

Image Management Service

Getting Started

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1 Preparations

Before using the IMS service, you need to make the following preparations:

- [Signing Up with Huawei Cloud and Complete Real-Name Authentication](#)
- [Top Up an Account](#)
- [Create an IAM User](#)

Signing Up with Huawei Cloud and Complete Real-Name Authentication

If you already have a Huawei Cloud account, skip this part. Otherwise, perform the following steps to create one:

1. Visit <https://www.huaweicloud.com/intl/en-us/> and click **Sign Up**.
2. On the displayed page, sign up for an account.

After you have successfully signed up, the system automatically redirects you to your personal information page.

3. Complete real-name authentication by following the instructions in [Individual Real-Name Authentication](#).

Top Up an Account

Private images are free of charge, but the services associated with them are charged. For example, cross-region image replication is charged for replication traffic and storage. Before using the IMS service, ensure that your account has sufficient balance.

- For details about the billing standards of IMS, see [Pricing Details](#).
- To top up an account, see [Topping Up an Account](#).

Create an IAM User

If you want to allow multiple users to manage your resources without sharing your password or key, you can create users using IAM and grant permissions to the users. These users can use specified login links and their own accounts to access the public cloud and help you efficiently manage resources. You can also set account security policies to ensure the security of these accounts and reduce enterprise information security risks.

If you have registered on the public cloud platform but have no IAM user, you can create one on the IAM console. For example, to create an IMS administrator, perform the following steps:

1. Enter your username and password to log in to the management console.
2. In the upper right corner of the page, click the username and select **Identity and Access Management**.
3. In the navigation pane, choose **Users**. In the right pane, click **Create User**.
4. Enter the user information on the **Create User** page.
 - **Username**: Enter a username, for example, **ims_administrator**.
 - **Email Address**: Email address bound to the IAM user. This parameter is mandatory if the access type is specified as **Set by user**.
 - (Optional) **Mobile Number**: Mobile number bound to the IAM user.
 - (Optional) **Description**: Enter description of the IAM user, for example, **IMS administrator**.
5. In the **Access Type** area on the **Create User** page, select **Management console access**, select **Set now** for **Console Password**, enter a password, and click **Next**.

Figure 1-1 Selecting the access type

* Access Type You are advised to select only one access type for security purposes.

Programmatic access
Access HUAWEI CLOUD services using development tools (including APIs, CLI, and SDKs) that support key authentication. An access key will be automatically generated for each user. [Learn more](#)

Management console access
Log in to HUAWEI CLOUD management console using the username and a password.

Console Password

Set by user
A one-time login URL will be emailed to the user. The user can then click on the link to set a password.

Automatically generated
A password will be automatically generated by the system. If you choose not to download the password, you can set a new password later.

Set now
Set a password now.
.....

Require password reset at first login

Login Protection

Enable

Disable

NOTE

An IMS administrator can log in to the management console and manage users. You are advised to select **Set now** for **Console Password** when you create an IMS administrator for your domain. If you create an IMS administrator for another user, you are advised to select **Set by user** for **Console Password** instead so that the user can set their own password.

6. (Optional) Click **Next** to add the user to the **admin** user group.
User group **admin** has all the operation permissions. If you want to grant fine-grained permissions to IAM users, see [Creating a User and Granting Permissions](#).

After being created successfully, the IAM user is displayed in the user list. You can click the IAM user login link above the list and use the created user to log in to the console.

2 Creating a Private Image

IMS provides full-lifecycle management for private images, including creating, replicating, sharing, and exporting private images. You can choose a proper method to migrate services to the cloud or on the cloud with the cooperation of other services, such as ECS and OBS.

Private images include system disk images, data disk images, and full-ECS images. Private images are created from ECSs or external image files. A private image is available only to the user who created it and the user with whom it has been shared.

Table 2-1 Methods of creating private images

Private Image Type	Description	Method
System disk image	A system disk image contains an OS and applications for running services. You can use a system disk image to create ECSs and migrate your services to the cloud.	<ul style="list-style-type: none">• Creating a System Disk Image from a Windows ECS/Creating a System Disk Image from a Linux ECS• Creating a Windows System Disk Image from an External Image File/Creating a Linux System Disk Image from an External Image File• Creating a Windows System Disk Image from an ISO File/Creating a Linux System Disk Image from an ISO File
Data disk image	A data disk image contains only service data. You can use a data disk image to create EVS disks and migrate your service data to the cloud.	<ul style="list-style-type: none">• Creating a Data Disk Image from an ECS• Creating a Data Disk Image from an External Image File

Private Image Type	Description	Method
Full-ECS image	A full-ECS image contains an OS, applications, and service data for running services.	<ul style="list-style-type: none">• Creating a Full-ECS Image from an ECS• Creating a Full-ECS Image from a CSBS Backup• Creating a Full-ECS Image from a CBR Backup

The following sections use examples to describe how to create a system disk image.

- [Scenario 1: Creating a System Disk Image from a Windows ECS](#)
- [Scenario 2: Creating a Linux System Disk Image from an External Image File](#)

3 Scenario 1: Creating a System Disk Image from a Windows ECS

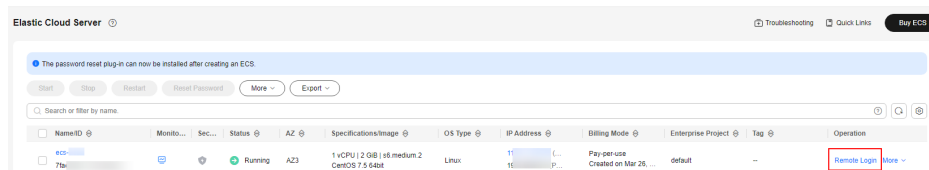
If you have created and configured an ECS based on your service requirements (such as installing software and deploying an application environment), you can create a system disk image from the configured ECS. Then, any new ECSs created from this image will come with all the same software and other details preconfigured.

This guide describes how to create a system disk image from a Windows ECS.

Step 1: Preparations

1. Log in to the management console. In the service list, choose **Compute > Elastic Cloud Server**.
2. Locate the target ECS and click **Remote Login**.

Figure 3-1 Remote login



3. Perform the following operations on the ECS:
 - Delete sensitive data from the ECS to prevent data leaks.
 - Check the network configuration of the ECS and ensure that DHCP is configured for the ECS NICs. Enable remote desktop connection if needed. For details, see [Setting the NIC to DHCP](#) and [Enabling Remote Desktop Connection](#).
 - Check whether the one-click password reset plug-in has been installed in the ECS. After the plug-in is installed, the passwords of new ECSs created from the image of this ECS can be reset on the console. For details, see [Installing the One-Click Password Reset Plug-In](#).
 - Check whether Cloudbase-Init has been installed in the ECS. After Cloudbase-Init is installed, user data can be injected into the new ECSs created from the image of this ECS. For example, you can use data

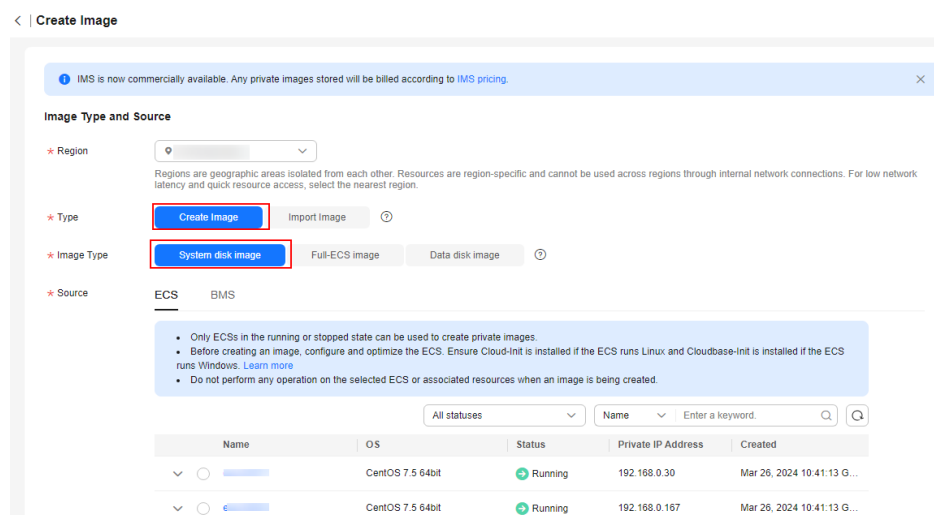
injection to set the password of a new ECS. For details, see [Installing and Configuring Cloudbase-Init](#).

- Check and install PV and VirtIO drivers in the ECS so that the new ECSs created from the image of this ECS support both KVM and XEN virtualization and that the network performance will be improved. For details, see [Installing PV Drivers](#) and [Installing VirtIO Drivers](#).
- Run Sysprep on the ECS so that each of the new ECSs created from the image of this ECS has a unique SID in a domain. In a cluster, each ECS must have a unique SID. For details, see [Running Sysprep](#).

Step 2: Create a Windows System Disk Image

1. Select the ECS and in the **Operation** column choose **More > Manage Image > Create Image**.
2. In the **Image Type and Source** area, select **Create Image** for **Type** and **System disk image** for **Image Type**.

Figure 3-2 Creating a system disk image



3. In the **Image Information** area, enter basic information about the image, such as the image name, enterprise project, and any tags you want to add.

Figure 3-3 Image information

The screenshot shows the 'Image Information' form in the IMS console. The form includes fields for Name, Enterprise Project, Tag, and Description, along with an Agreement checkbox.

Encryption: Unencrypted (?)

* Name: [Text Input]

* Enterprise Project: --Select--

Tag: [Tag key] [Tag value]

Description: [Text Area]

Agreement: I have read and agree to the [Image Disclaimer](#).

4. Read and agree to the image disclaimer. Click **Next**.

5. Confirm the parameter settings and click **Submit**.
6. Go back to the private image list and view the image status.

 **NOTE**

The time required for creating an image depends on the image file size, network status, and number of concurrent tasks. When the image status changes to **Normal**, the image is created successfully.

Follow-up Procedure

After a system disk image is created, you can use it to create an ECS or change the OS of an existing ECS. This way, you can migrate data from a server to another. For details, see:

- [Creating an ECS from an Image](#)
- [Changing the OS](#)

For more information, see [Creating a System Disk Image from a Windows ECS](#).

4 Scenario 2: Creating a Linux System Disk Image from an External Image File

You can import a local image or a system disk image from another cloud platform. After an image is imported, you can use it to create an ECS or reinstall the OS of an existing ECS.

This guide describes how to create a Linux system disk image from an external image file.

Step1: Prepare an Image File

You need to prepare an image file that meets the following requirements:

- OS: SUSE, Oracle Linux, Red Hat, Ubuntu, etc. (32-bit or 64-bit)
- Image format: VMDK, VHD, QCOW2, RAW, VHDX, QED, VDI, QCOW, ZVHD2, or ZVHD
- Image size: no larger than 128 GB. If the image size is between 128 GB and 1 TB, convert the image file into the RAW or ZVHD2 format and import the image through fast import.
- Network: Files in the network rule directory are deleted and DHCP is configured for the NICs.
- Tools: Cloud-Init has been installed.
- Drivers: Native Xen and KVM drivers have been installed.
- File system: The disk identifier in the GRUB configuration file and fstab file are set to UUID.

NOTE

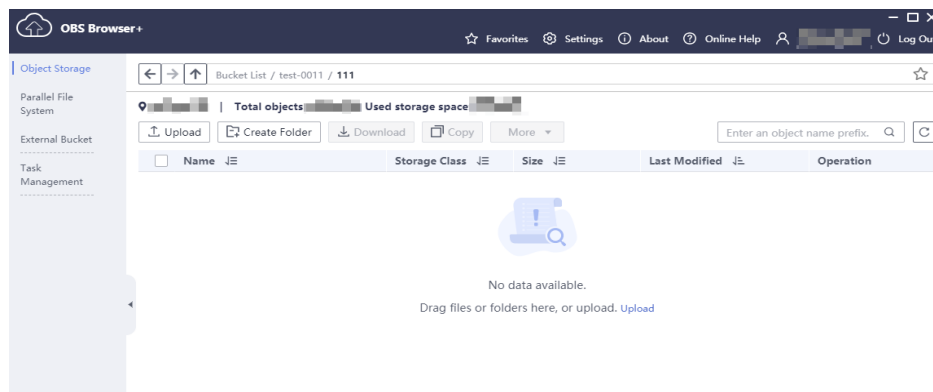
Click [here](#) to learn more about the file restrictions and how to check and configure an image file.

Step 2: Upload the Image File

You are advised to use OBS Browser+ to upload external image files to an OBS bucket. For details, see [OBS Browser+ Best Practices](#).

For how to download OBS Browser+, see [Downloading OBS Browser+](#).

Figure 4-1 Uploading an image file



Step 3: Register the Image File as a Private Image

1. Log in to the management console. In the service list, choose **Compute > Elastic Cloud Server**.
2. In the upper right corner of the page, click **Create Image**. Configure the parameters.

Figure 4-2 Importing an image file

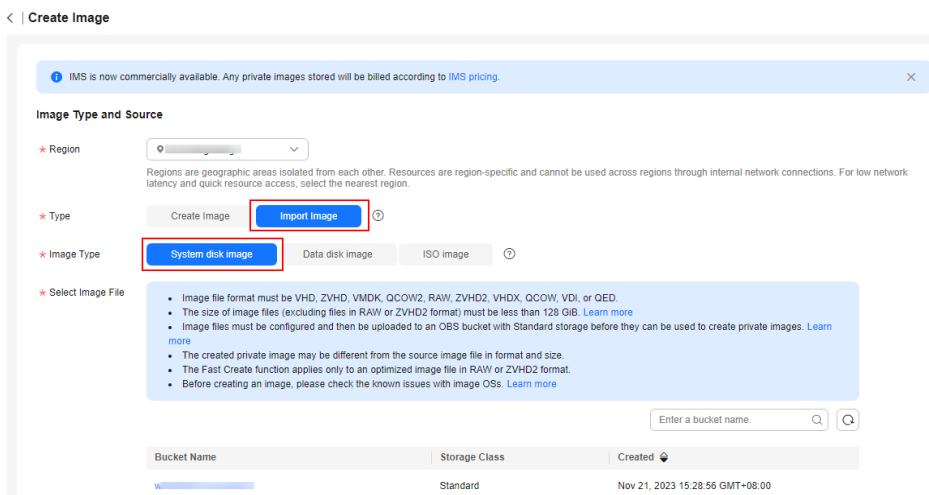


Figure 4-3 Image information

Image Information

Enable automatic configuration [Learn more](#)

* Function ECS system disk image BMS system disk image

Architecture x86 ARM

If the system detects an architecture type different from that you set, the architecture type detected by the system prevails. If the system fails to detect the architecture type, the architecture type you set prevails.

Boot Mode BIOS UEFI

The boot mode must be the same as that of the OS contained in the image file. Otherwise, ECSs created from this system disk image will fail to start.

OS --Select OS-- --Select OS version--

If the OS you selected is different from the OS in the image file, IMS will use the OS in the image file if the OS can be detected. Otherwise, the OS you selected will be used for image creation. [View supported OSs](#)

* System Disk (GiB) 10 The system disk size must be larger than the image file size.

[Add Data Disk](#) You can add 3 more data disks.

* Name

Encryption KMS encryption [?](#)

* Enterprise Project --Select-- [?](#) [?](#)

Tag It is recommended that you use TMS's predefined tag function to add the same tag to different cloud resources. [View predefined tags](#) [?](#)

Tag key Tag value

You can add 10 more tags.

Description

Agreement I have read and agree to the [Image Disclaimer](#).

3. Read and agree to the image disclaimer. Click **Next**.
4. Confirm the parameter settings and click **Submit**.
5. Go back to the private image list. When the image status changes to **Normal**, the image is created successfully.

Follow-up Procedure

After a system disk image is created, you can use it to create an ECS or change the OS of an existing ECS. This way, you can migrate data from a server to another. For details, see:

- [Creating an ECS from an Image](#)
- [Changing the OS](#)

For more information, see [Creating a Linux System Disk Image from an External Image File](#).

5 Practices

Common practices are provided to help you easily use IMS.

Create a Private Image

Practice	Description
Creating a Windows Image Using VirtualBox and an ISO File	Describes how to create a Windows image using VirtualBox. To do so, you need to install VirtualBox, use it to create a VM from an ISO file, configure the VM, and generate a VHD image using the configured VM.
Creating a Linux Image Using VirtualBox and an ISO File	Describes how to create a Linux image using VirtualBox. To do so, you need to install VirtualBox, use it to create a VM from an ISO file, configure the VM, and generate a VHD image using the configured VM.
Creating a Private Image Using Packer	Describes how to create an Ubuntu 22.04 Server 64-bit private image from a CentOS 8.2 ECS using Packer and upload it to the cloud platform.
Converting the Image Format	Describes how to use qemu-img or Huawei qemu-img-hw to convert the image format. qemu-img can be used for mutual conversion of formats VHD, VMDK, QCOW2, RAW, VHDX, QCOW, VDI, and QED but cannot be used for the format conversion to ZVHD or ZVHD2. To convert an image file to any of the two formats, use qemu-img-hw.

Optimize Images

Practice	Description
Cleaning Up the Disk Space of a Windows ECS	Describes how to clean up the disk space of a Windows ECS.

Migrate Images

Practice	Description
Migrating ECSs Across Accounts and Regions	Describes how to migrate an ECS with a website deployed across regions and accounts.
Migrating Service Data Across Accounts (Data Disks)	Generally, service data is stored on data disks. To migrate service data across accounts, you need to create data disk images and share them with the target account.