

# Elastic Compute Service

## Quick Start for Entry-Level Users

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## Overview

## Overview

The Overview part of the Quick Start describes the procedure, the purpose, and the target readers of the Quick Start.

## Procedure

Follow these steps to purchase and use an ECS instance:

1. Select configurations.
2. Create an instance.
3. Connect to an instance.
4. For a Linux instance, format and mount a data disk. For a Windows instance, format a data disk.

## Purpose of the Quick Start

The Quick Start describes how to quickly create an instance, connect to an instance remotely, and format and mount a data disk. It is designed to be the one-stop process to walk you through the creation and purchase of instances, and remote logon 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

The Quick Start is a reference for anyone who wants to get started with an ECS instance in the ECS console.

For API users, see [API documentation](#).

## Step 1. Select configuration

### Step 1. Select a configuration scheme

We recommend the following configuration schemes, which can meet the requirements of most users.

- **Entry level:** 1-core CPU, 1 GiB memory and 1 Mbit/s bandwidth. This scheme is applicable to personal sites at their initial stage with relatively low traffic.
- **Advanced:** 1-core CPU, 2 GiB memory and 1 Mbit/s bandwidth. This scheme is applicable to the websites with moderate traffic, simple development environments and codebase.
- **General:** 2-core CPU, 4 GiB memory and 1 Mbit/s 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, 8 GiB memory and 1 Mbit/s 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

This article describes how to create an ECS instance by using an existing image. If you want to create a custom image from a snapshot of a system disk, and then use the custom image to create an ECS instance, see [Create an instance by using a custom image](#) in the *User Guide* of Elastic Compute Service.

## Prerequisites

Before you start creating an ECS instance, you must:

- Sign up for Alibaba Cloud.
- Add a payment method.
- Register by using your real name if you want to create an ECS instance in a region inside mainland China.
- Create a VPC and VSwitch for creating an ECS instance of the VPC network. If you do not have a VPC and VSwitch, use the default one. For more information about the default VPC and VSwitch, see [Default VPC and VSwitch](#).
- Create a security group and add security rules. If you do not have a security group, use the default one. For more information about the default security group, see [Default security group rules](#).
- Create an SSH key pair for creating a Linux instance authenticated by using key pairs.
- Write the user-defined data for customizing the startup behaviors of an instance or passing in user-defined data.
- Create an instance RAM role and grant it permissions if you want to authorize instance to play a role.

## Procedure

To create an ECS instance, follow these steps:

Log on to the ECS console.

On the left-side navigation pane, select **Instances**.

On the **Instance List** page, select **Create Instance**.

Follow these steps to finish **Basic Configurations**:

Select a **Billing Method**: Subscription or Pay-As-You-Go. For more information about the billing methods, see [Purchase ECS instances](#).

Select a region and a zone. For more information about regions and zones, see [Regions and zones](#).

**Note:**

- After an instance is created, you cannot change its region and zone.
- Some instance type families are not supported in all regions. For

more information, see [Create a gn4 instance](#), [Create a gn5 instance](#), [Create an f1 instance](#), and [Create an f2 instance](#).

Select an **Instance Type** and specify the quantity of instances. The available instance type families are determined by the selected region. For the scenarios of each instance type family, see [Instance type families](#).

**Note:**

- i. For the quota of Pay-As-You-Go instances for each account, see [Limits](#).
- ii. To use elastic network interfaces, select an enterprise-level instance type with no less than two vCPU cores or an entry-level instance type with no less than four vCPU cores. For more information about the number of elastic network interfaces supported by instance types, see [Elastic network interfaces](#).
- iii. To use an SSD Cloud Disk, select an I/O-optimized instance.

Select an **Image**. You can select an image from the list of **Public Image**, **Custom Image**, **Shared Image**, or **Marketplace Image**.

**Note:**

- i. To use an SSH key pair, select a Linux image.
- ii. To use user-defined data, select an image according to the list described in the [User-defined data](#).

Select **Storage**:

**System Disk:** Required. A system disk is required for the image. Specify the cloud disk category and size for the system disk:

- **Cloud disk category:** The available categories are determined by the selected region.
- **Size:** The default size range is [40, 500] GiB. If the selected image is greater than 40 GiB, the default size range is [ImageSize, 500] GiB. The available size range varies according to the selected image, as shown in the following table.

Image	Available size range
Linux (excluding CoreOS) FreeBSD	[max{20, ImageSize}, 500] GiB <b>Note:</b> In the public image list, only

	Ubuntu 14.04 32-bit, Ubuntu 16.04 32-bit, and CentOS 6.8 32-bit are of 40 GiB size.
CoreOS	$[\max\{30, \text{ImageSize}\}, 500]$ GiB
Windows	$[\max\{40, \text{ImageSize}\}, 500]$ GiB

**Data Disk:** Optional. You can decide to add data disks now or after the instance is created. To add a data disk now, specify the category, size, and quantity of data disks. You can create an empty data disk or create a data disk from a snapshot. Up to 16 data disks can be added.

**Note:** The data disks added here have the same billing method with that of the instance. A Subscription data disk is released along with the instance, but a Pay-As-You-Go data disk can be set to be released along with the instance.

**Local storage:** If you have selected an instance type that has local disks, such as instance type of the i1, d1, or d1ne family, the local storage information is displayed. You cannot specify the quantity or category of local storage, which is determined by the selected instance type. For more information, see [Instance type families](#).

Click **Next: Networking** to finish the networking and security group configuration:

Select a **Network:** Use the default **VPC** (Virtual Private Cloud), and then select a VPC and a VSwitch. If you do not have a VPC and a VSwitch, you can use the default ones.

**Note:** To improve the user experience on network, Alibaba Cloud initiated the default VPC strategy that VPC is set as the default network type since 12:00 June 16, 2016 (UTC+8). If the switch has not started in your region, you can still create ECS instances of the Classic network. Otherwise, the VPC is the only one option.

Configure **Network Billing Method:**

- i. To assign a public IP address to the instance, select **Assign public IP** and

specify a non-zero value as the bandwidth. **PayByTraffic** is the only one option for the network billing method. You cannot unbind the assigned public IP address from the instance. For more information about network billing, see [Billing of network bandwidth](#).

- ii. To use elastic public IP (EIP) address for Internet access, do not select **Assign public IP**. You can unbind an EIP address from an instance.

Select a security group. You can use the default security group. For more information, see [Default security group rules](#).

Add an elastic network interface. If your selected instance type supports elastic network interfaces, you can add one and specify a VSwitch for it. By default, the elastic network interface is released along with the instance. You can detach it from the instance in the ECS console or by using the `DetachNetworkInterface` interface.

Optional. Click **Next: System Configurations** to finish the following configuration:

Select and set **Log on Credentials**. You can select a password or an SSH key pair as a credential for a Linux instance, but only a password for a Windows instance. You can set the credential after the instance is created.

Specify the instance name, which is displayed in the ECS console, and the host name, which is displayed inside the guest operating system.

Set **Advanced** configurations, such as instance RAM role and user-defined data.

Optional. Click **Next: Grouping**. You can add tags to the instance to simplify future management.

Click **Next: Preview** to confirm the order:

In the **Configurations Selected** area, confirm all the configurations. You can change settings.

Optional. If you are creating a Pay-As-You-Go instance, you can select **Auto Release Schedule** and set the release plan.

Optional. If you are creating a Subscription instance, you can specify the **Purchase cycle** and select **Auto-Renew**.

Confirm **Instance Cost**, which is the sum of the cost of the instance type (vCPU + RAM), the system disk, the data disks (if any), and the local disks (if any). If a public IP address is assigned, **Public traffic fee** is displayed.

Confirm *ECS Service Terms* and *Product Terms of Service*.

Click **Create Order** and activate the instance by following the prompts.

When the instance is activated, you can go to the ECS console to view the instance details, such as the instance name, the public IP address, and the private IP address.

## Follow-up operations

You can create an FTP site on the instance for transferring files. For more information, see [Build an FTP site on an ECS instance](#).

If a data disk is created along with the instance, you must partition the disk and format the partitions. If the instance is based on a Linux OS, see [Format and mount a data disk](#). If the instance is based on a Windows OS, see [Format a data disk](#). If you create a data disk separately, you must attach the disk, and then partition and format the disk.

To secure your instance after creation, we recommend that you perform security compliance inspection and configuration on:

- Linux instances: See [Harden operating system security for Linux](#) in *Security Advisories*.
- Windows instances: See [Harden operating system security for Windows](#) in *Security Advisories*.

## Step 3. Connect to an instance

The **Management Terminal** allows you to connect to your ECS instance by using a web browser, even though you do not purchase bandwidth for Internet access.

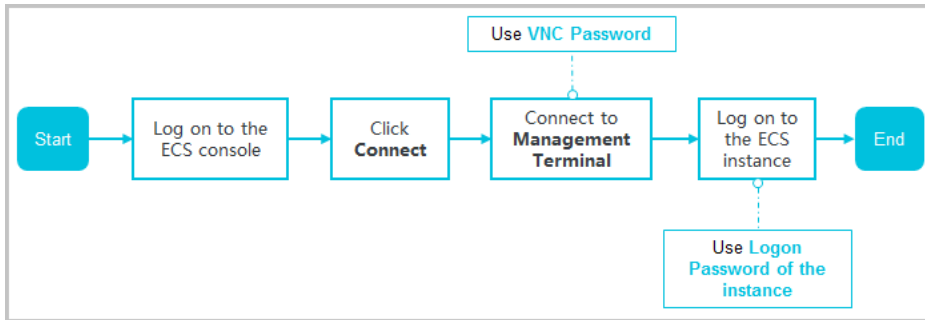
**Note:** You can use other methods to connect to your ECS instance:

- To connect to a Linux instance, you can use an SSH client from Windows or SSH commands from Linux or UNIX by using **SSH key pairs** or **password** authentication.
- To connect to a Windows instance, you can use **access tools** from local computer.

## Procedure



The following figure illustrates how to use the **Management Terminal** to connect to an ECS instance.



To connect to the ECS instance by using the **Management Terminal**, follow these steps:

Log on to the ECS console.

In the left-side navigation pane, click **Instances**.

Select a region.

In the instance list, find your instance, and in the **Actions** column, click **Connect**.

On the **VNC Connection Password** dialog box, copy the password, and click **Close**.

On the **Enter VNC Password** dialog box, paste the VNC connection password that you have copied, and click **OK**.

To log on to the ECS instance, follow the steps according to the operating system:

- For a Linux instance: Enter the user name (**root**) and the logon password.

**Note:**

- If you lose your logon password of your instance, **reset the password**.
- The logon password input is invisible.
- If a black screen is displayed, the Linux instance may be in sleep mode. To exit sleep mode, click the mouse or press any key.

- For a Windows instance: In the upper left corner of the **Management Terminal** page, select **Send Remote Command > CTRL+ALT+DELETE**. The Windows logon interface is displayed. Enter the user name (**Administrator**) and the logon password.

**Note:** If you lose your logon password of your instance, **reset the password**.

For more information about the **Management Terminal**, see [Connect to an ECS instance by using the Management Terminal](#).

## Step 4. Format a data disk

### Linux \_ Format and mount a data disk

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

You can also configure multiple data disk partitions based on service requirements. We recommend you to use the built-in system tool for partitioning.

**Note:** For ECS, either running Windows or Linux, only the partitions on the data disk, but not on the system disk, can be subdivided into multiple partitions. If you use a third-party tool to forcibly subdivide the partition on the system disk, some unknown risks, such as system crash and data loss, may occur.

In this article, the example instance has the following configurations:

- Non-I/O-optimized:

The only difference between I/O-Optimized and non-I/O-Optimized instances is that the latter has an additional x in its device name, for example, xvdb for a non-I/O-optimized instance and vdb for an I/O-optimized instance.

- Linux OS: Red Hat, CentOS, Debian, or Ubuntu, at your choice
- SSD Cloud Disk

### Prerequisites

- At least one data disk has been attached to the Linux ECS instance. For more information, see [Attach a data disk in \*User Guide\*](#).
- You have connected to your instance. For more information, see [Connect to a Linux instance](#).

### Procedure

To format and mount a data disk:

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 5 GB 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
```

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 following example.

```
[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
```

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 preceding command.

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.

## Windows \_ Format a data disk

To format a data disk on a Linux instance, see [Linux \\_ Format and mount a data disk](#).

If you have already attached a data disk to your ECS instance, you must log on to the instance to partition and format the data disk for use. This document describes how to create a single-partition data disk using a new data disk and format the partition. You can also create multiple partitions on a data disk according to your business needs.

### Warning:

- Disk partitioning and formatting are high-risk operations, so please proceed with caution. This document describes how to deal with a new blank data disk. If you have data on a data disk, make sure that you have **created a snapshot** of the data disk to avoid any possible data loss.
- ECS only supports partitioning data disks, not system disks. Forcibly partitioning a system disk using a third-party tool may cause unknown risks such as system crashes or

data loss.

## Prerequisites

For a separately purchased data disk, you must attach it to an instance in the ECS console before partitioning and formatting.

A data disk purchased along with the instance can be partitioned and formatted without being attached.

## Procedure

This example describes the steps to partition and format a 20 GB data disk on the 64-bit Windows Server 2012 R2.

Connect to an instance.

On the Windows Server desktop, right click the Start icon, and select **Disk Management**. The data disk not formatted and partitioned (in this example, **Disk 2**) is in the **Offline** status.

Right click the blank area around **Disk 2**, and select **Online** in the context menu.



After going online, the status of **Disk 2** is displayed as **Not Initialized**.

Right click the blank area around **Disk 2**, and select **Initialize Disk** in the context menu.



In the **Initialize Disk** dialog box, select **Disk 2**, and select a partitioning method:

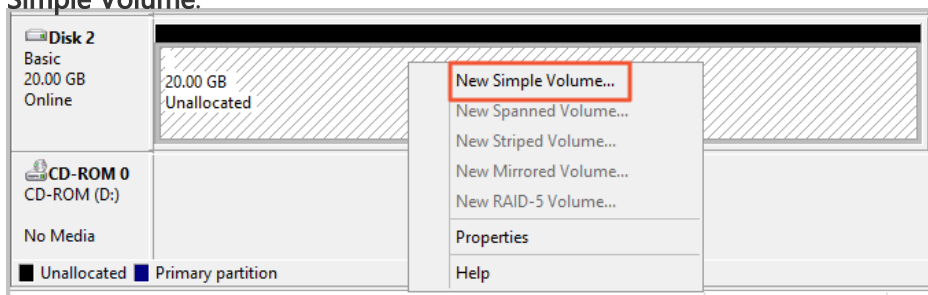
- **MBR** is still the most common partitioning method. However, this method only supports a maximum partition size of 2 TB and creation of a maximum of four

primary partitions. If you want to divide a disk into more than four partitions, you must take a primary partition as an extended partition and create logical partitions in it.

**GPT** is a new partitioning method, which is not recognizable to earlier versions of Windows. The maximum partition size that GPT can support is determined by the operating system and the file system. On the Windows operating system, GPT supports creating up to 128 primary partitions.

In this example, we select the MBR partitioning method, and click **Yes**.

In the **Disk Management** window, right click the **Unallocated** area of **Disk 2** and select **New Simple Volume**.



In the **New Simple Volume Wizard**, follow these steps:

- i. Click **Next**.
- ii. **Specify Volume Size**: Specify the size of the simple volume to create. If you need only one primary partition, use the default value, and then click **Next**.
- iii. **Assign Drive Letter or Path**: Select a drive letter (in this example, F). Click **Next**.
- iv. **Format Partition**: Select the formatting settings, including file system, allocation unit size, and volume label, and confirm whether to **Perform a quick format** and **Enable file and folder compression**. Use the default settings here. Click **Next**.
- v. Start creating a new simple volume. When a new simple volume has been created, click **Finish** to close **New Simple Volume Wizard**.

After the partition formatting is completed, the status of **Disk 2** in **Disk Management** is as shown in the following screenshot.



You can view the new drive **New Volume (F:)** in **This PC**, which means the data disk is ready for use.