" ],  
  "upgrade_type": "hotfix",  
  "upgrade_action": "upgradeAutoCommit"  
}
```

- Rolling back instances in batches using the hot patch update with the rollback action

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade  
{  
  "instance_ids": [ "cc0ae5c47bf94834bf9e44138f7f995ain14",  
"aa0ae5c47bf94834bf9e44138f7f995ain14" ],  
  "upgrade_type": "hotfix",  
  "upgrade_action": "rollback"  
}
```

Example Response

```
{  
  "job_ids": [ "2b414788a6004883a02390e2eb0ea227", "aa414788a6004883a02390e2eb0ea228" ],  
  "succeeded_num": 2,  
  "failed_num": 1,  
  "failed_instance_ids": [ "cc0ae5c47bf94834bf9e44138f7f995ain14" ],  
  "error_messages": ["This operation cannot be performed because the instance status is abnormal."]  
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.5.5 Upgrading Kernel Version of Instances as Scheduled in Batches

Function

This API is used to upgrade kernel versions of instances as scheduled in batches. It can only updates hot patches of instances that use the auto-commit upgrade action to fix bugs. During the upgrade, there is no downtime and instance bugs can be fixed.

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/db-upgrade/schedule-task

Table 4-196 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-197 Request body parameters

Parameter	Mandatory	Type	Description
instance_ids	Yes	Array of strings	Definition Instance IDs for batch upgrade. Constraints N/A
start_time	Yes	String	Definition Task start time. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
upgrade_type	Yes	String	Definition Instance upgrade type. The value is case-sensitive. Constraints N/A Range hotfix : Hot patch update Default Value N/A
upgrade_action	Yes	String	Definition Instance upgrade action. Currently, only the auto-commit action in hot patch update is supported. Constraints N/A Range upgradeAutoCommit : Auto-commit Default Value N/A
target_version	Yes	String	Definition Target version that the instances will be upgraded to. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-198 Response parameters

Parameter	Type	Description
instance_tasks	Array of Table 4-199 objects	Definition Task details.

Table 4-199 InstanceTaskDetail

Parameter	Type	Description
task_id	String	Definition Task ID. Range N/A
task_name	String	Definition Task name. Range N/A
instance_id	String	Definition Instance ID. Range N/A

Example Request

Updating hot patches of instances that use the auto-commit action

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade/schedule-task
{
  "instance_ids" : [ "cc0ae5c47bf94834bf9e44138f7f995ain14",
"aa0ae5c47bf94834bf9e44138f7f995ain14" ],
  "start_time": "2023-06-06T01:47:20+0800",
  "upgrade_type": "hotfix",
  "upgrade_action": "upgradeAutoCommit" ,
  "target_version" : "3.208.0.6,3.208.0.7"
}
```

Example Response

```
{
  "instance_tasks": [
    {
      "task_id": "07c5880a-cbf0-44ad-91c1-5803a10f11a1",
      "task_name": "HOTFIX_VERSION_UPGRADE",
      "instance_id": "cc0ae5c47bf94834bf9e44138f7f995ain14"
    },
    {
      "task_id": "07c5880a-cbf0-44ad-91c1-5803a10f11a1",
      "task_name": "HOTFIX_VERSION_UPGRADE",
      "instance_id": "aa0ae5c47bf94834bf9e44138f7f995ain14"
    }
  ]
}
```

Status Codes

- Normal
202

- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6 Backup and Restoration

4.6.1 Configuring an Automated Backup Policy

Function

This API is used to configure an automated backup policy. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3.1/{*project_id*}/instances/{*instance_id*}/backups/policy

Table 4-200 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-201 Parameter description

Parameter	Mandatory	Type	Description
backup_policy	Yes	Object	Definition Backup policy information. For details, see Table 4-202 . Constraints N/A Range N/A Default Value N/A

Table 4-202 backup_policy field data structure description

Parameter	Mandatory	Type	Description
keep_days	Yes	Integer	Definition Backup retention days. Constraints N/A Range 1-36,500 days Default Value N/A

Parameter	Mandatory	Type	Description
start_time	Yes	String	Definition Backup time window. Automated backups will be created during the backup time window. Constraints N/A Range The value cannot be left blank. It must be a valid value in the hh:mm-HH:MM format. The current time is the UTC time. The value of HH must be 1 greater than the value of hh. The values of mm and MM must be the same and must be 00. Example value: 21:00-22:00 Default Value N/A NOTE This parameter indicates the time period (in UTC format) during which backup is performed. For example, if the local backup time is 05:00-06:00 and the time zone is UTC+08:00, set the parameter value to 21:00-22:00. If the time zone is UTC+04:00, set the value to 01:00-02:00.

Parameter	Mandatory	Type	Description
period	Yes	String	Definition Full backup period. An automated full backup is performed on the UTC date of each week. Constraints N/A Range 1–7. The numbers are separated by commas (,), indicating the days of the week. Example value: • 1,2,3,4 indicates that the backup period is Monday, Tuesday, Wednesday, and Thursday. • 1,2,3,4,5,6,7 indicates that an automated backup is performed every day from Monday to Sunday. • 1,3,5 indicates that an automated backup is performed on Monday, Wednesday, and Friday. Default Value N/A NOTE This parameter indicates the date (in UTC format) on which backup is performed. For example, if the local backup time is 05:00-06:00 on Monday and Tuesday, and the time zone is UTC+08:00, set the parameter value to 1,7. If the time zone is UTC+04:00, set the value to 1,2.

Parameter	Mandatory	Type	Description
differential_period	Yes	String	Definition Differential backup interval. Interval for automated differential backup. Constraints N/A Range The value can be 15, 30, 60, 180, 360, 720, or 1440 minutes. Example value: 30 Default Value N/A
rate_limit	No	Integer	Definition Upload speed at which backup data is uploaded to OBS. The upload speed is related to the bandwidth used for data upload. Constraints N/A Range 0–1024 MB/s. The value 0 indicates no limit. Default Value 75 MB/s

Parameter	Mandatory	Type	Description
prefetch_block	No	Integer	Definition Number of prefetch pages from the modified pages in the disk table file during a differential backup. When modified pages are adjacent (for example, with a bulk data load), you can set this parameter to a large value. When modified pages are scattered (for example, random update), you can set this parameter to a small value. Constraints N/A Range 1-8192 Default Value 64
file_split_size	No	Integer	Definition Size by which full and differential backup files are split. Constraints The value must be a multiple of 4. Range 0-1024 GB. 0 GB indicates that the size is not limited. Default Value 4 GB

Parameter	Mandatory	Type	Description
enable_standby_backup	No	Boolean	Definition Whether to enable backup on a standby node. Constraints It is not suitable for single-node instances and instances earlier than 3.100.0. Range • true: This function is enabled. • false: This function is disabled. Default Value N/A

Response Parameters

None

Example Request

Configuring a backup policy for GaussDB (Set backup retention period to seven days and backup time window to 19:00-20:00).

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/backups/policy
{
  "backup_policy": {
    "keep_days": 7,
    "start_time": "19:00-20:00",
    "period": "1,2,3,4,5",
    "differential_period": "30",
    "rate_limit": 75 ,
    "prefetch_block": 64 ,
    "file_split_size": 4 ,
    "enable_standby_backup" : false
  }
}
```

Example Response

```
{}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.2 Querying an Automated Backup Policy

Function

This API is used to query an automated backup policy. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/backups/policy

Table 4-203 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-204 Parameter description

Parameter	Type	Description
backup_policy	Object	Definition Backup policy information. For details, see Table 4-205 .

Table 4-205 backup_policy field data structure description

Parameter	Type	Description
keep_days	Integer	Definition Full backup retention days. Range 1–732

Parameter	Type	Description
start_time	String	Definition Full backup time window. Automated backups will be created during the backup time window. Range The value must be a valid value in the hh:mm-HH:MM format. The current time is the UTC time. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00.
period	String	Definition Full backup period. Data will be automatically backed up on the selected days every week. Range 1–7. The numbers are separated by commas (,), indicating the days of the week. Example value: • 1,2,3,4 indicates that the backup period is Monday, Tuesday, Wednesday, and Thursday. • 1,2,3,4,5,6,7 indicates that an automated backup is performed every day from Monday to Sunday. • 1,3,5 indicates that an automated backup is performed on Monday, Wednesday, and Friday.
differential_period	String	Definition Differential backup period. An automated differential backup will be performed on the specified minutes. This field has been deprecated. Range N/A
differential_period	Integer	Definition Differential backup period. An automated differential backup will be performed on the specified minutes. Range N/A

Parameter	Type	Description
rate_limit	Integer	Definition Upload speed at which backup data is uploaded to OBS. The upload speed is related to the bandwidth used for data upload. Range 0–1024 MB/s. The value 0 indicates no limit.
prefetch_block	Integer	Definition Number of prefetch pages from the modified pages in the disk table file during a differential backup. When modified pages are adjacent (for example, with a bulk data load), you can set this parameter to a large value. When modified pages are scattered (for example, random update), you can set this parameter to a small value. Range 1–8192
filesplit_size	Integer	Definition Size for splitting files. This field has been deprecated. Range N/A
file_split_size	Integer	Definition Size by which full and differential backup files are split. Range 0–1024 GB
enable_standby_backup	Boolean	Definition Whether to enable backup on a standby node. Range ● true: This function is enabled. ● false: This function is disabled.

Example Request

Querying an automated backup policy

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsdae3435in14/backups/policy
```

Example Response

Automated backup policy queried.

```
{
  "backup_policy": {
    "period": "1,2,3,4,5,6,7",
    "keep_days": 7,
    "start_time": "18:00-19:00",
    "differential_period": 30,
    "rate_limit": 75,
    "prefetch_block": 64,
    "file_split_size": 4,
    "enable_standby_backup": false
  }
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.3 Querying Backups

Function

This API is used to obtain backups of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This API can be used to query only manual and automated full backups.

URI

GET /v3.2/{project_id}/backups?
instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&of
fset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}

Table 4-206 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	No	String	Definition Instance ID, which uniquely identifies an instance and is used to query the backups of an instance. Constraints This parameter is mandatory when you query log backups. Range The value must be in UUID format, exactly 36 characters long, and contain only letters and digits. Default Value N/A

Parameter	Mandatory	Type	Description
backup_id	No	String	Definition Backup ID, which uniquely identifies an instance backup and is used to query information about a backup. Constraints N/A Range The value is compliant with the UUID format and can contain 36 characters. Only letters and digits are allowed. Default Value N/A
backup_type	No	String	Definition Backup type. Constraints N/A Range • auto: instance-level automated full backup • manual: instance-level manual full backup Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints N/A Range [0,10 ¹⁰ -1] Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records returned by a query. Constraints N/A Range [0,100] Default Value 100
begin_time	No	String	Definition Query start time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Example: 2022-05-09T16:01:10+0800. Constraints This parameter can be used together with end_time . If end_time is not used, the backups created after begin_time are returned. If end_time is used, the backups created between begin_time and end_time are returned. Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
end_time	No	String	Definition Query end time. The format is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800. Example: 2022-05-09T16:01:10+0800. Constraints This parameter can be used together with begin_time. If begin_time is not used, the backups created before end_time are returned. If begin_time is used, the backups created between begin_time and end_time are returned. Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Table 4-207 Parameter description

Parameter	Type	Description
backups	Array of objects	Definition Backup information. For details, see Table 4-208.

Parameter	Type	Description
total_count	Long	Definition Total number of backup files. Range [0, 2 ⁶³ - 1]. The actual value depends on the number of backups in the backup list.

Table 4-208 backups field data structure description

Parameter	Type	Description
id	String	Definition Backup ID, which uniquely identifies a backup. Range The value can contain 36 characters. Only letters and digits are allowed.
name	String	Definition Backup name. Range N/A
description	String	Definition Description of the backup file. Range The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! < " = ' > &
begin_time	String	Definition Backup start time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Example: 2022-05-09T16:01:10+0800. Range N/A

Parameter	Type	Description
end_time	String	Definition Backup end time in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Example: 2022-05-09T16:01:10+0800. Range N/A
status	String	Definition Backup status. Range ● BUILDING: Backup in progress ● COMPLETED: Backup completed ● FAILED: Backup failed
size	Double	Definition Backup size in MB. Range The value is determined by the backup size.
type	String	Definition Backup type. Range ● auto: instance-level automated full backup ● manual: instance-level manual full backup
datastore	Object	Definition Database information. For details, see Table 4-209 .
instance_id	String	Definition ID of the instance to which the backup belongs. Range The value can contain 32 characters. Only letters and digits are allowed.

Table 4-209 datastore field data structure description

Parameter	Type	Description
type	String	Definition DB engine. The value is case-insensitive and can be: GaussDB. Range N/A
version	String	Definition DB engine version. If this parameter is not specified, the latest version is used by default. To query supported DB engine versions, see Querying DB Engine Versions . Range N/A

Example Request

- Querying all backups

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/backups
```

- Querying instances based on search criteria

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.2/0483b6b16e954cb88930a360d2c4e663/backups?instance_id=88be33e4c5a64ceba42b42da89310111in14&backup_id=88be1234c5a64ceba42b42da89310111br14&backup_type=auto&begin_time=2022-05-09T16:15:50+0800&end_time=2022-05-09T16:20:45+0800&limit=1&offset=1
```

Example Response

Backups queried.

```
{
  "backups": [
    {
      "id": "a696cd25e4fc453aa503650225cece8bbr14",
      "name": "GaussDB-hly-ha-20220509080110906",
      "status": "FAILED",
      "size": 0.0,
      "type": "auto",
      "datastore": {
        "type": "GaussDB",
        "version": "V2.0-1.4"
      },
      "begin_time": "2022-05-09T16:01:10+0800",
      "end_time": "2022-05-09T16:04:31+0800",
      "instance_id": "164abc6d35114095bb849d007b19db3bin14"
    },
    {
      "id": "5651c62a7f12461c98020dd3abfe24ccbr14",
      "name": "GaussDB-hly-master-20220509022658257",
```

```
{
  "status": "FAILED",
  "size": 0.0,
  "type": "auto",
  "datastore": {
    "type": "GaussDB",
    "version": "V2.0-1.4"
  },
  "begin_time": "2022-05-09T10:26:58+0800",
  "end_time": "2022-05-09T10:30:17+0800",
  "instance_id": "fd26e3bf26e5467587eec857e4f66ef0in14"
},
"total_count": 2
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.4 Creating a Manual Backup

Function

This API is used to create a manual backup. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/backups

Table 4-210 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-211 Parameter description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Backup name. Constraints N/A Range It must be 4 to 64 characters long, start with a letter, and contain only letters (case-sensitive), digits, hyphens (-), and underscores (_). Default Value N/A
description	No	String	Definition Description of the backup file. Constraints N/A Range The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! < " = ' > & Default Value N/A

Example Request

Creating a manual full backup for a DB instance

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/backups
{
  "instance_id": "7e01ac5ac5274957ba506f3851d11d51in14",
  "name": "backuppwqwq3",
  "description": "manual backup"
}
```

Response Parameters

Table 4-212 Response body parameters

Parameter	Type	Description
backup	Object	Definition Backup information. For details, see Table 4-213 .
job_id	String	Definition Job ID. Range N/A

Table 4-213 backup field data structure description

Parameter	Type	Description
id	String	Definition Backup ID. Range N/A
name	String	Definition Backup name, which must be unique. Range N/A
description	String	Definition Backup description. Range The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! < " = ' > &
begin_time	String	Definition Backup start time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A

Parameter	Type	Description
status	String	Definition Backup status. Range ● BUILDING: Backup in progress ● COMPLETED: Backup completed ● FAILED: Backup failed
type	String	Definition Backup type. Range manual : manual full backup
instance_id	String	Definition DB instance ID. Range N/A

Example Response

```
{
  "backup": {
    "id": "e76112bfb2074871bf54cb8df5af7f64br14",
    "name": "backuppwqwq32",
    "description": "manual backup",
    "status": "BUILDING",
    "type": "manual",
    "begin_time": "2022-05-09T18:02:31+0800",
    "instance_id": "fd26e3bf26e5467587eec857e4f66ef0in14"
  },
  "job_id": "e4733090-b2c8-4ea7-a33a-f55f65723fb3"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.5 Stopping a Backup

Function

This API is used to stop backups of a DB instance, including all its ongoing full and differential backups. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/backups/stop

Table 4-214 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-215 Response body parameters

Name	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

Stopping a backup

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in14/backups/stop
```

Example Response

Backup stopped.

```
{
  "job_id" : "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.6 Deleting a Manual Backup

Function

This API is used to delete a manual backup. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

DELETE /v3/{project_id}/backups/{backup_id}

Table 4-216 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
backup_id	Yes	String	Definition Backup ID, which uniquely identifies a backup. Constraints N/A Range The value must be in UUID format, exactly 36 characters long, and contain only letters and digits. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-217 Response body parameters

Parameter	Type	Description
backup_id	String	Definition Backup ID. Range N/A

Parameter	Type	Description
backup_name	String	Definition Backup file name. Range N/A

Example Request

Deleting a manual backup

```
DELETE https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/backups/e28d08754b1a490fb2b3540ed013a7fbbr14
```

Example Response

Manual backup deleted.

```
{  "backup_id" : "85755cb697234111bfc4970795ca9018br14",  "backup_name" : "backup-d6e1"}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.7 Querying the Restoration Time Range

Function

This API is used to query the restoration time range of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/restore-time?date={date}

Table 4-218 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
date	Yes	String	Definition Date to be queried. The value is in the "yyyy-mm-dd" format, and the time zone is UTC. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Table 4-219 Parameter description

Parameter	Type	Description
restore_time	Array of objects	Definition Restoration time ranges. For details, see Table 4-220 .

Table 4-220 restore_time field data structure description

Parameter	Type	Description
start_time	Long	Definition Start time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC+8. Range N/A
end_time	Long	Definition End time of the restoration time range in the UNIX timestamp format. The unit is millisecond and the time zone is UTC+8. Range N/A

Example Request

Querying the restoration time range

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/d2113b7c60154636b94bea1320b6a874in14/restore-time?date=2022-04-17
```

Example Response

Restoration time range queried.

```
{
  "restore_time": [
    {
      "start_time": 1652084311000,
      "end_time": 1652092839000
    },
    {
      "start_time": 1652092847000,
      "end_time": 1652094792000
    }
  ]
}
```

```
]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.8 Restoring Data to a New instance

Function

This API is used to restore data to a new DB instance using backups. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The DB engine versions and instance types of the original and new instances must be the same.

The specifications of the new instance must be greater than or equal to those of the original instance.

URI

POST /v3/{project_id}/instances

Table 4-221 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-222 Parameter description

Parameter	Mandatory	Type	Description
name	Yes	String	Definition DB instance name. Instances of the same type can have same names under the same tenant. Constraints N/A Range The name can contain 4 to 64 characters and must start with a letter. Only letters (case-sensitive), digits, hyphens (-), and underscores (_) are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	Definition AZ ID. Constraints N/A Range The value cannot be empty. You can specify one or three AZs and use commas (,) to separate the AZs. For example: • To deploy a DB instance in the same AZ, enter three same AZ IDs. • To deploy a DB instance across three different AZs, enter three different AZ IDs. The value cannot be empty. For details about how to obtain this parameter value, see Regions and Endpoints . Default Value N/A
flavor_ref	Yes	String	Definition Specification code. Range The value cannot be empty. To obtain its value, see the spec_code field in Querying Instance Specifications . Default Value N/A
volume	Yes	Object	Definition Volume information. For details, see Table 4-223 . Constraints N/A

Parameter	Mandatory	Type	Description
disk_encryption_id	No	String	Definition ID of the key used for disk encryption. Constraints N/A Range N/A Default Value It is left blank by default.
vpc_id	Yes	String	Definition VPC ID. To obtain this parameter value, use the following methods: • Method 1: Log in to the VPC console and view the VPC ID in the VPC details. • Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs. • Method 2: See the section "Querying VPCs" in the <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
subnet_id	Yes	String	Definition Network ID of the subnet. To obtain this parameter value, use either of the following methods: • Method 1: Log in to the VPC console and click the target subnet on the Subnets page. You can view the network ID on the displayed page. • Method 2: Query the subnet ID through the VPC API. For details, see Querying Subnets. • Method 2: See section "Querying Subnets" in the <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	Definition Security group which the instance is associated with. To obtain this parameter value, use either of the following methods: • Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: Query the security group through the VPC API. For details, see Querying Security Groups. • Method 2: See the section "Querying Security Groups" in the <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
password	Yes	String	Definition Database password. Constraints N/A Range Consist of 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters ~!@#%^*-_ = +?, A strong password helps improve security and mitigate potential threats like brute force attacks. Default Value N/A
charge_info	No	Object	Definition Billing mode, which can be pay-per-use or yearly/monthly. For details, see Table 4-224 . Constraints N/A
backup_strategy	No	Object	Definition Automated backup policy. For details, see Table 4-226 . Constraints N/A
restore_point	Yes	Object	Definition Restoration information. For details, see Table 4-225 . Constraints N/A

Parameter	Mandatory	Type	Description
enable_parallel_restore	No	Boolean	Definition Whether to support parallel restoration. If this parameter is not specified, the function is not supported for instances of the enterprise edition, and supported for centralized instances by default. Constraints N/A Range • true: Parallel restoration is supported. • false: Parallel restoration is not supported. Default Value N/A
configuration_id	No	String	Definition Parameter template ID. If this parameter is not specified, the default parameter template is used. Constraints N/A Range N/A Default Value N/A
enterprise_project_id	No	String	Definition Enterprise project ID. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
port	No	String	Definition Port for applications to access the database. Constraints The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124. Range 1024–39998 Default Value 8000
time_zone	No	String	Definition UTC time zone. Constraints N/A Range • If this parameter is not specified, GaussDB uses UTC in the International website by default. • If this parameter is specified, the value ranges from UTC-12:00 to UTC +12:00 at the full hour. For example, the parameter can be UTC+08:00 rather than UTC+08:30. Default Value UTC time for GaussDB in the international website

Parameter	Mandatory	Type	Description
enable_force_switch	No	Boolean	Definition Whether to enable the function of forcibly promoting a standby node to primary. Constraints This function is available only for instances of version 1.2.2 or later. Range • true: The function of forcibly promoting a standby node to primary is enabled. • false: The function of forcibly promoting a standby node to primary is disabled. Default Value false NOTE If the primary node fails, this function enables a standby node to be forcibly promoted to primary to provide services, ensuring the instance availability. This function ensures service recovery as soon as possible at the cost of partial data loss. You are not advised to use this function if you are not clear about the impact of data loss on services.

Table 4-223 volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Definition Disk type. Constraints N/A Range LOCALSSD indicates the local SSD and is available for centralized instances. ULTRAHIGH indicates the cloud disk and is available for distributed instances in the independent deployment. The value is case-sensitive. ULTRAHIGH : local disk. ESSD : extreme SSD. Default Value N/A
size	Yes	Integer	Definition Storage space, which must be at least equal to that of the original instance. For example, if this parameter is set to 40 , 40 GB of storage is allocated to the instance. Constraints The storage capacity of the new instance must be at least equal to that of the original instance. Range ECS-based deployment: The value ranges from (<i>number_of_shards</i> x 40 GB) to (<i>number_of_shards</i> x 16 TB) and must be a multiple of (<i>number_of_shards</i> x 4 GB). Default Value N/A

Table 4-224 charge_info field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Definition Billing mode. Constraints N/A Range • postPaid: pay-per-use billing. • prePaid: yearly/monthly billing. Default Value N/A
period_type	No	String	Definition Subscription type. Constraints This parameter is valid and mandatory only when charge_mode is set to prePaid . Range • month: monthly subscription. • year: yearly subscription. Default Value N/A

Parameter	Mandatory	Type	Description
period_num	No	Integer	Definition Subscription time. Constraints This parameter is valid and mandatory only when charge_mode is set to prePaid. Range • If period_type is set to month, this parameter value ranges from 1 to 9. • If period_type is set to year, the value ranges from 1 to 3. When a floating-point value is used, the value is automatically truncated to an integer. Default Value N/A
is_auto_renew	No	Boolean	Definition Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed. Constraints N/A Range • true: Automatic renewal is enabled. • false: Automatic renewal is disabled. Default Value false

Parameter	Mandatory	Type	Description
is_auto_pay	No	Boolean	Definition Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. Constraints N/A Range • true: The order will be automatically paid. • false: The order will be manually paid. Default Value false

Table 4-225 restore_point field data structure description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Source instance ID. Constraints N/A Range N/A Default Value N/A
backup_id	No	String	Definition ID of the backup to be restored. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
type	No	String	Definition Restoration mode. Constraints N/A Range • backup: indicates that data is restored using backups. In this mode, type is optional and backup_id is mandatory. • timestamp: indicates that data is restored using point-in-time recovery (PITR). In this mode, type and restore_time are both mandatory. Default Value N/A
restore_time	No	Long	Definition Time point of data restoration in the UNIX timestamp format. The unit is millisecond and the time zone is UTC. Constraints N/A Range N/A Default Value N/A

Table 4-226 backup_strategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	Definition Deprecated field. Leave it blank. Constraints N/A Range N/A Default Value N/A
keep_days	No	Integer	Definition Deprecated field. Leave it blank. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-227 Parameter description

Parameter	Type	Description
instance	Object	Definition Instance information. For details, see Table 4-228 .
job_id	String	Definition ID of the job for restoring data to a new instance. Range N/A

Parameter	Type	Description
order_id	String	Definition ID of the order for creating an instance. This parameter is returned only when a yearly/monthly instance is created. Range N/A

Table 4-228 instance description

Parameter	Type	Description
id	String	Definition Instance ID. Range N/A
name	String	Definition DB instance name. Instances of the same type can have same names under the same tenant. Range The name can contain 4 to 64 characters and must start with a letter. Only letters (case-sensitive), digits, hyphens (-), and underscores (_) are allowed.
status	String	Definition Instance status. For example, BUILD indicates that the instance is being created. Range N/A
datastore	Object	Definition Database information. For details, see Table 4-229 .
ha	Object	Definition Instance deployment model. For details, see Table 4-230 .

Parameter	Type	Description
port	String	Definition Database port. Range 1024–39998 The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124.
enterprise_project_id	String	Definition Project ID. Range N/A
volume	Object	Definition Volume information. For details, see Table 4-231 .
backup_strategy	Object	Definition Automated backup policy. For details, see Table 4-232 .
replica_num	Integer	Definition Number of replicas. Range N/A
region	String	Definition Region ID. Range The value cannot be empty. To obtain this value, see Regions and Endpoints .
flavor_ref	String	Definition Specification code. Range N/A
availability_zone	String	Definition AZ ID. You can deploy your instance in the same AZ or across three different AZs, and use commas (,) to separate AZs. The value cannot be empty. To obtain this value, see Regions and Endpoints .

Parameter	Type	Description
vpc_id	String	Definition VPC ID. Range N/A
subnet_id	String	Definition Subnet ID. Range N/A
security_group_id	String	Definition Security group ID. Range N/A
charge_info	Object	Definition Billing mode, which can be pay-per-use or yearly/monthly. For details, see Table 4-233 .

Table 4-229 datastore field data structure description

Parameter	Type	Description
type	String	Definition Database engine. Range GaussDB
version	String	Definition DB engine version. Range N/A

Table 4-230 ha field data structure description

Parameter	Type	Description
mode	String	Definition Mode. Range For distributed instances, the return value is enterprise (enterprise edition). For centralized instances, the return value is centralization_standard (centralized edition).
replication_mode	String	Definition Replication mode for the standby instance. Range The value can only be set to sync , indicating that data is synchronized in synchronous mode.
consistency	String	Definition (GaussDB reserved parameter) Instance consistency type. Range • strong: strong consistency • eventual: eventual consistency

Table 4-231 volume field data structure description

Parameter	Type	Description
type	String	Definition Disk type. Range The value is case-sensitive. • ULTRAHIGH: indicates the SSD. • ESSD: indicates the extreme SSD.
size	Integer	Definition Disk size. Range When restoring a distributed GaussDB instance, you need to specify the size to be a multiple of (Number of shards x 4 GB). Value range: (Number of shards x 40 GB) to (Number of shards x 16 TB).

Table 4-232 backup_strategy field data structure description

Parameter	Type	Description
start_time	String	Definition This field has been deprecated. Range N/A
keep_days	Integer	Definition This field has been deprecated. Range N/A

Table 4-233 charge_info field data structure description

Parameter	Type	Description
charge_mode	String	Definition Billing mode. Range • postPaid: pay-per-use billing. • prePaid: yearly/monthly billing.
period_type	String	Definition Subscription type. This parameter is only available when charge_mode is set to prePaid . Range • month: monthly subscription. • year: yearly subscription.
period_num	Integer	Definition Subscription period. This parameter is valid and mandatory only when charge_mode is set to prePaid . Range • If period_type is set to month, the value ranges from 1 to 9. • If period_type is set to year, the value ranges from 1 to 3.

Parameter	Type	Description
is_auto_renew	Boolean	Definition Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed. Range • true: Automatic renewal is enabled. • false (default value): Automatic renewal is disabled.
is_auto_pay	Boolean	Definition Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. Range • true: The order is automatically paid from the account. • false (default value): The order needs to be manually paid.

Example Request

- Restoring data to a new DB instance using backups. The new DB instance features 8 vCPUs, 64 GB memory, and 160 GB storage.

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "targetInst",
  "availability_zone": "aaa,bbb,ccc",
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 160
  },
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",
  "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
  "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
  "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
  "password": "*****",
  "restore_point": {
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cf14",
    "backup_id": "2f4ddb93b9014b0893d81d2e472f30febr14"
  },
  "enable_parallel_restore": false,
  "configuration_id": "52e86e87445847a79bf807ceda213165pr01",
  "enterprise_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",
  "port": 8000,
```

```
"enable_force_switch": true,  
"time_zone": "UTC+04:00"  
}
```

- Restoring data to a new DB instance using backups. The new DB instance features 8 vCPUs, 64 GB memory, and 160 GB storage.

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances  
{  
  "name": "targetInst",  
  "availability_zone": "aaa,bbb,ccc",  
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",  
  "volume": {  
    "type": "ULTRAHIGH",  
    "size": 160  
  },  
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",  
  "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",  
  "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",  
  "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",  
  "password": "*****",  
  "restore_point": {  
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin14",  
    "backup_id": "2f4ddb93b9014b0893d81d2e472f30febr14",  
    "type": "backup"  
  },  
  "enable_parallel_restore": false,  
  "configuration_id": "52e86e87445847a79bf807ceda213165pr01",  
  "enterprise_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",  
  "port": 8000,  
  "enable_force_switch": true,  
  "time_zone": "UTC+04:00"  
}
```

- Restoring data to a new DB instance using PITR. The new DB instance features 8 vCPUs, 64 GB memory, and 160 GB storage.

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances  
{  
  "name": "targetInst",  
  "availability_zone": "aaa,bbb,ccc",  
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",  
  "volume": {  
    "type": "ULTRAHIGH",  
    "size": 160  
  },  
  "disk_encryption_id": "2gfdsh-844a-4023-a776-fc5c5fb71fb4",  
  "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",  
  "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",  
  "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",  
  "password": "*****",  
  "restore_point": {  
    "instance_id": "d8e6ca5a624745bcb546a227aa3ae1cfin14",  
    "type": "timestamp",  
    "restore_time": 1532001446987  
  },  
  "enable_parallel_restore": false,  
  "configuration_id": "52e86e87445847a79bf807ceda213165pr01",  
  "enterprise_project_id": "ba1f7fc8-3307-42a7-aa6f-42c8b9b8f85c",  
  "port": 8000,  
  "enable_force_switch": true,  
  "time_zone": "UTC+04:00"  
}
```

Response

Data is resorted to the new instance.

```
{
  "instance": {
    "id": "2gfdsh844a4023a776fc5c5fb71fb4in14",
    "name": "gaussdb-instance-rep2",
    "status": "BUILD",
    "datastore": {
      "type": "GaussDB",
      "version": "1.4"
    },
    "ha": {
      "mode": "enterprise",
      "consistency": "strong",
      "replication_mode": "sync"
    },
    "volume": {
      "type": "ULTRAHIGH",
      "size": 160
    },
    "port": "8000",
    "replica_num": 3,
    "region": "regionA",
    "enable_parallel_restore": false,
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "aaa,bbb,ccc",
    "vpc_id": "490a4a08-ef4b-44c5-94be-3051ef9e4fce",
    "subnet_id": "0e2eda62-1d42-4d64-a9d1-4e9aa9cd994f",
    "security_group_id": "2a1f7fc8-3307-42a7-aa6f-42c8b9b8f8c5",
    "charge_info": {
      "charge_mode": "postPaid"
    },
    "enterprise_project_id": "fdsa-3rds",
  },
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.9 Querying Instances That Can Be Used for Backups and Restorations

Function

This API is used to query the instances that can be used for backups and restorations. Before calling this API:

- Learn how to [authenticate](#) this API.

- Obtain the required [region and endpoint](#).

Constraints

The **restore_time** and **backup_id** parameters cannot be both left blank.

URI

GET /v3.1/{project_id}/restorable-instances

Table 4-234 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
backup_id	No	Definition Instance backup ID. You can use the backup ID to query the instance topology information and filter the queried instances (including the number of nodes and replicas of instances). If this parameter is left blank, restore_time is used. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Description
restore_time	No	Definition Specific point of time. If the backup ID is left blank, this parameter is used to query the instance topology information and filter the queried instances. Constraints N/A Range N/A Default Value N/A
source_instance_id	No	Definition ID of the DB instance to be restored. Constraints • If backup_id is not left blank, source_instance_id is optional. • If backup_id is left blank and restore_time is not left blank, source_instance_id is mandatory. • source_instance_id and backup_id cannot be both left blank. Range N/A Default Value N/A
offset	No	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints The value must be a non-negative integer. Range N/A Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Description
limit	No	Definition Number of records returned by a query. Constraints N/A Range [1,100] Default Value 100

Request Parameters

None

Response Parameters

Table 4-235 Parameter description

Parameter	Type	Description
instances	Array of objects	Definition Instances that can be used for backups and restorations. For details, see Table 4-236 .
total_count	Integer	Definition Total number of queried instances. Range N/A

Table 4-236 instances parameter data structure description

Parameter	Type	Description
instance_name	String	Definition DB instance name. Range N/A

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A
volume_type	String	Definition Storage type. Range N/A
data_volume_size	Number	Definition Storage space, in GB Range N/A
version	String	Definition Instance version. Range N/A
mode	String	Definition Deployment model. Range • Ha: centralized deployment • Independent: independent deployment
instance_mode	String	Definition Instance model. Range • enterprise: enterprise edition • standard: standard edition • basic: basic edition

Example Request

Querying instances that can be used for backups and restorations

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0611f1bd8b00d5d32f17c017f15b599f/restorable-instances?
source_instance_id=88efb3753dc844829c380edff7798eecin14&backup_id=d3f223e9c35d450ea0692bdbff686
e45br14
```

Example Response

Instances that can be used for backups and restorations queried.

```
{
  "instances": [
    {
      "instance_name": "gaussdb",
      "instance_id": "3ea6d6463c9a4baf9a47c5b74464307cin14",
      "volume_type": "ULTRAHIGH",
      "data_volume_size": 500,
      "version": "V2.0-8.102",
      "mode": "Ha",
      "instance_mode": "enterprise"
    }
  ],
  "total_count": 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.10 Querying Information About the Original Instance Based on a Specific Point of Time or a Backup File

Function

This API is used to query the information of the original instance based on a specific point of time or a backup file. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The **restore_time** and **backup_id** parameters cannot be both left blank.

- If **backup_id** is not left blank, the query is performed based on **backup_id**.
- If **backup_id** is left blank, the query is performed based on **restore_time**.
- If **restore_time** and **backup_id** are both specified, the query is performed based on **backup_id**.

URI

GET /v3.1/{project_id}/instance-snapshot?
instance_id={instance_id}&restore_time={restore_time}&backup_id={backup_id}

Table 4-237 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	No	String	Definition Original instance ID. Constraints If restore_time is specified, instance_id is mandatory. Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
restore_time	No	String	Definition Restoration time point. This parameter is mandatory when you want to view DB instance backups based on a specified point in time. The value is a UNIX timestamp, in milliseconds. The time zone is UTC. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
backup_id	No	String	Definition Backup ID. Constraints This parameter is mandatory when a DB instance is restored using a backup ID. Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Table 4-238 Parameter description

Parameter	Type	Description
cluster_mode	String	Definition Instance deployment model. Range • Ha: centralized deployment • Independent: independent deployment • Combined: combined deployment
instance_model	String	Definition Instance model. Range • basic: basic edition • standard: standard edition • enterprise: enterprise edition
data_volume_size	String	Definition Storage space, in GB Range N/A

Parameter	Type	Description
solution	String	Definition Solution template type. Range • single: single node • double: 1 primary + 1 standby (2 nodes) • triset: 1 primary + 2 standby • logger: 1 primary + 1 standby + 1 log • loggerdorado: 1 primary + 1 standby + 1 log (shared storage) • quadruset: 1 primary + 3 standby • hws: distributed (independent deployment)
node_num	Integer	Definition Number of nodes. Range N/A
coordinator_num	Integer	Definition Number of CNs. Range N/A
sharding_num	Integer	Definition Number of shards. Range N/A
replica_num	Integer	Definition Number of replicas. Range N/A
engine_version	String	Definition Engine version. Range N/A

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/instance-snapshot
```

Example Response

```
{
  "cluster_mode" : "Ha",
  "instance_mode" : "enterprise",
  "data_volume_size" : "200",
  "solution" : "triset",
  "node_num" : 3,
  "coordinator_num" : 0,
  "sharding_num" : 3,
  "replica_num" : 3,
  "engine_version" : "V2.0-2.2.90"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.11 Restoring Data to the Original or Existing Instance

Function

This API is used to restore data to the original DB instance or an existing DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/recovery

Table 4-239 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-240 Parameter description

Parameter	Mandatory	Type	Description
source	Yes	Object	Definition Instance from which the backup was created. For details, see Table 4-241 . Constraints N/A
target	Yes	Object	Definition The instance to which the backup is restored. For details, see Table 4-242 . Constraints N/A

Table 4-241 source field data structure description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
type	Yes	String	Definition Restoration mode. Constraints N/A • backup: Data is restored using backups. In this case, backup_id is mandatory. • timestamp: Data is restored using point-in-time recovery. In this case, restore_time is mandatory. Default Value backup
backup_id	No	String	Definition Backup ID used for restoration. It indicates the ID of the full backup corresponding to schema_type . This parameter must be specified when backups are used for restoration. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
restore_time	No	String	Definition Timestamp to which data is restored to using point-in-time recovery. You can query the available time range by calling the Querying the Restoration Time Range API. Constraints N/A Range N/A Default Value N/A

Table 4-242 target field data structure description

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition ID of the DB instance which the backup will be restored to. • When restoring data to the original instance, enter the original instance ID. • When restoring data to an existing DB instance, enter the existing instance ID. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-243 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

Restoring data to the original or existing instance

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0483b6b16e954cb88930a360d2c4e663/instances/recovery
{
  "source" : {
    "instance_id" : "5362449138da4e408dbae5152ca26640in14",
    "type" : "backup",
    "backup_id" : "cc94568cb5a54e4a8ab5dff95e64a5e0br14"
  },
  "target" : {
    "instance_id" : "5362449138da4e408dbae5152ca26640in14"
  }
}
```

Example Response

Data restored to the original or existing instance.

```
{
  "job_id" : "a03b1b8a-b756-467c-8a49-38720c3d23ec"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.6.12 Confirming Data Integrity After a Backup Is Restored

Function

This API is used to confirm data integrity after a backup is restored. This API can be called only after data is restored to the original instance. Once data integrity

has been confirmed, any logs archived after the point in time data was restored from will be lost, but normal log archiving will be restored. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/confirm-restore-data

Table 4-244 Parameter description

Parameter	Type	Mandatory	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	String	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None.

Response Parameters

Table 4-245 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

Confirming data integrity after a backup is restored

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in14/confirm-restore-
data
```

Example Response

```
{
  "job_id": "a03b1b8a-b756-467c-8a49-38720c3d23ec"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.7 Log Management

4.7.1 Querying Whether Error Log Collection Is Enabled

Function

This API is used to query whether error log collection is enabled. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/error-log/switch/status

Table 4-246 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-247 Response Parameters

Parameter	Type	Description
status	String	Definition Collection status. Range • ON: enabled • OFF: disabled

Example Request

```
GET https://gaussdb-opengauss.cn-north-4.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/0317e6bbae534b8eb8f74f0eafcf1d3din01/error-log/switch/status
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/0317e6bbae534b8eb8f74f0eafcf1d3din01/error-log/switch/status
```

Example Response

```
{
  "status": "OFF"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.7.2 Querying the Link for Downloading Error Logs

Function

This API is used to query the link for downloading error logs. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/error-log

Table 4-248 Request path parameters

Parameter	Type	Mand atory	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	String	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Table 4-249 Request query parameters

Parameter	Type	Mandatory	Description
offset	Integer	No	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed. Constraints The value must be a non-negative integer. Range Non-negative number Default Value 0 : The query starts from the first data record.
limit	Integer	No	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints Non-negative number Range 1-100 Default Value 10
start_time	String	Yes	Definition Start time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Constraints N/A Range N/A Default Value N/A

Parameter	Type	Mand atory	Description
end_time	String	Yes	Definition End time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Constraints Only error logs generated in the past 30 days can be queried. Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Table 4-250 Response body parameters

Parameter	Type	Mand atory	Description
total	Integer	Yes	Definition Total number of records. Range N/A
log_files	Array of object	Yes	Definition Log files. For details, see Table 4-251 .

Table 4-251 log_files field data structure description

Parameter	Type	Mand atory	Description
file_name	String	Yes	Definition Log file name. Range N/A
file_link	String	Yes	Definition Link for downloading the log file. Range N/A
file_size	String	Yes	Definition Log file size in KB. Range N/A
start_time	String	Yes	Definition Log start time. Range N/A
end_time	String	Yes	Definition Log end time. Range N/A
status	String	Yes	Definition Log collection status. Range N/A

Example Request

```
GET https://gaussdb-opengauss.cn-north-4.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/0317e6bbae534b8eb8f74f0eafcf1d3din01/error-log?start_time=2022-03-15T10:41:14+0800&end_time=2022-03-16T10:41:14+0800
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/0317e6bbae534b8eb8f74f0eafcf1d3din01/error-log?start_time=2022-03-15T10:41:14+0800&end_time=2022-03-16T10:41:14+0800
```

Example Response

```
{
  "total": 1,
  "log_files": [{
```

```
{
  "status": "ENABLE",
  "file_name": "d289e7f024d741698fb94d73316874ffin14_collector_20220506_155941.tar.gz",
  "start_time": "1651820343244",
  "end_time": "1651823943244",
  "file_size": "62",
  "file_link": "****"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.7.3 Creating a Slow Query Log Download Task

Function

This API is used to create a slow query log download task. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/slow-log/download

Table 4-252 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-253 Response body parameters

Parameter	Type	Description
list	Array of SlowLogDown loadInfo objects	Definition Downloaded slow query log information. For details, see Table 4-254 .

Table 4-254 SlowLogDownloadInfo field data structure description

Parameter	Type	Description
id	String	Definition Slow query log ID. Range N/A
instance_id	String	Definition Instance ID. Range N/A

Parameter	Type	Description
node_id	String	Definition Node ID. Range N/A
workflow_id	String	Definition Workflow ID. Range N/A
file_name	String	Definition File name. Range N/A
file_size	String	Definition File size in bytes. Range N/A
file_link	String	Definition Link for downloading the file. Range N/A
bucket_name	String	Definition Bucket name Range N/A
created_at	Long	Definition Creation time. Range N/A
updated_at	Long	Definition Update time. Range N/A
version	String	Definition Version. Range N/A

Parameter	Type	Description
status	String	Definition Status. Range N/A
message	String	Definition Message. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/cc6fd964d93f4003851dfc29d57d30a5in14/slow-log/download
```

Example Response

NOTICE

When a request is delivered for the first time, the response is an empty list.

```
{
  "list" : []
}
```

```
{
  "list" : [ {
    "id" : "64d7bad3-6665-4590-baa2-eb5394e49625",
    "instance_id" : "9b2f4cc6cd584c67bc179a2bfbb37f90in14",
    "node_id" : "9d8c79cc41074452977a564b335220f5no14",
    "workflow_id" : "7d77153c12dde-4f3c-a333-7d30503267f2",
    "file_name" :
"c7025305deb34ae9af1be94f698e7949_slowlog_download__9d8c79cc41074452977a564b335220f5no1420230823024331782",
    "file_size" : "719.0",
    "file_link" : "****",
    "bucket_name" : null,
    "created_at" : 1692758611782,
    "updated_at" : 1692758611782,
    "version" : null,
    "status" : "EXPORTING",
    "message" : null
  }, {
    "id" : "4712c3b1-d26a-49d4-9652-211d6ac106c5",
    "instance_id" : "9b2f4cc6cd584c67bc179a2bfbb37f90in14",
    "node_id" : "9d03b0a73ebd415eb2f692862f326cb7no14",
    "workflow_id" : "7d77153c12dde-4805-bd0b-d70c803a873a",
    "file_name" :
"c7025305deb34ae9af1be94f698e7949_slowlog_download__9d03b0a73ebd415eb2f692862f326cb7no1420230823024331727",
    "file_size" : "719.0",
    "file_link" : "****",
    "bucket_name" : null,
    "created_at" : 1692758611727,
```

```
"updated_at" : 1692758611727,  
"version" : null,  
"status" : "EXPORTING",  
"message" : null  
} ]  
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.7.4 Querying Downloaded Slow Query Log Information

Function

This API is used to query downloaded slow query log information. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/slow-log/download

Table 4-255 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-256 Response body parameters

Parameter	Type	Description
list	Array of SlowLogDown loadInfo objects	Definition Downloaded slow query log information. For details, see Table 4-257 .

Table 4-257 SlowLogDownloadInfo field data structure description

Parameter	Type	Description
id	String	Definition Slow query log ID. Range N/A
instance_id	String	Definition Instance ID. Range N/A

Parameter	Type	Description
node_id	String	Definition Node ID. Range N/A
workflow_id	String	Definition Workflow ID. Range N/A
file_name	String	Definition File name. Range N/A
file_size	String	Definition File size in bytes. Range N/A
file_link	String	Definition Link for downloading the file. Range N/A
bucket_name	String	Definition Bucket name Range N/A
created_at	Long	Definition Creation time. Range N/A
updated_at	Long	Definition Update time. Range N/A
version	String	Definition Version. Range N/A

Parameter	Type	Description
status	String	Definition Status. Range N/A
message	String	Definition Message. Range N/A

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/cc6fd964d93f4003851dfc29d57d30a5in14/slow-log/download
```

Example Response

```
{
  "list": [ {
    "id": "64d7bad3-6665-4590-baa2-eb5394e49625",
    "instance_id": "9b2f4cc6cd584c67bc179a2bfb37f90in14",
    "node_id": "9d8c79cc41074452977a564b335220f5no14",
    "workflow_id": "7d77153c12dde-4f3c-a333-7d30503267f2",
    "file_name":
      "c7025305deb34ae9af1be94f698e7949_slowlog_download__9d8c79cc41074452977a564b335220f5no142023
      0823024331782",
    "file_size": "719.0",
    "file_link": "***",
    "bucket_name": null,
    "created_at": 1692758611782,
    "updated_at": 1692758611782,
    "version": null,
    "status": "success",
    "message": null
  }, {
    "id": "4712c3b1-d26a-49d4-9652-211d6ac106c5",
    "instance_id": "9b2f4cc6cd584c67bc179a2bfb37f90in14",
    "node_id": "9d03b0a73ebd415eb2f692862f326cb7no14",
    "workflow_id": "7d77153c12dde-4805-bd0b-d70c803a873a",
    "file_name":
      "c7025305deb34ae9af1be94f698e7949_slowlog_download__9d03b0a73ebd415eb2f692862f326cb7no142023
      0823024331727",
    "file_size": "719.0",
    "file_link": "***",
    "bucket_name": null,
    "created_at": 1692758611727,
    "updated_at": 1692758611727,
    "version": null,
    "status": "success",
    "message": null
  } ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.8 SQL Throttling

4.8.1 Creating a SQL Throttling Task

Function

This API is used to create a SQL throttling task based on the specific scope and type. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- SQL ID-based and auto throttling is unavailable for distributed instances.
- SQL throttling cannot be performed for system-level users (such as **root**).
- Each instance supports a maximum of 1,000 throttling tasks.
- For a keyword-based throttling task, keywords are separated by commas (,), and the sequence of keywords is not distinguished.
- SQL throttling is available only for DB instances of version 8.0 or later.

URI

POST /v3/{project_id}/instances/{instance_id}/limit-task

Table 4-258 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-259 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range - zh-cn - en-us Default Value en-us

Table 4-260 Request body parameters

Parameter	Mandatory	Type	Description
task_scope	Yes	String	Definition Throttling task scope. Constraints N/A Range Currently, SQL and SESSION are supported. Default Value N/A
start_time	No	String	Definition Task start time. Constraints This parameter is mandatory when task_scope is set to SQL . The format must be yyyy-mm-ddThh:mm:ss+0000. Range Any time greater than or equal to the current time (UTC) minus two minutes Default Value N/A
end_time	No	String	Definition Task end time. Constraints This parameter is mandatory when task_scope is set to SQL . The format must be yyyy-mm-ddThh:mm:ss+0000. Range The time must be later than the task start time. Default Value N/A

Parameter	Mandatory	Type	Description
limit_type	Yes	String	Definition Throttling type. Constraints N/A Range - If task_scope is set to SQL, this parameter value can be SQL_ID or SQL_TYPE. - If task_scope is set to SESSION, this parameter value can be SESSION_ACTIVE_MAX_COUNT. Default Value N/A
limit_type_value	Yes	String	Definition Throttling type value. Constraints N/A Range - When limit_type is set to SQL_ID, the value of this parameter is the SQL ID of the selected template. - When limit_type is set to SQL_TYPE, the value of this parameter can be select, update, insert, delete, or merge. - When limit_type is set to SESSION_ACTIVE_MAX_COUNT, the value of this parameter can only be CPU_OR_MEMORY. Default Value N/A

Parameter	Mandatory	Type	Description
key_words	No	String	Definition Keywords. Constraints This parameter is mandatory when limit_type is set to SQL_TYPE . Range You can enter 2 to 100 keywords and separate multiple keywords by commas (,). Each keyword can contain 2 to 64 characters and cannot start and end with a space. The specific characters ("{}") and null are not allowed. Default Value N/A
task_name	Yes	String	Definition Throttling task name. Constraints N/A Range The value can contain up to 100 characters. Only letters, underscores (_), digits, and dollar signs (\$) are allowed. Default Value N/A
sql_model	No	String	Definition SQL template. Constraints If limit_type is set to SQLID , this parameter is mandatory. Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
parallel_size	Yes	Integer	Definition Maximum concurrency. Constraints An integer greater than or equal to 0. Range [0, 2147483647] Default Value N/A
cpu_utilization	No	Integer	Definition CPU usage threshold. Constraints This parameter is mandatory when limit_type is set to SESSION_ACTIVE_MAX_COUNT . This parameter and memory_utilization cannot be both set to 0. If you only need one of them for throttling, set the other threshold to 0. Range The value is an integer in the range [0,100). Default Value N/A
memory_utilization	No	Integer	Definition Memory usage threshold. Constraints This parameter is mandatory when limit_type is set to SESSION_ACTIVE_MAX_COUNT . This parameter and cpu_utilization cannot be both set to 0. If you only need one of them for throttling, set the other threshold to 0. Range The value is an integer in the range [0,100). Default Value N/A

Parameter	Mandatory	Type	Description
databases	No	String	Definition Databases of the instance. Databases are separated by commas (.). Constraints This parameter is mandatory when limit_type is set to SQL_TYPE . Range N/A Default Value N/A
node_infos	No	Array of objects	Definition CN information. For details, see Table 4-261 . Constraints This parameter is mandatory when limit_type is set to SQL_ID .

Table 4-261 CreateLimitTaskNodeOption

Parameter	Mandatory	Type	Description
node_id	Yes	String	Definition Node ID. Constraints It must be a node ID of the current instance. Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
sql_id	Yes	String	Definition ID of the SQL statement executed on the node. Constraints If limit_type is set to SQL_ID , this parameter value must be the same as that of limit_type_value . Range N/A Default Value N/A

Response Parameters

Table 4-262 Response body parameters

Parameter	Type	Description
task_id	String	Definition Throttling task ID. Range N/A
task_scope	String	Definition Throttling task scope. Range Currently, SQL and SESSION are supported.
limit_type	String	Definition Throttling task type. Range - If task_scope is set to SQL, this parameter value can be SQL_ID or SQL_TYPE. - If task_scope is set to SESSION, this parameter value can be SESSION_ACTIVE_MAX_COUNT.

Parameter	Type	Description
limit_type_value	String	Definition Throttling task type value. Range - When limit_type is set to SQL_ID, the value of this parameter is the SQL ID of the selected template. - If limit_type is set to SQL_TYPE, this parameter value can be one of the following SQL operation types: SELECT, UPDATE, INSERT, DELETE, or MERGE. - If limit_type is set to SESSION_ACTIVE_MAX_COUNT type, this parameter value can be CPU_OR_MEMORY.
databases	String	Definition Databases of the instance. Databases are separated by commas (,). Range N/A
task_name	String	Definition Throttling task name. Range N/A
sql_model	String	Definition SQL template. This parameter is returned only when the task type is SQL_ID . Range N/A
key_words	String	Definition Keyword. This parameter is returned only when the task type is SQL_TYPE . Range N/A
status	String	Definition Throttling task status. Range The value can be CREATING , UPDATING , DELETING , WAIT_EXECUTE , EXECUTING , TIME_OVER , DELETED , CREATE_FAILED , UPDATE_FAILED , DELETE_FAILED , EXCEPTION , or NODE_SHUT_DOWN .

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A
rule_name	String	Definition Rule name. Range N/A
parallel_size	Integer	Definition Maximum concurrency. Range [0, 2147483647]
cpu_utilization	Integer	Definition CPU usage threshold. This parameter is returned with only its integer part retained when the task type is SESSION_ACTIVE_MAX_COUNT . Range [0,100)
memory_utilization	Integer	Definition Memory usage threshold. This parameter is returned with only its integer part retained when the task type is SESSION_ACTIVE_MAX_COUNT . Range [0,100)
start_time	String	Definition Start time of the throttling task. The format is yyyy-mm-ddThh:mm:ssZ. This parameter is returned when task_scope is set to SQL . Range N/A
end_time	String	Definition End time of the throttling task. The format is yyyy-mm-ddThh:mm:ssZ. This parameter is returned when task_scope is set to SQL . Range N/A

Parameter	Type	Description
created	String	Definition Creation time. The format is yyyy-mm-ddThh:mm:ss+0000. Range N/A
updated	String	Definition Update time. The format is yyyy-mm-ddThh:mm:ss+0000. Range N/A
creator	String	Definition Creator. Range N/A
modifier	String	Definition Modifier. Range N/A
node_infos	Array of Table 4-263 objects	Definition CN node information list. If the type is SQLID , this value is returned and is the same as the value of the request parameter node_infos .
job_id	String	Definition Job ID. Range N/A

Table 4-263 CreateLimitTaskNodeResult

Parameter	Type	Description
node_id	String	Definition Node ID. Range N/A

Parameter	Type	Description
sql_id	String	Definition ID of the SQL statement executed on the node. Range N/A

Example Request

- Creating a throttling task whose scope is SQL and type is SQL_ID

```
https://gaussdb-opengauss.ap-
southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/
3d39c18788b54a919bab633874c159dfin14/limit-task
{
  "task_scope": "SQL",
  "start_time": "2023-06-06T01:47:20+0800",
  "end_time": "2023-06-07T01:47:20+0800",
  "limit_type": "SQL_ID",
  "limit_type_value": "39b6a1a",
  "task_name": "test1",
  "sql_model": "select * from a where b = ?",
  "parallel_size": 100,
  "node_infos": [ {
    "node_id": "46d996fdda594f58b17fe509061e0893no14",
    "sql_id": "39b6a1a"
  } ]
}
```

- Creating a throttling task whose scope is SQL and type is SQL_TYPE

```
https://gaussdb-opengauss.ap-
southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/
3d39c18788b54a919bab633874c159dfin14/limit-task
{
  "task_scope": "SQL",
  "start_time": "2023-06-06T01:47:20+0800",
  "end_time": "2023-06-07T01:47:20+0800",
  "limit_type": "SQL_TYPE",
  "limit_type_value": "select",
  "task_name": "test1",
  "key_words": "table1,id",
  "parallel_size": 100,
  "databases": "test1"
}
```

- Creating a throttling task whose scope is SESSION and type is SESSION_ACTIVE_MAX_COUNT

```
https://gaussdb-opengauss.ap-
southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/
3d39c18788b54a919bab633874c159dfin14/limit-task
{
  "task_name": "test",
  "task_scope": "SESSION",
  "limit_type": "SESSION_ACTIVE_MAX_COUNT",
  "limit_type_value": "CPU_OR_MEMORY",
  "cpu_utilization": 80,
  "memory_utilization": 80,
  "parallel_size": 100
}
```

Example Response

```
{
  "task_id" : "59b6a1a278844ac48119d86512e0000",
  "task_scope" : "SQL",
  "task_name" : "test1",
  "limit_type" : "SQL_TYPE",
  "limit_type_value" : "select",
  "instance_id" : "cb651ac71c5a447685ef981e44a0422fin14",
  "key_words" : "test",
  "databases" : "test1",
  "status" : "creating",
  "parallel_size" : 100,
  "rule_name" : "dsa48119d86512e0000bin066a1a27",
  "start_time" : "2023-12-30T02:00:00Z",
  "end_time" : "2023-12-30T02:00:00Z",
  "created" : "2023-12-30T02:00:00Z",
  "updated" : "2023-12-30T02:00:00Z",
  "creator" : "dbs_rds_guangzhou_l00417929_01",
  "job_id" : "d8819ac11297598d06e591b5786aab86"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.8.2 Deleting a SQL Throttling Task

Function

This API is used to delete a SQL throttling task. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

SQL throttling tasks cannot be deleted in batches.

URI

DELETE /v3/{project_id}/instances/{instance_id}/limit-task/{task_id}

Table 4-264 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
task_id	Yes	Definition Throttling task ID. Constraints N/A Range N/A Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-265 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range - zh-cn - en-us Default Value en-us

Response Parameters

None

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/3d39c18788b54a919bab633874c159dfin14/limit-task/96854ba7-8d50-4a3c-8fd8-210a7390e9d1
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.8.3 Querying SQL Throttling Tasks

Function

This API is used to query SQL throttling tasks based on search criteria. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/limit-task-list

Table 4-266 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Table 4-267 Query parameters

Parameter	Mandatory	Type	Description
task_scope	No	String	Definition Throttling task scope. Constraints N/A Range Currently, SQL and SESSION are supported. Default Value N/A
limit_type	No	String	Definition Throttling type. Constraints N/A Range The value can be SQL_ID , SQL_TYPE , or SESSION_ACTIVE_MAX_COUNT . Default Value N/A

Parameter	Mandatory	Type	Description
limit_type_value	No	String	Definition Throttling type value. Fuzzy match is supported. Constraints N/A Range N/A Default Value N/A
task_name	No	String	Definition Throttling task name. Fuzzy match is supported. Constraints N/A Range N/A Default Value N/A
sql_model	No	String	Definition SQL template. Fuzzy match is supported. Constraints N/A Range N/A Default Value N/A
rule_name	No	String	Definition Rule name. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
start_time	No	String	Definition Throttling task start time. Constraints The time format must be yyyy-mm-ddThh:mm:ssZ. The current time is the UTC time. Range N/A Default Value N/A
end_time	No	String	Definition Throttling task end time. Constraints The time format must be yyyy-mm-ddThh:mm:ssZ. The current time is the UTC time. Range N/A Default Value N/A
offset	No	Integer	Index offset. The query starts from the next piece of data indexed by this parameter. Constraints The value must be a non-negative integer. Range 0~10000 Default Value 0: The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records returned by a query. Constraints The value cannot be a negative number. Range [1,100] Default Value 10

Request Parameters

Table 4-268 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-269 Response body parameters

Parameter	Type	Description
limit_task_list	Array of objects	Definition Throttling task information in the list. For details, see Table 4-270 .
limit	Integer	Definition Number of records returned by a query. Range 0~100
offset	Integer	Definition Index offset. Range 0~10000
total_count	Integer	Definition Total number of throttling tasks. Range 0~10000

Table 4-270 ListLimitTaskResponseResult

Parameter	Type	Description
task_id	String	Definition Throttling task ID. Range N/A
task_scope	String	Definition Throttling task scope. Range Currently, SQL and SESSION are supported.
limit_type	String	Definition Throttling task type. Range • If task_scope is set to SQL, this parameter value can be SQL_ID or SQL_TYPE. • If task_scope is set to SESSION, this parameter value can be SESSION_ACTIVE_MAX_COUNT.
limit_type_value	String	Definition Throttling task type value. Range • When limit_type is set to SQL_ID, the value of this parameter is the SQL ID of the selected template. • If limit_type is set to SQL_TYPE, this parameter value can be one of the following SQL operation types: SELECT, UPDATE, INSERT, DELETE, or MERGE. • If limit_type is set to SESSION_ACTIVE_MAX_COUNT type, this parameter value can be CPU_OR_MEMORY.
task_name	String	Definition Throttling task name. Range N/A
databases	String	Definition Databases of the instance. Databases are separated by commas (.). Range N/A

Parameter	Type	Description
sql_model	String	Definition SQL template. This parameter is returned only when the task type is SQL_ID . Range N/A
key_words	String	Definition Keyword. This parameter is returned only when the task type is SQL_TYPE . Range N/A
status	String	Definition Throttling task status. Range The value can be CREATING , UPDATING , DELETING , WAIT_EXECUTE , EXECUTING , TIME_OVER , DELETED , CREATE_FAILED , UPDATE_FAILED , DELETE_FAILED , EXCEPTION , or NODE_SHUT_DOWN .
instance_id	String	Definition Instance ID. Range N/A
rule_name	String	Definition Rule name. Range N/A
parallel_size	Integer	Definition Maximum concurrency. Range [0, 2147483647]
start_time	String	Definition Start time of the throttling task. The format is yyyy-mm-ddThh:mm:ssZ. This parameter is returned when task_scope is set to SQL . Range N/A

Parameter	Type	Description
end_time	String	Definition End time of the throttling task. The format is yyyy-mm-ddThh:mm:ssZ. This parameter is returned when task_scope is set to SQL . Range N/A
cpu_utilization	Integer	Definition CPU usage threshold. This parameter is returned with only its integer part retained when the task type is SESSION_ACTIVE_MAX_COUNT . Range [0,100)
memory_utilization	Integer	Definition Memory usage threshold. This parameter is returned with only its integer part retained when the task type is SESSION_ACTIVE_MAX_COUNT . Range [0,100)
created	String	Definition Creation time. The format is yyyy-mm-ddThh:mm:ss+0000. Range N/A
updated	String	Definition Update time. The format is yyyy-mm-ddThh:mm:ss+0000. Range N/A
creator	String	Definition Creator. Range N/A
modifier	String	Definition Modifier. Range N/A

Parameter	Type	Description
node_infos	Array of objects	Definition CN information. For details, see Table 4-271 .

Table 4-271 ShowLimitTaskNodeOption

Parameter	Type	Description
node_id	String	Definition Node ID. Range N/A
sql_id	String	Definition ID of the SQL statement executed on the node. Range N/A

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/3d39c18788b54a919bab633874c159dfin14/limit-task-list?offset=1&limit=10&limit_type=SQL_ID&task_name=test
```

Example Response

```
{
  "limit_task_list": [ {
    "task_id": "59b6a1a278844ac48119d86512e0000",
    "task_scope": "SQL",
    "limit_type": "SQL_ID",
    "limit_type_value": 2348983611,
    "sql_model": "select * from table where id = {id}",
    "status": "creating",
    "key_words": null,
    "instance_id": "39b6a1a278844ac48119d86512e0000bin06",
    "parallel_size": 100,
    "rule_name": "dsa48119d86512e0000bin066a1a27",
    "databases": "test1",
    "task_name": "test1",
    "start_time": "2023-12-30T02:00:00Z",
    "end_time": "2023-12-30T02:00:00Z",
    "created": "2023-12-28T01:55:08Z",
    "updated": "2023-12-28T01:55:08Z",
    "creator": "test",
    "modifier": "null",
    "cpu_utilization": null,
    "memory_utilization": null,
    "node_infos": [ {
      "node_id": "cf521ccca2d74c9e89569a9828b6adcbno14",
      "sql_id": 2348983611
    } ]
  } ],
  "total_count": 1,
```

```
"limit" : 10,  
"offset" : 1  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.8.4 Querying SQL Templates

Function

This API is used to query SQL templates of a specified node. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/list-node-limit-sql-model

Table 4-272 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Table 4-273 Query parameters

Parameter	Mandatory	Type	Description
node_id	Yes	String	Definition Node ID. Constraints N/A Range N/A Default Value N/A
sql_model	No	String	Definition SQL template. Constraints N/A Range The value can contain only uppercase letters, lowercase letters, underscores (_), digits, spaces, and the following special characters \$*?+=;()><.," Default Value N/A

Parameter	Mandatory	Type	Description
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints The value must be a non-negative integer. Range 0 ~10000 Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records returned by a query. Constraints N/A Range 1~100 Default Value 10

Request Parameters

Table 4-274 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-275 Response body parameters

Parameter	Type	Description
node_limit_sql_model_list	Array of objects	Definition Information about the SQL template for SQL throttling. For details, see Table 4-276 .

Parameter	Type	Description
limit	Integer	Definition Number of records returned by a query. Range 0~100
offset	Integer	Definition Index offset. Range 0~10000
total_count	Integer	Definition Total number of SQL templates. Range 0~10000

Table 4-276 ListNodeLimitSqlModelResponseResult

Parameter	Type	Description
sql_id	String	Definition SQL ID of the throttling task. Range N/A
sql_model	String	Definition SQL template of the throttling task. Range N/A

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/3d39c18788b54a919bab633874c159dfin14/list-node-limit-sql-model?node_id=46d996fdda594f58b17fe509061e0893no14&offset=0
```

Example Response

```
{
  "node_limit_sql_model_list" : [ {
    "sql_id" : "3519660378",
    "sql_model" : "select * from table where id= ?",
  } ],
  "total_count" : 1,
  "limit" : 10,
  "offset" : 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.8.5 Modifying a SQL Throttling Task

Function

This API is used to modify a SQL throttling task based on the specific scope and type. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{project_id}/instances/{instance_id}/limit-task/{task_id}

Table 4-277 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Name	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
task_id	Yes	Definition Throttling task ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

Table 4-278 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Table 4-279 Request body parameters

Parameter	Mandatory	Type	Description
start_time	No	String	Definition Task start time. Constraints This parameter is mandatory when task_scope is set to SQL . The format must be yyyy-mm-ddThh:mm:ss+0000. Range Any time greater than or equal to the current time (UTC) minus two minutes Default Value N/A
end_time	No	String	Definition Task end time. Constraints This parameter is mandatory when task_scope is set to SQL . The format must be yyyy-mm-ddThh:mm:ss+0000. Range The time must be later than the task start time. Default Value N/A

Parameter	Mandatory	Type	Description
key_words	No	String	Definition Keywords. Constraints This parameter is mandatory when limit_type is set to SQL_TYPE . Range You can enter 2 to 100 keywords and separate multiple keywords by commas (,). Each keyword can contain 2 to 64 characters and cannot start and end with a space. The specific characters ("\\{}") and null are not allowed. Default Value N/A
task_name	No	String	Definition Throttling task name. Constraints N/A Range The value can contain up to 100 characters. Only letters, underscores (_), digits, and dollar signs (\$) are allowed. Default Value N/A
parallel_size	No	Integer	Definition Maximum concurrency. Constraints An integer greater than or equal to 0. Range [0, 2147483647] Default Value N/A

Parameter	Mandatory	Type	Description
cpu_utilization	No	Integer	Definition CPU usage threshold. Constraints This parameter is mandatory when limit_type is set to SESSION_ACTIVE_MAX_COUNT . This parameter and memory_utilization cannot be both set to 0 . If you only need one of them for throttling, set the other threshold to 0 . Range The value is an integer in the range [0,100). Default Value N/A
memory_utilization	No	Integer	Definition Memory usage threshold. Constraints This parameter is mandatory when limit_type is set to SESSION_ACTIVE_MAX_COUNT . This parameter and cpu_utilization cannot be both set to 0 . If you only need one of them for throttling, set the other threshold to 0 . Range The value is an integer in the range [0,100). Default Value N/A
databases	No	String	Definition Databases of the instance. Databases are separated by commas (.). Constraints This parameter is mandatory when limit_type is set to SQL_TYPE . Range N/A Default Value N/A

Response Parameters

Table 4-280 Response body parameters

Parameter	Type	Description
task_id	String	Definition Throttling task ID. Range N/A
databases	String	Definition Databases of the instance. Databases are separated by commas (.). Range N/A
task_name	String	Definition Throttling task name. Range N/A
key_words	String	Definition Keyword. This parameter is returned only when the task type is SQL_TYPE . Range N/A
parallel_size	Integer	Definition Maximum concurrency. Range [0,2147483647]
cpu_utilization	Integer	Definition CPU usage threshold. This parameter is returned with only its integer part retained when the task type is SESSION_ACTIVE_MAX_COUNT . Range [0,100)
memory_utilization	Integer	Definition Memory usage threshold. This parameter is returned with only its integer part retained when the task type is SESSION_ACTIVE_MAX_COUNT . Range [0,100)

Parameter	Type	Description
start_time	String	Definition Start time of the throttling task. The format is yyyy-mm-ddThh:mm:ssZ. This parameter is returned when task_scope is set to SQL . Range N/A
end_time	String	Definition End time of the throttling task. The format is yyyy-mm-ddThh:mm:ssZ. This parameter is returned when task_scope is set to SQL . Range N/A
rule_name	String	Definition Rule name. Range N/A
job_id	String	Definition Job ID. Range N/A

Example Request

- Modifying a throttling task whose type is SQL_ID

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/3d39c18788b54a919bab633874c159dfin14/limit-task/96854ba7-8d50-4a3c-8fd8-210a7390e9d1
{
  "start_time": "2024-08-20T06:54:42+0800",
  "end_time": "2024-08-20T07:54:42+0800",
  "task_name": "SQLIdLimit",
  "parallel_size": 10
}
```

- Modifying a throttling task whose type is SQL_TYPE

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/3d39c18788b54a919bab633874c159dfin14/limit-task/96854ba7-8d50-4a3c-8fd8-210a7390e9d1
{
  "start_time": "2024-08-20T06:54:42+0800",
  "end_time": "2024-08-20T07:54:42+0800",
  "key_words": "version,type",
  "task_name": "KeywordLimit",
  "parallel_size": 10,
  "databases": "gaussdb_test3"
}
```

- Modifying a throttling task whose type is SESSION_ACTIVE_MAX_COUNT


```
https://gaussdb-opengauss.ap-
southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/
3d39c18788b54a919bab633874c159dfin14/limit-task/96854ba7-8d50-4a3c-8fd8-210a7390e9d1
{
  "task_name": "ThresholdLimit",
  "parallel_size": 10,
  "cpu_utilization": 20,
  "memory_utilization": 20
}
```

Example Response

- Throttling task whose type is SQL_ID modified.

```
{
  "task_id": "bca08a79-8557-42c2-ab73-09a14d178c57",
  "task_name": "SQLIdLimit",
  "parallel_size": 10,
  "start_time": "2024-08-19T22:54:42Z",
  "end_time": "2024-08-19T23:54:42Z",
  "job_id": "d44bbbc3-4465-4079-ac71-d8e7ab0643a4"
}
```

- Throttling task whose type is SQL_TYPE modified.

```
{
  "task_id": "ef8575c7-0133-43b4-8ab2-b950b9a6daaf",
  "databases": "gaussdb_test3",
  "task_name": "KeywordLimit",
  "key_words": "type,version",
  "parallel_size": 10,
  "start_time": "2024-08-19T22:54:42Z",
  "end_time": "2024-08-19T23:54:42Z",
  "job_id": "40e2e10f-6f4c-4883-9db7-5422f42187cc"
}
```

- Throttling task whose type is SESSION_ACTIVE_MAX_COUNT modified.

```
{
  "task_id": "37b6232c-58ea-4d62-a5b5-54fc215c2115",
  "task_name": "ThresholdLimit",
  "parallel_size": 10,
  "cpu_utilization": 20,
  "memory_utilization": 20,
  "job_id": "0ec7109d-bc8f-41f6-9a78-a70f966739fc"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.8.6 Querying SQL Throttling Task Details

Function

This API is used to query SQL throttling task details based on search criteria.
Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/limit-task/{task_id}

Table 4-281 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
task_id	Yes	Definition Throttling task ID. Constraints N/A Range N/A Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-282 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-283 Response body parameters

Parameter	Type	Description
task_name	String	Definition Throttling task name. Range N/A

Parameter	Type	Description
limit_type	String	Definition Throttling task type. Range - If task_scope is set to SQL, this parameter value can be SQL_ID or SQL_TYPE. - If task_scope is set to SESSION, this parameter value can be SESSION_ACTIVE_MAX_COUNT.
parallel_size	Integer	Definition Maximum concurrency. Range [0, 2147483647]
start_time	String	Definition Start time of the throttling task in the format of yyyy-mm-ddThh:mm:ss+0000 (UTC time). Range N/A
end_time	String	Definition End time of the throttling task in the format of yyyy-mm-ddThh:mm:ss+0000 (UTC time). Range N/A
limit_count	Integer	Definition Throttling times. Range N/A
task_running_time	Integer	Definition Running duration of a throttling task. Range N/A
memory_utilization	Integer	Definition Memory usage. This parameter is returned only when the task type is SESSION_ACTIVE_MAX_COUNT . Range [0,100)

Parameter	Type	Description
cpu_utilization	Integer	Definition CPU usage. This parameter is returned only when the task type is SESSION_ACTIVE_MAX_COUNT . Range [0,100)
rule_name	String	Definition Rule name. Range N/A
limit_task_rule_info_list	Array of objects	Definition Nodes of throttling tasks. For details, see Table 4-284 .

Table 4-284 LimitTaskRuleInfoList

Parameter	Type	Description
node_id	String	Definition Node ID. Range N/A
rule_id	String	Definition Throttling task ID. Range N/A
status	String	Definition Throttling task status. Range The value can be CREATING , UPDATING , DELETING , WAIT_EXECUTE , EXECUTING , TIME_OVER , DELETED , CREATE_FAILED , UPDATE_FAILED , DELETE_FAILED , EXCEPTION , or NODE_SHUT_DOWN .

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/3d39c18788b54a919bab633874c159df14/limit-task/96854ba7-8d50-4a3c-8fd8-210a7390e9d1
```

Example Response

- Throttling tasks whose type is SQL_ID queried.

```
{
  "task_name": "123",
  "limit_type": "SQL_ID",
  "parallel_size": 0,
  "start_time": "2024-08-19T07:12:31Z",
  "end_time": "2024-09-30T07:10:59Z",
  "limit_count": 1,
  "task_running_time": 16258,
  "rule_name": "bca08a79-8557-42c2-ab73-09a14d178c57",
  "limit_task_rule_info_list": [
    {
      "node_id": "e37a7df4ec694a3cbfeae1aee583d70fno14",
      "rule_id": "2",
      "status": "EXCUTING"
    }
  ]
}
```

- Throttling tasks whose type is SQL_TYPE queried.

```
{
  "task_name": "123",
  "limit_type": "SQL_TYPE",
  "parallel_size": 0,
  "start_time": "2024-08-20T06:54:42Z",
  "end_time": "2024-09-09T06:53:43Z",
  "limit_count": 0,
  "task_running_time": 0,
  "rule_name": "476faedc-0583-4327-9f48-91fa1703e910",
  "limit_task_rule_info_list": [
    {
      "node_id": "e37a7df4ec694a3cbfeae1aee583d70fno14",
      "rule_id": "1",
      "status": "WAIT_EXCUTE"
    }
  ]
}
```

- Throttling tasks whose type is SESSION_ACTIVE_MAX_COUNT queried.

```
{
  "task_name": "89",
  "limit_type": "SESSION_ACTIVE_MAX_COUNT",
  "parallel_size": 0,
  "limit_count": 0,
  "task_running_time": 16283,
  "memory_utilization": 1,
  "cpu_utilization": 0,
  "rule_name": "37b6232c-58ea-4d62-a5b5-54fc215c2115",
  "limit_task_rule_info_list": [
    {
      "node_id": "e37a7df4ec694a3cbfeae1aee583d70fno14",
      "rule_id": "3",
      "status": "EXCUTING"
    }
  ]
}
```

Status Codes

- Normal

200

- Abnormal

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

Error Codes

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

4.8.7 Synchronizing SQL Throttling Tasks

Function

This API is used to synchronize SQL throttling tasks of an instance from the kernel plane to the management plane. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/sync-limit-task

Table 4-285 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-286 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-287 Response body parameters

Parameter	Type	Description
result	String	Definition Synchronization result. Range success or fail

Parameter	Type	Description
instance_id	String	Definition ID of the instance whose data is to be synchronized. Range N/A
node_id	String	Definition ID of the node whose data is to be synchronized. For a centralized instance, it indicates the ID of the primary node. For a distributed instance, it indicates the ID of the CN node. Range N/A
total_count	Integer	Definition Total number of synchronized data records. Range N/A

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/3d39c18788b54a919bab633874c159dfin14/sync-limit-task
{
}
```

Example Response

```
{
  "result": "success",
  "instance_id": "ee95e4fd433d44a9b6dfa788149c8dd7in14",
  "node_id": "e37a7df4ec694a3cbfeae1aee583d70fno14",
  "total_count": 3
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9 Database and Account Management

4.9.1 Creating a Database

Function

This API is used to create a database in a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This API can only be used to create a single database. This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.

URI

POST /v3/{project_id}/instances/{instance_id}/database

Table 4-288 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-289 Parameter description

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Database name. Constraints N/A Range The value can contain 1 to 63 characters, including letters, digits, and underscores (_). It cannot start with pg or a digit, and must be different from template database names. Template databases include postgres , template0 , template1 , and templatem . Default Value N/A

Parameter	Mandatory	Type	Description
character_set	No	String	Definition Database character set. Constraints N/A Range For details, see "Developer Guide" > "SQL Reference" > "Character Sets and Collations." Default Value If this parameter is not specified, the UTF-8 encoding format is used for the M-compatible database by default, and the encoding format of the template database is used for other databases by default.
owner	No	String	Definition Database owner. Constraints It must be an existing user not named after any system user. System users: rdsAdmin, rdsMetric, rdsBackup, and rdsRepl. Range N/A Default Value root

Parameter	Mandatory	Type	Description
template	No	String	Definition Database template name. Constraints Only centralized instances of version 2.0-8.100 or later as well as distributed instance of version V2.0-8.200 or later support creation of M-compatible databases using the templatem template. Range template0 , templatea , or templatem Default Value N/A
lc_collate	No	String	Definition Database collation. Comparison of the same string in different collations may have different results. For example, the execution result of select 'a'>'A' ; is false when this parameter is set to en_US.utf8 and is true when this parameter is set to 'C' . If a database is migrated from Oracle Database to GaussDB, this parameter needs to be set to 'C' to meet your expectations. You can query the supported collations from the pg_collation table. Constraints N/A Range N/A Default Value C

Parameter	Mandatory	Type	Description
lc_ctype	No	String	Definition Character classification. Constraints N/A Range N/A Default Value C

Response Parameters

None

Example Request

Creating a database named **gaussdb_test**

```
POST https://gaussdb-opengauss.ap-
southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/
database
{
  "name": "gaussdb_test",
  "owner": "test",
  "template": "template0",
  "character_set": "UTF8",
  "lc_collate": "en_US.UTF-8",
  "lc_ctype": "en_US.UTF-8"
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.2 Creating a Database Account

Function

This API is used to create a database account for a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.
- This API can only be used to create an account at a time.

URI

POST /v3/{project_id}/instances/{instance_id}/db-user

Table 4-290 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-291 Parameter description

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Database username. Constraints The name must be unique. The name cannot contain other special characters, cannot start with pg or a digit, and cannot be the same as that of the system users. System users: rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and root . Range The database username can contain 1 to 63 characters, including letters, digits, and underscores (_). Default Value N/A
password	Yes	String	Definition Password of the database user. A strong password helps improve security and mitigate potential threats like brute force attacks. Constraints It cannot be the same as the name value or the name value spelled backwards. Range It must consist of 8 to 32 characters, including at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters ~!@#%^*_-=+?, Default Value N/A

Parameter	Mandatory	Type	Description
is_login_only	No	boolean	Definition Whether the database account can only be used for login. Constraints N/A Range • false or left blank: The database account can only be used for login, database creation, and database account creation. • true: The database account can only be used for login. Default Value N/A

Response Parameters

None

Example Request

Creating a database account named **db**s

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-user
{
  "name" : "dbs",
  "password" : "*****"
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.3 Creating a Database Schema

Function

This API is used to create a database schema in a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.

URI

POST /v3/{project_id}/instances/{instance_id}/schema

Table 4-292 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-293 Parameter description

Parameter	Mandatory	Type	Description
db_name	Yes	String	Definition Database name. Constraints The name cannot be a template database and must be an existing database name. Template databases include postgres , template0 , template1 . Range N/A Default Value N/A
schemas	Yes	Array of objects	Definition Schemas. Each element is the schema information associated with the database. A single request supports a maximum of 20 elements. For details, see Table 4-294 . Constraints A single request supports a maximum of 20 elements.

Table 4-294 schemas field data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Schema name. Constraints The name cannot contain other special characters, cannot start with pg or a digit, and cannot be the same as the name of a template database or an existing schema. Template databases include postgres , template0 , template1 . Existing schemas include public and information_schema . Range A schema name can contain 1 to 63 characters, including letters, digits, and underscores (_). Default Value N/A
owner	Yes	String	Definition Database owner. Constraints The value cannot be a system user. It must be an existing database username. System users: rdsAdmin , rdsMetric , rdsBackup , and rdsRepl . Range N/A Default Value N/A

Response Parameters

None

Example Request

Creating multiple schemas in the **gaussdb_test** database

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/schema
{
  "db_name": "gaussdb_test",
  "schemas": [ {
    "name": "rds",
    "owner": "teste123"
  }, {
    "name": "rds001",
    "owner": "teste123"
  } ]
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.4 Configuring Permissions of Database Accounts

Function

This API is used to configure permissions of database accounts for a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.
- By default, read-only users have the **create** and **usage** permissions on the public schemas.
- You can only authorize one schema to one user at a time.

URI

POST /v3/{project_id}/instances/{instance_id}/db-privilege

Table 4-295 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-296 Parameter description

Parameter	Mandatory	Type	Description
db_name	Yes	String	Definition Database name. Constraints The name cannot be a template database and must be an existing database name. Template databases include postgres , template0 , template1 . Range N/A Default Value N/A
users	Yes	Array of objects	Definition Database accounts. Each element is a database account. For details, see Table 4-297 . Constraints A single request supports a maximum of 50 elements.

Table 4-297 users field data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Database account. Constraints The value cannot be a system user and must be an existing account. System users: rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and root . Range N/A Default Value N/A
readonly	Yes	Boolean	Definition Permission of the database account. Constraints N/A Range • true: read only • false: read and write Default Value N/A
schema_name	Yes	String	Definition Schema name. Constraints The name cannot be public or information_schema , and must be an existing schema name. Range N/A Default Value N/A

Example Request

Configuring permissions for multiple accounts of the **gaussdb_test** database

POST <https://gaussdb-opengauss.ap->


```
southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-privilege
{
  "db_name": "gaussdb_test",
  "users": [ {
    "name": "rds",
    "readonly": false,
    "schema_name": "teste123"
  }, {
    "name": "rds001",
    "readonly": true,
    "schema_name": "teste134"
  }, {
    "name": "rds002",
    "readonly": false,
    "schema_name": "teste135"
  } ]
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.5 Resetting a Password for a Database Account

Function

This API is used to reset a password for a database account. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.
- This API can be used to reset the password of only one database account at a time.

URI

PUT /v3/{project_id}/instances/{instance_id}/db-user/password

Table 4-298 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-299 Parameter description

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Database username. Constraints It cannot be system usernames. System users: rdsAdmin , rdsMetric , rdsBackup , and rdsRepl . Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
password	Yes	String	Definition Password of the database account. A strong password helps improve security and mitigate potential threats like brute force attacks. Constraints The password cannot be the same as the database username or the database username spelled backwards, and cannot be the same as the original database password. Range The value cannot be empty. It must contain 8 to 32 characters, including at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (~!@#%^*-_ = +?,). Default Value N/A

Response Parameters

None

Example Request

Resetting the password for database account **root**

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-user/password
{
  "name" : "root",
  "password" : "*****"
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.6 Querying Databases

Function

This API is used to query databases of a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/databases

Table 4-300 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition DB instance ID. Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
offset	No	Integer	Definition Offset for pagination. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 1 and limit is set to 10 , only the 11th to 20th records on the 2nd page are displayed. Constraints The value must be a non-negative integer. Range [0,2^31-1] Default Value 0 (indicating that the query starts from the first data record.)
limit	No	Integer	Definition Number of records displayed per page. Constraints N/A Range [1, 100] Default Value 10

Request Parameters

None

Response Parameters

Table 4-301 Parameter description

Parameter	Type	Description
databases	Array of objects	Definition Each element in the list indicates a database. For details, see Table 4-302 .
total_count	Integer	Definition Total number of records. Range [0, 2 ³¹ - 1]. The actual value depends on the number of instances.

Table 4-302 databases field data structure description

Parameter	Type	Description
name	String	Definition Database name. Range N/A
owner	String	Definition Database owner. Range N/A
character_set	String	Definition Character set used by the database, such as UTF8 . Range N/A
collate_set	String	Definition Database collation, such as en_US.UTF-8 . Range N/A
size	String	Definition Database size, in MB. Range N/A

Parameter	Type	Description
datatype	String	Definition Character set used by the database, for example, en_US.UTF-8 . Range N/A
compatibility_type	String	Definition Database compatibility type, for example, GaussDB and M . Range N/A

Example Request

Querying databases

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/databases
```

Example Response

Databases queried.

```
{
  "databases": [
    {
      "name": "gaussdb_test",
      "owner": "root",
      "size": "25 MB",
      "datatype": "en_US.UTF-8",
      "character_set": "UTF8",
      "collate_set": "en_US.UTF-8",
      "compatibility_type": "GaussDB"
    },
    {
      "name": "gaussdb_test1",
      "owner": "root",
      "size": "25 MB",
      "datatype": "en_US.UTF-8",
      "character_set": "UTF8",
      "collate_set": "en_US.UTF-8",
      "compatibility_type": "GaussDB"
    },
    {
      "name": "gaussdb_test2",
      "owner": "root",
      "size": "25 MB",
      "datatype": "en_US.UTF-8",
      "character_set": "UTF8",
      "collate_set": "en_US.UTF-8",
      "compatibility_type": "GaussDB"
    }
  ],
  "total_count": 3
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.7 Querying Database Users

Function

This API is used to query database users for a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/db-users

Table 4-303 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
offset	No	Integer	Definition Offset for pagination. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 1 and limit is set to 10 , only the 11th to 20th data records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records displayed per page. Constraints N/A Range [1, 100] Default Value 10

Request Parameters

None

Response Parameters

Table 4-304 Parameter description

Parameter	Type	Description
users	Array of objects	Definition Each element in the list indicates a database user. For details, see Table 4-305 .
total_count	Integer	Definition Total number of records. Range [0, 2 ³¹ - 1]

Table 4-305 users field data structure description

Parameter	Type	Description
name	String	Definition Username. Range N/A
attribute	Object	Definition Permission attributes of a user. For details, see Table 4-306 .
memberof	String	Definition Default permissions of a user. Range N/A
lock_status	Boolean	Definition Whether the user is locked. Range true or false

Table 4-306 attribute field data structure description

Parameter	Type	Description
rolsuper	Boolean	Definition Check whether the user has the administrator permissions. Range true or false
rolinherit	Boolean	Definition Whether the user automatically inherits permissions of roles to which the user belongs. Range true or false
rolcreaterole	Boolean	Definition Whether the user can create other sub-users. Range true or false
rolcreatedb	Boolean	Definition Whether the user has the permissions to create databases. Range true or false
rolcanlogin	Boolean	Definition Whether the user has the permissions to log in to a database. Range true or false
rolconndef	Integer	Definition Maximum number of concurrent connections to an instance. The value -1 indicates that there are no limitations on the number of concurrent connections. Range N/A
rolreplication	Boolean	Definition Whether the user is a replication role. Range true or false

Parameter	Type	Description
rolbypassrls	Boolean	Definition Whether the user bypasses each row-level security policy. Range true or false
rolpassworddd eadline	String	Definition Password expiration time. Range N/A

Example Request

Querying database users

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-users
```

Example Response

Database users queried.

```
{
  "users": [
    {
      "name": "root",
      "attribute": {
        "rolsuper": false,
        "rolinherit": true,
        "rolcreatorole": true,
        "rolcreatedb": true,
        "rolcanlogin": true,
        "rolconndefault": -1,
        "rolreplication": false,
        "rolbypassrls": false,
        "rolpassworddd": ""
      },
      "memberof":
        "{gs_role_copy_files,gs_role_signal_backend,gs_role_tablespace,gs_role_replication,gs_role_account_lock}",
      "lock_status": false
    }
  ],
  "total_count": 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.8 Querying Database Schemas

Function

This API is used to query database schemas of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

Databases cannot be queried when the DB instance is in the abnormal or frozen state.

URI

GET /v3/{project_id}/instances/{instance_id}/schemas?db_name={db_name}

Table 4-307 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
db_name	Yes	String	Definition Database name. Constraints It must be different from template databases. Template databases include postgres , template0 , template1 . Range N/A Default Value N/A
offset	No	Integer	Definition Offset for pagination. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 1 and limit is set to 10 , only the 11th to 20th records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records displayed per page. Constraints N/A Range [1, 100] Default Value 10

Request Parameters

None

Response Parameters

Table 4-308 Parameter description

Parameter	Type	Description
database_schemas	Array of objects	Definition Database schema information. Each element in the list indicates a database schema. For details, see Table 4-309 .
total_count	Integer	Definition Total number of database schemas. Range [1, 2 ³¹ - 1]

Table 4-309 database_schemas field data structure description

Parameter	Type	Description
schema_name	String	Definition Schema name. Range N/A

Parameter	Type	Description
owner	String	Definition Schema owner. Range N/A

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/schemas?db_name=dbname
```

Example Response

```
{
  "database_schemas" : [ {
    "owner" : "root",
    "schema_name" : "rds-test"
  }, {
    "owner" : "root",
    "schema_name" : "testdb1"
  } ],
  "total_count" : 2
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.9 Deleting a Database

Function

This API is used to delete a database from a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This API can only be used to delete a single database. This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.

URI

DELETE /v3/{project_id}/instances/{instance_id}/database?
database_name={database_name}

Table 4-310 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
database_name	Yes	Definition Database name. Constraints The name cannot be a template database and must be an existing database name. Template databases include postgres , template0 , template1 , and templatem . Range N/A Default Value N/A

Request Parameters

None

Response Parameters

None

Example Request

Deleting the GaussDB database **gaussdb_test**

```
DELETE https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/database?database_name=gaussdb_test
```

Example Response

```
{}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.10 Deleting a Schema

Function

This API is used to delete a schema of a database in a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.
- This API can only be used to delete a schema at a time.

URI

```
DELETE /v3/{project_id}/instances/{instance_id}/schema
```

Table 4-311 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-312 Parameter description

Parameter	Mandatory	Type	Description
db_name	Yes	String	Definition Database name. Constraints The name cannot be a template database and must be an existing database name. Template databases include postgres , template0 , template1 . Range N/A Default Value N/A
schema	Yes	String	Definition Schema name. Constraints The name can contain 1 to 63 characters. Only letters, digits, and underscores (_) are allowed. It cannot start with pg or a digit, and must be different from template database names and existing schema names. Template databases include postgres , template0 , template1 . Existing schemas include public and information_schema . Range N/A Default Value N/A

Response Parameters

None

Example Request

Deleting a schema from the **gaussdb_test** database

```
DELETE https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/schema
{
  "db_name": "gaussdb_test",
  "schema": "rds001"
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.11 Creating a Database Role

Function

This API is used to create a database role for a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.
- This API can only be used to create a database role at a time.

URI

POST /v3.1/{project_id}/instances/{instance_id}/db-role

Table 4-313 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-314 Parameter description

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Database role name. Constraints The name cannot be the same as an existing role name, contain special characters, start with pg or a digit, or be the same as a system user or role name. System users or roles include rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and root . Range A database role name can contain 1 to 63 characters, including letters, digits, and underscores (_). Default Value N/A
password	Yes	String	Definition Database role password. A strong password helps improve security and mitigate potential threats like brute force attacks. Constraints It cannot be the same as the name value or the name value spelled backwards. Range It must consist of 8 to 32 characters, including at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters ~!@#%^*_-=+?, Default Value N/A

Response Parameters

None

Example Request

Creating a database role named **db**s

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-role
{
  "name" : "dbs",
  "password" : "*****"
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.12 Querying Database Roles

Function

This API is used to query database roles for a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.1/{project_id}/instances/{instance_id}/db-role

Table 4-315 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
offset	No	Integer	Definition Offset for pagination. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 1 and limit is set to 10 , only the 11th to 20th data records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records displayed per page. Constraints N/A Range [1, 100] Default Value 10

Request Parameters

None

Response Parameters

Table 4-316 Parameter description

Parameter	Type	Description
roles	Array of objects	Definition Each element in the list indicates a database user or role. For details, see Table 4-317 .
total_count	Integer	Definition Total number of records. Range [0, 2 ³¹ - 1]

Table 4-317 roles field data structure description

Parameter	Type	Description
name	String	Definition User or role name. Range N/A
attribute	Object	Definition Permission attribute of the user or role. For details, see Table 4-318 .

Parameter	Type	Description
memberof	String	Definition Default permission of the user or role. Range N/A
lock_status	Boolean	Definition Whether the user or role is locked. Range true or false

Table 4-318 attribute field data structure description

Parameter	Type	Description
rolsuper	Boolean	Definition Whether the user or role has the administrator permissions. Range true or false
rolinherit	Boolean	Definition Whether the user or role automatically inherits permissions of roles to which the user belongs. Range true or false
rolcreatorole	Boolean	Definition Whether the user or role can create other sub-users. Range true or false
rolcreatedb	Boolean	Definition Whether the user or role has the permissions to create databases. Range true or false
rolcanlogin	Boolean	Definition Whether the user or role has the permissions to log in to a database. Range true or false

Parameter	Type	Description
rolconlimit	Integer	Definition Maximum number of concurrent connections for a user or role to an instance. The value -1 indicates that there are no limitations on the number of concurrent connections. Range N/A
rolreplication	Boolean	Definition Whether the user or role is a replication role. Range true or false
rolbypassrls	Boolean	Definition Whether the user or role bypasses each row-level security policy. Range true or false
rolpassworddeadline	String	Definition Password expiration time of the user or role. Range N/A

Example Request

Querying database roles

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-role
```

Example Response

Database roles queried.

```
{
  "roles": [
    {
      "name": "root",
      "attribute": {
        "rolsuper": false,
        "rolinherit": true,
        "rolcreatorole": true,
        "rolcreatedb": true,
        "rolcanlogin": true,
        "rolconlimit": -1,
        "rolreplication": false,
        "rolbypassrls": false,
        "rolpassworddeadline": ""
      },
      "memberof":
```

```
"{gs_role_copy_files,gs_role_signal_backend,gs_role_tablespace,gs_role_replication,gs_role_account_lock}",
  "lock_status": false
},
"total_count": 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.9.13 Configuring Permissions of a Database Role

Function

This API is used to configure permissions of a database role for a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- This operation cannot be performed when the instance is in any of the following statuses: creating, changing instance specifications, frozen, or abnormal.
- By default, read-only users have the **create** and **usage** permissions on the public schemas.
- This API can only be used to configure permissions for a role at a time.
- This API is unavailable for GaussDB instances in the M-compatible mode.

URI

POST /v3.1/{project_id}/instances/{instance_id}/db-privilege

Table 4-319 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-320 Parameter description

Parameter	Mandatory	Type	Description
db_name	Yes	String	Definition Database name. Constraints The name cannot be a template database and must be an existing database name. Template databases include postgres , template0 , template1 . Range N/A Default Value N/A
user	Yes	Object	Definition Roles and permissions. For details, see Table 4-321 . Constraints N/A

Table 4-321 user field data structure description

Parameter	Mandatory	Type	Description
name	Yes	String	Definition Database role name. Constraints The name cannot be a system user or system role and must be an existing user or role. System users or roles include rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and root . Range N/A Default Value N/A
readonly	Yes	Boolean	Definition Database permissions. Constraints N/A Range • true: read only • false: read and write Default Value N/A
schema	Yes	String	Definition Schema name. Constraints The name cannot be a template database or system schema and must be an existing schema. Template databases include postgres , template0 , and template1 . System schemas include public and information_schema . Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
default_privilege_grantee	No	String	Definition Database user or role name. The permissions of the user or role are granted to the role specified by the name field. The readonly field determines whether to grant the read-only permissions. Constraints The name cannot be a system user or system role and must be an existing user or role. System users or roles include rdsAdmin , rdsMetric , rdsBackup , rdsRepl , and root . Range N/A Default Value N/A

Example Request

Configuring permissions of a database role

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/{instance_id}/db-privilege
{
  "db_name": "gaussdb_test",
  "user": {
    "name": "rds",
    "schema": "rds001",
    "readonly": false,
    "default_privilege_grantee": ""
  }
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal

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

Error Codes

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

4.10 DR Management

4.10.1 Querying Instance DR Status

Function

This API is used to query instance DR status after a DR relationship is established. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/monitor?
disaster_type={disaster_type}

Table 4-322 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A
disaster_type	Yes	String	Definition DR type. Constraints N/A Range • stream: streaming DR. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-323 Response body parameters

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A

Parameter	Type	Description
status	String	Definition Streaming DR status. Range • normal: The instance is not involved in the DR task. • full_backup: Full data replication in the primary instance is in progress. • archive: Streaming log replication in the primary instance is in progress. • backup_fail: Full data replication in the primary instance fails. • archive_fail: Streaming log replication in the primary instance fails. • switchover: The planned primary/standby switchover is in progress. • restore: Full data restoration in the DR instance is in progress. • restore_fail: Full data restoration in the DR instance fails. • recovery: Streaming log replication in the DR instance is in progress. • recovery_fail: Streaming log replication in the DR instance fails. • promote: The DR instance is being promoted to primary. • promote_fail: The DR instance fails to promote to primary.
rpo	String	Definition RPO. Range N/A
rto	String	Definition RTO. Range N/A
rpo_threshold	String	Definition RPO threshold. Range N/A

Parameter	Type	Description
rto_threshold	String	Definition RTO threshold. Range N/A
switchover_progress	String	Definition Switchover progress (%), for example, 40% . Range N/A
failover_progress	String	Definition Failover progress (%), for example, 40% . Range N/A

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.5/4a52a8a8f63d4c6d966dff0e20b69738/instances/4d653d1caf0e4a49b4753713fac679e3in14/disaster-recovery/monitor?disaster_type=stream
```

Example Response

```
{
  "rpo": "0",
  "rto": "0",
  "status": "archive",
  "instance_id": "b3692282395340c5b5421ecf3d7bd6adin14",
  "rto_threshold": "900",
  "rpo_threshold": "10",
  "failover_progress": "",
  "switchover_progress": ""
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.2 Querying Instances That Have Established a DR Relationship

Function

This API is used to query instances that have established a DR relationship. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.5/{project_id}/disaster-recovery/relations

Table 4-324 Parameter description

Parameter	Type	Mandato ry	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_name	String	No	Definition Instance name. This parameter can be used to query the local instance. Constraints N/A Range N/A Default Value N/A

Parameter	Type	Mandatory	Description
instance_id	String	No	Definition Instance ID. This parameter can be used to query the local instance ID. Constraints N/A Range N/A Default Value N/A
limit	Integer	No	Definition Number of records returned by a query. Constraints N/A Range 1–100 Default Value 100
offset	Integer	No	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints The value must be a non-negative integer. Range N/A Default Value 0: The query starts from the first data record.
dr_role	String	No	Definition Instance role in the DR relationship. Constraints N/A Range • master: primary instance. • disaster: DR instance. Default Value N/A

Parameter	Type	Mandatory	Description
dr_type	String	No	Definition DR type. Constraints N/A Range • stream: streaming DR. Default Value N/A
dr_status	String	No	Definition DR status. Constraints N/A Range • normal: The DR relationship is normal. • failover: The DR instance has been promoted to primary. • pending: The task is being processed. • pre_check_failed: The DR precheck failed. • pre_checking: DR precheck is in progress. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-325 Response body parameters

Parameter	Type	Description
total	Integer	Definition Total number of records. Range N/A

Parameter	Type	Description
relations	Array of objects	Definition DR relationship details. For details, see Table 4-326 .

Table 4-326 relations field data structure description

Parameter	Type	Description
disaster_type	String	Definition DR type. Range • stream: streaming DR.
name	String	Definition DR task name. Range N/A
disaster_role	String	Definition Instance role in the DR relationship. Range • master: primary instance. • disaster: DR instance.
created	String	Definition Creation time. Range N/A The value is in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .

Parameter	Type	Description
updated	String	Definition Update time. Range N/A The value is in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
slave_region_instance_info	Object	Definition Instance information in the DR region. For details, see Table 4-327 .
master_region_instance_info	Object	Definition Instance information in the primary region. For details, see Table 4-328 .
synchronization_id	String	Definition Unique ID of the DR relationship. Range N/A
id	String	Definition DR ID. Range N/A
instance_id	String	Definition DB instance ID in the current region. Range N/A
instance_name	String	Definition Instance name in the current region. Range N/A
instance_status	String	Definition Instance status in the current region. Range N/A

Parameter	Type	Description
precheck_failed_reason	String	Definition Pre-verification failure cause. Range N/A
status	String	Definition DR status. Range • pending: The task is being processed. • normal: The DR relationship is normal. • failed: The DR relationship creation failed • completed: The DR relationship has been removed. • failover: The DR instance has been promoted to primary. • simulation: A DR drill is in progress. • dr_log_keep: Log cache is enabled. • pre_checking: DR precheck is in progress. • pre_check_failed: The DR precheck failed.
actions	Array of strings	Definition List of actions that are being executed by the instance.

Table 4-327 Data structure description for the slave_region_instance_info field

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A
project_id	String	Definition Instance project ID. Range N/A

Parameter	Type	Description
project_name	String	Definition Instance project name. Range N/A
region_code	String	Definition Region code. Range N/A
ip_address	String	Definition Data IP addresses, which are separated by commas (,). Range N/A

Table 4-328 Data structure description for the master_region_instance_info field

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A
project_id	String	Definition Instance project ID. Range N/A
project_name	String	Definition Instance project name. Range N/A
region_code	String	Definition Region code. Range N/A

Parameter	Type	Description
ip_address	String	Definition Data IP addresses, which are separated by commas (.). Range N/A

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.5/0483b6b16e954cb88930a360d2c4e663/  
disaster-recovery/relation?limit=&offset=0&instance_name=test
```

Example Response

```
{  
  "total" : 1,  
  "relations" : [ {  
    "name" : "DR-task-0962",  
    "created" : "2022-06-16 09:39:51",  
    "updated" : "2022-06-16 09:44:55",  
    "id" : "30b74120-4b50-495d-8174-7eeddf7feac5",  
    "synchronization_id" : "9446f822-ccd2-43dc-929c-0b78ba7fdf64",  
    "status" : "normal",  
    "precheck_failed_reason" : "",  
    "disaster_type" : "stream",  
    "disaster_role" : "disaster",  
    "slave_region_instance_info" : {  
      "region_code" : "sa-fb-1",  
      "instance_id" : "d1060faf0d3743dd8830b39e7423bc9ain14",  
      "project_id" : "4a52a8a8f63d4c6d966dff0e20b69738",  
      "project_name" : "sa-fb-1_GaussDB",  
      "ip_address" : "172.166.1.192,172.166.0.6,172.166.1.135"  
    },  
    "master_region_instance_info" : {  
      "region_code" : "sa-fb-1",  
      "instance_id" : "54d4b9fb131745fcba32cb90a05cabb8in14",  
      "project_id" : "4a52a8a8f63d4c6d966dff0e20b69738",  
      "project_name" : "sa-fb-1_GaussDB",  
      "ip_address" : "172.167.1.86,172.167.0.89,172.167.1.229"  
    },  
    "instance_id" : "d1060faf0d3743dd8830b39e7423bc9ain14",  
    "instance_name" : "hly-0609-02",  
    "instance_status" : "normal",  
    "actions" : [ "STREAM_DISASTER_RELATION_MASTER_TAG" ]  
  } ]  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.3 Establishing a DR Relationship

Function

This API is used to establish a DR relationship. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This request is initiated from the primary instance.

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/construct

Table 4-329 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-330 Parameter description

Parameter	Mandatory	Type	Description
disaster_type	Yes	String	Definition DR type. Constraints N/A Range • stream: streaming DR. Default Value N/A
dr_ip	Yes	String	Definition Data IP address of the peer instance. To obtain the value, see Querying DB Instances . • Centralized instances: data IP address of any node of the peer instance (The node cannot be an arbitration or log node) • Distributed instances: data IP address of a CN of the peer instance. Constraints N/A Range N/A Default Value N/A
dr_user_name	Yes	String	Definition Account name of the peer instance. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
dr_user_password	Yes	String	Definition Password of the peer instance account. Constraints N/A Range N/A Default Value N/A
dr_task_name	No	String	Definition DR task name. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-331 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.5/0483b6b16e954cb88930a360d2c4e663/instances/9089bbf7377442daa55bc28d514c08bdin14/disaster-
recovery/construct
{
  "disaster_type": "stream",
  "dr_ip": "127.0.0.1",
  "dr_user_name": "root",
  "dr_user_password": "password",
  "dr_task_name": "dr-task-123"
}
```


Example Response

```
{
  "job_id": "8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.4 Promoting the DR instance to Primary

Function

This API is used to promote the DR instance to primary if the primary instance is unavailable. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

It can be delivered only from the DR region.

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/failover

Table 4-332 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-333 Parameter description

Parameter	Mandatory	Type	Description
is_support_restore	No	Boolean	Definition Whether a DR relationship can be re-established for the instance. Constraints This parameter is only available for the scenario where streaming DR is used and the DB engine version is V2.0-3.200 or later. Range • true: A DR relationship is re-established for the instance. • false (default value): A DR relationship is not re-established for the instance. Default Value false

Parameter	Mandatory	Type	Description
disaster_type	Yes	String	Definition DR type. Constraints N/A Range • stream : streaming DR. Default Value N/A

Response Parameters

Table 4-334 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-
recovery/failover
{
  "is_support_restore": true,
  "disaster_type": "stream"
}
```

Example Response

```
{
  "job_id": "8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.5 Stopping a DR Relationship

Function

This API is used to stop a DR relationship (initiated from the primary instance). Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- Stopping a DR relationship can be initiated only from the primary region.
- There is a DR relationship between primary instance A and DR instance B. When a streaming DR drill is performed on the DR instance B, you cannot remove the DR relationship from the primary instance A.

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/release

Table 4-335 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-336 Parameter description

Parameter	Mandatory	Type	Description
disaster_type	Yes	String	Definition DR type. Constraints N/A Range • stream : streaming DR. Default Value N/A

Response Parameters

Table 4-337 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-
recovery/release
{
  "disaster_type": "stream"
}
```

Example Response

```
{
  "job_id": "8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.6 Switching Roles of Primary and DR Instances

Function

This API is used to switch roles of primary and DR instances. The request can be submitted by either the primary instance or DR instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/switchover

Table 4-338 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-339 Parameter description

Parameter	Mandatory	Type	Description
disaster_type	Yes	String	Definition DR type. Constraints N/A Range • stream: streaming DR. Default Value N/A
post_process_config	No	String	Definition Whether to support self-healing upon a switchover failure. If this parameter is left empty, self-healing is not supported by default. Constraints This parameter is only available for streaming DR in quorum mode and the DB engine version is V2.0-8.200 or later in a DR task. Range • AUTO: Self-healing is supported. • MANUAL: Self-healing is not supported. Default Value N/A

Response Parameters

Table 4-340 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-
recovery/switchover
{
  "disaster_type": "stream"
}
```

Example Response

```
{
  "job_id": "8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.7 Re-establishing a DR Relationship

Function

This API is used to re-establish a DR relationship during the streaming DR. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

Streaming DR is available only for instances whose DB engine version is V2.0-3.200 or later.

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/restore

Table 4-341 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-342 Parameter description

Parameter	Mandatory	Type	Description
disaster_type	Yes	String	Definition DR type. Constraints N/A Range • stream : streaming DR. Default Value N/A

Response Parameters

Table 4-343 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-
recovery/restore
{
  "disaster_type": "stream"
}
```

Example Response

```
{
  "job_id": "8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.8 Enabling DR Drill

Function

This API is used to enable DR drill on the DR instance.

During the DR drill, the DR instance provides services and the incremental data is temporarily cached in the primary instance. After the drill is complete, the DR instance can perform incremental replay based on the temporarily stored incremental data. If the cached incremental data exceeds the value of this parameter, the DR instance will replay all data after the drill is complete. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This function is supported only when streaming DR is used and the DB engine version is V2.0-3.200 or later.

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/simulation-start

Table 4-344 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-345 Parameter description

Parameter	Mandatory	Type	Description
xlog_keep_ratio	No	Integer	Definition Ratio of the log cache space to the available disk space. Constraints This parameter does not take effect for DR instances. Range 1-99 Default Value 10 for the primary instance
disaster_type	Yes	String	Definition DR type. Constraints N/A Range stream : streaming DR. Default Value N/A

Response Parameters

Table 4-346 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-
recovery/simulation-start
{
  "xlog_keep_ratio":50,
  "disaster_type" : "stream"
}
```

Example Response

```
{
  "job_id":"8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.9 Disabling DR Drill

Function

This API is used to disable DR drill on the DR instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/simulation-stop

Table 4-347 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-348 Parameter description

Parameter	Mandatory	Type	Description
disaster_type	Yes	String	Definition DR type. Constraints N/A Range stream : streaming DR. Default Value N/A

Response Parameters

Table 4-349 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-recovery/simulation-stop
{
  "disaster_type": "stream"
}
```

Example Response

```
{
  "job_id": "8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.10 Enabling Log Cache

Function

This API is used to enable log cache of the primary instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This function is supported only when streaming DR is used and the DB engine version is V2.0-3.200 or later.

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/keep-log-start

Table 4-350 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-351 Parameter description

Parameter	Mandatory	Type	Description
xlog_keep_ratio	No	Integer	Definition Ratio of the log cache space to the available disk space. Constraints This parameter does not take effect for DR instances. Range 1–99 Default Value 10 for the primary instance
disaster_type	Yes	String	Definition DR type. Constraints N/A Range stream : streaming DR. Default Value N/A

Response Parameters

Table 4-352 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-
recovery/keep-log-start
{
  "xlog_keep_ratio":50,
  "disaster_type" : "stream"
}
```

Example Response

```
{
  "job_id": "8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.11 Disabling Log Cache

Function

This API is used to disable log cache of the primary instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3.5/{project_id}/instances/{instance_id}/disaster-recovery/keep-log-stop

Table 4-353 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Description
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-354 Parameter description

Parameter	Mandatory	Type	Description
disaster_type	Yes	String	Definition DR type. Constraints N/A Range stream : streaming DR. Default Value N/A

Response Parameters

Table 4-355 Response body parameters

Parameter	Type	Description
job_id	String	Definition Job ID. Range N/A

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
```

```
v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-recovery/keep-log-stop
{
  "disaster_type": "stream"
}
```

Example Response

```
{
  "job_id": "8bf0175e-562e-45f6-942a-2e2c72c577d7"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.12 Resetting DR Configurations

Function

This API is used to reset DR configurations.

- DBS will be automatically authorized to access VPC resource information.
- DR-related configurations of the current instance will be reset. Before calling this API:
- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3.5/{project_id}/instances/{instance_id}/reset-dr-config

Table 4-356 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-357 Parameter description

Parameter	Mandatory	Type	Description
opposite_data_cidr	No	String	Definition Subnet CIDR blocks of the peer instance in the white. Use commas (,) to separate multiple CIDR blocks. To obtain the value, click the peer instance name on the Instances page to go to the Basic Information page, see the value of Subnet in the Network Information area. If this parameter is set to an empty string, the whitelist configurations are cleared. Constraints N/A Range N/A Default Value N/A

Response Parameters

None

Example Request

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.5/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/reset-dr-config
{
  "opposite_data_cidr" : "192.168.0.0/16"
}
```

Example Response

None

Status Codes

- Normal
202

- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.10.13 Querying DR Operation Records

Function

This API is used to query DR operation records. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/disaster-recovery/records

Table 4-358 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
entity_id	Yes	String	Definition Entity ID (unique ID of the DR relationship). For details, see the synchronization_id field in Table 4-326 . Constraints N/A Range N/A Default Value N/A
entity_type	Yes	String	Definition Entity type. Constraints N/A Range dr : DR Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed. Constraints The value must be a non-negative integer. Range N/A Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records returned by a query. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range 1–100 Default Value 100

Request Parameters

None

Response Parameters

Table 4-359 Response body parameters

Parameter	Type	Description
records	Array of objects	Definition Action records. For details, see Table 4-360 .

Table 4-360 records field data structure description

Parameter	Type	Description
id	String	Definition Primary key ID. Range N/A

Parameter	Type	Description
action	String	Definition DR action. Range • dr_stream_switchover_to_postcheck: Check after a primary/standby switchover in streaming DR • dr_stream_switchover_auto_recovery: Processing after a primary/standby switchover in streaming DR • dr_stream_switchover_auto_recovery_result: Post-processing result of a primary/standby switchover in streaming DR • dr_stream_switchover: Primary/Standby switchover in streaming DR started • dr_stream_switchover_result: Primary/Standby switchover in streaming DR completed • dr_stream_failover: Standby instance promotion in streaming DR started • dr_stream_failover_result: Standby instance promotion in streaming DR completed • dr_stream_restore: Streaming DR relationship re-establishment started • dr_stream_restore_result: Streaming DR relationship re-establishment completed
status	String	Definition Operation status. Range • success: The operation succeeded. • failed: The operation failed. • query: The operation is in progress.
message	String	Definition Message to be recorded. Range N/A
entity_id	String	Definition Entity ID (unique ID of the DR relationship). Range N/A

Parameter	Type	Description
entity_type	String	Definition Entity type. Range dr: DR
job_id	String	Definition Job ID. Range N/A
instance_id	String	Definition Instance ID. Range N/A
created_at	String	Definition Creation time. Range The value is in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
updated_at	String	Definition Update time. Range The value is in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
extended_info	Object	Definition Extended information.

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/c04c789b6baa4b6dbcc139c5226f3a2cin14/disaster-recovery/records?offset=0&limit=100&entity_id=643a0dd1-ae7b-47c9-bac4-29590a67b679&entity_type=dr
```

Example Response

```
{
  "records": [
    {
      "id": "f34bf1d7-03f9-4f33-aac5-033457ca86f6",
      "action": "dr_stream_failover_result",
      "status": "success",
      "message": "",
      "entity_id": "210c7c5c-618d-4ec9-917a-c2681426df85",
      "entity_type": "dr",
      "job_id": "b4670be1-3372-4f44-b049-9c145abbb5d9",
      "instance_id": "083e6e04bc534727954f9d07ac90ab03in14",
      "created_at": "2024-11-19T11:29:25Z",
      "updated_at": "2024-11-19T11:29:25Z",
      "extended_info": {
        "allExtras": {},
        "extraKeys": [],
        "extra": {}
      }
    },
    {
      "id": "0074ead8-a50c-429f-b602-9d70f4a6dc36",
      "action": "dr_stream_failover",
      "status": "success",
      "message": "",
      "entity_id": "210c7c5c-618d-4ec9-917a-c2681426df85",
      "entity_type": "dr",
      "job_id": "b4670be1-3372-4f44-b049-9c145abbb5d9",
      "instance_id": "083e6e04bc534727954f9d07ac90ab03in14",
      "created_at": "2024-11-19T11:28:49Z",
      "updated_at": "2024-11-19T11:28:49Z",
      "extended_info": {
        "allExtras": {},
        "extraKeys": [],
        "extra": {}
      }
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.11 Tag Management

4.11.1 Querying Tags of a Specific Instance

Function

This API is used to query user tags of a specified instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/tags

Table 4-361 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-362 Parameter description

Parameter	Type	Description
tags	Array of objects	Definition User tags. For details, see Table 4-363 .
total_count	Integer	Definition Total number of records. Range N/A

Table 4-363 tags field data structure description

Parameter	Type	Description
key	String	Definition Tag key. Range N/A
value	Array of strings	Definition Tag value.

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsae3435in14/tags
```

Example Response

```
{
  "tags": [ {
    "key": "key1",
    "value": [ "value1", "value2" ]
  }, {
    "key": "key2",
    "value": [ "value2", "value3" ]
  } ],
  "total_count": 2
}
```

Status Codes

- Normal
200

- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.11.2 Querying Tags of a Project

Function

This API is used to query all user tags in a project. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/tags

Table 4-364 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-365 Parameter description

Parameter	Type	Description
tags	Array of objects	Definition All tags. For details, see Table 4-366 .

Table 4-366 tags field data structure description

Parameter	Type	Description
key	String	Definition Tag key. Range It can contain up to 36 Unicode characters and cannot be blank. Only digits, uppercase letters, lowercase letters, underscores (_), and hyphens (-) are allowed.
value	Array of strings	Definition Tag value. It can contain up to 43 Unicode characters and can be an empty string. Only digits, uppercase letters, lowercase letters, underscores (_), periods (.), and hyphens (-) are allowed.

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/tags
```

Example Response

```
{
  "tags": [ {
    "key": "key1",
    "value": [ "value1", "value2" ]
  }, {
    "key": "key2",
    "value": [ "value2", "value3" ]
  } ]
}
```

Status Codes

- Normal
200

- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.11.3 Querying Predefined Tags

Function

This API is used to query predefined tags. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/predefined-tags

Table 4-367 Request Parameters

Parameter	Type	IN	Man dator y	Description
project_id	string	path	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-368 Parameter description

Parameter	Type	Description
tags	Array of arrays	Definition All tags. For details, see Table 4-369 .

Table 4-369 tags field data structure description

Parameter	Type	Description
key	String	Definition Tag key. Range N/A
values	Array	Definition Tag value.

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0549b4a43100d4f32f51c01c2fe4acdb/predefined-tags
```

Example Response

```
{
  "tags": [ {
    "key": "RDS_DDS_EPS",
    "values": [ "RDS_DDS_TMS" ]
  } ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.11.4 Adding Tags for a DB Instance

Function

This API is used to add user tags to a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{*project_id*}/instances/{*instance_id*}/tags

Table 4-370 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-371 Parameter description

Parameter	Mandatory	Type	Description
tags	Yes	Array of objects	Definition User tags to be added. For details, see Table 4-372 .

Table 4-372 tags parameter description

Parameter	Mandatory	Type	Description
key	Yes	String	Definition Tag key. Constraints N/A Range A tag key can contain up to 128 characters. It cannot start with _sys_ or a space, and cannot end with a space. Only letters, digits, spaces, and the following special characters are allowed: _ : = + - @ Default Value N/A
value	Yes	String	Definition Tag value. Constraints N/A Range A tag value can contain up to 255 characters. Only letters, digits, spaces, and the following special characters are allowed: _ : / = + - @ Default Value N/A

Response Parameters

Table 4-373 Parameter description

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A
instance_name	String	Definition Instance name. Range N/A

Example Request

Creating a user tag whose key is 1 and value is 2

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/tags
{
  "tags": [{
    "key": "1",
    "value": "2"
  }]
}
```

Example Response

```
{
  "instance_id": "dsfae23fsfdsae3435in01",
  "instance_name": "Gauss-a87h"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.11.5 Deleting Tags of a DB Instance

Function

This API is used to delete tags of a DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

DELETE /v3/{project_id}/instances/{instance_id}/tag?key={key}

Table 4-374 URI parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Table 4-375 Query parameters

Parameter	Mandatory	Type	Description
key	Yes	String	Definition Tag key. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Table 4-376 Response body parameters

Parameter	Type	Description
result	String	Definition Processing results. Range N/A
instance_id	String	Definition Instance ID. Range N/A
instance_name	String	Definition Instance name. Range N/A

Example Request

```
DELETE https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/cc6fd964d93f4003851dfc29d57d30a5in14/tag?key=demo
```

Example Response

```
{
  "result" : "succeed",
  "instance_id" : "8475b0ed1ca149f2887952a27fda1739in14",
  "instance_name" : "gaussdb-01"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.12 Quota Management

4.12.1 Modifying Enterprise Project Quotas

Function

This API is used to modify enterprise project quotas. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{project_id}/enterprise-projects/quotas

Table 4-377 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-378 Parameter description

Parameter	Mandatory	Type	Description
eps_quotas	Yes	Array of objects	Definition Enterprise quotas to be modified. For details, see Table 4-379 . Constraints N/A

Table 4-379 EpsQuotasOption parameter description

Parameter	Mandatory	Type	Description
enterprise_projects_id	Yes	String	Definition Enterprise project ID. Constraints N/A Range N/A Default Value N/A
instance_quota	No	Integer	Definition Instance quota. Constraints N/A Range <i>number_of_created_instances</i> –100,000 Default Value N/A
vcpus_quota	No	Integer	Definition CPU quota. Constraints N/A Range <i>vCPUs_in_use</i> –2,147,483,646 Default Value N/A
ram_quota	No	Integer	Definition Memory quota, in GB. Constraints N/A Range <i>memory_in_use</i> –2,147,483,646 Default Value N/A

Parameter	Mandatory	Type	Description
volume_quota	No	Integer	Definition Storage quota, in GB. Constraints N/A Range <i>storage_in_use</i> -2,147,483,646 Default Value N/A

Response Parameters

None

Example Request

Configuring quotas for an enterprise project (1,000 instances, 100,000 vCPUs, 200,000 GB of memory, and 1,000,000 GB of storage)

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/enterprise-projects/quotas
{
  "eps_quotas": [
    {
      "enterprise_projects_id": "0",
      "instance_quota": 1000,
      "vcpus_quota": 100000,
      "ram_quota": 200000,
      "volume_quota": 1000000
    }
  ]
}
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.12.2 Querying Enterprise Project Quotas

Function

This API is used to query enterprise project quotas. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/enterprise-projects/quotas

Table 4-380 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID. Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
enterprise_project_id	No	String	Definition Enterprise project ID. Constraints N/A Range N/A Default Value - This parameter is not transferred for users who have not enabled the enterprise multi-project service. - If this parameter is not transferred for a user who has enabled the enterprise multi-project service, the value is the default enterprise project.
offset	No	Integer	Definition Index offset. Constraints N/A Range 0–2,147,483,647 Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records returned by a query. Constraints N/A Range 1–100 Default Value 100

Request Parameters

None

Response Parameters

Table 4-381 Parameter description

Parameter	Type	Description
eps_quotas	Array of objects	Definition Enterprise project details. For details, see Table 4-382 .
total_count	Integer	Definition Total number of records. Range N/A

Table 4-382 eps_quotas field data structure description

Parameter	Type	Description
enterprise_project_id	String	Definition Enterprise project ID. Range N/A
enterprise_project_name	String	Definition Enterprise project name. Range N/A
instance_eps_quota	Integer	Definition EPS instance quota. The value -1 indicates that the quota is not limited. Range N/A
vcpus_eps_quota	Integer	Definition EPS compute quota. The value -1 indicates that the quota is not limited. Range N/A

Parameter	Type	Description
ram_eps_quota	Integer	Definition EPS memory quota in GB. The value -1 indicates that the quota is not limited. Range N/A
volume_eps_quota	Integer	Definition EPS storage quota in GB. The value -1 indicates that the quota is not limited. Range N/A
instance_used	Integer	Definition Used EPS instance quota. Range N/A
vcpus_used	Integer	Definition Used EPS compute quota. Range N/A
ram_used	Integer	Definition Used EPS memory quota in GB. Range N/A
volume_used	Integer	Definition Used EPS storage quota, in GB. Range N/A

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/enterprise-projects/quotas
```

Example Response

```
{  "eps_quotas": [ {    "enterprise_project_id": "2c049d98-3347-494f-8767-99af6b3aa5f0",    "enterprise_project_name": "default",    "instance_eps_quota": 100,    "vcpus_eps_quota": 1500,    "ram_eps_quota": 20000,    "volume_eps_quota": 100000,    "instance_used": 33,
```

```
"vcpus_used" : 1460,
"ram_used" : 19680,
"volume_used" : 8840
}, {
  "enterprise_project_id" : "2c049d98-3347-494f-8767-99af6b3aa5f0",
  "enterprise_project_name" : "11111",
  "instance_eps_quota" : -1,
  "vcpus_eps_quota" : -1,
  "ram_eps_quota" : -1,
  "volume_eps_quota" : -1,
  "instance_used" : 2,
  "vcpus_used" : 54,
  "ram_used" : 384,
  "volume_used" : 680
}, {
  "enterprise_project_id" : "bd91e1eb-2e33-4f17-a8d4-05eb2c805781",
  "enterprise_project_name" : "quota_at_gaussdbv5_test",
  "instance_eps_quota" : -1,
  "vcpus_eps_quota" : -1,
  "ram_eps_quota" : -1,
  "volume_eps_quota" : -1,
  "instance_used" : 1,
  "vcpus_used" : 240,
  "ram_used" : 1920,
  "volume_used" : 480
} ],
"total_count" : 3
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.13 Task Management

4.13.1 Obtaining Task Information

Function

This API is used to obtain information about a task with a specified ID. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/jobs?id={id}

Table 4-383 Request Parameters

Parameter	Type	Mand atory	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
id	String	Yes	Definition Task ID. This parameter value indicates the asynchronous task ID returned by APIs (except APIs for applying a parameter template and creating a manual backup). Constraints None Range UUID format Default Value N/A

Request Parameters

None

Response Parameters

Table 4-384 Parameter description

Parameter	Type	Description
job	Object	Definition Task information. For details, see Table 4-385 .

Table 4-385 job field data structure description

Parameter	Type	Description
id	String	Definition Task ID. Range UUID format
name	String	Definition Task name. Range N/A
status	String	Definition Task execution status Range • Running: The task is being executed. • Completed: The task is successfully executed. • Failed: The task fails to be executed.
created	String	Definition Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. Example: 2021-07-12T09:22:04+0800. Range N/A
ended	String	Definition End time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. Example: 2021-07-12T09:22:04+0800. Range N/A

Parameter	Type	Description
progress	String	Definition Task execution progress. The execution progress (such as "60%", indicating the task execution progress is 60%) is displayed only when the task is being executed. Otherwise, "" is returned. Range N/A
instance	Object	Definition Instance on which the task is executed. For details, see Table 4-386 .
fail_reason	String	Definition Task failure information. Range N/A

Table 4-386 instance field data structure description

Parameter	Type	Description
id	String	Definition Instance ID, which uniquely identifies an instance. Range The value can contain 32 characters. Only letters and digits are allowed.
name	String	Definition DB instance name. Range The value must start with a letter and can contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.

Example Request

Obtaining information about a task with a specified ID

```
GET https://gaussdb-opengauss.ap-
```

```
southeast-1.myhuaweicloud.com/v3/0549b4a43100d4f32f51c01c2fe4acdb/jobs?  
id=5cbb8a90-2253-4cff-8a13-49aa8f31dfb5
```

Example Response

Information queried.

```
{  
  "job" : {  
    "id" : "5cbb8a90-2253-4cff-8a13-49aa8f31dfb5",  
    "name" : "CreateGaussDBV5Instance",  
    "status" : "Completed",  
    "created" : "2021-07-12T09:22:04+0800",  
    "ended" : "2021-07-12T10:10:13+0800",  
    "progress" : "",  
    "instance" : {  
      "id" : "b34f8c791f2643578510c093aa2351a8in14",  
      "name" : "gauss-c1a3"  
    },  
    "fail_reason" : null  
  }  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.13.2 Querying Tasks

Function

This API is used to query the tasks in the task center. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The tasks of the last month can be queried at most.

URI

GET /v3/{project_id}/tasks

Table 4-387 Parameter description

Parameter	Mandator y	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
status	No	String	Definition Task status. Constraints N/A Range - Running - Completed - Failed Default Value N/A

Parameter	Mandatory	Type	Description
name	No	String	Definition Task name. Constraints N/A Range • CreateGaussDBV5Instance: Creating a DB instance • BackupSnapshotGaussDBV5Instance: Creating a manual backup • CloneGaussDBV5NewInstance: Restoring data to a new DB instance • RestoreGaussDBV5Instance: Restoring data to the original DB instance • RestoreGaussDBV5InstanceToExistedInst: Restoring data to an existing DB instance • DeleteGaussDBV5Instance: Deleting a DB instance • EnlargeGaussDBV5Volume: Scaling up storage • ResizeGaussDBV5Flavor: Changing specifications • GaussDBV5ExpandClusterCN: Adding coordinator nodes • GaussDBV5ExpandClusterDN: Adding shards Default Value N/A
start_time	No	String	Definition Start time. The value is a UNIX timestamp, in milliseconds. The time zone is UTC. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
end_time	No	String	Definition End time. The value is a UNIX timestamp, in milliseconds. The time zone is UTC. Constraints N/A Range N/A Default Value N/A
offset	No	Integer	Definition Index offset. Constraints N/A Range 0–2,147,483,647 Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records returned by a query. Constraints N/A Range 1–100 Default Value 100

Request Parameters

None

Response Parameters

Table 4-388 Parameter description

Parameter	Type	Description
tasks	Array of objects	Definition Task list. For details, see Table 4-389 .
total_count	Integer	Definition Number of tasks. Range N/A

Table 4-389 tasks field data structure description

Parameter	Type	Description
instance_info	Object	Definition Information about the instance associated with the task. For details, see Table 4-390 .
job_id	String	Definition Job ID. Range N/A
name	String	Definition Task name. Range N/A
status	String	Definition Task status. Range N/A
process	String	Definition Task progress, in percentage (%) Range N/A

Parameter	Type	Description
created_at	String	Definition Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A
ended_at	String	Definition End time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Range N/A
fail_reason	String	Definition Failure cause. Range N/A

Table 4-390 instance_info field data structure description

Parameter	Type	Description
instance_id	String	Definition Instance ID. Range N/A
instance_name	String	Definition DB instance name. Range N/A

Parameter	Type	Description
instance_status	String	Definition Instance status. Range N/A

Example Request

- Querying running tasks

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0611f1bd8b00d5d32f17c017f15b599f/tasks?
status=Running&name=CreateGaussDBV5Instance&offset=1&limit=10
```

- Querying completed tasks

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0611f1bd8b00d5d32f17c017f15b599f/tasks?
status=Completed&name=CreateGaussDBV5Instance&offset=1&limit=10
```

- Querying failed tasks

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0611f1bd8b00d5d32f17c017f15b599f/tasks?
status=Failed&name=CreateGaussDBV5Instance&offset=1&limit=10
```

Example Response

Tasks queried.

```
{
  "tasks": [ {
    "instance_info": {
      "instance_id": "ce2dce50f365430abe161bab79495a6ein14",
      "instance_name": "gauss-6568-zzh",
      "instance_status": "creating"
    },
    "job_id": "03bc055a-135c-4245-8bd8-b0bc6d3350b3",
    "name": "CreateGaussDBV5Instance",
    "status": "Failed",
    "process": "",
    "created_at": "2022-08-05T08:15:07+0800",
    "ended_at": "2022-08-09T03:06:52+0800",
    "fail_reason": "500000"
  }, {
    "instance_info": {
      "instance_id": "20ba433bd7ee40da9cf35064f04f9e4cin14",
      "instance_name": "gauss-7875-lt-m",
      "instance_status": "deleted"
    },
    "job_id": "2cc16e0b-75ab-4a28-9453-16517e990bba",
    "name": "DeleteGaussDBV5Instance",
    "status": "Completed",
    "process": "",
    "created_at": "2022-08-06T09:15:07+0800",
    "ended_at": "2022-08-10T03:06:52+0800",
    "fail_reason": null
  } ],
  "total_count": 2
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.13.3 Deleting a Task Record

Function

This API is used to delete a task record. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

DELETE /v3/{project_id}/jobs/{job_id}

Table 4-391 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
job_id	Yes	String	Definition Job ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

None

Example Request

Deleting a task record

```
DELETE https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/jobs/6b00c41d-d54f-4bcb-80da-566ccedc2b5d
```

Example Response

Task record deleted.

```
{}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.13.4 Querying Scheduled Tasks

Function

This API is used to query the scheduled tasks in the task center. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The scheduled tasks of the last month can be queried at most.

URI

GET /v3/{project_id}/instances/schedule-tasks

Table 4-392 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	No	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
status	No	String	Definition Task status. Constraints N/A Range • Running • Completed • Failed • Pending • Canceled Default Value N/A
name	No	String	Definition Task name. Constraints N/A Range HOTFIX_VERSION_UPGRADE: indicates a hot patch update. Default Value N/A
start_time	No	String	Definition Start time. The value is in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
end_time	No	String	Definition End time. The value is in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Constraints N/A Range N/A Default Value N/A
offset	No	Integer	Definition Index offset. Constraints N/A Range 0-2,147,483,647 Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records returned by a query. Constraints N/A Range 1-100 Default Value 100

Request Parameters

None

Response Parameters

Table 4-393 Parameter description

Parameter	Type	Description
tasks	Array of objects	Definition Task list. For details, see Table 4-394 .
total_count	Integer	Definition Number of tasks. Range N/A

Table 4-394 tasks field data structure description

Parameter	Type	Description
task_id	String	Definition Job ID. Range N/A
task_name	String	Definition Task name. Range N/A
status	String	Definition Task status. Range N/A
create_time	String	Definition Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. Range N/A

Parameter	Type	Description
start_time	String	Definition Time when a task starts to be executed. The format is yyyy-mm-ddThh:mm:ssZ. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. Range N/A
instance_id	String	Definition Instance ID. Range N/A
instance_name	String	Definition Instance name. Range N/A
task_content	Object	Definition Task information. Range N/A

Example Request

Querying completed tasks

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/opengauss/v3/0611f1bd8b00d5d32f17c017f15b599f/instances/schedule-tasks?status=Completed&offset=1&limit=10
```

Example Response

Tasks queried.

```
{
  "tasks": [
    {
      "status": "Completed",
      "task_id": "dea835aa-5ceb-4209-be57-ecd7992ed6af",
      "task_name": "HOTFIX_VERSION_UPGRADE",
      "create_time": "2024-12-16T06:54:39Z",
      "start_time": "2024-12-16T06:55:32Z",
      "instance_id": "54bef6617fab4a88ab52967218c34527in14",
      "instance_name": "gauss-ba81",
      "task_content": "3.208.0.6"
    }
  ],
}
```

```
{
  "status": "Completed",
  "task_id": "8d93aa3a-20c2-4c53-a3cf-933bde3ba002",
  "task_name": "HOTFIX_VERSION_UPGRADE",
  "create_time": "2024-12-16T06:54:39Z",
  "start_time": "2024-12-16T06:55:32Z",
  "instance_id": "096d0720b5604eca93b8a216a15d4778in14",
  "instance_name": "gauss-5185",
  "task_content": "3.208.0.6"
},
{
  "status": "Completed",
  "task_id": "5111a1e3-0030-4766-8dd8-7ab73a2e89c4",
  "task_name": "HOTFIX_VERSION_UPGRADE",
  "create_time": "2024-12-16T08:51:11Z",
  "start_time": "2024-12-16T08:53:01Z",
  "instance_id": "b6ac63d384854e76ba7afd0e10aa9c29in14",
  "instance_name": "gauss-7fa8",
  "task_content": "3.208.0.7"
}
],
"total_count": 3
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.13.5 Canceling a Scheduled Task

Function

This API is used to cancel a scheduled task. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{project_id}/instances/schedule-task/{task_id}/cancel

Table 4-395 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
task_id	Yes	String	Definition Task ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

None

Example Request

Canceling a scheduled task

```
/cancel
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/schedule-task/6b00c41d-d54f-4bcb-80da-566ccedc2b5d/cancel
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.13.6 Deleting a Scheduled Task Record

Function

This API is used to delete a scheduled task record. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

DELETE /v3/{project_id}/instances/schedule-task/{task_id}

Table 4-396 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
task_id	Yes	String	Definition Task ID. Constraints N/A Range N/A Default Value N/A

Request Parameters

None

Response Parameters

None

Example Request

Deleting a scheduled task record

```
DELETE https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/schedule-task/6b00c41d-d54f-4bcb-80da-566ccedc2b5d
```

Example Response

None

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.14 Recycle Bin

4.14.1 Modifying the Recycling Policy

Function

This API is used to modify the recycling policy. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{project_id}/recycle-policy

Table 4-397 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-398 Parameter description

Parameter	Mandatory	Type	Description
recycle_policy	Yes	Object	Definition Recycling policy. For details, see Table 4-399 . Constraints N/A

Table 4-399 recycle_policy field data structure description

Parameter	Mandatory	Type	Description
retention_period_in_days	Yes	Integer	Definition Retention days of deleted instances. Constraints N/A Range 1–7 Default Value N/A

Response Parameters

Table 4-400 Parameter description

Parameter	Type	Description
result	String	Definition Modification result. Range SUCCESS : The modification is successful.

Example Request

Setting the retention period of deleted instances to 5 days

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/recycle-policy
{
  "recycle_policy": {
    "retention_period_in_days": 5
  }
}
```

Response

```
{
  "result": "SUCCESS"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.14.2 Querying the Recycling Policy

Function

This API is used to query the recycling policy. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/recycle-policy

Table 4-401 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 4-402 Parameter description

Parameter	Type	Description
retention_period_in_days	String	Definition Retention days of deleted instances. Range 1–7

Example Request

Querying the recycling policy

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/recycle-policy
```

Example Response

Recycling policy queried.

```
{  "retention_period_in_days": "5"}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.14.3 Querying All DB Engine Instances in the Recycle Bin

Function

This API is used to query all DB engine instances in the recycle bin. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.1/{project_id}/recycle-instances

Table 4-403 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_name	No	String	Definition DB instance name. Constraints N/A Range N/A Default Value N/A
offset	No	Integer	Definition Index offset. Constraints N/A Range 0–2,147,483,647 Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records returned by a query. Constraints N/A Range 1–50 Default Value 50

Request Parameters

None

Response Parameters

Table 4-404 Parameter description

Parameter	Type	Description
total_count	Integer	Definition Total number of records. Range N/A
instances	Array of objects	Definition Information about all instances in the recycle bin. For details, see Table 4-405 .

Table 4-405 instances field data structure description

Parameter	Type	Description
id	String	Definition Instance ID. Range N/A
name	String	Definition DB instance name. Range N/A

Parameter	Type	Description
ha_mode	String	Definition Deployment model. Range • Ha: centralized deployment • Independent: independent deployment • Combined: combined deployment
engine_name	String	Definition Engine name. Range N/A
engine_version	String	Definition Engine version. Range N/A
pay_model	String	Definition Billing mode. Range 0 : pay-per-use 1 : yearly/monthly
created_at	String	Definition Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as +0800 . Range N/A
deleted_at	String	Definition Deletion time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as +0800 . Range N/A

Parameter	Type	Description
volume_type	String	Definition Disk type. Range • high: high I/O • ultrahigh: ultra-high I/O • essd: extreme SSD
volume_size	String	Definition Disk size. Range N/A
data_vip	String	Definition Private IP address. Range N/A
enterprise_project_id	String	Definition Enterprise project ID. The value 0 indicates the default enterprise project. Range N/A
enterprise_project_name	String	Definition Enterprise project name. Range N/A
backup_level	String	Definition Backup level. Range N/A
recycle_backup_id	String	Definition Backup ID. (Backup ID in the backup information generated when the instance is deleted.) Range N/A

Parameter	Type	Description
recycle_status	String	Definition Backup status in the recycle bin. Range • Running • Active
mode	String	Definition Product type. Range • basic: basic edition • standard: standard edition • enterprise: enterprise edition

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/  
v3.1/619d3e78f61b4be68bc5aa0b59edcf7b/recycle-instances
```

Example Response

```
{  
  "total_count": 2,  
  "instances": [ {  
    "id": "21f20e55999947a9938ad0453b757e72in14",  
    "name": "gaussdbv5_CCv20_bms_default_1_20220827012852",  
    "ha_mode": "Ha",  
    "engine_name": "gaussdbv5",  
    "engine_version": "V2.0-2.3.0",  
    "pay_model": 0,  
    "created_at": "2022-08-09T09:26:44.000+08:00",  
    "deleted_at": "2022-08-09T09:26:44.000+08:00",  
    "volume_type": "localssd",  
    "volume_size": "",  
    "data_vip": "25.213.0.41 / 25.213.0.188 / 25.213.0.101 / 25.213.0.82",  
    "enterprise_project_id": 0,  
    "enterprise_project_name": null,  
    "backup_level": null,  
    "recycle_backup_id": "00b755ed678e41d18c74b28e2ad41bdcbr14",  
    "recycle_status": "Active",  
    "mode": "enterprise"  
  }, {  
    "id": "a9df5b52b32e4571b1b6425a78a32956in14",  
    "name": "ecs-lxy-backup-3",  
    "ha_mode": "Ha",  
    "engine_name": "gaussdbv5",  
    "engine_version": "V2.0-2.3.0",  
    "pay_model": 0,  
    "created_at": "2022-08-09T09:26:44.000+08:00",  
    "deleted_at": "2022-08-09T09:26:44.000+08:00",  
    "volume_type": "ultrahigh",  
    "volume_size": "",  
    "data_vip": "173.202.10.246 / 173.202.10.205 / 173.202.10.175",  
    "enterprise_project_id": 0,  
    "enterprise_project_name": null,  
    "backup_level": null,  
    "recycle_backup_id": "ef393704ef0045d1b6226b6f2cdc48a7br14",  
  } ]  
}
```

```
"recycle_status" : "Active",  
"mode" : "enterprise"  
}]  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.15 Plug-in Management

4.15.1 Querying the List of Supported Plug-ins

Function

This API is used to query the list of supported plug-ins. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/kernel-plugins

Table 4-406 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-407 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-408 Response parameters

Parameter	Type	Description
[Array element]	Array of strings	Definition Plug-ins.

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0c8243400d37468bb4aed3cc94c2911d/instances/kernel-plugins
```

Example Response

```
[ "postgis" ]
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.15.2 Querying the List of Plug-ins Installed on an Instance

Function

This API is used to query the list of plug-ins installed on an instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/kernel-plugins

Table 4-409 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-410 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Response Parameters

Table 4-411 Response parameters

Parameter	Type	Description
[Array element]	Array of strings	Definition Plug-ins.

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/kernel-plugins
```

Example Response

```
[ "postgis" ]
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.15.3 Configuring the Plug-in License

Function

This API is used to configure the plug-in license. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{project_id}/instances/{instance_id}/kernel-plugin-license

Table 4-412 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-413 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Table 4-414 Request body parameters

Parameter	Mandatory	Type	Description
license_str	Yes	String	Definition String corresponding to the license file. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-415 Response parameters

Parameter	Type	Description
Value	String	Definition Normal response. Range SUCCESS

Example Request

Configuring the content of the license file of the plug-in

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0c8243400d37468bb4aed3cc94c2911d/
```

```
instances/f9b5f9b296ec6808e067in14/kernel-plugins-license
{
  "license_str" : "90ca926757144a2d98d78f727dc56664"
}
```

Example Response

```
"SUCCESS"
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.15.4 Installing a Plug-in

Function

This API is used to install a database plug-in. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/kernel-plugin

Table 4-416 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-417 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
X-Language	No	String	Definition Language. Constraints N/A Range • zh-cn • en-us Default Value en-us

Table 4-418 Request body parameters

Parameter	Mandatory	Type	Description
plugin_name	Yes	String	Definition Plug-in package name. Constraints N/A Range Only the PostGIS plug-in provided by Yukon is supported. Default Value N/A
url	Yes	String	Definition URL of the plug-in installation package. The URL must be a shared object URL of OBS buckets. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
sha_256	Yes	String	Definition SHA-256 string corresponding to the plug-in package. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-419 Parameter description

Parameter	Type	Description
job_id	String	Definition ID of the plug-in installation workflow. Range N/A

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/kernel-plugin
{
  "plugin_name": "postgis",
  "url": "xxxx.obs.bucket1",
  "sha_256": "791a8d68064ca3208b52ac2584b3b1ab89e4945069baf48e2b14ed5a7151889b"
}
```

Example Response

```
{
  "job_id": "bf26cf3c-d046-4080-bb45-f114be7afa5f"
}
```

Status Codes

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.15.5 Querying Plug-in Extensions of an Instance

Function

This API is used to query plug-in extensions of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/plugin-extensions

Table 4-420 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-421 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range - zh-cn - en-us Default Value en-us

Table 4-422 Request body parameters

Parameter	Mandatory	Type	Description
plugin_name	Yes	String	Definition Plug-in package name. Constraints N/A Range Only the PostGIS plug-in provided by Yukon is supported. Default Value N/A
db_name	Yes	String	Definition Database name. Constraints N/A Range N/A Default Value N/A

Response Parameters

Table 4-423 Response parameters

Parameter	Type	Description
Object array	Array	Definition Plug-in extension information. For details, see Table 4-424 .

Table 4-424 Plug-in extension field description

Parameter	Type	Description
extension_name	String	Definition Plug-in extension name. Range N/A

Parameter	Type	Description
status	String	Definition Plug-in extension status. Range on means to enable the extension, and off means to disable the extension.

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/plugin-extensions?db_name=test_gis_pg&plugin_name=postgis
```

Example Response

```
[ {  
  "extension_name" : "postgis_raster",  
  "status" : "on"  
}]
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

4.15.6 Configuring Plug-in Extensions

Function

This API is used to enable or disable plug-in extensions for a specific database.
Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/{instance_id}/config-plugin-extensions

Table 4-425 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 4-426 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	Definition User token. You can obtain the token by calling the IAM API used to obtain a user token . After the request is processed, the value of X-Subject-Token in the message header is the token value. Constraints N/A Range N/A Default Value N/A
X-Language	No	String	Definition Language. Constraints N/A Range - zh-cn - en-us Default Value en-us

Table 4-427 Request body parameters

Parameter	Mandatory	Type	Description
plugin_name	Yes	String	Definition Plug-in package name. Constraints N/A Range Only the PostGIS plug-in provided by Yukon is supported. Default Value N/A
db_list	Yes	Array of strings	Definition List of database names. Constraints N/A
extension_name	Yes	String	Definition Plug-in extension name. Constraints N/A Range N/A Default Value N/A
extension_action	Yes	String	Definition Operation to be performed on the plug-in extension. Constraints N/A Range on means to enable the extension, and off means to disable the extension. Default Value N/A

Response Parameters

Table 4-428 Response parameters

Parameter	Type	Description
Value	String	Definition Normal response. Range SUCCESS

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0c8243400d37468bb4aed3cc94c2911d/instances/f9b5f9b296ec6808e067in14/config-plugin-extensions
{
  "plugin_name" : "postgis",
  "db_list" : [ "test" ],
  "extension_name" : "postgis",
  "extension_action" : "on"
}
```

Example Response

```
"SUCCESS"
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5 Historical APIs

5.1 DB Engine Versions and Specifications

5.1.1 Querying Instance Specifications (v3.1)

Function

This API is used to query instance specifications. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

```
GET /v3.1/{project_id}/flavors?  
limit={limit}&offset={offset}&ha_mode={ha_mode}&version={version}&spec_code  
={spec_code}
```

Table 5-1 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
version	No	String	Definition DB version number. You can query the specifications supported by a specified DB version, for example, 1.4 . Constraints N/A Range N/A Default Value N/A
spec_code	No	String	Definition Specification code. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
ha_mode	No	String	Definition Instance type. You can query the specifications supported by a specified instance type. Constraints N/A Range - Centralized: centralization_standard - Distributed (independent deployment): enterprise Default Value N/A
limit	No	Integer	Definition Number of records to be queried. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1, 100] Default Value 100
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 1 and limit is set to 10 , only the 2nd to 11th records are displayed. Constraints N/A Range [0, 2 ³¹ -1] Default Value 0 : The query starts from the first data record.

Request Parameters

None

Response Parameters

Table 5-2 Parameter description

Parameter	Type	Description
flavors	Array of objects	Definition Specification details. For details, see Table 5-3 .
total	Integer	Definition Total number of records. Range [0, 2^31-1]

Table 5-3 flavors description

Parameter	Type	Description
vcpus	String	Definition Number of vCPUs. Range N/A
ram	String	Definition Memory size in GB. Range N/A
spec_code	String	Definition Resource specification code. For details, see DB Instance Specifications . Range N/A
availability_zone	Array of strings	Definition AZ supported by the specifications.

Parameter	Type	Description
az_status	Map<String,String>	Definition key indicates the AZ ID, and value indicates the specification status in the AZ. Range • normal: available. • unsupported: not supported. • sellout: sold out.
version	String	Definition DB engine version supported by the specifications. Range N/A
name	String	Definition DB engine. Range N/A
group_type	String	Definition Performance specifications. Range • normal: dedicated (1:8) • normal2: dedicated (1:4) • armFlavors: Kunpeng dedicated (1:8) • exclusive: dedicated (1:4). It is only suitable for centralized instances of the basic edition. • armExclusive: Kunpeng dedicated (1:4). It is only suitable for centralized instances of the basic edition. • economical: favored (1:4) • economical2: favored (1:8) • armFlavors2: Kunpeng dedicated (1:4) • general: general-purpose (1:4)

Example Request

- Querying specifications of a centralized instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
```

```
v3.1/0483b6b16e954cb88930a360d2c4e663/flavors?
offset=0&limit=10&ha_mode=centralization_standard&version=3.100&spec_code=gaussdb.opengauss.e
e.km1.2xlarge.arm8.ha
```

- Querying specifications of a distributed instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/flavors?
offset=0&limit=10&ha_mode=enterprise&version=3.100&spec_code=gaussdb.opengauss.ee.dn.m4.2xlar
ge.8.in
```

Example Response

Instance specifications queried.

```
{
  "flavors": [
    {
      "vcpus": "2",
      "ram": "16",
      "availability_zone": [
        "az2xahz",
        "az1xahz",
        "az3xahz"
      ],
      "version": "1.4",
      "name": "GaussDB",
      "spec_code": "gaussdb.opengauss.ee.dn.m6.large.8.in",
      "az_status": {
        "az2xahz": "normal",
        "az1xahz": "normal",
        "az3xahz": "normal"
      },
      "group_type": "normal2"
    }
  ],
  "total": 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.1.2 Querying Instance Specifications (v3)

Function

This API is used to query instance specifications. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{*project_id*}/flavors?
limit={limit}&offset={offset}&ha_mode={ha_mode}&version={version}&spec_code
={spec_code}

Table 5-4 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
version	No	String	Definition DB version number. You can query the specifications supported by a specified DB version, for example, 3.208. Constraints N/A Range N/A Default Value N/A
spec_code	No	String	Definition Specification code, for example, 3.208. Constraints N/A Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
ha_mode	No	String	Definition Instance type. You can query the specifications supported by a specified instance type. Constraints None Range - Primary/standby: centralization_standard - Distributed: enterprise Default Value N/A
limit	No	Integer	Definition Number of records to be queried. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1,100] Default Value 100
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 1 and limit is set to 10 , only the 2nd to 11th records are displayed. Constraints N/A Range [0,2 ³¹ -1] Default Value 0 : The query starts from the first data record.

Request Parameters

None

Response Parameters

Table 5-5 Response Parameters

Parameter	Type	Description
flavors	Array of objects	Definition Specification details. For details, see Table 5-6 .
total	Integer	Definition Total number of records. Range [0, 2 ³¹ -1]

Table 5-6 flavors description

Parameter	Type	Description
vcpus	String	Definition Number of vCPUs. Range N/A
ram	String	Definition Memory size in GB. Range N/A
spec_code	String	Definition Resource specification code. For details, see DB Instance Specifications . Range N/A
availability_zone	Array of strings	Definition AZ supported by the specifications.

Parameter	Type	Description
az_status	Map<String,String>	Definition key indicates the AZ ID, and value indicates the specification status in the AZ. Range • normal: available. • unsupported: indicates that the specifications are not supported by the AZ. • sellout: indicates that the specifications in the AZ are sold out.
version	String	Definition DB engine version supported by the specifications. Range N/A
name	String	Definition DB engine. Range N/A
group_type	String	Definition Performance specifications. Range • normal: dedicated (1:8) • normal2: dedicated (1:4) • armFlavors: Kunpeng dedicated (1:8) • general: general-purpose (1:4) • armFlavors2: Kunpeng dedicated (1:4) • exclusive: dedicated (1:4). It is only suitable for centralized instances of the basic edition. • armExclusive: Kunpeng dedicated (1:4). It is only suitable for centralized instances of the basic edition. • economical: favored (1:4) • economical2: favored (1:8)

Example Request

Querying database specifications

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/
flavors?
offset=0&limit=10&ha_mode=centralization_standard&version=3.100&spec_code=gaussdb.opengauss.ee.dn.
m4.2xlarge.8.in
```

Example Response

```
{
  "flavors": [
    {
      "vcpus": "2",
      "ram": "16",
      "availability_zone": [
        "az2xahz",
        "az1xahz",
        "az3xahz"
      ],
      "version": "1.4",
      "name": "GaussDB",
      "spec_code": "gaussdb.opengauss.ee.dn.m6.large.8.in",
      "az_status": {
        "az2xahz": "normal",
        "az1xahz": "normal",
        "az3xahz": "normal"
      },
      "group_type": "normal2"
    }
  ],
  "total": 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.1.3 Querying DB Engines (v3)

Function

This API is used to query DB engines. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/datastores

Table 5-7 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 5-8 Parameter description

Name	Type	Description
datastores	Array of objects	DB engines. For details, see Table 5-9 .

Table 5-9 dataStores field data structure description

Parameter	Type	Description
supported_versions	Array of strings	Engine versions supported by the deployment model.
instance_model	String	Deployment model. Range: • ha: centralized • independent: independent

Example Request

Querying DB engines

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/datastores
```

Example Response

```
DB engines queried.
{
  "datastores": [
    {
      "supported_versions": [
        "2.0",
        "2.3",
        "2.6",
        "2.9"
      ],
      "instance_mode": "ha"
    }
  ]
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Code

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

5.2 DB Instance Management

5.2.1 Creating a DB Instance (v3.1)

Function

This API is used to create a GaussDB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3.1/{project_id}/instances

Table 5-10 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 5-11 Request parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Instance name. Instances of the same type can have same names under the same tenant. The name must consist of 4 to 64 characters and start with a letter. Only letters (case-sensitive), digits, hyphens (-), and underscores (_) are allowed.
datastore	Yes	Object	Database information. For details, see Table 5-12 .
ha	Yes	Object	Instance deployment model. For details, see Table 5-13 .
configuration_id	No	String	Parameter template ID. If this parameter is not specified, the default parameter template is used and this parameter is not returned in the response body.

Parameter	Mandatory	Type	Description
port	No	String	Port number used by the database to provide services for external systems. If you do not configure this parameter, the default value 8000 is used. Value range: 1024 to 39998 . The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124.
password	Yes	String	Database password. The password must: Consist of 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters (~!@#%^*_-=+?,.). A strong password helps improve security and mitigate potential threats like brute force attacks.
backup_strategy	No	Object	Backup policy. For details, see Table 5-14 .
enterprise_project_id	No	String	Enterprise project ID. This parameter is suitable only for enterprise tenants. For details, see id in the enterprise_project field data structure response table in Querying Enterprise Projects of <i>Enterprise Management API Reference</i> .
disk_encryption_id	No	String	Key ID for disk encryption. This parameter is left blank by default. For details about key grant, see Creating a Grant in <i>Data Encryption Workshop User Guide</i> .
flavor_ref	Yes	String	Specification code. The value cannot be left blank. To obtain its value, see the spec_code field in Querying Instance Specifications .
volume	Yes	Object	Volume information. For details, see Table 5-15 .
region	Yes	String	Region ID. The value cannot be left blank. For details about how to obtain this parameter value, see Regions and Endpoints .

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	AZ ID. The value cannot be left blank. You can deploy a GaussDB instance in the same AZ or different AZs, and use commas (,) to separate AZs. The value cannot be left blank. For details about how to obtain this parameter value, see Regions and Endpoints.
vpc_id	Yes	String	VPC ID. To obtain this parameter value, use either of the following methods: • Method 1: Log in to the VPC console and view the VPC ID in the VPC details page. • Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs. • Method 2: See "Querying VPCs" in <i>Virtual Private Cloud API Reference</i>.
subnet_id	Yes	String	Network ID of the subnet. To obtain this parameter value, use either of the following methods: • Method 1: Log in to the VPC console and click the target subnet on the Subnets page. You can view the network ID on the displayed page. • Method 2: Query the subnet ID through the VPC API. For details, see Querying Subnets. • Method 2: See "Querying Subnets" in <i>Virtual Private Cloud API Reference</i>.

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	Security group which the instance is associated with. If you do not need to specify a security group, contact customer service. • Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: Query the security group through the VPC API. For details, see Querying Security Groups. • Method 2: See "Querying Security Groups" in <i>Virtual Private Cloud API Reference</i>.
charge_info	No	Object	Billing mode, which can be pay-per-use or yearly/monthly. For details, see Table 5-16.
time_zone	No	String	UTC time zone. • If this parameter is not specified, GaussDB uses UTC in the International website by default. • If this parameter is specified, the value ranges from UTC-12:00 to UTC+12:00 at the full hour. For example, the parameter can be UTC+08:00 rather than UTC+08:30.
sharding_num	No	Integer	This parameter is available only for distributed instances. Number of shards. The value ranges from 1 to 9.
coordinator_num	No	Integer	This parameter is available only for distributed instances. Number of CNs. The value ranges from 1 to 9. The number of CNs cannot exceed twice the number of shards.
replica_num	No	Integer	Number of replicas. The value can be 3. If this parameter is left blank, the default value 3 is used.

Parameter	Mandatory	Type	Description
enable_force_switch	No	Boolean	Whether to forcibly promote a standby node to primary. The value can only be true or false. true indicates that the function is enabled, and false (default value) indicates that the function is disabled. This function is available only for instances of version 1.2.2 or later. NOTE If the primary node fails, this function enables a standby node to be forcibly promoted to primary to provide services, ensuring the instance availability. When an instance is faulty, a forcible switchover enables the instance to run normally as soon as possible at the cost of losing some data. This is an escape method used when the instance is unavailable.
enable_single_float_ip	No	Boolean	Single floating IP address policy, which is only suitable for centralized instances of version V2.0-3.206 or later. Range: • true: This policy is enabled. Only one floating IP address is bound to the primary node of a DB instance. If a primary/standby failover occurs, the floating IP address does not change. • false (default value): The policy is disabled. Each node is bound to a floating IP address. If a primary/standby failover occurs, the floating IP addresses change.

Table 5-12 datastore field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	DB engine. Value: GaussDB . It is case-insensitive.

Parameter	Mandatory	Type	Description
version	No	String	DB engine version. If this parameter is not specified, the latest version is used by default. For details about the versions supported by GaussDB, see Querying DB Engine Versions .

Table 5-13 ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	Deployment model. The value is case-insensitive and can be enterprise (enterprise edition) and combined (basic edition for combined deployment) for distributed instances and centralization_standard for centralized instances.
consistency	Yes	String	Transaction consistency type. The value is case-insensitive and can be: • strong: strong consistency • eventual: eventual consistency
replication_mode	Yes	String	Replication mode for the standby node. The value can only be set to sync , indicating that data is synchronized in synchronous mode.

Parameter	Mandatory	Type	Description
instance_mode	No	String	Edition type of the instance to be created. If this parameter is not specified, an instance of the enterprise edition will be created by default. To create an instance of the basic edition or ecosystem edition, you need to specify the parameter value. • enterprise: An instance of the enterprise edition will be created. • basic: An instance of the basic edition will be created. • ecology: An instance of the ecosystem edition will be created.

Table 5-14 backup_strategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	Backup time window. Automated backups will be created during the backup time window. The value cannot be left blank or negative. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00. Example value: • 08:00-09:00 • 23:00-00:00
keep_days	No	Integer	Retention days for specific backup files. Value: 1 to 36500. If this parameter is not specified, the default value 7 is used.

Table 5-15 volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Disk type. The value is case-sensitive and can only be ULTRAHIGH (SSD storage) or ESSD (extreme SSD storage).
size	Yes	Integer	Storage. For example, if this parameter is set to 40 , 40 GB of storage is allocated to the created instance. ECS deployment: The value is from (Number of shards x 40 GB) to (Number of shards x 24 TB) and must be a multiple of (Number of shards x 4 GB).

Table 5-16 chargeInfo field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Billing mode. postPaid : pay-per-use billing. prePaid : yearly/monthly billing.
period_type	No	String	Subscription type. This parameter is valid and mandatory only when charge_mode is set to prePaid . Range: month: monthly subscription. year: yearly subscription.
period_num	No	Integer	This parameter is valid and mandatory only when charge_mode is set to prePaid . Range: - When period_type is set to month, the parameter value ranges from 1 to 9. - When period_type is set to year, the parameter value ranges from 1 to 3. When a floating-point value is used, the value is automatically truncated to an integer.

Parameter	Mandatory	Type	Description
is_auto_renew	No	Boolean	Whether automatic renewal is enabled for your yearly/monthly instance. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed. • true: Automatic renewal is enabled. • false (default value): Automatic renewal is disabled.
is_auto_pay	No	Boolean	Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. • true: The order will be automatically paid. • false (default value): The order will be manually paid.

Response Parameters

Table 5-17 Response parameters

Parameter	Type	Description
instance	Object	Instance information. For details, see Table 5-18 .
job_id	String	ID of the job for creating an instance. This parameter is returned only when pay-per-use instances are created.
order_id	String	Order ID. This parameter is only returned during the creation of yearly/monthly instances.

Table 5-18 instance description

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name. Instances of the same type can have same names under the same tenant. The value must consist of 4 to 64 characters and start with a letter. Only letters (case-insensitive), digits, hyphens (-), and underscores (_) are allowed.
status	String	Instance status. For example, BUILD indicates that the instance is being created. This parameter is returned only when pay-per-use instances are created.
datastore	Object	Database information. For details, see Table 5-19 .
ha	Object	Database deployment model. For details, see Table 5-20 .
replica_num	Integer	Number of replicas.
port	String	Database port, which is the same as the request parameter.
backup_strategy	Object	Automated backup policy. For details, see Table 5-21 .
enterprise_project_id	String	Project ID.
flavor_ref	String	Specification code. The value cannot be left blank.
volume	Object	Volume information. For details, see Table 5-22 .
region	String	Region ID.
availability_zone	String	AZ ID.
vpc_id	String	VPC ID.
subnet_id	String	Network ID of the subnet.
security_group_id	String	Security group which the instance is associated with.

Parameter	Type	Description
charge_info	Object	Payment mode. For details, see Table 5-23 .

Table 5-19 datastore field data structure description

Parameter	Type	Description
type	String	DB engine. Value: GaussDB
version	String	DB engine version.

Table 5-20 ha field data structure description

Parameter	Type	Description
mode	String	Deployment model. The value is case-insensitive and can be combined (basic edition for combined deployment) and enterprise (enterprise edition) for distributed instances and centralization_standard for centralized instances.
replication_mode	String	Replication mode for the standby node. The value can only be set to sync , indicating that data is synchronized in synchronous mode.
consistency	String	Transaction consistency type. This parameter is reserved for GaussDB. Values: • strong: strong consistency • eventual: eventual consistency
consistency_protocol	String	Replica consistency protocol. The value can be quorum (default value) or paxos . If it is not specified, the default value is used.

Table 5-21 backup_strategy field data structure description

Parameter	Type	Description
start_time	String	Backup time window. Automated backups will be created during the backup time window. The value cannot be left blank. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00. Example value: • 08:00-09:00 • 23:00-00:00 If backup_strategy in the request body is left blank, 02:00-03:00 is returned for start_time by default.
keep_days	Integer	Retention days for specific backup files. Value range: 1–732. If the backup_strategy field is not specified in the request body, keep_days in the response body is set to 7 days by default.

Table 5-22 volume field data structure description

Parameter	Type	Description
type	String	Disk type. Its value is case-sensitive and can be: • ULTRAHIGH, indicating SSD. • ESSD: indicates the extreme SSD.
size	Integer	Storage.

Table 5-23 charge_Info field data structure description

Parameter	Type	Description
charge_mode	String	Billing mode. postPaid: pay-per-use billing. prePaid: yearly/monthly billing.

Parameter	Type	Description
period_type	String	Subscription type. month : monthly subscription. year : yearly subscription. This parameter is valid and mandatory only when charge_mode is set to prePaid . Range: • month • year
period_num	Integer	This parameter is valid and mandatory only when charge_mode is set to prePaid . Range: When period_type is set to month , the parameter value ranges from 1 to 9 . When period_type is set to year , the parameter value ranges from 1 to 3 .
is_auto_renew	Boolean	Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed. true : indicates that the subscription is automatically renewed. false (default value): indicates that the subscription is not automatically renewed.
is_auto_pay	Boolean	Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. true : indicates that the order is automatically paid from the account. false (default value): indicates that the order is manually paid from the account.

Example Request

- Creating a distributed instance in the independent deployment (one-year yearly/monthly billing, DB engine 2.7, three AZs, three CNs, three shards, three replicas, and 8 vCPUs and 64 GB)

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "user1-v3-independent-02",
  "datastore": {
    "type": "GaussDB",
    "version": "2.7"
  },
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
  "region": "aaa",
  "availability_zone": "bbb,ccc,ddd",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "password": "xxxxxx",
  "configuration_id": "",
  "enterprise_project_id": "",
  "time_zone": "UTC+08:00",
  "ha": {
    "mode": "enterprise",
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "sharding_num": 3,
  "coordinator_num": 3,
  "replica_num": 3,
  "port": 8000,
  "enable_force_switch": true
}
```

- Creating a centralized instance with the following configurations: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine 2.7, single AZ, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "user1-v3-ha-01",
  "datastore": {
    "type": "GaussDB",
    "version": "2.7"
  },
  "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
}
```

```
"region": "aaa",
"availability_zone": "bbb,bbb,bbb",
"vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
"subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
"security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
"backup_strategy": {
  "start_time": "17:00-18:00",
  "keep_days": 7
},
"charge_info": {
  "charge_mode": "postPaid"
},
"password": "xxxxxx",
"configuration_id": "",
"enterprise_project_id": "",
"time_zone": "UTC+08:00",
"ha": {
  "mode": "centralization_standard",
  "consistency": "strong",
  "replication_mode": "sync"
},
"replica_num": 3,
"port": 8000,
"enable_force_switch": true
}
```

- Creating a centralized instance with the following configurations: HA (1 primary + 2 standby) deployment, yearly/monthly billing (1 year), DB engine 2.7, three AZs, and 8 vCPUs | 64 GB

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.1/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "user1-v3-ha-02",
  "datastore": {
    "type": "GaussDB",
    "version": "2.7"
  },
  "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
  "region": "aaa",
  "availability_zone": "bbb,ccc,ddd",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "password": "xxxxxx",
  "configuration_id": "",
  "enterprise_project_id": "",
  "time_zone": "UTC+08:00",
  "ha": {
    "mode": "centralization_standard",
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "replica_num": 3,
  "port": 8000,
}
```

```
    "enable_force_switch": true
  }
```

Example Response

- Distributed instance in the independent deployment (pay-per-use billing, DB engine 2.7, single AZ, 3 CNs, 3 shards, 3 replicas, 8 vCPUs and 64 GB) created.

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-independent-01",
    "status": "BUILD",
    "datastore": {
      "type": "GaussDB",
      "version": "2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "replica_num": 3,
    "region": "aaa",
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,bbb,bbb",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
    "charge_info": {
      "charge_mode": "postPaid"
    }
  },
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Distributed instance (one-year yearly/monthly billing, DB engine 2.7, three AZs, three CNs, three shards, three replicas, 8 vCPUs and 64 GB) created.

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-independent-02",
    "datastore": {
      "type": "GaussDB",
      "version": "2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "replica_num": 3,
    "region": "aaa",
  }
```

```
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,bbb,bbb",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
    "charge_info": {
      "charge_mode": "prePaid",
      "period_type": "year",
      "period_num": 1,
      "is_auto_renew": false,
      "is_auto_pay": false
    }
  },
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine 2.7, single AZ, and 8 vCPUs | 64 GB

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbabb3143in14",
    "name": "user1-v3-ha-01",
    "status": "BUILD",
    "datastore": {
      "type": "GaussDB",
      "version": "2.7"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "region": "aaa",
    "replica_num": 3,
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,bbb,bbb",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "charge_info": {
      "charge_mode": "postPaid"
    },
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f"
  },
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

- Centralized instance with the following configurations created: HA (1 primary + 2 standby) deployment, yearly/monthly billing (1 year), DB engine 2.7, three AZs, and 8 vCPUs | 64 GB

```
{
  "instance": {
```



```
{
  "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
  "name": "user1-v3-ha-02",
  "datastore": {
    "type": "GaussDB",
    "version": "2.7"
  },
  "ha": {
    "mode": "Enterprise",
    "replication_mode": "sync",
    "consistency": "strong"
  },
  "port": "8000",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "replica_num": 3,
  "region": "aaa",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "enterprise_project_id": "0",
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "availability_zone": "bbb,bbb,bbb",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1,
    "is_auto_renew": false,
    "is_auto_pay": false
  }
},
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.2.2 Creating a DB Instance (v3)

Function

This API is used to create a GaussDB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances

Table 5-24 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 5-25 Request parameters

Parameter	Mandatory	Type	Description
name	Yes	String	Instance name. Instances of the same type can have same names under the same tenant. The name must consist of 4 to 64 characters and start with a letter. It can contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).
datastore	Yes	Object	Database information. For details, see Table 5-26 .
ha	Yes	Object	Instance deployment model. For details, see Table 5-27 .
configuration_id	No	String	Parameter template ID. If this parameter is not specified, the default parameter template is used and this parameter is not returned in the response body.

Parameter	Mandatory	Type	Description
port	No	String	Port number used by the database to provide services for external systems, ranging from 1024 to 39998. If you do not configure this parameter, the default value 8000 is used. The following ports are not allowed: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 12016, 12017, 20049, 20050, 21731, 21732, 32122, 32123, and 32124.
password	Yes	String	Database password. The GaussDB database password must: Consist of 8 to 32 characters, including at least three of the following: uppercase letters, lowercase letters, digits, and special characters ~!@#\$%^&*()-_+= [{]};,.<.>/? A strong password helps improve security and mitigate potential threats like brute force attacks.
backup_strategy	No	Object	Backup policy. For details, see Table 5-28 .
enterprise_project_id	No	String	Enterprise project ID. This parameter is suitable only for enterprise tenants. For details, see id in the enterprise_project field data structure table in Querying Enterprise Projects of <i>Enterprise Management API Reference</i> .
disk_encryption_id	No	String	Key ID for disk encryption. The default value is empty.
flavor_ref	Yes	String	Specification code. The value cannot be empty. For details on how to obtain the GaussDB specification code, see DB Instance Specifications .
volume	Yes	Object	Volume information. For details, see Table 5-29 .
region	Yes	String	Region ID. The value cannot be empty. For details about how to obtain this parameter value, see Regions and Endpoints .

Parameter	Mandatory	Type	Description
availability_zone	Yes	String	AZ ID. The value cannot be empty. You can deploy GaussDB in the same AZ or across three different AZs, and use commas (,) to separate AZs. For example: • To deploy a DB instance in the same AZ, enter three same AZ IDs. • To deploy a DB instance across three different AZs, enter three different AZ IDs. The value cannot be empty. For details about how to obtain this parameter value, see Regions and Endpoints.
vpc_id	Yes	String	VPC ID. To obtain this parameter value, use the following methods: • Method 1: Log in to the VPC console and view the VPC ID in the VPC details. • Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs. • Method 2: See "Querying VPCs" in <i>Virtual Private Cloud API Reference</i>.
subnet_id	Yes	String	Network ID of the subnet. To obtain this parameter value, use either of the following methods: • Method 1: Log in to the VPC console and click the target subnet on the Subnets page. You can view the network ID on the displayed page. • Method 2: Query the subnet ID through the VPC API. For details, see Querying Subnets. • Method 2: See "Querying Subnets" in <i>Virtual Private Cloud API Reference</i>.

Parameter	Mandatory	Type	Description
security_group_id	Yes	String	Security group which the instance is associated with. To obtain this parameter value, use either of the following methods: If you do not need to specify a security group, contact customer service. • Method 1: Log in to the VPC console. Choose Access Control > Security Groups in the navigation pane. On the displayed page, click the target security group. You can view the security group ID on the displayed page. • Method 2: Query the security group through the VPC API. For details, see Querying Security Groups. • Method 2: See "Querying Security Groups" in <i>Virtual Private Cloud API Reference</i>.
charge_info	No	Object	Billing mode, which can be pay-per-use or yearly/monthly. For details, see Table 5-30.
time_zone	No	String	UTC time zone. • If this parameter is not specified, GaussDB uses UTC in the International website by default. • If this parameter is specified, the value ranges from UTC-12:00 to UTC+12:00 at the full hour. For example, the parameter can be UTC+08:00 rather than UTC+08:30.
sharding_num	No	Integer	This parameter is available only for distributed instances. Number of shards. The value ranges from 1 to 9.
coordinator_num	No	Integer	This parameter is available only for distributed instances. Number of CNs. The value ranges from 1 to 9. The number of CNs cannot exceed twice the number of shards.

Parameter	Mandatory	Type	Description
replica_num	No	Integer	Number of replicas. The value can be 2 or 3 (default). NOTE To use two-replica instance, ensure that the instance version is 1.3.0 or later and submit an application by choosing submit a service ticket in the upper right corner of the management console.
enable_force_switch	No	Boolean	Whether to forcibly promote a standby node to primary. The value can only be true or false . true indicates that the function is enabled, and false indicates that the function is disabled. The function is disabled by default. Only 1.2.2 and later versions are supported. NOTE If the primary node fails, this function enables a standby node to be forcibly promoted to primary to provide services, ensuring the instance availability. This function ensures service recovery as soon as possible at the cost of partial data loss. You are not advised to use this function if you are not clear about the impact of data loss on services.

Table 5-26 datastore field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	DB engine. Value: GaussDB . It is case-insensitive.
version	No	String	DB engine version. If this parameter is not specified, the latest version is used by default. For details, see Querying DB Engine Versions .

Table 5-27 ha field data structure description

Parameter	Mandatory	Type	Description
mode	Yes	String	Deployment model. Its value is enterprise for distributed instances and centralization_standard for primary/standby instances. It is case-insensitive.
consistency	Yes	String	Transaction consistency type. The value can be strong or eventual and is case-insensitive.
replication_mode	Yes	String	Replication mode for the standby node. Valid value: sync NOTE sync indicates synchronous replication.
instance_mode	No	String	Edition type of the instance to be created. If this parameter is not specified, an instance of the enterprise edition will be created by default. To create an instance of the basic edition or ecosystem edition, you need to specify the parameter value. • enterprise: An instance of the enterprise edition will be created. • basic: An instance of the basic edition will be created. • ecology: An instance of the ecosystem edition will be created.

Table 5-28 backup_strategy field data structure description

Parameter	Mandatory	Type	Description
start_time	Yes	String	Backup time window. Automated backups will be created during the backup time window. The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00. Example value: • 08:00-09:00 • 23:00-00:00
keep_days	No	Integer	Retention days for specific backup files. Value: 0 to 732. If this parameter is not specified or is set to 0, the default value 7 is used.

Table 5-29 volume field data structure description

Parameter	Mandatory	Type	Description
type	Yes	String	Disk type. The value is case-sensitive and can only be ULTRAHIGH (SSD storage) or ESSD (extreme SSD storage).
size	Yes	Integer	Disk size. For example, if this parameter is set to 40, 40 GB of storage is allocated to the created instance. ECS deployment: The value is from (Number of shards x 40 GB) to (Number of shards x 16 TB) and must be a multiple of (Number of shards x 4).

Table 5-30 chargeInfo field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Billing mode. postPaid : pay-per-use billing. prePaid : yearly/monthly billing.
period_type	No	String	Subscription type. Range: • month: monthly subscription. • year: yearly subscription. NOTE This parameter is valid and mandatory only when charge_mode is set to prePaid .
period_num	No	Integer	This parameter is valid and mandatory only when charge_mode is set to prePaid . Range: • When period_type is set to month, the parameter value ranges from 1 to 9. • When period_type is set to year, the parameter value ranges from 1 to 3. When a floating-point value is used, the value is automatically truncated to an integer.
is_auto_renew	No	Boolean	Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed. • true: Automatic renewal is enabled. • false (default value): Automatic renewal is disabled.

Parameter	Mandatory	Type	Description
is_auto_pay	No	Boolean	Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. • true: The order will be automatically paid. • false: The order will be manually paid. The default value is false.

Response Parameters

Table 5-31 Response parameters

Parameter	Type	Description
instance	Object	Instance information. For details, see Table 5-32 .
job_id	String	Instance creation task ID. This parameter is returned only when pay-per-use instances are created.
order_id	String	Order ID. This parameter is returned only for the creation of yearly/monthly instances.

Table 5-32 instance description

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name. Instances of the same type can have same names under the same tenant. The value must consist of 4 to 64 characters and start with a letter. It is case-insensitive and contains only letters, digits, hyphens (-), and underscores (_).

Parameter	Type	Description
status	String	Instance status. For example, BUILD indicates that the instance is being created. This parameter is returned only when pay-per-use instances are created.
datastore	Object	Database information. For details, see Table 5-33 .
ha	Object	Database deployment model. For details, see Table 5-34 .
replica_num	Integer	Number of replicas.
port	String	Database port, which is the same as the request parameter.
backup_strategy	Object	Automated backup policy. For details, see Table 5-35 .
enterprise_project_id	String	Project ID.
flavor_ref	String	Specification code. The value cannot be empty. For details on how to obtain the GaussDB specification code, see DB Instance Specifications .
volume	Object	Volume information. For details, see Table 5-36 .
region	String	Region ID.
availability_zone	String	AZ ID.
vpc_id	String	VPC ID.
subnet_id	String	Network ID of the subnet.
security_group_id	String	Security group to which the instance belongs.
charge_info	Object	Payment mode. For details, see Table 5-37 .

Table 5-33 datastore field data structure description

Parameter	Type	Description
type	String	DB engine. Value:

Parameter	Type	Description
version	String	DB engine version.

Table 5-34 ha field data structure description

Parameter	Type	Description
mode	String	Distributed deployment. The value can be enterprise (Enterprise Edition). Centralized deployment. The value is centralization_standard . It is case-insensitive.
replication_mode	String	Replication mode for the standby node. Valid value: sync . NOTE sync indicates synchronous replication.
consistency	String	(GaussDB reserved parameter) Transaction consistency type. The value can be strong or eventual .

Table 5-35 backup_strategy field data structure description

Parameter	Type	Description
start_time	String	Backup time window. Automated backups will be created during the backup time window. The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. • The HH value must be 1 greater than the hh value. • The values of mm and MM must be the same and must be set to 00. Example value: • 08:00-09:00 • 23:00-00:00 If backup_strategy in the request body is left blank, 02:00-03:00 is returned for start_time by default.

Parameter	Type	Description
keep_days	Integer	Retention days for specific backup files. The value ranges from 1 to 732. If the backup_strategy field is not specified in the request body, keep_days in the response body is set to 7 days by default.

Table 5-36 volume field data structure description

Parameter	Type	Description
type	String	Disk type. Its value is case-sensitive and can be: • ULTRAHIGH, indicating SSD. • ESSD: indicates the extreme SSD.
size	Integer	Disk size. When creating a distributed instance, you need to specify the size to be a multiple of (Number of shards x 4 GB). Value range: (Number of shards x 40 GB) to (Number of shards x 16 TB).

Table 5-37 charge_info field data structure description

Parameter	Type	Description
charge_mode	String	Billing mode. postPaid : pay-per-use billing. prePaid : yearly/monthly billing.
period_type	String	Subscription type. month : monthly subscription. year : yearly subscription. This parameter is valid and mandatory only when charge_mode is set to prePaid . Range: • month • year

Parameter	Type	Description
period_num	Integer	This parameter is valid and mandatory only when charge_mode is set to prePaid . Range: When period_type is set to month , the parameter value ranges from 1 to 9 . When period_type is set to year , the parameter value ranges from 1 to 3 .
is_auto_renew	Boolean	Whether automatic renewal is enabled for yearly/monthly instances. If you enable this function, the order will be automatically paid during the subscription renewal. The default renewal period is one month for monthly subscription and one year for yearly subscription. The renewal period can be configured as needed. true : indicates that the subscription is automatically renewed. false : indicates that the subscription is not automatically renewed. The default value is false .
is_auto_pay	Boolean	Whether the order will be automatically paid after yearly/monthly instances are created. This parameter does not affect the payment mode of automatic renewal. true : indicates that the order is automatically paid from the account. false : indicates that the order is manually paid from the account. The default value is false .

Example Request

- Creating a distributed DB instance in the independent deployment (pay-per-use billing, DB engine 1.4, single AZ, three CNs, three shards, three replicas, and 8 vCPUs and 64 GB)

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances
{
  "name": "user1-v3-independent-01",
  "datastore": {
    "type": "GaussDB",
    "version": "1.4"
  },
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  }
}
```

```
,
"disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
"region": "aaa",
"availability_zone": "bbb,bbb,bbb",
"vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
"subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
"security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
"backup_strategy": {
  "start_time": "17:00-18:00",
  "keep_days": 7
},
"charge_info": {
  "charge_mode": "postPaid"
},
"password": "xxxxxx",
"configuration_id": "",
"enterprise_project_id": "",
"time_zone": "UTC+08:00",
"ha": {
  "mode": "enterprise",
  "consistency": "strong",
  "replication_mode": "sync"
},
"sharding_num": 3,
"coordinator_num": 3,
"replica_num": 3,
"port": 8000,
"enable_force_switch": true
}
```

- Creating a distributed DB instance in the independent deployment (one-year yearly/monthly billing, DB engine 1.4, three AZs, three CNs, three shards, three replicas, and 8 vCPUs and 64 GB)

<https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances>

```
{
  "name": "user1-v3-independent-02",
  "datastore": {
    "type": "GaussDB",
    "version": "1.4"
  },
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
  "region": "aaa",
  "availability_zone": "bbb,ccc,ddd",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "charge_info": {
    "charge_mode": "prePaid",
    "period_type": "year",
    "period_num": 1
  },
  "password": "xxxxxx",
  "configuration_id": "",
  "enterprise_project_id": "",
  "time_zone": "UTC+08:00",
  "ha": {
    "mode": "enterprise",
    "consistency": "strong",

```

```
    "replication_mode": "sync"
  },
  "sharding_num": 3,
  "coordinator_num": 3,
  "replica_num": 3,
  "port": 8000,
  "enable_force_switch": true
}
```

- Creating a centralized instance with the following configurations: HA (1 primary + 2 standby) deployment, pay-per-use billing, DB engine 1.4, single AZ, and 8 vCPUs | 64 GB

<https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances>

```
{
  "name": "user1-v3-ha-01",
  "datastore": {
    "type": "GaussDB",
    "version": "1.4"
  },
  "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
  "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
  "region": "aaa",
  "availability_zone": "bbb,bbb,bbb",
  "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
  "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
  "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
  "backup_strategy": {
    "start_time": "17:00-18:00",
    "keep_days": 7
  },
  "charge_info": {
    "charge_mode": "postPaid",
  },
  "password": "xxxxxx",
  "configuration_id": "",
  "enterprise_project_id": "",
  "time_zone": "UTC+08:00",
  "ha": {
    "mode": "centralization_standard",
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "replica_num": 3,
  "port": 8000,
  "enable_force_switch": true
}
```

- Creating a centralized instance with the following configurations: 1 primary + 2 standby deployment, yearly/monthly billing (1 year), DB engine 1.4, three AZs, and 8 vCPUs | 64 GB

<https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances>

```
{
  "name": "user1-v3-ha-02",
  "datastore": {
    "type": "GaussDB",
    "version": "1.4"
  },
  "flavor_ref": "gaussdb.opengauss.ee.km1.2xlarge.arm8.ha",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  },
```



```
,
"disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
"region": "aaa",
"availability_zone": "bbb,ccc,ddd",
"vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
"subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
"security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
"backup_strategy": {
  "start_time": "17:00-18:00",
  "keep_days": 7
},
"charge_info": {
  "charge_mode": "prePaid",
  "period_type": "year",
  "period_num": 1
},
"password": "xxxxxx",
"configuration_id": "",
"enterprise_project_id": "",
"time_zone": "UTC+08:00",
"ha": {
  "mode": "centralization_standard",
  "consistency": "strong",
  "replication_mode": "sync"
},
"replica_num": 3,
"port": 8000,
"enable_force_switch": true
}
```

Example Response

Instance of the enterprise edition created.

```
{
  "instance": {
    "id": "ad8cd1440aa94a02ae4580fcbebb3143in14",
    "name": "user1-v3-independent",
    "status": "BUILD",
    "datastore": {
      "type": "",
      "version": "1.4"
    },
    "ha": {
      "mode": "Enterprise",
      "replication_mode": "sync",
      "consistency": "strong"
    },
    "port": "8000",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "replica_num": 3,
    "region": "aaa",
    "region": "aaa",
    "backup_strategy": {
      "start_time": "17:00-18:00",
      "keep_days": 7
    },
    "enterprise_project_id": "0",
    "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
    "availability_zone": "bbb,bbb,bbb",
    "vpc_id": "1f011c32-2de2-4aa8-a161-9498dbcef329",
    "subnet_id": "54a44bec-e36f-441e-86bb-d749ace9c189",
    "security_group_id": "c6123999-8532-421c-9db6-e078013ff58f",
    "charge_info": {
      "charge_mode": "postPaid"
    }
  }
}
```

```
}  
  },  
  "job_id": "30f2790a-a5b6-4a13-a5ab-733c746609af"  
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Code

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

5.2.3 Querying DB Instances (v3.2)

Function

This API is used to query DB instances and their details. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.2/{project_id}/instances?
id={id}&name={name}&type={type}&datastore_type={datastore_type}&vpc_id={vp
c_id}&subnet_id={subnet_id}&offset={offset}&limit={limit}

Table 5-38 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Table 5-39 Query parameters

Parameter	Mandatory	Type	Description
id	No	String	Instance ID. The asterisk (*) is reserved for the system. If the instance ID starts with *, fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance ID. The value cannot contain only asterisks (*).
name	No	String	Instance name. The asterisk (*) is reserved for the system. If the instance name starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance name. The value cannot contain only asterisks (*).
type	No	String	Instance type. The value is case-sensitive. Range: • Enterprise (case-sensitive): distributed instances (in the independent deployment) • Centralization_standard (case-sensitive): centralized instances.
datastore_type	No	String	Database type. Its value is case-sensitive and can be GaussDB .
vpc_id	No	String	VPC ID. • Method 1: Log in to the VPC console and view the VPC ID in the VPC details page. • Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs. • Method 2: See "Querying VPCs" in <i>Virtual Private Cloud API Reference</i>.

Parameter	Mandatory	Type	Description
subnet_id	No	String	Network ID of the subnet. • Method 1: Log in to the VPC console and click the target subnet on the Subnets page. You can view the network ID on the displayed page. • Method 2: Query the VPC ID through the VPC API. For details, see Querying Subnets. • Method 2: See "Querying Subnets" in <i>Virtual Private Cloud API Reference</i>.
offset	No	Integer	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number.
limit	No	Integer	Number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 .

Parameter	Mandatory	Type	Description
tags	No	Array	Tag key-value pairs of the instance. • <i>{key}</i> indicates the tag key. It must be unique and cannot be left blank. Each tag key can contain a maximum of 127 Unicode characters. key cannot be an empty string, a space, or left blank. Before using key, delete single-byte character (SBC) spaces before and after the value. The value cannot contain the following special characters: +/?#&=,% • <i>{value}</i> indicates the tag value, which can be left blank. It can contain up to 255 Unicode characters. Before using value, delete SBC spaces before and after the value. The value cannot contain the following special characters: +/?#&=,% If the value is left blank, it indicates any_value (querying any value). To query instances with multiple tag key-value pairs, separate the pairs with commas (.). A maximum of 10 key-value pairs are supported.
charge_mode	No	String	Billing mode. Range: • postPaid: pay-per-use billing. • prePaid: yearly/monthly

Request Parameters

None

Response Parameters

Table 5-40 Response Parameters

Parameter	Type	Description
instances	Array of Table 5-41 objects	Instance information.
total_count	Integer	Total number of records.

Table 5-41 instances

Parameter	Type	Description
id	String	Instance ID.
name	String	Instance name.

Parameter	Type	Description
status	String	Instance status. Value: • If the value is BUILD, the instance is being created. • If the value is BUILD_FAILED, the instance creation failed. • If the value is ACTIVE, the instance is normal. • If the value is FAILED, the instance is abnormal. • If the value is FROZEN, the instance is frozen. • If the value is MODIFYING, the storage is being scaled up or instance specifications are being changed. • If the value is EXPANDING, read replicas, CNs, or shards are being added to the instance. • If the value is REBOOTING, the instance is being rebooted. • If the value is REDUCING: read replicas are being deleted. • If the value is UPGRADING, the instance is being upgraded. • If the value is RESTORING, the instance is being restored. • If the value is SWITCHOVER, the primary/standby switchover is being performed. • If the value is MIGRATING, the instance is being migrated. • If the value is BACKING UP, the instance is being backed up. • If the value is UPGRADE TO BE OBSERVED, the instance upgrade is in the observation period. • If the value is MODIFYING DATABASE PORT, the database port is being changed. • If the value is STORAGE FULL, the instance storage is full. • If the value is REPAIRING, the instance is being repaired.

Parameter	Type	Description
		If the value is SHUTDOWN, the instance is stopped.
private_ips	Array of strings	Private IP address list. The value is an empty string until ECSs where CNs of distributed instances are deployed or ECSs where DN of centralized instances are deployed are created.
public_ips	Array of strings	EIPs bound to the instance. This parameter cannot be left blank after an EIP is bound.
port	Integer	Database port number. The GaussDB database port ranges from 1024 to 39998 (excluding the following which are occupied by the system and cannot be used: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 20049, 20050, 21731, and 21732). If this parameter is not specified, the default port number 8000 is used.
type	String	Instance type. The value is case-sensitive. Enterprise: distributed instance (enterprise edition) centralization_standard: centralized instance Combined: distributed instance (combined deployment)
ha	Table 5-42 object	This parameter is returned for distributed and centralized instances.
replica_num	Integer	Number of replicas.
region	String	Region where the instance is deployed.
datastore	Table 5-43 object	Database information.

Parameter	Type	Description
created	String	Creation time in the "yyyy-mm-dd hh:mm:ss timezone" format. timezone indicates the time zone. When the instance is being created, the value is the time when the creation request is delivered. After the instance is created, the value is the time when the creation is complete, for example, 2024-07-02 08:32:07 UTC.
updated	String	Update time. The format is the same as that of the created field. The value is left blank unless the instance creation is complete.
db_user_name	String	Default username.
vpc_id	String	VPC ID.
subnet_id	String	Network ID of the subnet.
security_group_id	String	Security group ID.
flavor_ref	String	Specification code. To obtain its value, see the spec_code field in Querying Instance Specifications .
flavor_info	Table 5-45 object	Flavor information.
volume	Table 5-46 object	Volume information.
switch_strategy	String	Database failover priority. If you do not configure failover priority during instance creation, this parameter will not be displayed. The value can be Reliability or Availability , indicating that the reliability or availability is given priority during the failover, respectively. If no failover priority is selected during the creation, the failover priority is not displayed.
backup_strategy	Table 5-47 object	Backup policy.
maintenance_window	String	Maintenance window in the UTC format.

Parameter	Type	Description
nodes	Array of Table 5-48 objects	Instance node information.
disk_encryption_id	String	Disk encryption key ID. This parameter is displayed only when the instance disk is encrypted.
enterprise_project_id	String	Enterprise project tag ID. If an instance does not belong to any enterprise project, the default value is 0 .
instance_mode	String	Instance type. • basic: basic edition • enterprise: enterprise edition
disk_encryption_id	String	Disk encryption key ID. This parameter is displayed only when the instance disk is encrypted.
charge_info	Table 5-49 object	Billing mode, which can be pay-per-use or yearly/monthly.
time_zone	String	Time zone.
tags	Array of Table 5-50 objects	Tags. This parameter is not returned if there is no tag.
disk_usage	String	Available disk usage of the instance. The value ranges from 0 to 1 and contains four decimal places.
mysql_compatibility	Table 14 mysql_compatibility object	M compatibility configuration of the instance.

Table 5-42 ha

Parameter	Type	Description
consistency	String	Database consistency type. It is only suitable for distributed instances. Range: • strong: strong consistency • eventual: eventual consistency

Parameter	Type	Description
replication_mode	String	Replication mode for the standby node. The value cannot be left blank. The value sync indicates that data is synchronized in synchronous mode.

Table 5-43 datastore

Parameter	Type	Description
type	String	Database engine.
version	String	Major version of the database.
complete_version	String	Minor version of the database.
target_version	String	Target version that the database is being upgraded to.
complete_kernel_version	String	Database kernel version.
hotfix_version_infos	Array of Table 5-44 objects	Hot patch information.

Table 5-44 hotfix_version_infos

Parameter	Type	Description
version	String	Hot patch version.
upgrade_finished_time	String	List of time when the hot patch installation is complete. The time when the hot patch update is complete is expressed in the "yyyy-mm-dd hh:mm:ss timezone" format. timezone indicates the time zone.

Table 5-45 flavor_info

Parameter	Type	Description
vcpu	Integer	Number of vCPUs.
mem	Integer	Memory size.

Table 5-46 volume

Parameter	Type	Description
type	String	Disk type. ULTRAHIGH (SSD storage) or ESSD (extreme SSD storage). The value is case-sensitive.
size	Integer	Disk size.

Table 5-47 backup_strategy

Parameter	Type	Description
start_time	String	Backup time window. Automated backups will be created during the backup time window. The time is in the UTC format.
keep_days	Integer	Number of days to retain the generated backup files. Value range: 1-732.

Table 5-48 nodes

Parameter	Type	Description
id	String	Node ID.
name	String	Node name.
role	String	Node type. • master: primary node • slave: standby node • secondary: log node • readreplica: read replica.
status	String	Node status. BUILD_FAILED : The node fails to be created.
availability_zone	String	AZ.

Parameter	Type	Description
private_ip	String	Private IP address of the node. For distributed instances, this parameter is valid only for CNs. For centralized instances, this parameter is valid for all nodes. The parameter value is returned after an ECS is created.
public_ip	String	EIP that has been bound. For distributed instances, this parameter is valid only for CNs. For centralized instances, this parameter is valid for all nodes. The parameter value is returned after an ECS is created and an EIP is bound to a DB instance.
component_names	String	Component information on the node (for example, <i>component ID.distributed ID</i>). Separate information of multiple components with semicolons (;).

Table 5-49 charge_info

Parameter	Type	Description
charge_mode	String	Billing mode. Range: • postPaid: pay-per-use billing. • prePaid: yearly/monthly

Table 5-50 tags

Parameter	Type	Description
key	String	Tag key.
value	String	Tag value.

Table 5-51 mysql_compatibility

Parameter	Type	Description
port	String	Port for M compatibility.

Example Request

- Querying instances based on search criteria

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.2/97b026aa9cc4417888c14c84a1ad9860/instances?
id=ed7cc6166ec24360a5ed5c5c9c2ed726in14&name=hy&type=Enterprise&datastore_type=GaussDB&v
pc_id=19e5d45d-70fd-4a91-87e9-
b27e71c9891f&subnet_id=bd51fb45-2dcb-4296-8783-8623bfe89bb7&offset=0&limit=10
```

- Querying all instances

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
v3.2/97b026aa9cc4417888c14c84a1ad9860/instances
```

Example Response

- Instances queried.

```
{
  "instances": [ {
    "id": "b331ed66cc3249f78bc20737308c01f4in14",
    "status": "ACTIVE",
    "name": "gauss-9e88",
    "port": 8000,
    "type": "enterprise",
    "ha": {
      "consistency": "strong",
      "replication_mode": "sync"
    },
    "region": "cn-xianhz-1",
    "datastore": {
      "type": "GaussDB",
      "version": "2.7",
      "complete_version": "2.7.2",
      "target_version": "3.208.0",
      "complete_kernel_version": "V500R002C10SPC610"
    },
    "created": "2021-01-15 01:46:40 UTC",
    "updated": "2021-01-15 02:05:03 UTC",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "nodes": [ {
      "id": "02ebf757aaf94074855f49cc6e0e4712no14",
      "name": "gauss-9e88_gaussdbv5cn_2",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "az2xahz",
      "component_names": "cn_5001:"
    }, {
      "id": "0a87b8ecbfefb46aba1409cfc0f0d5c34no14",
      "name": "gauss-9e88_gaussdbv5cn_0",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "az2xahz",
      "component_names": "cn_5002:"
    }, {
      "id": "2d9fec1ab3834936b074d63acf48b1f2no14",
      "name": "gauss-9e88_gaussdbv5dn_2",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "az2xahz",
      "component_names": "dn_6003:60073"
    }, {
      "id": "48bb08a2d635435891ac0caa1c0bf2e3no14",
      "name": "gauss-9e88_gaussdbv5dn1_0",
      "role": "master",
      "status": "ACTIVE",

```

```
"availability_zone" : "az2xahz",
"component_names" : "dn_6001:60011"
}, {
  "id" : "5df830f652204827ada32f8bc28b107eno14",
  "name" : "gauss-9e88_gaussdbv5dn1_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6002:60011"
}, {
  "id" : "8a97a246cee841b38c5b47290d4c9c38no14",
  "name" : "gauss-9e88_gaussdbv5cn_1",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "cn_5003:"
}, {
  "id" : "8c1a3f8eecca4d9e9974a868bb6dd942no14",
  "name" : "gauss-9e88_gaussdbv5dn2_0",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6004:60042"
}, {
  "id" : "9bd0c80b8a684cc9bd7d99dd5adffb07no14",
  "name" : "gauss-9e88_gaussdbv5dn3_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6005:60073"
}, {
  "id" : "9e2a3cd541e249d4af5aa57c5d3a7f39no14",
  "name" : "gauss-9e88_gaussdbv5dn1_2",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6006:60011"
}, {
  "id" : "b046d28989ec4ae5a1a9ab20fe65f248no14",
  "name" : "gauss-9e88_gaussdbv5dn2_2",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6007:60042"
}, {
  "id" : "b614cc12fd3742dbb230245f88a7bf00no14",
  "name" : "gauss-9e88_gaussdbv5dn3_0",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6008:60073"
}, {
  "id" : "caba8e88c3c84ae58202f1f589490611no14",
  "name" : "gauss-9e88_gaussdbv5dn2_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6009:60042"
} ],
"private_ips" : [ "192.168.28.81 / 192.168.27.52 / 192.168.16.253" ],
"public_ips" : [ ],
"db_user_name" : "root",
"vpc_id" : "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id" : "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id" : "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref" : "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info" : {
  "vcpu" : 2,
  "mem" : 16
}
```

```
,
"switch_strategy" : "Reliability",
"charge_info" : {
  "charge_mode" : "prePaid"
},
"backup_strategy" : {
  "start_time" : "19:00-20:00",
  "keep_days" : 7
},
"maintenance_window" : "18:00-22:00",
"disk_encryption_id" : "24ae42b5-4009-4ea2-b66a-0b211e424dab",
"enterprise_project_id" : "6e76681b-a2f5-4c5f-97c5-ba4fd3c0dfb2",
"instance_mode" : "enterprise",
"time_zone" : "UTC+08:00",

"disk_usage" : "0.9890",
"mysql_compatibility" : {
  "port" : 3306
}
}, {
  "id" : "226b4afcfcc84c86bf1b9cb345d3b00fin14",
  "status" : "ACTIVE",
  "name" : "UTS-gauss-ad53-2C3D",
  "port" : 8000,
  "type" : "enterprise",
  "ha" : {
    "consistency" : "strong",
    "replication_mode" : "sync"
  },
  "region" : "cn-xianhz-1",
  "datastore" : {
    "type" : "GaussDB",
    "version" : "2.7",
    "complete_version" : "2.7.2",
    "complete_kernel_version" : "V500R002C10SPC610",
    "target_version" : "3.208.0",
    "hotfix_version_infos" : [ {
      "version" : "2.7.2.1",
      "upgrade_finished_time" : "2020-12-23 03:21:41 UTC"
    }, {
      "version" : "2.7.2.2",
      "upgrade_finished_time" : "2020-12-23 03:22:41 UTC"
    } ]
  },
  "created" : "2021-01-08 09:18:27 UTC",
  "updated" : "2021-01-14 13:25:03 UTC",
  "volume" : {
    "type" : "ULTRAHIGH",
    "size" : 120
  },
  "nodes" : [ {
    "id" : "07538a1def584cee99e2a5685eeab36ano14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn3_1",
    "role" : "slave",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6009:60072"
  }, {
    "id" : "21f41baba1e2454f82331b7cb5aeabe5no14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn1_2",
    "role" : "master",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6008:60042"
  }, {
    "id" : "2909771a3b3e4e3998f9388e77d22391no14",
    "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn1_0",
    "role" : "slave",
    "status" : "ACTIVE",
```



```
"availability_zone" : "az2xahz",
"component_names" : "dn_6007:60011"
}, {
  "id" : "2bd9a90a5da242a6b0743a7f597f6106no14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn2_2",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6006:60042"
}, {
  "id" : "77092f1dadb74d3ea13d28269cdd3590no14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn2_2",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6005:60072"
}, {
  "id" : "a46bfaa6d5a24355a60fce7432b964cano14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn3_0",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6004:60072"
}, {
  "id" : "aa5277736f3844e2a7adeb9de529e2b1no14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn2_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6003:60042"
}, {
  "id" : "b1d798e4ea7344dfa95032984bc6cfd7no14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5cn_1",
  "role" : "master",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "cn_5002:"
}, {
  "id" : "b9a46540186f4c0781eabaa2a79594cbno14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn1_1",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6002:60011"
}, {
  "id" : "d283813030364060ab64371d50294977no14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5dn2_0",
  "role" : "slave",
  "status" : "ACTIVE",
  "availability_zone" : "az2xahz",
  "component_names" : "dn_6001:60042"
}, {
  "id" : "eb7bce29b2284cd290405eaddc1b1a1eno14",
  "name" : "UTS-gauss-ad53-2C3D_gaussdbv5cn_0",
  "role" : "master",
  "status" : "FAILED",
  "availability_zone" : "az2xahz",
  "component_names" : "cn_5001:"
} ],
"private_ips" : [ "192.168.30.44 / 192.168.29.231" ],
"public_ips" : [ "10.154.217.248" ],
"db_user_name" : "root",
"vpc_id" : "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id" : "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id" : "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref" : "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info" : {
  "vcpu" : 2,
  "mem" : 16
}
```

```
,
"switch_strategy" : "Reliability",
"charge_info" : {
  "charge_mode" : "prePaid"
},
"backup_strategy" : {
  "start_time" : "18:00-19:00",
  "keep_days" : 7
},
"maintenance_window" : "18:00-22:00",
"enterprise_project_id" : "0",
"instance_mode" : "enterprise",
"time_zone" : "UTC+08:00",
"disk_usage" : "1.0000",
"mysql_compatibility" : {
  "port" : 3306
}
}, {
  "id" : "706c65c3dd7d497ab16f5b3a113690abin14",
  "status" : "ACTIVE",
  "name" : "UTS-gauss-7362",
  "port" : 8000,
  "type" : "enterprise",
  "ha" : {
    "replication_mode" : "sync"
  },
  "region" : "cn-xianhz-1",
  "datastore" : {
    "type" : "GaussDB",
    "version" : "2.7",
    "complete_version" : "2.7.2",
    "complete_kernel_version" : "V500R002C10SPC610",
    "target_version" : "3.208.0",
    "hotfix_version_infos" : [ {
      "version" : "2.7.2.1",
      "upgrade_finished_time" : "2020-12-23 03:21:41 UTC"
    }, {
      "version" : "2.7.2.2",
      "upgrade_finished_time" : "2020-12-23 03:22:41 UTC"
    } ]
  },
  "created" : "2020-12-23 03:21:41 UTC",
  "updated" : "2021-01-15 02:32:13 UTC",
  "volume" : {
    "type" : "ULTRAHIGH",
    "size" : 80
  },
  "nodes" : [ {
    "id" : "25b7f16ee4084b7884d52f1bdfab4e68no14",
    "name" : "UTS-gauss-7362_gaussdbv5dn1_2",
    "role" : "master",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6003:60011"
  }, {
    "id" : "ad6f02f31744422fa8ce487e81c9e7afno14",
    "name" : "UTS-gauss-7362_gaussdbv5cn_0",
    "role" : "master",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "cn_5001:"
  }, {
    "id" : "b30c56582bf44a548e3bb5b5af6c4773no14",
    "name" : "UTS-gauss-7362_gaussdbv5dn1_1",
    "role" : "slave",
    "status" : "ACTIVE",
    "availability_zone" : "az2xahz",
    "component_names" : "dn_6002:60011"
  }, {

```

```
"id" : "f79ea0600cba42b2888bd9bd67e52a79no14",
"name" : "UTS-gauss-7362_gaussdbv5dn1_0",
"role" : "slave",
"status" : "ACTIVE",
"availability_zone" : "az2xahz",
"component_names" : "dn_6001:60011"
}],
"private_ips" : [ "192.168.26.70" ],
"public_ips" : [ ],

"db_user_name" : "root",
"vpc_id" : "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id" : "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id" : "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref" : "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info" : {
  "vcpu" : 2,
  "mem" : 16
},
"switch_strategy" : "Reliability",
"charge_info" : {
  "charge_mode" : "postPaid"
},
"backup_strategy" : {
  "start_time" : "16:00-17:00",
  "keep_days" : 7
},
"maintenance_window" : "18:00-22:00",
"enterprise_project_id" : "0",
"instance_mode" : "enterprise",
"time_zone" : "UTC+08:00",
"disk_usage" : "0.9940",
"mysql_compatibility" : {
  "port" : 3306
}
}, {
  "id" : "4ad42d079a3948d88c28d6236211b21ein14",
  "status" : "ACTIVE",
  "name" : "UTS-gauss-4336",
  "port" : 8000,
  "type" : "enterprise",
  "ha" : {
    "replication_mode" : "sync"
  },
  "region" : "cn-xianhz-1",
  "datastore" : {
    "type" : "GaussDB",
    "version" : "2.7",
    "complete_version" : "2.7.2",
    "complete_kernel_version" : "V500R002C10SPC610",
    "target_version" : "3.208.0",
    "hotfix_version_infos" : [ {
      "version" : "2.7.2.1",
      "upgrade_finished_time" : "2020-12-23 03:21:41 UTC"
    }, {
      "version" : "2.7.2.2",
      "upgrade_finished_time" : "2020-12-23 03:22:41 UTC"
    }
  ]
},
"created" : "2020-12-03 14:28:53 UTC",
"updated" : "2021-01-14 13:20:10 UTC",
"volume" : {
  "type" : "ULTRAHIGH",
  "size" : 40
},
"nodes" : [ {
  "id" : "254dbda6f03643519ad64b39481bd11cno14",
  "name" : "UTS-gauss-4336_gaussdbv5dn1_2",
  "role" : "master",
```

```
"status": "ACTIVE",
"availability_zone": "az1xahz",
"component_names": "dn_6001:60011"
}, {
  "id": "6ad76d4db26443c2a93b280739a31558no14",
  "name": "UTS-gauss-4336_gaussdbv5dn1_1",
  "role": "slave",
  "status": "ACTIVE",
  "availability_zone": "az1xahz",
  "component_names": "dn_6002:60011"
}, {
  "id": "9fdeb821bdf444a8689b19c0ff588ceno14",
  "name": "UTS-gauss-4336_gaussdbv5cn_0",
  "role": "master",
  "status": "FAILED",
  "availability_zone": "az1xahz",
  "component_names": "cn_5001:"
}, {
  "id": "dd64bdbc02a542d88823b1582f772d25no14",
  "name": "UTS-gauss-4336_gaussdbv5cn_1",
  "role": "master",
  "status": "ACTIVE",
  "availability_zone": "az1xahz",
  "component_names": "cn_5002:"
}, {
  "id": "de3c41461045466faf6c2b96eb709540no14",
  "name": "UTS-gauss-4336_gaussdbv5dn1_0",
  "role": "slave",
  "status": "ACTIVE",
  "availability_zone": "az1xahz",
  "component_names": "dn_6001:60011"
} ],
"private_ips": [ "192.168.30.93 / 192.168.29.232" ],
"public_ips": [ ],
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
},
"switch_strategy": "Reliability",
"charge_info": {
  "charge_mode": "postPaid"
},
"backup_strategy": {
  "start_time": "18:00-19:00",
  "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"enterprise_project_id": "0",
"instance_mode": "basic",
"time_zone": "UTC+08:00",
"disk_usage": "1.0000",
"mysql_compatibility": {
  "port": 3306
}
} ],
"total_count": 4
}
```

- Instance details queried.

```
{
  "instances": [ {
    "id": "706c65c3dd7d497ab16f5b3a113690abin14",
    "status": "ACTIVE",
    "name": "UTS-gauss-7362",
    "port": 8000,
```

```
"type": "enterprise",
"ha": {
  "replication_mode": "sync"
},
"region": "cn-xianhz-1",
"datastore": {
  "type": "GaussDB",
  "version": "2.7",
  "complete_version": "2.7.2",
  "complete_kernel_version": "V500R002C10SPC610",
  "target_version": "3.208.0",
  "hotfix_version_infos": [ {
    "version": "2.7.2.1",
    "upgrade_finished_time": "2020-12-23 03:21:41 UTC"
  }, {
    "version": "2.7.2.2",
    "upgrade_finished_time": "2020-12-23 03:22:41 UTC"
  } ]
},
"created": "2020-12-23 03:21:41 UTC",
"updated": "2021-01-15 02:32:13 UTC",
"volume": {
  "type": "ULTRAHIGH",
  "size": 80
},
"nodes": [ {
  "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
  "name": "UTS-gauss-7362_gaussdbv5dn1_2",
  "role": "master",
  "status": "ACTIVE",
  "availability_zone": "az2xahz",
  "component_names": "dn_6003:60011"
}, {
  "id": "ad6f02f31744422fa8ce487e81c9e7afno14",
  "name": "UTS-gauss-7362_gaussdbv5cn_0",
  "role": "master",
  "status": "ACTIVE",
  "availability_zone": "az2xahz",
  "component_names": "cn_6004:"
}, {
  "id": "b30c56582bf44a548e3bb5b5af6c4773no14",
  "name": "UTS-gauss-7362_gaussdbv5dn1_1",
  "role": "slave",
  "status": "ACTIVE",
  "availability_zone": "az2xahz",
  "component_names": "dn_6002:60011"
}, {
  "id": "f79ea0600cba42b2888bd9bd67e52a79no14",
  "name": "UTS-gauss-7362_gaussdbv5dn1_0",
  "role": "slave",
  "status": "ACTIVE",
  "availability_zone": "az2xahz",
  "component_names": "dn_6001:60011"
} ],
"private_ips": [ "192.168.26.70" ],
"public_ips": [ ],
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
},
"switch_strategy": "Reliability",
"charge_info": {
  "charge_mode": "postPaid"
},
}
```

```
"backup_strategy" : {  
  "start_time" : "16:00-17:00",  
  "keep_days" : 7  
},  
"maintenance_window" : "18:00-22:00",  
"disk_encryption_id" : "",  
"enterprise_project_id" : "0",  
"instance_mode" : "enterprise",  
"time_zone" : "UTC+08:00",  
"disk_usage" : "0.9670"  
} ],  
"total_count" : 1  
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Code

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

5.2.4 Querying DB Instances (v3.1)

Function

This API is used to query instances according to search criteria. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.1/{project_id}/instances?
id={id}&name={name}&type={type}&datastore_type={datastore_type}&vpc_id={vp
c_id}&subnet_id={subnet_id}&offset={offset}&limit={limit}

Table 5-52 Parameter description

Parameter	Type	Mand atory	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
id	String	No	Definition Instance ID, which uniquely identifies an instance and is used to query instances in the instance list. Constraints The asterisk (*) is reserved for the system. If the instance ID starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance ID. The value cannot contain only asterisks (*). Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Type	Mandatory	Description
name	String	No	Definition Instance name. You can query instances by instance name. Constraints The asterisk (*) is reserved for the system. If the instance name starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance name. The value cannot contain only asterisks (*). Range The instance name must start with a letter and can contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. Default Value N/A
type	String	No	Definition Instance type. You can query instances by instance type. Constraints N/A Range • Enterprise (case-sensitive): distributed instances (in the independent deployment). • Centralization_standard (case-sensitive): centralized instances. Default Value N/A
datastore_type	String	No	Definition Database type, which is case insensitive. You can query instances by database type. Constraints None Range GaussDB Default Value N/A

Parameter	Type	Mandatory	Description
vpc_id	String	No	Definition VPC ID. You can query instances by VPC where the instances are located. To obtain the value: • Method 1: Log in to the VPC console and view the VPC ID in the VPC details page. • Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs. • Method 2: See the section "Querying VPCs" in the <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range UUID format Default Value N/A
subnet_id	String	No	Definition Network ID of the subnet. You can query DB instances by network ID of the subnet where the DB instances are located. To obtain the value: • Method 1: Log in to the VPC console and click the target subnet on the Subnets page. You can view the network ID on the displayed page. • Method 2: See section "Querying Subnets" in the <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range UUID format Default Value N/A

Parameter	Type	Mandatory	Description
offset	Integer	No	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints The value must be a non-negative number. Range [0,2 ³¹ -1] Default Value 0 (indicating that the query starts from the first data record.)
limit	Integer	No	Definition Number of records to be queried. Constraints N/A Range [1, 100] Default Value 100

Parameter	Type	Mandatory	Description
tags	String	No	Definition • {key} indicates the tag key. • {value} indicates the tag value. You can query instances by tag key and value. Constraints To query instances with multiple tag keys and values, separate key-value pairs with commas (,). A maximum of 20 key-value pairs are supported. Range • Each tag key can contain up to 127 Unicode characters. key cannot be an empty string, a space, or left blank. Before using key, delete single-byte character (SBC) spaces before and after the value. The value cannot contain the following special characters: +/?#&=,% • The tag value can be left blank. It can contain up to 255 Unicode characters. Before using value, delete SBC spaces before and after the value. The value cannot contain the following special characters: +/?#&=,% If the value is left blank, it indicates any_value (querying any value). Default Value N/A
charge_mode	String	No	Definition Billing mode. You can query DB instances by billing mode. Constraints N/A Range • postPaid: pay-per-use billing. • prePaid: yearly/monthly billing. Default Value N/A

Request Parameters

None

Response Parameters

Table 5-53 Parameter description

Parameter	Type	Description
instances	Array of objects	Definition Instance information. For details, see Table 5-54 .
total_count	Integer	Definition Total number of records. Range [0, 2 ³¹ - 1]. The actual value depends on the number of instances in the instance list.

Table 5-54 instances field data structure description

Parameter	Type	Description
id	String	Explanation: Instance ID, which uniquely identifies an instance. Range The value can contain 32 characters. Only letters and digits are allowed.
name	String	Explanation: Instance name. Range The instance name must start with a letter and can contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.

Parameter	Type	Description
status	String	Explanation: Instance status. Range • If the value is BUILD, the instance is being created. • If the value is BUILD_FAILED, the instance creation failed. • If the value is ACTIVE, the instance is normal. • If the value is FAILED, the instance is abnormal. • If the value is FROZEN, the instance is frozen. • If the value is MODIFYING, the storage is being scaled up or instance specifications are being changed. • If the value is EXPANDING, read replicas, CNs, or shards are being added to the instance. • REBOOTING: The DB instance is being rebooted. • If the value is REDUCING: read replicas are being deleted. • If the value is UPGRADING, the instance is being upgraded. • If the value is RESTORING, the instance is being restored. • If the value is SWITCHOVER, the primary/standby switchover is being performed. • If the value is MIGRATING, the instance is being migrated. • If the value is BACKING UP, the instance is being backed up. • If the value is UPGRADE TO BE OBSERVED, the instance upgrade is in the observation period. • If the value is MODIFYING DATABASE PORT, the database port is being changed. • If the value is STORAGE FULL, the instance storage is full. • If the value is REPAIRING, the instance is being repaired.

Parameter	Type	Description
		If the value is SHUTDOWN, the instance is stopped.
private_ips	List<String>	Explanation: Private IP address list. The value is an empty string until ECSs where CNs of distributed instances are deployed or ECSs where DN of centralized instances are deployed are created. Range N/A
public_ips	List<String>	Explanation: EIPs bound to the instance. This parameter cannot be left blank after an EIP is bound. Range N/A
port	Integer	Explanation: Database port number. Range The GaussDB database port is from 1024 to 39998 (excluding the following which are occupied by the system and cannot be used: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 20049, 20050, 21731, and 21732).
type	String	Explanation: Instance type. The value is case-sensitive. Range Enterprise: distributed instance (enterprise edition) centralization_standard: centralized instance Combined: distributed instance (combined deployment, also called hybrid deployment)
ha	Object	Explanation: Instance high availability. For details, see Table 5-55 .

Parameter	Type	Description
replica_num	Integer	Explanation: Number of replicas. Range N/A
region	String	Explanation: Region where the instance is deployed. Range N/A
datastore	Object	Explanation: Database information. For details, see Table 5-56 .
created	String	Explanation: Creation time in the "yyyy-mm-dd hh:mm:ss timezone" format. timezone indicates the time zone, for example, 2024-07-02 08:32:07 UTC. When the instance is being created, the value is the time when the creation request is delivered. After the instance is created, the value is the time when the creation is complete. Range N/A
updated	String	Definition Update time. The format is the same as that of the created field. For example: 2024-07-16 09:31:43 UTC The value is empty when no instance has been created. After an instance is created, the value is not empty. Range N/A
db_user_name	String	Definition Default username. Range root

Parameter	Type	Description
vpc_id	String	Definition ID of the VPC where the instance is located. Range UUID format
subnet_id	String	Definition Network ID of the subnet, where the instance are located. Range UUID format
security_group_id	String	Definition Security group ID. Range UUID format
flavor_ref	String	Definition Specification code. To obtain its value, see the spec_code field in Querying Instance Specifications . Range N/A
flavor_info	Object	Definition Flavor information. For details, see Table 5-57 .
volume	Object	Definition Volume information. For details, see Table 5-58 .
switch_strategy	String	Definition Database failover priority. Range The value can be Reliability or Availability , indicating that the reliability or availability is given priority during the failover, respectively. If no failover priority is selected during the creation, the failover priority is not displayed.
backup_strategy	Object	Definition Backup policy. For details, see Table 5-59 .

Parameter	Type	Description
maintenance_window	String	Definition Maintenance window in the UTC format. Range N/A
nodes	Array of objects	Definition Instance node information. For details, see Table 5-60 .
disk_encryption_id	String	Definition Disk encryption key ID. This parameter is displayed only when the instance disk is encrypted. Range N/A
enterprise_project_id	String	Definition Enterprise project tag ID. If an instance does not belong to any enterprise project, the default value is 0 . Range N/A
instance_mode	String	Definition Product type. Range enterprise indicates enterprise edition, standard indicates the standard edition, and basic indicates the basic edition. .
time_zone	String	Definition Time zone. Range N/A .
charge_info	Object	Definition Billing type, which can be pay-per-use or yearly/monthly. For details, see Table 5-61 .
tags	Array of objects	Definition Tags. This parameter is not returned if there is no tag. For details, see Table 5-62 .

Parameter	Type	Description
backup_used_space	String	Definition Used backup space, in KB. Range N/A .
disk_usage	String	Definition Available disk usage of the instance. The returned value of this parameter is not a real-time value. The system updates data at 02:00 every day. It is not displayed for deleted instances. Range 0 to 1. The value contains four decimal places.

Table 5-55 ha field data structure description

Parameter	Type	Description
consistency	String	Definition Transaction consistency type. Range • strong: strong consistency • eventual: eventual consistency
replication_mode	String	Definition Replication mode for the standby node. Range The value can only be set to sync , indicating that data is synchronized in synchronous mode.

Table 5-56 datastore field data structure description

Parameter	Type	Description
type	String	Definition Database engine. Range GaussDB

Parameter	Type	Description
version	String	Definition Major version of the database. Range Two-digit version, for example, 3.208.
complete_version	String	Definition Major version of the database. Range Three-digit version, for example, 3.208.0.
hotfix_versions	String	Definition Hot patch version that has been upgraded. After the hot patch version is successfully upgraded, the value of this parameter cannot be left blank. Range N/A
target_version	String	Definition Target version that the database is being upgraded to. Range N/A
hotfix_finished_times	Array of strings	Definition List of time when the hot patch installation is complete. The time when the hot patch installation is complete is expressed in the "yyyy-mm-dd hh:mm:ss timezone" format. timezone indicates the time zone, for example, 2020-12-23 03:21:41 UTC.

Table 5-57 flavor_info field data structure description

Parameter	Type	Description
vcpu	Integer	Definition Number of vCPUs. Range N/A

Parameter	Type	Description
mem	Integer	Definition Memory size in GB. Range N/A

Table 5-58 volume field data structure description

Parameter	Type	Description
type	String	Definition Disk type. Range ULTRAHIGH (SSD storage) or ESSD (extreme SSD storage). The value is case-sensitive.
size	Integer	Definition Disk size. Range N/A

Table 5-59 backup_strategy field data structure description

Parameter	Type	Description
start_time	String	Definition Backup time window. Automated backups will be created during the backup time window. The value is the UTC time. The format is hh:mm-HH:MM, for example, 19:00-20:00. Range N/A
keep_days	Integer	Definition Number of days to retain the generated backup files. Range [1, 732]

Table 5-60 nodes field data structure description

Parameter	Type	Description
id	String	Definition Node ID. Range The value can contain 36 characters. Only letters and digits are allowed.
name	String	Definition Node name. Range The value must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.
role	String	Definition Node type, indicating the role of a node in an instance. Range • master: primary node • slave: standby node • secondary: log node • readreplica: read replica.
status	String	Definition Node status. Range BUILD_FAILED : The node fails to be created.
availability_zone	String	Definition AZ. Range N/A
private_ip	String	Definition Private IP address of the node. For distributed instances, this parameter is valid only for CNs. For centralized instances, this parameter is valid for all nodes. The parameter value is returned after an ECS is created. Range N/A

Parameter	Type	Description
public_ip	String	Definition EIP that has been bound. For distributed instances, this parameter is valid only for CNs. For centralized instances, this parameter is valid for all nodes. The parameter value is returned after an ECS is created and an EIP is bound to a DB instance. Range N/A
component_names	String	Definition Component information on the node (for example, cn_6001:60011). Separate information of multiple components with commas (,). Range N/A

Table 5-61 charge_info field data structure description

Parameter	Type	Description
charge_mode	String	Definition Billing mode. Range postPaid : pay-per-use prePaid : yearly/monthly

Table 5-62 tags field data structure description

Parameter	Type	Description
key	String	Definition Tag key. Range N/A
value	String	Definition Tag value. Range N/A

Example Request

- Querying all instances

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/97b026aa9cc4417888c14c84a1ad9860/instances
```

- Querying instances based on search criteria

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/97b026aa9cc4417888c14c84a1ad9860/instances?id=ed7cc6166ec24360a5ed5c5c9c2ed726in01&name=hy&type=Ha&datastore_type=GaussDB&vpc_id=19e5d45d-70fd-4a91-87e9-b27e71c9891f&subnet_id=bd51fb45-2dc8-4296-8783-8623bfe89bb7&offset=0&limit=10&tags=rds001=001,rds002=002
```

Example Response

Instance information queried.

```
{
  "instances": [
    {
      "id": "b331ed66cc3249f78bc20737308c01f4in14",
      "status": "ACTIVE",
      "name": "gauss-9e88",
      "port": 8000,
      "type": "Enterprise",
      "ha": {
        "consistency": "strong",
        "replication_mode": "sync"
      },
      "region": "eu-de",
      "datastore": {
        "type": "GaussDB",
        "version": "2.7",
        "complete_version": "2.7.2",
        "hotfix_versions": "2.7.2.1,2.7.2.2",
        "target_version": "3.208.0",
        "hotfix_finished_times": [
          "2020-12-23 03:21:41 UTC",
          "2020-12-23 03:22:41 UTC"
        ]
      },
      "created": "2021-01-15 01:46:40 UTC",
      "updated": "2021-01-15 02:05:03 UTC",
      "volume": {
        "type": "ULTRAHIGH",
        "size": 120
      },
      "nodes": [
        {
          "id": "02ebf757aaf94074855f49cc6e0e4712no14",
          "name": "gauss-9e88_gaussdbv5cn_2",
          "role": "master",
          "status": "ACTIVE",
          "availability_zone": "az2xahz",
          "private_ip": "192.168.16.253",
          "component_names": "cn_5001:"
        },
        {
          "id": "0a87b8ecbfef46aba1409cfc0f0d5c34no14",
          "name": "gauss-9e88_gaussdbv5cn_0",
          "role": "master",
          "status": "ACTIVE",
          "availability_zone": "az2xahz",
          "private_ip": "192.168.28.81",
          "component_names": "cn_5002:"
        }
      ]
    }
  ]
}
```

```
"id": "2d9fec1ab3834936b074d63acf48b1f2no14",
"name": "gauss-9e88_gaussdbv5dn3_2",
"role": "master",
"status": "ACTIVE",
"availability_zone": "az2xahz"
},
{
  "id": "48bb08a2d635435891ac0caa1c0bf2e3no14",
  "name": "gauss-9e88_gaussdbv5dn1_0",
  "role": "master",
  "status": "ACTIVE",
  "availability_zone": "az2xahz"
},
{
  "id": "5df830f652204827ada32f8bc28b107eno14",
  "name": "gauss-9e88_gaussdbv5dn1_1",
  "role": "slave",
  "status": "ACTIVE",
  "component_names": "dn_6002:60011",
  "availability_zone": "az2xahz"
},
{
  "id": "8a97a246cee841b38c5b47290d4c9c38no14",
  "name": "gauss-9e88_gaussdbv5cn_1",
  "role": "master",
  "status": "ACTIVE",
  "availability_zone": "az2xahz",
  "private_ip": "192.168.27.52",
  "component_names": "cn_5003:"
},
{
  "id": "8c1a3f8eacca4d9e9974a868bb6dd942no14",
  "name": "gauss-9e88_gaussdbv5dn2_0",
  "role": "master",
  "status": "ACTIVE",
  "component_names": "dn_6004:60042",
  "availability_zone": "az2xahz"
},
{
  "id": "9bd0c80b8a684cc9bd7d99dd5adffb07no14",
  "name": "gauss-9e88_gaussdbv5dn3_1",
  "role": "slave",
  "status": "ACTIVE",
  "component_names": "dn_6005:60073",
  "availability_zone": "az2xahz"
},
{
  "id": "9e2a3cd541e249d4af5aa57c5d3a7f39no14",
  "name": "gauss-9e88_gaussdbv5dn1_2",
  "role": "slave",
  "status": "ACTIVE",
  "component_names": "dn_6006:60011",
  "availability_zone": "az2xahz"
},
{
  "id": "b046d28989ec4ae5a1a9ab20fe65f248no14",
  "name": "gauss-9e88_gaussdbv5dn2_2",
  "role": "slave",
  "status": "ACTIVE",
  "component_names": "dn_6007:60042",
  "availability_zone": "az2xahz"
},
{
  "id": "b614cc12fd3742dbb230245f88a7bf00no14",
  "name": "gauss-9e88_gaussdbv5dn3_0",
  "role": "slave",
  "status": "ACTIVE",
```



```
    "component_names": "dn_6008:60073",
    "availability_zone": "az2xahz"
  },
  {
    "id": "caba8e88c3c84ae58202f1f589490611no14",
    "name": "gauss-9e88_gaussdbv5dn2_1",
    "role": "slave",
    "status": "ACTIVE",
    "component_names": "dn_6009:60042",
    "availability_zone": "az2xahz"
  }
],
"private_ips": [
  "192.168.16.253 / 192.168.28.81 / 192.168.27.52"
],

"replica_num": 3,
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
},
"switch_strategy": "Reliability",
"charge_info": {
  "charge_mode": "postPaid"
},
"backup_strategy": {
  "start_time": "19:00-20:00",
  "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
"enterprise_project_id": "6e76681b-a2f5-4c5f-97c5-ba4fd3c0dfb2",
"time_zone": "UTC+08:00",
"instance_mode": "enterprise",
"disk_usage": "0.9890",
"backup_used_space": "37846"
},
{
  "id": "226b4afcfc84c86bf1b9cb345d3b00fin14",
  "status": "ACTIVE",
  "name": "UTS-gauss-ad53-2C3D",
  "port": 8000,
  "type": "Enterprise",
  "ha": {
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "region": "cn-xianhz-1",
  "datastore": {
    "type": "GaussDB",
    "version": "2.7",
    "complete_version": "2.7.2",
    "hotfix_versions": "2.7.2.1,2.7.2.2",
    "target_version": "3.208.0",
    "hotfix_finished_times": [
      "2020-12-23 03:21:41 UTC",
      "2020-12-23 03:22:41 UTC"
    ]
  },
  "created": "2021-01-08 09:18:27 UTC",
  "updated": "2021-01-14 13:25:03 UTC",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 120
  }
}
```

```
},
"nodes": [
  {
    "id": "07538a1def584cee99e2a5685eeab36ano14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_1",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "21f41baba1e2454f82331b7cb5aeabe5no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_2",
    "role": "master",
    "status": "ACTIVE",
    "component_names": "dn_6008:60042",
    "availability_zone": "az2xahz"
  },
  {
    "id": "2909771a3b3e4e3998f9388e77d22391no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_0",
    "role": "slave",
    "status": "ACTIVE",
    "component_names": "dn_6007:60011",
    "availability_zone": "az2xahz"
  },
  {
    "id": "2bd9a90a5da242a6b0743a7f597f6106no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_2",
    "role": "master",
    "status": "ACTIVE",
    "component_names": "dn_6006:60042",
    "availability_zone": "az2xahz"
  },
  {
    "id": "77092f1dadb74d3ea13d28269cdd3590no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_2",
    "role": "master",
    "status": "ACTIVE",
    "component_names": "dn_6005:60072",
    "availability_zone": "az2xahz"
  },
  {
    "id": "a46bfaa6d5a24355a60fce7432b964cano14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_0",
    "role": "slave",
    "status": "ACTIVE",
    "component_names": "dn_6004:60072",
    "availability_zone": "az2xahz"
  },
  {
    "id": "aa5277736f3844e2a7adeb9de529e2b1no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_1",
    "role": "slave",
    "status": "ACTIVE",
    "component_names": "dn_6003:60042",
    "availability_zone": "az2xahz"
  },
  {
    "id": "b1d798e4ea7344dfa95032984bc6cfd7no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5cn1_1",
    "role": "master",
    "status": "ACTIVE",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.29.231",
    "component_names": "cn_5002:"
  },
  {
    "id": "b9a46540186f4c0781eabaa2a79594cbno14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_1",
```

```
    "role": "slave",
    "status": "ACTIVE",
    "component_names": "dn_6002:60011",
    "availability_zone": "az2xahz"
  },
  {
    "id": "d283813030364060ab64371d50294977no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_0",
    "role": "slave",
    "status": "ACTIVE",
    "component_names": "dn_6001:60042",
    "availability_zone": "az2xahz"
  },
  {
    "id": "eb7bce29b2284cd290405eaddc1b1a1eno14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5cn_0",
    "role": "master",
    "status": "FAILED",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.30.44",
    "component_names": "cn_5001:",
    "public_ip": "10.154.217.248"
  }
],
"private_ips": [
  "192.168.29.231 / 192.168.30.44"
],
"public_ips": [
  "10.154.217.248"
],
"replica_num": 3,
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
},
"switch_strategy": "Reliability",
"charge_info": {
  "charge_mode": "postPaid"
},
"backup_strategy": {
  "start_time": "18:00-19:00",
  "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"enterprise_project_id": "0",
"time_zone": "UTC+08:00",
"instance_mode": "enterprise",
"disk_usage": "1.0000",
"backup_used_space": "55824"
},
{
  "id": "7139e0eee4ac4922927f22e22114a548in14",
  "status": "ACTIVE",
  "name": "gauss-readonly",
  "port": 8000,
  "type": "centralization_standard",
  "ha": {
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "region": "cn-xianhz-1",
  "datastore": {
    "type": "GaussDB",
    "version": "3.220",
```

```
"complete_version": "3.220.0",
"complete_kernel_version": "503.1.0.SPC1500",
"target_version": "3.208.0",
"hotfix_finished_times": [
  "2020-12-23 03:21:41 UTC",
  "2020-12-23 03:22:41 UTC"
],
"created": "2024-06-04 03:41:19 UTC",
"updated": "2024-06-18 02:01:17 UTC",
"volume": {
  "type": "ULTRAHIGH",
  "size": 40
},
"nodes": [
  {
    "id": "7fd28bb9a142491a8b0f57ef3c662a2ano14",
    "name": "gauss-readonly_readonly_4",
    "role": "readreplica",
    "status": "ACTIVE",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.167.105",
    "component_names": "dn_6005:60011",
    "flavor_ref": "gaussdb.opengauss.ee.c3.xlarge.x864.ha",
    "flavor_info": {
      "vcpu": "4",
      "mem": "16"
    }
  },
  {
    "id": "c532d75f8ee44b4e8ef8bf291bf8ed98no14",
    "name": "gauss-readonly_readonly_3",
    "role": "readreplica",
    "status": "ACTIVE",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.184.6",
    "component_names": "dn_6004:60011",
    "flavor_ref": "gaussdb.opengauss.ee.c3.xlarge.x864.ha",
    "flavor_info": {
      "vcpu": "4",
      "mem": "16"
    }
  },
  {
    "id": "1624226d9281469fa2fc865299b62999no14",
    "name": "gauss-readonly_root_1",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.243.237",
    "component_names": "cm_2;dn_6002:60011,etcd_7002:"
  },
  {
    "id": "236b7fb1e28e4caba6cf90e4739ed4d8no14",
    "name": "gauss-readonly_root_0",
    "role": "master",
    "status": "ACTIVE",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.232.222",
    "component_names": "cm_1;dn_6001:60011,etcd_7001:"
  },
  {
    "id": "bfe9bff81020427a983588f5e00c7832no14",
    "name": "gauss-readonly_root_2",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.135.66",
    "component_names": "cm_3;dn_6003:60011,etcd_7003:"
  }
]
```

```
    },
    ],
    "private_ips": [
        "192.168.167.105 / 192.168.184.6 / 192.168.243.237 / 192.168.232.222 / 192.168.135.66"
    ],
    "replica_num": 3,
    "db_user_name": "root",
    "vpc_id": "caacd96c-6643-4106-9fea-8cab88f556c08",
    "subnet_id": "be02c6ca-b3b9-423e-a472-fd043e19d7b7",
    "security_group_id": "6b95cf16-0555-4997-96c3-udb19ac24384",
    "flavor_ref": "gaussdb.opengauss.ee.c3.xlarge.x864.ha",
    "flavor_info": {
        "vcpu": 4,
        "mem": 16
    },
    "charge_info": {
        "charge_mode": "postPaid"
    },
    "backup_strategy": {
        "start_time": "18:00-19:00",
        "keep_days": 7
    },
    "maintenance_window": "18:00-22:00",
    "enterprise_project_id": "0",
    "time_zone": "UTC+08:00",
    "instance_mode": "basic",
    "backup_used_space": "1595991",
    "disk_usage": "0.6922"
    }
    ],
    "total_count": 3
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.2.5 Querying DB Instances (v3)

Function

This API is used to query instances according to search criteria. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances?
id={id}&name={name}&type={type}&datastore_type={datastore_type}&vpc_id={vp
c_id}&subnet_id={subnet_id}&offset={offset}&limit={limit}

Table 5-63 Parameter description

Parameter	Type	Mand atory	Description
project_id	String	Yes	Definition Project ID of a tenant in a region. For details about how to obtain the project ID, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
id	String	No	Definition Instance ID, which uniquely identifies an instance. You can query instances by instance ID. The asterisk (*) is reserved for the system. If the instance ID starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance ID. The value cannot contain only asterisks (*). Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Type	Mandatory	Description
name	String	No	Definition DB instance name. You can query instances by instance name. The asterisk (*) is reserved for the system. If the instance name starts with *, it indicates that fuzzy match is performed based on the value following *. Otherwise, the exact match is performed based on the instance name. The value cannot contain only asterisks (*). Constraints N/A Range The value must start with a letter and contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed. Default Value N/A
type	String	No	Definition Instance type. You can query instances by instance type. Constraints N/A Range • Enterprise (case-sensitive): distributed instances (in the independent deployment) • Centralization_standard (case-sensitive): centralized instances. Default Value N/A
datastore_type	String	No	Definition Database type. Its value is case-insensitive. You can query the instances by database type. Constraints N/A Range GaussDB Default Value N/A

Parameter	Type	Mandatory	Description
vpc_id	String	No	Definition VPC ID. You can query instances by VPC where the instances are located. To obtain the value: - Method 1: Log in to the VPC console and view the VPC ID in the VPC details page. - Method 2: Query the VPC ID through the VPC API. For details, see Querying VPCs. - Method 2: See "Querying VPCs" in <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range UUID format Default Value N/A
subnet_id	String	No	Definition Network ID of the subnet. You can query instances by subnet. - Method 1: Log in to the VPC console and click the target subnet on the Subnets page. You can view the network ID on the displayed page. - Method 2: See "Querying Subnets" in <i>Virtual Private Cloud API Reference</i>. Constraints N/A Range UUID format Default Value N/A
offset	Integer	No	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints N/A Range [0,2 ³¹ -1] Default Value 0: The query starts from the first data record.

Parameter	Type	Mandatory	Description
limit	Integer	No	Definition Number of records to be queried. Constraints N/A Range [1, 100] Default Value 100
tags	String	No	Definition Tag key-value pairs of the instance. • {key} indicates the tag key. • {value} indicates the tag value. Constraints To query instances with multiple tag keys and values, separate key-value pairs with commas (,). A maximum of 20 key-value pairs are supported. Range • Each tag key can contain up to 127 Unicode characters. key cannot be an empty string, a space, or left blank. Before using key, delete single-byte character (SBC) spaces before and after the value. The value cannot contain the following special characters: +/?#&=,% • The tag value can be left blank. It can contain up to 255 Unicode characters. Before using value, delete SBC spaces before and after the value. The value cannot contain the following special characters: +/?#&=,% If the value is left blank, it indicates any_value (querying any value). Default Value N/A

Request Parameters

None

Response Parameters

Table 5-64 Response parameters

Parameter	Type	Description
instances	Array of objects	Definition Instance information. For details, see Table 5-65 .
total_count	Integer	Definition Total number of records. Range [0, 2 ³¹ - 1]

Table 5-65 instances field data structure description

Parameter	Type	Description
id	String	Definition Instance ID. Range The value can contain 32 characters. Only letters and digits are allowed.
name	String	Definition Instance name. Range The value must start with a letter and contain 4 to 64 characters. Only letters, digits, hyphens (-), and underscores (_) are allowed.

Parameter	Type	Description
status	String	Definition Instance status. Range If the value is BUILD, the instance is being created. If the value is BUILD_FAILED, the instance creation failed. If the value is ACTIVE, the instance is normal. If the value is FAILED, the instance is abnormal. If the value is FROZEN, the instance is frozen. If the value is MODIFYING, the storage is being scaled up or instance specifications are being changed. If the value is EXPANDING, read replicas are being added to the instance or CNs or DN is being added to the instance. If the value is REBOOTING, the instance is being rebooted. If the value is REDUCING: read replicas are being deleted. If the value is UPGRADING, the instance is being upgraded. If the value is RESTORING, the instance is being restored. If the value is SWITCHOVER, the primary/standby switchover is being performed. If the value is MIGRATING, the instance is being migrated. If the value is BACKING UP, the instance is being backed up. If the value is UPGRADE TO BE OBSERVED, the instance upgrade is in the observation period. If the value is MODIFYING DATABASE PORT, the database port is being changed. If the value is STORAGE FULL, the instance storage is full. If the value is SHUTDOWN, the instance is stopped.

Parameter	Type	Description
		If the value is REPAIRING , the instance is being repaired.
private_ips	List<String>	Definition Private IP address list. The value is an empty string until ECSs where CNs of distributed instances are deployed or ECSs where DN of centralized instances are deployed are created.
public_ips	List<String>	Definition EIPs bound to the instance. This parameter cannot be left blank after an EIP is bound.
port	Integer	Definition Database port number. Range The GaussDB database port is from 1024 to 39998 (excluding the following which are occupied by the system and cannot be used: 2378, 2379, 2380, 4999, 5000, 5999, 6000, 6001, 8097, 8098, 20049, 20050, 21731, and 21732).
type	String	Definition Instance type. Range The value is case-sensitive. The value Enterprise indicates a distributed instance (Enterprise Edition). The value centralization_standard indicates a centralized instance.
ha	Object	Definition Instance high availability. It includes parameters for transaction consistency type and standby node's replication mode. For details, see Table 5-66 .
replica_num	Integer	Definition Number of replicas. Range N/A

Parameter	Type	Description
region	String	Definition Region where the instance is deployed. Range N/A
datastore	Object	Definition Database information. For details, see Table 5-67 .
created	String	Definition Creation time in the "yyyy-mm-dd hh:mm:ss timezone" format. timezone indicates the time zone, for example, 2024-07-16 09:31:43 UTC. When the instance is being created, the value is the time when the creation request is delivered. After the instance is created, the value is the time when the creation is complete. Range N/A
updated	String	Definition Update time. The format is the same as that of the created field, for example, 2024-07-16 09:31:43 UTC. The return value is empty when no DB instance has been created. After a DB instance is created, the value is not empty. Range N/A
db_user_name	String	Definition Default username. Range root
vpc_id	String	Definition ID of the VPC to which the instance belongs Range UUID format

Parameter	Type	Description
subnet_id	String	Definition ID of the subnet associated with the instance. Range UUID format
security_group_id	String	Definition Security group ID. Range UUID format
flavor_ref	String	Definition Specification code. For details on how to obtain the GaussDB specification code, see DB Instance Specifications . Range N/A
flavor_info	Object	Definition Flavor information. For details, see Table 5-68 .
volume	Object	Definition Volume information. For details, see Table 5-69 .
switch_strategy	String	Definition Database failover priority. Range The value can be Reliability or Availability , indicating that the reliability or availability is given priority during the failover, respectively. If no failover priority is selected during the creation, the failover priority is not displayed.
backup_strategy	Object	Definition Backup policy. For details, see Table 5-70 .

Parameter	Type	Description
maintenance_window	String	Definition Maintenance time window, which is the UTC time. The format is hh:mm-HH:MM, for example, 18:00-22:00. Range N/A
nodes	Array of objects	Definition Instance node information. For details, see Table 5-71 .
disk_encryption_id	String	Definition Disk encryption key ID. This parameter is displayed only when the instance disk is encrypted. Range N/A
enterprise_project_id	String	Definition Enterprise project tag ID. Range If an instance does not belong to any enterprise project, the default value is 0 .
instance_mode	String	Definition Instance product type. Range enterprise indicates enterprise edition, standard indicates the standard edition, and basic indicates the basic edition.
time_zone	String	Definition Time zone. Range N/A
charge_info	Object	Definition Billing mode, which can be pay-per-use or yearly/monthly. For details, see Table 5-72 .
tags	Array of objects	Definition Tags. This parameter is not returned if there is no tag. For details, see Table 5-73 .

Table 5-66 ha field data structure description

Parameter	Type	Description
consistency	String	Definition Transaction consistency type. Range The value can be strong or eventual , indicating strong consistency and eventual consistency, respectively.
replication_mode	String	Definition Replication mode for the standby node. Range The value can only be set to sync , indicating that data is synchronized in synchronous mode.

Table 5-67 datastore field data structure description

Parameter	Type	Description
type	String	Definition Database engine. Range GaussDB
version	String	Definition DB engine version. Range The value depends on the DB engine version, for example, 8.200.

Table 5-68 flavor_info field data structure description

Parameter	Type	Description
vcpu	Integer	Definition Number of vCPUs. Range N/A

Parameter	Type	Description
mem	Integer	Definition Memory size in GB. Range N/A

Table 5-69 volume field data structure description

Parameter	Type	Description
type	String	Definition Disk type. Range ULTRAHIGH (SSD storage) or ESSD (extreme SSD storage). The value is case-sensitive.
size	Integer	Definition Disk size. Range N/A

Table 5-70 backup_strategy field data structure description

Parameter	Type	Description
start_time	String	Definition Backup time window. Automated backups will be created during the backup time window. The value is the UTC time. The format is hh:mm-HH:MM, for example, 19:00-20:00. Range N/A
keep_days	Integer	Definition Number of days to retain the generated backup files. Range [1, 732]

Table 5-71 nodes field data structure description

Parameter	Type	Description
id	String	Definition Node ID. Range The value can contain 36 characters. Only letters and digits are allowed.
name	String	Definition Node name. Range The value must start with a letter. Only letters, digits, hyphens (-), and underscores (_) are allowed.
role	String	Definition Node type, indicating the role of a node in an instance. Range master (primary node) or slave (standby node)
status	String	Definition Node status. Range BUILD_FAILED : The node fails to be created.
availability_zone	String	Definition AZ. Range N/A
private_ip	String	Definition Private IP address of the node. For distributed instances, this parameter is valid only for CNs. For centralized instances, this parameter is valid for all nodes. The parameter value is returned after an ECS is created. Range N/A

Parameter	Type	Description
public_ip	String	Definition EIP bound to the instance. For distributed instances, this parameter is valid only for CNs. For centralized instances, this parameter is valid for all nodes. The parameter value is returned after an ECS is created and an EIP is bound to a DB instance. Range N/A

Table 5-72 chargeInfo field data structure description

Parameter	Mandatory	Type	Description
charge_mode	Yes	String	Definition Billing mode. Range postPaid : pay-per-use prePaid : yearly/monthly

Table 5-73 tags field data structure description

Parameter	Type	Description
key	String	Definition Tag key. Range N/A
value	String	Definition Tag value. Range N/A

Example Request

- Querying all instances

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/97b026aa9cc4417888c14c84a1ad9860/instances
```

- Querying instances based on search criteria

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/97b026aa9cc4417888c14c84a1ad9860/instances?id=ed7cc6166ec24360a5ed5c5c9c2ed726in01&name=hy&type=Ha&datastore_type=MySQL&vpc_id=19e5d45d-70fd-4a91-87e9-b27e71c9891f&subnet_id=bd51fb45-2dc6-4296-8783-8623bfe89bb7&offset=0&limit=10&tags=rds001=001,rds002=002
```

Example Response

- Instance information queried.

```
{
  "instances": [
    {
      "id": "b331ed66cc3249f78bc20737308c01f4in14",
      "status": "ACTIVE",
      "name": "gauss-9e88",
      "port": 8000,
      "type": "Enterprise",
      "ha": {
        "consistency": "strong",
        "replication_mode": "sync"
      },
      "region": "eu-de",
      "region": "aaa",
      "datastore": {
        "type": "GaussDB",
        "version": "1.3"
      },
      "created": "2021-01-15 01:46:40 UTC",
      "updated": "2021-01-15 02:05:03 UTC",
      "volume": {
        "type": "ULTRAHIGH",
        "size": 120
      },
      "nodes": [
        {
          "id": "02ebf757aaf94074855f49cc6e0e4712no14",
          "name": "gauss-9e88_gaussdbv5cn_2",
          "role": "master",
          "status": "ACTIVE",
          "availability_zone": "az2xahz",
          "private_ip": "192.168.16.253"
        },
        {
          "id": "0a87b8ecbfeb46aba1409cfc0f0d5c34no14",
          "name": "gauss-9e88_gaussdbv5cn_0",
          "role": "master",
          "status": "ACTIVE",
          "availability_zone": "az2xahz",
          "private_ip": "192.168.28.81"
        },
        {
          "id": "2d9fec1ab3834936b074d63acf48b1f2no14",
          "name": "gauss-9e88_gaussdbv5dn3_2",
          "role": "master",
          "status": "ACTIVE",
          "availability_zone": "az2xahz"
        },
        {
          "id": "48bb08a2d635435891ac0caa1c0bf2e3no14",
          "name": "gauss-9e88_gaussdbv5dn1_0",
          "role": "master",
          "status": "ACTIVE",
          "availability_zone": "az2xahz"
        },
        {
          "id": "5df830f652204827ada32f8bc28b107eno14",
```

```
    "name": "gauss-9e88_gaussdbv5dn1_1",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "8a97a246cee841b38c5b47290d4c9c38no14",
    "name": "gauss-9e88_gaussdbv5cn_1",
    "role": "master",
    "status": "ACTIVE",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.27.52"
  },
  {
    "id": "8c1a3f8eecca4d9e9974a868bb6dd942no14",
    "name": "gauss-9e88_gaussdbv5dn2_0",
    "role": "master",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "9bd0c80b8a684cc9bd7d99dd5adffb07no14",
    "name": "gauss-9e88_gaussdbv5dn3_1",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "9e2a3cd541e249d4af5aa57c5d3a7f39no14",
    "name": "gauss-9e88_gaussdbv5dn1_2",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "b046d28989ec4ae5a1a9ab20fe65f248no14",
    "name": "gauss-9e88_gaussdbv5dn2_2",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "b614cc12fd3742dbb230245f88a7bf00no14",
    "name": "gauss-9e88_gaussdbv5dn3_0",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "caba8e88c3c84ae58202f1f589490611no14",
    "name": "gauss-9e88_gaussdbv5dn2_1",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  }
],
"private_ips": [
  "192.168.16.253 / 192.168.28.81 / 192.168.27.52"
],

"replica_num": 3,
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
}
```

```
    },
    "switch_strategy": "Reliability",
    "charge_info": {
      "charge_mode": "prePaid"
    },
    "backup_strategy": {
      "start_time": "19:00-20:00",
      "keep_days": 7
    },
    "maintenance_window": "18:00-22:00",
    "disk_encryption_id": "24ae42b5-4009-4ea2-b66a-0b211e424dab",
    "enterprise_project_id": "6e76681b-a2f5-4c5f-97c5-ba4fd3c0dfb2",
    "time_zone": "UTC+08:00",
    "instance_mode": "enterprise"
  },
  {
    "id": "226b4afcfcc84c86bf1b9cb345d3b00fin14",
    "status": "ACTIVE",
    "name": "UTS-gauss-ad53-2C3D",
    "port": 8000,
    "type": "Enterprise",
    "ha": {
      "consistency": "strong",
      "replication_mode": "sync"
    },
    "region": "cn-xianhz-1",
    "datastore": {
      "type": "GaussDB",
      "version": "1.3"
    },
    "created": "2021-01-08 09:18:27 UTC",
    "updated": "2021-01-14 13:25:03 UTC",
    "volume": {
      "type": "ULTRAHIGH",
      "size": 120
    },
    "nodes": [
      {
        "id": "07538a1def584cee99e2a5685eeab36ano14",
        "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_1",
        "role": "slave",
        "status": "ACTIVE",
        "availability_zone": "az2xahz"
      },
      {
        "id": "21f41baba1e2454f82331b7cb5aeabe5no14",
        "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_2",
        "role": "master",
        "status": "ACTIVE",
        "availability_zone": "az2xahz"
      },
      {
        "id": "2909771a3b3e4e3998f9388e77d22391no14",
        "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_0",
        "role": "slave",
        "status": "ACTIVE",
        "availability_zone": "az2xahz"
      },
      {
        "id": "2bd9a90a5da242a6b0743a7f597f6106no14",
        "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_2",
        "role": "master",
        "status": "ACTIVE",
        "availability_zone": "az2xahz"
      },
      {
        "id": "77092f1dad74d3ea13d28269cdd3590no14",
        "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_2",
        "role": "master",
```

```
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "a46bfaa6d5a24355a60fce7432b964cano14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn3_0",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "aa5277736f3844e2a7adeb9de529e2b1no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_1",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "b1d798e4ea7344dfa95032984bc6cfd7no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5cn_1",
    "role": "master",
    "status": "ACTIVE",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.29.231"
  },
  {
    "id": "b9a46540186f4c0781eabaa2a79594cbno14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn1_1",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "d283813030364060ab64371d50294977no14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5dn2_0",
    "role": "slave",
    "status": "ACTIVE",
    "availability_zone": "az2xahz"
  },
  {
    "id": "eb7bce29b2284cd290405eaddc1b1a1eno14",
    "name": "UTS-gauss-ad53-2C3D_gaussdbv5cn_0",
    "role": "master",
    "status": "FAILED",
    "availability_zone": "az2xahz",
    "private_ip": "192.168.30.44",
    "public_ip": "10.154.217.248"
  }
],
"private_ips": [
  "192.168.29.231 / 192.168.30.44"
],
"public_ips": [
  "10.154.217.248"
],
"replica_num": 3,
"db_user_name": "root",
"vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
"subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
"security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
},
"switch_strategy": "Reliability",
"charge_info": {
  "charge_mode": "prePaid"
},
```

```
"backup_strategy": {
  "start_time": "18:00-19:00",
  "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"enterprise_project_id": "0",
"time_zone": "UTC+08:00",
"instance_mode": "enterprise"
},
{
  "id": "706c65c3dd7d497ab16f5b3a113690abin14",
  "status": "ACTIVE",
  "name": "UTS-gauss-7362",
  "port": 8000,
  "type": "Enterprise",
  "ha": {
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "region": "cn-xianhz-1",
  "datastore": {
    "type": "GaussDB",
    "version": "1.2"
  },
  "created": "2020-12-23 03:21:41 UTC",
  "updated": "2021-01-15 02:32:13 UTC",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 80
  },
  "nodes": [
    {
      "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
      "name": "UTS-gauss-7362_gaussdbv5dn1_2",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "az2xahz"
    },
    {
      "id": "ad6f02f31744422fa8ce487e81c9e7afno14",
      "name": "UTS-gauss-7362_gaussdbv5cn_0",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "az2xahz",
      "private_ip": "192.168.26.70"
    },
    {
      "id": "b30c56582bf44a548e3bb5b5af6c4773no14",
      "name": "UTS-gauss-7362_gaussdbv5dn1_1",
      "role": "slave",
      "status": "ACTIVE",
      "availability_zone": "az2xahz"
    },
    {
      "id": "f79ea0600cba42b2888bd9bd67e52a79no14",
      "name": "UTS-gauss-7362_gaussdbv5dn1_0",
      "role": "slave",
      "status": "ACTIVE",
      "availability_zone": "az2xahz"
    }
  ],
  "private_ips": [
    "192.168.26.70"
  ],
  "db_user_name": "root",
  "vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
  "subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
  "security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
```



```
"flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
"flavor_info": {
  "vcpu": 2,
  "mem": 16
},
"switch_strategy": "Reliability",
"charge_info": {
  "charge_mode": "postPaid"
},
"backup_strategy": {
  "start_time": "16:00-17:00",
  "keep_days": 7
},
"maintenance_window": "18:00-22:00",
"enterprise_project_id": "0",
"time_zone": "UTC+08:00",
"instance_mode": "enterprise"
},
{
  "id": "4ad42d079a3948d88c28d6236211b21ein14",
  "status": "ACTIVE",
  "name": "UTS-gauss-4336",
  "port": 8000,
  "type": "Enterprise",
  "ha": {
    "consistency": "strong",
    "replication_mode": "sync"
  },
  "region": "cn-xianhz-1",
  "datastore": {
    "type": "GaussDB",
    "version": "1.2"
  },
  "created": "2020-12-03 14:28:53 UTC",
  "updated": "2021-01-14 13:20:10 UTC",
  "volume": {
    "type": "ULTRAHIGH",
    "size": 40
  },
  "nodes": [
    {
      "id": "254dbda6f03643519ad64b39481bd11cno14",
      "name": "UTS-gauss-4336_gaussdbv5dn1_2",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "az1xahz"
    },
    {
      "id": "6ad76d4db26443c2a93b280739a31558no14",
      "name": "UTS-gauss-4336_gaussdbv5dn1_1",
      "role": "slave",
      "status": "ACTIVE",
      "availability_zone": "az1xahz"
    },
    {
      "id": "9fdeb821bdf444a8689b19c0ff588ceno14",
      "name": "UTS-gauss-4336_gaussdbv5cn_0",
      "role": "master",
      "status": "FAILED",
      "availability_zone": "az1xahz",
      "private_ip": "192.168.30.93"
    },
    {
      "id": "dd64bdbc02a542d88823b1582f772d25no14",
      "name": "UTS-gauss-4336_gaussdbv5cn_1",
      "role": "master",
      "status": "ACTIVE",
      "availability_zone": "az1xahz",
      "private_ip": "192.168.29.232"
    }
  ]
}
```

```
    },
    {
      "id": "de3c41461045466faf6c2b96eb709540no14",
      "name": "UTS-gauss-4336_gaussdbv5dn1_0",
      "role": "slave",
      "status": "ACTIVE",
      "availability_zone": "az1xahz"
    }
  ],
  "private_ips": [
    "192.168.30.93 / 192.168.29.232"
  ],

  "db_user_name": "root",
  "vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
  "subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
  "security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.large.8.in",
  "flavor_info": {
    "vcpu": 2,
    "mem": 16
  },
  "switch_strategy": "Reliability",
  "charge_info": {
    "charge_mode": "postPaid"
  },
  "backup_strategy": {
    "start_time": "18:00-19:00",
    "keep_days": 7
  },
  "maintenance_window": "18:00-22:00",
  "enterprise_project_id": "0",
  "time_zone": "UTC+08:00",
  "instance_mode": "enterprise"
}
],
"total_count": 4
}
```

- **Querying instance details**

```
{
  "instances": [
    {
      "id": "706c65c3dd7d497ab16f5b3a113690abin14",
      "status": "ACTIVE",
      "name": "UTS-gauss-7362",
      "port": 8000,
      "type": "Enterprise",
      "ha": {
        "consistency": "strong",
        "replication_mode": "sync"
      },
      "region": "aaa",
      "datastore": {
        "type": "GaussDB",
        "version": "1.4"
      },
      "created": "2020-12-23 03:21:41 UTC",
      "updated": "2021-01-15 02:32:13 UTC",
      "volume": {
        "type": "ULTRAHIGH",
        "size": 80
      },
      "nodes": [
        {
          "id": "25b7f16ee4084b7884d52f1bdfab4e68no14",
          "name": "UTS-gauss-7362_gaussdbv5dn1_2",
          "role": "master",
          "status": "ACTIVE",
          "region": "bbb",

```

```
    },
    {
      "id": "ad6f02f31744422fa8ce487e81c9e7afno14",
      "name": "UTS-gauss-7362_gaussdbv5cn_0",
      "role": "master",
      "status": "ACTIVE",
      "region": "bbb",
      "private_ip": "192.168.26.70"
    },
    {
      "id": "b30c56582bf44a548e3bb5b5af6c4773no14",
      "name": "UTS-gauss-7362_gaussdbv5dn1_1",
      "role": "slave",
      "status": "ACTIVE",
      "region": "bbb",
    },
    {
      "id": "f79ea0600cba42b2888bd9bd67e52a79no14",
      "name": "UTS-gauss-7362_gaussdbv5dn1_0",
      "role": "slave",
      "status": "ACTIVE",
      "region": "bbb",
    }
  ],
  "private_ips": [
    "192.168.26.70"
  ],

  "db_user_name": "root",
  "vpc_id": "5f84a5c4-2f93-41de-8359-d7acedb585cc",
  "subnet_id": "300036af-a92f-4e9e-8e9f-7d20e7878b05",
  "security_group_id": "2dcfd40a-8f32-46b8-8a47-6cfab5eba163",
  "flavor_ref": "gaussdb.opengauss.ee.dn.m6.2xlarge.8.in",
  "flavor_info": {
    "vcpu": 8,
    "mem": 64
  },
  "switch_strategy": "Reliability",
  "charge_info": {
    "charge_mode": "postPaid"
  },
  "backup_strategy": {
    "start_time": "16:00-17:00",
    "keep_days": 7
  },
  "maintenance_window": "18:00-22:00",
  "enterprise_project_id": "0",
  "time_zone": "UTC+08:00",
  "instance_mode": "enterprise"
}
},
"total_count": 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.2.6 Scaling up Storage Space of a DB Instance

Function

This API is used to scale up storage space of a DB instance. Before calling this API:

CAUTION

This API will be unavailable on March 31, 2025. You are advised to switch workloads to the new API ([Adding CNs and DN shards and Scaling up Storage](#)) before then.

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- The storage space must be a multiple of the number of shards multiplied by 4 GB.
- All nodes must be available.

URI

POST /gaussdb/v3/{project_id}/instances/{instance_id}/action

Table 5-74 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Instance ID.

Request Parameters

Table 5-75 Request parameters

Parameter	Mandatory	Type	Description
enlarge_volume	Yes	Object	Target storage space after scale-up. For details, see Table 5-76 .

Table 5-76 enlarge_volume field data structure description

Parameter	Mandatory	Type	Description
size	Yes	Integer	Storage space, which must always be an integral multiple of (Number of shards x 4 GB). Value range: (Number of shards x 40 GB) to (Number of shards x 16 TB).

Response Parameters

Table 5-77 Response parameters

Parameter	Type	Description
job_id	String	Task ID.

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01/action
{
  "enlarge_volume": {
    "size": 400
  }
}
```

Example Response

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Code

- Normal
202

- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.2.7 Deleting a DB Instance

Function

This API is used to delete a DB instance. Before calling this API:

 **CAUTION**

This API will be unavailable on March 31, 2025. You are advised to switch workloads to the new API ([Deleting a DB Instance](#)) before then.

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

DELETE /opengauss/v3/{project_id}/instances/{instance_id}

Table 5-78 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Instance ID.

Request Parameters

None

Response Parameters

Table 5-79 Response parameters

Parameter	Type	Description
job_id	String	ID of the DB instance deletion task.

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/
opengauss/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in01
```

Example Response

```
{
  "job_id": "dff1d289-4d03-4942-8b9f-463ea07c000d"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.2.8 Adding CNs

Function

This API is used to add CNs. Before calling this API:

⚠ CAUTION

This API will be unavailable on March 31, 2025. You are advised to switch workloads to the new API ([Adding CNs and DN shards and Scaling up Storage](#)) before then.

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- The CN growth increment ranges from 1 to 9.
- The maximum number of CNs is 256.
- If you choose the single-AZ deployment during instance creation, add CNs in the same AZ.
- The number of CNs of a DB instance cannot exceed twice the number of shards.

URI

POST /gaussdb/v3/{*project_id*}/instances/{*instance_id*}/action

Table 5-80 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Instance ID.

Request Parameters

Table 5-81 Request parameters

Parameter	Mandatory	Type	Description
expand_cluster	Yes	Object	For details, see Table 5-82 .

Table 5-82 expand_cluster field data structure description

Parameter	Mandator y	Type	Description
coordinators	Yes	Array	For details, see Table 5-83 .

Table 5-83 azCode field data structure description

Parameter	Mandator y	Type	Description
az_code	Yes	String	AZs to which CNs are to be added.

Response Parameters

Table 5-84 Response parameters

Parameter	Type	Description
job_id	String	Task ID.

Example Request

- Adding a CN

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/action
{
  "expand_cluster": {
    "coordinators": [
      {
        "az_code": "az1xahz"
      }
    ],
    "isAutoPay": 0
  }
}
```

- Adding CNs

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfdae3435in01/action
{
  "expand_cluster": {
    "coordinators": [
      {
        "az_code": "az1xahz"
      },
      {
        "az_code": "az2xahz"
      }
    ]
  }
}
```

```
    "az_code": "az3xahz"
  }
}
```

Example Response

- Example response

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.2.9 Adding Shards

Function

This API is used to add shards. Before calling this API:



CAUTION

This API will be unavailable on March 31, 2025. You are advised to switch workloads to the new API ([Adding CNs and DN shards and Scaling up Storage](#)) before then.

Intermittent disconnection occurs when shards are being added. Exercise caution when performing this operation.

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- The shard growth increment ranges from 1 to 9.
- The maximum number of shards is 256.

URI

POST /gaussdb/v3/{*project_id*}/instances/{*instance_id*}/action

Table 5-85 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Instance ID.

Request Parameters

Table 5-86 Request parameters

Name	Mandatory	Type	Description
expand_cluster	Yes	Object	For details, see Table 5-87 .

Table 5-87 expand_cluster field data structure description

Name	Mandatory	Type	Description
shard	Yes	Object	For details, see Table 5-88 .

Table 5-88 count field data structure description

Name	Mandatory	Type	Description
count	Yes	Integer	Number of shards to be added.

Response Parameters

Table 5-89 Response parameters

Name	Type	Description
job_id	String	Task ID.

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsdae3435in01/action
{
  "expand_cluster": {
    "shard": {
      "count": 1
    }
  }
}
```

Example Response

- Example response

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.2.10 Resetting a Database Password

Function

This API is used to reset a database password. Before calling this API:

CAUTION

This API will be unavailable on March 31, 2025. You are advised to switch workloads to the new API ([Resetting a Database Password](#)) before then.

- Learn how to [authenticate](#) this API.

- Obtain the required [region and endpoint](#).

URI

POST /gaussdb/v3/{*project_id*}/instances/{*instance_id*}/password

Table 5-90 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Instance ID.

Request Parameters

Table 5-91 Request parameters

Parameter	Mandatory	Type	Description
password	Yes	String	Password for user root . The password must: - Consist of 8 to 32 characters and contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters ~!@#\$\$%^*_-=+?, - Support weak password verification.

Response Parameters

None

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsdae3435in01/password
{
  "password": "*****"
}
```

Example Response

```
{}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.2.11 Changing a DB Instance Name

Function

This API is used to change a DB instance name. Before calling this API:

** CAUTION**

This API will be unavailable on March 31, 2025. You are advised to switch workloads to the new API ([Changing a DB Instance Name](#)) before then.

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /gaussdb/v3/{*project_id*}/instances/{*instance_id*}/name

Table 5-92 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Instance ID.

Request Parameters

Table 5-93 Request parameters

Parameter	Mandatory	Type	Description
name	Yes	String	DB instance name. Instances of the same type can have same names under the same tenant. The name must consist of 4 to 64 characters and start with a letter. It can contain only letters (case-sensitive), digits, hyphens (-), and underscores (_).

Response Parameters

Table 5-94 Response parameters

Parameter	Type	Description
job_id	String	Task ID for changing the instance name.

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfsdae3435in14/name
{
  "name": "instance-name"
}
```

Example Response

```
{
  "job_id": "2b414788a6004883a02390e2eb0ea227"
}
```

Status Code

- Normal
202
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.3 Parameter Configuration

5.3.1 Modifying Parameters of a Specified DB Instance

Function

This API is used to modify parameters in the parameter template of a specified DB instance. Before calling this API:



CAUTION

This API will be unavailable on March 31, 2025. You are advised to switch workloads to the new API ([Modifying Parameters of a Specified DB Instance](#)) before then.

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

- The values of the edited parameters must be within the default value range of the specified database version. For details about the range of parameter values, see "Modifying Parameters in a Parameter Template" in the *GaussDB User Guide*.

URI

PUT /gaussdb/v3/{project_id}/instances/{instance_id}/configurations

Table 5-95 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Instance ID.

Request Parameters

Table 5-96 Request parameters

Parameter	Mandatory	Type	Description
values	Yes	Map<String,String>	Parameter values defined by users based on a default parameter template For details, see Table 5-97 .

Table 5-97 values field data structure description

Parameter	Mandatory	Type	Description
key	Yes	String	Parameter name. For example, for the "failed_login_attempts": "4" parameter, the key is failed_login_attempts .

Parameter	Mandatory	Type	Description
value	Yes	String	Parameter value. For example, for the "failed_login_attempts": "4" parameter, the value is 4 .

Response Parameters

Table 5-98 Response parameters

Parameter	Type	Description
restart_required	Boolean	Whether a reboot is required. • true: A reboot is required. • false: A reboot is not required.

Example Request

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsae3435in01/configurations
{
  "values": {
    "xxx": "10",
    "yyy": "OFF"
  }
}
```

Example Response

```
{
  "restart_required": false
}
```

Status Code

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.3.2 Obtaining Parameter Templates (v3.1)

Function

This API is used to obtain parameter templates, including all databases' default and custom parameter templates. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.1/{project_id}/configurations?offset={offset}&limit={limit}

Table 5-99 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records to be queried. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1, 100] Default Value 100

Request Parameters

None

Response Parameters

Table 5-100 Parameter description

Parameter	Type	Description
configurations	Array of objects	Definition Parameter template information. For details, see Table 5-101 .
count	Integer	Definition Total number of records. Range [0, 2 ³¹ - 1]

Table 5-101 configurations field data structure description

Parameter	Type	Description
id	String	Definition Unique ID of a parameter template. Range The value can contain 36 characters. Only letters and digits are allowed.

Parameter	Type	Description
name	String	Definition Parameter template name. Range The value can contain 1 to 64 characters and is case-sensitive. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed
description	String	Definition Parameter template description. Range The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! <"='>&
datastore_version	String	Definition Engine version. Range N/A
datastore_name	String	Definition Engine name. Range GaussDB
ha_mode	String	Definition Instance type. Range The value is case-sensitive. The value Enterprise indicates a distributed instance (Enterprise Edition). The value centralization_standard indicates a centralized instance.
created	String	Definition Creation time in the yyyy-MM-dd HH:mm:ss format. for example, 2024-07-03 14:18:55. Range N/A
updated	String	Definition Update time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55. Range N/A

Parameter	Type	Description
user_defined	Boolean	Definition Whether the parameter template is a custom template. Range ● false: The parameter template is a default template. ● true: The parameter template is a custom template.

Example Request

Querying parameter templates

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/configurations?offset=1&limit=3
```

Example Response

Parameter templates queried.

```
{
  "count": 3,
  "configurations": [
    {
      "id": "b000d7c91f1749da87315700793a11d4pr14",
      "name": "Default-GaussDB-EE-1.0-Dist-Combined (4 replicas)",
      "description": "Default parameter template for GaussDB-Enterprise Edition-1.0-Distributed-combined (4 replicas)",
      "created": "2022-03-23 07:20:11",
      "updated": "2022-03-23 07:20:11",
      "datastore_version": "1.0",
      "datastore_name": "GaussDB",
      "ha_mode": "combined",
      "user_defined": false
    },
    {
      "id": "8d99f260ea1b4493a1b349e7abce5c09pr14",
      "name": "Default-Finance-Edition-GaussDB-1.3-Combined",
      "description": "Default parameter template for Finance Edition GaussDB 1.3-Combined",
      "created": "2022-03-23 07:20:11",
      "updated": "2022-03-23 07:20:11",
      "datastore_version": "1.1",
      "datastore_name": "GaussDB",
      "ha_mode": "combined",
      "user_defined": false
    },
    {
      "id": "0f44b65521a8414d8b8811df810d94ccpr14",
      "name": "Default-Finance-Disaster-GaussDB-1.3-Combined",
      "description": "Default parameter template for Finance Disaster GaussDB 1.3-Combined",
      "created": "2022-03-23 07:20:11",
      "updated": "2022-03-23 07:20:11",
      "datastore_version": "1.2",
      "datastore_name": "GaussDB",
      "ha_mode": "combined",
      "user_defined": false
    }
  ]
}
```

```
]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.3.3 Obtaining Parameter Templates (v3)

Function

This API is used to obtain parameter templates, including all databases' default and custom parameter templates. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/configurations?offset={offset}&limit={limit}

Table 5-102 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
offset	No	Integer	Definition Index offset. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed. Constraints N/A Range [0,2^31-1] Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records to be queried. For example, if this parameter is set to 10 , a maximum of 10 records can be displayed. Constraints N/A Range [1, 100] Default Value 100

Request Parameters

None

Response Parameters

Table 5-103 Response parameters

Parameter	Type	Description
configurations	Array of objects	Definition Parameter template information. For details, see Table 5-104 .

Parameter	Type	Description
count	Integer	Definition Total number of records. Range [0, 2 ³¹ - 1]

Table 5-104 configurations field data structure description

Parameter	Type	Description
id	String	Definition Parameter template ID. Range The value can contain 36 characters. Only letters and digits are allowed.
name	String	Definition Parameter template name. Range The value can contain 1 to 64 characters and is case-sensitive. Only letters, digits, hyphens (-), underscores (_), and periods (.) are allowed
description	String	Definition Parameter template description. Range The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! <"='>&
datastore_version	String	Definition Engine version. Range N/A
datastore_name	String	Definition Engine name. Range GaussDB

Parameter	Type	Description
ha_mode	String	Definition Instance type. Range The value is case-sensitive. The value Enterprise indicates a distributed instance (Enterprise Edition). The value centralization_standard indicates a centralized instance.
created	String	Definition Creation time in the yyyy-MM-dd HH:mm:ss format. for example, 2024-07-03 14:18:55. Range N/A
updated	String	Definition Update time in the "yyyy-MM-dd HH:mm:ss" format, for example, 2024-07-03 14:18:55. Range N/A
user_defined	Boolean	Definition Whether the parameter template is a custom template. Range false: The parameter template is a default template. true: The parameter template is a custom template.

Example Request

```
https://gaussdb-opengauss.cn-north-4.myhuaweicloud.com/v3/054b61972980d4552f0bc00ac8d3f5cd/configurations?offset=1&limit=3
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/configurations?offset=1&limit=3
```

Example Response

Parameter templates queried.

```
{
  "count": 3,
  "configurations": [
    {
      "id": "b000d7c91f1749da87315700793a11d4pr14",
      "name": "Default-Enterprise-Edition-GaussDB-1.0-INDEP",
      "description": "Default parameter template for Enterprise Edition GaussDB 1.0-Independent",
      "created": "2022-03-23 07:20:11",
```

```
{
  "updated": "2022-03-23 07:20:11",
  "datastore_version": "1.0",
  "datastore_name": "GaussDB",
  "ha_mode": "enterprise",
  "user_defined": false
},
{
  "id": "8d99f260ea1b4493a1b349e7abce5c09pr14",
  "name": "Default-Enterprise-Edition-GaussDB-1.1-INDEP",
  "description": "Default parameter template for Enterprise Edition GaussDB 1.1-Independent",
  "created": "2022-03-23 07:20:11",
  "updated": "2022-03-23 07:20:11",
  "datastore_version": "1.1",
  "datastore_name": "GaussDB",
  "ha_mode": "enterprise",
  "user_defined": false
},
{
  "id": "0f44b65521a8414d8b8811df810d94ccpr14",
  "name": "Default-Enterprise-Edition-GaussDB-1.2-INDEP",
  "description": "Default parameter template for Enterprise Edition GaussDB 1.2-Independent",
  "created": "2022-03-23 07:20:11",
  "updated": "2022-03-23 07:20:11",
  "datastore_version": "1.2",
  "datastore_name": "GaussDB",
  "ha_mode": "enterprise",
  "user_defined": false
}
]
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.3.4 Obtaining the Parameters of a Specified Instance (v3.1)

Function

This API is used to obtain parameters of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3.1/{project_id}/instances/{instance_id}/configurations

Table 5-105 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. To obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID, which uniquely identifies an instance. Constraints N/A Range The value can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 5-106 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token . The value of the token is that of X-Subject-Token in the response header.

Parameter	Mandatory	Type	Description
X-Language	No	String	Language. Default value: en-us Range: • zh-cn • en-us

Response Parameters

Table 5-107 Parameter description

Parameter	Type	Description
datastore_version	String	Engine version.
datastore_name	String	Engine name.
created	String	Creation time in the yyyy-MM-dd HH:mm:ss format.
updated	String	Update time in the yyyy-MM-ddHH:mm:ss format.
configuration_parameters	Array of objects	Parameters defined by users based on the default parameter templates. For details, see Table 5-108 .

Table 5-108 configuration_parameters field data structure description

Parameter	Type	Description
name	String	Parameter name.
value	String	Parameter value.
restart_required	Boolean	Whether a reboot is required after the parameter is modified.
value_range	String	Parameter value range.

Parameter	Type	Description
type	String	Parameter type. The value can be string , integer , boolean , list , or float . Range: • string • integer • boolean • list • float
description	String	Parameter description.

Example Request

Querying parameters of a specified instance

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/configurations
```

Example Response

Parameters of the instance queried.

```
{
  "created": "2022-04-11 10:46:59",
  "updated": "2022-04-11 10:46:59",
  "datastore_version": "2.0",
  "datastore_name": "GaussDB",
  "configuration_parameters": [
    {
      "name": "audit_system_object",
      "value": "12295",
      "type": "integer",
      "description": "Determines whether to audit the CREATE, DROP, and ALTER operations on GaussDB Kernel database objects. GaussDB Kernel database objects include databases, users, schemas, and tables. You can change the parameter value to audit only the operations on required database objects. During a forcible primary/standby failover, set audit_system_object to the maximum value and audit all DDL objects. If the parameter value is incorrectly changed, DDL audit logs will be lost. Contact customer service personnel to change it.",
      "restart_required": false,
      "value_range": "0-2097151"
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.3.5 Obtaining the Parameters of a Specified DB Instance (v3)

Function

This API is used to obtain parameters of a specified DB instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/configurations

Table 5-109 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Definition Instance ID. Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

None

Response Parameters

Table 5-110 Response parameters

Parameter	Type	Description
datastore_version	String	Definition Engine version. Range N/A
datastore_name	String	Definition Engine name. Range N/A
created	String	Definition Creation time in the yyyy-MM-dd HH:mm:ss format. for example, 2024-05-14 07:31:11. Range N/A
updated	String	Definition Update time in the yyyy-MM-ddHH:mm:ss format. for example, 2024-05-14 07:31:11. Range N/A
configuration_parameters	Array of objects	Definition Parameters defined by users based on the default parameter templates. For details, see Table 5-111 .

Table 5-111 configuration_parameters field data structure description

Parameter	Type	Description
name	String	Definition Parameter name. Range N/A
value	String	Definition Parameter value. Range N/A
restart_required	Boolean	Definition Whether a reboot is required after the parameter is modified. Range • true: A reboot is required. • false: A reboot is not required.
value_range	String	Definition Parameter value range. Range N/A
type	String	Definition Parameter type. Range • string • integer • boolean • list • float
description	String	Definition Parameter description. Range N/A

Example Request

```
https://gaussdb-opengauss.cn-north-4.myhuaweicloud.com/v3/054b61972980d4552f0bc00ac8d3f5cd/instances/dsf23fsfsd3435in14/configurations
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsf23fsfsd3435in14/configurations
```

Example Response

```
{
  "created": "2022-04-11 10:46:59",
  "updated": "2022-04-11 10:46:59",
  "datastore_version": "2.0",
  "datastore_name": "GaussDB",
  "configuration_parameters": [
    {
      "name": "audit_system_object",
      "value": "12295",
      "type": "integer",
      "description": "Whether to audit the CREATE, DROP, and ALTER operations on database objects",
      "restart_required": false,
      "value_range": "0-2097151"
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.3.6 Querying Details About a Parameter Template

Function

This API is used to query details about a parameter template based on the parameter template ID. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/configurations/{config_id}

Table 5-112 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
config_id	Yes	String	Parameter template ID.

Request Parameters

Table 5-113 Request header parameters

Parameter	Mandatory	Type	Description
X-Auth-Token	Yes	String	User token. You can obtain the token by calling the IAM API used to obtain a user token . The value of the token is that of X-Subject-Token in the response header.
X-Language	No	String	Language. Default value: en-us Range: • zh-cn • en-us

Response Parameters

Table 5-114 Parameter description

Parameter	Type	Description
id	String	Parameter template ID.
name	String	Parameter template name.
description	String	Parameter template description.
engine_version	String	Engine version.
instance_model	String	Deployment model. Range: • ha: centralized • independent: independent
created_at	String	Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
updated_at	String	Modification time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 .
configuration_parameters	Array of objects	Parameter details. For details about the parameters, see Table 5-115 .

Table 5-115 configuration_parameters field data structure description

Parameter	Type	Description
name	String	Name of a specific parameter.
value	String	Value of a specific parameter.
need_restart	Boolean	Whether the instance needs to be rebooted. true : Instance needs to be rebooted. false : Instance does not need to be rebooted.

Parameter	Type	Description
readonly	Boolean	Whether the parameter is read-only. true : read only false : editable
value_range	String	Parameter value range.
data_type	String	Parameter type. The value can be string , integer , boolean , list , all , or float .
description	String	Parameter description.

Example Request

Querying details about a parameter template

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/configurations/3ca44134a16d4bbab8eb701e025b19f7pr14
```

Example Response

Parameter template details queried.

```
{
  "id": "3ca44134a16d4bbab8eb701e025b19f7pr14",
  "name": "GaussDB_2b87a799-515",
  "description": "ParamGroup for instance.",
  "engine_version": "2.3",
  "instance_mode": "ha",
  "created_at": "2022-08-05T08:15:07+0800",
  "updated_at": "2022-08-09T03:06:52+0800",
  "configuration_parameters": [
    {
      "name": "audit_system_object",
      "value": "12294",
      "need_restart": false,
      "readonly": false,
      "value_range": "1-65536",
      "data_type": "integer",
      "description": "This parameter determines whether to audit the CREATE, DROP, and ALTER operations on GaussDB Kernel database objects. GaussDB Kernel database objects include DATABASE, USER, SCHEMA, and TABLE. You can change the value of this parameter to audit only the operations on required database objects. In scenarios where a standby node is forcibly elected as primary, you are advised to set audit_system_object to the maximum value and audit all DDL objects. Improper modification of this parameter will cause loss of DDL audit logs. Contact the customer service to change the parameter value."
    }
  ]
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.4 Version Upgrade

5.4.1 Querying Versions That a DB Instance Can Be Upgraded To

Function

This API is used to query versions that a DB instance can be upgraded to. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/instances/{instance_id}/db-upgrade/candidate-versions

Table 5-116 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	String	Instance ID, which is compliant with the UUID format.

Request Parameters

None

Response Parameters

Table 5-117 Response Parameters

Parameter	Type	Description
upgrade_type_list	Array of Table 5-118 objects	Upgrade types.
rollback_enabled	Boolean	Whether rollback is supported. ● true: Rollback is supported. ● false: Rollback is not supported.
source_version	String	Source instance version.
target_version	String	Target version. The target version is only returned when the instance is in the rolling upgrade phase, or no information is returned.
roll_upgrade_progress	Table 5-120 object	DN or AZ information during the rolling upgrade.
upgrade_candidate_versions	Array of strings	Versions that can be upgraded to, including minor and major versions. An empty array is returned during a rolling upgrade.
hotfix_upgrade_candidate_versions	Array of strings	Hot patch versions that can be updated. An empty array is returned during a rolling upgrade.
hotfix_rollback_candidate_versions	Array of strings	Hot patch versions that can be rolled back. An empty array is returned during a rolling upgrade.
hotfix_upgrade_infos	Array of Table 5-121 objects	Information about hot patch versions that can be installed.
hotfix_rollback_infos	Array of Table 5-122 objects	Information about hot patch versions that can be rolled back.

Table 5-118 upgrade_type_list

Parameter	Type	Description
upgrade_type	String	Upgrade type. ● grey: Gray upgrade ● inplace: In-place upgrade ● hotfix: Hot patch installation

Parameter	Type	Description
enable	Boolean	Whether the upgrade type is available. • true: yes. • false: no.
upgrade_action_list	Array of Table 5-119 objects	Upgrade actions.
is_parallel_upgrade	Boolean	Whether intra-AZ parallel upgrade is supported. • true: The current instance is in the rolling upgrade phase of the gray upgrade. The intra-AZ parallel upgrade is supported. Once this parameter is configured, it cannot be changed later. • false: The current instance is being upgraded. The intra-AZ parallel upgrade is not supported. Once this parameter is configured, it cannot be changed later. • null: The current instance is not in the upgrade process.

Table 5-119 upgrade_action_list

Parameter	Type	Description
upgrade_action	String	Upgrade action. • upgrade: Rolling upgrade • upgradeAutoCommit: Auto-commit • commit: Commit • rollback: Rollback
enable	Boolean	Whether the upgrade action is available. • true: yes. • false: no.

Table 5-120 roll_upgrade_progress

Parameter	Type	Description
upgraded_dn_group_numbers	String	Number of shards that have been upgraded.

Parameter	Type	Description
total_dn_group_numbers	String	Total number of shards.
not_fully_upgraded_az	String	AZs that have not been upgraded. Multiple AZs are separated by commas (.). For instances in the independent deployment, null is returned.
already_upgraded_az	String	AZs that have been upgraded. Multiple AZs are separated by commas (.). For instances in the independent deployment, null is returned.
az_description_map	Map<String,String>	AZ description.

Table 5-121 hotfix_upgrade_infos

Parameter	Type	Description
version	String	Hot patch version.
common_patch	String	Patch type. Range: • common: common patch • certain: custom patch
backup_sensitive	Boolean	Whether the patch is related to backups.
description	String	Description of the patch.

Table 5-122 hotfix_rollback_infos

Parameter	Type	Description
version	String	Hot patch version.
common_patch	String	Patch type. Range: • common: common patch • certain: custom patch
backup_sensitive	Boolean	Whether the patch is related to backups.
description	String	Description of the patch.

Example Request

This API is used to query versions that a DB instance can be upgraded to. Before calling this API:

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/cc6fd964d93f4003851dfc29d57d30a5in14/db-upgrade/candidate-versions
```

Example Response

Target version, shard status, and AZ status in the rolling upgrade returned.

```
{
  "upgrade_type_list": [
    {
      "upgrade_type": "grey",
      "upgrade_action_list": [
        {
          "upgrade_action": "commit",
          "enable": false
        },
        {
          "upgrade_action": "rollback",
          "enable": false
        },
        {
          "upgrade_action": "upgrade",
          "enable": true
        },
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": true
        }
      ],
      "enable": true,
      "is_parallel_upgrade": null
    },
    {
      "upgrade_type": "hotfix",
      "upgrade_action_list": null,
      "enable": false,
      "is_parallel_upgrade": null
    },
    {
      "upgrade_type": "inplace",
      "upgrade_action_list": [
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": true
        }
      ],
      "enable": true,
      "is_parallel_upgrade": null
    }
  ],
  "rollback_enabled": false,
  "source_version": "8.102.0",
  "target_version": null,
  "roll_upgrade_progress": {
    "not_fully_upgraded_az": "cn-southwest-244a,cn-southwest-244b,cn-southwest-244c",
    "already_upgraded_az": "",
    "az_description_map": {
      "cn-southwest-244c": "az3",
      "cn-southwest-244b": "az2",
      "cn-southwest-244a": "az1"
    }
  }
}
```

```
},
"upgrade_candidate_versions": [
  "8.300.0",
  "8.103.0"
],
"hotfix_upgrade_candidate_versions": [],
"hotfix_rollback_candidate_versions": [],
"hotfix_upgrade_infos": [],
"hotfix_rollback_infos": []
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.4.2 Querying Upgrade Types and Versions That Instances Can Be Upgraded to in Batches

Function

This API is used to query the available upgrade types and versions that instances can be upgraded to in batches. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

POST /v3/{project_id}/instances/db-upgrade/candidate-versions

Table 5-123 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Request Parameters

Table 5-124 Request body parameters

Parameter	Mandatory	Type	Description
instance_ids	No	Array of strings	Instance IDs for batch upgrade.

Response Parameters

Table 5-125 Response parameters

Parameter	Type	Description
upgrade_type_list	Array of Table 5-126 objects	Upgrade types. Array length: 0 to 1000
target_version	String	Target version. The target version is only returned when the instance is in the rolling upgrade phase, or no information is returned. Minimum length: 0 Maximum characters: 1000

Parameter	Type	Description
upgrade_candidate_versions	Array of strings	Versions that can be upgraded, including major and minor versions. Minimum length: 0 Maximum characters: 1000 Array length: 0 to 1000
hotfix_upgrade_infos	Array of Table 5-128 objects	Information about hot patch versions that can be installed. Array length: 0 to 1000
hotfix_rollback_infos	Array of Table 5-128 objects	Information about hot patch versions that can be rolled back.

Table 5-126 upgrade_type_list

Parameter	Type	Description
upgrade_type	String	Upgrade type. Range: • grey: Gray upgrade • inplace: In-place upgrade • hotfix: Hot patch installation
enable	Boolean	Check if the upgrade type is available. • true: yes. • false: no.
upgrade_action_list	Array of Table 5-127 objects	Upgrade actions. Array length: 0 to 1000
is_parallel_upgrade	Boolean	Whether intra-AZ parallel upgrade is supported. • true: The current instance is in the rolling upgrade phase of the gray upgrade. The intra-AZ parallel upgrade is supported. Once this parameter is configured, it cannot be changed later. • false: The current instance is being upgraded. The intra-AZ parallel upgrade is not supported. Once this parameter is configured, it cannot be changed later. • null: The current instance is not in the upgrade process.

Table 5-127 upgrade_action_list

Parameter	Type	Description
upgrade_action	String	Upgrade action. Range: • upgrade: Upgrade • upgradeAutoCommit: Auto-commit • commit: Commit • rollback: Rollback
enable	Boolean	Check if the upgrade type is available. • true: yes. • false: no.

Table 5-128 hotfix_upgrade_infos

Parameter	Type	Description
version	String	Hot patch version.
common_patch	String	Patch type. Range: • common: common patch • certain: custom patch
backup_sensitive	Boolean	Whether the patch is related to backups. Range: • true: The patch is related to backups. • false: The patch is not related to backups.
description	String	Description of the patch.

Example Request

This API is used to query the available upgrade types and versions that instances can be upgraded to in batches. Before calling this API:

```
POST https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/db-upgrade/candidate-versions
{
  "instance_ids" : [ "cc0ae5c47bf94834bf9e44138f7f995ain14", "aa0ae5c47bf94834bf9e44138f7f995ain14" ]
}
```

Example Response

Available upgrade types and versions that instances can be upgraded to in batches queried.

```
{
  "upgrade_type_list": [
    {
      "upgrade_type": "grey",
      "upgrade_action_list": [
        {
          "upgrade_action": "commit",
          "enable": false
        },
        {
          "upgrade_action": "rollback",
          "enable": false
        },
        {
          "upgrade_action": "upgrade",
          "enable": true
        },
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": true
        }
      ],
      "enable": true,
      "is_parallel_upgrade": null
    },
    {
      "upgrade_type": "inplace",
      "upgrade_action_list": [
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": true
        }
      ],
      "enable": true,
      "is_parallel_upgrade": null
    },
    {
      "upgrade_type": "hotfix",
      "upgrade_action_list": [
        {
          "upgrade_action": "upgradeAutoCommit",
          "enable": false
        },
        {
          "upgrade_action": "rollback",
          "enable": false
        }
      ],
      "enable": false,
      "is_parallel_upgrade": null
    }
  ],
  "upgrade_candidate_versions": [
    "8.302.90"
  ],
  "target_version": null,
  "hotfix_upgrade_infos": [],
  "hotfix_rollback_infos": []
}
```

Status Codes

- Normal

- 200
 - Abnormal
- For details, see [Status Codes](#).

Error Codes

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

5.5 Backup Management

5.5.1 Configuring an Automated Backup Policy

Function

This API is used to configure an automated backup policy. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

PUT /v3/{*project_id*}/instances/{*instance_id*}/backups/policy

Table 5-129 Parameter description

Name	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	Yes	Instance ID.

Request Parameters

Table 5-130 Parameter description

Name	Mandatory	Type	Description
backup_policy	Yes	Object	Backup policy information. For details, see Table 5-131 .

Table 5-131 backup_policy field data structure description

Name	Mandatory	Type	Description
keep_days	Yes	Integer	Backup retention days. The value ranges from 1 to 36500.
start_time	Yes	String	Backup time window. Automated backups will be created during the backup time window. The value cannot be empty. It must be a valid value in the "hh:mm-HH:MM" format. The current time is in the UTC format. The value of HH must be 1 greater than the value of hh. The values of mm and MM must be the same and must be 00. Example value: 21:00-22:00 NOTE This parameter indicates the time period (in UTC format) during which backup is performed. For example, if the local backup time is 05:00-06:00 and the time zone is UTC+08:00, set the parameter value to 21:00-22:00. If the time zone is UTC+04:00, set the value to 01:00-02:00.

Name	Mandatory	Type	Description
period	Yes	String	Full backup period. An automated full backup is performed on the UTC date of each week. Value range: 1 to 7. The value is a number separated by commas (,), indicating the days of the week. Example value: • 1,2,3,4 indicates that the backup period is Monday, Tuesday, Wednesday, and Thursday. • 1,2,3,4,5,6,7 indicates that an automated backup is performed every day from Monday to Sunday. • 1,3,5 indicates that an automated backup is performed on Monday, Wednesday, and Friday. NOTE This parameter indicates the date (in UTC format) on which backup is performed. For example, if the local backup time is 05:00-06:00 on Monday and Tuesday, and the time zone is UTC+08:00, set the parameter value to 1,7. If the time zone is UTC+04:00, set the value to 1,2.
differential_period	Yes	String	Differential backup interval. Interval for automated differential backup. Its value can be 15, 30, 60, 180, 360, 720, or 1440. The unit is minute. Example value: 30

Name	Mandatory	Type	Description
rate_limit	No	Integer	Upload speed at which data is uploaded to OBS. 0 MB/s indicates that the speed is not limited. The upload speed is related to the bandwidth. Value range: 0-1024 Minimum value: 0 MB/s
prefetch_block	No	Integer	Number of prefetch pages from the modified pages in the disk table file during a differential backup. When modified pages are adjacent (for example, with a bulk data load), you can set this parameter to a large value. When modified pages are scattered (for example, random update), you can set this parameter to a small value. The default value is 64 . Value: 1 to 8192 Minimum value: 1 . Maximum value: 8192
file_split_size	No	Integer	Size by which full and differential backup files are split, in GB. The value is from 0 to 1024 , but it must be a multiple of 4. The default value is 4 . 0 indicates the size is not limited. Value range: 0-1024 Minimum value: 0 Maximum value: 1024
filesplit_size	No	Integer	Size by which full and differential backup files are split. Deprecated field. Leave it blank.
enable_standby_backup	No	Boolean	Whether to enable backup on a standby node. (It is not suitable for single-node instances and instances earlier than 3.100.0.)

Response Parameters

None

Example Request

Configuring a backup policy for GaussDB (Set backup retention period to seven days and backup time window to 19:00-20:00)

```
PUT https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instances/dsfae23fsfdsae3435in14/backups/policy
{
  "backup_policy": {
    "keep_days": 7,
    "start_time": "19:00-20:00",
    "period": "1,2,3,4,5",
    "differential_period": "30",
    "rate_limit": 75,
    "prefetch_block": 64,
    "file_split_size": 4,
    "enable_standby_backup": false
  }
}
```

Example Response

```
{}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.5.2 Querying Backups (v3.1)

Function

This API is used to query backups of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This API can be used to query only manual and automated full backups.

URI

GET /v3.1/{project_id}/backups?
instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&of
fset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}

Table 5-132 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	No	String	Definition Instance ID, which uniquely identifies an instance and is used to query the backups of an instance. Constraints This parameter is mandatory when you query log backups. Range The value is compliant with the UUID format and can contain 32 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
backup_id	No	String	Definition Backup ID, which uniquely identifies an instance backup and is used to query information about a backup. Constraints N/A Range The value is compliant with the UUID format and can contain 36 characters. Only letters and digits are allowed. Default Value N/A
backup_type	No	String	Definition Backup type. Constraints N/A Range • auto: instance-level automated full backup • manual: instance-level manual full backup Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints N/A Range [0,10 ¹⁰ -1] Default Value 0 : The query starts from the first data record.

Parameter	Mandatory	Type	Description
limit	No	Integer	Definition Number of records to be queried. Constraints N/A Range [0,100] Default Value 100
begin_time	No	String	Definition Query start time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800 . Example: 2022-05-09T16:01:10+0800. Constraints This parameter can be used together with end_time . If end_time is not used, the backups created after begin_time are returned. If end_time is used, the backups created between begin_time and end_time are returned. Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
end_time	No	String	Definition Query end time. The format is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800. Example: 2022-05-09T16:01:10+0800. Constraints This parameter can be used together with begin_time. If begin_time is not used, the backups created before end_time are returned. If begin_time is used, the backups created between begin_time and end_time are returned. Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Table 5-133 Parameter description

Parameter	Type	Description
backups	Array of objects	Definition Backup information. For details, see Table 5-134.

Parameter	Type	Description
total_count	Long	Definition Total number of backup files. Range [0, 2 ⁶³ - 1]. The actual value depends on the number of backups in the backup list.

Table 5-134 backups field data structure description

Parameter	Type	Description
id	String	Definition Backup ID, which uniquely identifies a backup. Range The value can contain 36 characters. Only letters and digits are allowed.
name	String	Definition Backup name. Range N/A
description	String	Definition Description of the backup file. Range The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! < " = ' > &
begin_time	String	Definition Backup start time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Example: 2022-05-09T16:01:10+0800. Range N/A

Parameter	Type	Description
end_time	String	Definition Backup end time in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between the calendar and the hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Example: 2022-05-09T16:01:10+0800. Range N/A
status	String	Definition Backup status. Range ● BUILDING: Backup in progress ● COMPLETED: Backup completed ● FAILED: Backup failed
size	Double	Definition Backup size in MB. Range The value is determined by the backup size.
type	String	Definition Backup type. Range ● auto: instance-level automated full backup ● manual: instance-level manual full backup
datastore	Object	Definition Database information. For details, see Table 5-135 .
instance_id	String	Definition ID of the instance to which the backup belongs. Range The value can contain 32 characters. Only letters and digits are allowed.

Table 5-135 datastore field data structure description

Parameter	Type	Description
type	String	Definition DB engine. The value is case-insensitive and can be: GaussDB Range N/A
version	String	Definition DB engine version. If this parameter is not specified, the latest version is used by default. To query supported DB engine versions, see Querying DB Engine Versions . Range N/A

Example Request

- Querying all backups

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/backups
```

- Querying instances based on search criteria

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3.1/0483b6b16e954cb88930a360d2c4e663/backups?instance_id=88be33e4c5a64ceba42b42da89310111in14&backup_id=88be1234c5a64ceba42b42da89310111br14&backup_type=auto&begin_time=2022-05-09T16:15:50+0800&end_time=2022-05-09T16:20:45+0800&limit=1&offset=1
```

Example Response

Backups queried.

```
{
  "backups": [
    {
      "id": "a696cd25e4fc453aa503650225cece8bbr14",
      "name": "GaussDB-hly-ha-20220509080110906",
      "status": "FAILED",
      "size": 0.0,
      "type": "auto",
      "datastore": {
        "type": "GaussDB",
        "version": "1.4"
      },
      "begin_time": "2022-05-09T16:01:10+0800",
      "end_time": "2022-05-09T16:04:31+0800",
      "instance_id": "164abc6d35114095bb849d007b19db3bin14"
    },
    {
      "id": "5651c62a7f12461c98020dd3abfe24ccbr14",
      "name": "GaussDB-hly-master-20220509022658257",
```

```
{
  "status": "FAILED",
  "size": 0.0,
  "type": "auto",
  "datastore": {
    "type": "GaussDB",
    "version": "1.4"
  },
  "begin_time": "2022-05-09T10:26:58+0800",
  "end_time": "2022-05-09T10:30:17+0800",

  "instance_id": "fd26e3bf26e5467587eec857e4f66ef0in14"
},
"total_count": 167
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.5.3 Querying Backups (v3)

Function

This API is used to obtain backups of an instance. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

This API is used to query only manual and automated full backups.

URI

```
GET /v3/{project_id}/backups?
instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&of
fset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}
```

Table 5-136 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	No	String	Definition Instance ID, which uniquely identifies an instance and is used to query the backups of an instance. Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
backup_id	No	String	Definition Backup ID, which uniquely identifies an instance backup and is used to query information about a backup. Constraints N/A Range The value is compliant with the UUID format and can contain 36 characters. Only letters and digits are allowed. Default Value N/A

Parameter	Mandatory	Type	Description
backup_type	No	String	Definition Backup type, which is used to query a certain type of backup. Constraints N/A Range • auto: automated full backup • manual: manual full backup Default Value N/A
offset	No	Integer	Definition Index offset. The query starts from the next piece of data indexed by this parameter. Constraints N/A Range [0,10 ¹⁰ -1] Default Value 0 : The query starts from the first data record.
limit	No	Integer	Definition Number of records to be queried. Constraints N/A Range [0,100] Default Value 100

Parameter	Mandatory	Type	Description
begin_time	No	String	Definition Query start time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800. Example: 2022-05-09T16:01:10+0800. Constraints This parameter can be used together with end_time. If end_time is not used, the backups created after begin_time are returned. If end_time is used, the backups created between begin_time and end_time are returned. Range N/A Default Value N/A

Parameter	Mandatory	Type	Description
end_time	No	String	Definition Query end time. The format is "yyyy-mm-ddThh:mm:ssZ" and the end time must be later than the start time. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is +0800. Example: 2022-05-09T16:01:10+0800. Constraints This parameter can be used together with begin_time. If begin_time is not used, the backups created before end_time are returned. If begin_time is used, the backups created between begin_time and end_time are returned. Range N/A Default Value N/A

Request Parameters

None

Response Parameters

Table 5-137 Response parameters

Parameter	Type	Description
backups	Array of objects	Definition Backup information. For details, see Table 5-138.

Parameter	Type	Description
total_count	Long	Definition Total number of backup files. Range [0, 2 ⁶³ - 1]. The actual value depends on the number of backups in the backup list.

Table 5-138 backups field data structure description

Parameter	Type	Description
id	String	Definition Backup ID. Range The value can contain 36 characters. Only letters and digits are allowed.
name	String	Definition Backup name. Range N/A
description	String	Definition Description of the backup file. Range The value can contain up to 256 characters but cannot contain carriage return characters. The following special characters are not allowed: ! < " = ' > &
begin_time	String	Definition Backup start time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Example: 2022-05-09T16:01:10+0800. Range N/A

Parameter	Type	Description
end_time	String	Definition Backup end time in the "yyyy-mm-ddThh:mm:ssZ" format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the time zone offset is shown as +0800 . Example: 2022-05-09T16:01:10+0800. Range N/A
status	String	Definition Backup status. Range ● BUILDING: Backup in progress ● COMPLETED: Backup completed ● FAILED: Backup failed
size	Double	Definition Backup size in MB. Range The value is determined by the backup size.
type	String	Definition Backup type. Range ● auto: automated full backup ● manual: manual full backup
datastore	Object	Definition Database information. For details, see Table 5-139 .
instance_id	String	Definition ID of the instance to which the backup belongs. Range The value can contain 32 characters. Only letters and digits are allowed.

Table 5-139 datastore field data structure description

Parameter	Type	Description
type	String	Definition DB engine. The value is case-insensitive and can be: GaussDB Range N/A
version	String	Definition DB engine version. If this parameter is not specified, the latest version is used by default. To query supported DB engine versions, see Querying DB Engine Versions . DB engine version. If this parameter is not specified, the latest version is used by default. To query supported DB engine versions, see Querying DB Engine Versions . Range N/A

Example Request

- Querying all backups

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/backups
```

- Querying instances based on search criteria

```
https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/backups?instance_id=88be33e4c5a64ceba42b42da89310111in14&backup_id=88be1234c5a64ceba42b42da89310111br14&backup_type=auto&begin_time=2022-05-09T16:15:50+0800&end_time=2022-05-09T16:20:45+0800&limit=1&offset=1
```

Example Response

```
{
  "backups": [
    {
      "id": "a696cd25e4fc453aa503650225cece8bbr14",
      "name": "GaussDB-hly-ha-20220509080110906",
      "description": null,
      "status": "FAILED",
      "size": 0.0,
      "type": "auto",
      "datastore": {
        "type": "GaussDB",
        "version": "1.4"
      },
      "begin_time": "2022-05-09T16:01:10+0800",
      "end_time": "2022-05-09T16:04:31+0800",
      "instance_id": "164abc6d35114095bb849d007b19db3bin14"
    }
  ]
}
```

```
    },  
    {  
      "id": "5651c62a7f12461c98020dd3abfe24ccbr14",  
      "name": "GaussDB-hly-master-20220509022658257",  
      "description": null,  
      "status": "FAILED",  
      "size": 0.0,  
      "type": "auto",  
      "datastore": {  
        "type": "GaussDB",  
        "version": "1.4"  
      },  
      "begin_time": "2022-05-09T10:26:58+0800",  
      "end_time": "2022-05-09T10:30:17+0800",  
      "instance_id": "fd26e3bf26e5467587eec857e4f66ef0in14"  
    }  
  ],  
  "total_count": 167  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.5.4 Querying Instances That Can Be Used for Backups and Restorations

Function

This API is used to query the instances that can be used for backups and restorations. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The **restore_time** and **backup_id** parameters cannot be both left blank.

URI

GET /v3/{project_id}/restorable-instances

Table 5-140 Parameter description

Parameter	Mandatory	Description
project_id	Yes	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
backup_id	No	Instance backup ID. You can use the backup ID to query the instance topology information and filter the queried instances (including the number of nodes and replicas of instances). If this parameter is left blank, restore_time is used.
restore_time	No	Specific point of time. If the backup ID is left blank, this parameter is used to query the instance topology information and filter the queried instances.
source_instance_id	No	ID of the DB instance to be restored. • If backup_id is not left blank, source_instance_id is optional. • If backup_id is left blank and restore_time is not left blank, source_instance_id is mandatory. • source_instance_id and backup_id cannot be both left blank.
offset	No	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number.
limit	No	Number of records to be queried. The default value is 100 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 100 .

Request Parameters

None

Response Parameters

Table 5-141 Parameter description

Parameter	Type	Description
instances	Array of objects	Instances that can be used for backups and restorations. For details, see Table 5-142 .
total_count	Integer	Total number of queried instances.

Table 5-142 instances parameter data structure description

Parameter	Type	Description
instance_name	String	DB instance name.
instance_id	String	Instance ID.
volume_type	String	Storage type.
data_volume_size	Number	Storage space, in GB
version	String	Instance version
mode	String	Deployment model. • Ha: centralized deployment • Independent: independent deployment
instance_mode	String	Instance model. • enterprise: enterprise edition • standard: standard edition • basic: basic edition

Example Request

Querying instances that can be used for backups and restorations

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0611f1bd8b00d5d32f17c017f15b599f/restorable-instances?source_instance_id=88efb3753dc844829c380edff7798eecin14&backup_id=d3f223e9c35d450ea0692bdbff686e45br14
```

Example Response

Instances that can be used for backups and restorations queried.

```
{
  "instances": [
    {
      "instance_name": "gaussdb",
      "instance_id": "3ea6d6463c9a4baf9a47c5b74464307cin14",
      "volume_type": "ULTRAHIGH",
      "data_volume_size": 500,
      "version": "8.102",
      "mode": "Ha",
      "instance_mode": "enterprise"
    }
  ],
  "total_count": 1
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.5.5 Querying Information About the Original Instance Based on a Specific Point of Time or a Backup File

Function

This API is used to query the information of the original instance based on a specific point of time or a backup file. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

Constraints

The **restore_time** and **backup_id** parameters cannot be both left blank.

- If **backup_id** is not left blank, the query is performed based on **backup_id**.
- If **backup_id** is left blank, the query is performed based on **restore_time**.
- If **restore_time** and **backup_id** are both specified, the query is performed based on **backup_id**.

URI

GET /v3/{project_id}/instance-snapshot?
instance_id={instance_id}&restore_time={restore_time}&backup_id={backup_id}

Table 5-143 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_id	No	String	Original instance ID. If restore_time is specified, instance_id is mandatory.
restore_time	No	String	This parameter is mandatory when you want to view DB instance backups based on a specified point in time. Instance information at a time point in the UNIX timestamp format, in milliseconds. The time zone is UTC.
backup_id	No	String	Backup ID. This parameter is mandatory when a DB instance is restored using a backup ID.

Request Parameters

None

Response Parameters

Table 5-144 Parameter description

Parameter	Type	Description
cluster_mode	String	Instance deployment model. Range: • Ha: centralized deployment • Independent: independent deployment • Combined: combined deployment
instance_model	String	Instance model. Range: • basic: basic edition • standard: standard edition • enterprise: enterprise edition
data_volume_size	String	Storage space, in GB.
solution	String	Solution template type. Range: • single: single node • double: 1 primary + 1 standby (2 nodes) • triset: 1 primary + 2 standby • logger: 1 primary + 1 standby + 1 log • loggerdorado: 1 primary + 1 standby + 1 log (shared storage) • quadruset: 1 primary + 3 standby • hws: distributed (independent deployment)
node_num	Integer	Number of nodes.
coordinator_num	Integer	Number of CNs.
sharding_num	Integer	Number of shards.
replica_num	Integer	Number of replicas.
engine_version	String	Engine version.

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/0483b6b16e954cb88930a360d2c4e663/instance-snapshot
```

Example Response

```
{
  "cluster_mode" : "Ha",
  "instance_mode" : "enterprise",
  "data_volume_size" : "200",
  "solution" : "triset",
  "node_num" : 3,
  "coordinator_num" : 0,
  "sharding_num" : 3,
  "replica_num" : 3,
  "engine_version" : "2.2.90"
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

5.6 Recycle Bin

5.6.1 Querying All DB Engine Instances in the Recycle Bin

Function

This API is used to query all DB engine instances in the recycle bin. Before calling this API:

- Learn how to [authenticate](#) this API.
- Obtain the required [region and endpoint](#).

URI

GET /v3/{project_id}/recycle-instances

Table 5-145 Parameter description

Parameter	Mandatory	Type	Description
project_id	Yes	String	Definition Project ID of a tenant in a region. For details about how to obtain the value, see Obtaining a Project ID . Constraints N/A Range The value can contain 32 characters. Only letters and digits are allowed. Default Value N/A
instance_name	No	String	DB instance name.
offset	No	Integer	Index offset. If offset is set to <i>N</i> , the resource query starts from the <i>N</i> +1 data entry. The default value is 0 , indicating that the query starts from the first data entry. The value cannot be a negative number. For example, if this parameter is set to 0 and limit is set to 10 , only the 1st to 10th records are displayed.
limit	No	Integer	Number of records to be queried. The default value is 50 . The value cannot be a negative number. The minimum value is 1 and the maximum value is 50 . For example, if this parameter is set to 10 , a maximum of 10 records can be displayed.

Request Parameters

None

Response Parameters

Table 5-146 Parameter description

Parameter	Type	Description
total_count	Integer	Total number of records.
instances	Array of objects	Information about all instances in the recycle bin. For details, see Table 5-147 .

Table 5-147 instances field data structure description

Parameter	Type	Description
id	String	Instance ID.
name	String	DB instance name.
ha_mode	String	Deployment model. Range: • Ha: centralized deployment • Independent: independent deployment • Combined: combined deployment
engine_name	String	Engine name.
engine_version	String	Engine version.
pay_model	String	Billing mode. 0 : pay-per-use 1 : yearly/monthly
created_at	String	Creation time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as +0800 .
deleted_at	String	Deletion time in the yyyy-mm-ddThh:mm:ssZ format. T is the separator between calendar and hourly notation of time. Z indicates the time zone offset. For example, in the Beijing time zone, the offset is shown as +0800 .
volume_type	String	Disk type. Range: • high: high I/O • ultrahigh: ultra-high I/O • essd: extreme SSD

Parameter	Type	Description
volume_size	String	Disk size.
data_vip	String	Private IP address.
enterprise_project_id	String	Enterprise project ID. The value 0 indicates the default enterprise project.
enterprise_project_name	String	Enterprise project name.
backup_level	String	Backup level.
recycle_backup_id	String	Backup ID. (Backup ID in the backup information generated when the instance is deleted.)
recycle_status	String	Backup status in the recycle bin. Range: ● Running ● Active
mode	String	Product type. Range: ● basic: basic edition ● standard: standard edition ● enterprise: enterprise edition

Example Request

```
GET https://gaussdb-opengauss.ap-southeast-1.myhuaweicloud.com/v3/619d3e78f61b4be68bc5aa0b59edcf7b/recycle-instances
```

Example Response

```
{
  "total_count": 2,
  "instances": [ {
    "id": "21f20e55999947a9938ad0453b757e72in14",
    "name": "gaussdbv5_CCv20_bms_default_1_20220827012852",
    "ha_mode": "Ha",
    "engine_name": "gaussdbv5",
    "engine_version": "2.3.0",
    "pay_model": 0,
    "created_at": "2022-08-09T09:26:44.000+08:00",
    "deleted_at": "2022-08-09T09:26:44.000+08:00",
    "volume_type": "localssd",
    "volume_size": "",
    "data_vip": "25.213.0.41 / 25.213.0.188 / 25.213.0.101 / 25.213.0.82",
    "enterprise_project_id": 0,
    "enterprise_project_name": null,
    "backup_level": null,
    "recycle_backup_id": "00b755ed678e41d18c74b28e2ad41bdcbr14",
    "recycle_status": "Active",
    "mode": "enterprise"
  }
]
```

```
}, {  
  "id" : "a9df5b52b32e4571b1b6425a78a32956in14",  
  "name" : "ecs-lxy-backup-3",  
  "ha_mode" : "Ha",  
  "engine_name" : "gaussdbv5",  
  "engine_version" : "2.3.0",  
  "pay_model" : 0,  
  "created_at" : "2022-08-09T09:26:44.000+08:00",  
  "deleted_at" : "2022-08-09T09:26:44.000+08:00",  
  "volume_type" : "ultrahigh",  
  "volume_size" : "",  
  "data_vip" : "173.202.10.246 / 173.202.10.205 / 173.202.10.175",  
  "enterprise_project_id" : 0,  
  "enterprise_project_name" : null,  
  "backup_level" : null,  
  "recycle_backup_id" : "ef393704ef0045d1b6226b6f2cdc48a7br14",  
  "recycle_status" : "Active",  
  "mode" : "enterprise"  
}]  
}
```

Status Codes

- Normal
200
- Abnormal
For details, see [Status Codes](#).

Error Codes

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

6 Permissions Policies and Supported Actions

6.1 Introduction

This chapter describes how to use Identity and Access Management (IAM) to implement fine-grained permissions management for your GaussDB. If your Huawei Cloud account does not need individual IAM users, then you may skip over this chapter.

By default, new IAM users do not have permissions assigned. You need to add a user 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 and can perform specified operations on cloud services based on the permissions.

You can grant users permissions by using **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 queries GaussDB instances using an API, the user must have been granted permissions that allow the **GaussDB:instance:list** action.

Supported Actions

System-defined policies 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. Actions supported by policies are specific to APIs. The following are common concepts related to policies:

- **Permissions:** Statements in a policy that allow or deny certain operations.
- **APIs:** APIs that will be called for performing certain operations.
- **Actions:** Added to a custom policy to control permissions for specific operations.
- **Related actions:** Actions which a specific action depends on to take effect. When assigning permissions for the action to a user, you also need to assign permissions for the dependent actions.
- **IAM projects or enterprise projects:** Type of projects in which policies can be used to grant permissions. A policy can be applied to IAM projects, enterprise projects, or both. 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 Management. For details about the differences between IAM and enterprise projects, see [Differences Between IAM Projects and Enterprise Projects](#).

 NOTE

The check mark (✓) and cross symbol (x) indicate that an action takes effect or does not take effect for the corresponding type of projects.

6.2 GaussDB Actions

Table 6-1 DB instance management

Permission	Action	Authorization Scope	API
Creating a DB instance	gaussdb:instance:create gaussdb:param:list	• Supported: IAM projects • Supported: Enterprise projects	POST /v3/{project_id}/instances
Deleting a DB instance	gaussdb:instance:delete	• Supported: IAM projects • Supported: Enterprise projects	DELETE /v3/{project_id}/instances/{instance_id}
Querying DB instances	gaussdb:instance:list	• Supported: IAM projects • Supported: Enterprise projects	GET /v3/{project_id}/instances

Permission	Action	Authorization Scope	API
Resetting a database password	gaussdb:instance:modifyPasswd	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/password
Changing a DB instance name	gaussdb:instance:rename	- Supported: IAM projects - Supported: Enterprise projects	PUT /v3/{project_id}/instances/{instance_id}/name
Rebooting a DB instance	gaussdb:instance:restart	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/restart
Switching roles of the primary and standby DN's in shards	gaussdb:instance:switchShard	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/switch-shard
Querying the components of a DB instance	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/components
Changing vCPUs and memory of a DB instance	gaussdb:instance:modifySpec	- Supported: IAM projects - Supported: Enterprise projects	PUT /v3/{project_id}/instance/{instance_id}/flavor
Checking whether host load is unbalanced due to a primary/standby switchover	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/balance
Querying solution template settings	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/deployment-form

Permission	Action	Authorization Scope	API
Querying EIPs bound to a DB instance	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/public-ips?offset={offset}&limit={limit}
Validating password strength	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/weak-password-verification
Binding or unbinding an EIP	gaussdb:instance:bindPublicIp	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/nodes/{node_id}/public-ip
Querying the SSL certificate download address of a DB instance	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/ssl-cert/download-link
Querying the instance quotas of a tenant	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/project-quotas?type={type}

Table 6-2 Parameter configuration

Permission	Action	Authorization Scope	API
Obtaining parameter templates	gaussdb:param:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/configurations?offset={offset}&limit={limit}

Permission	Action	Authorization Scope	API
Obtaining parameters of a specified DB instance	gaussdb:param:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/configurations
Modifying parameters of a specified DB instance	gaussdb:param:modify	- Supported: IAM projects - Supported: Enterprise projects	PUT /v3/{project_id}/instances/{instance_id}/configurations
Creating a parameter template	gaussdb:param:create	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/configurations
Deleting a parameter template	gaussdb:param:delete	- Supported: IAM projects - Supported: Enterprise projects	DELETE /v3/{project_id}/configurations/{config_id}
Querying details about a parameter template	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/configurations/{config_id}
Replicating a parameter template	gaussdb:param:create	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/configurations/{config_id}/copy
Resetting a parameter template	gaussdb:param:modify	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/configurations/{config_id}/reset
Obtaining the differences of two parameter templates	gaussdb:param:list	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/configurations/comparison

Permission	Action	Authorization Scope	API
Querying instances that a parameter template can be applied to	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/configurations/{config_id}/applicable-instances
Checking whether the parameter template name exists	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/configurations/name-validation?name={name}
Applying a parameter template	gaussdb:param:apply	- Supported: IAM projects - Supported: Enterprise projects	PUT /v3/{project_id}/configurations/{config_id}/apply
Querying application records of a parameter template	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/configurations/{config_id}/applied-histories
Querying the change history of a parameter template	gaussdb:param:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/configurations/{config_id}/histories

Table 6-3 Backup management

Permission	Action	Authorization Scope	API
Configuring an automated backup policy	gaussdb:instance:modifyBackupPolicy	- Supported: IAM projects - Supported: Enterprise projects	PUT /v3/{project_id}/instances/{instance_id}/backups/policy
Querying an automated backup policy	gaussdb:backup:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/backups/policy

Permission	Action	Authorization Scope	API
Querying backups	gaussdb:backup:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/backups?instance_id={instance_id}&backup_id={backup_id}&backup_type={backup_type}&offset={offset}&limit={limit}&begin_time={begin_time}&end_time={end_time}
Creating a manual backup	gaussdb:backup:create	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/backups
Deleting a manual backup	gaussdb:backup:delete	- Supported: IAM projects - Supported: Enterprise projects	DELETE /v3/{project_id}/backups/{backup_id}
Querying the restoration time range	gaussdb:backup:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/restore-time?date={date}
Restoring data to a new instance	gaussdb:instance:create	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances
Querying instances that can be used for backups and restorations	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/restorable-instances

Permission	Action	Authorization Scope	API
Querying information about the original DB instance based on a specific point of time or a backup file	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instance-snapshot?instance_id={instance_id}&backup_id={backup_id}&restore_time={restore_time}

Table 6-4 DB Engine versions and specifications

Permission	Action	Authorization Scope	API
Querying DB engine versions	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/datastore/versions
Querying database specifications	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/flavors?limit={limit}&offset={offset}&ha_mode={ha_mode}&version={version}&spec_code={spec_code}
Querying DB engines	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/datastores
Querying specifications that a DB instance can be changed to	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/available-flavors

Table 6-5 Database and account management

Permission	Action	Authorization Scope	API
Creating a database	gaussdb:instance:createDatabase	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/database
Creating a database account	gaussdb:instance:createDatabaseUser	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/db-user
Creating a database schema	gaussdb:instance:createDatabaseSchema	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/schema
Configuring permissions of database accounts	gaussdb:instance:grantDatabasePrivilege	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/db-privilege
Resetting a password for a database account	gaussdb:instance:modifyDatabasePassword	- Supported: IAM projects - Supported: Enterprise projects	PUT /v3/{project_id}/instances/{instance_id}/db-user/password
Querying databases	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/databases
Querying database users	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/db-users
Querying database schemas	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/schemas

Table 6-6 Tag management

Permission	Action	Authorization Scope	API
Querying tags of a specific instance	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/tags
Querying tags of a project	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/tags
Querying predefined tags	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/predefined-tags
Adding tags for a DB instance	gaussdb:instance:dealTag	- Supported: IAM projects - Supported: Enterprise projects	POST /v3/{project_id}/instances/{instance_id}/tags

Table 6-7 Storage management

Permission	Action	Authorization Scope	API
Querying the storage usage of a DB instance	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/instances/{instance_id}/volume-usage
Querying the disk type of a DB instance	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/storage-type?version={version}&ha_mode={ha_mode}

Table 6-8 Quota management

Permission	Action	Authorization Scope	API
Modifying enterprise project quotas	gaussdb:quota:modify	- Supported: IAM projects - Supported: Enterprise projects	PUT /v3/{project_id}/enterprise-projects/quotas
Querying enterprise project quotas	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/enterprise-projects/quotas

Table 6-9 Task management

Permission	Action	Authorization Scope	API
Obtaining task information	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/jobs?id={id}
Querying tasks	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/tasks
Deleting a task record	gaussdb:instance:deleteTaskRecord	- Supported: IAM projects - Supported: Enterprise projects	DELETE /v3/{project_id}/jobs/{job_id}

Table 6-10 Recycle bin

Permission	Action	Authorization Scope	API
Modifying the recycling policy	gaussdb:instance:setRecyclePolicy	- Supported: IAM projects - Supported: Enterprise projects	PUT /v3/{project_id}/recycle-policy

Permission	Action	Authorization Scope	API
Querying the recycling policy	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/recycle-policy
Querying all DB engine instances in the recycle bin	gaussdb:instance:list	- Supported: IAM projects - Supported: Enterprise projects	GET /v3/{project_id}/recycle-instances

7 Appendix

7.1 Abnormal Request Results

Abnormal response description

Table 7-1 Abnormal response description

Name	Type	Description
error_code	String	Specifies the error returned when a task submission exception occurs. For details about error codes, see Error Codes .
error_msg	String	Specifies the description of the error returned when a task submission exception occurs.

Response example

```
{
  "error_code": "DBS.200022",
  "error_msg": "The DB instance name already exists."
}
```

7.2 Status Codes

[Table 7-2](#) describes status codes.

Table 7-2 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 the initial 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 more advanced protocol. For example, the current HTTP protocol is switched to a later version.
200	OK	Request succeeded.
201	Created	The request for creating a resource or task has been fulfilled.
202	Accepted	The request has been accepted, but the processing has not been completed.
203	Non-Authoritative Information	Unauthorized information. The request is successful.
204	NoContent	The server has successfully processed the request, but has not returned any content. The status code is returned in response to an HTTP OPTIONS request.
205	Reset Content	The server has fulfilled the request, but the requester is required to reset the content.
206	Partial Content	The server has processed certain GET requests.
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 the user or user agent (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 was temporarily moved.
303	See Other	The response to the request can be found under a different URI and should be retrieved using a GET or POST method.

Status Code	Message	Description
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 must be accessed through a proxy.
306	Unused	The HTTP status code is no longer used.
400	BadRequest	Invalid request. The client should not repeat the request without modifications.
401	Unauthorized	The 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.
403	Forbidden	The server understood the request, but is refusing to fulfill it. The client should not repeat the request without modifications.
404	NotFound	The requested resource cannot be found. The client should not repeat the request without modifications.
405	MethodNotAllowed	The method specified in the request is not supported for the requested resource. The client should not repeat the request without modifications.
406	Not Acceptable	The server cannot fulfill the request according to the content characteristics of the request.
407	Proxy Authentication Required	This status code is similar to 401, but indicates that the client must first authenticate itself with the proxy.
408	Request Time-out	The server timed out waiting for the request. The client may repeat the request without modifications at any later time.

Status Code	Message	Description
409	Conflict	The request could not be processed due to a conflict. This status code indicates that the resource that the client attempts to create already exists, or the request fails to be processed because of the update of the conflict request.
410	Gone	The requested resource is no longer available. The requested resource has been deleted permanently.
411	Length Required	The server refuses to process the request without a defined Content-Length.
412	Precondition Failed	The server does not meet one of the preconditions that the requester puts on the request.
413	Request Entity Too Large	The request is larger than that a server is able to process. The server may close the connection to prevent the client from continuing the request. If the server temporarily cannot process the request, the response will contain a Retry-After header field.
414	Request-URI Too Large	The URI provided was too long for the server to process.
415	Unsupported Media Type	The server is unable to process the media format in the request.
416	Requested range not satisfied	The requested range is invalid.
417	Expectation Failed	The server fails to meet the requirements of the Expect request-header field.
422	UnprocessableEntity	The request is well-formed but is unable to be processed due to semantic errors.
429	TooManyRequests	The client has sent more requests than its rate limit is allowed within a given amount of time, or the server has received more requests than it is able to process within a given amount of time. In this case, it is advisable for the client to re-initiate requests after the time specified in the Retry-After header of the response expires.
500	InternalServerError	The server is able to receive the request but it could not understand the request.

Status Code	Message	Description
501	Not Implemented	The server does not support the requested function.
502	Bad Gateway	The server acting as a gateway or proxy receives an invalid response from a remote server.
503	ServiceUnavailable	The requested service is invalid. The client should not repeat the request without modifications.
504	ServerTimeout	The request cannot be fulfilled within a given time. The response will reach the client only if the request carries a timeout parameter.
505	HTTP Version not supported	The server does not support the HTTP protocol version used in the request.

7.3 Error Codes

The following table describes error codes.

Table 7-3 Error code description

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.20 0001	Parameter error.	Parameter error.	Check whether the transferred parameters or URLs are correct.
400	DBS.20 0004	Parameter error.	Parameter error.	Check whether the transferred parameters or URLs are correct.
400	DBS.20 0006	The request is null. Enter a request parameter.	The request is null. Enter a request parameter.	Enter a request parameter and try again later.
400	DBS.20 0021	Invalid DB instance name.	Invalid DB instance name.	Enter a valid instance name according to the instance name description.
400	DBS.20 0023	Storage space is out of range.	Storage space is out of range.	Check whether the storage space is correct.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.200024	Invalid region.	Invalid region.	Enter a correct region ID.
400	DBS.200025	Invalid AZ.	Invalid AZ.	Check whether the AZ parameter is correct and whether the AZ exists.
400	DBS.200026	Invalid storage type.	Invalid storage type.	Check whether the storage type is correct and meets the requirements.
400	DBS.200027	Storage space must be a multiple of 10.	Storage space must be a multiple of 10.	Check whether the storage space is a multiple of 10.
400	DBS.200040	The DB engine or version is not supported.	The DB engine or version is not supported.	Check whether the DB engine or version is supported.
400	DBS.200041	Invalid database version.	Invalid database version.	Check whether the database version is supported.
400	DBS.200042	The DB engine does not exist.	The DB engine or version is not supported.	Check whether the database type or version is correct.
400	DBS.200043	Invalid synchronize model.	Invalid synchronize model.	Check whether the synchronization mode is correct.
400	DBS.200048	Invalid VPC ID.	Invalid VPC ID.	Check whether the VPC ID is correct.
400	DBS.200049	Invalid subnet ID.	Invalid subnet ID.	Check whether the subnet ID is correct.
400	DBS.200051	Invalid HA mode.	Invalid HA mode.	Check whether the HA mode is correct.
400	DBS.200052	Invalid database root password.	Invalid database root password.	Check whether the password of user root meets the requirements.
400	DBS.200053	The selected specifications do not exist.	The selected specifications do not exist.	Check whether the selected specifications are correct.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.20 0054	Invalid specifications.	Invalid specifications.	Check whether the specification code is correct, whether the specification exists in the current AZ, and whether the specification is supported.
400	DBS.20 0056	The maximum number of nodes has been reached.	The maximum number of nodes has been reached.	Check whether the maximum number of nodes has been reached.
400	DBS.20 0063	Invalid cluster mode.	Invalid cluster mode.	Check whether the cluster mode is valid.
400	DBS.20 0068	This is a weak password. Please enter a strong password.	This is a weak password. Enter a strong password.	Enter a strong password as promoted.
400	DBS.20 0085	The quota is insufficient.	The quota is insufficient.	Check whether the quota is sufficient.
400	DBS.20 0086	This operation is not allowed by the DB instance status.	This operation is not allowed by the DB instance status.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
400	DBS.20 0087	The number of tags added for the DB instance has reached the quota.	The number of tags added for the DB instance has reached the quota.	Check whether the number of tags added for the DB instance has reached the quota.
400	DBS.20 0098	The tag already exists.	The tag already exists.	Check whether the tag exists.
400	DBS.20 0175	The engine version is not permitted to enable force switch.	Switchover cannot be enabled in the current engine version.	Check whether the engine version is later than 1.2.2.
400	DBS.20 0203	Failed to query the DB instance.	Failed to query the DB instance.	Check whether the queried instance exists or query the instance again.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.20 0302	Storage space must be a multiple of 10.	Storage space must be a multiple of 10.	Check whether the storage space is a multiple of 10.
400	DBS.20 0303	The scale-up times have reached the maximum value.	The scale-up times have reached the maximum value.	Check whether the number of scale-out times reaches the maximum value.
400	DBS.20 0306	The new storage space must be greater than or equal to the original storage space.	The new storage space must be greater than or equal to the original storage space.	Check whether the new storage space must be greater than or equal to the original storage space.
400	DBS.20 0308	The new storage space after scaling up cannot be greater than that of the primary DB instance.	The new storage space after scaling up cannot be greater than that of the primary DB instance.	Check whether the new storage space after scaling up is greater than that of the primary instance.
400	DBS.20 0405	Parameter error.	Parameter error.	Check whether the transferred parameters or URLs are correct.
400	DBS.20 0461	The parameter value is out of range.	The parameter value is out of range.	Check whether the parameter value is out of range.
400	DBS.20 0475	New password should not equal to the old one.	New password should not equal to the old one.	Check whether the new password meets the requirements.
400	DBS.20 0504	Invalid database version.	Invalid database version.	Check whether the database version is supported.
400	DBS.20 0506	Invalid KMS key ID.	Invalid KMS.	Check whether the KMS is correct.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.20 0507	The KMS key is invalid or has been deleted.	The KMS key is invalid or has been deleted.	Check whether the KMS is correct.
400	DBS.20 0543	The job does not exist.	The job does not exist.	Check whether the job is correct.
400	DBS.20 0823	The database does not exist.	The database does not exist.	Check whether the database name is valid.
400	DBS.20 0824	The database account does not exist.	The database account does not exist.	Check whether the database username is valid.
400	DBS.20 0825	Modifying permission is not allowed on read replicas.	Modifying permission is not allowed on read replicas.	Check whether you have the permission to perform this operation.
400	DBS.20 0943	Agent async request failed.	Failed to invoke the agent asynchronous request.	Check whether the Agent connection is normal.
400	DBS.20 1004	The backup type does not exist.	The backup type does not exist.	Check the backup type.
400	DBS.20 1014	This operation is not allowed by the DB instance status.	This operation is not allowed by the DB instance status.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
400	DBS.20 1019	The restoration task does not exist.	The restoration task does not exist.	Check whether there is a restoration task or data confirmation after restoration is required.
400	DBS.20 1035	The database name must be different from the original and target database names.	The database name must be different from the original and target database names.	Check whether the database name is correct.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.20 1101	Invalid backup cycle.	Invalid backup cycle.	Check whether the backup cycle is correct and meets the requirements.
400	DBS.20 1103	Invalid backup start time.	Invalid backup start time.	Check whether the backup start time meets the requirements and whether the requirements between the backup start time and end time are correct.
400	DBS.20 1106	Invalid retention days.	Invalid retention days.	Check whether the retention days are valid.
400	DBS.20 1203	The backup file does not exist.	The backup file does not exist.	Check whether the backup exists and matches the instance.
400	DBS.20 1207	The DB engine or version is not supported.	The DB engine or version is not supported.	Check whether the DB engine or version is supported.
400	DBS.20 1208	The operation is not allowed by the backup status.	The operation is not allowed by the backup status.	View the operation constraints and perform operations according to the constraints.
400	DBS.20 1210	Invalid backup name.	Invalid backup name.	Check whether the backup object name is valid.
400	DBS.21 2002	Incorrect parameter group quota.	Incorrect parameter template quota.	Check whether parameter template quota is configured correctly.
400	DBS.21 2003	Operation not allowed.	Operation not allowed.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
400	DBS.21 2004	Parameter group update error.	Parameter template update error.	Check whether the parameter is correctly specified.
400	DBS.21 2005	The node does not belong to the group.	The node does not belong to the group.	Check whether the node and the group to which the node belongs are correct.
400	DBS.21 2007	The DB engine does not exist.	The DB engine does not exist.	Check whether the DB engine is correct.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.21 2008	The DB engine is not supported.	The DB engine is not supported.	Check whether the DB engine is supported.
400	DBS.21 2009	Task processing failed.	Task processing failed.	Try again later or contact technical support.
400	DBS.21 2010	The parameter group is being applied.	The parameter template is being applied.	Try again later.
400	DBS.21 2011	Application failed.	Application failed.	Try again or contact technical support.
400	DBS.21 2012	The parameter does not exist.	The parameter does not exist.	Check whether the parameter is correctly specified.
400	DBS.21 2014	The node does not have a default parameter group.	The node does not have a default parameter template.	Check the default parameter template.
400	DBS.21 2015	Partial success.	Partial success	Check the failure cause or contact technical support.
400	DBS.21 2016	Parameter update failed.	Parameter update failed.	Check whether the parameter is correctly specified.
400	DBS.21 2017	Invalid parameter.	Invalid parameter.	Check whether the parameter is correctly specified.
400	DBS.21 2025	Update failed.	Update failed.	Check the update failure cause or contact technical support.
400	DBS.21 2030	The parameter template name already exists.	The parameter template name already exists.	Check whether the parameter is correctly specified.
400	DBS.21 2032	The parameter template has been applied.	The parameter template has been applied.	Check whether the parameter template is correct.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.21 2037	Parameters are incorrectly set.	Parameters are incorrectly set.	Check whether the parameter settings are correct.
400	DBS.21 6028	Insufficient internal resource quota.	Insufficient internal resource quota.	Check whether the internal resource quota is sufficient.
400	DBS.21 6030	The queried node does not belong to the current instance.	The queried node does not belong to the current instance.	Check whether the node information is correct.
400	DBS.28 0001	Parameter error.	Parameter error.	Check whether the parameter is correctly specified.
400	DBS.28 0006	The request is null. Enter a request parameter.	The request is null. Enter a request parameter.	Check whether the request parameter is correct.
400	DBS.28 0124	Invalid backup file id	The backup file ID is invalid.	Check whether the backup file ID is valid.
400	DBS.28 0127	Invalid backup description.	Invalid backup description.	Check whether the backup description is valid.
400	DBS.28 0128	The database information of the DB instance is not found. Check the database name to see whether the instance database information exists.	The database information of the DB instance cannot be found.	Check whether the database name is correct.
400	DBS.28 0203	This is a weak password. Please enter a strong password.	This is a weak password. Enter a strong password.	Enter a strong password as prompted.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.28 0204	Invalid parameter.	Invalid parameter.	Check whether the parameter is correctly specified.
400	DBS.28 0214	Invalid retention days.	Invalid retention days.	Check whether the retention days are valid.
400	DBS.28 0215	Invalid backup cycle.	Invalid backup cycle.	Check whether the backup cycle is valid.
400	DBS.28 0216	Invalid backup start time.	Invalid backup start time.	Check whether the backup start time is valid.
400	DBS.28 0234	Invalid DB instance name.	Invalid DB instance name.	Check whether the instance name is valid.
400	DBS.28 0235	Invalid database type.	Invalid database type.	Check whether the database type is correct.
400	DBS.28 0236	Invalid database version.	Invalid database version.	Check whether the database version is correct.
400	DBS.28 0237	Datastore not specified.	Datastore not specified.	Check whether the datastore is valid.
400	DBS.28 0238	The DB engine or version is not supported.	The DB engine or version is not supported.	Check whether the DB engine or version is supported.
400	DBS.28 0239	Invalid specifications.	Invalid specifications.	Check whether the selected specifications are correct.
400	DBS.28 0241	Invalid storage type.	Invalid storage type.	Check whether the storage type is correct and meets the requirements.
400	DBS.28 0242	Storage space is out of range.	Storage space is out of range.	Check whether the storage space is correct.
400	DBS.28 0246	Invalid database root password.	Invalid database root password.	Check whether the password of user root meets the requirements.
400	DBS.28 0250	Invalid backup retention days.	The retention period of backup files is invalid.	Check whether the retention days are valid.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.28 0251	Invalid backup cycle.	Invalid backup cycle.	Check whether the backup cycle meets the requirements.
400	DBS.28 0253	Invalid backup start time.	Invalid backup start time.	Check whether the backup start time meets the requirements and whether the requirements between the backup start time and end time are correct.
400	DBS.28 0270	The parameter does not exist.	The parameter does not exist.	Check whether the parameter is correctly specified.
400	DBS.28 0271	The parameter value is out of range.	The parameter value is out of range.	Check whether the parameter is correctly specified.
400	DBS.28 0272	The tag key must be unique.	The tag key must be unique.	Check whether the tag key is unique.
400	DBS.28 0277	Invalid object name.	The object name is invalid.	Check whether the object name is valid.
400	DBS.28 0285	Invalid AZ.	Invalid AZ.	Check whether the AZ parameter is correct and whether the AZ exists.
400	DBS.28 0288	Invalid FlavorRef.	Invalid flavor.	Check whether the flavor is valid.
400	DBS.28 0311	Invalid storage space size.	Invalid storage space.	Check whether the storage space is valid.
400	DBS.28 0325	Invalid storage information.	Invalid storage information.	Check whether the storage information is valid.
400	DBS.28 0342	Invalid cluster mode.	Invalid cluster mode.	Check whether the cluster mode is valid.
400	DBS.28 0364	Invalid database port.	Invalid database port.	Check whether the database port is valid.
400	DBS.28 0365	Invalid billing mode.	Invalid billing mode.	Check whether the billing mode is correct.
400	DBS.28 0402	Invalid HA mode.	Invalid HA mode.	Check whether the HA mode is valid.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.28 0404	Invalid DB instance ID or node ID format.	Invalid DB instance ID or node ID format.	Check whether the instance ID is valid.
400	DBS.28 0407	Invalid node ID.	The node ID is invalid.	Check whether the node ID is valid.
400	DBS.28 0416	Invalid backup end time.	Invalid backup end time.	Check whether the backup end time is valid.
400	DBS.28 0432	Invalid duration for yearly/monthly DB instances.	Invalid duration for yearly/monthly DB instances.	Check whether the yearly/monthly duration is correct.
400	DBS.28 0433	Invalid enterprise project ID.	Invalid enterprise project ID.	Check whether the enterprise project ID is valid.
400	DBS.28 0434	Invalid specification code.	Invalid specification code.	Check whether the specification code is valid.
400	DBS.28 0439	Invalid records. The number of records must be an integer less than or equal to 100.	Invalid value. Enter a positive integer of no more than 100.	Check whether the number of queried records is valid.
400	DBS.28 0440	Invalid offset, please enter a non negative integer.	Invalid offset. Enter a positive integer or zero.	Check whether the offset is valid.
400	DBS.28 0447	Invalid time zone.	The time zone is invalid.	Check whether the parameter is correctly specified.
400	DBS.28 0448	The storage type is sold out.	Storage type sold out.	Select another storage type or switch to another AZ or region.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.28 0449	This operation cannot be performed because the object is frozen.	Operation not allowed on frozen objects.	Unfreeze the instance and perform the operation again.
400	DBS.28 0450	The DB instance specifications are sold out.	Instance specifications sold out.	Select another specifications or switch to another AZ or region.
400	DBS.28 0600	Invalid coordinator node quantity.	Invalid number of coordinating nodes.	Check whether the number of coordinator nodes is valid.
400	DBS.28 0601	Invalid shard quantity.	Invalid shard quantity.	Check whether the number of shards is valid.
400	DBS.28 0604	Invalid number of added shards for cluster capacity expansion.	Invalid number of added shards.	Check whether the number of shards to be added is valid.
400	DBS.28 0618	Differential backup cycle invalid.	Differential backup cycle invalid.	Check whether the differential backup cycle is valid.
400	DBS.28 0628	Invalid replica count.	Invalid number of replicas.	Check whether the number of replicas is valid.
400	DBS.28 0629	The database version does not support two-replica instances.	The database version does not support two-replica instances.	Check whether the number of replicas is valid, or change the database version and try again.
400	DBS.28 0630	Two-replica instances can only be deployed within a single AZ.	Two-replica instances can only be deployed within a single AZ.	Check whether the two-replica instances are deployed within a single AZ.
400	DBS.28 0631	Invalid database name.	Invalid database name.	Check whether the database name is valid.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.28 0632	Invalid schema.	Invalid schema.	Check whether the database schema is valid.
400	DBS.28 0633	Invalid source node group.	Invalid source node group.	Check whether the source node group is valid.
400	DBS.28 0634	Invalid target node group.	Invalid target node group.	Check whether the target node group is valid.
400	DBS.28 0635	Invalid Solution	The solution is invalid.	Check whether the parameter is correctly specified.
400	DBS.29 0000	Parameter error.	Parameter error.	Check whether the transferred parameters or URLs are correct and meet the requirements.
400	DBS.29 0001	Parameter error.	Parameter error.	Check whether the parameter is correctly specified.
403	DBS.20 0010	The DB instance ID or user ID may be null, or the operation is not authorized.	The DB instance ID or user ID may be null, or the operation is not authorized.	Check whether the instance ID or user ID is correct, or whether the access permissions are authorized.
403	DBS.20 0044	Resource not found or permission denied.	Resource not found or permission denied.	Change the resource ID or check the access permissions.
403	DBS.20 0174	No permission to enable force switch.	No permissions to configure forcible switchover.	Check whether you have permissions to configure forcible switchover.
403	DBS.20 0604	The DB instance ID or user ID may be null, or the operation is not authorized.	The DB instance ID or user ID may be null, or the operation is not authorized.	Check whether the instance ID or user ID is correct, or whether the access permissions are authorized.

Status Code	Error Code	Error Message	Description	Troubleshooting
403	DBS.200810	You are not allowed to create databases on read replicas.	You are not allowed to create databases on read replicas.	Check what operations are allowed on read replicas.
403	DBS.200819	You are not allowed to delete database users on read replicas.	You are not allowed to delete database users on read replicas.	Check what operations are allowed on read replicas.
403	DBS.280020	The account is restricted.	Your account is restricted.	Check whether the account has sufficient permissions.
400	DBS.280800	This operation is not allowed by the cluster status.	This operation is not allowed by the cluster status.	Check whether the cluster is running properly.
400	DBS.280804	This operation is not allowed for primary/standby instances with kernel version 1.x	This operation is not allowed for centralized instances with kernel version 1.x.	Check the kernel version of the instance. Upgrade the kernel version if necessary.
400	DBS.280828	The component ID must be the standby DN ID.	The component ID must be the standby DN ID.	Check the component ID status. The primary DN ID is not allowed.
403	DBS.201003	Resource not found or permission denied.	Resource not found or permission denied.	Change the resource ID or check the required access permissions.
403	DBS.280015	Resource not found or permission denied.	Resource not found or permission denied.	Change the resource ID or check the required access permissions.
403	DBS.280056	Invalid token.	Invalid token.	Check whether the token is correct, or obtain a new token and try again.

Status Code	Error Code	Error Message	Description	Troubleshooting
404	DBS.200002	The DB instance does not exist.	The DB instance does not exist.	Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists.
404	DBS.200008	The ECS information of the DB instance cannot be found.	The ECS information of the DB instance cannot be found.	Check whether the instance ECS is normal.
404	DBS.200013	The original DB instance does not exist.	The original DB instance does not exist.	Check whether the original instance exists.
404	DBS.200045	The DB instance does not exist.	The DB instance does not exist.	Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists.
404	DBS.200050	The security group does not exist or does not belong to the VPC.	The security group does not exist or does not belong to the VPC.	Check whether the security group is correctly configured.
404	DBS.200408	The DB instance abnormal, no normal nodes.	The instance is abnormal and no normal node exists.	Check the instance or node status.
404	DBS.200470	The region or AZ does not exist.	The region or AZ does not exist.	Enter a correct region ID or an AZ.
404	DBS.200501	The subnet does not exist or does not belong to the VPC.	The subnet does not exist or does not belong to the VPC.	Check whether the subnet is correct.

Status Code	Error Code	Error Message	Description	Troubleshooting
404	DBS.200503	The VPC does not exist or does not belong to the user.	The VPC does not exist or does not belong to the user.	Check whether the VPC is correct.
404	DBS.200602	The DB instance does not exist.	The DB instance does not exist.	Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists.
404	DBS.201010	The backup file does not exist.	The backup file does not exist.	Check whether the backup exists and matches the instance.
404	DBS.201028	The DB instance does not exist.	The DB instance does not exist.	Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists.
404	DBS.212001	The parameter group does not exist.	The parameter template does not exist.	Check whether the parameter template exists.
404	DBS.212013	The object does not exist.	The object does not exist.	Check whether the object exists.
404	DBS.290002	The selected specifications do not exist.	The selected specifications do not exist.	Check whether the selected specifications are correct.
404	DBS.290005	The DB instance does not exist.	The DB instance does not exist.	Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists.
404	DBS.290011	The DB instance does not exist.	The DB instance does not exist.	Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists.

Status Code	Error Code	Error Message	Description	Troubleshooting
404	DBS.290013	Resource not found.	Resource not found.	Check whether the transferred parameters are correct and whether the DB instance exists.
409	DBS.200011	Another operation is being performed on the DB instance or the DB instance is faulty.	Another operation is being performed on the DB instance or the DB instance is faulty.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
409	DBS.200019	This operation conflicts with the currently running task, please troubleshoot by yourself.	This operation conflicts with the task that is being performed.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
409	DBS.200022	The DB instance name already exists.	The DB instance name already exists.	Enter an instance name that is different from existing instance names.
409	DBS.200047	Another operation is being performed on the DB instance or the DB instance is faulty.	Another operation is being performed on the DB instance or the DB instance is faulty.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
409	DBS.200316	This operation cannot be performed because the DB instance status is Storage full.	This operation cannot be performed because the DB instance status is Storage full .	Check whether the instance storage space is full.
409	DBS.200402	Invalid operation.	Invalid operation.	Check whether the operation is valid.

Status Code	Error Code	Error Message	Description	Troubleshooting
409	DBS.20 0826	The database name already exists.	The database name already exists.	Check whether the database name is valid.
409	DBS.20 0827	The database user already exists.	The database user already exists.	Check whether the database user is valid.
409	DBS.20 0828	Built-in database accounts cannot be edited.	This is an internal account of the database and cannot be operated by users.	Check whether you have required operation permissions.
409	DBS.20 1201	The backup name already exists.	The backup name already exists.	Check whether the object exists.
409	DBS.20 1202	Another operation is being performed on the DB instance or the DB instance is faulty.	Another operation is being performed on the DB instance or the DB instance is faulty.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
409	DBS.20 1205	Backup is in progress, please wait.	Backup is in progress.	Wait until the backup is complete and try again.
409	DBS.21 2006	Another operation is being performed on the DB instance or the DB instance is faulty.	Another operation is being performed on the DB instance or the DB instance is faulty.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.

Status Code	Error Code	Error Message	Description	Troubleshooting
409	DBS.21 2033	Failed to change parameter template values because the DB instance is currently being operated.	Failed to change parameter template values because the DB instance is currently being operated.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
409	DBS.28 0011	This operation cannot be performed because the DB instance is abnormal or has been deleted.	The DB instance is abnormal or has been deleted.	Check whether the instance status is normal or whether the instance has been deleted.
409	DBS.28 0406	Operation not allowed by the DB instance type or status.	Operation not allowed by the DB instance type or status.	Check whether the instance status or the ongoing operation on the instance conflicts with the request.
413	DBS.20 0046	The number of DB instances has reached the quota.	The number of DB instances has reached the quota.	Check whether the number of DB instances has reached the quota.
413	DBS.29 0003	The number of DB instances has reached the quota.	The number of DB instances has reached the quota.	Check whether the number of DB instances has reached the quota.
422	DBS.21 2019	The parameter cannot be processed.	Parameter error.	Check whether the parameter is correctly specified.
500	DBS.10 8000	Server failure.	Server failure.	Contact the customer service administrator or try again.
500	DBS.10 8002	Server failure.	Server failure.	Contact the customer service administrator or try again.
500	DBS.10 8005	Server failure.	Server failure.	Contact the customer service administrator or try again.

Status Code	Error Code	Error Message	Description	Troubleshooting
500	DBS.20 0005	Server failure.	Server failure.	Contact the customer service administrator or try again.
500	DBS.20 0208	Server failure.	Server failure.	Contact the customer service administrator or try again.
500	DBS.20 0811	Failed to create the database.	Failed to create the database.	Check the failure cause or contact technical support.
500	DBS.20 0821	Failed to modify database user permissions.	Failed to modify database user permissions.	Check whether you have required permissions.
500	DBS.21 3002	Failed to process the request.	Failed to process the request.	Contact the customer service administrator or try again.
500	DBS.21 3004	Failed to process the request.	Failed to process the request.	Contact the customer service administrator or try again.
500	DBS.29 0006	Failed to process the request.	Failed to process the request.	Contact the customer service administrator or try again.
500	DBS.29 0015	Failed to process the request.	Failed to process the request.	Contact the customer service administrator or try again.
400	DBS.28 0266	Storage space must be a multiple of 10.	Storage space must be a multiple of 10.	Check whether the storage space is a multiple of 10.
400	DBS.28 0611	The storage space must be a multiple of (Number of shards x 40 GB).	The storage space must be a multiple of (Number of shards x 40 GB).	Check whether the storage space meets requirements.
400	DBS.28 0612	Storage space excess max limit for current shard number.	The selected storage space exceeds the upper limit.	Check whether the storage space meets requirements.
400	DBS.28 0243	Invalid region.	Invalid region.	Enter a correct region ID.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.200505	The subnet does not exist or does not belong to the VPC.	The subnet does not exist or does not belong to the VPC.	Enter a correct subnet and try again later.
404	DBS.200502	The security group does not exist or does not belong to the VPC.	The security group does not exist or does not belong to the VPC.	Enter a correct security group and try again later.
400	DBS.200065	Invalid retention days.	Invalid retention days.	Check whether the retention days are valid.
400	DBS.280602	Invalid HA consistency.	Invalid HA consistency.	Check whether the HA consistency is valid.
400	DBS.280262	Invalid synchronize model.	Invalid synchronize model.	Check whether the synchronize model is valid.
400	DBS.200057	Invalid parameter template ID.	Invalid parameter template ID.	Enter a correct parameter template ID and try again later.
404	DBS.200058	The parameter template does not exist.	The parameter template does not exist.	Check whether the parameter template exists.
400	DBS.200059	Invalid database port.	Invalid database port.	Check whether the database port is valid.
400	DBS.280654	The Ha instance is not supported to cancel parallel restore.	Parallel restoration cannot be canceled for centralized instances.	Cancel parallel restoration in the request body based on the <i>API Reference</i> .
400	DBS.280613	Please use specifications of data nodes.	Use the specifications of data nodes.	Check whether the specifications of data nodes are correct.
404	DBS.200355	Resource not found.	Resource not found.	Check whether the resources exist and try again.
400	DBS.200061	Invalid billing mode.	Invalid billing mode.	Check whether the billing mode is valid.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.201218	The backup file is not manual.	The backup file is not a manual backup file.	Select a manual backup file.
404	DBS.280022	The DB instance does not exist.	The DB instance does not exist.	Check whether the tenant has the DB instance, whether the DB instance name or ID is correct, and whether the DB instance exists.
400	DBS.280408	Invalid project ID.	Invalid project ID.	Check whether the project ID is valid.
400	DBS.280607	Exceeding the upper limit of data nodes number in a single expand request.	The number of data nodes to be added at a time exceeds the upper limit.	Check whether the number of data nodes to be added at a time reaches the upper limit.
400	DBS.200082	The available IP addresses in the selected subnet are insufficient.	The available IP addresses in the selected subnet are insufficient.	Enter a correct subnet where there are available IP addresses and try again later.
400	DBS.280606	Expanding coordinator nodes and data nodes at the same time is not supported currently.	Coordinator nodes and data nodes cannot be added at the same time.	View the related constraints and try again.
400	DBS.280608	Exceeding the upper limit of coordinator nodes number in a single expand request.	The number of coordinator nodes to be added at a time exceeds the upper limit.	Check whether the number of coordinator nodes to be added at a time reaches the upper limit.
400	DBS.280609	Expand cluster request must contain at least one node type to expand.	At least one type of node needs to be added.	View the related constraints and try again.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.301024	The backup file is not normal.	The backup file status is abnormal.	Check the status of the backup file.
400	DBS.280651	Failed to create all DB schemas.	Failed to create all DB schemas.	Check the input schema parameters and try again.
400	DBS.280652	Failed to create some DB schemas.	Failed to create some DB schemas.	Check the input schema parameters and try again.
400	DBS.200029	Incorrect username or password parameter.	Incorrect username or password.	Enter the correct username and password.
400	DBS.280132	Database name not entered.	The database name is not specified.	Enter a database name.
400	DBS.280661	Illegal instance specification, which does not exist or does not match the instance	Illegal instance specification, which does not exist or does not match the instance.	Check the input specification parameters based on the instance.
400	DBS.280626	DR relationship established between primary and DR instances.	A DR relationship has been established between primary and DR instances.	Check whether a DR relationship has been established between primary and DR instances.
400	DBS.280638	The DR relationship does not exist.	The DR relationship does not exist.	Check whether the DR relationship exists.
400	DBS.280806	Cross-region DR operation failed.	Cross-region DR operation failed.	Check whether the project ID of the current region is valid.
400	DBS.280667	Invalid shard component ID.	Invalid shard component ID.	Check whether the component ID is valid.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.28 0668	Component IDs are from the same shard.	Component IDs are from the same shard.	Check whether component IDs are from different shards.
400	DBS.28 0676	The component ID does not belong to the current node ID.	The component ID does not belong to the current node ID.	Check whether the component ID belongs to the corresponding node ID during the primary/standby DN switchover.
400	DBS.20 0478	Failed to change the password.	Failed to change the password.	Check whether the password is correct.
400	DBS.20 0062	Invalid database username.	Invalid database username.	Enter a valid database username.
400	DBS.28 0653	Invalid database template. Use the template0.	Invalid database template. Use the template0.	Enter a valid template name.
400	DBS.20 0064	Invalid retention days.	Invalid retention days.	Set the retention period to a valid value.
400	DBS.06 010001	Instance status is invalid.	The instance status is invalid.	Check the instance status.
400	DBS.06 020003	An operation that conflicts with the current operation is in progress.	An operation that conflicts with the current operation is in progress.	Check whether another operation is being performed on the instance.
400	DBS.06 020152	Incremental restoration in progress for the primary instance. Perform this operation when there is no DR relationship.	Incremental restoration in progress for the DR instance. Select an instance without a DR relationship as DR instance.	Check the DR status of the current instance.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.06 020153	Incremental restoration failed for the DR instance. Perform this operation when there is no DR relationship.	Incremental restoration failed for the DR instance. Select an instance without a DR relationship as DR instance.	Check the DR status of the current instance.
400	DBS.06 020154	Promotion to primary in progress for the DR instance. Perform this operation when there is no DR relationship.	Promotion to primary in progress for the DR instance. Perform this operation when there is no DR relationship.	Check the DR status of the current instance.
400	DBS.06 020175	Incremental synchronization failed for the primary instance. Perform this operation when incremental synchronization is in progress.	Incremental synchronization failed for the primary instance. Perform this operation when incremental synchronization is in progress.	Incremental synchronization failed for the primary instance. Perform this operation when incremental synchronization is in progress.
400	DBS.06 020177	Switchover failed for the DR instance. Perform this operation when incremental restoration is in progress.	Switchover failed for the DR instance. Perform this operation when incremental restoration is in progress.	Switchover failed for the DR instance. Perform this operation when incremental restoration is in progress.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.06 020180	Incremental restoration failed for the DR instance. Perform this operation when incremental restoration is in progress.	Incremental restoration failed for the DR instance. Perform this operation when incremental restoration is in progress.	Incremental restoration failed for the DR instance. Perform this operation when incremental restoration is in progress.
400	DBS.06 020161	The xlog_keep_radio field is invalid.	The xlog_keep_radio field is invalid.	The xlog_keep_radio field is invalid.
400	DBS.06 020162	This operation is not supported.	This operation is not supported.	This operation is not supported.
400	DBS.06 280105	This feature is not enabled.	This feature is not enabled.	Enable the feature on the O&M management platform.
400	DBS.06 010013	Parameter error: \$ {parameterName}\$ {parameterValue}	The parameter is invalid.	Enter a valid parameter value.
400	DBS.21 6003	Permission denied.	No permission.	Check whether the account has sufficient permissions.
400	DBS.06 280032	New OS does not match original instance.	New OS does not match original instance.	Check whether the OS of the new DB instance matches that of the original DB instance.
400	DBS.06 280033	The selected deployment model of the \$ {resourceType} type cannot be created.	The selected deployment model cannot be created.	Check whether the current resource type supports the creation of the instance.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.06 010018	Failed to obtain the instance volume information.	The disk information fails to be obtained.	Check whether the remote interface for obtaining disk information is successfully invoked or whether an exception occurs during disk information processing.
400	DBS.06 010033	The current node type or role does not support this operation.	The current node type or role does not support this operation.	Select a CN or a DN whose role type is read-only, primary, or standby.
400	DBS.06 010035	The component ID does not exist.	The component ID does not exist.	Check the component ID parameter.
400	DBS.06 010036	The pidstat system command is not supported.	The pidstat system command is not supported.	The pidstat system command is not supported.
400	DBS.06 010041	None of the configuration parameter values to be modified are changed.	All modified parameter values remain unchanged.	Enter a value that is different from the current value.
403	DBS.06 010037	Insufficient permissions for the KMS key.	Insufficient permissions for the KMS key.	Contact the key administrator to grant sufficient permissions.
400	DBS.28 0659	Illegal number of grayscale upgrade shard, please check the parameters.	The number of shards for the gray upgrade is invalid.	Check whether the parameter is correctly specified.
400	DBS.06 013034	The maximum number of nodes that can be stopped must not exceed half of the total number.	The number of stopped nodes cannot exceed half of the total number.	Check the instance node type.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.06 013039	Single node instance not support the operation.	This operation is not allowed for single-node instances.	Check the instance node type.
400	DBS.06 020109	This operation is not supported because \$ {paramName} is not enabled. Contact customer service.	Operation not supported because \$ {paramName} is disabled. Contact customer service.	Contact customer service to enable the feature.
400	DBS.20 0920	The number of batch operation exceeds the maximum. Please check.	The number of objects included in a batch operation exceeds the maximum.	Reduce the length of the request parameter.
400	DBS.06 013057	license configuration failure	Failed to configure the license.	Check whether the license is correctly configured.
400	DBS.06 013061	config license extensions failed	Failed to configure the plug-in extensions.	Check whether the constraints for configuring extensions are met.
400	DBS.06 013062	The plugin is not installed. Install the plugin first.	The required plug-in is not installed. Install the plug-in first.	Install the plug-in.
400	DBS.06 013068	Plug-ins cannot be installed for instances running on Huawei Cloud EulerOS.	Plug-ins cannot be installed for instances running Huawei Cloud EulerOS.	Install the plug-in on an instance running EulerOS.

Status Code	Error Code	Error Message	Description	Troubleshooting
400	DBS.06 013069	Plug-ins cannot be installed for distributed instances.	Plug-ins cannot be installed for distributed instances.	Install the plug-in on a primary/standby instance.

7.4 Obtaining a Project ID

Scenarios

When calling APIs, you need to specify the project ID in some URLs. To do so, you need to obtain the project ID using either of the following methods:

- [Obtaining the Project ID by Calling an API](#)
- [Obtaining a Project ID from the Console](#)

Obtaining the Project ID by Calling an API

You can obtain the project ID by calling the API used to query [project information based on the specified criteria](#).

The API used to obtain a project ID is **GET [https://{Endpoint}/v3/projects](#)**. *{Endpoint}* is the IAM endpoint and can be obtained from [Regions and Endpoints](#). For details about API authentication, see [Authentication](#).

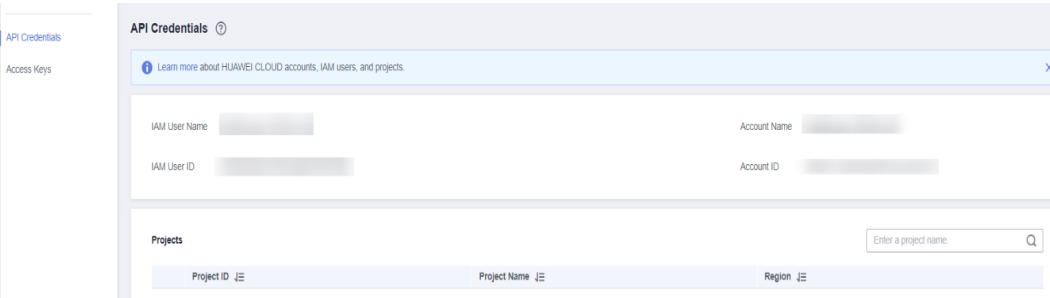
The following is an example response. **id** indicates the project ID, and **name** indicates the project name.

```
{
  "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 Console

- Step 1 Register yourself on the management console and log in to it.
- Step 2 Hover the mouse over the username in the upper right corner and select **My Credentials** from the drop-down list.
- On the **API Credentials** page, view the project ID and name in the project list.

Figure 7-1 Viewing project IDs



----End

7.5 Replication Mode Table

Replication mode table

Replication Mode	Description	Remarks
sync	Synchronous	N/A

7.6 DB Instance Specifications

This section describes the GaussDB instance specifications.

Table 7-4 Instance specifications

Edi tion Typ e	Depl oyment Type	Specificati on Type	Specification Code	vCPUs	Memory (GB)
Ent erpr ise edit ion	Distri buted	Dedicated (1:4) (x86 architecture)	gaussdb.opengauss.ee.dn.c 3.2xlarge.4.in	8	32
			gaussdb.opengauss.ee.dn.c 3.4xlarge.4.in	16	64
			gaussdb.opengauss.ee.dn.c 3.6xlarge.4.in	24	96

Edition Type	Deployment Type	Specification Type	Specification Code	vCPUs	Memory (GB)
			gaussdb.opengauss.ee.dn.c3.8xlarge.4.in	32	128
			gaussdb.opengauss.ee.dn.c3.12xlarge.4.in	48	192
			gaussdb.opengauss.ee.dn.c3.24xlarge.4.in	96	384
		Dedicated (1:8) (x86 architecture)	gaussdb.opengauss.ee.dn.m6.2xlarge.8.in	8	64
			gaussdb.opengauss.ee.dn.m6.4xlarge.8.in	16	128
			gaussdb.opengauss.ee.dn.m6.6xlarge.8.in	24	192
			gaussdb.opengauss.ee.dn.m6.8xlarge.8.in	32	256
			gaussdb.opengauss.ee.dn.m6.12xlarge.8.in	24	384
			gaussdb.opengauss.ee.dn.m6.16xlarge.8.in	64	512
		Kunpeng dedicated (1:4) (Arm architecture)	gaussdb.opengauss.ee.dn.kc1.2xlarge.arm4.in	8	32
			gaussdb.opengauss.ee.dn.kc1.4xlarge.arm4.in	16	64
			gaussdb.opengauss.ee.dn.kc1.6xlarge.arm4.in	24	96
			gaussdb.opengauss.ee.dn.kc1.8xlarge.arm4.in	32	128
			gaussdb.opengauss.ee.dn.kc1.12xlarge.arm4.in	28	192
			gaussdb.opengauss.ee.dn.kc1.24xlarge.arm4.in	96	384
		Kunpeng dedicated (1:8) (Arm architecture)	gaussdb.opengauss.ee.dn.km1.2xlarge.arm8.in	8	64
			gaussdb.opengauss.ee.dn.km1.4xlarge.arm8.in	16	128
			gaussdb.opengauss.ee.dn.km1.6xlarge.arm8.in	24	192

Edition Type	Deployment Type	Specification Type	Specification Code	vCPUs	Memory (GB)
			gaussdb.opengauss.ee.dn.km1.8xlarge.arm8.in	32	256
			gaussdb.opengauss.ee.dn.km1.12xlarge.arm8.in	48	384
			gaussdb.opengauss.ee.dn.km1.15xlarge.arm8.in	60	480
	Centralized	Dedicated (1:4) (x86 architecture)	gaussdb.opengauss.ee.c3.xlarge.x864.ha NOTE It is only suitable for centralized DB instances of version 3.208 or later.	4	16
			gaussdb.opengauss.ee.c3.2xlarge.x864.ha	8	32
			gaussdb.opengauss.ee.c3.4xlarge.x864.ha	16	64
			gaussdb.opengauss.ee.c3.6xlarge.x864.ha	24	96
			gaussdb.opengauss.ee.c3.8xlarge.x864.ha	32	128
			gaussdb.opengauss.ee.c3.12xlarge.x864.ha	48	192
			gaussdb.opengauss.ee.c3.24xlarge.x864.ha	86	384
		Dedicated (1:8) (x86 architecture)	gaussdb.opengauss.ee.m6.xlarge.x868.ha	4	32
			gaussdb.opengauss.ee.m6.2xlarge.x868.ha	8	64
			gaussdb.opengauss.ee.m6.4xlarge.x868.ha	16	128
			gaussdb.opengauss.ee.m6.6xlarge.x868.ha	24	192
			gaussdb.opengauss.ee.m6.8xlarge.x868.ha	32	256
			gaussdb.opengauss.ee.m6.12xlarge.x868.ha	48	384

Edition Type	Deployment Type	Specification Type	Specification Code	vCPUs	Memory (GB)
		Kunpeng dedicated (1:4) (Arm architecture)	gaussdb.opengauss.ee.m6.16xlarge.x868.ha	64	512
			gaussdb.opengauss.ee.kc1.xlarge.arm4.ha NOTE It is only suitable for centralized DB instances of version 3.208 or later.	4	16
			gaussdb.opengauss.ee.kc1.2xlarge.arm4.ha	8	32
			gaussdb.opengauss.ee.kc1.4xlarge.arm4.ha	16	64
			gaussdb.opengauss.ee.kc1.6xlarge.arm4.ha	24	96
			gaussdb.opengauss.ee.kc1.8xlarge.arm4.ha	32	128
			gaussdb.opengauss.ee.kc1.12xlarge.arm4.ha	48	192
			gaussdb.opengauss.ee.kc1.24xlarge.arm4.ha	96	384
		Kunpeng dedicated (1:8) (Arm architecture)	gaussdb.opengauss.ee.km1.2xlarge.arm8.ha	8	64
			gaussdb.opengauss.ee.km1.4xlarge.arm8.ha	16	128
			gaussdb.opengauss.ee.km1.6xlarge.arm8.ha	24	192
			gaussdb.opengauss.ee.km1.8xlarge.arm8.ha	32	256
			gaussdb.opengauss.ee.km1.12xlarge.arm8.ha	48	384
			gaussdb.opengauss.ee.km1.15xlarge.arm8.ha	60	480
	Basic edition	Dedicated (1:4) (x86 architecture)	gaussdb.bs.c6.4xlarge.x864.co	16	64
			gaussdb.bs.c6.8xlarge.x864.co	32	128

Edition Type	Deployment Type	Specification Type	Specification Code	vCPUs	Memory (GB)
		Dedicated (1:8) (x86 architecture)	gaussdb.bs.c6.16xlarge.x864.co	64	256
			gaussdb.bs.m6.4xlarge.x868.co	16	128
			gaussdb.bs.m6.8xlarge.x868.co	32	256
			gaussdb.bs.m6.16xlarge.x868.co	64	512
		Kunpeng dedicated (1:4) (Arm architecture)	gaussdb.bs.kc1.4xlarge.arm4.co	16	64
			gaussdb.bs.kc1.8xlarge.arm4.co	32	128
		Kunpeng dedicated (1:8) (Arm architecture)	gaussdb.bs.km1.4xlarge.arm8.co	16	128
			gaussdb.bs.km1.8xlarge.arm8.co	32	256
			gaussdb.bs.km1.15xlarge.arm8.co	60	480
	Centralized	Dedicated (1:4) (x86 architecture)	gaussdb.bs.c6.xlarge.x864.ha	4	16
			gaussdb.bs.c6.2xlarge.x864.ha	8	32
			gaussdb.bs.c6.4xlarge.x864.ha	16	64
			gaussdb.bs.c6.8xlarge.x864.ha	32	128
			gaussdb.bs.c6.16xlarge.x864.ha	64	256
		Kunpeng dedicated (1:4) (Arm architecture)	gaussdb.bs.kc1.xlarge.arm4.ha	4	16
			gaussdb.bs.kc1.2xlarge.arm4.ha	8	32
			gaussdb.bs.kc1.4xlarge.arm4.ha	16	64

Edit ion Type	Depl oyment Type	Specificati on Type	Specification Code	vCPUs	Memory (GB)
			gaussdb.bs.kc1.8xlarge.arm 4.ha	32	128
		General- purpose (1:4) (x86 architecture)	gaussdb.bs.s6.xlarge.x864.h a	4	16
			gaussdb.bs.s6.2xlarge.x864. ha	8	32