Elastic Compute Service

Quick Start for Linux

Quick Start for Linux

Account

Create an Alibaba Cloud account

Before you use Alibaba Cloud products and services, you need to create an Alibaba Cloud account and add billing information. When you create an account, Alibaba Cloud automatically signs up the account for all products and services. You are charged only for the products and services you use.

Operation procedures

Go to https://intl.aliyun.com/ and click **Sign up**.
The **Create a new Alibaba Cloud account** page appears.

Select a country/region, enter your email address, password, and mobile phone number, and then enter the verification code.

> **Note:**
> - The country/region you choose must be consistent with your mobile phone and credit card. For example, if you choose U.S.A., your phone number entered must be 10 to 12 digits.
> - You can create only one account for one email address.

Read the related agreement, policy, and terms, and select the checkbox to accept them, and then click **Confirm**.
The **Verification** page appears.

Verify your account by using your Email address.

i. On the **Email Verification** tab page, click **Send**. You will receive a verification email

including a 6-digit code.
ii. On the **Email Verification** tab page, enter the code, and then click **Verify**.

Verify your account by using your phone number.

i. On the **Phone Verification** tab page, click **Call Immediately** or **Send Message**. You will receive a call or a message about a 6-digit code.
ii. On the **Phone Verification** tab page, enter the code, and then click **Verify**.

You have successfully created an Alibaba Cloud account. If you want to buy a product or service, you also need to add billing information.

Add billing information

After creating an Alibaba Cloud account, you need to add billing information before you can buy a product or service.

Operation procedures

1. After you create an Alibaba Cloud account or when you buy a product or service, the system guides you to add billing information. Enter the billing address.
   i. Select an account type.
   ii. Enter your billing address, city, state/province, and postcode.
   iii. Select a method, such as email or phone message, in which you will receive service information and special offers.
   iv. Click **Submit**.

   Choose a payment method and enter the related information.

   - If you choose **Credit Card**, go to step 3.
   - If you choose **PayPal**, go to step 4.

   > **Note:** Credit card supports the purchase of all Alibaba Cloud products and services; while PayPal only supports the purchase of pre-paid products and services.

   Enter your credit card information, and then go to step 5.

   i. Enter the card number, expiration date, security code, and card holder name. Then click **Next**.
   The system will charge a random amount (less than $1USD) to your card, and the amount will be automatically reimbursed to your card within 24 hours.

ii. Verify your credit card by transaction code or transaction amount.
i. If you choose **Transaction Code**, find the Alibaba Cloud transaction record on your credit card and the 6-digit transaction code in the transaction description. Enter the code and then click **Submit**.
ii. If you choose **Transaction Amount**, find the Alibaba Cloud transaction record on your credit card and enter the transaction amount. Then click **Submit**.

> **Note:** You may have to wait for more than 24 hours before receiving the transaction code.

Sign up a billing agreement with Alibaba Cloud, and then go to step 5.

i. Click **Next**.
The system directs you to PayPal.com.
ii. Sign up for a billing agreement with Alibaba Cloud.
The billing agreement allows Alibaba Cloud to charge you for your purchases directly from your PayPal account.

Now you can start your free trial or buy Alibaba Cloud products and services.

Overview

Quickstart flowchart

The following figure shows the process of creating and using an ECS instance.

Generally, follow the steps below to purchase and use an ECS instance:

1. Select configuration
2. Create an instance
3. Connect to an instance
4. Format a data disk

Purpose of this document

This document describes how to quickly create an instance running Linux, connect to an instance remotely, and attach the data disk. It is designed to be the one-stop process to walk you through the creation and purchase of instances, as well as remote login and quick environment deployment.

Elastic Compute Service instance, used and abbreviated as **ECS instance** in this document, may be also called Alibaba Cloud Elastic Compute Service, Elastic Compute Service, or ECS.

Target readers

This document is a quickstart reference for anyone who wants to get started with an ECS running Linux.

This document is intended for users that can purchase products and services online. For API users, refer to API documentation.

Step 1. Select a configuration scheme

Alibaba Cloud recommends the following configuration schemes, which can meet the requirements of most users.

- **Entry level**: 1-core CPU, 1GB memory and 1Mpbs bandwidth. This scheme is applicable to personal sites at their initial stage with relatively low traffic.
- **Advanced**: 1-core CPU, 2GB memory and 1Mpbs bandwidth. This scheme is applicable to the websites with moderate traffic, simple development environments and codebase.
- **General**: 2-core CPU, 4GB memory and 1Mbps bandwidth. This scheme is applicable to enterprise operations, parallel computing applications and common data processing. It can

meet the requirements of 90% cloud computing users.
- **Ideal**: 4-core CPU, 8GB memory and 1Mbps bandwidth. This scheme is applicable to services requiring higher computing performance, for example, enterprise operations, batch processing, distributed analysis, and applications.

These recommended configuration schemes are only for reference when you start using an ECS. For subscription users, if the configuration is found to be excessively high or low during use, you can modify the configuration at any time to upgrade or degrade the configuration scheme.

For more information about web hosting, see Web Application Hosting.

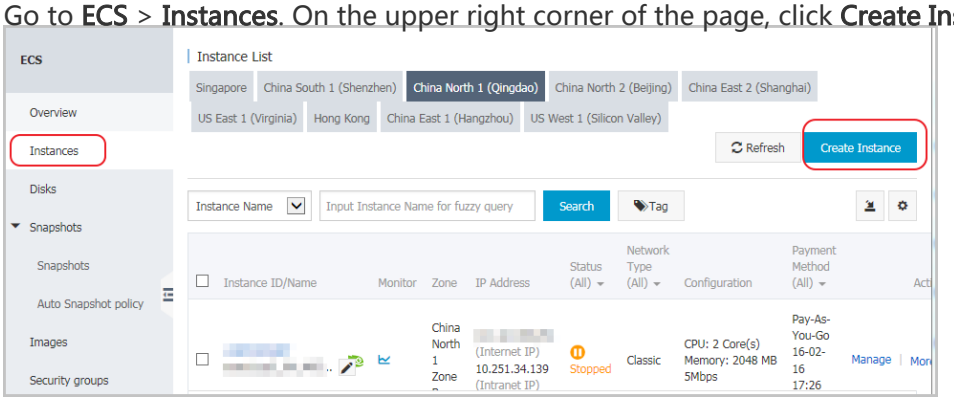
After confirming the configuration scheme, you can start to create an ECS instance.

Step 2. Create an instance running Linux

Log on to the ECS Management Console.

Enter your account and password. If you do not have an account yet, click **Join Free** to sign up.

Go to **ECS** > **Instances**. On the upper right corner of the page, click **Create Instance**.



Choose a purchase package.

- **Starter Package**: Mainly for new starters.
- **Advanced Purchase**: For users who need to customize the configuration of the ECS instance. If this is selected, go to step 5.

Choose a pricing model: **Subscription** or **Pay-As-You-Go**.

- **Subscription**: A pre-paid and cost effective option for a longer term commitment, monthly or yearly pricing.

Pay-As-You-Go: A costlier hourly pricing option.

Note: For a Pay-As-You-Go instance, even if you stop it, your account will still be charged. If you decide not to use it any more, do not simply stop it, but **release it**.

Choose a datacenter region, and then a zone. See **https://intl.aliyun.com/why-alibaba-cloud** for the latest list of regions. For example, when you choose the **Asia Pacific SE 1 (Singapore)** region, you can choose a zone from the dropdown list:

- **Random**. The instance will be put in a Random zone for the selected region unless otherwise specified.
- **Asia Pacific SE 1 Zone A**.

  Asia Pacific SE 1 Zone B.

  Note:
  - Different regions are not interconnected via Intranet.
  - Once an instance is created, you cannot change its region.
  - Some features, such as available zones, network types, instance generations, disk types, thresholds for triggering DDoS black holes, and instance price, vary by region. Select an appropriate region to meet your business needs.

Select an instance type. Options include Generations and I/O optimized instance.

- **Generation I**: Uses Intel Xeon CPU and DDR3 memory.

  Generation II: Uses Intel Haswell CPU and DDR4 memory, and delivers improved memory computing power. It is an I/O optimized instance by default and delivers improved storage performance when used with SSD Cloud Disks.

  Alibaba Cloud strives to bring the latest technologies and configurations based on user demand. It is always advised to check **https://intl.aliyun.com/buy/ecs** for any option changes.

  Note:
  - To use the Windows OS for website building and Web environment deployment, you must select the instance type with **at least 2 GB** memory.
  - The instance type with 1 core and 1 GB of memory does not support running MySQL.

Select a network type.

- **Classic**: Both public and private IP addresses are distributed in a unified way by Alibaba Cloud. It is easy to configure and convenient to use, and suitable for users who require ease of use and fast use of ECS.

VPC (Virtual Private Cloud). VPC refers to the logically isolated private networks. You can customize network topology and Intranet IP address range. It also supports dedicated network connectivity with external environment. It is suitable for users familiar with network management.

Network type is different for different ECS features, but both of these network access services are BGP lines.

Use the network billing type, **Data Transfer**. With this billing type, charges are determined by the amount of the data transferred to an instance (usually calculated by GB). To help prevent high charges from sudden traffic, you can specify bandwidth for the Instance. Users that do not mind fluctuating costs to meet the Instance Internet network demands would prefer this billing type.

If you select a bandwidth of **0 Mbps**, no IP address will be assigned and the instance cannot access the public network.

Select an image.

- **Public Image**: It contains the basic operating system image maintained officially by Alibaba Cloud. On top of this, you will need to install the related software and configure the application environment based on your specific requirements.
- **Custom Image**: It is generated based on the user system snapshot, including the initial system environment, application environment, and related software configuration. Selecting custom images to create ECS can save your time for repeated configuration.
- **Shared Image**: It is a custom image shared by an Alibaba Cloud account. Alibaba Cloud does not guarantee the integrity and security of such shared images, and you shall bear any risks associated with using these shared images.
- **Marketplace Image**.

Bear the following points in mind when selecting:
An OS for Windows:
- By default, the Windows 2003/2008 system allows remote connection of up to 2 sessions. For more connections, you need to buy Remote Desktop Licensing (RD Licensing) service from Microsoft separately at your expense.
- It must be suitable for running Windows programs, such as .net.
- It must support SQL Server and other databases, which must be independently installed.
- It can be managed through remote desktop logon.

An OS for Linux:
- It is the most popular server operating system built with robust security and stability.
- It is free and open-source, easy to build and compile the source code.
- It is connected to the ECS through SSH.
- It is generally used for high-performance Web server and other server applications, and

supports common programming languages such as PHP and Python, as well as MySQL and other databases (must be independently installed).
- CentOS is recommended.

Select a storage. **System Disk** is required. You can add up to four **Data Disks** based on service requirements.

- **Ultra Cloud Disk**: It delivers data reliability of up to 99.9999999% with triple-copy distributed storage technology. It initially provides 1,000 random IOPS and 50MB/s throughput, with an increment of 6 IOPS and 0.1MB throughput per GB, up to 3,000 random reading/writing IOPS and 80MB/s throughput. For example, a 200 GB Ultra Cloud Disk provides 2,200 random reading/writing IOPS and 70 Mbps reading/writing throughput.
- **SSD Cloud Disk**: Similar to cloud disks, it delivers a data reliability of up to 99.9999999% with triple-copy distributed storage technology and provides stable and high performance storage of highly random IO. It offers 30 random IOPS per GB, a maximum of 20,000 random IOPS for a single disk, 256MB/s of throughput. To get maximum disk throughput with your Instance and Disk Type, you need to select the IO optimized option.

Set a logon password for the instance. You have the option to set the logon password now or reset the instance password after the instance creation.

If you select Subscription as the pricing model, select the Subscription Time as either 1 Month(s) or 1 Year with Auto-renewal set. If you select Pay-As-You-Go, ignore this step.

Set the instance name.

Select the Number of Instance to launch. You can easily launch up to 50 instances at the same time.

Check the overview to make sure that the selected configuration details are correct. Then either **Add to Cart** (If you decide to continue shopping) or **Buy Now** if you want to confirm the purchase. Note down the instance details such as public and private IP details.

Confirm the order and make payment.

Step 3. Connect to a Linux instance

You can connect to an ECS from a Windows, Linux or Mac OS X operating system. This section describes these connection methods respectively.

After an ECS instance is created, you can connect to it through any one of the following methods:

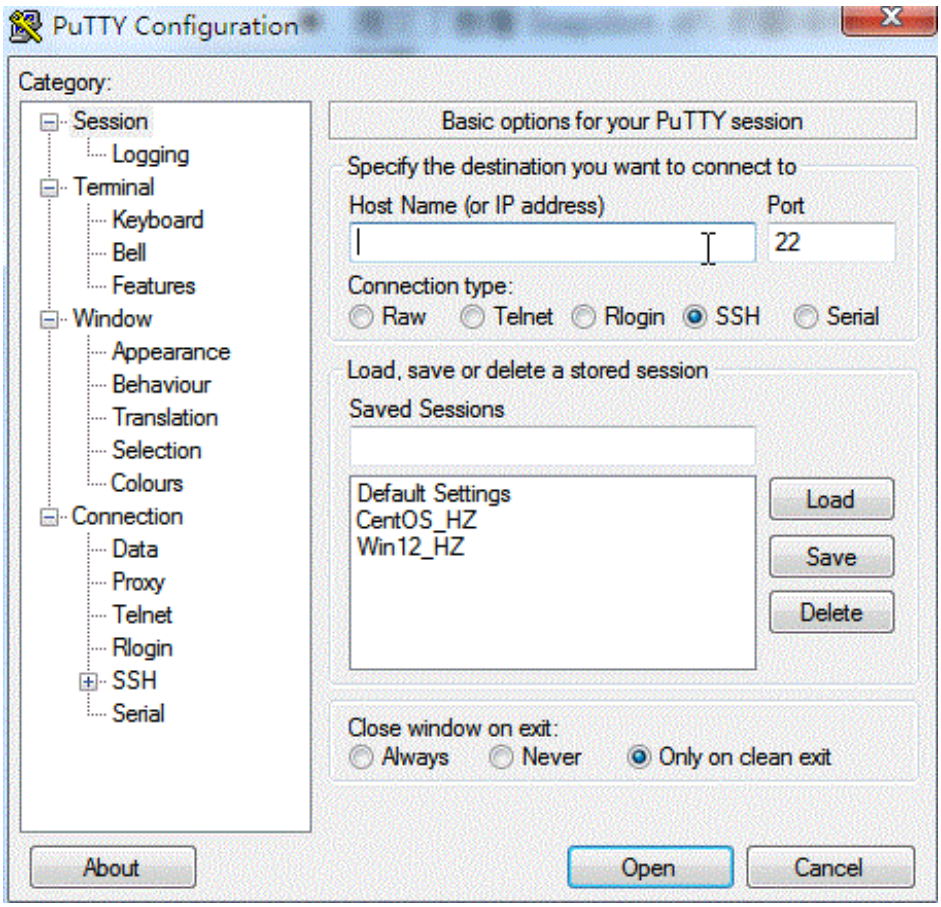
- Using remote access software: Common remote access software include Putty and Xshell.
- **Management Terminal**: Also called **VNC**. Whether you have purchased bandwidth or not when creating the instance, you can connect to the instance for management through the **Management Terminal** (**VNC**) of the **Management Console**.
- Mobile phone: You can also connect to the instance through the remote desktop application on the mobile phone. The operations are simple, so we do not describe them here.

Connect to a Linux instance from Windows

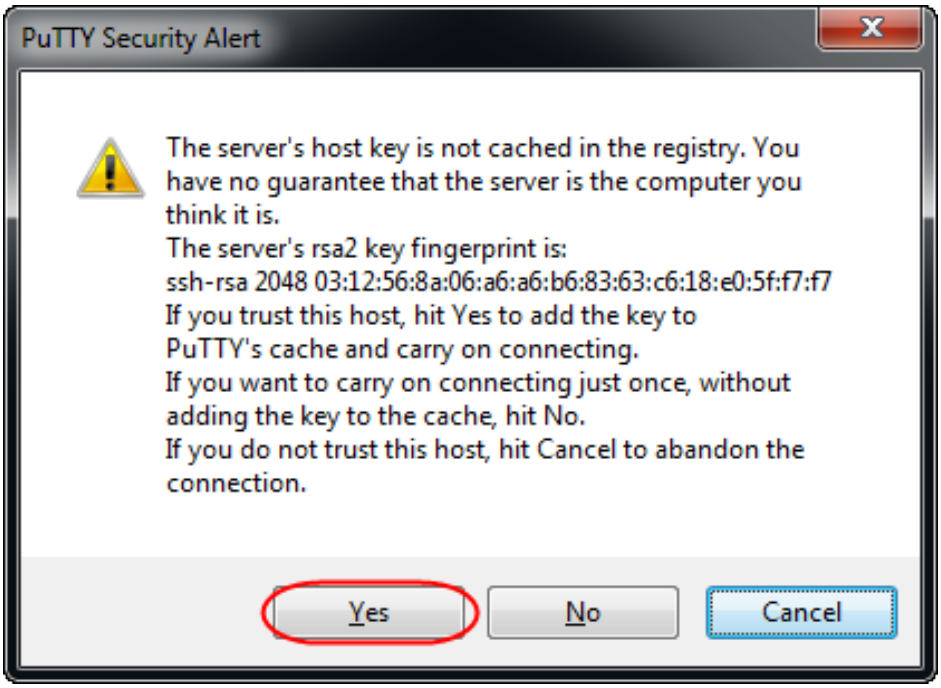
The usage of different remote access software is similar. This document uses Putty as an example to describe how to connect to an instance remotely. Putty, an installation-free tool, is available from http://www.chiark.greenend.org.uk/~sgtatham/putty/

To connect to a Linux instance:

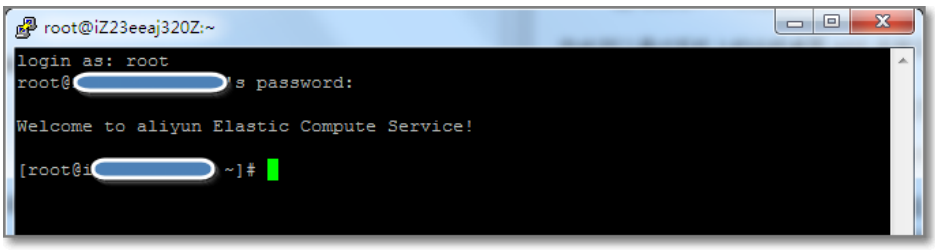
1. Start Putty.exe and access the main interface of Putty.
2. Enter the instance’ s public IP address in **Host Name (or IP address)**.
    - Use the default port **22**.
    - Under **Connection type**, select **SSH**.
    - Enter a session name in **Saved Session**, and click **Save**. You can directly access the session without entering the IP address next time.
3. Click **Open** to connect.



4. In the first connection, the following message will be displayed. Click **Yes**.



5. Enter your user name and password for the Linux ECS instance as prompted. The password will not be displayed on the screen. Then press **Enter**.



When you connect your computer to the Linux instance successfully, you can operate the instance from your computer.

Connect to a Linux instance from Linux or Mac OS X

Connect to the instance by using the SSH command directly. For example, ssh root@*instance's public IP address*. Then, enter the password of the root user of the instance to log on.

Use Management Terminal (VNC) to connect to an ECS instance

The **Management Terminal**, also called **VNC**, is applicable to the following scenarios:

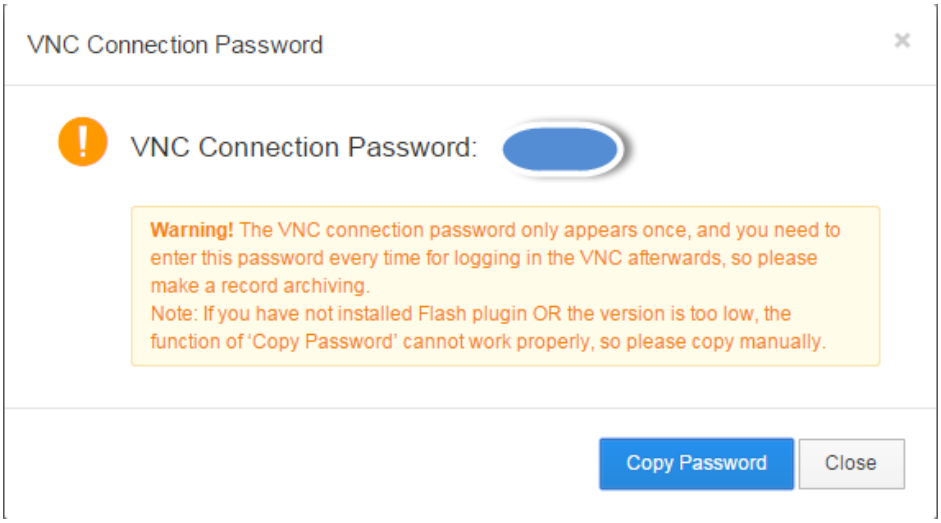
- If the instance boot speed is low and the self-check is initiated, you can view the progress on the **Management Terminal**.
- If remote connection fails due to a software setup error in the instance (for example, a firewall setup error), you can connect to the instance through the **Management Terminal** and reconfigure the firewall.
- If remote connection fails due to high CPU usage or bandwidth occupation by applications (for example, full occupation of the CPU/bandwidth by processes due to a Botnet attack), you can connect to the instance through the **Management Terminal** and end abnormal processes.

To connect to an instance through the **Management Terminal**:

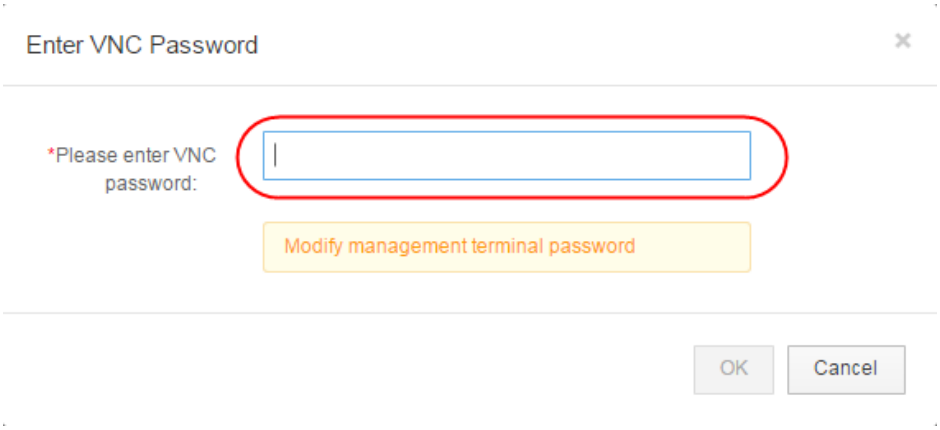
1. Log on to the **ECS Management Console**.
2. Go to the ECS instance to connect to, and click **VNC** on the right.

   Follow the tips below to connect to the **Management Terminal**:

   - If you connect the **Management Terminal** for the first time, follow the steps below:
     a. On the prop-up **VNC Connection Password** dialog, copy the password. This dialog props up only once, but you need to enter the connection password each time you want to connect to the **Management Terminal**, so **write down the password**.

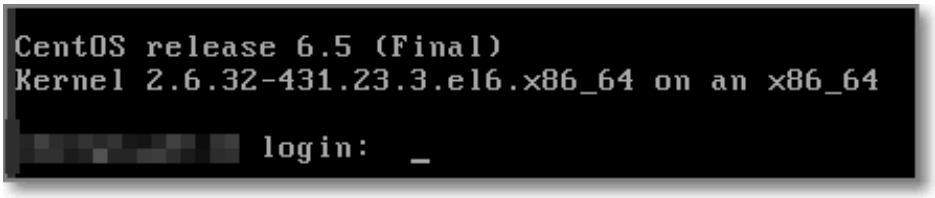


b. Click the **Close** button to close the **VNC Connection Password** dialog.
c. On the prop-up **Enter VNC Password** dialog, paste the connection password that you copied, and then click the **OK** button to connect to the **Management Terminal**.



- If this is not your initial connection to the **Management Terminal**, the **Enter VNC Password** dialog props up, and you need to enter the connection password and click the **OK** button to connect to the **Management Terminal**.
- If you forget the password, you can follow the steps below to connect to the **Management Terminal**:
    a. Change password.
    b. On the upper left corner of the **Management Terminal** interface, click **Send remote command** > **Connect to management terminal**.
    c. On the prop-up **Enter VNC Password** dialog, enter the new password to finish connection.

Enter the user name (“root”) and the password to connect to the instance. If you continue to see a black screen, this is because the Linux instance is in sleep mode. Click the mouse or press any key to wake it up.
If you are operating several Linux instances, you can click **Send remote command** > **CTRL+ALT+Fx**, of which **Fx** can be any one from **F1** to **F10**, to switch management terminals.



Step 4. Format and mount a data disk

If you select a data disk when creating an instance, you need to format the data disk before using it.

You can also configure multiple data disk partitions based on service requirements. It is recommended that you use the built-in system tool for partitioning.

Note: ECS supports only secondary partitioning of the **data disk**, but does not support secondary partitioning of the **system disk** (either in Windows or Linux OS). If you forcibly use a third-party tool to perform secondary partitioning on the system disk, it may lead to unknown risks, such as system crash and data loss.

The operation uses **Non-I/O optimized + SSD cloud disk Linux** (Redhat, CentOS, Debian, and Ubuntu) instances as an example. The only difference between I/O Optimized and non-I/O Optimized instances is that the later has an additional v in its name, for example, xvdb for a non-I/O Optimized instance and vdb for an I/O Optimized instance.

To format and mount a data disk:

1. Use a remote connection tool. Enter the user name **root** and password to connect to the instance.

   Run the **fdisk -l** command to view the data disk. **Note**: Before the data disk is partitioned and formatted, you cannot view the data disk by running the **df –h** command. In the following example, a 5GB data disk needs to be mounted.
   If you do not find /dev/xvdb after running the **fdisk -l** command, it indicates that your instance does not have a data disk. Therefore, mounting is not required. In this case, you can skip this chapter.

```
[root@xxxx ~]# fdisk -l

Disk /dev/xvda: 42.9 GB, 42949672960 bytes
255 heads, 63 sectors/track, 5221 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00078f9c

Device Boot Start End Blocks Id System
```

```
/dev/xvda1 * 1 5222 41940992 83 Linux

Disk /dev/xvdb: 5368 MB, 5368709120 bytes
255 heads, 63 sectors/track, 652 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000
```

3. Run the following command to partition the data disk.

```
fdisk /dev/xvdb
```

Enter the commands **n**, **p**, **1** in sequence as prompted, press the Enter key twice, and then enter the **wq** command. The partitioning will begin.

```
[root@xxx ~]# fdisk /dev/xvdb
Device contains neither a valid DOS partition table, nor Sun, SGI or OSF disklabel
Building a new DOS disklabel with disk identifier 0x33eb5059.
Changes will remain in memory only, until you decide to write them.
After that, of course, the previous content won't be recoverable.

Warning: invalid flag 0x0000 of partition table 4 will be corrected by w(rite)

WARNING: DOS-compatible mode is deprecated. It's strongly recommended to
switch off the mode (command 'c') and change display units to
sectors (command 'u').

Command (m for help): n
Command action
e extended
p primary partition (1-4)
p
Partition number (1-4): 1
First cylinder (1-652, default 1):
Using default value 1
Last cylinder, +cylinders or +size{K,M,G} (1-652, default 652):
Using default value 652

Command (m for help): wq
The partition table has been altered!

Calling ioctl() to re-read partition table.
Syncing disks.
```

Run the **fdisk -l** command to view the new partition. A new partition is created, for example, /dev/xvdb1 shown in the below.

```
[root@xxx ~]# fdisk -l
```

```
Disk /dev/xvda: 42.9 GB, 42949672960 bytes
255 heads, 63 sectors/track, 5221 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00078f9c

Device Boot Start End Blocks Id System
/dev/xvda1 * 1 5222 41940992 83 Linux

Disk /dev/xvdb: 5368 MB, 5368709120 bytes
255 heads, 63 sectors/track, 652 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x33eb5059

Device Boot Start End Blocks Id System
/dev/xvdb1 1 652 5237158+ 83 Linux
```

Run the following command to format the new partition. The formatting time depends on the size of the data disk. You can also choose other file formats, for example, ext4.

```
mkfs.ext3 /dev/xvdb1
```

7. Run the following command to write the new partition information.

```
echo '/dev/xvdb1 /mnt ext3 defaults 0 0'>> /etc/fstab
```

Upon completion, run the cat /etc/fstab command to view the information.
Note: Ubuntu 12.04 does not support barrier. Therefore, the correct command for the system is as follows:

```
echo '/dev/xvdb1 /mnt ext3 barrier=0 0 0'>>/etc/fstab
```

To mount the data disk to a folder separately, for example, to store webpages separately, modify the /mnt part in the above command.

8. Run the **mount /dev/xvdb1 /mnt** command to mount the new partition. Then, run the **df -h** command to view the partition. If data disk information is displayed, the new partition has been mounted successfully and can be used.

```
 [root@xxx ~]# mount /dev/xvdb1 /mnt
[root@xxx ~]# df -h
```

```
Filesystem Size Used Avail Use% Mounted on
/dev/xvda1 40G 1.5G 36G 4% /
tmpfs 498M 0 498M 0% /dev/shm
/dev/xvdb1 5.0G 139M 4.6G 3% /mnt
```

Note: ECS does not support installation and deployment of virtualization software, for example, KVM, Xen, and VMware.