

Alibaba Cloud

Elastic IP Address FAQ

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Document conventions









Style	Description	Example
 Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
 Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: If the weight is set to 0, the server no longer receives new requests.
 Note	A note indicates supplemental instructions, best practices, tips, and other content.	 Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings > Network > Set network type .
Bold	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click OK .
<code>Courier font</code>	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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1. Billing

This topic provides answers to some frequently asked questions about the billing of elastic IP addresses (EIPs).

- [Can I renew multiple subscription EIPs at a time?](#)
- [Why am I still charged after I release a pay-as-you-go EIP?](#)
- [Why do I need to set a maximum bandwidth value for a pay-by-data-transfer EIP?](#)
- [Am I still charged for an EIP after I associate the EIP with an EIP bandwidth plan?](#)

Can I renew multiple subscription EIPs at a time?

Yes.

You can go to the [Renewal](#) page to renew subscription EIPs.

Why am I still charged after I release a pay-as-you-go EIP?

For a pay-as-you-go EIP, the bill is generated within the next hour. You receive the bill after the EIP is released. Upon its release, the system stops calculating the fee. Example:

After you release a pay-by-data-transfer EIP at 10:30:00, you receive the bill for the data transfer from 10:00:00 to 11:00:00.

Why do I need to set a maximum bandwidth value for a pay-by-data-transfer EIP?

For a pay-by-data-transfer EIP, we recommend that you set a maximum bandwidth value to prevent unnecessary fees caused by excessive outbound traffic.

The maximum bandwidth is not guaranteed for a pay-by-data-transfer EIP. For example, if the maximum bandwidth value of a pay-by-data-transfer EIP is set to 200 Mbit/s, the peak bandwidth may not reach 200 Mbit/s. If you want to use an EIP with a guaranteed maximum bandwidth value, you must purchase a pay-by-bandwidth EIP or an EIP bandwidth plan.

Am I still charged for an EIP after I associate the EIP with an EIP bandwidth plan?

After you associate an EIP with an EIP bandwidth plan, whether the EIP is charged is based on the actual scenario:

- If the EIP is associated with an Elastic Compute Service (ECS) instance in a virtual private cloud (VPC), you are not charged for the EIP. In this case, the maximum bandwidth of the EIP bandwidth plan replaces that of the EIP, and the previous billing of the EIP stops regardless of its metering method (pay-by-data-transfer or pay-by-bandwidth).
- In other scenarios, whether you are charged for an EIP is irrelevant to whether the EIP is associated with an EIP bandwidth plan. For example, in scenarios where the EIP is associated with a NAT gateway or a Server Load Balancer (SLB) instance, or not associated with a cloud resource, you are charged for the EIP.

2.Features, benefits, and limits

This topic provides answers to some frequently asked questions about the features, benefits, and limits of elastic IP addresses (EIPs).

- [What is an EIP?](#)
- [What are the benefits of EIPs?](#)
- [What are the differences between an EIP and a static public IP address of an ECS instance?](#)
- [How many EIPs can I apply for with an Alibaba Cloud account?](#)
- [Is the number of times that I can call the EIP API limited?](#)
- [Can I resolve the domain name of a website to an EIP?](#)

What is an EIP?

An EIP is a public IP address that you can purchase and use as an independent resource. You can associate EIPs with Elastic Compute Service (ECS) instances, internal-facing Server Load Balancer (SLB) instances, secondary elastic network interfaces (ENIs), NAT gateways, and high-availability virtual IP addresses (HAVIPs). The ECS instances, internal-facing SLB instances, and secondary ENIs must be deployed in virtual private clouds (VPCs).

EIPs are NAT IP addresses deployed on the Internet-facing gateway of Alibaba Cloud, and are mapped to the associated cloud resources through NAT. After EIPs are associated with cloud resources, the cloud resources can use the EIPs to communicate with the Internet.

What are the benefits of EIPs?

What are the differences between an EIP and a static public IP address of an ECS instance?

The following table describes the differences between an EIP and a static public IP address of an ECS instance.

Feature	EIP	Static public IP address
Supported network	VPC	VPC and classic network
Used as an independent resource	Supported	Not supported
Associated with and disassociated from an ECS instance as needed	Supported	Not supported
Displayed in the ENI information of the associated ECS instance	Cut-through mode: Displayed	Classic network: Displayed VPC: Not displayed

How many EIPs can I apply for with an Alibaba Cloud account?

You can apply for at most 20 EIPs with an Alibaba Cloud account. To apply for more EIPs, request a quota increase. For more information, see [Manage quotas](#).

Is the number of times that I can call the EIP API limited?

Yes. You can call the EIP API at most 500 times within one day. Subsequent API calls that are sent within the day are denied.

Can I resolve the domain name of a website to an EIP?

Yes. You can create a DNS record to resolve a domain name to an EIP or a private IP address. For more information, see [Create a DNS record for a website](#).

3. Apply for, allocate, and recover an EIP

This topic provides answers to some frequently asked questions about applying for, allocating, and recovering elastic IP addresses (EIPs).

- [Why does the message "eip frequent purchase" appear when I apply for an EIP?](#)
- [Why am I unable to access an EIP?](#)
- [How are EIPs allocated?](#)
- [When can I recover an EIP after I release it?](#)

Why does the message "eip frequent purchase" appear when I apply for an EIP?

Cause: The frequency at which you send requests to apply for and change EIPs has triggered a security alert. As a result, your applications for EIPs are denied for a limited period of time.

Solution: If the number of EIPs that you apply for in the next seven days does not exceed the quota, the system automatically removes the limit after seven days. For more information about how to view the number of EIPs that can be owned by an Alibaba Cloud account, see [Manage quotas](#).

Why am I unable to view the EIP that I purchased?

Possible causes:

- The system is in the process of allocating the EIP to your account. The process normally takes 3 to 5 minutes.
- The region that you selected is different from the region where the EIP is purchased.

Solution: Go to the **Billing Management** page and click **Orders**. You can find the order of the EIP that you purchased on the Orders page. To view the region where the EIP is purchased, click **View Details**. Then, return to the EIP console and select the region where the EIP is purchased. You can view information about the EIP on the Elastic IP Addresses page.

Why am I unable to access an EIP?

Possible causes:

- The EIP is not associated with a cloud resource.
- A security group rule is configured for the Elastic Compute Service (ECS) instance that is associated with the EIP. For example, if the ECS instance is added to a security group that denies access to port 80, you cannot access the EIP over port 80.
- The EIP has an overdue payment.

How are EIPs allocated?

By default, after you apply for an EIP, the system randomly allocates an EIP to your account. If you have applied for and released EIPs multiple times, the system may allocate EIPs that you have used before to your account.

When can I recover an EIP after I release it?

After you release an EIP, you can recover the EIP before the next hour begins by specifying its IP address. For example, if you release an EIP at 05:05 (UTC+8) on December 27, you can recover the EIP before 06:00 (UTC+8) on December 27 by specifying its IP address.

4. Associate and disassociate EIPs

This topic provides answers to some frequently asked questions about associating an elastic IP address (EIP) with and disassociating an EIP from a cloud resource.

- What are the cloud resources with which I can associate EIPs?
- Can I associate an EIP with multiple cloud resources?
- Can I associate an EIP with a cloud resource that is deployed in a different region?
- Can I associate an EIP with a cloud resource that is deployed in a different zone?
- How many EIPs can I associate with a cloud resource?
- Can I associate an EIP with a CLB instance?
- Why am I unable to view the associated CLB instances in the EIP console?
- If an EIP is associated with an ECS instance, can I use the DNAT feature of a NAT gateway to enable the ECS instance to provide Internet-facing services?
- Why am I unable to associate an EIP with an ECS instance?
- Why am I unable to view the EIP in the operating system of the ECS instance after I associate the EIP with the ECS instance?
- How can I associate multiple EIPs with one ECS instance?
- Why am I unable to access services over the Internet after I associate an EIP with an ECS instance or ENI?
- Can I use an EIP as the origin IP address for Web Application Firewall (WAF)?

What are the cloud resources with which I can associate EIPs?

You can associate EIPs with Elastic Compute Service (ECS) instances, internal-facing Classic Load Balancer (CLB) instances, secondary elastic network interfaces (ENIs), NAT gateways, and high-availability virtual IP addresses (HAVIPs). The ECS instances, internal-facing CLB instances, and secondary ENIs must be deployed in virtual private clouds (VPCs).

Can I associate an EIP with multiple cloud resources?

No. You can associate an EIP with only one cloud resource.

Can I associate an EIP with a cloud resource that is deployed in a different region?

No.

The EIP and the cloud resource with which you want to associate the EIP must be deployed in the same region. For example, an EIP deployed in the China (Beijing) region cannot be associated with a cloud resource deployed in the China (Hangzhou) region.

Can I associate an EIP with a cloud resource that is deployed in a different zone?

Yes.

Zones do not apply to EIPs. If a cloud resource and an EIP are deployed in the same region, you can associate the EIP with the cloud resource.

How many EIPs can I associate with a cloud resource?

- NAT gateway

You can associate at most 20 EIPs with a NAT gateway. You can associate at most 10 pay-by-data-transfer EIPs with a NAT gateway.

Go to the [Quota Management](#) page to increase the quota. For more information, see [Manage quotas](#).

- HAVIP

You can associate only one EIP with each HAVIP.

- CLB instance

You can associate only one EIP with an internal-facing CLB instance that is deployed in a VPC.

Can I associate an EIP with a CLB instance?

You can associate an EIP with an internal-facing CLB instance that is deployed in a VPC. However, you cannot associate an EIP with an Internet-facing CLB instance. You can associate only one EIP with an internal-facing CLB instance that is deployed in a VPC.

Why am I unable to view the associated CLB instances in the EIP console?

Possible causes:

- The resource group IDs of the EIP and CLB instance are different.
- If you log on to the EIP console as a RAM user, you cannot view the associated CLB instances in the EIP console. To view the associated CLB instances in the EIP console, use an Alibaba Cloud account.

If an EIP is associated with an ECS instance, can I use the DNAT feature of a NAT gateway to enable the ECS instance to provide Internet-facing services?

No.


The limits are:

- If an EIP is associated with an ECS instance, you cannot use the DNAT feature of a NAT gateway to enable the ECS instance to provide Internet-facing services.

Before you can use the DNAT feature, you must disassociate the EIP from the ECS instance. Then, you can create DNAT entries for the ECS instance. For more information, see [Disassociate an EIP from a NAT gateway](#) and [Manage a DNAT entry](#).

- After you create DNAT entries for an ECS instance, you cannot associate an EIP with the ECS instance.

Before you can associate an EIP with the ECS instance, you must delete the DNAT entries that you created for the ECS instance. After you delete the DNAT entries, you can associate an EIP with the ECS instance. For more information, see [Delete a NAT gateway](#) and [Associate an EIP with a NAT gateway](#).

 **Note** If an ECS instance is associated with an EIP and DNAT is configured for the ECS instance, the ECS instance preferentially uses the associated EIP to communicate with the Internet.

Why am I unable to associate an EIP with an ECS instance?

Possible causes:

- You can associate an EIP with only one ECS instance that is deployed in a VPC. If the ECS instance is not deployed in a VPC, you cannot associate an EIP with the ECS instance.
- The EIP and ECS instance are deployed in different regions.
- The ECS instance is in a state that does not allow you to associate an EIP with the ECS instance. You can associate an EIP with only an ECS instance that is in the Running or Stopped state.
- The ECS instance is assigned a public IP address or another EIP is associated with the ECS instance.

Why am I unable to view the EIP in the operating system of the ECS instance after I associate the EIP with the ECS instance?

EIPs are deployed on the Internet gateway of Alibaba Cloud and are mapped to the private ENIs of the associated ECS instances through NAT. Therefore, you cannot view the EIP on the private ENI of the ECS instance.

When you associate an EIP with a secondary ENI, you can select the cut-through mode. In cut-through mode, the EIP replaces the private IP address of the secondary ENI. The secondary ENI serves as a public network interface controller (NIC) and the private network feature is no longer available. To view the EIP in the ENI information of the operating system, run the `ifconfig` or `ipconfig` command. For more information, see [设置EIP网卡可见模式](#).

How can I associate multiple EIPs with one ECS instance?

You can associate multiple EIPs with one ECS instance by using the following methods:

- Associate an EIP with each secondary ENI. Then, attach the secondary ENIs to the ECS instance. The number of secondary ENIs that can be attached to an ECS instance varies based on the specification of the ECS instance. For more information, see [Instance family](#).
- Associate multiple EIPs with a secondary ENI in **NAT mode**. In this mode, each EIP is associated with a secondary private IP address of the secondary ENI. Then, associate the secondary ENI with the ECS instance. For more information, see [Associate multiple EIPs with an ECS instance in NAT mode](#).

Why am I unable to access services over the Internet after I associate an EIP with an ECS instance or ENI?

If you want the ECS instance to access the Internet, you must configure the default route of the ECS instance or create specific routes for the ECS instance. By default, packets are transmitted from the primary ENI. You can modify route priorities to allow packets to access the Internet through the secondary ENI. You can also configure specific routes to forward packets to the Internet through multiple ENIs or a random ENI to implement load balancing.

Can I use an EIP as the origin IP address for Web Application Firewall (WAF)?

Yes.

5. Bandwidth and data transfer

This topic provides answers to some frequently asked questions about bandwidth and data transfer of Elastic IP Addresses (EIP).

- After I associate an EIP with an Elastic Compute Service (ECS) instance, is the bandwidth of the ECS instance affected?
- Why does the bandwidth fail to reach the maximum bandwidth value that I purchased in a File Transfer Protocol (FTP) staging environment?
- What can I do if the system prompts that traffic has reached the upper limit when I change the resource group of an EIP?
- Is the bandwidth that I purchase for an EIP shared by multiple users?

After I associate an EIP with an Elastic Compute Service (ECS) instance, is the bandwidth of the ECS instance affected?

The maximum bandwidth of the ECS instance is limited by the specification of the ECS instance and the maximum bandwidth of the EIP. For more information about specifications of ECS instances, see [Instance families with local SSDs](#).

Why does the bandwidth fail to reach the maximum bandwidth value that I purchased in a File Transfer Protocol (FTP) staging environment?

The upload and download speed in an FTP staging environment cannot represent the actual bandwidth. The reasons are:

- The FTP software itself has a speed limit.
- The upload and download speed is affected by the read and write speed of the disk. For a more accurate result, we recommend that you use iPerf.

What can I do if the system prompts that traffic has reached the upper limit when I change the resource group of an EIP?

You can call the operation that adds an EIP to a resource group at most 60 times per minute. If you call the operation more than 60 times within one minute, the system prompts that traffic has reached the upper limit.

Is the bandwidth that I purchase for an EIP shared by multiple users?

In a region, the maximum bandwidth varies based on the actual scenario:

- In scenarios where the sum of maximum bandwidth for pay-by-data-transfer EIPs does not exceed 5 Gbit/s and the total sum of maximum bandwidth for pay-by-bandwidth EIPs does not exceed 50 Gbit/s, the bandwidth is used only by the user who purchases it.
- In scenarios where the total sum of maximum bandwidth for pay-by-data-transfer EIPs exceeds 5 Gbit/s or the total sum of maximum bandwidth for pay-by-bandwidth EIPs exceeds 50 Gbit/s, the maximum bandwidth value is for reference only and is not guaranteed. In this case, if the bandwidth demand exceeds the supply, the maximum bandwidth value may be limited. For more information, see [Limits](#).