

Alibaba Cloud

Elastic IP Address User Guide

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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 .
Courier font	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. Overview

This topic describes the line types of Elastic IP Address (EIP). An EIP is a public IP address resource that can be purchased and held as an independent resource.

Line types

EIP supports the line types of BGP (Multi-ISP) and BGP (Multi-ISP) Pro. The following table lists the differences between BGP (Multi-ISP) and BGP (Multi-ISP) Pro.

Item	BGP (Multi-ISP)	BGP (Multi-ISP) Pro
Advantages	<p>BGP (Multi-ISP) provides high-quality and high-bandwidth BGP lines.</p> <ul style="list-style-type: none"> Up to 89 high-quality BGP lines are available worldwide. Direct connections can be established in all regions of mainland China through lines of the following Internet Service Providers (ISPs): China Telecom, China Unicom, China Mobile, China Mobile Tietong, China Netcom, China Education and Research Network (CERNET), National Radio and Television Administration, Dr. Peng Telecom & Media Group, and Founder Broadband Network. You can use BGP (Multi-ISP) with EIP bandwidth plans to obtain higher bandwidth (up to 100 Gbit/s). 	<p>BGP (Multi-ISP) Pro has all the advantages of BGP (Multi-ISP). Compared with BGP (Multi-ISP), BGP (Multi-ISP) Pro can be used to establish cross-border connections without using international ISP services. This reduces network latency.</p>
Supported regions	All regions	China (Hong Kong)

Purchase EIPs

To purchase EIPs, visit the [buy page](#).

2. Create an Elastic IP address


2.1. Apply for new EIPs


This topic describes how to apply for new elastic IP addresses (EIPs). An EIP is a public IP address that you can purchase and hold as an independent resource.

Procedure

1. Log on to the [EIP console](#).
2. On the Elastic IP Addresses page, click **Create EIP**.
3. On the Elastic IP page, set the following parameters, click **Buy Now** and complete the payment.

Parameter	Description
Billing Method	<p>Select a billing method for the EIP.</p> <p>The subscription and pay-as-you-go billing methods are supported.</p> <ul style="list-style-type: none">◦ Subscription: A one-time fee is charged based on the specified maximum bandwidth of the EIP. For more information, see Subscription.◦ Pay-as-you-go: You are charged for the resources that you use. Pay-as-you-go EIPs are charged by data transfer or bandwidth. For more information, see Pay-as-you-go.
Subscription	
Region	<p>Select the region where you want to create the EIP.</p> <p>You can associate the EIP with an Elastic Compute Service (ECS) instance, NAT gateway, Server Load Balancer (SLB) instance, high-availability virtual IP address (HAVIP), or secondary elastic network interface (ENI). Make sure that the EIP and the cloud resources to be associated with are in the same region.</p>

Parameter	Description
Internet Connection Type	<p>Select a line type for the EIP.</p> <ul style="list-style-type: none"> ○ BGP (Multi-ISP): Up to 89 high-quality BGP lines are available worldwide. Direct connections can be established across all regions of mainland China through lines of the following Internet Service Providers (ISPs): China Telecom, China Unicom, China Mobile, China Mobile Tietong, China Netcom, China Education and Research Network (CERNET), National Radio and Television Administration, Dr. Peng Telecom & Media Group, and Founder Broadband Network. ○ BGP (Multi-ISP) Pro: BGP (Multi-ISP) Pro optimizes cross-border data transmission to improve the connection quality for international services. Compared with BGP (Multi-ISP), BGP (Multi-ISP) Pro can be used to establish direct cross-border connections without using international ISP services. This helps reduce network latency. <p> Note BGP (Multi-ISP) Pro is supported only in the China (Hong Kong) region.</p>
Network Mode	<p>Select a line type for the EIP.</p> <p>Only public network is supported.</p>
Bandwidth value	Specify a bandwidth value for the EIP.
Name	<p>Enter a name for the EIP.</p> <p>The name must be 2 to 128 characters in length, and start with a letter or Chinese character. It can contain digits, periods (.), underscores (_), and hyphens (-).</p>
Quantity	Specify the number of EIPs that you want to purchase.
Service Time	Specify the subscription duration of the EIP.
Pay-as-you-go	
Region	<p>Select a region where you want to create the EIP.</p> <p>You can associate an EIP with a cloud resource, such as an ECS instance, NAT gateway, SLB instance, HAVIP, or secondary ENI. Make sure that the EIP and the cloud resource are deployed in the same region.</p>

Parameter	Description
Internet Connection Type	<p>Select a line type for the EIP.</p> <ul style="list-style-type: none"> ○ BGP (Multi-ISP): Up to 89 high-quality BGP lines are available worldwide. Direct connections can be established across all regions of mainland China through lines of the following Internet Service Providers (ISPs): China Telecom, China Unicom, China Mobile, China Mobile Tietong, China Netcom, China Education and Research Network (CERNET), National Radio and Television Administration, Dr. Peng Telecom & Media Group, and Founder Broadband Network. ○ BGP (Multi-ISP) Pro: BGP (Multi-ISP) Pro optimizes cross-border data transmission to improve the connection quality for international services. Compared with BGP (Multi-ISP), BGP (Multi-ISP) Pro can be used to establish direct cross-border connections without using international ISP services. This helps reduce network latency. <p> Note BGP (Multi-ISP) Pro is supported only in the China (Hong Kong) region.</p>
Network Mode	<p>Select a network type for the EIP.</p> <p>Only public network is supported.</p>
Network Traffic	<p>Select a metering method for the EIP.</p> <ul style="list-style-type: none"> ○ By traffic: Bills are generated hourly based on the amount of data transferred. ○ By bandwidth: Bills are generated daily based on the specified maximum bandwidth of the EIP.
Max Bandwidth	Specify the maximum bandwidth of the EIP.
Name	<p>Enter a name for the EIP.</p> <p>The name must be 2 to 128 characters in length, and start with a letter or Chinese character. It can contain digits, periods (.), underscores (_), and hyphens (-).</p>
Billing Cycle	<p>Specify a billing cycle for the EIP.</p> <p>Pay-by-data-transfer EIPs are billed on an hourly basis and pay-by-bandwidth EIPs are billed on a daily basis.</p>
Quantity	Specify the number of EIPs that you want to purchase.

Related information





- [AllocateEipAddress](#)

2.2. Reinststate a released EIP

This topic describes how to reinstate a released elastic IP address (EIP) under your account based on the specified IP address or EIP ID. You cannot reinstate an EIP that has been allocated to another account.

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where the EIP is created.
3. On the Elastic IP Addresses page, click the Request Custom IP tab.
4. In the Request Custom IP dialog box, set the following parameters:

Parameter	Description
EIP Type	<p>Select Request Specific EIP.</p> <p>You can request an EIP based on the specified IP address or EIP ID. The system automatically checks the requested IP address or EIP ID. If the EIP that you request has already been allocated to another account, the request fails. By default, a reinstated EIP is billed on a pay-by-data-transfer basis. The default maximum bandwidth of the EIP is 5 Mbit/s.</p> <p> Note You can reinstate up to 20 EIPs per month. If you want to increase the quota limit, submit a ticket.</p>
Request Method	<p>Select a request method:</p> <ul style="list-style-type: none"> ◦ Request by IP Address: reinstate an EIP by specifying an IP address. ◦ reinstate an EIP by specifying an EIP ID: request an EIP by specifying an EIP ID.
IP Address	<p>Enter the IP address of the EIP that you want to request.</p> <p> Note You can request only EIPs that you have used before.</p>
Instance ID	<p>Enter the ID of the EIP that you want to reinstate.</p> <p> Note You can reinstate only EIPs that you have used before. .</p>
Connection Type	<p>Select a line type for the EIP:</p> <ul style="list-style-type: none"> ◦ BGP (Multi-ISP) ◦ BGP (Multi-ISP)_Pro <p> Note BGP (Multi-ISP) Pro is supported only in the China (Hong Kong) region.</p> <p>For more information about the differences between BGP (Multi-ISP) and BGP (Multi-ISP) Pro, see Line types.</p>


5. Click OK.

2.3. Apply for a continuous EIP group

This topic describes how to apply for a continuous elastic IP address (EIP) group. Continuous EIP groups can facilitate network management.

Prerequisites

Continuous EIP groups are available to selected users only. To apply for a continuous EIP group, [submit a ticket](#).

 **Note** Continuous EIP groups are scarce resources. After you submit a ticket, Alibaba Cloud will conduct a review. You can apply for a continuous EIP group only after your application is approved.

Context


A continuous EIP group consists of EIPs that are in sequential order. These IP addresses are similar to the common EIPs that are randomly assigned from the IP address pool of Alibaba Cloud. You can associate a continuous EIP group with Elastic Compute Service (ECS) instances, internal Server Load Balancer (SLB) instances, or secondary elastic network interfaces (ENIs) that are deployed in Virtual Private Cloud (VPC) networks. You can also associate a continuous EIP group with NAT gateways or high availability virtual IP addresses. After you associate a continuous EIP group with cloud resources, the cloud resources can communicate with each other through the EIPs.

Continuous EIPs and common EIPs have the following differences:

Continuous EIP	Common EIP
Supports only pay-as-you-go.	Supports subscription and pay-as-you-go.
You cannot switch the billing method from pay-as-you-go to subscription.	You can switch the billing method from pay-as-you-go to subscription.
Fees are charged in the same way as common EIPs. In addition, a specification fee is charged based on the number of continuous EIPs in the EIP group. For more information about pricing details, submit a ticket .	No specification fee is charged.




Procedure

- 1.
2. In the left-side navigation pane, choose **Elastic IP Addresses > Elastic IP Addresses**.
3. In the top navigation bar, select the target region.

 **Note** Continuous EIP groups are available in the following regions: China (Beijing), China (Hangzhou), China (Shanghai), China (Shenzhen), China (Hong Kong), and Singapore (Singapore).

4. On the Elastic IP Addresses page, click Request Custom IP.

5. In the Request Custom IP dialog box, set the following parameters and click OK.

Parameter	Description
EIP Type	Select Request Continuous EIP Group.
Continuous EIP Group Mask	<p>Select the subnet mask length of the continuous EIP group, and select I have read and understand that:.</p> <p>Supported subnet masks are from /28 to /24. The number of continuous EIPs varies based on the selected mask length.</p> <ul style="list-style-type: none"> ○ /28: assigns 16 continuous EIPs by default. ○ /27: assigns 32 continuous EIPs by default. ○ /26: assigns 64 continuous EIPs by default. ○ /25: assigns 128 continuous EIPs by default. ○ /24: assigns 256 continuous EIPs by default. <p> Note In some scenarios, the actual number of assigned IP addresses may be less than the expected number because one, three, or four IP addresses may be reserved.</p>
Network Type	<p>Select a network type for the continuous EIP group.</p> <ul style="list-style-type: none"> ○ Public: After the continuous EIP group is associated with cloud resources, the cloud resources can communicate with the Internet through the EIPs. ○ Hybrid Cloud: The continuous EIP group can be used to establish communication within a hybrid cloud. <p> Note This network type is available to selected users only. To use this network type, contact your sales manager.</p>
Billing Method	<p>Select a billing method for the continuous EIP group.</p> <ul style="list-style-type: none"> ○ Pay by Bandwidth: Bills are generated on a daily basis based on the specified bandwidth. The actual data usage is not taken into account. ○ Pay by Traffic: Bills are generated on an hourly basis based on the actual Internet data usage. <p> Note EIP groups used in a hybrid cloud supports only the pay by bandwidth billing method. Pay by traffic is not supported.</p>
Bandwidth	<p>Select bandwidth for the continuous EIP group.</p> <p>Supported bandwidth ranges from 1 to 200 Mbit/s.</p>

Result

After the application for the continuous EIP group is approved, the EIPs that belong to the group are marked as **Continuous EIP**.

<input type="checkbox"/>	Instance ID/Name	IP Address	Monitoring	Bandwidth	Bandwidth Plan	IP Status
<input type="checkbox"/>	eip-uf6v65-7	101.24 Continuous EIP		5 Mbit/s Pay by Bandwidth	No Bandwidth Plan Add	✓ Available
<input type="checkbox"/>	eip-ufi-uw	101.25 Continuous EIP		5 Mbit/s Pay by Bandwidth	No Bandwidth Plan Add	✓ Available

Related information

- [AllocateEipSegmentAddress](#)

2.4. Convert an automatically assigned public IP address to an EIP for a VPC-connected ECS instance

This topic describes how to convert an automatically assigned public IP address to an elastic IP address (EIP) for an Elastic Compute Service (ECS) instance that is deployed in a Virtual Private Cloud (VPC) network. After the conversion, you can disassociate the EIP from the ECS instance, and you can associate the EIP with the ECS instance again at any time. This allows you to manage public IP addresses in a flexible way.

Prerequisites

A ECS instance is created and assigned a public IP address. For more information, see [Create an instance by using the provided wizard](#).

Overview of public IP addresses

If an ECS instance requires access to the Internet, you must configure a public IP address and Internet bandwidth for the ECS instance. Alibaba Cloud provides the following types of public IP addresses:

- Automatically assigned public IP addresses

When you create a VPC-connected ECS instance, you can choose to use the public IP address that is automatically assigned by the system. You cannot disassociate this public IP address from the ECS instance.

- EIP

An EIP is a public IP address that can be purchased and owned independently. You can associate an EIP with a VPC-connected ECS instance, VPC-connected private Server Load Balancer (SLB), VPC-connected secondary elastic network interface (ENI), Network Address Translation (NAT) gateway, or high-availability virtual IP address (HAVIP). You can also use EIP bandwidth plans and data transfer plans to reduce data transfer costs.

Both public IP addresses and EIPs apply multi-line BGP network which Alibaba uses to provide quality Internet services. The biggest difference between a public IP address and an EIP is whether it can be disassociated from an ECS instance. You can disassociate an EIP from an ECS instance at any time and re-associate it. However, you cannot disassociate a public IP address from an ECS instance.

Limits

To convert the public IP address of an ECS instance to an EIP, note the following limits:

- If the billing method of the ECS instance is pay-as-you-go, your account must not have overdue payments.
- If the billing method of the ECS instance is subscription, you cannot convert the public IP address within 24 hours before the expiration date.
- If the billing method of the ECS instance is subscription, the Internet bandwidth must be billed on a **pay-by-data-transfer** basis. If the Internet bandwidth is billed on a **pay-by-bandwidth** basis, you can log on to the console and choose upgrade or downgrade to change the billing method of the Internet bandwidth to pay-by-traffic, and then convert the public IP address to an EIP. For more information, see [Overview of instance upgrade and downgrade](#).
- Only VPC-connected ECS instances that are in the Stopped or Running state are supported. The VPC-connected ECS instances in other states cannot be converted.
- You can convert only the automatically assigned public IP address of an ECS instance to an EIP.
- You cannot convert the public IP address of an ECS instance to an EIP if the instance has a pending upgrade or downgrade task in the queue.

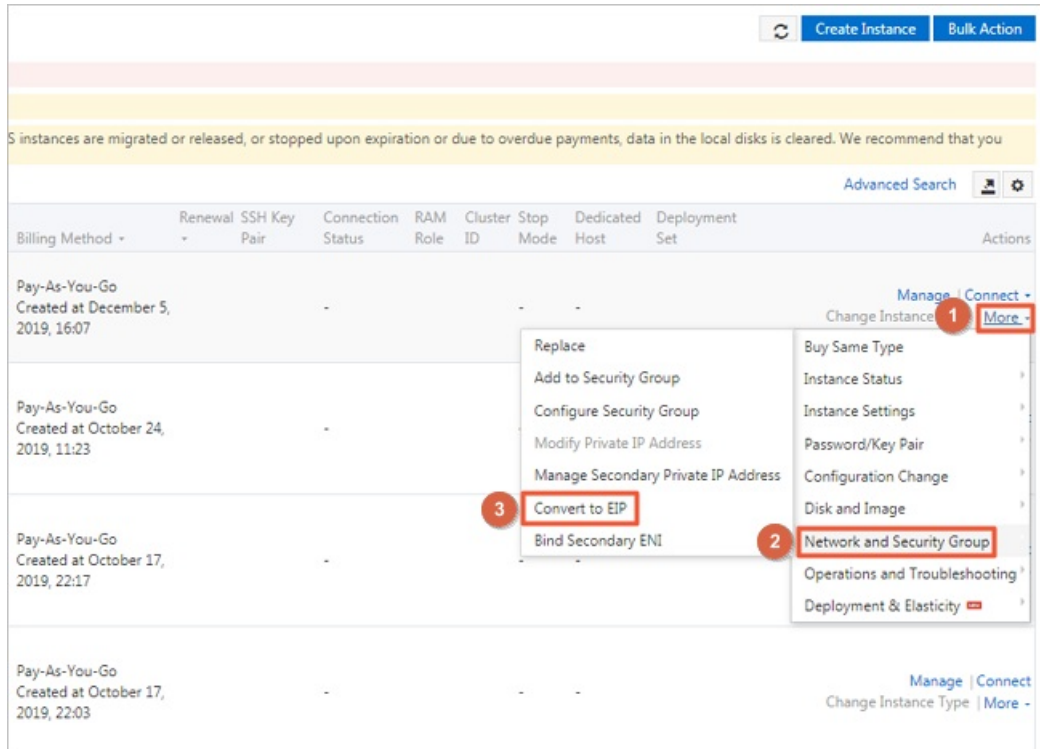
Considerations

Before you convert an automatically assigned public IP address of an ECS instance to an EIP, note that:

- For a VPC-connected ECS instance, the conversion process does not cause transient connection errors.
- During the conversion process, the public IP address can be retained for the ECS instance.
- The conversion does not change the billing method of the Internet bandwidth.
- After the public IP address is converted to an EIP for a VPC-connected ECS instance, the EIP cannot be converted back to the public IP address.
- After the conversion, the EIP is billed independently, and a separate bill is generated. For more information about EIP billing, see [Billing](#). In User Center, select [Usage Record](#), and select to export the bill statements of the Elastic IP.

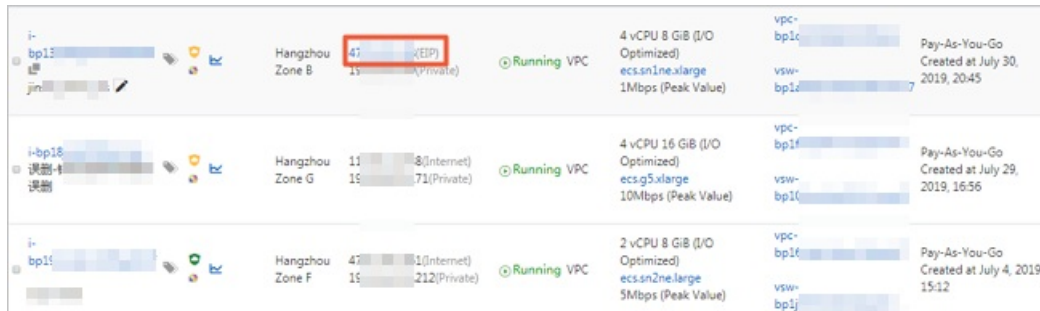
Procedure

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select the region where the ECS instance is deployed.
4. On the **Instances** page, find the ECS instance that you want to manage, choose **More > Network and Security Group > Convert to EIP** in the **Actions** column.



5. In message that appears, click OK.

6. Refresh the instance list. After the conversion, the original public IP address is labeled as EIP.



Related information

- [ConvertNatPublicIpToEip](#)

2.5. Convert the public IP address of a classic network-type instance to an Elastic IP address

When you manually release a classic network-type ECS instance, you can convert its public IP address to an Elastic IP address (EIP). An EIP can be bound to a VPC-type ECS instance for various scenarios such as network migration, elastic binding, and flexible bandwidth adjustment. You can convert the public IP address of a classic network-type instance to an EIP only when you manually release the instance.

classic network public IP address convert the public IP address network migration EIP

Prerequisites

Prerequisites

Before you convert the public IP address of a classic network-type ECS instance to an EIP, make sure the following requirements are met:

- The instance has been assigned a public IP address.
- The zone to which the instance belongs cannot be Hangzhou Zone C.
- If the instance is a pay-as-you-go instance, it is in the **Stopped** state and your account has no overdue payments.
- If the instance is a subscription instance, it is in the **Expired** or **To Be Released** state.
- If the instance is a subscription instance, the billing method of the Internet bandwidth is **Pay-By-Traffic**. You can change the **Pay-By-Bandwidth** billing method of the Internet bandwidth by upgrading or downgrading the instance. For more information, see [Overview of instance upgrade and downgrade](#).
- If the type of the instance has been changed, wait until the change takes effect before proceeding.
- You have created snapshots for the instance to prevent data loss caused by incorrect operations. For more information, see [Create a snapshot](#).

Context

After the public IP address of a classic network-type instance is converted to an EIP,

- The billing method for the Internet bandwidth of the EIP is **Pay-By-Traffic**.
- The Internet bandwidth of the EIP is the same as that of the original ECS instance. You can change the Internet bandwidth of the EIP as needed in the VPC console. If the Internet bandwidth of the classic network-type instance is 0 Mbit/s before conversion, the Internet bandwidth of the converted EIP is automatically upgraded to 1 Mbit/s.
- The EIP cannot be bound to a classic network-type ECS instance.
- A classic network-type ECS instance has a public network interface controller (NIC). If the public IP address of the ECS instance is converted to an EIP, the public NIC and MAC address of the instance will not be retained.

Procedure

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Find the classic network-type instance and select a release method.
 - To release a subscription instance, click **Release** in the **Actions** column corresponding to the instance.
 - To release a pay-as-you-go instance, choose **More > Instance Status > Release** from the **Actions** column.
5. Select **Release Now**, select **Convert the public IP address of the ECS instance in a classic network to an EIP address**. (The EIP addresses that are not bound to ECS instances will be billed.), and then click **Next**.

Release ✕

*Release Mode: Release Now Scheduled Release

[How to retain disks while the instance is released?](#)

Handling Resources: Convert the public IP address of the ECS instance in a classic network to an EIP address. (The EIP addresses that are not bound to ECS instances will be billed.)

6. Click OK.

Result

After the public IP address of a classic network-type ECS instance is converted to an EIP, the instance is released. You can view the converted EIP in the VPC console.

<input type="checkbox"/>	Instance ID/Name	IP Address	Monitor	Bandwidth	Connection Type	Charge Type(All) ⌵	Status(All) ⌵	Shared Bandwidth/Global Acceleration
<input type="checkbox"/>	eip- v3f1e5	39.151		1 Mbps Pay By Traffic	BGP	Pay-As-You-Go Created 1/16/2019, 14:17:09	● Available	Add to Shared Bandwidth Package Add to Global Acceleration

What's next

You can bind this EIP to another ECS instance. For more information, see [Associate an EIP with an ECS instance](#).

3. Bind an EIP to a cloud instance

3.1. Associate an EIP with an ECS instance

This topic describes how to associate an elastic IP address (EIP) with an Elastic Compute Service (ECS) instance that is deployed in a Virtual Private Cloud (VPC) network. An ECS instance that is associated with an EIP can communicate with the Internet.

Prerequisites

An ECS instance is created. For more information, see [Create an instance by using the provided wizard](#).

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, find the EIP that you want to manage, and click **Bind Resource** in the **Actions** column.
4. In the Bind Elastic IP Address to Resources dialog box, set the following parameters, and click **OK**.

Parameter	Description
Instance Type	Select ECS Instance.
Binding Mode	<p>Select the mode in which you want to associate the EIP.</p> <p>Only Normal mode is supported. In Normal mode:</p> <ul style="list-style-type: none"> ◦ Both the private and public IP addresses of the ECS instance are available for use. ◦ The EIP is not displayed in the operating system. You must call the <code>DescribeInstances</code> operation to query the public IP address with which the ECS instance is associated. For more information, see DescribeInstances. ◦ EIPs in normal mode do not support NAT application layer gateway (ALG) protocols such as H.323, Session Initiation Protocol (SIP), Domain Name System (DNS), Real Time Streaming Protocol (RTSP), and Trivial File Transfer Protocol (TFTP).
Select an instance to bind	<p>Select the ECS instance to be associated with the EIP.</p> <p>The ECS instance that you select must meet the following requirements:</p> <ul style="list-style-type: none"> ◦ The ECS instance is deployed in a VPC network. ◦ The ECS instance is in the Running or Stopped state. ◦ Each ECS instance can be associated with only one EIP. ◦ The ECS instance and the EIP are created in the same region. ◦ The ECS instance is not associated with a public IP address or another EIP.

Related information

- [AssociateEipAddress](#)

3.2. Associate an EIP with a NAT gateway

This topic describes how to associate an elastic IP address (EIP) with a NAT gateway. After you associate an EIP with a NAT gateway, you can create DNAT and SNAT entries that use the EIP.

Prerequisites

A NAT gateway is created. For more information, see [Create a NAT gateway](#).

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, find the EIP that you want to manage, and click **Bind Resource** in the Actions column.
4. In the Bind Elastic IP Address to Resources dialog box, set the following parameters, and click OK.

Parameter	Description
Instance Type	Select NAT Gateway.
Select an instance to bind	<p>Select the NAT gateway to be associated with the EIP.</p> <p>Make sure that the NAT gateway meets the following requirements:</p> <ul style="list-style-type: none"> ◦ You did not purchase a NAT service plan before January 26, 2018 under the account to which the NAT gateway belongs. If you did, associate the NAT service plan with the NAT gateway. ◦ The NAT gateway and the EIP must be deployed in the same region. ◦ Each NAT gateway can be associated with a maximum of 20 EIPs. If you want to associate more EIPs, submit a ticket to request a quota increase. For more information, see Quota management.

Related information

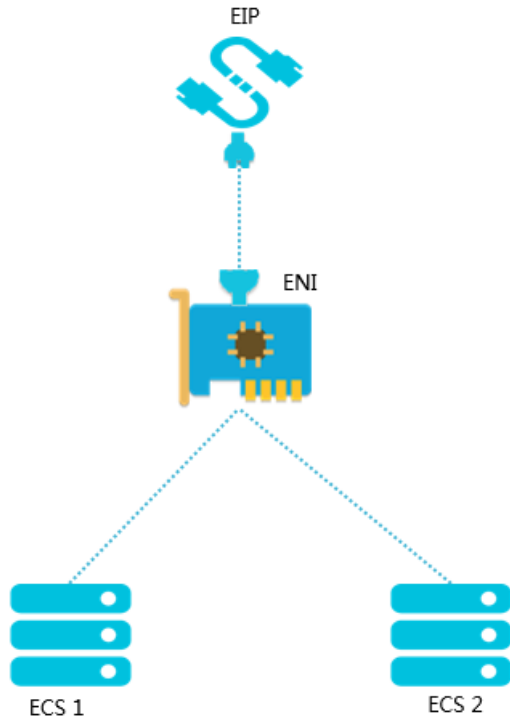
- [AssociateEipAddress](#)

3.3. Bind an EIP to a secondary ENI

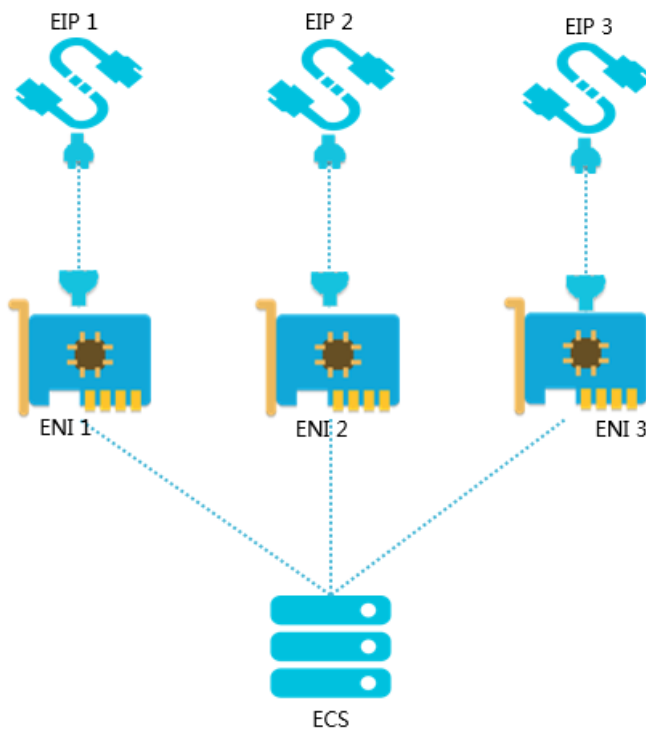
3.3.1. Overview

Elastic IP addresses (EIPs) can be associated with elastic network interfaces (ENIs). You can build a more stable, flexible, and scalable service with servers that use EIPs. Each server can be associated with multiple EIPs. This way, each server is assigned multiple public IP addresses.

Each ENI is assigned a private IP address. After you associate an EIP with an ENI, the ENI is capable of sending and receiving network traffic through both a private IP address and a public IP address. Alibaba Cloud provides a solution for migrating EIPs between two Elastic Compute Service (ECS) instances without affecting the reliability and availability of your workloads. If you migrate an ENI that is associated with an EIP from an ECS instance to another ECS instance, both the private and public IP addresses of the ENI are migrated.



Each ECS instance can be associated with more than one EIP. If you want an ECS instance to provide services through multiple public IP addresses, associate an EIP to each ENI of the ECS instance. You can also use EIPs with security groups to control external access.



Association modes

You can associate an EIP with an ENI in the following modes:

- NAT mode
- Cut-through mode
- Multi-EIP to ENI mode

Note

- The cut-through mode is supported in the following regions: China (Hangzhou), China (Shanghai), China Qingdao, China (Beijing), China (Zhangjiakou-Beijing Winter Olympics), China (Hohhot), China (Shenzhen), China (Chengdu), Singapore (Singapore), Indonesia (Jakarta), Germany (Frankfurt), UK (London), and US (Virginia).
- The multi-EIP to ENI mode is supported in the following regions: China (Shenzhen), China (Shanghai), China (Beijing), China (Zhangjiakou-Beijing Winter Olympics), China (Chengdu), Singapore (Singapore), Germany (Frankfurt), India (Mumbai), US (Virginia), and UK (London). This mode is available to only selected users. To use this mode, [submit a ticket](#).

The following table lists the differences among these modes.

Item	NAT mode	Cut-through mode	Multi-EIP to ENI mode
Whether the EIP is displayed on the ENI in the operating system	Not displayed.	Displayed. Note You can run the <code>ifconfig</code> or <code>ipconfig</code> command to query the public IP address of the ENI.	Displayed. Note After you configure a static IP address in the operating system, you can run the <code>ifconfig</code> or <code>ipconfig</code> command to query the public IP address of the ENI.
Types of ENIs that can be associated with EIPs	Primary and secondary ENIs.	Secondary ENIs.	Secondary ENIs.
The maximum number of EIPs that can be associated with a primary ENI	1.	EIPs cannot be associated with primary ENIs.	EIPs cannot be associated with primary ENIs.

Item	NAT mode	Cut-through mode	Multi-EIP to ENI mode
The maximum number of EIPs that can be associated with a secondary ENI	<p>Based on the number of private IP addresses of the secondary ENI.</p> <p>Note Each EIP is mapped to a private IP address of a secondary ENI. If a secondary ENI is assigned 10 private IP addresses, a maximum of 10 EIPs can be associated with the secondary ENI.</p>	<p>1.</p> <p>Note In cut-through mode, an EIP can be mapped to only the primary private IP address of a secondary ENI.</p>	<p>10.</p> <p>Note To request a quota increase, submit a ticket.</p>
Whether the secondary ENI supports private networks after an EIP is associated with a secondary ENI	Supports.	Does not support.	Supports.
Supported protocols	When an EIP is deployed as an NAT application layer gateway (ALG), the following protocols are not supported: H.323, Session Initiation Protocol (SIP), Domain Network System (DNS), and Real Time Streaming Protocol (RTSP).	All IP protocols, such as H.323, SIP, DNS, RTSP, File Transfer Protocol (FTP), and Trivial File Transfer Protocol (TFTP).	All IP protocols, such as H.323, SIP, DNS, RTSP, File Transfer Protocol (FTP), and Trivial File Transfer Protocol (TFTP).

FAQ

Does Alibaba Cloud charge EIPs that are associated with ENIs?

Yes.

Only EIPs that are associated with ECS instances are free of charge. EIPs that are associated with other resources are charged.

Are additional configurations required after I attach an ENI that is associated with an EIP to an ECS instance?

- If the ECS instance is deployed to provide external services, such as web services, you do not need to configure routes for the ECS instance or the VPC network where the ECS instance is

deployed. The ECS instance can provide services through the EIP.

- If the ECS instance is deployed to access services on the Internet, you must modify the default route of the ECS instance or configure specific routes. The default route specifies that packets are forwarded to the Internet through the primary NIC of the ECS instance. You must adjust the priority of the routes before packets can be forwarded to the Internet through the ENI that is associated with the EIP. You can also configure specific routes to forward packets to the Internet through multiple ENIs or a randomly selected ENI to implement load balancing.

3.3.2. Associate an EIP with an ENI in NAT mode

This topic describes how to associate an elastic IP address (EIP) with a secondary elastic network interface (ENI) in NAT mode. This allows you to use the public and private IP addresses of the ENI at the same time. In this case, the EIP is not displayed on the secondary ENI.

Prerequisites

Before you associate an EIP with a secondary ENI in NAT mode, make sure that the following requirements are met:

- A VPC-connected secondary ENI is created. The secondary ENI and the EIP to be associated are deployed in the same region. For more information, see [Create an ENI](#).
- The secondary ENI with which you want to associate an EIP is not associated with any Elastic Compute Service (ECS) instance.

If the secondary ENI is associated with an ECS instance, you must disassociate it from the ECS instance before you can associate the secondary EN with an EIP. For more information, see the [Detach an ENI from an instance](#).

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where the EIP is created.
3. On the **Elastic IP Addresses** page, find the EIP that you want to associate, and click **Bind Resource** in the **Actions** column.
4. In the **Bind Elastic IP Address to Resources** dialog box, set the following parameters and click **OK**.

Parameter	Description
Instance Type	Select Secondary ENI.
Resource Group	Select the resource group to which the secondary ENI belongs.

Parameter	Description
Binding Mode	<p>Select NAT Mode.</p> <p>In NAT Mode:</p> <ul style="list-style-type: none"> ◦ The number of EIPs that can be associated with a secondary ENI depends on the number of the private IP addresses of the secondary ENI. ◦ After you associate a secondary ENI with an EIP, you can use the public and private IP addresses of the secondary ENI at the same time. ◦ The EIP that is associated with a secondary ENI in NAT mode is not displayed in the operating system. To query the EIP, call the <code>DescribeEipAddresses</code> operation. For more information, see DescribeEipAddresses. ◦ An EIP that is associated with a secondary ENI in NAT mode does not support NAT ALG protocols, such as H.323, SIP, DNS, RTSP, and TFTP.
Select an instance to bind	<p>Select the secondary ENI to be associated with the EIP.</p> <p>Make sure that the following requirements are met:</p> <ul style="list-style-type: none"> ◦ The secondary ENI is deployed in a Virtual Private Cloud (VPC) network. ◦ The secondary ENI and the EIP are created in the same region.

3.3.3. Associate an EIP with a secondary ENI in cut-through mode

This topic describes how to associate an elastic IP address (EIP) with a secondary elastic network interface (ENI) in cut-through mode. After the association, the EIP replaces the private IP address of the secondary ENI, which changes the secondary ENI to a network interface controller (NIC). In this case, the EIP is displayed in the operating system.

Prerequisites

Before you associate an EIP with a secondary ENI in cut-through mode, make sure that the following requirements are met:

- A secondary ENI that is connected to a VPC network is created. The VPC-connected secondary ENI and the EIP to be associated are deployed in the same region. For more information, see [Create an ENI](#).
- The secondary ENI is not associated with any ECS instances.


If the secondary ENI is associated with an ECS instance, you must disassociate it from the ECS instance before you can associate an EIP with the secondary ENI in cut-through mode. For more information, see the [Detach an ENI from an instance](#).

Context

EIPs function as Network Address Translation (NAT) gateway IP addresses. In NAT mode, the public IP address is assigned to the gateway device instead of the NIC of the ECS instance. In the operating system, only the private IP address of the NIC of the ECS instance is displayed. The public IP address is not displayed. Administrators must manually maintain the mapping between the NIC or server and the public IP address. EIPs that are associated with resources in NAT mode do not support the H.323, SIP, DNS, or RTSP protocol.

To use an EIP that supports these protocols, you can associate the EIP with a secondary ENI in cut-through mode. In cut-through mode:

- The EIP that is associated with a secondary ENI replaces the private IP address of the secondary ENI. The secondary ENI becomes a NIC. The private network features of the secondary ENI are not available.
- The EIP is displayed on the ENI in the operating system. You can run the `ifconfig` or `ipconfig` command to query the public IP address of the secondary ENI.
- EIPs in cut-through mode support all IP protocols, such as FTP, H.323, SIP, DNS, RTSP, and TFTP.
- Each secondary ENI can be associated with only one EIP.


 **Notice** If you associate a subscription EIP with a secondary ENI in cut-through mode, and the secondary ENI is associated with an ECS instance, the private network features are no longer available after the EIP is released. To restore the private network features of the secondary ENI, you must disassociate it from the ECS instance, and associate an EIP with the secondary ENI in cut-through mode.

Procedure

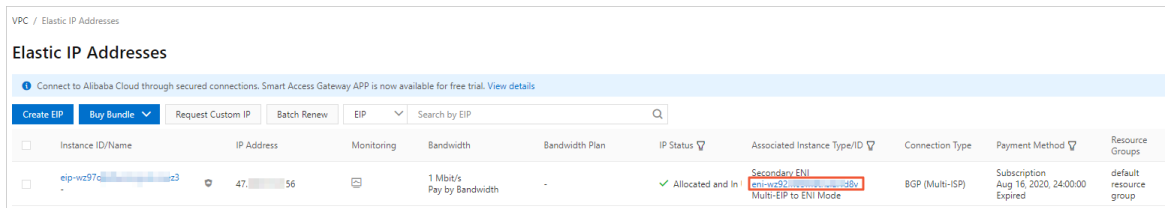
1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.

 **Note** The cut-through mode is supported in the following regions: China (Hangzhou), China (Shanghai), China (Qingdao), China (Beijing), China (Zhangjiakou-Beijing Winter Olympics), China (Hohhot), China (Shenzhen), China (Chengdu), Singapore (Singapore), Indonesia (Jakarta), Germany (Frankfurt), UK (London), and US (Virginia).

3. On the **Elastic IP Addresses** page, find the EIP that you want to associate, and click **Bind Elastic IP Address to Resources** in the **Actions** column.
4. In the **Bind Elastic IP Address to Resources** dialog box, set the following parameters, and then click **OK**.

Parameter	Description
Instance Type	Select Secondary ENI.
Binding Mode	Select Cut-Through Mode.
Select an instance to bind	Select the secondary ENI with which you want to associate the EIP.  Notice Make sure that the selected secondary ENI is not associated with any ECS instance.

5. Return to the Elastic IP Addresses page and click the hyperlink of the associated ENI.



6. On the Network Interfaces page, click Bind in the Actions column to associate the ENI with an ECS instance.

Note

- The number of ENIs that can be associated with an ECS instance varies based on the type of the EIP. For more information, see the [Instance families](#).
- After you associate the secondary ENI with an ECS instance, you must enable Dynamic Host Configuration Protocol (DHCP) and then restart the ENI for the cut-through mode to take effect.
- After the cut-through mode is set, the ECS instance automatically generates a route entry that uses the secondary ENI as the outbound interface. The priority of this route entry is lower than that of the route of the primary ENI. You can adjust the priorities of these route entries to meet your business requirements.

7. Log on to the ECS instance by using the associated EIP and run the `ipconfig` command to view the network configuration of the ECS instance.

Note Make sure that the security group rules of the ECS instance allow remote access.

As shown in the following figure, the IPv4 address of the ECS instance is replaced by the associated EIP.

```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Users\Administrator> ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 4:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80:
    IPv4 Address. . . . . : 192.
    Subnet Mask . . . . . : 255.
    Default Gateway . . . . . : 192.

Ethernet adapter Ethernet 5:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::34ad:eb2c:be55:4a77%13
    IPv4 Address. . . . . : 47.9. . 68
    Subnet Mask . . . . . : 255. . 1.0
    Default Gateway . . . . . : 47.9. . 53

Tunnel adapter isatap.{3E630C83-2ED0-4BAB-99DC-5F6F22B80903}:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

Tunnel adapter Teredo Tunneling Pseudo-Interface:

    Connection-specific DNS Suffix  . : 
    IPv6 Address. . . . . : 2001:0:
    Link-local IPv6 Address . . . . . : fe80::34
    Default Gateway . . . . . : ::

Tunnel adapter isatap.{D9E63B28-1504-4094-A5EB-086C41138E32}:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 
PS C:\Users\Administrator>
```

3.3.4. Associate EIPs with secondary ENIs in multi-EIP-to-ENI mode

This topic describes how to associate multiple elastic IP addresses (EIPs) with a secondary elastic network interface (ENI) in multi-EIP-to-ENI mode. This mode allows you to use private and public IP addresses at the same time. You can view the status of the EIPs in the network interface controller (NIC) of the operating system.

Prerequisites

Before you associate an EIP with a secondary ENI in multi-EIP-to-ENI mode, make sure that the following requirements are met:

- The multi-EIP-to-ENI mode is in public review. To set this mode, [submit a ticket](#).
- A VPC-connected secondary ENI is created. The secondary ENI and the EIP to be associated with are deployed in the same region. For more information, see [Create an ENI](#).
- The secondary ENI is not associated with any ECS instance.

If the secondary ENI is associated with an ECS instance, you must disassociate it from the ECS instance before you can associate an EIP with a secondary ENI in multi-EIP-to-ENI mode. For more information, see [Detach an ENI from an instance](#).

Context

An EIP functions as the IP address of a Network Address Translation (NAT) gateway. In NAT mode, the public IP address is assigned to the gateway device instead of the NIC of the ECS instance. In the operating system, only the private IP address of the NIC of the ECS instance is displayed. The public IP address is not displayed. In this case, administrators must manually maintain the mapping between the NIC or server and the public IP address. EIPs that are associated with resources in NAT mode do not support the H.323, SIP, DNS, and RTSP protocols.

In multi-EIP-to-ENI mode, EIPs are displayed on the NIC. In multi-EIP-to-ENI mode:

- The secondary ENI supports both private and public IP addresses.
- EIPs are displayed on the NIC. After you configure a static IP address in the operating system, you can run the `ifconfig` or `ipconfig` command to query the public address of the ENI.
- EIPs that are associated with a secondary ENI in multi-EIP-to-ENI mode support all Internet protocols, such as H.323, SIP, DNS, RTSP, FTP, and TFTP.
- Each secondary ENI can be associated with a maximum of 10 EIPs.

Procedure

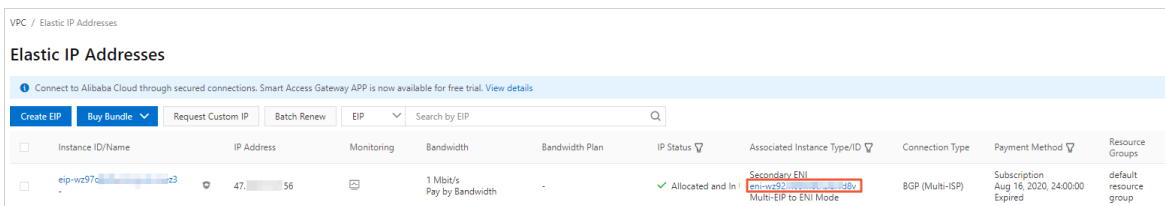
1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where the EIP is created.

Note The multi-EIP-to-ENI mode is supported in the following regions: China (Shenzhen), China (Shanghai), China (Beijing), China (Zhangjiakou-Beijing Winter Olympics), China (Chengdu), Singapore, Germany (Frankfurt), India (Mumbai), US (Virginia), and UK (London).

3. On the Elastic IP Addresses page, find the EIP that you want to associate, and then click **Bind Resources** in the **Actions** column.
4. In the **Bind Elastic IP Address to Resources** dialog box, set the following parameters, and click **OK**.

Parameter	Description
Instance Type	Select Secondary ENI .
Mode	Select Multi-EIP to ENI Mode .
Select an instance to bind	Select the secondary ENI to be associated with the EIP.

5. To associate more EIPs with the secondary ENI, repeat the preceding steps.
6. Return to the Elastic IP Addresses page and click the ID of the associated ENI.




7. On the **Network Interfaces** page, click **Bind to Instance** to associate the ENI with an ECS instance.

 **Note**

- In the multi-EIP-to-ENI mode, you can associate an EIP with the secondary ENI, and then associate the secondary ENI with an ECS instance. Supported ECS instance families are: ecs.c5-618, ecs.d1ne, ecs.db11-se1ne, ecs.ebma1, ecs.ebmc4, ecs.ebmg4, ecs.ebmg5, ecs.ebmg5ne, ecs.ebmgn5i, ecs.ebmgn5t, ecs.ebmhfg4, ecs.ebmhfg5, ecs.ebmi2, ecs.ebmi3, ecs.ebmr4, ecs.ebmr5, ecs.elmd1ne, ecs.elmdb, ecs.f1, ecs.f2, ecs.g5-618, ecs.gn3, ecs.gn5d, ecs.gn5i, ecs.gn5t, ecs.gn6p, ecs.gn6v, ecs.i2, ecs.r1, ecs.re4, ecs.re4e, ecs.sccg5, ecs.sccgn6, ecs.scch5, ecs.x1.i2, ecs.x1.i5, ecs.x1.i6, ecs.x1.i8, ecs.g5, ecs.c5, ecs.r5, ecs.t5, ecs.sn2ne, ecs.se1ne, and ecs.sn1ne. For more information, see [Instance families](#).
- After you associate EIPs with the secondary ENI in the multi-EIP-to-ENI mode, you must enable DHCP for the ECS instance that is associated with the secondary ENI. Otherwise, the multi-EIP-to-ENI mode can not take effect.

8. You can call the DescribeEipGatewayInfo operation to query the gateway and subnet mask information about the EIP. For more information, see [DescribeEipGatewayInfo](#).
9. Log on to the ECS instance and configure EIPs for the ECS instance. For more information, see [Assign a secondary private IP address for a Windows instance](#) and [Assign a secondary private IP address to a Linux instance](#).

 **Notice** When you configure EIPs for an ECS instance as described in the preceding topics, replace the secondary private IP address with an EIP, and replace the gateway and subnet mask of the secondary private IP address with those of the EIP.

After you configure the EIP, you can run the `ifconfig` or `ipconfig` command to query the EIP.

3.4. Associate an EIP with an SLB instance

This topic describes how to associate an elastic IP address (EIP) with a Server Load Balancer (SLB) instance. After you associate an EIP with an SLB instance, the SLB instance can distribute requests from the Internet.

Prerequisites

A SLB instance is created. For more information, see [Create an SLB instance](#).

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the **Elastic IP Addresses** page, find the EIP that you want to manage, and click **Bind Resource** in the **Actions** column.
4. In the **Bind Elastic IP Address to Resources** dialog box, set the following parameters, and click **OK**.

Parameter	Description
Instance Type	Select SLB Instance.
Select an instance to bind	<p>Select the SLB instance to be associated with the EIP.</p> <p>When you select an SLB instance, make sure that the following requirements are met:</p> <ul style="list-style-type: none">◦ The SLB instance must be deployed in a Virtual Private Cloud (VPC) network.◦ The SLB instance and the EIP must be deployed in the same region.◦ Each SLB instance can be associated with only one EIP.

Related information

- [AssociateEipAddress](#)

4. Disassociate an EIP from a cloud resource

This topic describes how to disassociate an elastic IP address (EIP) from a cloud resource when Internet access is no longer needed. An EIP that is disassociated from a cloud resource still incurs retention costs.

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, find the EIP that you want to disassociate, and click **Unbind** in the Actions column.
4. In the message that appears, click **OK**.

Related information


- [UnassociateEipAddress](#)

5. Manage subscription EIPs

5.1. Upgrade a subscription EIP

This topic describes how to upgrade the bandwidth of a subscription elastic IP address (EIP). Bandwidth upgrades take effect immediately.

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, find the EIP that you want to upgrade, and choose  > **Modify Configuration** in the Actions column.
4. On the Upgrade/Downgrade page, set a new maximum bandwidth for the EIP, and then click **Buy Now** and complete the payment.

Related information

- [ModifyEipAddressAttribute](#)


5.2. Renew a subscription EIP

This topic describes how to renew a subscription elastic IP address (EIP).

Context

An subscription EIP will be retained for seven days after the expiration date. If you do not renew the EIP within seven days, the EIP is automatically released.

Procedure


1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, find the EIP that you want to renew, and choose  > **Renewal** in the Actions column.
4. On the Renew page, specify the renewal period, select the Elastic IP Terms of Service check box, click **Buy Now** and complete the payment.

5.3. Upgrade and downgrade the bandwidth of a subscription EIP

This topic describes how to modify the bandwidth of a subscription elastic IP address (EIP) when you renew its subscription. The modified bandwidth is effective within the renewal period that you set in the configuration.

Procedure

1. Log on to the [EIP console](#).


2. In the upper-left corner, select the region where your EIP is created.
3. On the **Elastic IP Addresses** page, find the EIP that you want to upgrade or downgrade, and choose  > **Renew and upgrade/downgrade** in the **Actions** column.
4. On the **Renew and Change Configuration** page, specify the renewal period and the maximum bandwidth, select the **Elastic IP Terms of Service** check box, click **Buy Now** and complete the payment.

6. Manage pay-as-you-go EIPs

6.1. Upgrade or downgrade the bandwidth of a pay-as-you-go EIP

This topic describes how to change the bandwidth .

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, find the EIP that you want to manage, and click  > **Modify Configuration** in the Actions column.
4. In the Configuration Upgrade section, select a bandwidth and click Activate.

6.2. Associate an EIP with an EIP bandwidth plan

This topic describes how to associate an elastic IP address (EIP) with an EIP bandwidth plan. After you create an EIP bandwidth plan, you can associate one or more EIPs with the EIP bandwidth plan. This allows you to reuse the bandwidth in the EIP bandwidth plan.

Prerequisites

- Make sure that you have applied for an EIP and the following requirements are met:
 - The EIP is billed on a pay-as-you-go basis.
 - The EIP and the EIP bandwidth plan are purchased in the same region.
 - The line type of the EIP and that of the EIP bandwidth plan are the same.
- For more information, see [Apply for new EIPs](#).
- An EIP bandwidth plan is purchased. For more information, see [Create an EIP bandwidth plan](#).

Context

EIP bandwidth plans support the pay-by-data-transfer billing method. For more information, see [计费说明](#).

After you associate an EIP with an EIP bandwidth plan:


- Elastic Compute Service (ECS) instances, Server Load Balancer (SLB) instances, and NAT gateways that are associated with the EIP share the bandwidth of the EIP bandwidth plan.
- The maximum bandwidth of the EIP that of the EIP bandwidth plan.
- The previous EIP billing method becomes invalid. The EIP functions as a public IP address. No data transfer is charged for the EIP.
- An EIP is billed independently, regardless of whether it is associated with an EIP bandwidth plan.

- You are not charged an EIP fee if the EIP is assigned to an ECS instance in a Virtual Private Cloud (VPC) network.
- You are charged an EIP fee if the EIP is assigned to a NAT gateway, SLB instance, secondary elastic network interface (ENI), or high-availability virtual IP address (HAVIP).

 **Note**

- Note that if you associate an EIP that is assigned to a NAT gateway with an EIP bandwidth plan, transient connection errors may occur. Proceed with caution.
- You can associate up to 100 EIPs with each EIP bandwidth plan. To associate more EIPs, you can apply for a quota increase. For more information, see [Manage quotas](#).

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, find the EIP that you want to manage, and choose  >
Add to Shared Bandwidth Package in the Actions column.
4. In the dialog box that appears, select an EIP bandwidth plan, and click OK.


Related information

- [AddCommonBandwidthPackageIp](#)

6.3. Disassociate an EIP from an EIP bandwidth plan

This topic describes how to disassociate an elastic IP address (EIP) from an EIP bandwidth plan. After you disassociate the EIP, the maximum bandwidth and the billing method of the EIP are restored to the user-defined settings.

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, find the EIP that you want to disassociate, and choose  >
Remove from Internet Shared Bandwidth in the Actions column.
4. In the message that appears, click OK.

Related information

- [RemoveCommonBandwidthPackageIp](#)

6.4. Release an EIP

This topic describes how to release an elastic IP address (EIP). After you release an EIP, you are no longer charged for it.

Prerequisites

Before you release an EIP, make sure that the following requirements are met:

- The EIP is disassociated from an EIP bandwidth plan. For more information about how to disassociate an EIP from an EIP bandwidth plan, see [Disassociate an EIP from an EIP bandwidth plan](#).
- The EIP is not associated with a cloud resource. For more information about how to disassociate an EIP from a cloud resource, see [Disassociate an EIP from a cloud resource](#).

Context

Note the following limits before you release an EIP:

- You can only release EIPs that are charged on a pay-as-you-go basis. You cannot release subscription EIPs.
- You cannot release EIPs that are locked due to security issues.

After you release an EIP, you may still receive bills, but you are no longer charged for the EIP.


- Bills for pay-by-data-transfer EIPs are generated on an hourly basis. The bill for data usage within the current hour is generated the next hour.

For example, if you release an EIP at 10:30, the bill is generated at 11:00, which covers fees incurred from 10:00 to 11:00.

- Bills for pay-by-bandwidth EIPs are generated on a daily basis. A bill is generated at 00:00 every day and contains fees that are incurred during the last day.

For example, if you released an EIP on January 1, 2019, the bill was generated at 00:00 January 2, 2019, which covers fees that were incurred during January 1, 2019.

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the Elastic IP Addresses page, choose  > Release in the Actions column.
4. In the Release Elastic IP dialog box, click OK. If you release an EIP that belongs to a continuous EIP group, all EIPs in the group are released. Select I have read and understood the preceding information, and want to release the continuous EIP group and all EIPs in it, and then click OK.

Related information

- [ReleaseEipAddress](#)
- [ReleaseEipSegmentAddress](#)

6.5. Switch the billing method of an EIP to pay-by-bandwidth


This topic describes how to switch the billing method of an elastic IP address (EIP) from pay-by-data-transfer to pay-by-bandwidth.

Context

Note the following rules before you switch the billing method:

- The new billing method takes effect at 00:00 the next day.
- Before the new billing method takes effect, you cannot modify the maximum bandwidth of the EIP.

Procedure


1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the **Elastic IP Addresses** page, find the EIP that you want to manage, and click  > **Modify Configuration** in the **Actions** column.
4. In the **Configuration Upgrade** section, set the following parameters, and click **Activate**.

Parameter	Description
Network Type	The network type of the EIP.
Max Bandwidth	The maximum bandwidth of the EIP. You can increase or decrease the maximum bandwidth.
Network Traffic	Select By bandwidth. The EIP is billed based on the maximum bandwidth that you have set on that day, not the actual data usage.
Billing Cycle	The billing cycle of the EIP.

7.View bills

This topic describes how to view bills of an elastic IP address (EIP).

Procedure

1. Log on to the [EIP console](#).
2. In the upper-left corner, select the region where your EIP is created.
3. On the **Elastic IP Addresses** page, find the EIP and choose  **> View Bills** in the **Actions** column.
4. Check the details of the EIP bills on the **Bills** page.

8. Quota management

This topic describes how to manage the quota usage of elastic IP addresses (EIPs) in the Virtual Private Cloud (VPC) console. If you require more EIPs after the quota is exhausted, you can apply for a quota increase.

Procedure

1. Log on to the **VPC console**.
2. In the left-side navigation pane, click **Quota Management**.
3. On the **Quota Management** page, click the **Elastic IP Address (EIP)** tab to view the quota usage of the EIPs.
4. If you want to raise the quota, click **Submit Application** in the **Actions** column.
5. In the **Submit Quota Application** dialog box, set the following parameters and submit the application.
 - **Quantity for Application:** the amount of quota that you want to request.
 - **Reason for Application:** detailed reasons for the application, including the scenarios and necessity.
 - **Email:** the email address of the applicant.
6. Click **OK**. The system automatically reviews your quota increase application. You can check whether your application is approved based on the status of the application: If the status displays **Rejected**, your application is rejected. If the status displays **Approved**, your application is approved, and the quota is automatically raised to the specified amount.