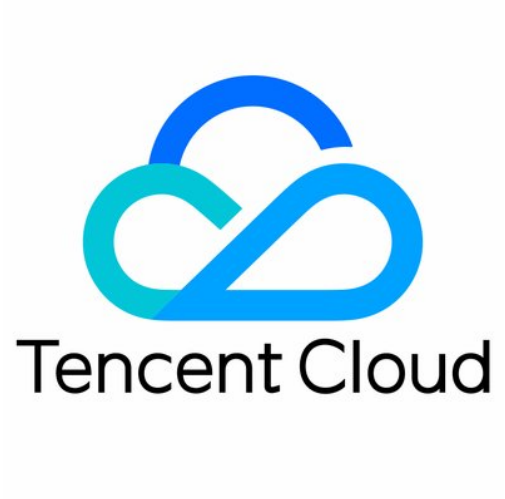
Cloud Load Balancer

Classic CLB

Product Documentation



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Last updated：2024-01-04 14:34:05

Overview

Classic CLB is easy to configure and supports simple load balancing scenarios:
Public network classic CLB: supports TCP/UDP/HTTP/HTTPS protocols.
Private network classic CLB: supports TCP/UDP protocols.
CLB instances can be classified into two types: CLB (formerly "application CLB") and classic CLB.
CLB includes all features of classic CLB. Based on their features and performance, we recommend using CLB. For detailed comparison, see Instance Types.
Note：
Currently, there are two types of Tencent Cloud accounts: bill-by-EIP/CLB and bill-by-CVM. All Tencent Cloud accounts registered after June 17, 2020 00:00:00 are bill-by-EIP/CLB accounts. For Tencent Cloud accounts registered before June 17, 2020, check your account types in the console. Bill-by-EIP/CLB accounts no longer support classic CLB. You can now only purchase a CLB instance.
This document introduces classic CLB instances. After creating an instance, you need to configure a listener for it. The listener listens to requests on the CLB instance and distributes traffic to the real server based on the load balancing policy.

Listener Configurations

You need to configure a CLB listener as follows:
1. Listener protocol and listening port. The listening port, or frontend port, is used to receive and forward requests to real servers.
2. Backend port. It is the port through which the CVM instance provides services, receives and processes traffic from the CLB instance.
3. Listening policy, such as load balancing policy and session persistence.
4. Health check policy.
5. Real server can be bound by selecting its IP.
Note：
If you configure multiple listeners to a classic CLB instance and bind multiple real servers, each listener will forward requests to all real servers based on its configuration.

Supported protocol types

A CLB listener can listen to Layer-4 and Layer-7 requests on a CLB instance and distribute them to real servers for processing. The main difference between Layer-4 CLB and Layer-7 CLB is which protocol is used to forward traffic when load balancing user requests.

Layer-4 protocols: transport layer protocols, including TCP and UDP.

Layer-7 protocols: application layer protocols, including HTTP and HTTPS.

Note：

1. A classic CLB instance receives requests and forwards traffic to the real server via VIP and port. Layer-7 protocols do not support forwarding based on domain name and URL.
2. A private network classic CLB instance only supports Layer-4 protocols, not Layer-7 protocols.
3. If you need aforementioned advanced features, we recommend choosing CLB over classic CLB. For more information, see Instance Types.

Port Configuration

Listening Port (frontend port)	Service Port (backend port)	Description
The listening port is used by a CLB instance to receive and forward requests to real servers for load balancing. You can configure CLB for the port range 1-65535, such as 21 (FTP), 25 (SMTP), 80 (HTTP), and 443 (HTTPS).	A service port is used by the CVM to provide services, receives and processes traffic from the CLB instance. On a CLB instance, one listening port can forward traffic to ports of multiple CVM instances.	On a CLB instance, a listening port must be unique. For example, TCP:80 and HTTP:80 listeners cannot be created at the same time. Only TCP and UDP ports can be the same. For example, you can create both TCP:80 and UDP:80 listeners. The same service ports can be used on a CLB instance. For example, HTTP:80 and HTTPS:443 listeners can be bound to the same port of a CVM instance.

Configuring Classic CLB

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After creating a classic CLB instance, you need to configure a listener for it. The listener listens to requests on the instance and distributes traffic to real servers based on the load balancing policy.

Prerequisites

You need to create a CLB instance first and select "Classic CLB" for **Instance type**.

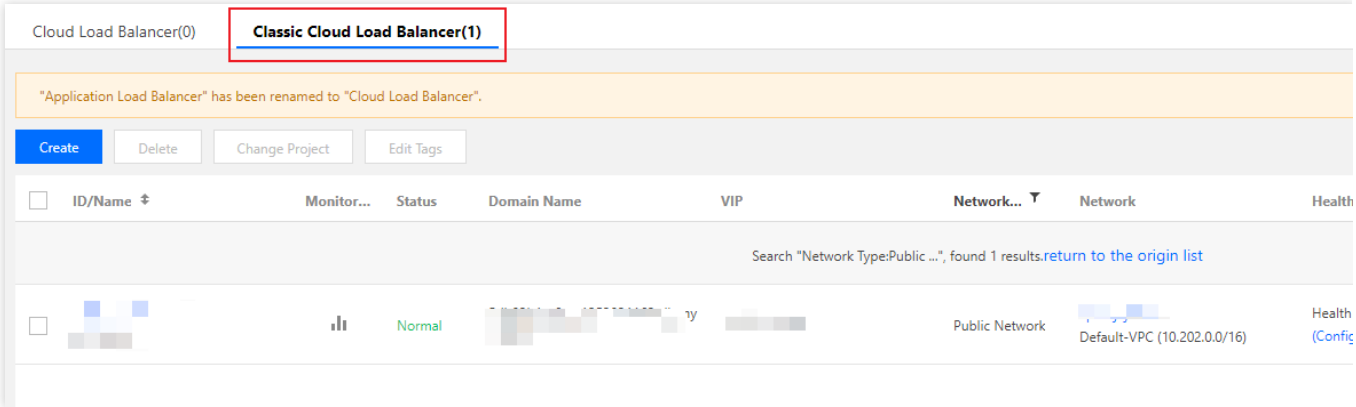
Note：

Currently, there are two types of Tencent Cloud accounts: bill-by-EIP/CLB and bill-by-CVM. All Tencent Cloud accounts registered after June 17, 2020 00:00:00 are bill-by-EIP/CLB accounts. For Tencent Cloud accounts registered before June 17, 2020, check your account types in the console. Bill-by-EIP/CLB accounts no longer support classic CLB. You can now only purchase a CLB instance.

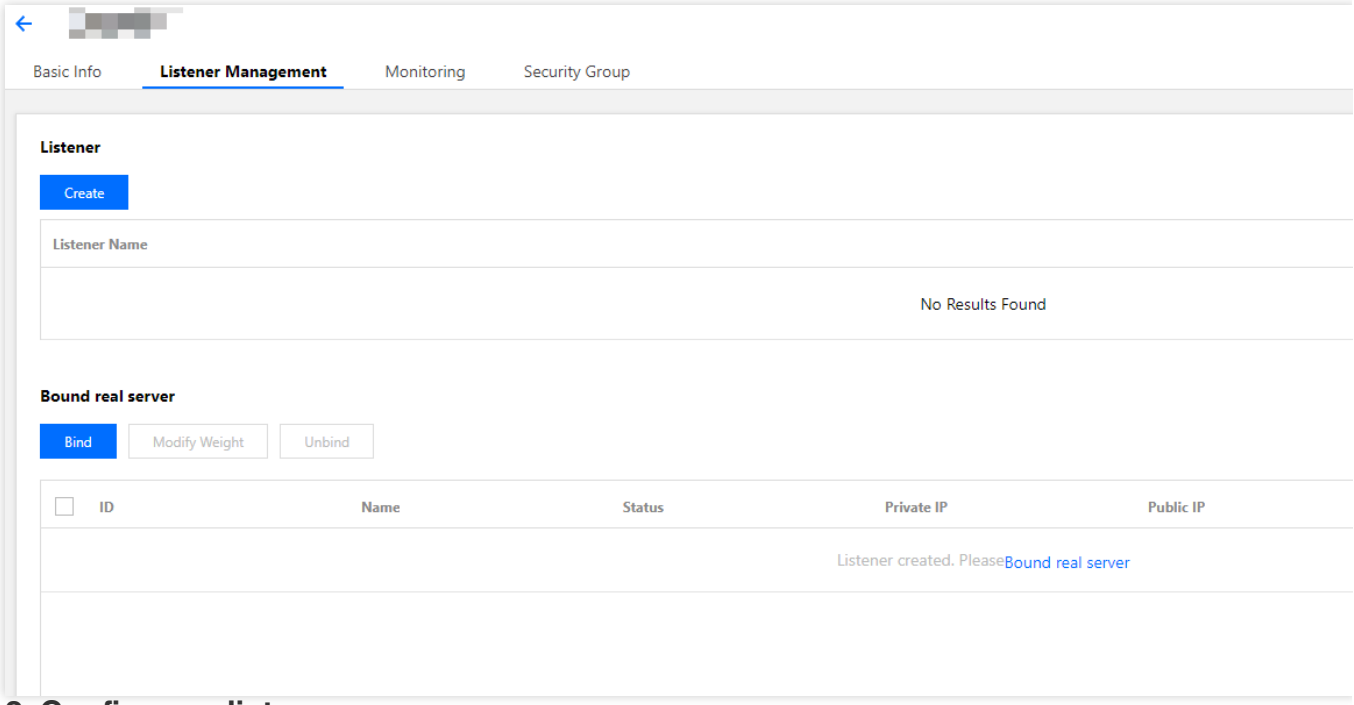
Configuring the Listener

Step 1. Open the Listener Management page

1. Log in to the CLB Console.
2. Select **CLB Instance List** on the left sidebar.
3. On the **Instance Management** page, click the ID/Name of the instance to be configured to enter the instance details page.
4. Select the **Listener Management** tab, or click **Configure listener** under the **Operation** column on the **Instance Management** page.



5. The **Listener Management** page is as shown below.



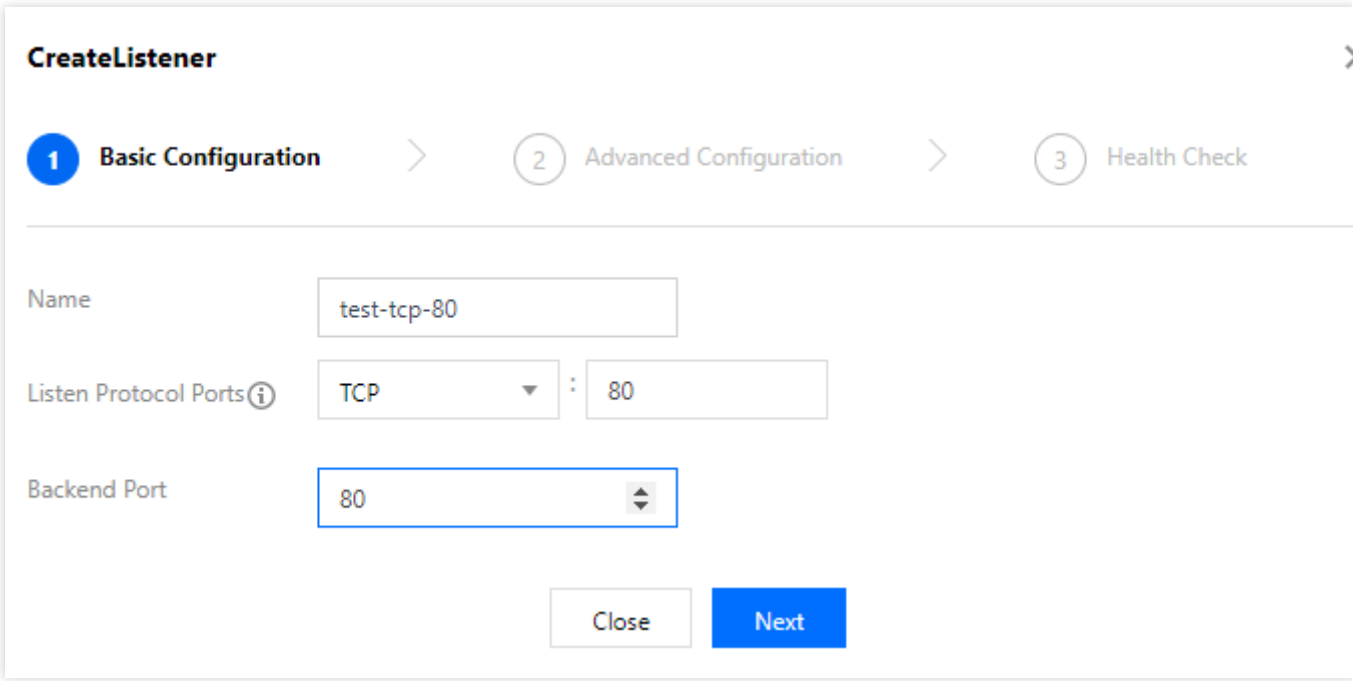
Step 2. Configure a listener

Click **Create** under **Listener Management** and configure a TCP listener in the pop-up window.

1. Basic configuration

Configuration Item	Description	Example
Name	Listener name.	test-tcp-80
Listener Protocol Ports	Listener protocol and listening port Listener protocol: CLB supports protocols such as TCP, UDP, HTTP, and HTTPS. This example uses TCP. Listening port: used to receive and forward requests to real servers. The port range is 1-65535. The listening port must be unique in the same CLB instance.	TCP:80
Backend Port	The port through which the CVM instance provides services, receives and processes traffic from a CLB instance.	80

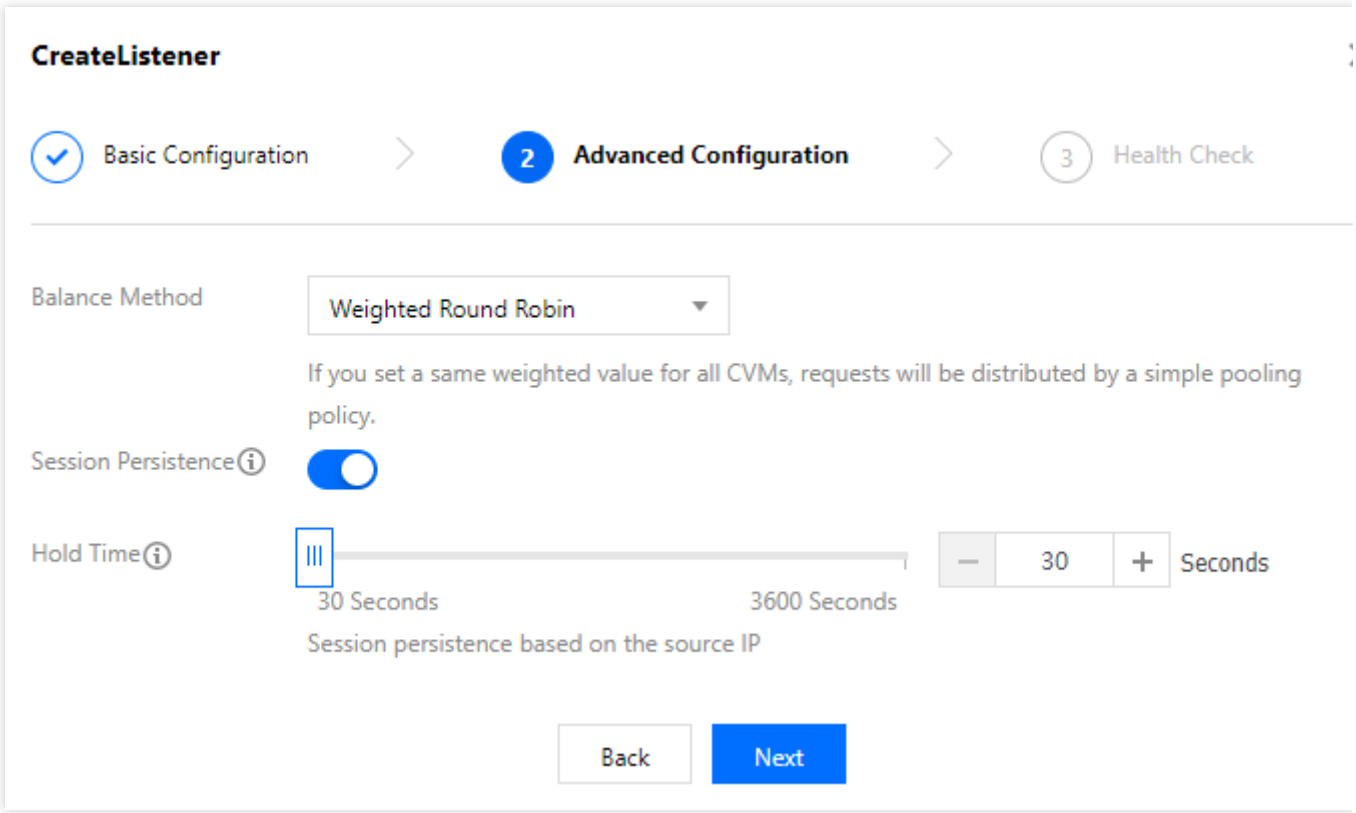
To create a TCP listener, complete the basic configuration as shown below:



2. Advanced configuration

Configuration Item	Description	Example
Balance Method	For TCP listeners, CLB supports two scheduling algorithms: weighted round robin (WRR) and weighted least-connection (WLC). WRR: requests are forwarded to different real servers sequentially according to their weights. Scheduling is based on the **number of new connections**, where servers with higher weights have more polls (i.e., a higher probability) and servers with the same weight process the same number of connections. WLC: loads on servers are estimated according to their number of active connections. Scheduling is based on server loads and weights. If their weights are the same, real servers with fewer active connections will have more polls (i.e., a higher probability).	WRR
Session Persistence	Whether to enable or disable session persistence. After session persistence is enabled, CLB listener will distribute access requests from the same client to the same real server. TCP session persistence is implemented based on client IP address. The access requests from the same IP address are forwarded to the same real server. Session persistence can be enabled for WRR scheduling but not WLC scheduling.	Enabled
Hold Time	Session persistence time. If there is no new request in the connection within the session persistence time, session persistence will be automatically disconnected. Value range: 30-3600 seconds.	30s

Complete the configuration as shown below:

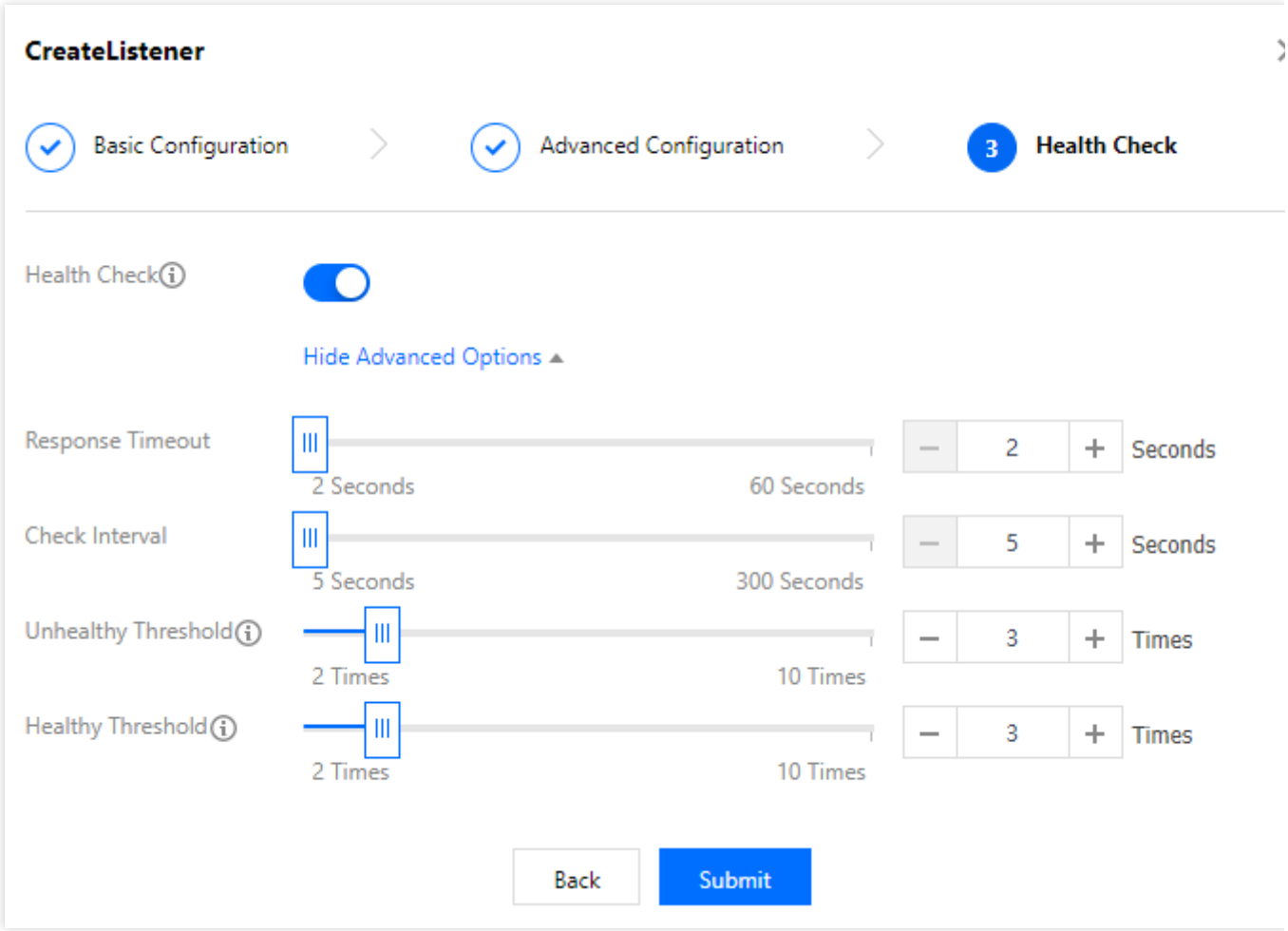


3. Health check

Configuration Item	Description	Example
Health Check	Whether to enable or disable health check. In TCP listeners, CLB instances send SYN packets to specified server ports to perform health checks.	Enabled
Check Protocol	To be added.	To be added
Check Port	To be added.	To be added
Response Timeout	Maximum response timeout period for health check. If a real server fails to respond within the timeout period, it is considered as unhealthy. Value range: 2-60 seconds. Default value: 2s.	2s
Check Interval	Interval between two health checks. Value range: 5-300 seconds. Default value: 5s.	5s
Unhealthy Threshold	If the health check returns `failure` for n consecutive times (n is user-defined), the real server is unhealthy and the **unhealthy** status is displayed in the console. Value range: 2-10 times. Default value: 3 times	3 times

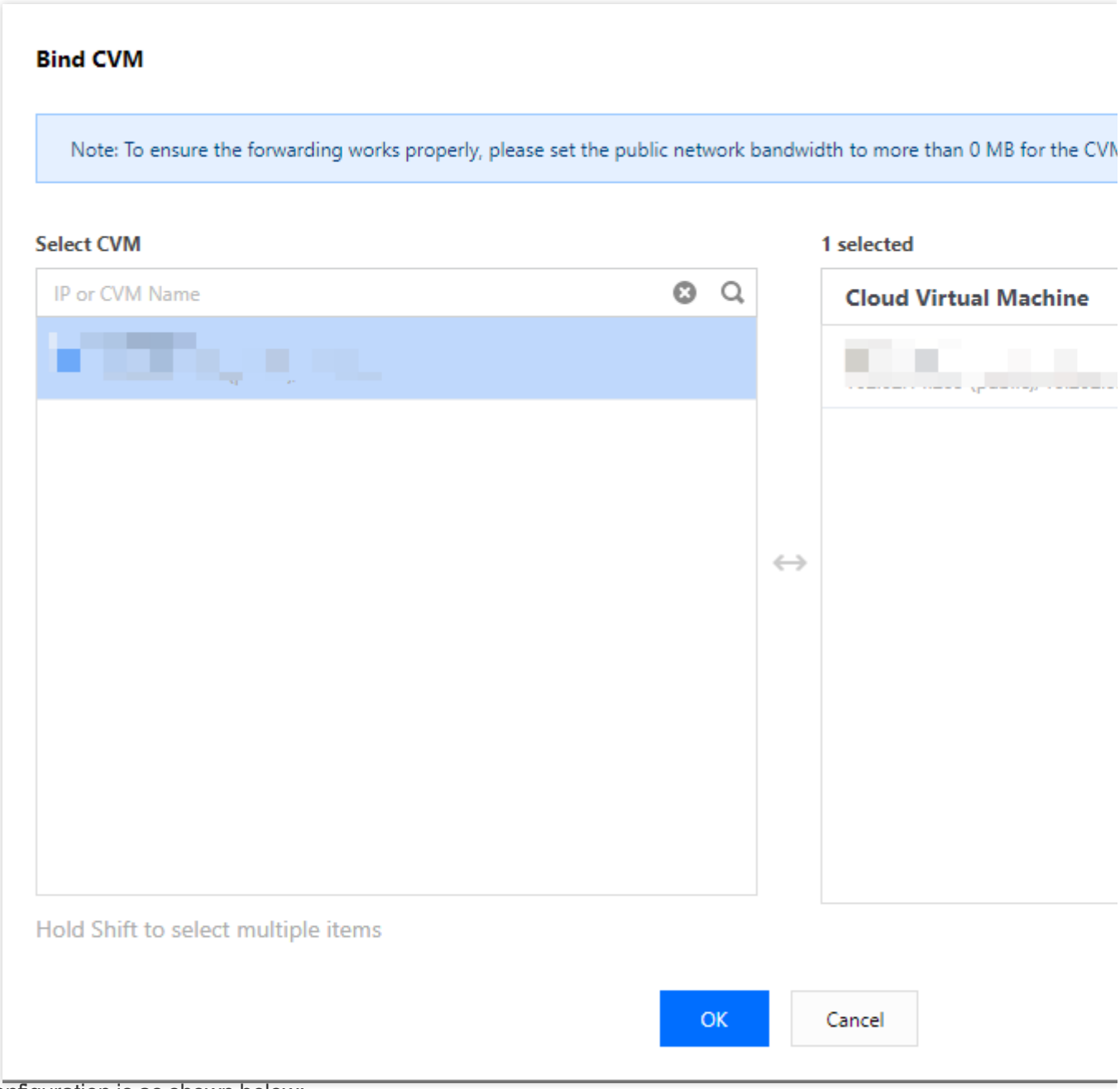
Healthy Threshold	If the health check returns `success` for n consecutive times (n is user-defined), the real server is healthy and the **healthy** status is displayed in the console. Value range: 2-10 times. Default value: 3 times.	3 times

Complete the health check configuration as shown below:

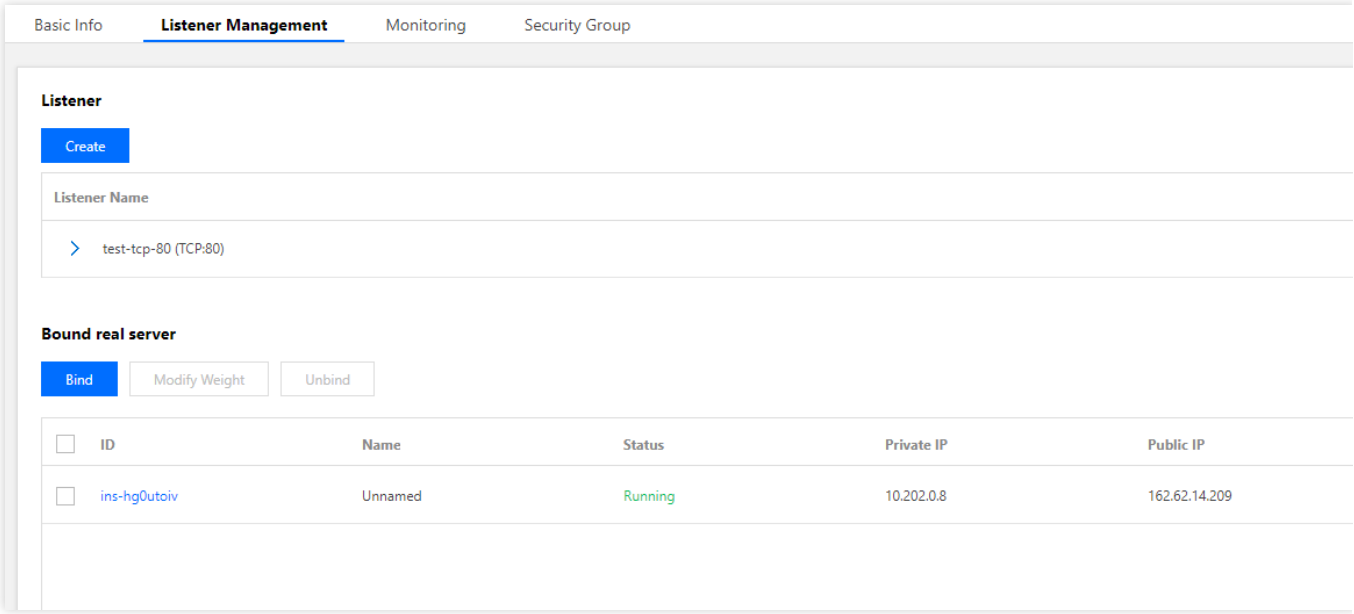


Step 3. Bind a real server

Click **Bind** on the **Listener Management** page and select the real server to be bound in the pop-up window, as shown below:



The configuration is as shown below:



Note：

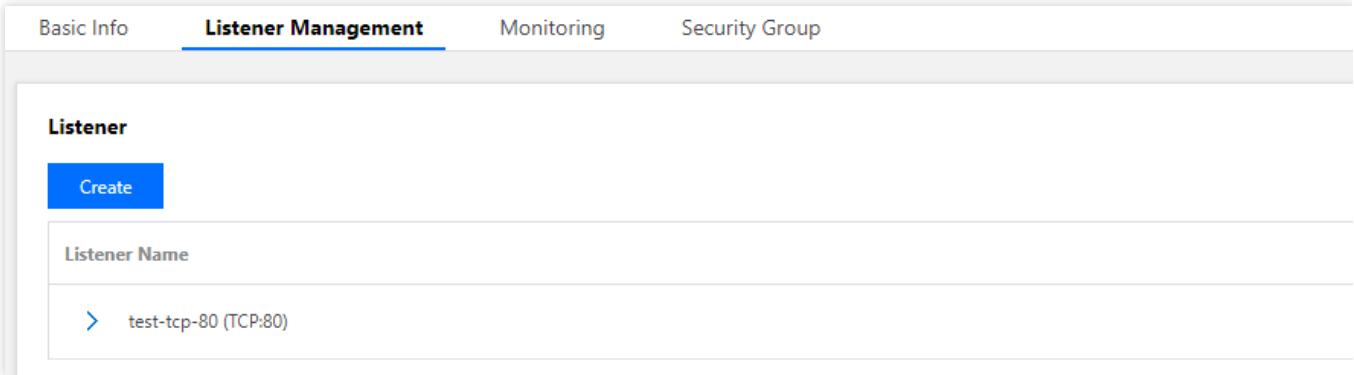
If you configure multiple listeners to a classic CLB instance and bind multiple real servers, each listener will forward requests to all real servers based on its configuration.

Step 4. Security group (optional)

You can configure a CLB security group to isolate public network traffic. For more information, see Configuring a CLB Security Group.

Step 5. Modify or delete a listener (optional)

If you need to modify or delete an existing listener, select the listener on the **Listener Management** page and click **Modify** or **Delete**.



Managing Real Servers of Classic CLB Instances

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Classic CLB routes requests to real server instances that are running normally. This document describes how to add or delete real servers as needed or when you use Classic CLB for the first time.

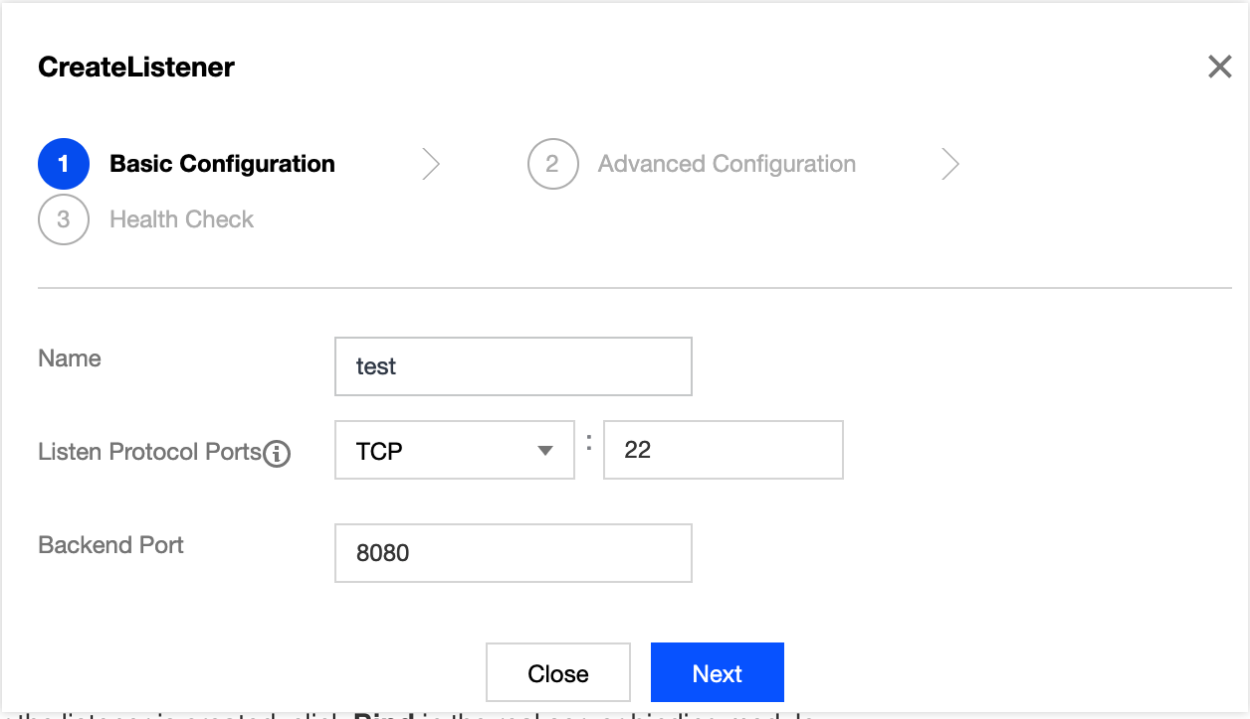
Prerequisites

You have created a Classic CLB instance and configured a listener. For more information, please see Getting Started with Classic CLB.

Directions

Adding real server to Classic CLB instance

Note：
If a Classic CLB instance is associated with an auto scaling group, CVM instances in the group will be automatically added to the real servers of the Classic CLB instance. When a CVM instance is removed from the auto scaling group, it will be automatically deleted from the real servers of the Classic CLB instance.
If you need to use API to add real servers, please see the RegisterTargetsWithClassicalLB API.
1. Log in to the CLB Console.
2. On the "Instance Management" page, select the **Classic Cloud Load Balancer** tab.
3. Click **Configure Listener** in the "Operation" column on the right of the target Classic CLB instance.
4. In the listener configuration module, click **Create**.
5. In the "Create Listener" pop-up window, enter the "backend port" (for more information on port selection, please see Common Server Ports) and other related fields and click **Next** to complete the configuration. For more information, please see Configuring Classic CLB.
Note：
You need to specify the real server port for Classic CLB during listener creation.



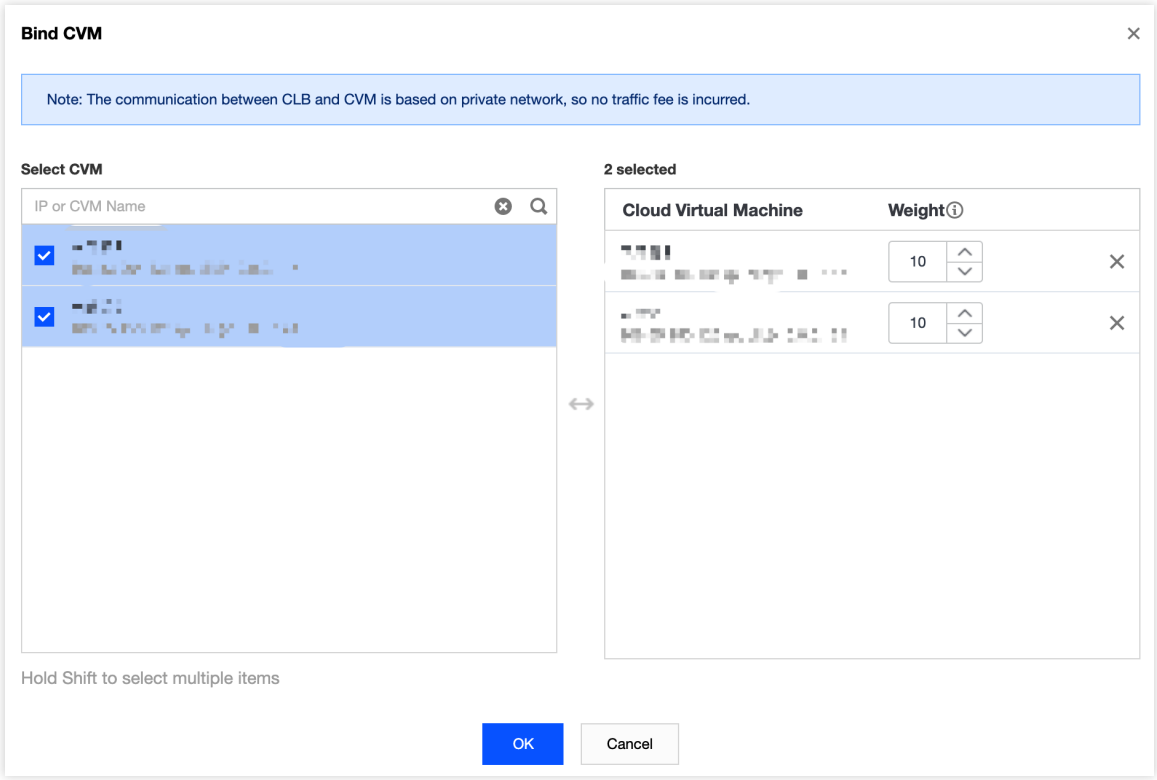
6. After the listener is created, click **Bind** in the real server binding module.

7. In the **Bind CVM** pop-up window, select the CVM instance to be bound, enter the weight, and click **OK**.

Note：

The pop-up window only displays available CVM instances in the same region and same network environment that are not isolated and have not expired with peak bandwidth greater than 0.

When multiple real servers are bound, CLB will forward traffic according to the hash algorithm to balance the load. The greater the weight of a server, the more the requests forwarded to it. The default value is 10, and the configurable value range is 0–100. If the weight is set to 0, the server will not accept new requests. If session persistence is enabled, it may cause uneven request distribution among real servers. For more information, please see Algorithms and Weight Configuration.



Modifying real server weight for Classic CLB instance

Note：

Currently, real server weight cannot be modified through APIs for Classic CLB.

1. Log in to the CLB Console.

2. On the "Instance Management" page, select the **Classic Cloud Load Balancer** tab.

3. Click **Configure Listener** in the "Operation" column on the right of the target Classic CLB instance.

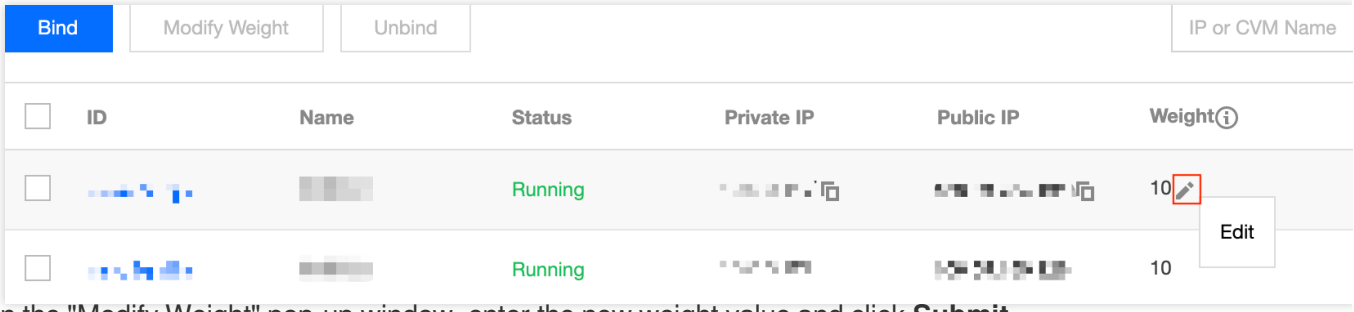
4. In the real server binding module, modify the relevant server weight.

Note：

The greater the weight of a server, the more the requests forwarded to it. The default value is 10, and the configurable value range is 0–100. If the weight is set to 0, the server will not accept new requests. If session persistence is enabled, it may cause uneven request distribution among real servers. For more information, please see Algorithms and Weight Configuration.

Method 1. Modify the weight of one single server.

4.1.1 Find the server whose weight needs to be modified, hover over the corresponding weight, and click <img src="https://main.qcloudimg.com/raw/4aae0dbec227f8fc18b4a35acf560f62.png" style="margin:0;">.



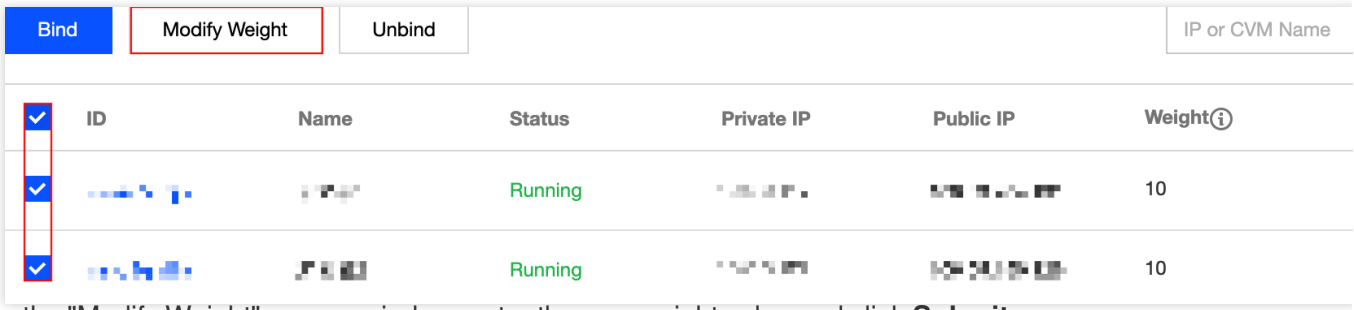
4.1.2 In the "Modify Weight" pop-up window, enter the new weight value and click **Submit**.

Method 2. Modify the weight of multiple servers in batches.

Note：

After the batch modification, the servers will have the same weight.

4.1.3 Click the checkbox in front of the servers, select multiple servers, and click **Modify Weight** at the top of the list.



4.1.4 In the "Modify Weight" pop-up window, enter the new weight value and click **Submit**.

Unbinding real server from Classic CLB instance

Note：

Unbinding a real server will unbind the Classic CLB instance from the CVM instance, and Classic CLB will stop forwarding requests to it immediately.

Unbinding a real server will not affect the lifecycle of your CVM instance, which can be added to the real server cluster again when necessary.

If you need to use API to unbind real servers, please see the DeregisterTargetsFromClassicalLB API.

1. Log in to the CLB Console.

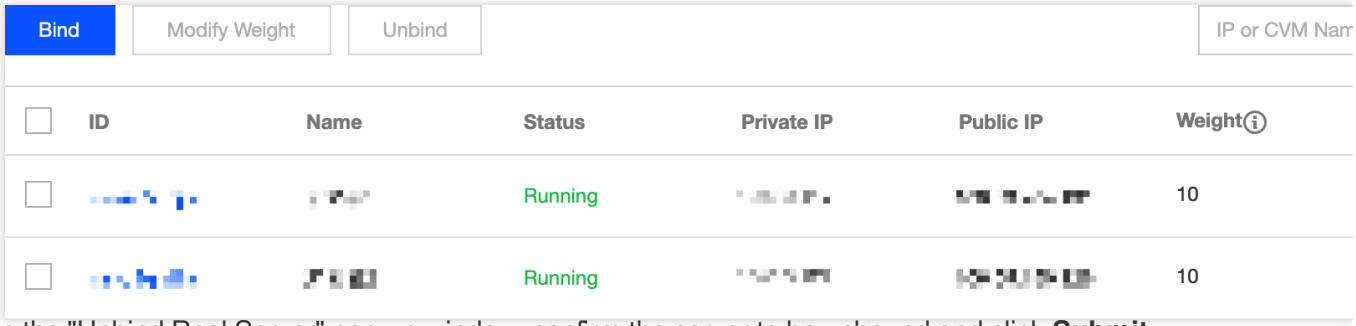
2. On the "Instance Management" page, select the **Classic Cloud Load Balancer** tab.

3. Click **Configure Listener** in the "Operation" column on the right of the target Classic CLB instance.

4. In the real server binding module, unbind the bound server.

Method 1. Unbind one single server.

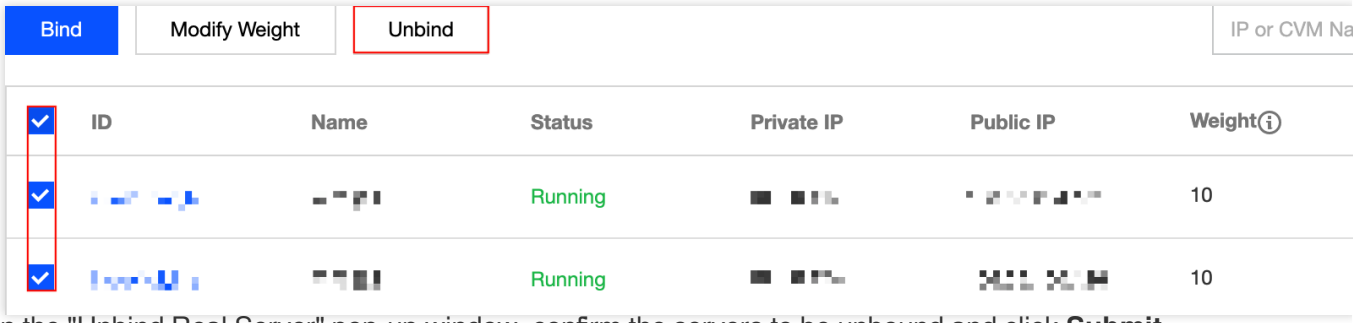
4.1.1 Find the server that needs to be unbound and click **Unbind** in the **Operation** column on the right.



4.1.2 In the "Unbind Real Server" pop-up window, confirm the server to be unbound and click **Submit**.

Method 2. Unbind multiple servers in batches.

4.1.3 Click the checkbox in front of the servers, select multiple servers, and click **Unbind** at the top of the list.



4.1.4 In the "Unbind Real Server" pop-up window, confirm the servers to be unbound and click **Submit**.