

Alibaba Cloud Virtual Private Cloud

FAQ

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Document conventions

| Style | Description | Example |
|---|---|--|
|  | 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. |
|  | 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. |
|  | 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. |
|  | 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. |
| Italic | Italic formatting is used for parameters and variables. | <code>bae log list --instanceid Instance_ID</code> |
| [] or [a b] | This format is used for an optional value, where only one item can be selected. | <code>ipconfig [-all -t]</code> |

| Style | Description | Example |
|--------------|--|-----------------------|
| { } or {a b} | This format is used for a required value, where only one item can be selected. | switch {active stand} |

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1 VPC FAQ

This topic describes frequently asked questions about VPC.

- [What is the difference between a VPC and a classic network?](#)
- [Can I bind multiple network interface controllers \(NICs\) to an ECS instance?](#)
- [Can a VPC have multiple VRouters?](#)
- [How many custom route entries can I create in a route table?](#)
- [How many VSwitches can I create in a VPC?](#)
- [How many private IP addresses can be used for the Alibaba Cloud services in each VPC?](#)

What is the difference between a VPC and a classic network?

The following describes the differences between a VPC and a classic network:

- Services that use the classic network are deployed in the public infrastructure of Alibaba Cloud, and planned and managed by Alibaba Cloud. The classic network is suitable for users who require high network usability.
- VPC is an isolated virtual network environment built on Alibaba Cloud. VPCs are logically isolated from each other. You can customize the topology and IP addresses in a VPC. Compared with a classic network, a VPC is suitable for users who have network management capabilities.

Can I bind multiple network interface controllers (NICs) to an ECS instance?

A classic network ECS instance contains two network interface controllers, a public NIC, and an internal NIC. By default, a VPC-type ECS instance supports only one internal NIC. Certain types of ECS instances can be bound to multiple Elastic NICs. For more information, see [#unique_4](#).

Can a VPC have multiple VRouters?

No. Each VPC can have only one VRouter and each router can have multiple route tables.

How many custom route entries can I create in a route table?

By default, you can create up to 48 custom route entries in a route table. To increase the quota, [submit a ticket](#).

How many VSwitches can I create in a VPC?

By default, you can create up to 24 VSwitches in a VPC. To increase the quota, [submit a ticket](#).

How many private IP addresses can be used for the Alibaba Cloud services in each VPC?

A maximum of 60,000 private IP addresses can be used by each VPC. The quota cannot be increased.

For example, if an Elastic Compute Service (ECS) instance has only one private IP address, the ECS instance uses one IP address. If an ECS instance is bound to multiple NICs or a NIC has multiple IP addresses configured, the number of IP addresses used by the ECS instance is the sum of the IP addresses assigned to the NICs that is bound to the ECS instance.

2 CIDR block FAQ

This topic answers some of the most frequently asked questions regarding Classless Inter-Domain Routing (CIDR) blocks.

- [What is CIDR?](#)
- [What is a user CIDR block?](#)
- [How do I configure a user CIDR block?](#)
- [How do I specify the CIDR block of a VPC?](#)
- [How do I specify the CIDR block of a VSwitch?](#)

What is CIDR?

CIDR is a new method for allocating IP addresses. Compared with the traditional allocation which divides IP addresses into classes A, B, and C, CIDR allocates IP addresses more efficiently. For example, the IP addresses ranging from 125.203.96.0 to 125.203.127.255 can be converted into the following CIDR format:

125.203.0110 0000.0000 0000 to 125.203.0111 1111.1111 1111, or 125.203.96.0/19.

When you create a Virtual Private Cloud (VPC) instance or a VSwitch, you must specify its IP address range in the form of a CIDR block.

What is a user CIDR block?

By default, a VPC uses 10.0.0.0/8, 172.16.0.0/12, 192.168.0.0/16, 100.64.0.0/10, and the VPC CIDR block for private network communication. If the Elastic Compute Service (ECS) instances or their Elastic Network Interfaces (ENIs) already have access to the public network (the ECS instances are assigned public IP addresses, the ECS instances or their ENIs are associated with public IP addresses, or the ECS instances or their ENIs are configured with DNAT entries), and these resources need to visit the IP addresses outside the preceding CIDR blocks, the requests will be forwarded to the Internet through the public IP addresses.

If you want the requests to be forwarded over a private network (for example, a VPC or a hybrid cloud network built with VPN, Express Connect, or CEN) according to a route table, you must set the destination CIDR blocks of the requests as the user CIDR block of the VPC to which the corresponding ECS instance or ENI belongs. With this configuration, the requests initiated from that VPC will be forwarded according to the route table, not through public IP addresses.

For example, an ECS instance named ECS 1 is assigned a public IP address. When the ECS instance accesses the Alibaba Cloud official website (106.11.62.xx), requests are forwarded through the public IP address by default. If you want to forward the request to another ECS instance (named ECS 2) through a route table and then redirect the request to the public network using the public IP address of ECS 2, you can configure 106.11.62.0/24 as the user CIDR block for the VPC to which ECS 1 belongs.

How do I configure a user CIDR block?

The procedure differs depending on whether you need to configure the user CIDR block for a new VPC during its creation or for an existing VPC. The procedure is as follows:

- Configure a user CIDR block when creating a VPC

You can call the `CreateVpc` action to configure a user CIDR block when creating a VPC. For more information, see [#unique_6](#).

- Configure a user CIDR block for an existing VPC

You can [open a ticket](#) to configure a user CIDR block for an existing VPC.

After the configuration is completed, the user CIDR block is displayed on the details page of the console.

The screenshot shows the VPC console interface. At the top, there's a navigation menu with 'VPCs' selected. Below it, a table lists VPC instances. The first row is highlighted, and a red box around the 'Manage' button in the 'Actions' column is labeled with a '2'. A blue arrow points down from this button to the 'VPC Details' page. In the 'VPC Details' page, the 'User CIDR' field is highlighted with a red box.

| Instance ID/Name | CIDR | IPv6 CIDR Block | Status | Default VPC | Route Table | VSwitch | Resource Group | Actions |
|---|----------------|------------------------|-------------------------------|-------------|-------------|---------|----------------|---------------|
| vpc-1g1m3h4k5j6l7p8q9r0s1t2u3v4w5x6y7z8 | 172.16.0.0/12 | Enable IPv6 CIDR Block | Available Not Bound to CEN | No | 1 | 0 | Default | Manage Delete |
| vpc-1g1m3h4k5j6l7p8q9r0s1t2u3v4w5x6y7z8 | 172.16.0.0/12 | Enable IPv6 CIDR Block | Available Not Bound to CEN | No | 1 | 0 | Default | Manage Delete |
| vpc-1g1m3h4k5j6l7p8q9r0s1t2u3v4w5x6y7z8 | 192.168.0.0/16 | 2408:4004:0::600::/56 | Available Not Bound to CEN | No | 1 | 1 | Default | Manage Delete |

| VPC Details | |
|-----------------------------|---|
| ID | vpc-1g1m3h4k5j6l7p8q9r0s1t2u3v4w5x6y7z8 |
| Name | erer Edit |
| IPv4 CIDR Block | 172.16.0.0/12 (Primary) |
| Created At | Dec 20, 2019, 09:19:10 |
| IPv6 CIDR Block | Enable IPv6 CIDR Block |
| Status | Available |
| Description | erer Edit |
| Default VPC | No |
| ClassicLink | Disabled |
| Instance Attachment Details | Not attached to a CEN Instance |
| Region | China (Hohhot) |
| Resource Group | Default |
| User CIDR | 188.88.0.0/16 |

| VRouter Basic Information | |
|---------------------------|---|
| ID | vrt-1g1m3h4k5j6l7p8q9r0s1t2u3v4w5x6y7z8 |
| Name | - Edit |
| Created At | Dec 20, 2019, 09:19:10 |
| Description | - Edit |

How do I specify the CIDR block of a VPC?

You can select a CIDR block from 192.168.0.0/16, 172.16.0.0/12, 10.0.0.0/8, and their subnets as the CIDR block of a VPC. The CIDR block mask must be 8 to 24 bits in length.

For more information, see [#unique_7](#).

How do I specify the CIDR block of a VSwitch?

The limits of a CIDR block of a VSwitch are as follows:

- The CIDR block of a VSwitch must be a subset of the CIDR block of the VPC to which the VSwitch belongs.
- The netmask of a VSwitch must be 16 to 29 bits in length.
- The CIDR block of a VSwitch cannot be identical to or range within the CIDR block of any existing VSwitch.
- The CIDR block of a VSwitch cannot be identical to the destination CIDR block of any route entry in the VPC.
- The CIDR block of the VSwitch cannot contain the destination CIDR block of any route entry in the VPC, but can be a subnet of a destination CIDR block.

For more information, see [#unique_8](#).

3 VPC communication FAQ

This topic describes FAQ about VPC communication.

- [Can different VSwitches in a VPC communicate with each other?](#)
- [Can different VPCs communicate with each other through the intranet?](#)
- [Does VPCs support physical connection access?](#)
- [Does a VPC provide the VPN function?](#)
- [Can a VPC access Internet services?](#)
- [Can cloud services in a VPC be accessed from the Internet?](#)
- [Can a VPC directly communicate with the classic network?](#)

Can different VSwitches in a VPC communicate with each other?

Yes, different VSwitches in a VPC can communicate with each other as long as the security group rules allow the VSwitches to communicate.

Can different VPCs communicate with each other through the intranet?

Yes, different VPCs can communicate with each other through Express Connect, VPN Gateway, and CEN instances although these VPCs are logically isolated from each other. For more information, see [#unique_10](#).

Does VPCs support physical connection access?

Yes, VPCs allow access from on-premises data centers through a physical connection. For more information, see [#unique_11](#).

Does a VPC provide the VPN function?

Yes, a VPC provides the VPN function. For more information, see [#unique_12](#).

Can a VPC access Internet services?

Yes, a VPC can access Internet services by using the following methods:

- Assign a public IP address to the VPC.
- Associate an EIP with the VPC.
- Configure a NAT Gateway for the VPC.

For more information, see [How to choose an Internet-facing product?](#)

Can cloud services in a VPC be accessed from the Internet?

Yes, you can access cloud services in a VPC from the Internet by using the following methods:

- Assign a public IP address to the VPC.
- Associate an EIP with the VPC.
- Configure a NAT Gateway for the VPC.
- Configure an Internet SLB instance for the VPC.

For more information, see [How to choose an Internet-facing product?](#)

Can a VPC directly communicate with the classic network?

No, a VPC cannot directly communicate with the classic network. However, you can configure a public IP address for the ECS instances in the VPC to enable the ECS instances to communicate with cloud resource instances in the classic network through the Internet. For more information, see [How to choose an Internet-facing product?](#)

Alternatively, you can use ClassicLink to establish low-latency and high-speed connections between classic-network ECS instances and VPC ECS instances. For more information, see [#unique_14](#).

4 FAQ- Classic-network ECS instances sales policy

At 12:00 on June 16, 2016, Alibaba Cloud established a new sales policy that outlined specific dates to stop the sales of classic-network ECS instances in China (Shenzhen), China (Beijing), China (Hong Kong), China (Hangzhou), and China (Qingdao), Singapore, and US (Silicon Valley).

Regions and schedule

- The policy is effective from 12:00 on December 1, 2016 in China (Shenzhen).
- The policy is effective from 12:00 on February 15, 2017 in China (Beijing), China (Hong Kong), Singapore, and US (Silicon Valley).
- The policy is effective from 12:00 on March 7, 2017 in China (Hangzhou).
- The policy is effective from 12:00 on March 31, 2017 in China (Hangzhou) and China (Qingdao).



Note:

The policy only applies to the preceding regions. In other regions, you can still use classic-network ECS instances and VPC instances.

Policy details

- The policy does not apply to customers who have purchased classic-network ECS instances before 00:00 on June 1, 2016, regardless of whether these instances are in the running or stopped state. These customers can still purchase classic-network ECS instances and VPC ECS instances as long as such instances are available in the corresponding regions.
- If a customer has not purchased any classic-network ECS instances before 00:00 on June 1, 2016, or in the regions to which the policy applies before the effective date, the customer can only purchase VPC ECS instances.
- If a customer has not purchased classic-network ECS instances in Alibaba Cloud before 00:00 on June 1, 2016, but has purchased such instances in the regions to which the policy applies before the effective date, the customer can still purchase classic-network ECS instances and VPC ECS instances as long as such instances are available in the regions.

FAQ

Why did Alibaba Cloud stop selling classic-network ECS instances in some regions?

Alibaba Cloud stopped selling classic-network ECS instances in some regions because VPCs are more secure and flexible than classic networks. Specifically, VPCs provide higher performance and better user experience and support hybrid cloud scenarios. VPCs represent the direction of future development of private networks.

When will the policy take effect in regions other than the preceding regions?

The policy will be implemented in other regions after March 2017 upon further notice.

Can new customers purchase classic-network and VPC cloud resources other than VPC ECS instances, VPC SLB instances, and VPC RDS instances?

A: Yes, they can. However, we recommend that new customers choose the VPC network type when they purchase other cloud resources because VPC will be the default network type for other cloud products later.

If I can only purchase VPC cloud resources, can they communicate with other cloud resources normally?

Yes, they can. Most cloud resources provided by Alibaba Cloud support VPCs. Alibaba Cloud will ensure that the cloud resources in the regions where the policy is effective are connected to VPCs.

Can I check which network type of cloud products I can purchase in a specific region?

No, you cannot check which network type of cloud products you can purchase in a specific region.

Is it possible that I purchase a cloud resource of an incorrect network type?

Yes, it is possible for new customers to purchase cloud resources of the classic network type by mistake. To avoid this, we recommend that you make sure you select the correct network type when you purchase any cloud resources.

What should I do if I have purchased a cloud resource of an incorrect network type?

You can switch the network in the corresponding cloud product console. If the network switching function is unavailable, submit a ticket to Alibaba Cloud for technical support (excluding ECS).