Elastic IP

FAQs

Issue 01

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FAQs

Product Consultation

1.1 What Is a Quota?

What Is a Quota?

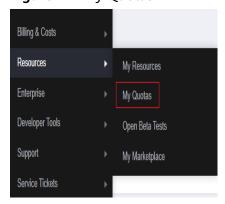
A quota limits the quantity of a resource available to users, thereby preventing spikes in the usage of the resource. For example, a VPC quota limits the number of VPCs that can be created.

You can also request for an increased quota if your existing quota cannot meet your service requirements.

How Do I View My Quotas?

- 1. Log in to the management console.
- 2. Click \bigcirc in the upper left corner and select the desired region and project.
- In the upper right corner of the page, choose Resources > My Quotas.
 The Service Quota page is displayed.

Figure 1-1 My Quotas



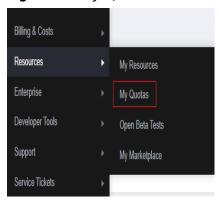
4. View the used and total quota of each type of resources on the displayed page.

If a quota cannot meet service requirements, apply for a higher quota.

How Do I Apply for a Higher Quota?

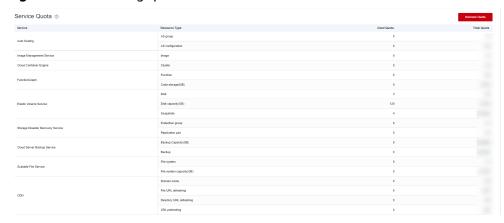
- Log in to the management console.
- In the upper right corner of the page, choose Resources > My Quotas.
 The Service Quota page is displayed.

Figure 1-2 My Quotas



3. Click **Increase Quota** in the upper right corner of the page.

Figure 1-3 Increasing quota



- On the Create Service Ticket page, configure parameters as required.
 In the Problem Description area, fill in the content and reason for adjustment.
- 5. After all necessary parameters are configured, select I have read and agree to the Ticket Service Protocol and Privacy Statement and click Submit.

1.2 How Do I Assign or Retrieve a Specific EIP?

If you want to retrieve an EIP that you have released or assign a specific EIP, you can use APIs by setting the value of **ip_address** to the one that you want to assign. For details, see **Elastic IP API Reference**.

- If the EIP has been assigned to another user, you will fail to assign your required EIP.
- You cannot use the management console to assign a specific EIP.

1.3 Why Is an EIP Newly Assigned the Same as the One I Released?

If you have released EIPs in a region, the system preferentially assigns EIPs from the ones you released in the last 24 hours.

If you do not want an EIP that you have released, assign an EIP first and then release the one that you do not want.

You can assign a specific EIP by calling APIs. For details, see **Elastic IP API Reference**.

1.4 What Are the Differences Between EIP, Private IP Address, and Virtual IP Address?

Different types of IP addresses have different functions.

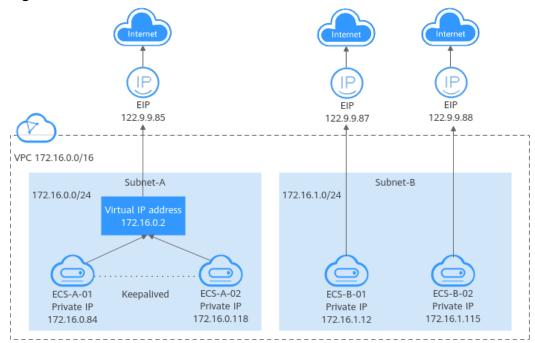


Figure 1-4 IP address architecture

Table 1-1 Functions of different IP address types

IP Address Type	Description	Example Value
Private IP address	Private IP addresses come with your ECSs and belong to the VPC subnets of the ECSs. They are used for private communication on the cloud.	 Private IP address of ECS-A-01: 172.16.0.84 Private IP address of ECS-B-01: 172.16.1.12
Virtual IP address	A virtual IP address can be shared among multiple ECSs. Two ECSs can work as an active and standby pair to achieve high availability by using a virtual IP address and Keepalived. If the active ECS is faulty, the virtual IP address can be dynamically switched to the standby ECS to continue providing services. For more information about virtual IP addresses, see Virtual IP Address Overview. For details about how to set up a high availability cluster, see Building Highly Available Web Server Clusters with Keepalived.	Bind virtual IP address (172.16.0.2) both ECS-A-01 and ECS-A-02. The active/standby switchover of ECS-A-01 and ECS-A-02 can be implemented by using Keepalived.
EIP	 EIPs allow cloud resources to access the Internet. They can be flexibly bound to or unbound from instances. You can bind an EIP to a virtual IP address to enable the ECSs with the virtual IP address bound to access the Internet. You can also bind an EIP to the ECSs to enable them to access the Internet. For more information, see EIP Overview. 	 Bind EIP (122.9.9.85) to virtual IP address (172.16.0.2) to enable ECS-A-01 and ECS-A-02 to access the Internet. Bind EIP (122.9.9.87) to ECS-B-01 to enable ECS-B-01 to access the Internet.

1.5 Can an EIP That Uses Dedicated Bandwidth Be Changed to Use Shared Bandwidth?

Yes. A pay-per-use EIP that uses the dedicated bandwidth can be changed to use the shared bandwidth. However, a yearly/monthly EIP that uses the dedicated bandwidth cannot be changed to use the shared bandwidth.

FAQs

1.6 Can I Bind an EIP to Multiple ECSs?

Each EIP can be bound to only one ECS at a time.

Multiple ECSs cannot share the same EIP. An ECS and its bound EIP must be in the same region. If you want multiple ECSs in the same VPC to share an EIP, you have to use a NAT gateway. For more information, see **NAT Gateway User Guide**.

1.7 What Are the Differences Between the Primary and Extension NICs of ECSs?

The differences are as follows:

- Generally, the OS default routes preferentially use the primary NICs. If the OS
 default routes use the extension NICs, network communication will be
 interrupted. Then, you can check the route configuration to rectify the
 network communication error.
- Primary NICs can communicate with the public service zone (zone where PaaS and DNS services are deployed). Extension NICs cannot communicate this zone.

1.8 What Is the EIP Assignment Policy?

By default, EIPs are assigned randomly.

If an EIP is released by mistake, the system will preferentially assign you an EIP that you have released in the last 24 hours.

If you want a specific EIP that you released more than 24 hours ago, see **How Do I Assign or Retrieve a Specific EIP?**

If you do not want an EIP that you have released, it is recommended that you buy another EIP first and then release the one that you do not need.

1.9 Can I Buy a Specific EIP?

By default, EIPs are assigned randomly. If you have released EIPs, the system preferentially assigns EIPs from the ones you released.

You can assign a specific EIP only by calling an API. For details, see **Assigning an EIP**.

1.10 Does an EIP Change Over Time?

EIPs will not be changed after they are assigned.

- Stopping and starting an ECS does not change its EIP.
- Billing mode change does not change EIPs.

An EIP will be released if it expires or if the EIP owner's account is in arrears.

1.11 How Do I Query the Region of My EIPs?

You can visit https://en.ipip.net/ip.html to guery the region of your EIPs.

- The region of an EIP identified using a third-party website may be different from the region that the EIP belongs to.
- If the region identified using another third-party website is different from the one identified using https://en.ipip.net/ip.html, use the region identified using https://en.ipip.net/ip.html.
- If the region identified using https://en.ipip.net/ip.html is different from the one you selected when purchasing the EIP, use the region you had selected during EIP purchase.

The geographical location of an EIP purchased in CN North-Ulangab1 is Beijing.

 If your service is adversely affected because the region of your EIP cannot be determined, submit a service ticket.

To know more about the region of EIPs, submit a service ticket.

1.12 Can a Bandwidth Be Used by Multiple Accounts?

A bandwidth cannot be shared between different accounts. Each account can use and manage only its own EIP bandwidths.

1.13 How Do I Unbind an EIP from an Instance and Bind a New EIP to the Instance?

Scenario 1: Unbinding an EIP from an ECS and Binding a New EIP to the ECS

- 1. Unbind an EIP.
 - a. Log in to the management console.
 - b. Click \equiv in the upper left corner and choose **Networking** > **Elastic IP**.
 - c. On the displayed page, locate the row that contains the target EIP, and click **Unbind**.
 - d. Click Yes.
- 2. Assign an EIP.

If you already have an EIP that you require, skip this step.

- a. Log in to the management console.
- b. Click \equiv in the upper left corner and choose **Networking** > **Elastic IP**.
- c. On the displayed page, click **Buy EIP**.

- Set the parameters as prompted. d.
- Click Next.
- 3. Bind the new EIP to the ECS.
 - Log in to the management console.
 - Click \equiv in the upper left corner and choose **Networking** > **Elastic IP**.
 - On the **EIPs** page, locate the row that contains the target EIP, and click
 - d. Select the desired ECS.
 - Click OK.
- Release the EIP that is unbound.

∩ NOTE

If an unbound EIP is no longer required, you can release it. If you do not release an unbound EIP, it will continue to be billed.

- Log in to the management console.
- Click \equiv in the upper left corner and choose **Networking** > **Elastic IP**.
- In the EIP list, locate the row that contains the EIP, and choose More > **Release** in the **Operation** column.
- d. Click Yes.

Scenario 2: Unbinding an EIP from a Load Balancer and Binding a New EIP to the Load Balancer

- 1 Unbind an EIP.
 - a. Log in to the management console.
 - b. Click Service List. Under Networking, click Elastic Load Balance.
 - In the load balancer list, locate the target load balancer and choose **More** > Unbind EIP in the Operation column.
 - Click Yes.
- Assign an EIP by referring to 2.

□ NOTE

If you already have an EIP that you require, skip this step.

- 3. Bind the new EIP to the load balancer.
 - a. Log in to the management console.
 - b. Click Service List. Under Networking, click Elastic Load Balance.
 - In the load balancer list, locate the target load balancer and choose More > Bind EIP in the Operation column.
 - In the **Bind EIP** dialog box, select the EIP to be bound and click **OK**.
- Release the EIP that was replaced. For details, see 4.

□ NOTE

If an unbound EIP is no longer required, you can release it. If you do not release an unbound EIP, it will continue to be billed.

Scenario 3: Unbinding an EIP from a NAT Gateway and Binding a New EIP to the NAT Gateway

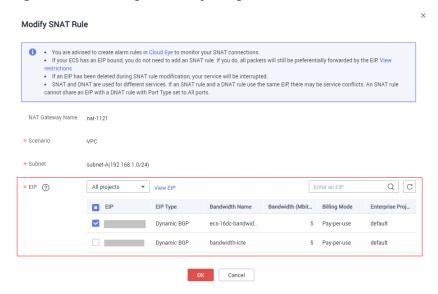
1. Assign an EIP by referring to 2.

If you already have an EIP that you require, skip this step.

2. Modify an SNAT rule.

For details, see **Modifying an SNAT Rule**. In the EIP list, select the new EIP and deselect the existing EIP.

Figure 1-5 Selecting the newly assigned EIP



3. Modify a DNAT rule.

For details, see Modifying a DNAT Rule.

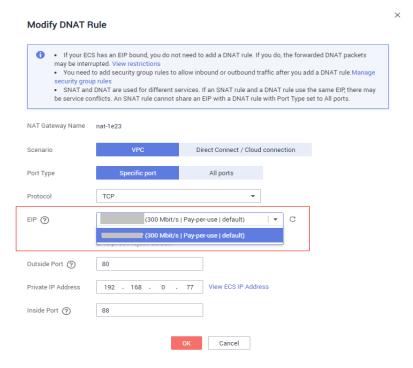


Figure 1-6 Selecting the newly assigned EIP

4. Release the EIP that was replaced. For details, see 4.

◯ NOTE

If an unbound EIP is no longer required, you can release it. If you do not release an unbound EIP, it will continue to be billed.

1.14 What Are the Differences Among a Bandwidth Add-On Package, Shared Data Package, and Shared Bandwidth?

Bandwidth add-on packages, shared data packages, and shared bandwidths are different products.

Table 1-2 Differences among a bandwidth add-on package, shared data package, and shared bandwidth

Aspect	Bandwidth Add- On Package	Shared Data Package	Shared Bandwidth
Customer	All customers	All customers	Medium- and large- scale customers

Aspect	Bandwidth Add- On Package	Shared Data Package	Shared Bandwidth
Feature	A bandwidth add- on package is used to temporarily increase the maximum shared or dedicated bandwidth of a yearly/monthly EIP. If you need to temporarily increase your bandwidth, you can purchase a bandwidth add-on package with a specific validity period.	After a shared data package takes effect, EIPs billed by traffic will use the shared data package first. After the shared data package is used up, the EIPs will be billed by traffic on a payper-use basis. Shared data packages are cost-effective than billing by traffic on a pay-per-use basis.	Multiple pay-per-use EIPs can share the same bandwidth. Shared bandwidth can be billed by bandwidth or by 95th percentile bandwidth (enhanced).
Usage method	The validity period of a bandwidth add-on package must be within that of the bandwidth you want to add the package to.	A shared data package takes effect immediately after being purchased and you do not need to perform any configurations.	After purchasing a shared bandwidth, you need to add EIPs to the shared bandwidth.

1.15 Do I Need to Configure a Shared Data Package for Use After It Is Purchased?

No.

A shared data package takes effect immediately after being purchased and no additional operations are required. If you have subscribed to pay-per-use EIPs billed by traffic in a region and buy a shared data package in the same region, the EIPs will use the shared data package.

1.16 Why Can't I Find My Purchased EIP on the Management Console?

Symptom

After I logged in to the management console, I could not find my purchased EIP.

FAQs

Possible Cause

- Your EIP is not in the current region. For details, see EIP Not in the Current Region.
- Your EIP has been released because it has expired but has not been renewed. For details, see EIP Was Released.

EIP Not in the Current Region

- **Step 1** Log in to the management console.
- **Step 2** Locate the EIP.
 - Method 1:
 - a. In the upper left corner of the console, select the region to which the EIP to be queried belongs.
 - b. Under Networking, click Elastic IP.
 - c. In the EIP list, view your EIPs.
 - Method 2:
 - In the upper right corner of the console, choose Resources > My Resources.
 - b. On the **My Resources** page, set search criteria to quickly find the target EIP.
 - Service: Virtual Private Cloud (VPC)
 - Resource Type: EIPs
 - **Region**: Retain the default value **All** or select the region to which the EIP to be queried belongs.
 - For example, if you select **All** for **Region**, all of your EIPs will be displayed.
 - c. In the EIP list, view your EIPs.

----End

EIP Was Released

Yearly/monthly EIPs will be released when they expire and have not been renewed.

- If you need to buy an EIP and bind it to a cloud resource, refer to **Assigning** an EIP.
- If you want to retrieve an EIP that you have released, refer to How Do I
 Assign or Retrieve a Specific EIP?

1.17 Why My EIPs Are Frozen? How Do I Unfreeze My EIPs?

- In arrears
 - Yearly/Monthly EIPs

If you do not renew yearly/monthly EIPs after the grace period ends, the EIPs enter a retention period and are frozen. Frozen EIPs cannot be used, modified, or released. If you still do not renew your EIPs before the retention period ends, they will be released and cannot be restored. To ensure the availability of your EIPs, renew them before they expire.

Pay-per-use EIPs

If your pay-per-use EIPs are still in arrears after the grace period ends, the EIPs enter the retention period and are frozen. Frozen EIPs cannot be used, modified, or released. If you still do not top up and pay off the arrears before the retention period ends, the EIPs will be released and cannot be restored. To ensure the availability of your EIPs, top up your account and pay off the arrears before they expire.

 Frozen EIPs will be available after you renew them or top up your account. You can renew your resources on the management console. For more details, see Renewal Management.

Attacks

EIPs will be frozen if their associated instances have security violations, such as attacks. Frozen EIPs are unavailable and cannot be modified or released. To unfreeze EIPs, create a service ticket. You can change an EIP for an instance by referring to How Do I Unbind an EIP from an Instance and Bind a New EIP to the Instance?

Violations

The server bound to the EIP is suspected of violations and the EIP is frozen by the national supervision department. If you have confirmed that you have not been involved in any violation, contact the national supervision department to file an appeal. If the appeal is successful, Huawei Cloud will receive an unsealing instruction to unfreeze your resources. You can change an EIP for an instance by referring to How Do I Unbind an EIP from an Instance and Bind a New EIP to the Instance?

1.18 How Do I Query the Traffic Usage of My EIP?

Description

I want to view the amount of traffic consumed by my EIP.

Notes and Constraints

Only the usage of pay-per-use EIPs billed by traffic can be queried.

Procedure

- 1. Log in to the management console.
- On the top menu bar, choose Billing & Costs > Bills.
 The Dashboard page is displayed.
- 3. Choose **Billing** > **Expenditure Details** and sort by usage.
- 4. View the traffic usage on the displayed page.

1.19 When Should I Use Premium BGP and Are There Any Limitations on Using Premium BGP?

Scenario: Premium BGP chooses the optimal path and ensures low-latency and high-quality networks. BGP is used to interconnect with lines of multiple mainstream carriers. Public network connections that feature low latency and high quality are directly established between Chinese mainland and Hong Kong (China).

Limitations

- Bandwidths of the premium BGP type are available only in **CN-Hong Kong**.
- Premium EIPs can be billed on a yearly/monthly or pay-per-use basis.
- Only premium BGP EIPs can be added to shared bandwidths of the premium BGP type.
- Premium BGP does not support shared data packages and bandwidth add-on packages.

2 Billing and Payments

2.1 How Is an EIP Billed?

There are yearly/monthly and pay-per-use billing modes. Each one has different advantages and disadvantages. Yearly/Monthly: You pay upfront for the amount of time you expect to use the EIP for. You will need to make sure your account has a sufficient balance or you have a valid payment method configured first. Pay-per-use: You can start using the EIP first and then pay as you go. You are billed based on the EIP usage duration (by bandwidth) or used traffic (by traffic).

You will be billed for the EIP and fixed bandwidth.

- EIP reservation price
 - If your pay-per-use EIP has no instance bound, you will be billed for the EIP reservation price.
- Fixed bandwidth
 - EIP bandwidth prices: bandwidth prices of yearly/monthly EIPs and payper-use EIPs (by bandwidth); traffic price of pay-per-use EIPs (by traffic)
 - Shared bandwidth price
 - Shared data package price

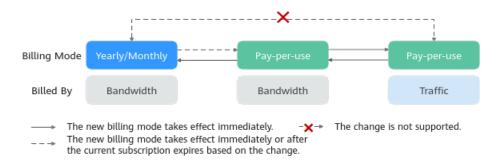
For details, see **EIP Billing**.

2.2 How Do I Change My EIP Billing Mode Between Pay-per-Use and Yearly/Monthly?

Table 2-1 Billing mode change description

Change	Description
From yearly/monthly to pay- per-use	An EIP billed on a yearly/monthly basis can be directly changed to be billed on a pay-per-use basis (billed by bandwidth).
	 An EIP billed on a yearly/monthly basis cannot be directly changed to be billed on a pay-per-use basis (billed by traffic). To change this:
	 Change the yearly/monthly EIP to be billed by bandwidth on a pay-per-use basis.
	 Change the EIP billed by bandwidth on a pay-per-use basis to be billed by traffic on a pay-per-use basis.
	The new billing mode takes effect only after the yearly/monthly subscription expires, if you want to change the EIP to be billed by bandwidth on a pay-per-use basis upon expiration.
	The new billing mode takes effect immediately, if you want to change the EIP to be billed by bandwidth on a pay-per-use basis immediately.
From pay-per-use to yearly/ monthly	An EIP that is billed by bandwidth on a pay- per-use basis can be directly changed to be billed on a yearly/monthly basis.
	 An EIP that is billed by traffic on a pay-per- use basis cannot be directly changed to be billed on a yearly/monthly basis. To change this:
	 Change the EIP billed by traffic on a pay- per-use basis to be billed by bandwidth on a pay-per-use basis.
	 Change the EIP billed by bandwidth on a pay-per-use basis to be billed on a yearly/ monthly basis.
	After the change is successful, the new billing mode takes effect immediately.

FAQs



From Yearly/Monthly to Pay-Per-Use upon Expiration (Billed by Bandwidth)

- 1. Log in to the management console.
- 2. In the upper right corner of the page, choose **Billing & Costs** > **Renewal**.
- 3. In the resource list, search for the EIP whose billing mode needs to be changed.
- 4. Locate the row that contains the EIP and choose **More** > **Change to Pay-per- Use After Expiration** in the **Operation** column.
- 5. Confirm the information and click **Change to Pay-per-Use**.

 After the operation is complete, the yearly/monthly EIP is changed to be billed by bandwidth on a pay-per-use basis.

From Pay-per-Use (Billed by Bandwidth) to Yearly/Monthly

- 1. Log in to the management console.
- 2. Click $^{\bigcirc}$ in the upper left corner and select the desired region and project.
- 3. Click \equiv in the upper left corner and choose **Networking** > **Elastic IP**.
- 4. In the EIP list, change the billing mode of a single EIP or multiple EIPs from pay-per-use (billed by bandwidth) to yearly/monthly.
 - Single EIP:
 Locate the row that contains the EIP and click Change Billing Mode in the Operation column.
 - Multiple EIPs:
 Select EIPs and click Change Billing Mode in the upper left corner of the
- 5. In the displayed dialog box, confirm the information and click **Yes**.
- 6. On the **Change Subscriptions** page, set parameters such as **Renewal Duration**.
- 7. Click **Pay**.

2.3 How Do I Change the Billing Option of a Pay-per-Use EIP Between By Bandwidth and By Traffic?

Table 2-2 EIP billing mode change description

Change	Description
From billing by traffic (pay- per-use) to billing by	A pay-per-use EIP billed by traffic can be directly changed to be billed by bandwidth.
bandwidth (pay-per-use)	After the change is successful, the new billing mode takes effect immediately.
From billing by bandwidth (pay-per-use) to billing by	A pay-per-use EIP billed by bandwidth can be directly changed to be billed by traffic.
traffic (pay-per-use)	After the change is successful, the new billing mode takes effect immediately.

Pay-per-Use EIPs: From Billing By Traffic to By Bandwidth

- 1. Log in to the management console.
- 2. Click in the upper left corner and select the desired region and project.
- 3. Click \equiv in the upper left corner and choose **Networking** > **Elastic IP**.
- 4. In the EIP list, locate the row that contains the EIP, click **More** in the **Operation** column, and click **Modify Bandwidth**.
- 5. On the **Modify Bandwidth** page, change the billing option as prompted. You can also change the bandwidth name and size.
- 6. Click Next.
- 7. On the displayed page, confirm the configurations and click **Submit**.

- Changing the billing options does not change EIPs or interrupt their use.
- The preceding change scenarios apply only to pay-per-use EIPs.
- Yearly/monthly EIPs cannot be directly changed to pay-per-use EIPs billed by traffic. If the change is required, refer to How Do I Change My EIP Billing Mode Between Payper-Use and Yearly/Monthly?

2.4 Why Am I Still Being Billed After My EIP Has Been Unbound or Released?

Symptom

After my EIP is unbound from an instance or is released, the EIP is still being billed.

Yearly/monthly EIPs are prepaid and you have already paid for the EIPs during the validity period. Unbinding an EIP or modifying its bandwidth does not affect the fees. This section describes the possible causes only for pay-per-use EIPs.

Possible Causes

Table 2-3 Possible causes that pay-per-use EIPs are billed

EIP Status	Billed By	Possible Cause
EIP is unbound from an instance.	Pay-per-use EIP billed by traffic	 EIP reservation price): If a pay-per-use EIP is unbound from an instance, the EIP (reservation price) will be billed. If your EIP is no longer required, release it to stop the billing. Traffic: will not be billed.
	Pay-per-use EIP billed by bandwidth	 EIP reservation price): If a pay-per-use EIP is unbound from an instance, the EIP (reservation price) will be billed. If your EIP is no longer required, release it to stop the billing. Bandwidth: will continue to be billed. If you do not want to pay for the bandwidth, change the EIP from billing by bandwidth to by traffic.
	Pay-per-use EIP added to a shared bandwidth	 EIP reservation price): If a pay-per-use EIP is unbound from an instance, the EIP (reservation price) will be billed. If your EIP is no longer required, release it to stop the billing. Shared bandwidth: will continue to be billed. A shared bandwidth and an EIP are billed separately. Unbinding and releasing an EIP will not affect the billing of the shared bandwidth. If you do not need the shared bandwidth anymore, delete it.
EIP is released.	 Pay-per-use EIP billed by traffic Pay-per-use EIP billed by bandwidth 	The EIP, traffic, and bandwidth will stop being billed. If you find that you are still being billed, check whether your account has a shared bandwidth.
	Pay-per-use EIP added to a shared bandwidth	A shared bandwidth and an EIP are billed separately. Unbinding and releasing an EIP will not affect the billing of the shared bandwidth. If you do not need the shared bandwidth anymore, delete it.

FAQs

2.5 When Will I Be Billed for Reservation Price?

If your pay-per-use EIP has no instance bound, you will be billed for the EIP reservation price.

You will not be billed for pay-per-use EIPs bound to instances and yearly/monthly EIPs.

3 EIP Binding and Unbinding

3.1 How Do I Access an ECS with an EIP Bound from the Internet?

Each ECS is automatically added to a security group after being created to ensure its security. The security group denies access traffic from the Internet by default (except TCP traffic from port 22 through SSH to a Linux ECS and TCP traffic from port 3389 through RDP to a Windows ECS). To allow external access to ECSs in the security group, add an inbound rule to the security group.

You can set **Protocol** to **TCP**, **UDP**, **ICMP**, or **All** as required on the page for creating a security group rule.

- If your ECS needs to be accessible over the Internet and you know the IP address used to access the ECS, set **Source** to the IP address range containing the IP address.
- If your ECS needs to be accessible over the Internet but you do not know the IP address used to access the ECS, retain the default setting 0.0.0.0/0 for **Source**, and then set allowed ports to improve network security.
 - The default source **0.0.0.0/0** indicates that all IP addresses can access ECSs in the security group.
- Allocate ECSs that have different Internet access requirements to different security groups.

3.2 How Do I Access the Internet Using an EIP Bound to an Extension NIC?

1. After an EIP is bound to an extension NIC, log in to the ECS and use the **route** command to query the routes.

You can run **route --help** to learn more about the **route** command.

Figure 3-1 Viewing route information

```
[root@ecs-b926 ~]# route -n
Kernel IP routing table
Destination
                Gateway
                                                                       Use Iface
                                 Genmask
                                                  Flags Metric Ref
0.0.0.0
                192.168.11.1
                                 0.0.0.0
                                                  UG
                                                        0
                                                                         0 eth0
                                 255.255.0.0
                0.0.0.0
169.254.0.0
                                                        1002
                                                                         0 eth0
                                                               B
                                                  Ш
169.254.0.0
                                 255.255.0.0
                                                        1003
                0.0.0.0
                                                               В
                                                                         0 eth1
169.254.169.254 192.168.11.1
                                 255.255.255.255 UGH
                                                        Ø
                                                               Й
                                                                         0 eth0
192.168.11.0
                0.0.0.0
                                 255.255.255.0
                                                                         0 eth0
192.168.17.0
                0.0.0.0
                                 255.255.255.0
                                                                         0 eth1
[root@ecs-b926 ~]#
```

2. Run the **ifconfig** command to view NIC information.

Figure 3-2 Viewing NIC information

```
th0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
          inet 192.168.11.42 netmask 255.255.25 broadcast 192.168.11.255
         inet6 fe80::f816:3eff:fef7:1c44 prefixlen 64 scopeid 0x20<link>
ether fa:16:3e:f7:1c:44 txqueuelen 1000 (Ethernet)
         RX packets 127 bytes 21633 (21.1 KiB)
         RX errors 0 dropped 0 overruns 0 frame 0
         TX packets 258 bytes 22412 (21.8 KiB)
         TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
          inet 192.168.17.191 netmask 255.255.25.0 broadcast 192.168.17.255
         inet6 fe88::f816:3eff:fe1c:b57f prefixlen 64 scopeid 8x29<link> ether fa:16:3e:1c:b5:7f txqueuelen 1000 (Ethernet)
         RX packets 11 bytes 1283 (1.2 KiB)
         RX errors 0 dropped 0 overruns 0 frame 0
TX packets 12 bytes 1388 (1.3 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
          inet 127.0.0.1 netmask 255.0.0.0
          inet6 :: 1 prefixlen 128 scopeid 0x10<host>
          loop txqueuelen 1 (Local Loopback)
         RX packets 51 bytes 12018 (11.7 KiB)
RX errors 0 dropped 0 overruns 0 frame 0
TX packets 51 bytes 12018 (11.7 KiB)
             errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

- 3. Enable access to the Internet through the extension NIC by default.
 - a. Run the following command to delete the default route of the primary NIC:

route del -net 0.0.0.0 gw 192.168.11.1 dev eth0

192.168.11.1 is the gateway of the subnet that the NIC works. You can view the gateway on the **Summary** tab page of the subnet on the management console.

□ NOTE

This operation will interrupt ECS communication. It is recommended that you perform the configuration by following step 4.

b. Run the following command to configure the default route for the extension NIC:

route add default gw 192.168.17.1

4. Configure Internet access from the extension NIC based on your destination address.

Run the following command to configure access to a specified CIDR block (for example, xx.xx.0.0/16) through the extension NIC:

You can configure the CIDR block as required. route add -net xx.xx.0.0 netmask 255.255.0.0 gw 192.168.17.1

3.3 Can I Bind an EIP of an ECS to Another ECS?

Yes.

You can unbind the EIP from the original ECS. For details, see **Unbinding an EIP** from an Instance.

Then, bind the EIP to the target ECS. For details, see **Binding an EIP to an Instance**.

If you want to change an EIP for your ECS, refer to Changing an EIP.

3.4 Can Multiple EIPs Be Bound to an ECS?

Scenarios

Multiple EIPs can be bound to an ECS, but this operation is not recommended.

If an ECS has multiple NICs attached and you want to bind multiple EIPs to this ECS, you need to configure policy-based routes for these NICs so that these extension NICs can communicate with external works.

Operation Guide

This document describes how to configure policy-based routes for Linux and Windows ECSs. For details, see **Table 3-1**.

Table 3-1 Operation instructions

OS Type	IP Address Version	Procedure
Linux	IPv4	Take an ECS running CentOS 8.0 (64-bit) as an example.
	IPv6	Configuring Policy-based Routes for a Linux ECS with Multiple NICs (IPv4/IPv6)
Windows	IPv4	Take an ECS running Windows Server 2012
	IPv6	(64-bit) as an example. Configuring Policy-based Routes for a Windows ECS with Multiple NICs (IPv4/ IPv6)

3.5 Can I Bind an EIP to a Cloud Resource in Another Region?

No. EIPs and their associated cloud resources must be in the same region.

3.6 What Are the Differences Between Unbinding and Releasing an EIP?

Table 3-2 lists the differences between unbinding and releasing an EIP.

Table 3-2 Differences

Item	Unbinding an EIP	Release an EIP
Applicatio n scenarios	 Your instance no longer requires the EIP. You want to bind the EIP to another instance. 	If an EIP is no longer required, you can unbind it from your instance and then release it.
Pay-per- use EIP billing	 Billed by bandwidth: Both the EIP and its bandwidth will be billed. Billed by traffic: Only the EIP will be billed. Billed by shared bandwidth: Both the EIP and shared bandwidth will be billed. 	 Billed by bandwidth: Both the EIP and its bandwidth will not be billed. Billed by traffic: Both the EIP and traffic will not be billed. Billed by shared bandwidth: The EIP will not be billed. After the shared bandwidth is deleted, it will no longer be billed.

□ NOTE

Yearly/Monthly EIPs are billed based on your required duration. No operations on the EIP will affect its billing.

4 Bandwidth

4.1 What Bandwidth Types Are Available?

There are dedicated bandwidths and shared bandwidths. A dedicated bandwidth can only be used by one EIP, but a shared bandwidth can be used by multiple EIPs.

4.2 Is There a Limit to the Number of EIPs That Can Be Added to Each Shared Bandwidth?

A maximum of 20 EIPs can be added to each shared bandwidth. If you want to add more EIPs to each shared bandwidth, **submit a service ticket** to request a quota increase.

4.3 What Are the Differences Between a Dedicated Bandwidth and a Shared Bandwidth?

A dedicated bandwidth can only be used by one EIP that is bound to one cloud resource, such as an ECS, a NAT gateway, or a load balancer.

A shared bandwidth can be shared by multiple pay-per-use EIPs. Adding an EIP to or removing an EIP from a shared bandwidth does not affect your services.

A dedicated bandwidth cannot be changed to a shared bandwidth or the other way around. You can purchase a shared bandwidth for your pay-per-use EIPs.

- After you add an EIP to a shared bandwidth, the EIP will use the shared bandwidth.
- After you remove an EIP from a shared bandwidth, the EIP will use the dedicated bandwidth.

4.4 What Are Inbound Bandwidth and Outbound Bandwidth?

Bandwidth refers to the maximum amount of data that can be transmitted in a given amount of time (generally one second). A larger bandwidth value indicates a stronger transmission capability. Bandwidth is classified into public bandwidth and private bandwidth.

Public bandwidth is the bandwidth consumed when data is transferred between Huawei Cloud instances and the Internet. Public bandwidth is classified into inbound bandwidth and outbound bandwidth. For details the outbound bandwidth and inbound bandwidth, see Table 4-1.

Figure 4-1 Inbound bandwidth and outbound bandwidth

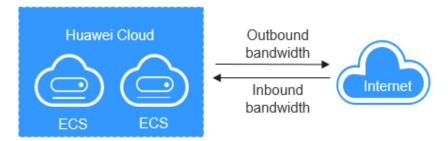


Table 4-1 Inbound bandwidth and outbound bandwidth

Туре	Description
Outbound bandwidth	Bandwidth consumed when data is transferred from Huawei Cloud to the Internet. For example, the outbound bandwidth is used when ECSs provide services accessible from the Internet and FTP clients download resources from the ECSs.
	Huawei Cloud only charges for the outbound bandwidth.
	NOTE
	To view the bandwidth usage , see Viewing Metrics .
	To view bandwidth billing details, see Bills.

Туре	Description
Inbound bandwidth	Bandwidth consumed when data is transferred from the Internet to Huawei Cloud. For example, the inbound bandwidth is used when resources are downloaded from the Internet to ECSs and FTP clients upload resources to the ECSs.
	The maximum inbound bandwidth depends on the size of the outbound bandwidth.
	If your purchased bandwidth is less than or equal to 10 Mbit/s, the inbound bandwidth will be 10 Mbit/s, and the outbound bandwidth will be the same as the purchased bandwidth.
	 If your purchased bandwidth is greater than 10 Mbit/s, the outbound and inbound bandwidth will be the same as the purchased bandwidth.
	The preceding bandwidth limit is not applicable in CN North-Beijing1 and CN East-Shanghai2 .

4.5 How Do I Know If My EIP Bandwidth Limit Has Been Exceeded?

Symptom

The bandwidth size configured when you buy a dedicated or shared bandwidth is the upper limit of the outbound bandwidth. If an ECS running your web applications cannot be accessed smoothly from the Internet, check whether the outbound bandwidth of the EIP bound to the ECS is greater than the configured bandwidth size.

□ NOTE

If the outbound bandwidth exceeds the configured bandwidth size, there may be packet loss. To prevent data loss, it is recommended that you monitor the bandwidth.

Troubleshooting

The issues here are described in order of how likely they are to occur.

Troubleshoot the issue by ruling out the causes described here, one by one.

Figure 4-2 Troubleshooting

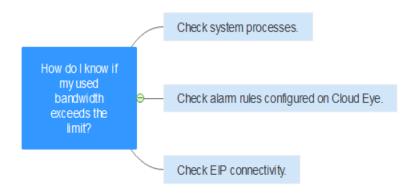


Table 4-2 Troubleshooting

Possible Cause	Description	Solution
System processes leading to high bandwidth	If some heavy-duty system processes or applications running on your ECS are causing the high bandwidth or CPU usage, your ECS will run slowly or may unexpectedly be inaccessible.	See System Processes Leading to High Bandwidth Usage
Improper Cloud Eye alarm rules	If you have created alarm rules for bandwidth usage on the Cloud Eye console, where the outbound bandwidth limit or the alarm period is set too small, the system may generate excessive alarms.	See Improper Cloud Eye Alarm Rules
EIP connection failure	An ECS with an EIP bound cannot access the Internet.	See Why Can't My ECS Access the Internet Even After an EIP Is Bound?

System Processes Leading to High Bandwidth Usage

If some heavy-duty system processes or applications running on your ECS are causing the high bandwidth or CPU usage, your ECS will run slowly or may unexpectedly be inaccessible.

You can refer to the following to locate the processes that have led to excessively high bandwidth or CPU usage, and optimize or stop the processes.

FAQs

- Why Is My Windows ECS Running Slowly?
- Why Is My Linux ECS Running Slowly?

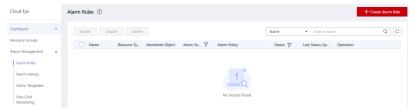
Improper Cloud Eye Alarm Rules

If you have created alarm rules for bandwidth usage on the Cloud Eye console, where the outbound bandwidth limit or the alarm period is set too small, the system may generate excessive alarms.

You need to set an appropriate alarm rule based on your purchased bandwidth. For example, if your purchased bandwidth is 5 Mbit/s, you can create an alarm rule to report an alarm when the maximum outbound bandwidth reaches 4.8 Mbit/s three periods in a row. You can also increase your bandwidth.

 Log in to the management console, under Management & Deployment, click Cloud Eye. On the Cloud Eye console, choose Alarm Management > Alarm Rules.

Figure 4-3 Alarm Rules



2. Click **Create Alarm Rule** and configure an alarm rule to generate alarms when the bandwidth exceeds the configured limit.

Figure 4-4 Creating an alarm rule



Submitting a Service Ticket

If the problem persists, submit a service ticket.

4.6 What Are the Differences Between Public Bandwidth and Private Bandwidth?

Public Bandwidth

Public bandwidth is the bandwidth consumed when data is transferred between Huawei Cloud instances and the Internet. You can configure the public bandwidth when creating an ECS or bind an EIP to an ECS after the ECS is created.

Public bandwidth is classified into inbound bandwidth and outbound bandwidth.

Inbound bandwidth is the bandwidth consumed when data is transferred from the Internet to Huawei Cloud. For example, when resources are downloaded from the Internet to ECSs, that consumes inbound bandwidth.

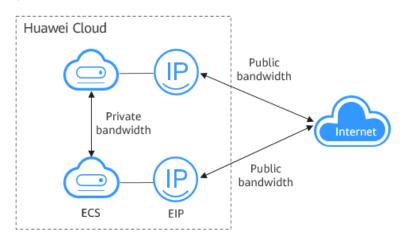
Outbound bandwidth is the bandwidth consumed when data is transferred from Huawei Cloud to the Internet. For example, when ECSs provide services accessible from the Internet and external users download resources from the ECSs, that consumes outbound bandwidth.

Private Bandwidth

Private bandwidth is the bandwidth consumed when data is transferred between ECSs in the same region and on the same private network. ECSs can also be connected to cloud databases, load balancers, and OBS through private bandwidth. The private bandwidth size depends on the instance specifications.

For details, see **ECS Types**.

Figure 4-5 Public bandwidth and private bandwidth



4.7 Can I Increase My Bandwidth Billed on Yearly/ Monthly Basis and Then Decrease It?

You can increase bandwidth for a yearly/monthly EIP any time you want to, and the change takes effect immediately. But you can only decrease it when you renew the EIP subscription, and the decreased bandwidth will not take effect until the next billing cycle. For details, see **Modifying an EIP Bandwidth**.

4.8 What Is the Relationship Between Bandwidth and Upload/Download Rate?

The bandwidth is measured in bit/s, but the download rate is measured in byte/s.

1 byte = 8 bits, that is, download rate = bandwidth/8

Due to various issues such as computer performance, network device quality, resource usage, and network peak hours, if the bandwidth is 1 Mbit/s, the actual upload or download rate is generally lower than 125 kByte/s (1 Mbit/s = 1,000 Kbit/s, upload or download rate = 1,000/8 = 125 kByte/s).

4.9 What Are the Differences Among Static BGP, Dynamic BGP, and Premium BGP?

Border Gateway Protocol (BGP) is a routing protocol used between autonomous systems (ASs). BGP is the only protocol that can process many connections between unrelated routing domains. The EIP service connects to networks provided by China Unicom, China Telecom, China Mobile, and other carriers.

When assigning an EIP, you can select from the following EIP types:

- Static BGP routes are manually configured by network carriers.
- Dynamic BGP provides automatic failover and chooses the optimal path when a network connection fails.
- Premium BGP chooses the optimal path and ensures low-latency and high-quality networks. BGP is used to interconnect with lines of multiple mainstream carriers. Public network connections that feature low latency and high quality are directly established between the Chinese mainland and Hong Kong (China). (Premium BGP is available only in CN-Hong Kong.)

For details about static BGP, dynamic BGP, and premium BGP and their differences, see **Table 4-3**.

Table 4-3 Differences among static BGP, dynamic BGP, and premium BGP

Item	Static BGP	Dynamic BGP	Premium BGP
Definitio n	Static routes are manually configured and must be manually reconfigured anytime when the network topology or link status changes.	Dynamic BGP provides automatic failover and chooses the optimal path based on the realtime network conditions as well as preset policies.	Premium BGP chooses the optimal path and ensures low-latency and high-quality networks. BGP is used to interconnect with lines of multiple mainstream carriers. Public network connections that feature low latency and high quality are directly established between Chinese mainland and Hong Kong (China).

Item	Static BGP	Dynamic BGP	Premium BGP	
Assuran	When changes occur on a network that uses static BGP, the manual configuration takes some time and high availability cannot be guaranteed. If you select static BGP, your application system must have disaster recovery setups in place.	When a fault occurs on a carrier's link, dynamic BGP will quickly select another optimal path to take over services, ensuring service availability. Currently, carriers in China that support dynamic BGP routing include China Telecom, China Mobile, China Unicom, China Education and Research Network (CERNET), National Radio and Television Administration, and Dr. Peng Group.	Premium BGP has the same assurance capability as that of dynamic BGP. In addition, premium BGP ensures higher network quality and lower latency. Currently, mainstream carriers in Hong Kong (China) are supported.	
Advanta ges	This is a more cost- effective option that allows resources to access the Internet over a single carrier network. The routes can be manually configured.	The BGP public network egress supports switchover across domains within seconds, providing your users with highspeed and secure networks.	 Premium BGP chooses the optimal path for access from the abroad. It allows users in the Chinese mainland to access crossborder applications faster. 	
Service availabil ity	99%	99.95%	99.95%	
Billing	Their price from least to most expensive: static BGP, dynamic BGP, and premium BGP. For details, see EIP Pricing Details .			

□ NOTE

For more information about service availability, see **Huawei Cloud Service Level Agreement**.

5 Connectivity

5.1 What Are the Priorities of the Custom Route and EIP If Both Are Configured for an ECS to Enable the ECS to Access the Internet?

The priority of an EIP is higher than that of a custom route in a VPC route table. For example:

The VPC route table of an ECS has a custom route with 0.0.0.0/0 as the destination and NAT gateway as the next hop.

If an ECS in the VPC has an EIP bound, the VPC route table will have a policy-based route with 0.0.0.0/0 as the destination, which has a higher priority than its custom route. In this case, traffic is forwarded to the EIP and cannot reach the NAT gateway.

5.2 Why Can't My ECS Access the Internet Even After an EIP Is Bound?

Symptom

An ECS with an EIP bound cannot access the Internet.

Troubleshooting

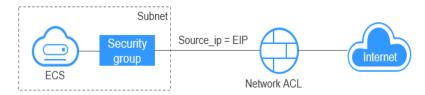
Checking Whether EIPs Are Blocked or Frozen

- Check whether the EIP is blocked. For details, see How Do I Unblock an EIP?
- Check whether the EIP is frozen. For details, see Why My EIPs Are Frozen? How Do I Unfreeze My EIPs?

Checking EIP Connectivity

Figure 5-1 shows the networking diagram for an ECS to access the Internet using an EIP.

Figure 5-1 EIP network diagram



Locate the fault based on the following procedure.

Figure 5-2 Troubleshooting procedure



- 1. Step 1: Check Whether the ECS Is Running Properly
- 2. Step 2: Check Whether the Network Configuration of the ECS Is Correct
- 3. Step 3: Check Whether an EIP Has Been Assigned and Bound to the ECS

- 4. Step 4: Check Whether an EIP Is Bound to the Primary NIC of the ECS
- 5. Step 5: Check Whether Required Security Group Rules Have Been Configured.
- 6. Step 6: Check Whether Traffic from the ECS Subnet Is Blocked

Step 1: Check Whether the ECS Is Running Properly

Check the ECS status.

If the ECS status is not **Running**, start or restart the ECS.

Figure 5-3 ECS status



Step 2: Check Whether the Network Configuration of the ECS Is Correct

1. Check whether the ECS NIC has an IP address assigned.

Log in to the ECS, and run **ifconfig** or **ip address** to check the ECS NIC IP address.

If both the primary and extension NICs of an ECS have an EIP bound, check whether the ECS has policy-based routes configured. If policy-based routes are not configured, refer to Configuring Policy-based Routes for a Linux ECS with Multiple NICs (IPv4/IPv6).

If the ECS runs Windows, run ipconfig.

2. Check whether the ECS NIC has a virtual IP address.

Log in to the ECS, and run **ifconfig** or **ip address** to check whether the ECS NIC has a virtual IP address. If the ECS NIC has no virtual IP address, run the **ip addr add** *virtual IP address* **eth0** command to configure an IP address for the ECS NIC.

Figure 5-4 Virtual IP address of a NIC

```
[root@demoserver ~]# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
      valid_lft forever preferred_lft forever
   inet6 ::1/128 scope host
   valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP qlen 1000
   link/ether fa:16:3e:37:7b:62 brd ff:ff:ff:ff:ff
   inet 192.168.1.30/24 brd 192.168.1.255 scope global dynamic eth0
   valid_lft #84950sec_preferred_lft #84950sec
   inet 192.168.1.192/24 scope global secondary eth0
   valid_lft forever_preferred_lft forever
   inet6 fe80::f816:3eff:fe37:7b62/64 scope link
   valid_lft forever_preferred_lft forever
```

Check whether the ECS NIC has a default route. If there is no default route, run **ip route add** to add one.

Figure 5-5 Default route

```
192.168.1.0/24 dev eth0 proto kernel scope link src 192.168.1.200
192.168.1.0/24 dev eth1 proto kernel scope link src 192.168.1.179
169.254.0.0/16 dev eth0 scope link metric 1002
default via 192.168.1.1 dev eth0 proto static
-bash-4.1#
```

Step 3: Check Whether an EIP Has Been Assigned and Bound to the ECS

Check whether an EIP has been assigned and bound to the ECS. If no EIP has been assigned, assign an EIP and bind it to the ECS.

The ECS shown in **Figure 5-6** has no EIP bound. It only has a private IP address bound.

Figure 5-6 EIP status



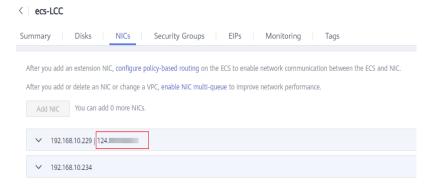
Step 4: Check Whether an EIP Is Bound to the Primary NIC of the ECS

Check whether an EIP is bound to the primary NIC of the ECS. If there is no EIP bound to the primary NIC of the ECS, bind one.

You can view the NIC details by clicking the **NICs** tab on the ECS details page. By default, the first record in the list is the primary NIC.

As shown in Figure 5-7, the EIP is bound to the primary NIC.

Figure 5-7 Checking whether the EIP is bound to the primary NIC of the ECS



Step 5: Check Whether Required Security Group Rules Have Been Configured.

For details about how to add security group rules, see **Adding a Security Group Rule**.

If security group rules have not been configured, configure them based on your service requirements. (The remote IP address indicates the allowed IP address, and **0.0.0.0/0** indicates that all IP addresses are allowed.)

Step 6: Check Whether Traffic from the ECS Subnet Is Blocked

Check whether the network ACL of the NIC subnet blocks certain traffic from the subnet.

You can configure the network ACL on the VPC console. Make sure that the network ACL rules allow the traffic from the ECS subnet.

Submitting a Service Ticket

If the EIP still cannot communicate with the Internet after you perform all the steps above, **submit a service ticket**.

Provide the following information to technical support.

Item	Description	Example	Value
VPC CIDR block	Required for gateway configuration	Example: 10.0.0.0/16	N/A
VPC ID	N/A	Example: 120b71c7-94ac-45b8-8e d6-30aafc8fbdba	N/A
CIDR block of subnet 1 (can be the same as the VPC CIDR block)	N/A	Example: 10.0.1.0/24	N/A
ECS ID	N/A	N/A	N/A
ECS IP address	N/A	Example: 192.168.1.192/24	N/A
ECS route information	N/A	N/A	N/A
EIP	Required for the ECS to access the Internet	Example: 10.154.55.175	N/A
EIP bandwidth	Maximum bandwidth size used by the ECS to access the Internet	Example: 1 Mbit/s	N/A
EIP ID	N/A	Example: b556c80e-6345-4003- b512-4e6086abbd48	N/A

5.3 Why Can't an EIP Be Pinged?

Symptom

After you purchase an EIP and bind it to an ECS, the EIP cannot be pinged on a local server or other cloud servers.

Fault Locating

Checking EIPs

- Check whether the EIP is blocked. For details, see How Do I Unblock an EIP?
- Check whether the EIP is frozen. For details, Why My EIPs Are Frozen? How Do I Unfreeze My EIPs?

Checking EIP Connectivity

The following fault causes are sequenced based on their occurrence probability. If the fault persists after you have ruled out a cause, check other causes.

Figure 5-8 Method of locating the failure to ping an EIP



Table 5-1 Method of locating the failure to ping an EIP

Possible Cause	Solution
ICMP access rules are not added to the security group.	Add ICMP access rules to the security group. For details, see Checking Security Group Rules.
Ping operations are prohibited on the firewall.	Allow ping operations on the firewall. For details, see Checking Firewall Settings.
Ping operations are prohibited on the ECS.	Allow ping operations on the ECS. For details, see Checking Whether Ping Operations Have Been Disabled on the ECS.
Network ACL is associated.	If the VPC is associated with a network ACL, check the network ACL rules. For details, see Checking ACL Rules .
A network exception occurred.	Use another ECS in the same region to check whether the local network is functional. For details, see Checking Whether the Network Is Functional.

Possible Cause	Solution
Routes are incorrectly configured if multiple NICs are used.	If the network is inaccessible due to an extension NIC, the fault is generally caused by incorrect route configurations. To resolve this issue, see Checking the ECS Route Configuration If Multiple NICs Are Used.
The domain name is not ICP licensed.	If the domain name cannot be pinged or cannot be resolved, see Checking Domain Name Resolution If the Domain Name Cannot Be Pinged to resolve this issue.

Checking Security Group Rules

ICMP is used for the ping command. Check whether the security group accommodating the ECS allows ICMP traffic.

- 1. Log in to the management console.
- 2. Click in the upper left corner and select your region and project.
- 3. Under Compute, click Elastic Cloud Server.
- 4. On the **Elastic Cloud Server** page, click the name of the target ECS. The page providing details about the ECS is displayed.
- 5. Click the **Security Groups** tab, expand the information of the security group, and view security group rules.
- Click the security group ID.
 The system automatically switches to the **Security Group** page.
- 7. On the **Outbound Rules** page, click **Add Rule**. In the displayed dialog box, set required parameters to add an outbound rule.

Figure 5-9 Adding an outbound rule

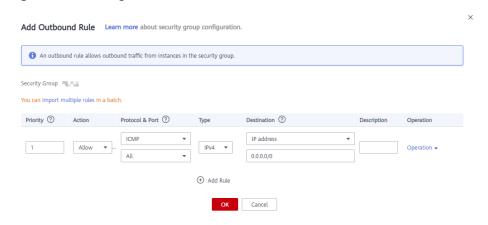


Table 5-2 Security group rules

Transfer Direction	Туре	Protocol/Port Range	Source
Outboun d	IPv4	ICMP/Any	0.0.0.0/0 0.0.0.0/0 indicates all IP addresses.

8. On the **Inbound Rules** tab, click **Add Rule**. In the displayed dialog box, set required parameters to add an inbound rule.

Figure 5-10 Adding an inbound rule

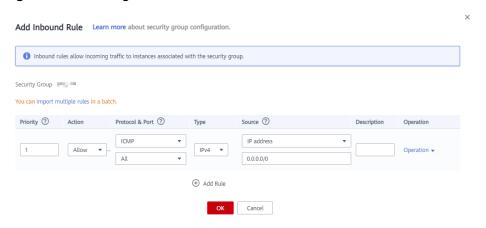


Table 5-3 Security group rules

Transfer Direction	Туре	Protocol/Port Range	Source
Inbound	IPv4	ICMP/Any	0.0.0.0/0
			0.0.0.0/0 indicates all IP addresses.

9. Click **OK** to complete the security rule configuration.

Checking Firewall Settings

If a firewall is enabled on the ECS, check whether the firewall blocks the ping operations.

Linux

1. Consider CentOS 7 as an example. Run the following command to check the firewall status:

firewall-cmd --state

If **running** is displayed in the command output, the firewall has been enabled.

2. Check whether there is any ICMP rule blocking the ping operations.

iptables -L

If the command output shown in **Figure 5-11** is displayed, there is no ICMP rule blocking the ping operations.

Figure 5-11 Checking firewall rules

```
root@ecs-3c4e ~]# iptables -L
Chain INPUT (policy ACCEPT)
target
          prot opt source
                                        destination
ACCEPT
          icmp -- anywhere
                                        anywhere
                                                            icmp echo-request
Chain FORWARD (policy ACCEPT)
          prot opt source
                                        destination
Chain OUTPUT (policy ACCEPT)
target prot opt source
                                        destination
ACCEPT
          icmp -- anywhere
                                        anywhere
                                                            icmp echo-reply
root@ecs-3c4e ~]#
```

If the ping operations are blocked by an ICMP rule, run the following commands to modify the rule for unblocking:

iptables -A INPUT -p icmp --icmp-type echo-request -j ACCEPT iptables -A OUTPUT -p icmp --icmp-type echo-reply -j ACCEPT

Windows

- 1. Log in to the Windows ECS, click the Windows icon in the lower left corner of the desktop, and choose **Control Panel** > **Windows Firewall**.
- 2. Click Turn Windows Firewall on or off.

View and set the firewall status.

- 3. If the firewall is On, go to 4.
- 4. Check the ICMP rule statuses in the firewall.
 - In the navigation pane on the Windows Firewall page, click Advanced settings.
 - b. Enable the following rules:

Inbound Rules: File and Printer Sharing (Echo Request - ICMPv4-In)
Outbound Rules: File and Printer Sharing (Echo Request - ICMPv4-Out)

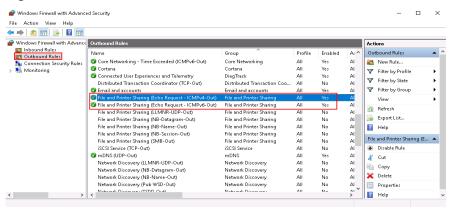
If IPv6 is enabled, enable the following rules:

Inbound Rules: File and Printer Sharing (Echo Request - ICMPv6-In)
Outbound Rules: File and Printer Sharing (Echo Request - ICMPv6-Out)

File Action View Help Actions Connection Security Rules New Rule. Filter by Profile Filter by Group File and Printer Sharing File Sharing File and Printer Sharing File and Pinter Sharing (Echo Request - (CMMPeUn)
File and Pinter Sharing (Echo Request - (CMMPeUn)
File and Pinter Sharing (LMMN-UDP-In)
File and Pinter Sharing (MB-Ungaran-In)
File and Pinter Sharing (MB-Ungaran-In)
File and Pinter Sharing (MB-Stasion-In)
File and Pinter Sharing (MB-Stasion-In)
File and Pinter Sharing (SMB-In)
File and Pinter Sharing (SMB-In)
File and Pinter Sharing (Spooler Service - RPC-FPMAP)
File and Pinter Sharing (Spooler Service - RPC-FPMAP)
File and Pinter Sharing (Spooler Service - RPC-FPMAP)
File and Pinter Sharing over SMBDIrect (IWARP-In)
ISCS Service (TCP-In) Refresh Export List... File and Printer Sharing (E... Disable RuleCut Copy Key Management Service (TCP-In) Key Management Service Properties ☑ Help

Figure 5-12 Inbound Rules

Figure 5-13 Outbound Rules



Checking Whether Ping Operations Have Been Disabled on the ECS

Windows

Enable ping operations using the CLI.

- 1. Start the **Run** dialog box. Enter **cmd** and press **Enter**.
- 2. Run the following command to enable ping operations:

netsh firewall set icmpsetting 8

Linux

Check the ECS kernel parameters.

- 1. Check the **net.ipv4.icmp_echo_ignore_all** value in the **/etc/sysctl.conf** file. Value **0** indicates that ping operations are allowed, and value **1** indicates that ping operations are prohibited.
- 2. Allow ping operations.
 - Run the following command to temporarily allow the ping operations:
 #echo 0 >/proc/sys/net/ipv4/icmp_echo_ignore_all
 - Run the following command to permanently allow the ping operations:
 net.ipv4.icmp_echo_ignore_all=0

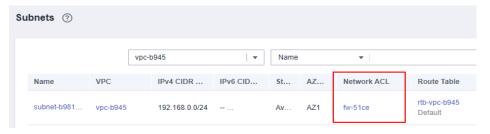
Checking ACL Rules

By default, no ACL is configured for a VPC. If a network ACL is associated with a VPC, check the ACL rules.

1. Check whether the subnet of the ECS has been associated with a network ACL.

If an ACL name is displayed, the network ACL has been associated with the ECS

Figure 5-14 Network ACL



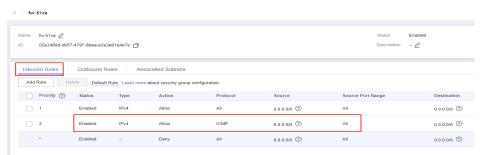
2. Click the ACL name to view its status.

Figure 5-15 Enabled network ACL



3. If the network ACL is enabled, add an ICMP rule to allow traffic.

Figure 5-16 Adding an ICMP rule



□ NOTE

The default network ACL rule denies all incoming and outgoing packets. If a network ACL is disabled, the default rule is still effective.

Checking Whether the Network Is Functional

1. Use another ECS in the same region to check whether the local network is functional.

Use another ECS in the same region to ping the affected EIP. If the EIP can be pinged, the VPC is functional. In such a case, rectify the local network fault and ping the affected EIP again.

2. Check whether the link is accessible.

A ping failure is caused by packet loss or long delay, which may be caused by link congestion, link node faults, or heavy load on the ECS.

For details, see **How Do I Troubleshoot a Ping Failure or Packet Loss Using** a Link Test?

Checking the ECS Route Configuration If Multiple NICs Are Used

Generally, the default route of an OS will preferentially select the primary NIC. If an extension NIC is selected in a route and the network malfunctions, this issue is typically caused by incorrect route configuration.

- If the ECS has multiple NICs, check whether the default route is available.
 - a. Log in to the ECS and run the following command to check whether the default route is available:

ip route

Figure 5-17 Default route

```
[root@do-not-del-scy~]# ip route
default via 192.168.2.1 dev eth0
169.254.0.0/16 dev eth0 scope link metric 1002
169.254.169.254 via 192.168.2.1 dev eth0 proto static
192.168.2.0/24 dev eth0 proto kernel scope link src 192.168.2.112
```

b. If the route is unavailable, run the following command to add it:

ip route add default via XXXX dev eth0

In the preceding command, XXXX specifies a gateway IP address.

 If the ECS has multiple NICs and the EIP is bound to an extension NIC, configure policy routing on the ECS for network communication with the extension NIC.

For details, see **How Do I Configure Policy-Based Routes for an ECS with Multiple NICs?**

Checking Domain Name Resolution If the Domain Name Cannot Be Pinged

If you can ping the EIP but not the domain name, the possible cause is that an error occurred in domain name resolution.

1. Check the domain name resolution.

If the domain name records are incorrectly configured, the domain name may fail to be resolved.

Switch to the DNS management console to view details about the domain name resolution.

2. Check the DNS server configuration.

If the system shows no server found after you ping a domain name, this issue may be caused by slow response from the DNS server. In such a case, see **Troubleshooting Slow Access of a Website Outside the Chinese Mainland over an ECS**.

5.4 How Do I Unblock an EIP?

If the bandwidth of an EIP exceeds the threshold or an attack (usually a DDoS attack) occurs, the EIP will be blocked.

Blocked EIPs will be automatically unblocked 24 hours later if no attack occurs. To unblock the EIPs in advance and prevent attacks, you need to configure **Advanced Anti-DDoS**.

If the blocked EIP is continuously attacked, assign a new EIP and release the blocked one. For details, see **How Do I Unbind an EIP from an Instance and Bind a New EIP to the Instance?**

5.5 Why Is There Network Jitter or Packet Loss During Cross-Border Communications?

If there is network jitter or packet loss during cross-border communications using dynamic BGP EIPs and bandwidths, this is caused by carrier line congestion or switchover and will be restored quickly.

If your communication between Hong Kong (China) and Chinese Mainland requires low-latency and high-quality public networks, buy premium BGP EIPs and bandwidths in CN-Hong Kong.

If the network jitter or packet loss persists after the preceding steps are performed, submit a service ticket. For details about how to submit a service ticket, see **Submitting a Service Ticket**.

5.6 Why Does the Download Speed of My ECS Is Slow?

If the download speed of an ECS is slow, check the following:

- Bandwidth limit exceeded: Your used bandwidth exceeds its limit and the limiting policy of the bandwidth takes effect, causing packet loss and slowing down the access. You can check the bandwidth usage or increase the bandwidth.
 - If your service traffic continues to be high, you can increase the bandwidth by referring to **Modifying a Shared Bandwidth**.
- The memory usage of the ECS is higher than 80%.
 For details, see Why Is My Linux ECS Running Slowly? or Why Is My Windows ECS Running Slowly?
- Unstable carrier lines: The network between the local server and the cloud is unstable. Contact the carrier to check the network status.

 Unstable cross-border lines: Latency, jitter, or packet loss occasionally occurs due to cross-border line congestion, switchover, or limits on bandwidth going out of China.

For details, see Why Accessing a Website Outside the Chinese Mainland Is Slow on an ECS? and Why Is There Network Jitter or Packet Loss During Cross-Border Communications?

You can also use a server outside China to upload files to your mailbox or web disk, and then access your mailbox or web disk in China to download the files to your local server.

6 Change History

Released On	Description
2024-01-10	This release incorporates the following changes: Added What Are the Differences Between Unbinding and Releasing an EIP?
2023-04-11	This release incorporates the following change: Modified description of the public network bandwidth limit rule in What Are Inbound Bandwidth and Outbound Bandwidth?
2022-10-30	This release incorporates the following changes: Added Why Does the Download Speed of My ECS Is Slow?