

02_Deploy_Getting Started_Public Cloud & Partner Cloud-Copy

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1 Creating a Tomcat Application Using CodeArts Deploy and Deploying It on an ECS

CodeArts Deploy provides you with visualized, automated, and rich deployment actions, helping you establish a standard deployment process, reducing deployment costs, and enhancing release efficiency.

This section uses **Deploy a Tomcat Application** as an example to describe how to deploy a Tomcat application on a host. The following describes how to quickly deploy an application.

Prerequisites

- A project is available. If there is no project, [create one](#).
- You have permissions to create applications. For details, see [Configuring Permissions for Different Roles](#).
- The related software package has been compiled.
- There are two options in the **Select Deployment Source** action: **Artifact** and **Build task**. In this example, **Artifact** is selected. Therefore, prepare a compiled software package in advance. If you select **Build task**, you do not need to prepare the software package.
- You have an ECS. (If not, purchase one by referring to [Purchasing an ECS](#). You may be charged in the process. For details, see [Billing Overview](#)).

Creating a Host Cluster and Adding Hosts to It

Step 1 [Log in to the Huawei Cloud console](#) and click **Console**.

Step 2 Go to the CodeArts homepage and click the target project name to access the project.

Step 3 Go to the **Basic Resources** page.

- Choose **Settings > General > Basic Resources**. The **Host Clusters** page is displayed by default.
- Choose **CICD > Deploy**. Click **Basic Resources**. The **Host Clusters** page is displayed by default.

Step 4 Create a host cluster and add hosts to it.

1. Click **Create Host Cluster**, enter the following information, and click **Save**.

Table 1-1 Parameters for creating a host cluster


Parameter	Mandatory	Description
Cluster Name	Yes	Enter a custom name. Enter 3 to 128 characters. Use digits, letters, hyphens (-), underscores (_), and periods (.). Example: Host cluster A
OS	Yes	Select Linux or Windows based on the OS of the host to be added. In this example, select Linux .
Host Connection Mode	Yes	If the target host cannot connect to the public network, you need to select a host bound with an EIP as the proxy host to connect CodeArts Deploy to the target host. Direct Connection: Select a host bound with an EIP as the target host to connect to CodeArts. Proxy: Select a host bound with an EIP as the proxy host to connect to CodeArts.
Execution Resource Pool	Yes	An agent pool is a collection of physical environments where commands are executed during software package deployment. In this scenario, select Official .
Description	No	Enter a description. Enter 0 to 500 characters.

2. (The following uses a Linux-based target host as an example.) Click **Add Host**, select **Adding IP** for **Add Hosts by**, enter the following information, and click **OK**.

Table 1-2 Parameters of the target host (Linux)

Parameter	Mandatory	Description
Host Name	Yes	Enter a custom name. Enter 3 to 128 characters. Use digits, letters, hyphens (-), underscores (_), and periods (.).
IP	Yes	Enter the private or public IP address of the target host.
OS	Yes	Keep the default value because it is the OS of your host cluster.

Parameter	Mandatory	Description
Authorization	Yes	<p>Select a Password or Key for authentication as required.</p> <ul style="list-style-type: none"> – Password: The Username and Password are displayed on the page. Take ECS as an example. Enter an ECS username and password. – Key: The Username and Key are displayed on the page. For details about how to generate and obtain a key, see Adding a Target Host to a Host Cluster.
SSH Port	Yes	<p>Port 22 is recommended. Custom ports are supported.</p> <p>Correct port range: 1-65535.</p>

- Click  in the **Operation** column of a host to start the connectivity verification for the host.

For details about connectivity verification, see [Host Management](#).

----End

Creating an Application

Step 1 Choose **CICD > Deploy**.

Step 2 Create an application.

- Click **Create Application**. On the **Basic Information** page that is displayed, modify the basic information such as **Name**, **Description**, and **Execution Resource Pool** as required. For details, see [Table 3 Parameter description](#).

Table 1-3 Parameter description

Parameter	Mandatory	Description
Name	Yes	<p>Enter an application name.</p> <p>Enter 3 to 128 characters, including letters, digits, hyphens (-), and underscores (_).</p>
Project	Yes	<p>Retain the default value. Project to which an application belongs. If your account does not have a project, click Create Project and click Scrum to create one.</p>
Description	No	<p>Enter an application description with a maximum of 1,024 characters.</p>

Parameter	Mandatory	Description
Execution Resource Pool	Yes	Official is selected by default. An agent pool is a collection of physical environments where commands are executed during software package deployment. You can use the official agent pool hosted by Huawei Cloud or host your own servers as a self-hosted agent pool on Huawei Cloud. For details about how to host your own servers, see Creating a Self-hosted Agent Pool . If the tenant account has enabled Intranet Secure Access (only for whitelisted users), Self-hosted is selected by default and cannot be changed.
Deploy from pipeline	No	Toggling on the switch indicates that this application can be executed only in a pipeline. It cannot be executed independently.

- After editing the basic application information, click **Next**. The deployment template selection page is displayed.

Select **Deploying a Tomcat Application** and click **OK**.

----End

Creating an Environment and Importing Hosts

Create a deployment environment and import hosts from the host cluster.

Step 1 Click the **Environment Management** tab.

Step 2 Create an environment.

- Click **Create Environment**, set the following parameters, and click **Save**.

Parameter	Mandatory	Description
Environment	Yes	Enter a user-defined environment name. Enter 3 to 128 characters. Use digits, letters, hyphens (-), underscores (_), and periods (.).
Resource Type	Yes	You can choose Host based on the environment requirements.
OS	Yes	Choose Linux or Windows as the operating system for the host.
Description	No	Enter a description of the environment. Max. 500 characters.

2. Click **Import Host**. The system automatically filters all clusters that meet the requirements of the current environment. Select a target host cluster and import a host to the environment in either of the following ways:

Import separately: Click  in the **Operation** column of a host to import the host to the environment.

Import in batches: Select multiple hosts and click **Import**.

If you import a target host bound to a proxy host, the proxy host will be imported to the environment automatically.

3. (Optional) After the host is imported, click  on the page to verify the connectivity.

----End

Configuring Deployment Actions and Deploying the Application

The following describes the initialization procedure and parameters of the Tomcat application deployment template. For details, see [Configuring Deployment Actions for a CodeArts Deploy Application](#).

Step 1 Configure deployment actions.

Switch to the **Deployment Actions** tab and click **Edit** to set parameters.

1. Install JDK.

Table 1-4 Parameters for installing JDK

Parameter	Mandatory	Description
Action Name	Yes	Customized action name displayed in the deployment actions Enter 1 to 128 characters. Do not start or end with a space. Use letters, digits, spaces, and these special characters: _,:;./()
Environment	Yes	Select a host cluster as the deployment object.
JDK Version	Yes	JDK version.
Installation Path	Yes	Installation path of JDK.
Action Control	No	You can configure whether to enable this setting. <ul style="list-style-type: none"> – Keep running on failure: whether to continue the task even if this action fails. – Execute this action with the sudo permission: whether to use the sudo permission to deploy this action.

2. Install Tomcat.

Table 1-5 Parameters for installing Tomcat

Parameter	Mandatory	Description
Action Name	Yes	Customized action name displayed in the deployment actions Enter 1 to 128 characters. Do not start or end with a space. Use letters, digits, spaces, and these special characters: -_;;./()
Environment	Yes	Select a host cluster as the deployment object.
Tomcat Version	Yes	Version of Tomcat to be installed.
Installation Path	Yes	Installation path of Tomcat.
HTTP Port	Yes	Default port: 8080
AJP Port	Yes	Default port: 8009
Service Shutdown Port	Yes	Default port: 8005
Action Control	No	You can configure whether to enable this setting. <ul style="list-style-type: none">– Keep running on failure: whether to continue the task even if this action fails.– Execute this action with the sudo permission: whether to use the sudo permission to deploy this action.

3. Stop Tomcat.

Table 1-6 Parameters for stopping Tomcat

Parameter	Mandatory	Description
Action Name	Yes	Customized action name displayed in the deployment actions. Enter 1 to 128 characters. Do not start or end with a space. Use letters, digits, spaces, and these special characters: -_;;./()
Environment	Yes	Select a host cluster as the deployment object.

Parameter	Mandatory	Description
Operation	Yes	Set parameters for Stop Service .
Absolute Path	Yes	Absolute path of the Tomcat service.
Action Control	No	Whether to enable this action. <ul style="list-style-type: none"> – Keep running on failure: Whether to continue the task even if this action fails. – Execute this action with the sudo permission: Whether to use the sudo permission to deploy this action.

4. Select a deployment source.

Table 1-7 Parameters for selecting a deployment source

Parameter	Mandatory	Description
Action Name	Yes	Customized action name displayed in the deployment actions. Enter 1 to 128 characters. Do not start or end with a space. Use letters, digits, spaces, and these special characters: -_.,:./()
Source	Yes	Two types are available: Artifact and Build task .
Environment	Yes	Select a host cluster as the deployment object.
Software Package	Yes	Select an existing software package in Artifact or upload a software package or file from your local PC. (The software package or file uploaded can be reused.) package_url indicates the path of the software package in CodeArts Artifact.
Download Path	Yes	Where the downloaded software package is stored.
Action Control	No	Whether to enable this action. <ul style="list-style-type: none"> – Keep running on failure: Whether to continue the task even if this action fails. – Execute this action with the sudo permission: Whether to use the sudo permission to deploy this action.

In this example, **Artifact** is selected as the deployment source. If you select **Build task**, see [Selecting a Deployment Source](#) in the *User Guide*.

5. Start Tomcat.

Table 1-8 Parameters for starting Tomcat

Parameter	Mandatory	Description
Action Name	Yes	Customized action name displayed in the deployment actions. Enter 1 to 128 characters. Do not start or end with a space. Use letters, digits, spaces, and these special characters: -_;;./()
Environment	Yes	Select a host cluster as the deployment object.
Operation	Yes	Set parameters for Start Service .
Absolute Path	Yes	Absolute path of the Tomcat service.
HTTP Port	Yes	HTTP port of the Tomcat service.
AJP Port	Yes	AJP port of the Tomcat service.
Service Shutdown Port	Yes	Shutdown port monitored by the Tomcat service.
Waiting Time	Yes	Set the waiting time. After the waiting time ends, check whether the monitoring service is started successfully. You can adjust the time based on the actual time required for starting the service. If the time is improper, the detection may fail. Enter a time (0–300s).
Action Control	No	Whether to enable this action. – Keep running on failure : Whether to continue the task even if this action fails. – Execute this action with the sudo permission : Whether to use the sudo permission to deploy this action.

6. Health test through URLs.

Table 1-9 Parameters for health test through URLs

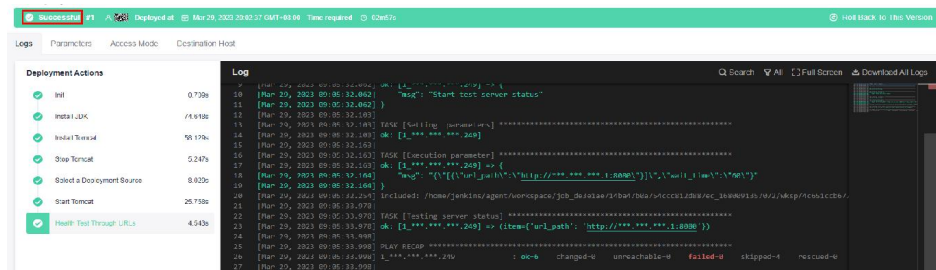
Parameter	Mandatory	Description
Action Name	Yes	Customized action name displayed in the deployment actions. Enter 1 to 128 characters. Do not start or end with a space. Use letters, digits, spaces, and these special characters: -_.,:./()
Environment	Yes	Select a host cluster as the deployment object.
Retries	Yes	The number of times you want the system to retry the health test before the test is considered failed.
Interval (s)	Yes	Interval between two retries, in seconds (0-60).
Test Path	Yes	Path of the service to be tested. You can add multiple paths.
Action Control	No	Whether to enable this action. Keep running on failure: Whether to continue the task even if this action fails.

After the **Health Test Through URLs** parameter is set, all parameters are completed. For more details about application configuration, see [Configuring Parameters of an Application](#).

Step 2 Deploy an application.

After setting the preceding parameters, click **Save & Deploy** to deploy an application.

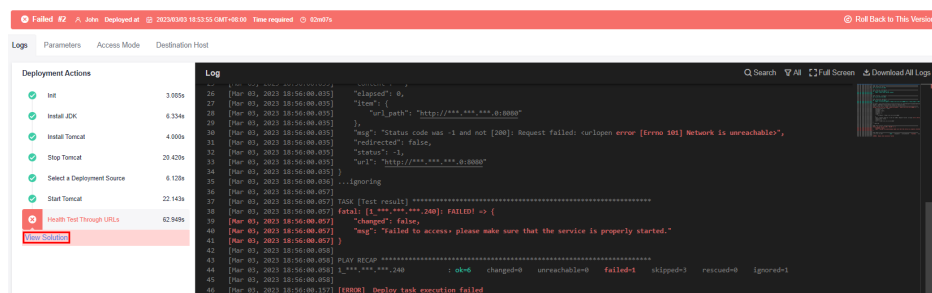
- Application deployed.



- If an application fails to be deployed, perform the following steps to locate the fault:

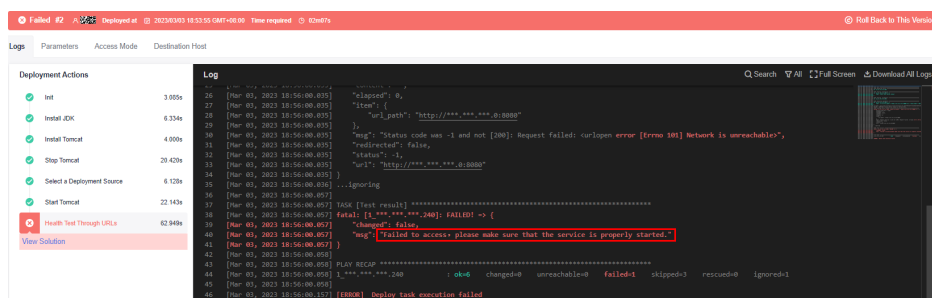
- Check the automatic matching solution.

If the application deployment fails, click **View Solution** under **Deployment Actions** to go to the corresponding help center page.



b. Search for a solution manually.

If the issue persists, paste the error information (content in the red box) to the search box of the help center and manually search for the solution.



For more deployment FAQs, see [Application Deployment](#).

----End

(Optional) Verifying Deployment Results

The **Deploying a Tomcat Application** template supports deployment result verification. This section describes how to verify the deployment result. After the application is successfully deployed, enter the following information in the address box of the browser:

<Public IP address of the target host>:8080/tomcat-demo

Press **Enter**. If the following information is displayed, the application is successfully deployed.



For more information, see [User Guide](#).

2 Common Practices

After subscribing to CodeArts Deploy, you can deploy resources such as artifacts to hosts or containers based on service requirements. This standardizes the deployment environment and automates the deployment process. This document describes common deployment modes provided by CodeArts Deploy. It helps you better use this service.

Prerequisites

Before using CodeArts Deploy, ensure that you meet the following requirements:

- A project is available. If there is no project, [create one](#) first.
- You have permissions to create applications. For details, see [Permission Management](#).
- The related software package has been compiled.

Table 2-1 Common best practices

Practice		Description
Internal network deployment	Deploying an Application on an Intranet Host Using a Proxy Host	This practice provides a complete operation guide for deploying an application on a host or server on the internal network through a proxy host.
Gray deployment	Using Nginx for Gray Release	This practice implements blue-green and gray release of applications based on the Nginx load balancing mechanism.
	Using Kubernetes Nginx-Ingress for Gray Release	This practice implements gray release based on native Kubernetes features.

Practice		Description
HE2E DevOps practice	HE2E DevOps Practice - Deploying an Application	This practice uses the DevOps process example project to describe how to deploy applications on CCE and ECS.