Virtual Private Cloud
Quick Start
Product Documentation
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Quick Start
Getting Started
Building Up a IPv4 VPC
Step 1: Create a VPC
Step 2: Create a subnet
Step 3: Create a new routing table
Step 4: Add CVMs
Step 5: Bind CVM with EIP
Step 6: Create security groups
Quick Start
Getting Started

As shown in the figure below, in this exercise, you will create a VPC and a subnet, and deploy a CVM that can be connected to the Internet to your subnet. Finally, you need to filter the inbound and outbound traffic of the CVM through security group to guarantee the security of the communication of CVM. The deployed CVM can communicate with the Internet, and you can access your CVM from a local computer. In a real application environment, you can use this scenario to create a Web server for public use, for example, blog hosting.

![Diagram of network setup]

You need to complete the following steps:

**Step 1:** Create a VPC and initialize subnets and routing tables

**Step 2:** Create a subnet

**Step 3:** Create a routing table to associate with a subnet

**Step 4:** Add a CVM to the subnet

**Step 5:** Bind an elastic IP to the CVM for accessing the public network

*(Optional)* **Step 6:** Create a security group for network traffic control
Building Up a IPv4 VPC

Operation Scenarios

Taking the networks required in the deployment of a CVM with Internet access as an example, this document explains each step in detail, from creating a VPC and subnet, to purchasing a CVM, assigning a public IP address, and lastly using a security group to control the inbound and outbound traffic of the CVM.

Prerequisites

1. Before using Tencent Cloud products, you need to register a Tencent Cloud account.
2. Confirm the region and availability zone in which the VPC is to be deployed based on your business requirements.
3. Understand the basic configurations of the two types of Tencent Cloud CVMs: Getting Started with Linux CVMs and Getting Started with Windows CVMs.

Steps

Step 1: (Optional) Create a VPC and subnet.
You can create a custom VPC and subnet, or you can skip this step by choosing to have the system automatically create a default VPC and subnet when purchasing the CVM.
A VPC includes at least one subnet. When a VPC is created, the system will create an initial subnet,
and cloud service resources can only be added in the subnet. The features of the default VPC are the same as those of the custom VPC that you create.

1. Log in to VPC Console.
2. After selecting the region of the VPC on the top bar, click +Create.
3. Enter the VPC information and initial subnet information, and click Create. If you need multiple subnets, see Creating a Subnet.

The CIDR blocks (IP ranges) of VPC instances and subnets cannot be modified once they are created. Therefore, complete network planning in advance.

**Step 2: purchase a CVM.**

1. Log in to CVM Console.
2. Click Create in the upper-left corner of the list page to go to the CVM purchase page.
3. For information on the configurations of CVMs, see Custom Configuration for Linux CVMs and Custom Configuration for Windows CVMs.
4. Select a VPC and subnet. There are two selection methods:
   
   - **Using custom VPC and subnet**
     In 1. Select the region and model in Custom Configuration, you can select the VPC and subnet created in Step 1 in the Network option, and the CVM will be created in the custom VPC and subnet.
   
   - **Using default VPC and subnet**
     In 1. Select the region and model in Custom Configuration, you can select the default VPC (Default-VPC) and subnet (Default-subnet) in the Network option, and the CVM will be created in the default VPC and subnet.

We recommend that you assign a free public IP address when purchasing a CVM. If no public IP address is assigned during the purchase, you can bind the CVM to an elastic public IP address in CVM Console.

**Step 3: configure a security group.**

When purchasing a CVM, you can select the default security group (Default) of the system. This security group permits all traffic by default. You can set security group rules based on your needs.
1. Log in to **CVM Console**.
2. Click **Security Group** in the left sidebar to go to the management page.
3. Find the default security group in the list and click **Modify Rules**.
4. Modify the inbound and outbound rules of the security group on this page.

For more information on configuring security group rules, see **Creating a Security Group** and **Security Group Use Cases**.

**Step 4: configure a route table.**

After finishing configuring the CVM and security group, you need to configure the route table associated with the subnet.

1. Log in to **VPC Console**.
2. Click **Route Tables** in the left sidebar to go to the management page.
3. Find the default route table of the default VPC in the list and click its ID to go to the details page.
4. Click **+Add Routing Policy** in **Routing Policy**.
5. Enter your destination IP address range for accessing the Internet and select **CVM's Public IP** for the next-hop type. This indicates that when CVMs in the subnet that is bound with this route table access this IP address range, they will always use the CVM’s public IP address.

You can purchase a NAT gateway to provide Internet access to CVMs without public IP addresses. For more information, see **NAT Gateways**.
Step 1: Create a VPC

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A VPC contains at least one subnet, only in which the cloud service resources can be added.

1) Log in to Tencent Cloud Console, click "Virtual Private Cloud" in the navigation bar, or click "Experience" in Tencent Cloud's VPC Overview page to enter the VPC Console.
2) Select a region in the drop-down box above the list and click "New" to create a VPC. For example, select the "North China (Beijing)" region.
3) Enter the names of VPC and subnet as well as CIDR, then select the availability zone for the subnet.
4) Click "Create".

![Virtual Private Cloud](image)
Step 2: Create a subnet

You can create one or more subnets at a time.

1) Log in to Tencent Cloud Console, click "Virtual Private Cloud" in the navigation bar, or click "Experience" in Tencent Cloud's VPC Overview page to enter the VPC Console.
2) Click "Subnets" in the left navigation pane.
3) Select a region and a VPC in the drop-down boxes.
4) Click "New", and then enter the subnet name, CIDR, availability zone and associated routing table.
5) (Optional) Click "New line" to create multiple subnets at a time.
6) Click "Create".
You can create a custom routing table, edit the routing policy, and then associate it with specified subnet. The routing table associated with the subnet is used to specify the outbound route for the subnet.

1) Log in to Tencent Cloud Console, click "Virtual Private Cloud" in the navigation bar, or click "Experience" in Tencent Cloud's VPC Overview page to enter the VPC Console.
2) Click "Routing Tables" in the left navigation pane, and click "New" button on the top of the list. Then enter the name, network and new routing rule in the pop-up box.
3) Click "Create" to view the new routing table in the routing table list.
4) Click "Subnets" in the left navigation pane, and click "Change Routing Table" in the "Operation" column, and select the associated routing table in the drop-down box.
5) Click "Save".

Step 3: Create a new routing table

![Image of Tencent Cloud Console showing the process of creating and associating routing tables]
Step 4: Add CVMs

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1) Log in to Tencent Cloud Console, click "Virtual Private Cloud" in the navigation bar, or click "Experience" in Tencent Cloud's VPC Overview page to enter the VPC Console.

2) Select "Subnets" in the left navigation pane.

3) In the line for the subnet for which a CVM will be added, click "Add Cloud Virtual Machine" icon.

Note: Please select a bandwidth greater than 0 or select "Bill by Traffic" for the CVM instance to be created, because the Internet needs to be accessed in other steps in this guide.

Or

1) On the CVM Overview page, click "Experience" button.

2) When you select storage and network in the third step, select the VPC you just created and its subnet. Note: Please select a bandwidth greater than 0 or select "Bill by Traffic" for the CVM instance to be created, because the Internet needs to be accessed in other steps in this guide.
Step 5: Bind CVM with EIP

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Elastic IP is a public IP address associated with user's account, used for the communication with the Internet. Users can bind an elastic IP (EIP) to any CVM quickly to make the CVM communicate with the public network.

1) Log in to Tencent Cloud Console, and click "Cloud Virtual Machine" in the navigation bar, and click "EIP" in the left navigation pane.
2) Click "Apply" button.
3) Apply for the EIP in the same region where the VPC resides in. After this, you can view the applied EIP in the EIP list.
4) Select the specified EIP in the EIP list, click "Bind" to bind the EIP to the CVM you just created in the VPC. After the binding, your CVM can access the public network.
Step 6: Create security groups

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**Security Group** is an instance-level firewall provided by Tencent Cloud, used to control the inbound and outbound traffic of any CVM.

1) Log in to **Tencent Cloud Console**, and click "Cloud Virtual Machine" in the navigation bar.
2) Click "Security Groups" in the left navigation pane.
3) Click "New" button, enter the name of the Security Group (e.g. my-security-group) and provide a description to complete the creation.
4) Click "Bind an instance" button at the end of the line for the security group in the list, and select the CVM you just created.
5) Click "Inbound rule" and "Outbound rule" tabs on the top to edit inbound and outbound rules for traffic control.

For example, to allow your local computer (IP: 186.23.55.90) send TCP requests to the CVM, you can create a rule as shown in the figure below: