

Cloud Application Engine

FAQs

Issue 01
Date 2026-02-11



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1 Component Management FAQs

1.1 What Do I Do If a Component Is Not Ready After Being Deployed or Upgraded?

If a component is not ready, it is not running properly, and some or all instances are not started properly.

Procedure

- Step 1** Select the component to be deployed or upgraded from **Instances**, view the instance status, and check whether the component list is not updated in time.
- Step 2** If the update is not delayed, go to **Component Logs** and **Component Events** to locate the fault. If the instance status is abnormal in step 1, select the instance of the corresponding component in **Component Logs** to view its logs for troubleshooting.

----End

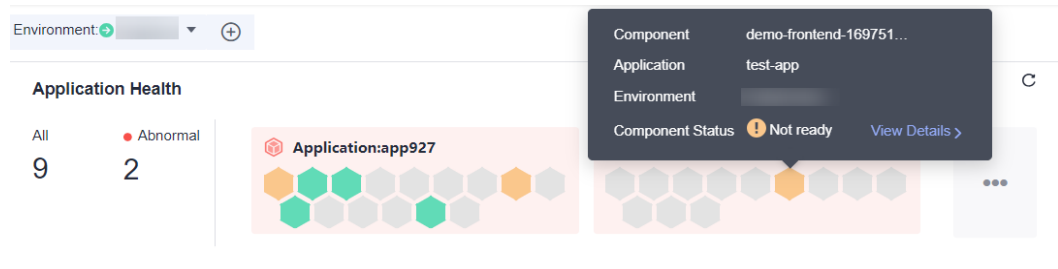
1.2 What Do I Do If I Get "xxx more exist" When Creating a Component?

This error indicates that the component name already exists in the current application and environment. Use another name to create it or delete the component with the same name.

1.3 How Do I Check Abnormal Component Instances?

Hover over the abnormal instances and click **View Details** in the displayed dialog box to go to the **Component Monitoring** page and view the monitoring data. Alternatively, click **Component Logs** in the navigation pane to go to the **Component Logs** page, view logs, and locate the cause of the instance exception.

Figure 1-1 Viewing abnormal components



1.4 Why Is Deployment Using Source Code or Software Packages So Much Longer than Deployment Using Images?

Deployment using source code or software packages involves packaging and build, which take a lot of time. The specific time is closely dependent on the service.

1.5 How Do I Obtain the Component Runtime System Version?

Symptom

When you create a CAE component, only the major runtime system version (for example, Java 8) is provided. You need to obtain the specific version (for example, Java 8 JDK 1.8.0_332).

Solution

- Step 1** On the CAE console, choose **Instance List**, select a component, select a running instance, and click **Remote Login** to access the instance.
- Step 2** Use the runtime system version of the component to check the version. For example, if the runtime system is Java, run `java -version`.

----End

NOTE

If you have requirements on the runtime system version, use the custom image or Dockerfile to specify the runtime system version. For details about how to compile a Dockerfile, see [Docker community](#).

1.6 What Do I Do If the `deploy.sh` Script Reports an Error During Automatic Build with Jenkins?

Symptom

When you use GitLab to interconnect with Jenkins and deploy it on CAE by referring to *CAE Best Practices*, an error is reported by the `deploy.sh` script.

Possible Cause

The script error is usually caused by user operations.

- You modified the script.
- You did not set mandatory parameters.
- The script is used in the software package deployment scenario or image deployment scenario. You selected an incorrect scenario.

Procedure

Step 1 Check the script content.

Step 2 Check the mandatory parameters and the scenario.

----End

- For other causes, for example, a CAE format verification error:

Step 1 Add the `-x` parameter when running the script.

```
bash -x deploy.sh
```

Step 2 Check whether the script information meets the expectation.

Step 3 Modify the script and run it again.

----End

2 Component Configuration FAQs

2.1 Is Manual Scaling Still Effective When a Scaling Policy Is Configured?

Manual scaling cannot be configured if the scaling policy has been enabled for your component. To configure manual scaling, disable the scaling policy in the component and then perform related operations.

2.2 Can Components Be Scaled Without a Scaling Policy?

Components can be auto scaled only after a scaling policy is configured.

If no scaling policy is configured, you need to manually scale in or out components.

2.3 How Do I Obtain the IP Address Corresponding to a Nacos Engine Domain Name?

The private address of Nacos is a domain name and cannot be directly resolved by CAE. When registering an application deployed by CAE with the new Nacos, you need to obtain the IP address corresponding to the domain name of the Nacos engine and add environment variables.

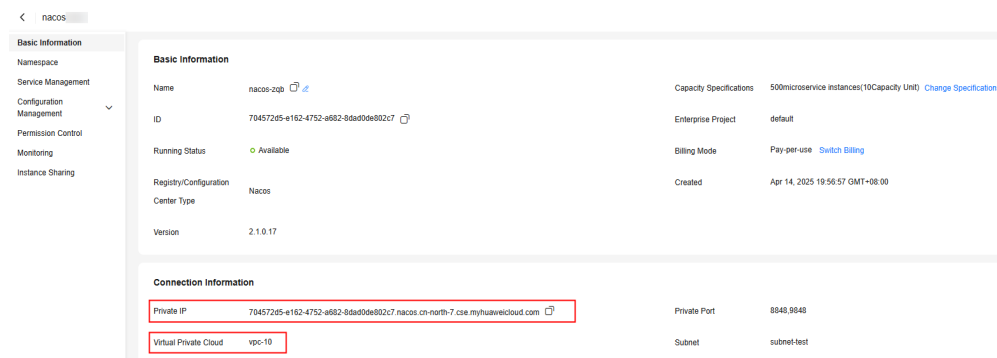
Note: Ensure that CAE and Nacos are in the same VPC when registering an application deployed by CAE with Nacos.

Procedure

Step 1 Log in to CSE. Choose **Registry/Configuration Center**.

Step 2 Click the target Nacos instance. On the basic information page, obtain the Nacos **Private IP** and **Virtual Private Cloud**.

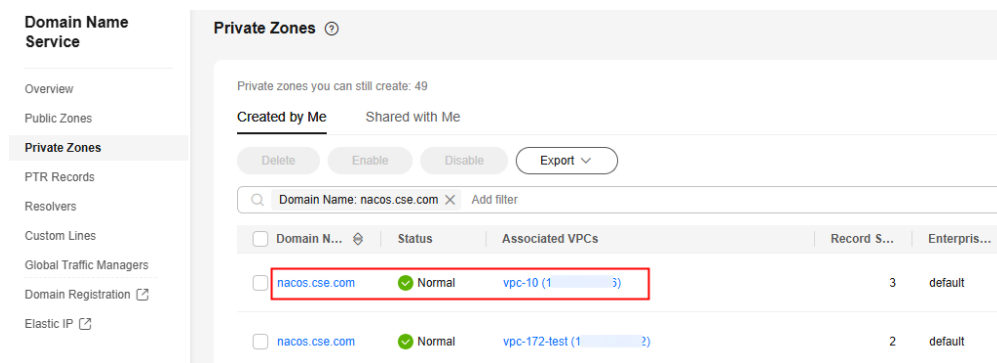
Figure 2-1 Obtaining the private IP and VPC



Step 3 Log in to DNS. Choose **Private Zones**.

Step 4 In the private network domain name list, filter **nacos.cse.com** and click the domain name of the VPC obtained in **Step 2**.

Figure 2-2 Nacos engine domain name

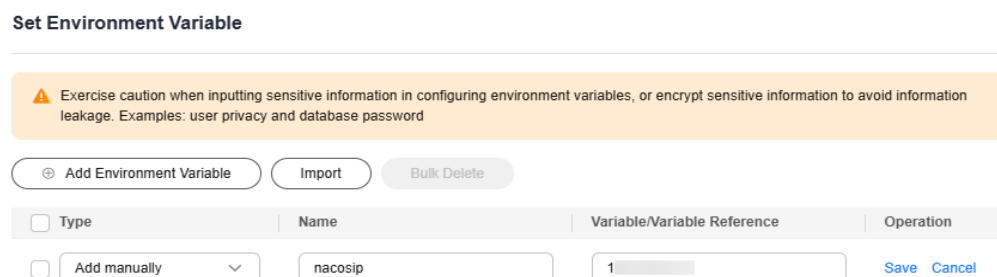


Step 5 On the **Record Sets** page, select the private IP address in **Step 2** to obtain the IP address corresponding to the domain name.

Step 6 Log in to CAE.

Step 7 On the **Component Configurations** page, **configure the environment variable**.

Figure 2-3 Configuring the environment variable



NOTE

Set the variable name based on the actual code.

----End

2.4 Why Is My Instance Abnormal After Cloud Storage Is Configured?

When configuring the parallel file system of cloud storage, if the corresponding subpath is not created in the selected parallel file system, the instance will be abnormal.

Example:

Figure 2-4 Mounting information

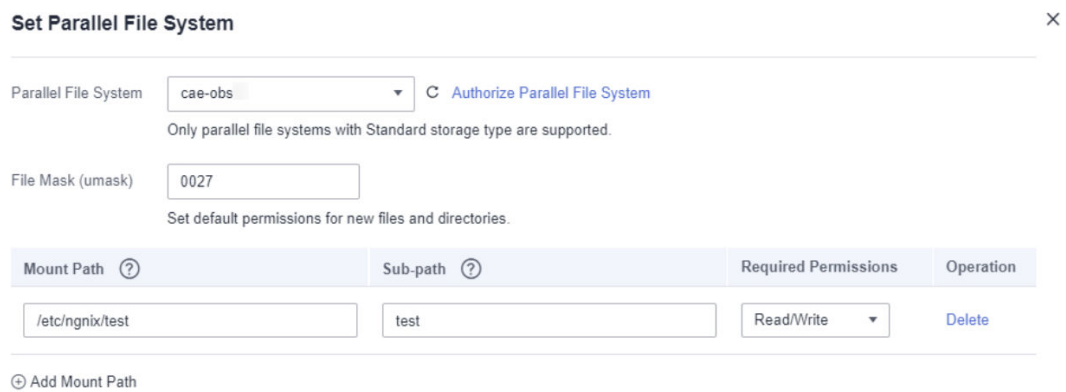


Figure 2-5 No test folder or file in the parallel file system

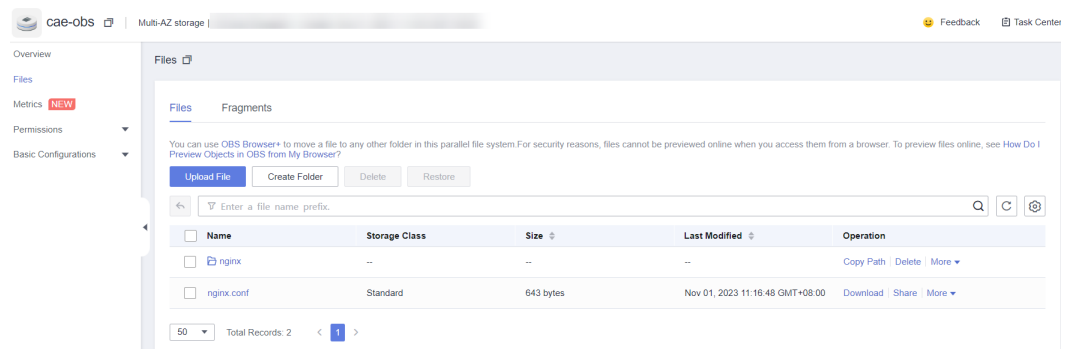


Figure 2-6 Error event

Event data will be retained for 1 hour and then deleted.

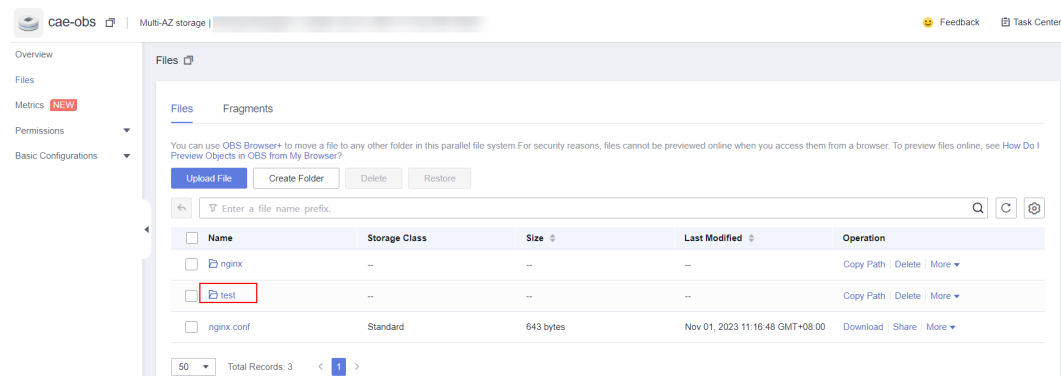
Event	Severity	Type	Occurrences	First Occurred	Last Occurred
Image pulled	Normal	Instances		2023/11/01 11:27:10 GMT+...	2023/11/01 11:27:10 GMT+...
FailedCreate	Abnormal	Instances	8	2023/11/01 11:25:51 GMT+...	2023/11/01 11:27:10 GMT+...
Pulling	Normal	Instances	8	2023/11/01 11:25:46 GMT+...	2023/11/01 11:27:09 GMT+...
Image pulled	Normal	Instances	1	2023/11/01 11:26:56 GMT+...	2023/11/01 11:26:56 GMT+...

Error: failed to create subPath directory for volumeMount "pvc-obs-22e1f358-1eb1-49dc-9c89-7a313bbe1768" of container "nginx"

Solution

- Step 1** Log in to the OBS console.
- Step 2** Select **Parallel File Systems** and click the authorized parallel file system (example: **cae-obs**). The parallel system page is displayed.
- Step 3** Create a file or folder with the same name as the subpath (example: **test**).

Figure 2-7 Creating a file with the same name



----End

2.5 What Do I Do If a Component Becomes Not Ready?

Symptom

The component was not updated or restarted, but the component status automatically changed to **Not ready**, and then goes back to normal.

Possible Cause

During peak hours, there are many API requests, and the processes use too many CPU resources. As a result, the processes restart.

Solution

- Configure an auto scaling policy for components. When the CPU usage exceeds the threshold, the number of instances automatically increases. For details, see [Adding an AS Configuration](#).
- Enable performance management, interconnect with APM 2.0, and monitor the API traffic to locate the cause of high CPU usage and the corresponding APIs. For details, see [Configuring Performance Management](#).

2.6 How Does CAE Support Dark Launch?

Currently, CAE works with Cloud Service Engine (CSE) to dark launch components. Start by [Configuring Cloud Service Engine](#) in component configuration to interconnect with CSE. Then configure dark launch by referring to [Using Dark Launch](#).

2.7 How Do I Provide Prometheus Metrics for a Java Application?

Context

Prometheus is built in CAE to collect monitoring metrics of components. The default monitoring metrics are limited. To customize more metrics, define the corresponding structure (Exporter) in the program, expose the API, deploy the structure on CAE, and configure it. This section uses the Spring Boot backend component in [Getting Started](#) as an example to describe how to customize Prometheus metrics. It exposes Prometheus metrics through HTTP and customizes the metric structure as required.

Adding the POM Dependency

Add the following dependency to the `src/pom.xml` file.

```
<dependency>
  <groupId>org.springframework.boot</groupId>
  <artifactId>spring-boot-starter-actuator</artifactId>
</dependency>
<dependency>
  <groupId>io.micrometer</groupId>
  <artifactId>micrometer-registry-prometheus</artifactId>
</dependency>
```

Modifying the Configuration File

Modify the **actuator** configuration in the `application.yml` file in the **resources** directory to expose Prometheus metric data.

```
management:
  endpoints:
    web:
      exposure:
        include: prometheus
```

After configuration, the Spring Boot project exposes Prometheus monitoring metrics through port 9090 in the `/actuator/prometheus` path.

Customizing Monitoring Metrics in the Spring Boot Project

Define a metric of the Counter type: The value increases by 1 each time a frontend click calls the backend API.

In `src\main\java\com\huawei\cae\controller\UserDataController.java`, define the following fields and methods and import required classes:

The function is to define monitoring metric `click_operated_total` of the Counter type.

```
import io.micrometer.core.instrument.Counter;
import io.micrometer.core.instrument.MeterRegistry;
import javax.annotation.PostConstruct;
...

@Autowired
private MeterRegistry registry;

private Counter visitCounter;

@PostConstruct
private void init() {
    visitCounter = registry.counter("click_operated_total", "click_operated_total","");
}
```

Add the following code to the first line of the `clientTest()` method called by the frontend:

```
visitCounter.increment();
```

In this way, each time the method is accessed, the value of `click_operated_total` defined above increases by 1.

The modified project can be deployed on CAE to monitor the customized Prometheus metrics.

2.8 Why Is an Instance Abnormal After Configuring the Access Mode?

Symptom

After I configured the access mode, the instance becomes abnormal.

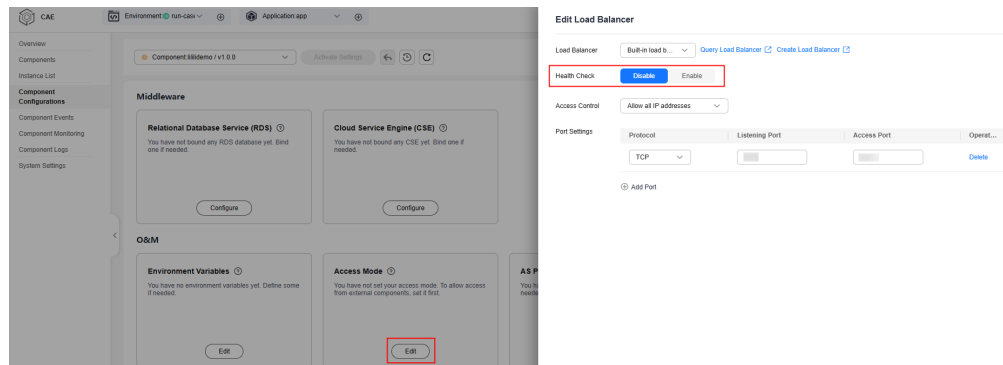
Possible Cause

By default, the backend service TCP health check is enabled on the **Access Component from Another Environment > Load Balancing** page of CAE, that is, the TCP three-way handshake is performed. After the TCP three-way handshake, data is transmitted. However, RST is sent to interrupt the established TCP connection during health check. This may cause your component to exit due to abnormal TCP connection and print error information, such as "Connection reset by peer".

Solution

Step 1 On the CAE console, choose **Component Configurations**, click **Edit** on the **Access Mode** card, and disable **Health Check** for the load balancer.

Figure 2-8 Disabling health check



Step 2 On the **Component Configurations** page, click **Edit** on the **Health Check** card, enable **Probe**, and set **Check Method** to **HTTP**.

Step 3 Ignore the health check connection error in the service code.

----End

3 System Configuration FAQs

3.1 How Do I Bind a User-Defined Domain Name to CAE?

Prerequisites

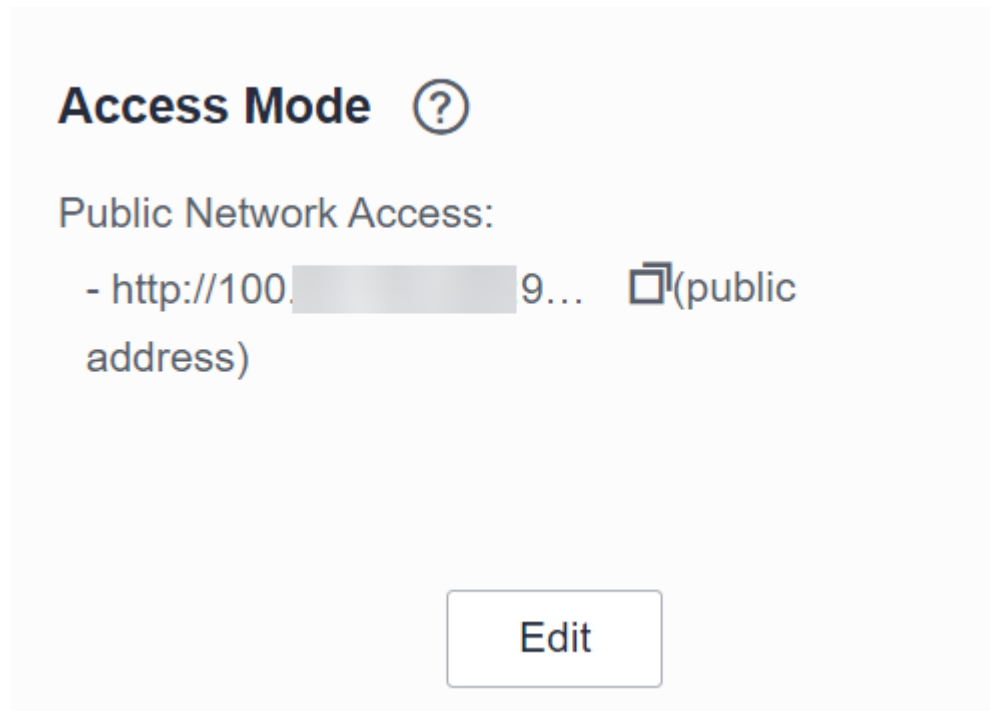
You have created a CAE environment.

Procedure

If you use Huawei Cloud DNS, perform the following steps:

- Step 1** Log in to the CAE console and choose **Component Configurations**.
- Step 2** Select the target component from the drop-down list in the upper part of the page.
- Step 3** In the **Access Mode** module, obtain the public IP address and VPC access address, as shown in [Figure 3-1](#).

Figure 3-1 Obtaining the public IP address and VPC access address (an EIP must be bound to a dedicated EIB)



Step 4 Log in to the DNS console.

Step 5 Configure a record set.

- Configure public access
 - a. Choose **Public Zones**. The zone list page is displayed.
 - b. Click **Create Public Zones**, enter a zone name, select an enterprise project, and click **OK**.
 - c. In the public zone list, click the new zone.
 - d. Click **Batch Add Record Sets**. On the displayed page, select **Website** and set **Address** to **IP address**.

Figure 3-2 Batch Add Record Sets (public IP address)

Batch Add Record Sets ×

Website | Email

Map test16.com to your website address by adding record sets with www and @ as the prefix.

Address IP address CNAME Domain Name

Value

This operation will allow users to access your website with the following names:

- www.test16.com
- test16.com

OK Cancel

- e. For **Value**, enter the public IP address obtained in [Step 3](#).
- Configure VPC access
 - a. Choose **Private Zones**. The zone list page is displayed.
 - b. Click **Create Private Zones**, enter a zone name, select the VPC in the same environment as the component, and click **OK**.

Figure 3-3 Creating a private zone

Create Private Zone ×

★ Domain Name
Enter a domain name, for example, example.com.

★ VPC
[View VPC](#) ?

Email
Enter the domain name administrator's email address, which will be used in the SOA record for the zone. If you leave it empty, the system will automatically specify one for you.

Tag
It is recommended that you use TMS's predefined tag function to add the same tag to different cloud resources. [View predefined tags](#) ?
To add a tag, enter a tag key and a tag value below.

<input type="text" value="Enter a tag key"/>	<input type="text" value="Enter a tag value"/>	<input type="button" value="Add"/>
--	--	------------------------------------

You can add 10 tags more tags.

Description
0/255

- c. In the private zone list, click the new zone.
- d. Click **Add Record Set** and enter the VPC access address obtained in **Step 3** for **Value**.

Figure 3-4 Binding an IP address to a private zone

Add Record Set

Name

Enter the domain name prefix. If the domain name is example.com, traffic will be routed depending on the prefix:
 Blank prefix: Traffic will be routed to example.com.
 Prefix "www": Traffic will be routed to www.example.com.
 Prefix "cdn": Traffic will be routed to cdn.example.com.
 Prefix "mail": Traffic will be routed to mail.example.com.
 Prefix "*": Traffic will be routed to any subdomain of example.com.

* Type

* TTL (s) **5 min**

The length of time (in seconds) for which a local DNS server caches a record set. If your service addresses change frequently, set TTL to a small value.

* Value

Enter a maximum of 50 IPv4 addresses, each on a separate line.
 Example:
 192.168.10.10
 172.16.100.100

Step 6 Click **OK**.

----End

3.2 How Do I Test the Domain Name Resolution?

Verifying the Binding of a Public Access IP Address

After a domain name is added as shown in [Figure 1 Domain name configuration](#), run the **ping** command to check whether the domain name is bound to a public IP address.

Figure 3-5 Configuring a domain name

Domain Names

i 1. You must have [purchased a domain name](#) and registered it with the Ministry of Industry and Information Technology (MIIT) to bind a domain name with an IP address. ✕

2. Bind up to 50 domain names.

3. Learn how to configure a domain name. [configure a domain name](#).

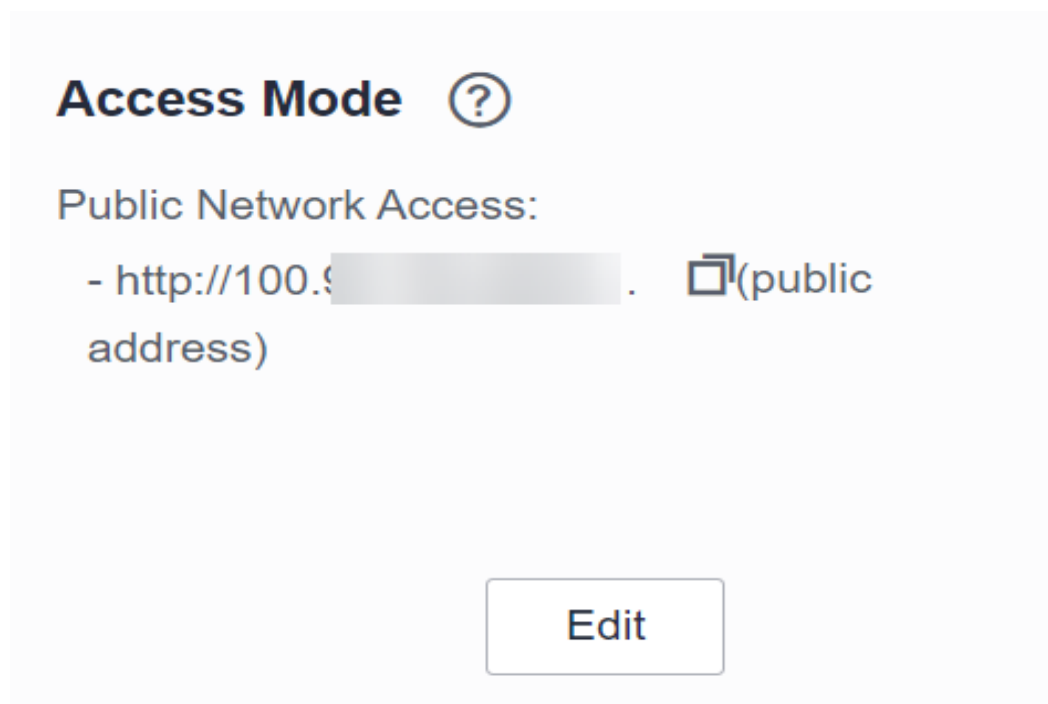
Name	Created ⌵	Operation
cae-demo.com	2023/10/26 09:16:38 GMT+08:00	Unbind

Step 1 Open the command line interface (CLI).

Step 2 Run the **ping domain name** command, for example, **ping cae-demo.com**.

- Step 3** Press **Enter**. The ping is successful, and the domain name has been bound to IP address 100.*.*.65.
- Step 4** Log in to the CAE console and choose **Component Configurations > Access Mode**. The public IP address of the component is shown in **Figure 3-6**. If the IP address in **Step 3** ping result matches the public IP address, the domain name is effective.

Figure 3-6 Public access IP address



----End

Verifying the Binding of a VPC Access IP Address

After the domain name configuration is added as shown in **Figure 1 Domain name configuration**, access the ECS in the same VPC as the CAE environment to check whether the domain name is bound to the VPC access IP address.

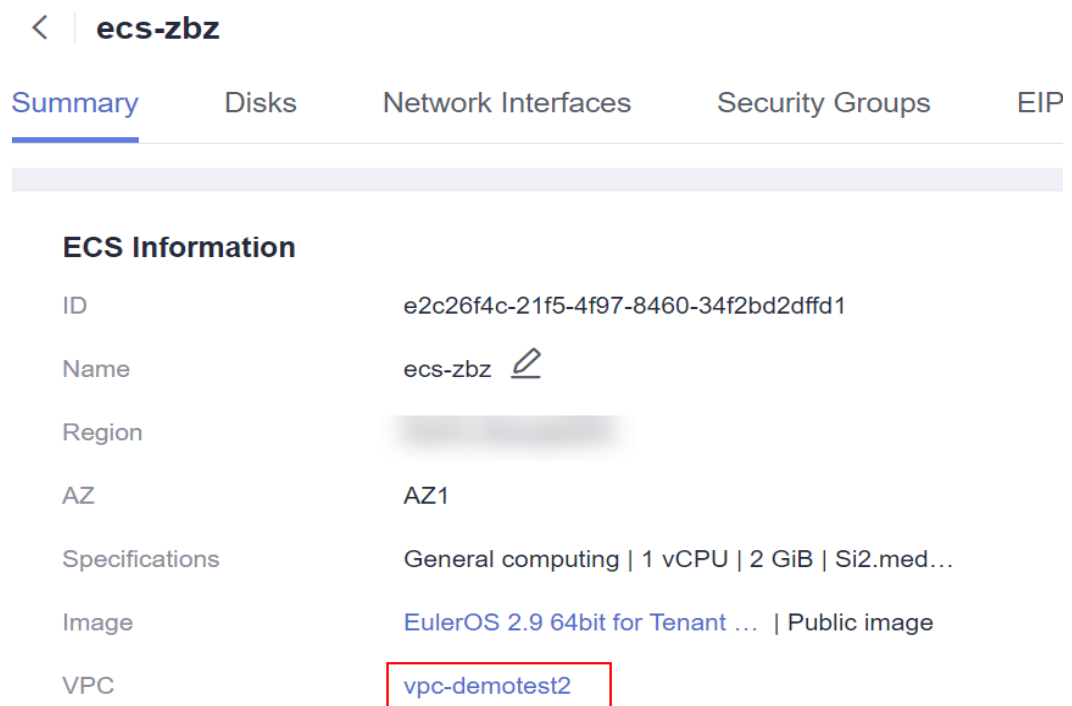
Figure 3-7 Configuring a domain name



- Step 1** Log in to the ECS console and choose **Elastic Cloud Server**.

Step 2 In the ECS list, select an ECS connected to the same VPC.

Figure 3-8 Selecting an ECS in the same VPC (example: vpc-demotest2)



Step 3 Ping the private domain name (test18.com) from ECS to check whether the network is normal.

Step 4 Run the **wget** command on the ECS to access the intranet domain name (test18.com) to check whether the component is running properly.

----End

3.3 How Do I Migrate a Domain Name to Huawei Cloud?

For details, see [How Do I Migrate My Domain from Another DNS Service Provider to Huawei Cloud DNS?](#)

3.4 How Does a Domain Name Configured on a Third-Party Cloud Support Huawei Cloud Services?

Procedure

Step 1 Log in to the third-party cloud website where the domain name is located and add two records to the resolution settings. The following uses domain name **cheirmin.top** as an example.

- The host record is **www**, and the record value is the elastic IP address displayed on the CAE overview page.

- The host record is empty, and the record value is the elastic IP address displayed on the CAE overview page.
- Step 2** Add related domain names in system settings. For details, see "Domain Names" in [System Settings](#).
- Step 3** Log in to the CAE console, choose **Component Configurations > Access Mode > Load Balancing and Route Configuration**, and configure the domain name, as shown in [Figure 3-9](#).

Figure 3-9 Forwarding policy

Load Balancer: Built-in load ba... ▼

Load Balancing Policy: Weighted round robin [Customize](#)

Listener:

- External Protocol: HTTP ▼
- Access Port: 15348
- Access Control: Allow all IP addresses ▼

Forwarding Policy:

Domain Name	Match URL By	URL	Component	Listening...	Opera...
cheirmi... ▼	Prefix ▼	/	weather2	9090	.. Delete

⊕ Add Forwarding Policy

----End

3.5 How Do I Use Other Methods to Resolve Domain Names?

For details, see [DNS: Add Record Sets of Different Types](#).

3.6 How Do I Prevent Access Exceptions Caused by Incorrect Format During Domain Name Configuration?

Scenario

This access exception occurs incorrectly entering a full domain name when adding a wildcard domain name in the CAE network access information. For example, entering **a.example.com** instead of ***.example.com** will cause the system to match only the specified domain name. Other subdomain names (such as **b.example.com**) cannot be accessed.

Enter a wildcard or full domain name as required to prevent network access exceptions.

Differences Between Full and Wildcard Domain Names

Table 3-1 Differences

Dimension	Full Domain Name	Wildcard Domain Name
Meaning	A specific, unique full domain name points to a specific network resource (such as a server, website, or device).	A wildcard domain name uses the wildcard character (*) to match all (including existing and future) subdomain names under the same primary domain name.
Scope	Only itself	All subdomain names under the primary domain name
Matching Rule	Exact match	Multiple match
Format	Consists of multiple levels of domain names, and specified to the lowest level. Example: <ul style="list-style-type: none"> • www.example.com (subdomain name www of the website) • mail.company.com (subdomain name of the enterprise mailbox) • server1.lab.school.edu (multi-level subdomain name of a server in the school lab) 	Starts with *. followed by the primary domain name. Example: <ul style="list-style-type: none"> • *.example.com: matches all subdomain names suffixed with example.com, such as a.example.com, b.example.com, and sub.a.example.com. • *.lab.school.edu: matches all subdomain names suffixed with lab.school.edu, such as pc1.lab.school.edu and server2.lab.school.edu.
Function	Matches only itself and does not contain other subdomain names. For example, configuring blog.example.com only enables access to this domain name, but not other subdomains such as news.example.com .	Uses the wildcard (*) to replace any prefix to match all subdomain names under the same primary domain name in batches. For example, configuring *.company.com enables access to hr.company.com , it.company.com , and <i>new department.company.com</i> .
Scenario	Used to point to a specific service or resource. For example, the subdomain name www of an enterprise website or the subdomain name mail of an exclusive mailbox.	Used to cover all subdomain names under a primary domain name. For example, all subdomain names of an enterprise need to be accessed through a gateway, or the website supports custom level-2 domain names (such as user1.site.com and user2.site.com).

4 Service Resources FAQs

4.1 Freezing, Releasing, and Deleting CAE Resources

Why Were My CAE Resources Released?

If your subscriptions have expired but not renewed, or if your account is in arrears, the grace period starts. If you do not renew your subscriptions or pay the arrears after the grace period expires, the resources enter a retention period, during which the resources are not available. If you do not renew your subscriptions or pay the arrears after the retention period expires, your data will be deleted and your resources will be released.

Why Were My CAE Resources Frozen?

Resources can be frozen due to arrears, violations, or public security issues.

What Do I Do If My Resources Are Frozen?

- Resources frozen due to arrears can be renewed, released, or deleted. Renew them or top up your account to unfreeze and restore them.
- Resources frozen due to violations can be renewed, released, or deleted.
- Resources frozen due to public security issues can be renewed but cannot be released or deleted.

What Impact Does Resource Freezing, Unfreezing or Release Have on My Resources?

- When resources are frozen, you can neither create new resources nor operate existing ones, such as modifying component configurations and upgrading components.
- After resource are unfrozen, you can operate them. However, you need to check whether services are running properly.
- After resources are released, data stored in the resources will be deleted and cannot be retrieved.

Can Released Resources Be Restored?

No. The instances have been deleted and cannot be restored.

5 Network FAQs

5.1 How Do I Test an RDS Connection?

- Step 1** Log in to CAE. On the **Instance List** page, click **Remote Login** of the component to be tested.
- Step 2** Run the `curl -kv {RDS address}:{RDS port}` command in the remote login window.
- Step 3** If the command fails, check the following configurations:
1. Check whether RDS and the CAE environment are in the same VPC.
 2. If they are in the same VPC, check whether the security groups between subnets allow traffic to pass through.
 3. If the access still fails after the preceding two conditions are met, submit a trouble ticket to CAE.

----End