

Alibaba Cloud

NAT Gateway Quick Start

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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>

Table of Contents

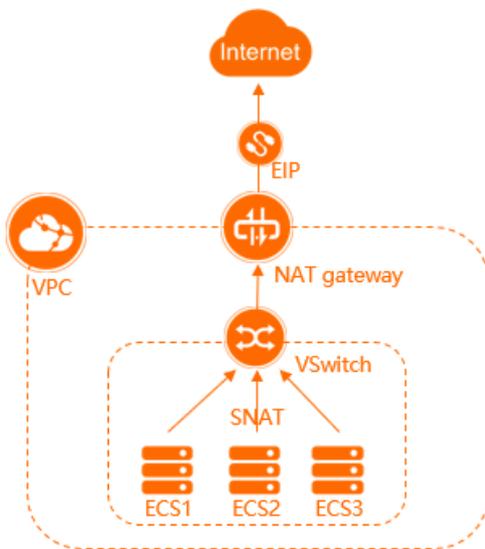
1. Use the SNAT feature of an Internet NAT gateway to access t...	05
2. Configure DNAT on an Internet NAT gateway for an ECS insta...	09

1. Use the SNAT feature of an Internet NAT gateway to access the Internet

This topic describes how to configure SNAT on an Internet NAT gateway. SNAT allows Elastic Compute Service (ECS) instances that are not assigned public IP addresses to access the Internet.

Scenarios

The following scenario is used as an example. You created a virtual private cloud (VPC) and a vSwitch on Alibaba Cloud. Multiple ECS instances are created in the vSwitch. The ECS instances are not assigned static public IP addresses or associated with elastic IP addresses (EIPs). To meet business requirements, the ECS instances must have access to the Internet.



In this scenario, you can configure SNAT on an Internet NAT gateway. SNAT allows ECS instances in a VPC to access the Internet when the ECS instances are not assigned public IP addresses.

Prerequisites

- An Alibaba Cloud account is created. For more information, see [Create an Alibaba Cloud account](#).
- A VPC and a vSwitch are created. ECS instances are deployed in the vSwitch. For more information, see [Create an IPv4 VPC](#).
- The VPC that you created meets the following requirements:
 - A custom route whose destination CIDR block is 0.0.0.0/0 does not exist in the VPC. If the custom route exists, delete it.
 - If you want to configure SNAT as a Resource Access Management (RAM) user, make sure that the RAM user is authorized to access the VPC. Otherwise, contact the Alibaba Cloud account owner to acquire the permissions.

Procedure



Step 1: Create an Internet NAT gateway

- 1.
- 2.
- 3.
- 4.
- 5.

After you create an Internet NAT gateway, you can find the Internet NAT gateway on the **Internet NAT Gateway** page.

Instance ID/Name	Monitoring	Maximum Bandwidth	Specs/Type	VPC	Status	Charge Type	Billing Metric
ngw-bp111z-...d22rx35		5120 Mbps Adjust	- Enhanced	vpc-bp1q-...i90zh2qv dortast	✓ Available	Pay-As-You-Go Sep 29, Created	Pay-By-Data-Transfer

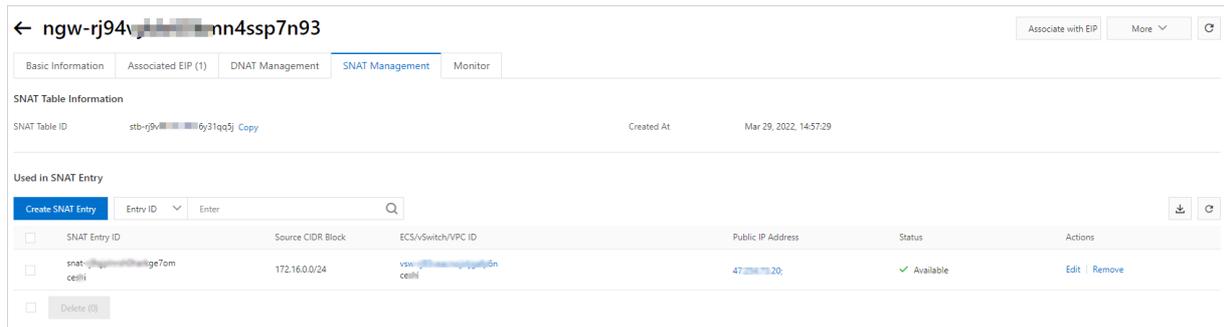
Step 2: Associate an EIP with the Internet NAT gateway

An Internet NAT gateway can run as expected only when it is associated with an EIP. After you create an Internet NAT gateway, you can associate EIPs with the Internet NAT gateway to meet your business requirements.

- 1.
- 2.
- 3.
4. In the **Associate EIP** dialog box, set the following parameters and click **OK**.

Parameter	Description
Resource Group	Select the resource group of the EIP.
EIPs	Select the EIP that you want to associate with the Internet NAT gateway. In this example, Purchase and Associate EIP is selected. The system automatically creates a pay-by-data-transfer EIP and associates the EIP with the Internet NAT gateway.

After the SNAT entry is created, you can view the SNAT entry on the **Used in SNAT Entry** tab.



Step 4: Test network connectivity

After you create an SNAT entry, you can test the network connectivity of the ECS instances. In this example, an ECS instance that runs Linux is used to test the network connectivity.

Note Make sure that the security group rules of the ECS instance allow the ECS instance to access the Internet. For more information, see [Overview](#).

1. Log on to an ECS instance that is attached to the vSwitch. For more information, see [Connection methods](#).
2. Run the `ping` command to ping `www.aliyun.com`.

If you can receive echo reply packets, it indicates that the connection is established.

The result shows that the ECS instance can access the Internet.

```
[root@izb... ~]# ping www.aliyun.com
PING na61-na62.wagbr... aliyun.com (203...114) 56(84) bytes of data:
64 bytes from 203...7.114 (203...114): icmp_seq=1 ttl=93 time=35.4 ms
64 bytes from 203...7.114 (203...114): icmp_seq=2 ttl=93 time=35.3 ms
64 bytes from 203...7.114 (203...114): icmp_seq=3 ttl=93 time=35.2 ms
64 bytes from 203...7.114 (203...114): icmp_seq=4 ttl=93 time=35.2 ms
^C
--- na61-na62.wagbr... aliyun.com (203...114) ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 35.219/35.272/35.371/0.145 ms
```

FAQ

How many SNAT entries can I add to an Internet NAT gateway?

By default, you can add up to 40 SNAT entries to an Internet NAT gateway.

How many EIPs can I specify in an SNAT entry?

You can specify up to 64 EIPs in an SNAT entry. The quota cannot be increased.

For more information about SNAT, see [FAQ about SNAT](#).

References

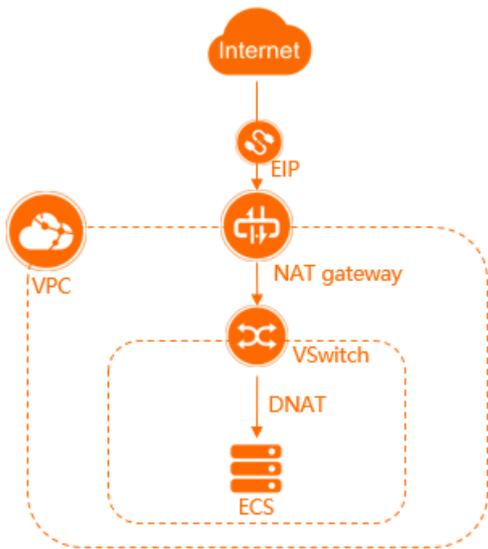
[Configure DNAT on an Internet NAT gateway for an ECS instance](#)

2. Configure DNAT on an Internet NAT gateway for an ECS instance

This topic describes how to configure DNAT on an Internet NAT gateway. DNAT allows Elastic Compute Service (ECS) instances to provide Internet-facing services.

Scenarios

The following scenario is used as an example. A company created an ECS instance on Alibaba Cloud and deployed applications on the ECS instance. The ECS instance is not assigned a static public IP address or associated with an elastic IP address (EIP). Due to business development, the company wants the ECS instance to provide Internet-facing services by using the DNAT feature of an Internet NAT gateway. Internet NAT gateways support IP mapping and port mapping.



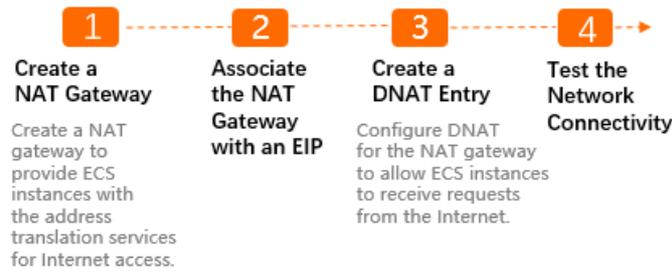
Prerequisites

- An Alibaba Cloud account is created. If you do not have an Alibaba Cloud account, [create an Alibaba Cloud account](#).
- A virtual private cloud (VPC) and a vSwitch are created. For more information, see [Create an IPv4 VPC](#).
- An ECS instance is created in the vSwitch. Applications are deployed on the ECS instance. For more information, see [Create an instance by using the wizard](#).

In this example, an application that uses Apache is deployed on the ECS instance.

- Make sure that the security group rules of the ECS instance allow the ECS instance to receive requests from the Internet. In this example, make sure that the inbound rules of the security group of the ECS instance allow `TCP` access to port `80`. For more information, see [Add a security group rule](#).

Procedure



Step 1: Create an Internet NAT gateway

- 1.
- 2.
- 3.
- 4.
- 5.

After you create an Internet NAT gateway, you can find the Internet NAT gateway on the Internet NAT Gateway page.

Instance ID/Name	Monitoring	Maximum Bandwidth	Specs/Type	VPC	Status	Charge Type	Billing Metric
ngw-bp11fz-d22rx35		5120 Mbps Adjust	- Enhanced	vpc-bp1q-i90zh2qv	✓ Available	Pay-As-You-Go Sep 29, Created	Pay-By-Data-Transfer
Pending Configuration							

Step 2: Associate an EIP with the Internet NAT gateway

An Internet NAT gateway can run as expected only when it is associated with an EIP. After you create an Internet NAT gateway, you can associate EIPs with the Internet NAT gateway to meet your business requirements.

- 1.
- 2.
- 3.
4. In the **Associate EIP** dialog box, set the following parameters and click **OK**.

Parameter	Description
Resource Group	Select the resource group of the EIP.
EIPs	Select the EIP that you want to associate with the Internet NAT gateway. In this example, Purchase and Associate EIP is selected. The system automatically creates a pay-by-data-transfer EIP and associates the EIP with the Internet NAT gateway.

2. Enter `http://IP address of the EIP:80` into the address bar of your browser and access the application that is deployed on the ECS instance.

The test result shows that the ECS instance can access the application that is deployed on the ECS instance.

