

Object Storage Migration Service

Getting Started

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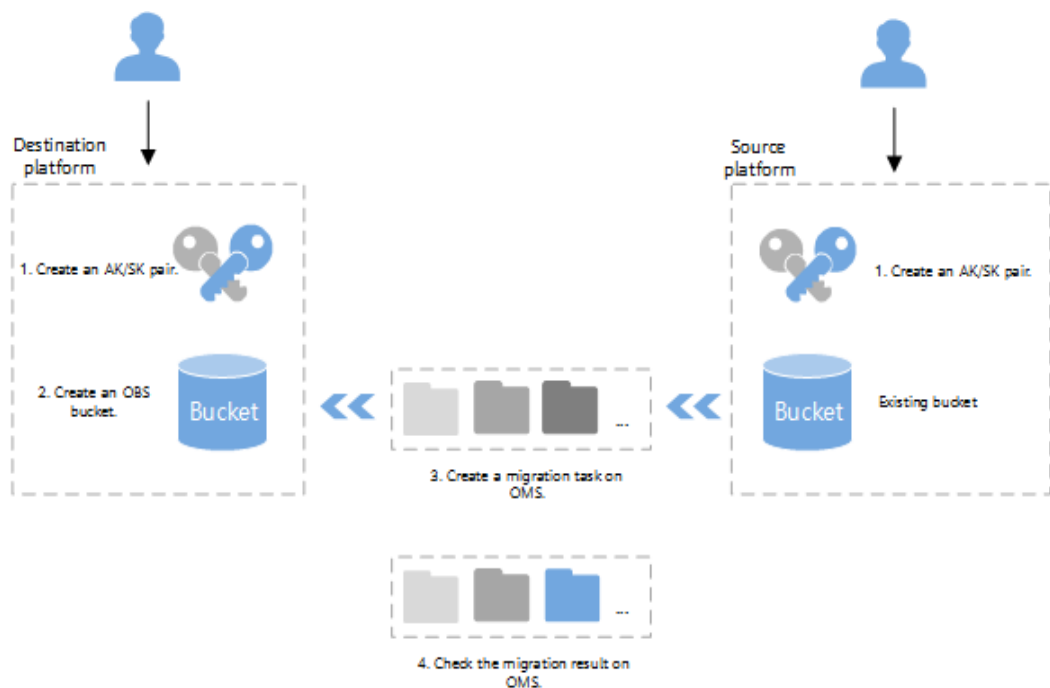
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1 Migration Process

You can log in to the OMS console to migrate source objects. [Figure 1-1](#) shows the migration process.

Figure 1-1 Migration process



Process:

1. Create AK/SK pairs for the source and destination platform accounts.
 - For instructions about how to create an AK/SK pair for the source platform account, see the documentation provided by the source cloud service provider.
 - For instructions about how to create an AK/SK pair for the destination platform account, see [Creating Access Keys](#).
2. Create an OBS bucket for storing the migrated data.
For details, see [Creating a Bucket](#).

3. Create a migration task and start the task on the OMS console.
For details, see [Creating a Migration Task](#).
4. Check the migration result on the OMS console.
 - If the migration task succeeds, the migration is complete.
 - If the migration task fails, check the failure cause and restart the migration task.
For details, see [Viewing a Migration Task](#) and [Managing a Migration Task](#).

2 Preparing for Migration

Before you use OMS, make preparations by referring to this section.

Signing Up for a HUAWEI ID

[Sign up for a HUAWEI ID and enable Huawei Cloud services.](#)

Creating Access Keys for the Source and Destination Accounts and Obtaining the Required Permissions

- Source
 - If the migration source is Huawei Cloud, check whether the source account has an AK/SK pair and the permissions to list buckets, obtain bucket locations, list objects, obtain object metadata, and obtain object content. If it does not have, create an AK/SK pair and assign it the required permissions by referring to [Creating an Access Key \(AK/SK\)](#) and [Obtaining Permissions for the Source Account](#).
 - If the migration source is another public cloud, create an AK/SK pair and obtain permissions by referring to "Preparations" in [Migration from Other Clouds to Huawei Cloud](#).
- Destination
 - Create an AK/SK pair and obtain the required permissions by referring to [Creating an Access Key \(AK/SK\)](#) and [Destination Permissions](#).

Creating a Destination OBS Bucket

Create an OBS bucket for storing the migrated data. For details, see [Creating a Bucket](#).

Restoring Archive Data in the Source Bucket

If there is archive data in the source bucket, restore the data before the migration. For details, see [Migrating Archived Data](#).

3 Creating a Migration Task

Scenarios

This section describes how to create a task to migrate your source objects.

NOTE

The following uses the **File/Folder** migration method as an example.

CAUTION

- By default, if a task stays in waiting state for more than 30 days, OMS automatically puts the task into **Failed** state and clears the AK/SK pair used by the task. To prevent task failures caused by blocking, do not create tasks too frequently.
 - If an object is larger than 500 GB, migrating it takes a long time. You can [submit a service ticket](#) to whitelist the object for migration in segments.
 - During the migration, the system automatically creates a temporary folder named **OMS** in the target bucket. Do not perform any operations on this folder, including but not limited to modifying, deleting, or adding data in the folder. Otherwise, the migration will be interrupted or fail.
-

Background

OMS supports the following migration sources:

- Huawei Cloud
- AWS
- Alibaba Cloud
- Microsoft Azure
- Tencent Cloud
- Google Cloud
- Qiniu Cloud
- QingCloud

- Baidu Cloud
- Kingsoft Cloud
- UCloud
- HTTP/HTTPS data sources

OMS makes API calls to the object storage services on source platforms during the migration. These API calls may generate fees on those platforms and you will be responsible for those fees based on those source platform billing structures.

Prerequisites

- You have [signed up for a HUAWEI ID and enabled Huawei Cloud services](#).
- You have obtained the AK/SK pairs and required permissions for the source and destination platform accounts.

- The source platform account needs the permissions for:

- Listing all buckets
- Obtaining bucket locations
- Listing objects
- Obtaining object metadata
- Obtaining object content

To learn how to obtain these permissions, see [Source Permissions](#).

- The destination platform account needs the permissions for:


- Listing all buckets
- Obtaining bucket locations
- Listing objects
- Obtaining object metadata
- Obtaining object content
- Listing uploaded parts
- Restoring archive objects

To learn how to obtain these permissions, see [Destination Permissions](#).

- You have created at least one bucket on OBS.
- You have created less than 1,000,000 migration tasks within the past 24 hours.
- You have less than 1,000,000 migration tasks in **Waiting** state.

Procedure

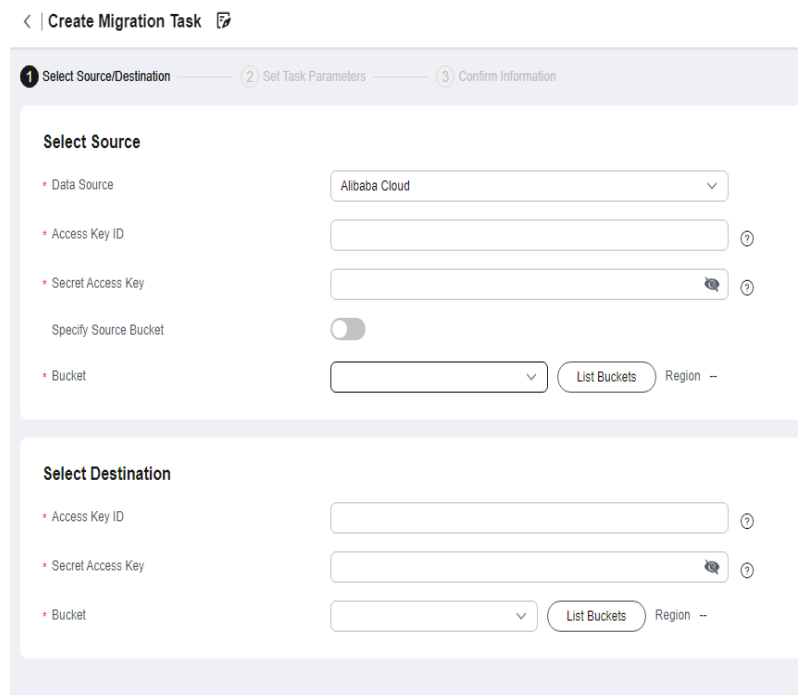
Step 1 Log in to the [OMS console](#).

Step 2 Click  in the upper left corner and select the desired region.

Step 3 Click **Create Migration Task** in the upper right corner.

Read the service disclaimer, select **I have read and agree to the service disclaimer**, and click **OK**.

Figure 3-1 Creating a task



The screenshot shows the 'Create Migration Task' page with three steps: 1. Select Source/Destination, 2. Set Task Parameters, and 3. Confirm Information. The 'Select Source' section includes a dropdown for 'Data Source' (set to 'Alibaba Cloud'), input fields for 'Access Key ID' and 'Secret Access Key', a toggle for 'Specify Source Bucket', and a 'Bucket' dropdown with 'List Buckets' and 'Region' options. The 'Select Destination' section includes input fields for 'Access Key ID' and 'Secret Access Key', and a 'Bucket' dropdown with 'List Buckets' and 'Region' options.

Step 4 On the **Select Source/Destination** page, perform the following operations:

1. Configure source parameters. For details, see [Table 3-1](#).

Table 3-1 Source parameters

Parameter	Operation
Data Source	Select the cloud platform from which you are migrating data.
Access Key ID	Enter the AK for accessing the source platform. It can contain a maximum of 100 characters.
Secret Access Key	Enter the SK for accessing the source platform. The SK matches the AK, and they group into a pair. It can contain a maximum of 100 characters.
Specify Source Bucket	Enable this option if your source account does not have the permissions required to list buckets but have the permissions to list objects in buckets, obtain object metadata, and obtain objects. Then specify the bucket or path to be migrated. For details, see Table 3-2 .

Table 3-2 Description of **Specify Source Bucket**

If You...	Then...
<p>Enable Specify Source Bucket</p>	<ol style="list-style-type: none"> 1. Select the region where the source bucket is located from the Region drop-down list. 2. In the Bucket text box, enter the bucket or the path to be migrated. The path must have the bucket name included. For example, if the source bucket is obs-test, <ul style="list-style-type: none"> ▪ Enter obs-test to migrate all data in the source bucket. ▪ Enter a path in format of <i>Bucket name/Path</i>, for example, obs-test/file, to migrate data in that path. 3. Click Connect. OMS will check whether the source platform can be connected using the information you entered. If the source platform can be connected, the system will prompt you.
<p>Disable Specify Source Bucket. (This feature is disabled by default.)</p>	<ol style="list-style-type: none"> 1. Click List Buckets. OMS will check whether the source platform can be connected using the information you entered. After the source platform is connected, all buckets in your account will be listed in the Bucket drop-down list on the premises that your account has the permissions needed to list buckets. 2. In the Bucket drop-down list, select the bucket where the data to be migrated is stored.

2. Configure destination parameters. For details, see [Table 3-3](#).

Table 3-3 Destination parameters

Parameter	Operation
<p>Access Key ID</p>	<p>Enter the AK for accessing Huawei Cloud. It can contain a maximum of 100 characters.</p>

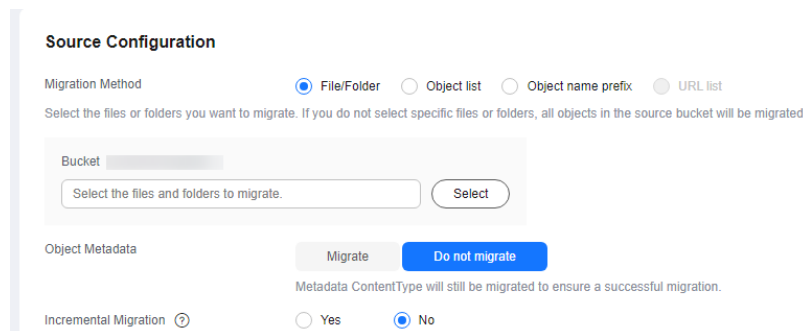
Parameter	Operation
Secret Access Key	Enter the SK for accessing Huawei Cloud. The SK matches the AK, and they group into a pair. It can contain a maximum of 100 characters. Then click List Buckets .
Bucket	Select a destination OBS bucket for storing the migrated data.

Step 5 Click **Next**.

Step 6 Set parameters in the **Source Configuration** area.

1. Select the migration method **File/Folder**, as shown in [Figure 3-2](#).

Figure 3-2 Selecting a migration method



2. Determine whether to migrate metadata.

NOTICE

- Only Chinese characters, English letters, digits, and hyphens (-) can be migrated. Other characters cannot be migrated.
- Even if you choose not to migrate metadata, the Content-Type metadata will still be migrated to ensure that the migration runs properly.

3. Set **Selective Migration**.

- If you do not need to filter source data by time, set this option to **No**.
- If you need to filter source data by time, set this option to **Yes**. Then only source data modified after the specified time will be migrated.

Step 7 Configure parameters in the **Destination Configuration** area.

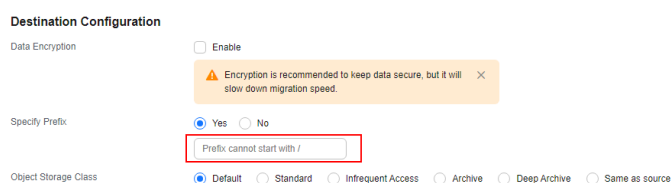
1. **Data Encryption:** If the destination is a parallel file system (PFS), data encryption is not supported.
 - If **Enable** is not selected, objects will be not encrypted after being migrated.
 - If **Enable** is selected, all migrated objects will be encrypted before they are stored into the destination bucket.

NOTE

- Enabling data encryption may decrease the migration speed by about 10%.
- Data encryption is only available if the encryption service is supported in the region you are migrating to.

2. Specify Prefix

- If this option is set to **No**, the names of objects remain unchanged before and after the migration.
- If this option is set to **Yes**, you can specify a prefix to rename or redefine the paths of objects migrated to the destination bucket.

Figure 3-3 Specifying a prefix

The screenshot shows the 'Destination Configuration' panel. It includes a 'Data Encryption' section with an 'Enable' checkbox. Below it is a warning message: 'Encryption is recommended to keep data secure, but it will slow down migration speed.' The 'Specify Prefix' section has radio buttons for 'Yes' (selected) and 'No'. A text input field below 'Specify Prefix' contains a slash character ('/'), which is highlighted by a red box and has a tooltip that says 'Prefix cannot start with /'. The 'Object Storage Class' section has radio buttons for 'Default' (selected), 'Standard', 'Infrequent Access', 'Archive', 'Deep Archive', and 'Same as source'.

NOTE

To learn how to use **Specify Prefix**, see [Adding a Name Prefix or Path Prefix to Migrated Objects](#).

3. Object Storage Class

Choose the storage class that your data will be migrated to. For details about storage classes, see [How Do I Choose Storage Classes?](#)


Step 8 (Optional) Click **Show** next to **Advanced Settings** to expand the advanced options. Configure advanced options by referring to [Table 3-4](#).

Table 3-4 Advanced settings

Parameter	Configuration
Failed Object Record	<p>Determine whether to record the objects that fail to be migrated.</p> <ul style="list-style-type: none"> • If this option is set to No, the system will not record the objects that fail to be migrated. If the migration fails and needs to be retried, all objects in the source bucket need to be migrated again. • If this option is set to Yes, the system will record the objects that fail to be migrated. If the migration fails and needs to be retried, you can only migrate these failed objects again. <p>NOTE</p> <ul style="list-style-type: none"> • For a migration task, no matter it is contained in a task group or not, the objects that fail to be migrated are recorded in a list named after the task name, and the list is uploaded to the oms/failed_object_lists/ directory of the destination bucket. • A maximum of 100,000 failed objects can be recorded in the failed object list. If more than 100,000 objects fail to be migrated in the migration task, you are advised to rectify the fault based on the existing failed object list and perform the migration again. • This file contains information about the failed migration task, including the failure cause and time (in local UTC), URL-encoded names of failed objects, non-URL-encoded names of failed objects, and error codes returned by source SDKs. • This file is retained in the destination bucket even after the objects in the file are successfully re-transferred. If you do not need the file, delete it manually.

Parameter	Configuration
Archive Data Restoration	<p>Archive data must be restored before being migrated. You can select this option if the source cloud service provider supports automatic restoration of archive data.</p> <ul style="list-style-type: none"> If you select this option, the system automatically restores and migrates archive objects in the migration task. If an archive object fails to be restored, the system records it in the list of objects that failed to be migrated and continues to migrate other objects in the migration task. <p>CAUTION</p> <ul style="list-style-type: none"> Currently, the following cloud platforms can automatically restore archive objects: Huawei Cloud, Alibaba Cloud, Kingsoft Cloud, and Tencent Cloud. The system will restore archive data before migrating it, and you will pay to the source cloud service provider for the API requests and storage space generated accordingly. The copies generated for restoring archive data will be stored for three days by default. If there is more than 3 TB of data or more than 3 million objects in a source bucket, create a migration task group to migrate data in case the migration fails because the restored data is archived again. Pausing or restarting a migration task will result in restoration of all archive data again, no matter it has been restored or not. After data is migrated from the source platform to Huawei Cloud, the storage class of the migrated data is the same as that of the destination bucket. <ul style="list-style-type: none"> If you do not select this option, the system directly records archive objects in the list of objects that failed to be migrated, skips them, and continues to migrate other objects in the migration task.

Parameter	Configuration
SMN Notification	<p>Decide whether to use SMN to get notifications about migration results.</p> <ul style="list-style-type: none">• If this option is set to No, no SMN message will be sent after the migration is complete.• If this parameter is set to Yes, you will receive an SMN message informing you of the migration results. <p>Perform the following steps:</p> <ol style="list-style-type: none">1. Click Add next to the SMN Topic box. The Select SMN Topic dialog box is displayed.2. Select a topic for publishing SMN messages and click OK. If OMS is not authorized to publish messages to the selected SMN topic, a Warning dialog box will appear after you click OK. If you need to complete the authorization, click OK to authorize OMS. Otherwise, click Cancel to return to the Select SMN Topic page and select another SMN topic.3. Configure Trigger Condition. You can select one of the following options or both:<ul style="list-style-type: none">- Migration succeeded: An SMN message will be sent if the migration task succeeds.- Migration failed: An SMN message will be sent if the migration task fails. <p>NOTE If you experience trouble in using SMN, see What Do I Do If SMN Does Not Work Properly?</p>

Parameter	Configuration
Traffic Limiting	<p>Set the maximum bandwidth for the migration task during different periods.</p> <ul style="list-style-type: none"> • If you do not need to limit migration traffic, select No. • If you need to limit migration traffic, select Yes. Perform the following steps to set traffic limits: <ol style="list-style-type: none"> 1. Click Add Rule. A traffic limiting rule is displayed. 2. Specify Start Time, End Time, and Maximum Bandwidth. The maximum bandwidth ranges from 1 MB/s to 200 MB/s. NOTICE For example, if you set Start Time to 08:00, End Time to 12:00, and Maximum Bandwidth to 20 MB/s, the maximum migration rate is limited to 20 MB/s when the migration task is running in the period from 08:00 to 12:00. The migration speed is not limited beyond this period. The time is the local standard time of the region you are migrating to. 3. Repeat Step 8.a and Step 8.b to add another traffic limiting rule. <p>You can click  in the Operation column to delete a rule.</p> <p>NOTE A maximum of five rules can be added for a migration task. You can set traffic limiting rules in the task details even after the task is created.</p>

Parameter	Configuration
Object Overwrite	<ul style="list-style-type: none"> ● Overwrite if source newer or different size: If a source object is not as large as or was last modified more recently than its paired destination object, the source object will overwrite the destination object. Otherwise, the source object will be skipped. ● Never overwrite: The system always skips source objects and keeps their paired destination objects. ● Overwrite if different CRC64 checksum: If a source object has a CRC64 checksum different from the paired destination object, the source object will overwrite the destination object. Otherwise, the source object will be skipped. If either of them does not have a CRC64 checksum, their sizes and last modification times are checked. <p>NOTE</p> <ul style="list-style-type: none"> - This option is only available for migration on Huawei Cloud or from Alibaba Cloud or Tencent Cloud. - This option is applied only when the source object has the same encryption status as the destination one. <ul style="list-style-type: none"> ● Always overwrite: The system always allows source objects to overwrite their paired destination objects.
Consistency Check	<ul style="list-style-type: none"> ● By size and last modification time: This is the default setting. The system checks object consistency with object size and last modification time. ● By CRC64 checksum: The system checks object consistency with CRC64 checksums. If a source object and the paired destination object have CRC64 checksums, the checksums are checked. Otherwise, their sizes and last modification times are checked.
Priority	If there are a large number of tasks, you can set task priorities to control which tasks take precedence over other tasks.
Description	In the Description area, enter a maximum of 255 characters to briefly describe the migration task.

Step 9 Click **Next** to enter the confirmation page.

Step 10 Confirm the migration settings and start the migration.

1. Check that the migration settings are correct.
If the settings are incorrect, click **Previous** to return to the previous page for modification.
2. Click **Migrate Now**. A message is displayed, indicating that the migration task is created successfully.
You can see that the migration task is displayed in the task list.

For details about migration task statuses, see [Viewing a Migration Task](#).

 **NOTE**

After the task is created, a task ID is generated for quick identification. It is displayed in the upper left corner of the task list. It is composed of the source bucket name, destination bucket name, and time sequence ID.

----End