# Elastic IP

# Getting Started

**Issue** 01

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## Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: https://www.huawei.com

Email: support@huawei.com

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# Contents



# 1 Quick Start

This topic describes how to use a VPC to provide an ECS with an IPv4 private network on the cloud and bind an EIP to the ECS to allow the ECS to communicate with the Internet.

For details, see **Enabling an ECS to Access the Internet Using an EIP**.

## Operation Process

| Procedure | Description |
| --- | --- |
| **Preparations** | Before using cloud services, sign up for a HUAWEI ID and enable Huawei Cloud services. |
| **Step 1: Create a VPC and Subnet** | Create a VPC with an IPv4 CIDR block and create a subnet in the VPC.<br>• VPC IPv4 CIDR block: 192.168.0.0/16<br>• Subnet IPv4 CIDR block: 192.168.0.0/24 |
| **Step 2: Buy an ECS** | Buy an ECS in the subnet you have created and configure security group rules for the ECS. |
| **Step 3: Buy an EIP and Bind It to the ECS** | Buy an EIP and bind it to the ECS so that the ECS can access the Internet. |
| **Step 4: Test Network Connectivity** | To test ECS connectivity, you can:<br>1. Log in to the ECS from the local PC.<br>2. Access the Internet from the ECS using an EIP. |

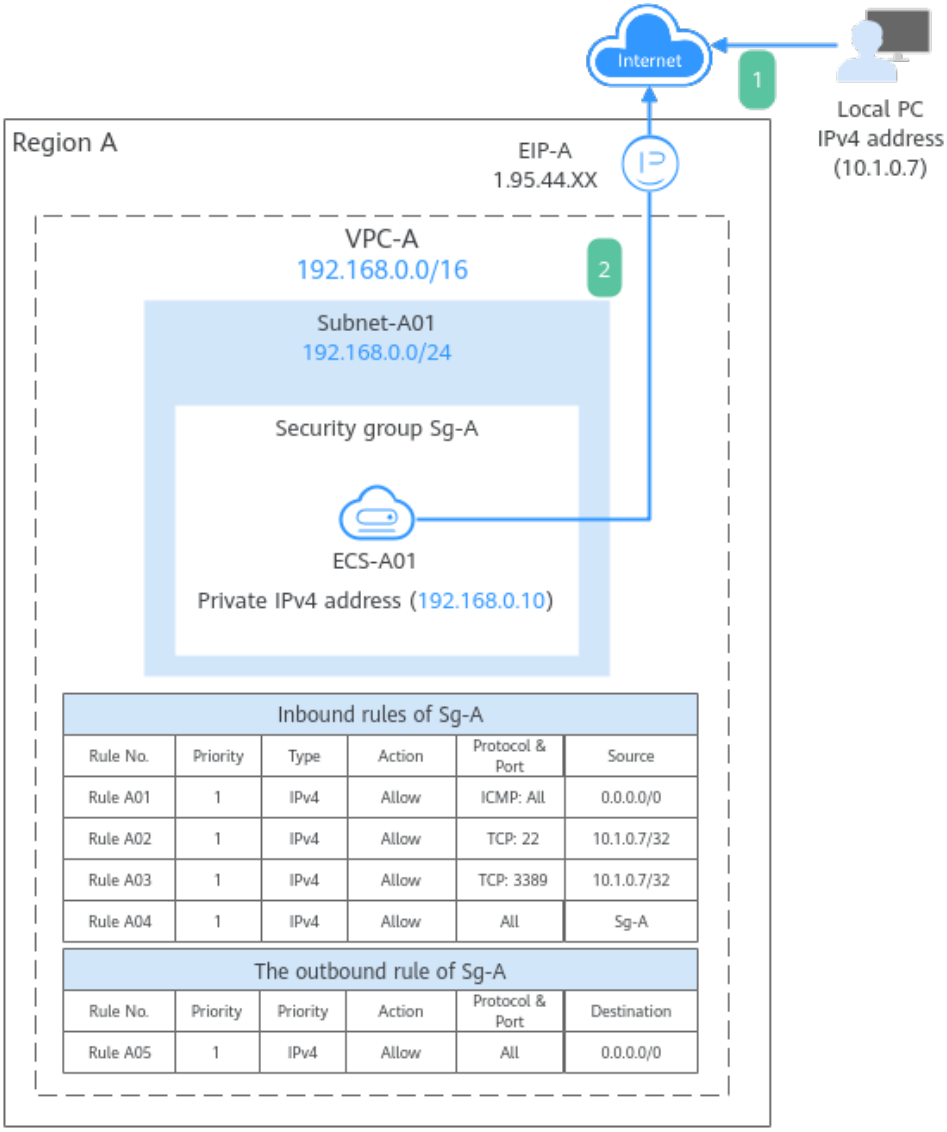
# 2 Enabling an ECS to Access the Internet Using an EIP

You can refer to this section to enable ECSs to access the Internet using EIPs.

**Figure 2-1** shows the architecture of an IPv4 network. In this network, security group **Sg-A** protects **ECS-A01** in it. You can configure security group rules to control access to and from **ECS-A01**.

**Figure 2-1** IPv4 network architecture (VPC, ECS, and EIP)




| Inbound rules of Sg-A | | | | | |
|---|---|---|---|---|---|
| Rule No. | Priority | Type | Action | Protocol & Port | Source |
| Rule A01 | 1 | IPv4 | Allow | ICMP: All | 0.0.0.0/0 |
| Rule A02 | 1 | IPv4 | Allow | TCP: 22 | 10.1.0.7/32 |
| Rule A03 | 1 | IPv4 | Allow | TCP: 3389 | 10.1.0.7/32 |
| Rule A04 | 1 | IPv4 | Allow | All | Sg-A |

| The outbound rule of Sg-A | | | | | |
|---|---|---|---|---|---|
| Rule No. | Priority | Priority | Action | Protocol & Port | Destination |
| Rule A05 | 1 | IPv4 | Allow | All | 0.0.0.0/0 |

1. To allow users to remotely log in to **ECS-A01** from the local PC (IP address: 10.1.0.7) and perform operations on this ECS, you need to add the following inbound rules:
   - Rule A01: allows ping to test **ECS-A01** network connectivity.
   - Rule A02: allows remote logins to **ECS-A01** if the ECS runs Linux.
   - Rule A03: allows remote logins to **ECS-A01** if the ECS runs Windows.
   - Rule A04: allows ECSs in the security group to communicate with each other.
2. To allow **ECS-A01** to access the Internet, you need to add an outbound rule.

## Precautions

The network planning in this topic is only for your reference. Once a VPC and subnet are created, the CIDR blocks cannot be changed. Before creating VPCs, determine how many VPCs and subnets, and what CIDR blocks or connectivity options you will need.

For details, see **VPC and Subnet Planning Suggestions**.

## Operation Process

| Procedure | Description |
| --- | --- |
| **Preparations** | Before using cloud services, sign up for a HUAWEI ID and enable Huawei Cloud services. |
| **Step 1: Create a VPC and Subnet** | Create a VPC with an IPv4 CIDR block and create a subnet in the VPC.<br>• VPC IPv4 CIDR block: 192.168.0.0/16<br>• Subnet IPv4 CIDR block: 192.168.0.0/24 |
| **Step 2: Buy an ECS** | Buy an ECS in the subnet you have created and configure security group rules for the ECS. |
| **Step 3: Buy an EIP and Bind It to the ECS** | Buy an EIP and bind it to the ECS so that the ECS can access the Internet. |
| **Step 4: Test Network Connectivity** | To test ECS connectivity, you can:<br>1. Log in to the ECS from the local PC.<br>2. Access the Internet from the ECS using an EIP. |

## Preparations

Before creating resources such as VPCs and ECSs, you need to **sign up for a HUAWEI ID and enable Huawei Cloud services**.

If you already have a HUAWEI ID, skip this part.

## Step 1: Create a VPC and Subnet

1. Go to the page for **creating a VPC**.
2. On the **Create VPC** page, set parameters as needed.

   In this example, you need to create a VPC and a subnet.

   **Table 2-1** VPC parameters

| Parameter | Example Value | Description |
| --- | --- | --- |
| Region | - | The region where the VPC is created. Select the region nearest to you to ensure the lowest possible latency. The VPC, ECS, and EIP used in this example must be in the same region.<br>The region cannot be changed after the VPC is created. |

| Parameter | Example Value | Description |
| --- | --- | --- |
| Name | VPC-A | The VPC name.<br>This parameter can be changed after the VPC is created. |
| IPv4 CIDR Block | 192.168.0.0/16 | The IPv4 CIDR block of the VPC. You are advised to select from the following CIDR blocks:<br>• 10.0.0.0/8–24: The IP address ranges from 10.0.0.0 to 10.255.255.255, and the netmask ranges from 8 to 24.<br>• 172.16.0.0/12–24: The IP address ranges from 172.16.0.0 to 172.31.255.255, and the netmask ranges from 12 to 24.<br>• 192.168.0.0/16–24: The IP address ranges from 192.168.0.0 to 192.168.255.255, and the netmask ranges from 16 to 24.<br>The IPv4 CIDR block cannot be changed after the VPC is created. |
| Enterprise Project | default | The enterprise project by which resources are centrally managed. Select an existing enterprise project for the VPC.<br>The enterprise project cannot be changed after the VPC is created. |
| Advanced Settings (Optional) > Tag | No configuration is required. | The tag that is used to classify and identify resources. Add tags to the VPC as required.<br>After the VPC is created, you can edit tags added to the VPC. |
| Advanced Settings (Optional) > Description | No configuration is required. | Supplementary information about the VPC. Enter a description as required.<br>This parameter can be changed after the VPC is created. |

**Table 2-2** Subnet parameters

| Parameter | Example Value | Description |
| --- | --- | --- |
| AZ | AZ4 | A geographic location with independent power supply and network facilities in a region. Each region contains multiple AZs. AZs are physically isolated but connected through an internal network. Subnets of a VPC can be located in different AZs without affecting communications. You can select any AZ in a region.<br>An ECS and its VPC can be in different AZs. For example, you can select AZ1 for the ECS and AZ3 for its VPC subnet.<br>The AZ cannot be changed after the subnet is created. |
| Subnet Name | Subnet-A01 | The subnet name.<br>The name can be modified after the subnet is created. |
| IPv4 CIDR Block | 192.168.0.0/24 | The IPv4 CIDR block of the subnet, which is a unique CIDR block with a range of IP addresses in the VPC.<br>The CIDR block cannot be changed after the subnet is created. |
| IPv6 CIDR Block (Optional) | Disabled | Whether to automatically assign an IPv6 CIDR block to the subnet.<br>You can enable or disable this option after the subnet is created. |
| Associated Route Table | Default | The default route table that the subnet is associated with. Each VPC comes with a default route table. Subnets in the VPC are then automatically associated with the default route table.<br>The default route table has a preset system route that allows subnets in a VPC to communicate with each other.<br>After the subnet is created, you can create a custom route table and associate the subnet with it. |
| Advanced Settings (Optional) > Gateway | 192.168.0.1 | The gateway address of the subnet. You are advised to retain the default address.<br>The gateway address cannot be changed after the subnet is created. |

| Parameter | Example Value | Description |
| --- | --- | --- |
| Advanced Settings (Optional)<br>• DNS Server Address<br>• Domain Name<br>• NTP Server Address<br>• IPv4 DHCP Lease Time | No configuration is required. | The parameters that are configured for the ECS in the VPC. In this example, retain the default values or leave them blank.<br>You can change the values after the subnet is created. |
| Advanced Settings (Optional) > Tag | No configuration is required. | The tag that is used to classify and identify resources. Add tags to the subnet as required.<br>After the subnet is created, you can edit the tags added to the subnet. |
| Advanced Settings (Optional) > Description | No configuration is required. | Supplementary information about the subnet. Enter a description as required.<br>This parameter can be changed after the subnet is created. |

3. Click **Create Now**.

   You will be redirected to the VPC list, where you can find the VPC you have created.

## Step 2: Buy an ECS

1. Go to the page for **buying an ECS**.
2. On the **Buy ECS** page, configure parameters as required.

   In this example, set the ECS name to **ECS-A01** and configure other parameters as follows:

   - **Network**: Select **VPC-A** and **Subnet-A01** you have created.
   - **Security Group**: Create security group **Sg-A** and add inbound and outbound rules to it. Each security group comes with system rules. You need to check and modify the rules as required to ensure that all rules in **Table 2-3** are added.

**Table 2-3 Sg-A** rules

| Direction | Action | Type | Protocol & Port | Source/ Destination | Description |
|---|---|---|---|---|---|
| Inbound | Allow | IPv4 | TCP: 22 | Source: 10.1.0.7/32 | Allows the local PC (10.1.0.7/32) to remotely log in to the Linux ECS over SSH port 22. |
| Inbound | Allow | IPv4 | TCP: 3389 | Source: 10.1.0.7/32 | Allows the local PC (10.1.0.7/32) to remotely log in to the Windows ECS over RDP port 3389. |
| Inbound | Allow | IPv4 | ICMP: All | Source: 0.0.0.0/0 | Allows ping traffic to ECSs in the VPC over all ICMP ports to test network connectivity. |
| Inbound | Allow | IPv4 | All | Source: current security group (**Sg-A**) | Allows the ECSs in the security group to communicate with each other. |
| Outbound | Allow | IPv4 | All | Destination: 0.0.0.0/0 | Allows the ECSs in the security group to access the external networks. |

- **EIP**: Select **Not required**.

Configure other ECS parameters s as required. For details, see **Purchasing an ECS in Custom Config Mode**.

3. Click **Submit**.

   Return to the ECS list to view **ECS-A01** you have bought.

## Step 3: Buy an EIP and Bind It to the ECS

1. Go to the **Buy EIP** page.
2. On the **Buy EIP** page, configure the parameters as prompted.

   You can configure other EIP parameters as required. For details, see **Buying an EIP**.
3. Click **Next**.

   Return to the EIP list to view **EIP-A** you have assigned.
4. In the EIP list, locate **EIP-A** and click **Bind** in the **Operation** column.

   The **Bind EIP** dialog box is displayed.
5. In the displayed dialog box, select **ECS-A01** and click **OK**.

   Return to the EIP list. You can see that **ECS-A01** is displayed in the **Associated Instance** column.

## Step 4: Test Network Connectivity

1. Use the local PC to remotely log in to **ECS-A01**.
2. Test the network connectivity between **ECS-A01** and Internet:

   **ping** *<IPv4-EIP or Domain-name>*

   Example command:

   **ping support.huaweicloud.com**

   If information similar to the following is displayed, **ECS-A01** can communicate with the Internet.

```
[root@ecs-a01 ~]# ping support.huaweicloud.com
PING hcdnw.cbg-notzj.c.cdnhwc2.com (203.193.226.103) 56(84) bytes of data.
64 bytes from 203.193.226.103 (203.193.226.103): icmp_seq=1 ttl=51 time=2.17 ms
64 bytes from 203.193.226.103 (203.193.226.103): icmp_seq=2 ttl=51 time=2.13 ms
64 bytes from 203.193.226.103 (203.193.226.103): icmp_seq=3 ttl=51 time=2.10 ms
64 bytes from 203.193.226.103 (203.193.226.103): icmp_seq=4 ttl=51 time=2.09 ms
...
--- hcdnw.cbg-notzj.c.cdnhwc2.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 2.092/2.119/2.165/0.063 ms
```