

Alibaba Cloud

Hybrid Backup
Back up OSS

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Document conventions









Style	Description	Example
 Danger	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.
 Warning	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.
 Notice	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.
 Note	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.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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1. Create an OSS backup plan

You can use Hybrid Backup Recovery (HBR) to back up objects Object Storage Service (OSS) from buckets, and restore the objects if they are lost or damaged.

Prerequisites

An OSS bucket whose storage class is Standard or Infrequent Access (IA) is created. For more information, see [Create buckets](#).

Background information


Before you use HBR to back up OSS objects, take note of the following information:

- HBR cannot back up or restore objects in Archive buckets. HBR cannot back up or restore symbolic links or object access control lists (ACLs).
- You are charged higher fees for access to the objects in IA buckets than for access to the objects in Standard buckets.
- You are charged for the OSS API operations that are called by HBR during the backup of OSS objects. For more information, see [OSS billable items and billing methods](#).
- If you delete an existing backup, the data integrity of other backups is not affected.

Procedure

To create a backup plan for an OSS bucket, perform the following steps:

1. Log on to the [HBR console](#).
2. In the left-side navigation pane, choose **Backup > OSS Backup**.
3. In the top navigation bar, select the region where the OSS bucket resides.
4. On the **Backup Plans** tab, click **Source Bucket**.
5. In the **Create Backup Plan** panel, set the parameters described in the following table and click **OK**.



 **Note** You can use each backup plan free of charge for one month, which starts from the day when the backup plan is created. For example, if you create a backup plan on February 14, 2020, you can use the backup plan free of charge until March 14, 2020.

- i. The following table describes the parameters in the basic settings of the backup plan.

Parameter	Description
Source OSS Bucket	The name of the OSS bucket that you want to back up. Select an OSS bucket from the drop-down list.
Plan Name	The name of the backup plan. By default, a random name is used.
Start Time	The time at which the backup plan starts. The time is accurate to seconds.
Pay After Trial Ends	<p>Specifies whether to pay for the backup plan after the free trial period. Valid values:</p> <ul style="list-style-type: none">■ <i>No</i> (default value): The backup plan is not renewed after the free trial for the backup plan ends. If you select this option, the backup plan is deleted after the free trial period.■ <i>Yes</i>: The backup plan is automatically renewed after the free trial period.

- ii. To configure advanced settings, click **Show Advanced Settings**, click **Switch to Paid Plan**, and then set the parameters to enable the advanced settings. The following table describes the parameters.

Parameter	Description
Source Path	The prefix in the names of the objects that you want to back up from the OSS bucket. By default, no prefix is specified and all objects in the root directory of the OSS bucket are backed up.
Backup Interval	The interval at which incremental backup is performed. By default, the backup interval is one day. Unit: minutes, hours, days, or weeks.
Retention Policy	<p>The retention policy of the backup data. Valid values:</p> <ul style="list-style-type: none">■ <i>Limited</i> (default value): Backup data is retained for a specified period of time. If you select <i>Limited</i>, you must set the Retention Period parameter.■ <i>Permanent</i>: The backup data is permanently retained.
Retention Period	This parameter is required only if the Retention Policy parameter is set to <i>Limited</i> . This parameter specifies the period of time for which the backup data is retained. Default value: 2 (years). Unit: days, weeks, months, or years.

Parameter	Description
Backup Vault	<p>The backup vault to which you want to store the backup data. Valid values:</p> <ul style="list-style-type: none">■ <i>Create Vault</i> (default value): If you select this option, specify a name for the vault in the Vault Name field. By default, a random name is used.■ <i>Select Vault</i>: If you select this option, select a backup vault from the Vault Name drop-down list.
Vault Name	The name of the backup vault.
Vault Resource Group	<p>This parameter is required only if the Backup Vault parameter is set to <i>Create Vault</i>. This parameter specifies the resource group to which the backup vault belongs.</p> <p>Resource groups allow you to sort the resources of your Alibaba Cloud account for easier resource and permission management. For more information, see Create a resource group.</p>
Source Encryption Type	<p>This parameter is required only if the Backup Vault parameter is set to <i>Create Vault</i>. This parameter specifies the method that is used to encrypt the data in the backup vault.</p> <ul style="list-style-type: none">■ <i>HBR-managed</i> (default value): You can use the default encryption method of HBR.■ <i>KMS</i>: You can use Key Management Service (KMS) to encrypt data that is stored in the backup vault. <div> Notice If you select KMS, you cannot delete or disable the KMS key.</div>
KMS KeyId	<p>This parameter is required only if the Source Encryption Type parameter is set to <i>KMS</i>. This parameter specifies the ID of the KMS key that you can use to encrypt the data in the backup vault.</p> <div> Note Before you can use the KMS key to encrypt the data in the backup vault, you must create the key ID in the KMS console. For more information, see Create a CMK.</div>

- iii. Specify whether to use the OSS inventory feature to back up data from OSS buckets.

Parameter	Description
Use OSS Inventory	Specifies whether to enable the OSS inventory feature to back up data from OSS buckets. Default value: No . If you need to back up a large amount of data from an OSS bucket, we recommend that you enable the OSS inventory feature. For more information, see Use an OSS inventory list to create a backup plan for a large amount of OSS data .

After the backup plan is created, HBR runs backup jobs based on the backup plan.

What to do next

On the **Backup Plans** tab, you can perform the following operations in the **Actions** column.

Operation	Description
Run Now	Immediately runs a backup job.
Modify	Modifies the parameters of an OSS backup job if the backup job does not meet your business requirements.
Backups	You can view all the backup record of the file system or its backup history in the recent three months.
Suspend Plan	Suspends a backup job that is running.
Resume Plan	Resumes a backup job that is suspended.
Delete Plan	Deletes a backup job that is running. After you delete a backup plan, HBR no longer runs the plan. The data that is backed up is retained.
Alert Settings	If the backup job fails or the client is disconnected from the server, HBR sends an alert notification by default. For more information, see Configure alert notifications .

What's next

[Create an OSS restore job](#)

2. Use an OSS inventory list to create a backup plan for a large amount of OSS data

If you need to back up a large amount of data from an Object Storage Service (OSS) bucket, you can use the OSS inventory feature of Hybrid Backup Recovery (HBR) to accelerate incremental backups. This topic describes how to create and run an OSS backup plan by using the OSS inventory feature.

Prerequisites

- An OSS bucket whose storage class is Standard or Infrequent Access (IA) is created. For more information, see [Create buckets](#).
- If you want to use an existing OSS inventory list to create an OSS backup plan, the OSS inventory list must meet the following requirements:
 - The inventory list of the latest version is enabled. The bucket prefix that is used in the inventory list is the same as the value of the Source Path parameter that is specified in the Create Backup Plan panel.
 - The inventory list includes the Object Size, Storage Class, Last Modified Date, and ETag fields.

The screenshot shows the configuration interface for Hybrid Backup (HBR) to back up OSS data using an inventory list. The interface is divided into several sections:

- Status:** A toggle switch set to **Enabled**.
- Rule Name:** A text field containing **test1**, with a character count **5/63** and a green checkmark.
- Destination Bucket:** A dropdown menu showing **examplebucket1105**.
- Inventory List Path:** An empty text field.
- Frequency:** Two buttons: **Weekly** (selected) and **Daily**.
- Encryption Method:** Three buttons: **None** (selected), **AES-256**, and **KMS**.
- Object Versions:** Two buttons: **Current Version** (selected) and **All Versions**.
- Object Prefix:** An empty text field.
- Optional Fields:** A list of four fields, all of which are checked with blue checkmarks:
 - ☒ Object Size
 - ☒ Storage Class
 - ☒ Last Update Time
 - ☒ ETag

For more information, see [Configure bucket inventory](#).

Context

You can use the inventory feature to export information about an object in a bucket, such as the number, size, storage class, and encryption status of the object. If you need to back up a large amount of data from an OSS bucket, you can use the OSS inventory feature of HBR to accelerate incremental backups. If you need to back up more than 100 million objects, we recommend that you use the OSS inventory feature. OSS determines the time at which OSS inventory lists are generated. If you perform a backup before an inventory list is generated, the backup fails.

Usage notes

When you use the OSS inventory feature of HBR to back up OSS data, take note of the following points:

- HBR cannot back up or restore symbolic links, object access control lists (ACLs), or objects in Archive buckets.
- You are charged higher fees for access to objects in IA buckets than for access to objects in Standard buckets.
- You are charged for OSS API operations that are called by HBR during the backup of OSS objects. The

charges are included in your OSS bills. For more information, see [Overview](#).

- If you delete an existing backup, the data integrity of subsequent backups is not affected.
- You can manage OSS inventory lists in the OSS console. For information about how to create an OSS inventory list, see [Configure bucket inventory](#).
- To accelerate incremental backups, HBR uses the most recent inventory list that is generated within the previous seven days.

An OSS inventory list may be generated at a low speed. If you use the OSS inventory list, take note of the following limits:


- If no inventory list exists when a backup job is performed, the backup job fails.
- When a backup job is triggered and the inventory list is the same as the inventory list of the previous backup, the backup job fails.
- When a backup job is triggered, HBR uses the most recent inventory list. After the backup is completed, the objects that you add to the OSS inventory list are backed up in the next backup cycle.
- The interval at which backups are performed must be greater than or equal to the interval at which OSS inventory lists are generated. This way, you can use an OSS inventory list each time you perform a backup.

We recommend that you set the time to start the first backup to a point after an OSS inventory list is generated and then click **Run Now** to perform a manual backup after an OSS inventory list is generated. This way, you can enable the inventory list feature in time to accelerate your backup jobs.

Procedure

To create a backup plan for an OSS bucket, perform the following steps:

1. Log on to the [HBR console](#).
2. In the left-side navigation pane, choose **Backup > OSS Backup**.
3. In the top navigation bar, select the region where the OSS bucket resides.
4. On the **Backup Plans** tab, click **Source Bucket**.
5. In the **Create Backup Plan** panel, set the parameters and click **OK**.



 **Note** You can use each backup plan free of charge for one month, starting from the day when the backup plan is created. For example, if you create a backup plan on February 14, 2020, you can use the backup plan for free until March 14, 2020. You are charged for the OSS API operations that are called by HBR during the backup of OSS objects. You are also charged for the storage of OSS inventory lists. The charges are included in your OSS bills. For more information, see [OSS billable items and billing methods](#).

- i. The following table describes the parameters in the basic settings of the backup plan.

Parameter	Description
Source OSS Bucket	The name of the OSS bucket that you want to back up. Select an OSS bucket from the drop-down list.
Plan Name	The name of the backup plan. By default, a random name is used.
Start Time	The time at which the backup plan starts. The time is accurate to seconds.
Pay After Trial Ends	<p>Specifies whether to pay for the backup plan after the free trial period. Valid values:</p> <ul style="list-style-type: none">■ <i>No</i> (default value): The backup plan is not renewed after the free trial for the backup plan ends. If you select this option, the backup plan is deleted after the free trial period.■ <i>Yes</i>: The backup plan is automatically renewed after the free trial period.

- ii. To specify the advanced settings, click **Show Advanced Settings**, click **Switch to Paid Plan** to enable the advanced settings, and then set the parameters. The following table describes the parameters.

Parameter	Description
Source Path	The prefix in the names of the objects that you want to back up from the OSS bucket. By default, no prefix is specified and all objects in the root directory of the OSS bucket are backed up.
Backup Interval	The interval at which incremental backup is performed. By default, the backup interval is one day. Unit: minutes, hours, days, or weeks.
Retention Policy	<p>The retention policy of the backup data. Valid values:</p> <ul style="list-style-type: none">■ <i>Limited</i> (default value): Backup data is retained for a specified period of time. If you select <i>Limited</i>, you must set the Retention Period parameter.■ <i>Permanent</i>: The backup data is permanently retained.
Retention Period	This parameter is required only if the Retention Policy parameter is set to <i>Limited</i> . This parameter specifies the period of time for which the backup data is retained. Default value: 2 (years). Unit: days, weeks, months, or years.

Parameter	Description
Backup Vault	<p>The backup vault to which you want to store the backup data. Valid values:</p> <ul style="list-style-type: none"> ■ <i>Create Vault</i> (default value): If you select this option, specify a name for the vault in the Vault Name field. By default, a random name is used. ■ <i>Select Vault</i>: If you select this option, select a backup vault from the Vault Name drop-down list.
Vault Name	The name of the backup vault.
Vault Resource Group	<p>This parameter is required only if the Backup Vault parameter is set to <i>Create Vault</i>. This parameter specifies the resource group to which the backup vault belongs.</p> <p>Resource groups allow you to sort the resources of your Alibaba Cloud account for easier resource and permission management. For more information, see Create a resource group.</p>
Source Encryption Type	<p>This parameter is required only if the Backup Vault parameter is set to <i>Create Vault</i>. This parameter specifies the method that is used to encrypt the data in the backup vault.</p> <ul style="list-style-type: none"> ■ <i>HBR-managed</i> (default value): You can use the default encryption method of HBR. ■ <i>KMS</i>: You can use Key Management Service (KMS) to encrypt data that is stored in the backup vault. <div>  Notice If you select KMS, you cannot delete or disable the KMS key. </div>
KMS KeyId	<p>This parameter is required only if the Source Encryption Type parameter is set to <i>KMS</i>. This parameter specifies the ID of the KMS key that you can use to encrypt the data in the backup vault.</p> <div>  Note Before you can use the KMS key to encrypt the data in the backup vault, you must create the key ID in the KMS console. For more information, see Create a CMK. </div>

iii. Configure the OSS inventory feature.

Parameter	Description
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Parameter	Description
Use OSS Inventory	<p>Specifies whether to back up OSS buckets by using the OSS inventory feature. In this example, the parameter is set to Select Inventory.</p> <ul style="list-style-type: none"> ■ No: disables the OSS inventory feature. You must back up objects in traversal mode. ■ Select Inventory: You can use an existing OSS inventory list to accelerate the incremental backups of OSS objects.
OSS Inventory Name	<p>This parameter is required only if the Use OSS Inventory parameter is set to Select Inventory. You can select an OSS inventory list from the OSS Inventory Name drop-down list. For information about how to create an OSS inventory list, see Configure bucket inventory.</p> <p>The OSS inventory list that you create must meet the following requirements:</p> <ul style="list-style-type: none"> ■ The inventory list of the latest version is enabled. The bucket prefix that is used in the inventory list is the same as the value of the Source Path parameter that is specified in the Create Backup Plan panel. ■ The inventory list includes the Object Size, Storage Class, Last Modified Date, and ETag fields. ■ The interval at which the OSS inventory list is generated must be shorter than the interval at which backups are performed. This way, you can use an OSS inventory list each time you perform a backup.
Delete inventory file after backup	<p>Specifies whether to delete the inventory list after a backup plan is completed. If you set this parameter, you can delete the inventory lists of the bucket. We recommend that you store inventory lists in a dedicated bucket or set the parameter to Do Not Delete to manually manage the lists.</p> <ul style="list-style-type: none"> ■ Do Not Delete: retains the inventory lists. If subsequent applications access the OSS inventory list, we recommend that you set the parameter to this value. ■ Delete Current: deletes the inventory list that is used in the backup job. ■ Delete All: deletes all the inventory lists that are generated after the backup is completed. If no subsequent applications access the OSS inventory lists, we recommend that you set the parameter to this value.

After the backup plan is created, HBR runs backup jobs based on the backup plan.

What to do next

On the **Backup Plans** tab, you can perform the following operations in the **Actions** column.

Operation	Description
Run Now	Immediately runs a backup job.
Modify	Modifies the parameters of an OSS backup job if the backup job does not meet your business requirements.
Backups	You can view all the backup record of the file system or its backup history in the recent three months.
Suspend Plan	Suspends a backup job that is running.
Resume Plan	Resumes a backup job that is suspended.
Delete Plan	Deletes a backup job that is running. After you delete a backup plan, HBR no longer runs the plan. The data that is backed up is retained.
Alert Settings	If the backup job fails or the client is disconnected from the server, HBR sends an alert notification by default. For more information, see Configure alert notifications .

What's next

[Create an OSS restore job](#)

3. Create an OSS restore job

If a system failure or an error occurs on OSS, you can restore your OSS data to a specific point in time by running an OSS restore job. This topic describes how to create an OSS restore job.

Prerequisites

An OSS backup plan is created and completed. For more information, see [Create an OSS backup plan](#) and [Use an OSS inventory list to create a backup plan for a large amount of OSS data](#).

Procedure

To restore backup data to the source OSS bucket or a different OSS bucket, perform the following steps:

1. Log on to the [HBR console](#).
2. In the left-side navigation pane, choose **Backup > OSS Backup**.
3. In the top navigation bar, select the region where the OSS bucket resides.
4. In the upper-right corner of the **Restore Jobs** tab, click **Create Restore Job**.
5. In the **Create Restore Job** panel, specify the **Source Vault** and the **Source Bucket**. Select a backup that you want to restore. Then, click **Next**.
6. In the **Select Backup Files** step, set the **Restore Policy** parameter and click **Next**.
 - **Include All Files**: HBR restores all objects that are backed up from the source OSS bucket.
 - **Include Specified Files or Exclude Specified Files**: In the text box, enter the paths to the folders and files that you want to restore. HBR restores files that are backed up from the source OSS bucket based on the restore policy.

In the text box, enter one path in each line. Each path must start with the source folder.

- If the specified OSS prefix is a/b/ and you want to include or exclude folder and file.txt, enter the following object paths:

```
a/b/folder
a/b/file.txt
```

- If no OSS prefix is specified and you want to include or exclude folder and file.txt, enter the following object paths:

```
folder
file.txt
```

7. In the **Configure Destination** step, select a bucket from the **Destination OSS Bucket** drop-down list and enter the path to the destination folder in the **Destination Path** field. If you do not specify the destination path, the backup data is restored to the root folder of the destination OSS bucket.
8. Click **Create**.

After the restore job is created, you can view the job progress in the **Status** column on the **Restore Jobs** tab.