

Volume Backup Service

User Guide

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1 Service Overview

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1.1 VBS

Volume Backup Service (VBS) provides snapshot-based data protection for Elastic Volume Service (EVS) disks.

VBS secures your data, even if an EVS disk is faulty or encounters a logical error (for example, mis-deletion, hacker attacks, and virus infection). It allows you to effortlessly create backups of your data, and these data backups can be used to restore data quickly.

VBS supports both full and incremental backup modes. By default, the system performs a full backup initially, and then performs incremental backups. You can use a data backup generated in either backup mode to restore the source EVS disk to the state the EVS disk was in when the backup was created.

VBS allows one-click backup and restoration for the EVS disks on servers all through its easy-to-use platform. These servers are Elastic Cloud Servers (ECSs) or Bare Metal Servers (BMSs).

1.2 VBS Functions

You can use VBS to back up and restore EVS disks. VBS provides the following functions:

- EVS disk-specific backup
- Policy-driven data backup

- Backup data management
- EVS disk restoration using data backups
- EVS disk creation using data backups

1.3 Backup Policy Overview

A backup policy, including the backup period and retention rules, can automate data backup of EVS disks. Backup policies are user specific.

1.4 Introduction to Instant Restore

Instant Restore is a feature that provides the instant restoration function for restoring disk data and creating disks using backups, which is much faster than the normal restoration function.

Backups generated before the Instant Restore feature is enabled do not support instant restoration. To use the feature, perform a full backup operation and select **Enable** next to **Full Backup** when creating the backup. For details, see [2.2 Creating a VBS Backup](#). After Instant Restore is enabled, manual backups for EVS disks that have not been backed up automatically support instant restoration, without requiring the selection of **Enable** next to **Full Backup**.

No matter whether an EVS disk has been backup or not, its automatic backups generated after Instant Restore is enabled do not support instant restoration, unless you manually perform a full backup on it.

After Instant Restore is enabled, each backup will be marked with a letter **C** or **E** at the right of its name to show whether it supports instant restoration. A backup marked with letter **C** is a common backup and does not support instant restoration. A backup marked with letter **E** is an enhanced backup and supports instant restoration.

When you use Instant Restore for the first time through APIs and the to-be-restored disk has been backed up before the feature is enabled, you need to perform a full backup on the disk on the console or directly call the API for creating a full backup (**POST /v2/{tenant_id}/cloudbackups**). After doing this, the disk backups generated through APIs will support instant restoration.

1.5 Related Services

Elastic Volume Service (EVS)

The VBS service provides the data backup function for EVS disks. Data backups can be used to create EVS disks.

Cloud Server Backup Service (CSBS)

CSBS and VBS both provide data backup protection. [Table 1-1](#) describes the differences between CSBS and VBS.

Table 1-1 CSBS and VBS

Item	CSBS	VBS
Backup and restoration objects	All EVS disks (including system and data disks) on a single ECS	One or more specified EVS disks (system or data disks)
Recommended scenario	An entire ECS that needs to be protected	Only data disks need to be backed up, because the system disk does not contain personal data.
Advantages	All EVS disks on an ECS have consistent data. They are backed up at the same time, eliminating the problem of data inconsistency caused by backups generated at different points in time.	Data is secure while the service is cost-competitive.

Key Management Service (KMS)

The encryption feature relies on KMS. If an EVS disk is encrypted, its backup data will be stored in encrypted mode.

Simple Message Notification (SMN)

VBS adopts SMN to notify users of VBS backup information.

Tag Management Service (TMS)

Working with TMS, VBS supports tag presetting and backup filtering and management.

1.6 User Permissions

The public cloud system provides two types of user permissions by default: user management and resource management. User management refers to the management of users and user groups. Resource management refers to the control operations that can be performed by users on cloud service resources.

For details, see [Permissions](#).

1.7 Basic Concepts

1.7.1 Regions and Availability Zones

A region is a geographic area where VBS works.

Each region comprises one or more AZs and is completely isolated from other regions. AZs within the same region can communicate with one another through an internal network, while those in different regions cannot communicate with one another through an internal network.

The public cloud is hosted in multiple locations worldwide, including North America, Europe, and Asia, ensuring VBS can be used without any problems. You can use VBS in locations that

meet your requirements. For example, you can design applications in a location that is close to your customers or that meets legal or other specific requirements.

Each region contains many AZs where power and networks are physically isolated. Each AZ provides cost-effective and low-latency network connections that are unaffected by faults in other AZs. Therefore, deploying VBS in separate AZs protects your applications against local faults that occur in a specific location.

1.7.2 Project

Projects are used to group and isolate OpenStack resources (computing, storage, and network resources). A project can be a department or a project team. Multiple projects can be created for one account.

2 Getting Started

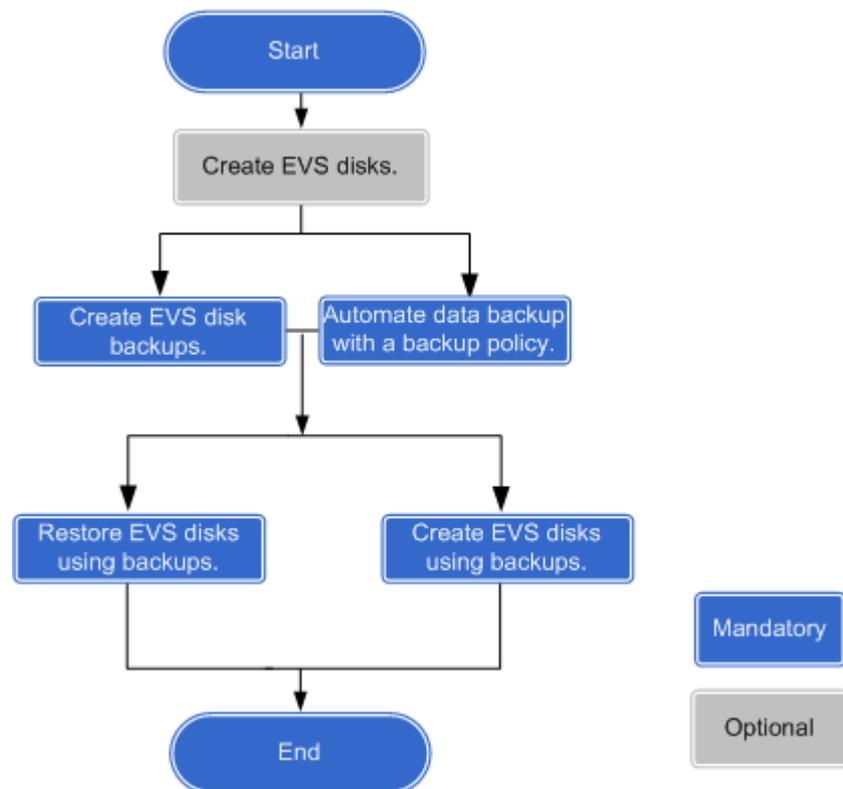
2.1 VBS Backup Procedure

2.2 Creating a VBS Backup

2.1 VBS Backup Procedure

Figure 2-1 shows the process for VBS related operations.

Figure 2-1 Operation procedure flowchart



2.2 Creating a VBS Backup

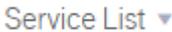
You can create backups for your EVS disks to protect the disk data through the VBS console or the EVS console.

Precautions

An EVS disk can be backed up only when its status is **Available** or **In-use**. If you have performed operations such as expanding, attaching, detaching, or deleting an EVS disk, refresh the page first to ensure the completion of the operation and then determine whether to back up the disk.

Create a VBS Backup (Method 1)

Step 1 Log in to the management console.

Step 2 Click  . Under **Storage**, click **Volume Backup Service**.

Step 3 Click  in the upper left corner of the management console and select a region and a project.

Step 4 On the VBS page, click **Create Backup**.

Step 5 From the EVS disk list on the left, click to select the EVS disks you want to back up.

Then they appear in the **Selected Disks** list on the right. See [Figure 2-2](#). You can click  in the **Operation** column to delete EVS disks that do not need to be backed up.

Figure 2-2 Selecting a disk

Disks

Available Disks					Selected Disks (1)					
Name	Status	ECS/BMS	Capacity (GB)	Encrypted	Name	Status	ECS/BMS	Capacity (GB)	Encrypted	Operation
<input type="checkbox"/> ecs-csbs-ba...	In-use	ecs-no_del...	10	No	volume-cef8	Availa...	--	10	No	
<input type="checkbox"/> volume-f21e	In-use	no-del_060...	25	No						
<input checked="" type="checkbox"/> volume-cef8	Availa...	--	10	No						
<input type="checkbox"/> old-volume-...	Availa...	--	10	No						
<input type="checkbox"/> old-test-volu...	Availa...	--	10	No						
<input type="checkbox"/> old-volume-...	Availa...	--	10	No						
<input type="checkbox"/> old-volume-t...	Availa...	--	10	No						
<input type="checkbox"/> share-volume	Availa...	--	10	No						
<input type="checkbox"/> volume-f38a	Availa...	--	10	No						

NOTE

The system will identify whether the selected EVS disk is encrypted. If it is encrypted, its backup data will be stored in encrypted mode.

In earlier versions, backup data of encrypted EVS disks is stored in non-encrypted mode. In the current version, newly generated backup data is stored in encrypted mode; however, historical non-encrypted backups will remain unchanged.

Step 6 Confirm the EVS disks selected for backup are correct. Then in the **Configure Backup** area below, set **Auto Backup** or **Backup Now** or both. See [Figure 2-3](#).

Figure 2-3 Configuring backup schemes

Configure Backup

Auto Backup
The selected disks will be associated with and automatically backed up according to the backup policy. This will disassociate the disks from any previously configured backup policy.

* Backup Policy defaultPolicy | Weekly backup | Enabled | 00:00, 0... Create Policy

Backup Now
The selected disks will be backed up immediately.

Encrypted Backups of 0 disks will be encrypted.

* Name ⓘ

Description
0/64

Full Backup Enable ⓘ

Tag
You can add 10 more tags.

 **NOTE**

Auto Backup: The selected EVS disks will be associated with the backup policy. If the policy is enabled, the EVS disks will be automatically backed up according to the backup policy. If the selected EVS disks have been associated with another backup policy, they will be disassociated from that backup policy first and then associated with the new backup policy.

Backup Now: backs up the selected EVS disks at once.

- Select **Auto Backup**: In the **Backup Policy** drop-down list, select an existing one. You can also click **Create Policy** to create a new one. For details, see [3.2 Data Backup Using a Backup Policy](#).
- Select **Backup Now**: Enter the backup name and description. [Table 2-1](#) describes the parameters.

Table 2-1 Parameter description

Parameter	Description	Example Value
Name	The name can only contain letters, digits, underscores (_), and hyphens (-). It cannot contain special characters or start with auto . If you select only one EVS disk to back up, the backup name ranges from 1 to 64 characters. If you select more than one EVS disk to back up, the backup name ranges from 1 to 59 characters.	disk01_backup
Description	The description consists of 0 to 64 characters and cannot contain a greater-than sign (>) or less-than sign (<).	for_test

Step 7 Determine whether to select **Enable** next to **Full Backup**. If **Full Backup** is enabled, the generated full backup and later generated incremental backups will support instant restoration. When you use Instant Restore for the first time through APIs and the to-be-restored disk has been backed up before the feature is enabled, enable full backup. After doing this, the disk backups generated through APIs will support instant restoration.

Step 8 Add tags to the backup.

A tag is represented in the form of a key-value pair. Tags are used to identify, classify, and search for cloud resources. Tags are used to filter and manage backup resources only. A backup can have a maximum of 10 tags.

[Table 2-2](#) describes parameters of a tag.

Table 2-2 Parameter description

Parameter	Description	Example Value
Key	Each tag of a backup has a unique key. The key of a tag is user-definable or is selected from those of existing tags in Tag Management Service (TMS). The naming rules for a tag key are as follows: <ul style="list-style-type: none"> ● It ranges from 1 to 36 Unicode characters. ● It can contain only letters, digits, hyphens (-), and underscores (_). 	Key_0001
Value	The values of tags can be repetitive and can be blank. The naming rules for a tag value are as follows: <ul style="list-style-type: none"> ● It ranges from 0 to 43 Unicode characters. ● It can contain only letters, digits, hyphens (-), and underscores (_). 	Value_0001

Step 9 Click **Create Now**.

Step 10 Confirm the VBS backup information and click **Submit**.

Step 11 Switch back to the VBS backup list.

You can refresh the page after 10 seconds to view the backup creation status. When the **Status** of the backup changes to **Available**, the VBS backup has been successfully created.

----End

Create a VBS Backup (Method 2)

Step 1 Log in to the management console.

Step 2 Click . Under **Storage**, click **Volume Backup Service**.

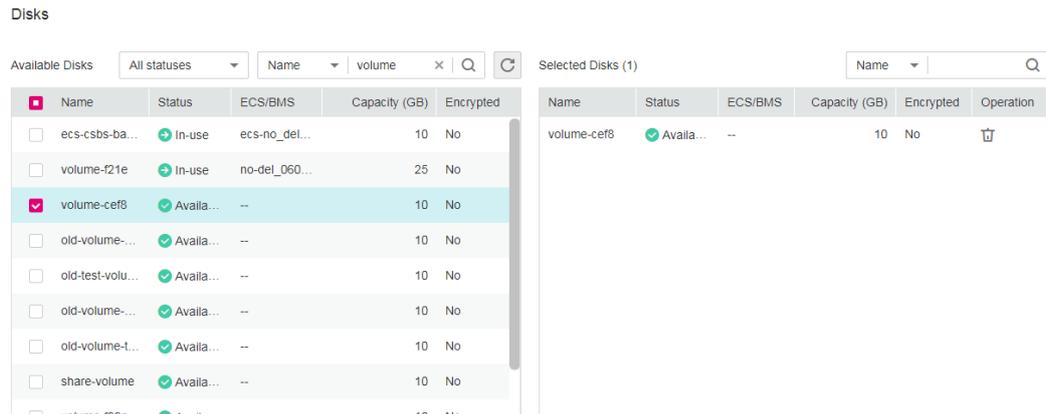
Step 3 Click  in the upper left corner of the management console and select a region and a project.

Step 4 Locate the row that contains the target EVS disk, click **More** in the **Operation** column, and select **Back Up**.

Step 5 From the EVS disk list on the left, click to select the EVS disks you want to back up.

Then they appear in the **Selected Disks** list on the right. See [Figure 2-4](#). You can click  in the **Operation** column to delete EVS disks that do not need to be backed up.

Figure 2-4 Selecting a disk



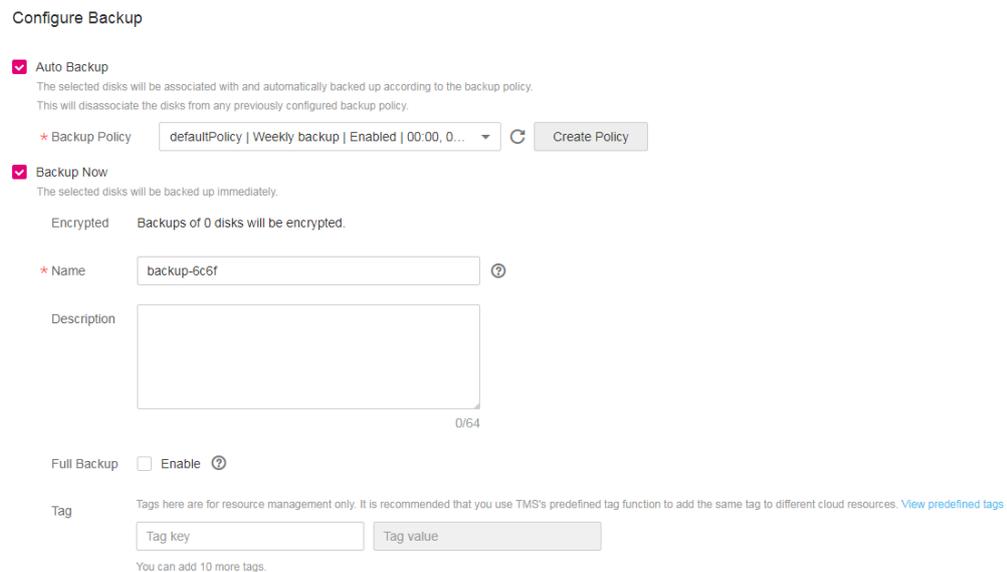
 **NOTE**

The system will identify whether the selected EVS disk is encrypted. If it is encrypted, its backup data will be stored in encrypted mode.

In earlier versions, backup data of encrypted EVS disks is stored in non-encrypted mode. In the current version, newly generated backup data is stored in encrypted mode; however, historical non-encrypted backups will remain unchanged.

Step 6 Confirm the EVS disks selected for backup are correct. Then in the **Configure Backup** area below, set **Auto Backup** or **Backup Now** or both. See [Figure 2-5](#).

Figure 2-5 Configuring backup schemes



 **NOTE**

Auto Backup: The selected EVS disks will be associated with the backup policy and will be automatically backed up according to the backup policy. If the selected EVS disks have been associated with another backup policy, they will be disassociated from that backup policy first and then associated with the new backup policy.

Backup Now: backs up the selected EVS disks at once.

- Select **Auto Backup**: In the **Backup Policy** drop-down list, select an existing one. You can also click **Create Policy** to create a new one. For details, see [3.2 Data Backup Using a Backup Policy](#).
- Select **Backup Now**: Enter the backup name and description. [Table 2-1](#) describes the parameters.

Step 7 Determine whether to select **Enable** next to **Full Backup**. If **Full Backup** is enabled, the generated full backup and later generated incremental backups will support instant restoration. When you use Instant Restore for the first time through APIs and the to-be-restored disk has been backed up before the feature is enabled, enable full backup. After doing this, the disk backups generated through APIs will support instant restoration.

Step 8 Add tags to the VBS backup. [Table 2-2](#) describes the parameters.

A tag is represented in the form of a key-value pair. Tags are used to identify, classify, and search for cloud resources. Tags are used to filter and manage backup resources only. A backup can have a maximum of 10 tags.

Step 9 Click **Create Now**.

Step 10 Confirm the VBS backup information and click **Submit**.

Step 11 Switch back to the VBS backup list.

You can refresh the page after 10 seconds to view the backup creation status. When the **Status** of the backup changes to **Available**, the VBS backup has been successfully created.

----**End**

3 Operation Guide

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- [3.2 Data Backup Using a Backup Policy](#)
- [3.3 Data Restoration Using a VBS Backup](#)
- [3.4 Viewing VBS Traces](#)
- [3.5 VBS Operation Instances](#)

3.1 VBS Backup Management

You can set filtering criteria to query wanted backups, add tags to backups for grouped management, and share your backups with other projects.

CSBS backups of ECSs are also displayed on the VBS backup page and can be distinguished from VBS backups by **Source** in the backup details.

After Instant Restore is enabled, each backup will be marked with a letter **C** or **E** at the right of its name to show whether it supports instant restoration. A backup marked with letter **C** is a common backup and does not support instant restoration. A backup marked with letter **E** is an enhanced backup and supports instant restoration. For details, see [1.4 Introduction to Instant Restore](#).

Search for a VBS Backup

- Step 1** Log in to the management console.
- Step 2** Click  in the upper left corner of the management console and select a region and a project.
- Step 3** Click . Under **Storage**, click **Volume Backup Service**.
- Step 4** Search for backups.
 - On the top of the list, select **My backups** and **Backups shared with me** in the drop-down list.

- On the **My backups** page, search for backups by backup name, backup ID, KMS key ID, or disk ID, and then click  to search. See [Figure 3-1](#).

Figure 3-1 My backups



- On the **Backups shared with me** page, you can see the time when the backup is shared in the **Shared** column. You can search for backups by backup name, backup ID, disk ID, or owner project ID, as shown in [Figure 3-2](#). Click  to search.

Figure 3-2 Backups shared with me



- Above the page, select a state to search for backups.
- In the upper right corner of the page, you can click the **Search by Tag** tab to search for backups.
 - On the **Search by Tag** tab page that is displayed, enter a tag key and a tag value (must be among existing keys and values), click , and then click **Search**.
 - You can use more than one tag for a combination search. Each time after a key and a value are entered, click . The added tag search criteria are displayed under the text boxes. When more than one tag is added, they will be applied together for a combination search. A maximum of 10 tags can be added at the same time.
 - You can click **Reset** under the search criteria to reset the search criteria.

Step 5 Click  in the row of a VBS backup to view its details.

 **NOTE**

The **Created** column in the backup list indicates the time when the backup was created.

----End

View the Status of a Backup Job

After creating backup jobs, you can view backup job status in **Job Status** above the backup list.

The backup job status can be:

- **Processing**: a backup job is being executed
- **Failed**: a backup job failed to be executed

 **NOTE**

- You can click the number next to **Job Status** to view details about the backup job creation. The **Created** column indicates the time when the backup job was started.
- If no backup jobs in either of the two states are displayed, **Job Status** is left blank.

Delete a VBS Backup

To delete unwanted VBS backups, ensure the backups' statuses are **Available** or **Error** and **Source** is **VBS**.

Backups whose **Source** is **CSBS** can be deleted only on the CSBS management console.

Step 1 Log in to the management console.

Step 2 Click  in the upper left corner of the management console and select a region and a project.

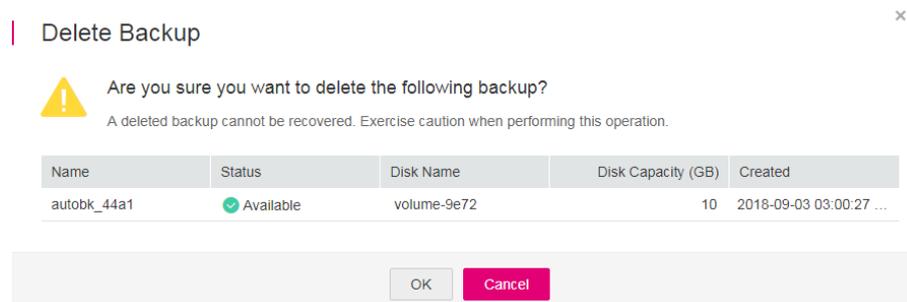
Step 3 Click . Under **Storage**, click **Volume Backup Service**.

Step 4 Locate the row that contains the target VBS backup in the backup list.

Step 5 Click **Delete** in the **Operation** column.

Step 6 In the dialog box that is displayed, confirm the information and click **OK**. See [Figure 3-3](#).

Figure 3-3 Deleting a backup



Step 7 Optional: To delete multiple backups in a batch, click to select them, and then click the **Delete** button above the list. In the dialog box that is displayed, confirm the deletion information and click **OK**.

----End

Manage Tags of a VBS Backup

You can add tags to a backup as well as edit and delete these tags. Tags are used to filter and manage backup resources only.

Step 1 Log in to the management console.

Step 2 Click  in the upper left corner of the management console and select a region and a project.

Step 3 Click . Under **Storage**, click **Volume Backup Service**.

Step 4 Click  in the row of a VBS backup to view its details.

Step 5 Click **Tags** in the details area to expand the tag management panel.

The panel displays all tags of the VBS backup.

- Adding tags
 - a. Click **Add Tag** in the upper left corner.
 - b. In the dialog box that is displayed, set the key and value of the new tag. For details, see [Figure 3-4](#).

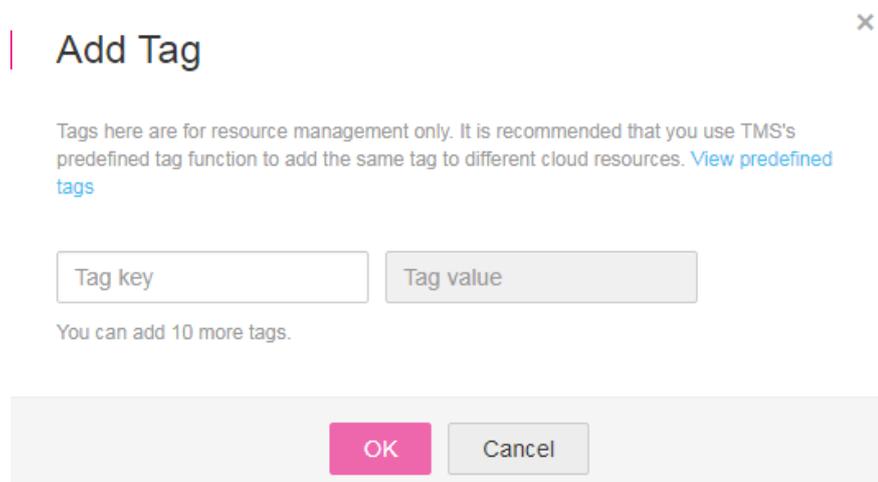
A tag is represented in the form of a key-value pair. Tags are used to identify, classify, and search for cloud resources. A backup can have a maximum of 10 tags.

[Table 3-1](#) describes parameters of a tag.

Table 3-1 Parameter description

Parameter	Description	Example Value
Key	<p>Each tag of a backup has a unique key. The key of a tag is user-definable or is selected from those of existing tags in TMS.</p> <p>The naming rules for a tag key are as follows:</p> <ul style="list-style-type: none"> ■ It ranges from 1 to 36 Unicode characters. ■ It can contain only letters, digits, hyphens (-), and underscores (_). 	Key_0001
Value	<p>The values of tags can be repetitive and can be blank.</p> <p>The naming rules for a tag value are as follows:</p> <ul style="list-style-type: none"> ■ It ranges from 0 to 43 Unicode characters. ■ It can contain only letters, digits, hyphens (-), and underscores (_). 	Value_0001

Figure 3-4 Adding tags



- c. Click **OK**.
- Editing a tag
 - a. In the **Operation** column of the tag that you want to edit, click **Edit**.
 - b. In the **Edit Tag** dialog box that is displayed, modify the tag value. [Table 3-1](#) describes the parameters.

If the updated tag is identical to an existing one, only one is retained.
 - c. Click **OK**.
- Deleting a tag
 - a. In the **Operation** column of the tag that you want to delete, click **Delete**.
 - b. In the dialog box that is displayed, confirm the deletion information.
 - c. Click **OK**.
- Searching for backups by tag

For details, see [Search for a VBS Backup](#).

---End

Manage Shared VBS Backups

A tenant can share a backup with other tenants.

Encrypted backups cannot be shared. Backups of common I/O (performance optimized I) and ultra-high I/O (latency optimized) disks cannot be shared.

Backups cannot be shared across regions. This indicates that projects sharing a backup must be in the same region as the backup.

Step 1 Log in to the management console.

Step 2 Click  in the upper left corner of the management console and select a region and a project.

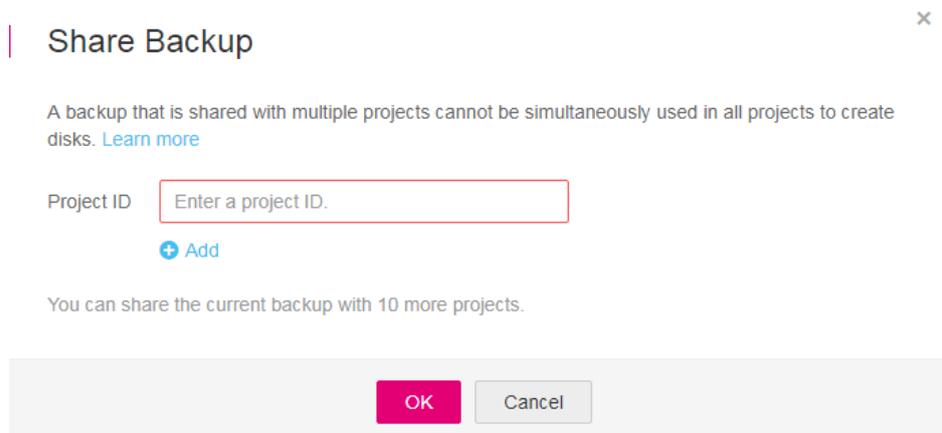
Step 3 Click . Under **Storage**, click **Volume Backup Service**.

Step 4 Click  in the row of a backup.

Step 5 Click **Shares** in the backup details area to expand the share management panel.

The panel displays the ID list of projects with which the backup is shared.

- Adding a share
 1. In the upper left corner, click **Share Backup**, and then the **Share Backup** dialog box is displayed. For details, see [Figure 3-5](#).

Figure 3-5 Adding a share

2. Enter the project ID of the target tenant.

NOTE

A project ID is a string of 32 characters that can contain letters and digits but cannot be digits only.

3. Click **Add** in the dialog box to add another project ID. A tenant can share a backup with another 10 tenants.
4. Click **OK**.

- **Deleting a share**

1. Select a share that you want to delete, and click **Unshare** in the **Operation** column.
2. In the dialog box that is displayed, confirm the deletion information.
3. Click **OK**.

----End

3.2 Data Backup Using a Backup Policy

3.2.1 Creating a Backup Policy

To implement periodic automatic backup on EVS disks, you need to create a backup policy first. Then the system will periodically perform backups according to the execution time specified in the backup policy. You can choose to use the default backup policy provided by the system or create one as needed.

The system automatically creates EVS disk data backups and deletes expired data backups only when a backup policy is created and enabled.

You can create a backup policy to associate all those EVS disks whose data needs to be periodically backed up.

 **NOTE**

- The system provides a default backup policy for associating EVS disks. This default backup policy can be enabled, disabled, executed, and edited but it cannot be deleted. Its parameters excluding its name can be edited. For details about how to execute the default backup policy, see [Executing a backup policy](#). For details about how to edit the default backup policy, see [Editing a backup policy](#).
- In addition to the default backup policy, you can create another 9 backup policies. Once there are 10 backup policies in total, the **Create Policy** button becomes unavailable and no more policies can be created.
- Deleting expired automatic data backups does not delete manual data backups.

Step 1 Log in to the management console.

Step 2 Click  in the upper left corner of the management console and select a region and a project.

Step 3 Click . Under **Storage**, click **Volume Backup Service**.

Step 4 On the **Volume Backup Service** page, click **Policies** to go to the **Policies** tab page.

The **Policies** tab page displays existing backup policies. Expand the desired backup policy to view EVS disks associated with it.

Step 5 Click **Create Backup Policy** to expand the setting items. [Figure 3-6](#) displays the page. [Table 3-2](#) describes the backup policy parameters.

Figure 3-6 Creating a backup policy

Create Policy ×

* Name

Enable

* Execution Time

00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00
08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00
16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00

* Backup Period Weekly Sun Mon Tues Wed Thur Fri Sat

Daily

* Retention Rule Time Period

Backup Quantity

Tag

Tags here are for resource management only. It is recommended that you use TMS's predefined tag function to add the same tag to different cloud resources. [View predefined tags](#)

You can add 10 more tags.

You can create 252 more backups. Ensure that the backup quota is sufficient for backups to be generated.

Table 3-2 Parameter description

Parameter	Description	Remarks
Name	The name is a string of 1 to 64 characters consisting of letters, digits, underscores (_), and hyphens (-), and cannot start with default .	Example value: autobk_78ba
Execution Time	Detailed time for backing up data of the EVS disks associated with the backup policy. Backup can be scheduled on integral hours and multiple selections are supported..	Example value: 02:00
Backup Period	Weekly : specifies on which days of each week the backup job will be executed. You can select all. Daily : specifies the interval (every 1 to 14 days) for executing the backup job (on the hour).	Example value: Every 3 days If you select Daily , the first backup time is irrelevant to the time when the backup policy is created. A backup policy takes effect from the month when it is created. Policies with the same Backup Period execute backup jobs at the same times. For example, if a backup policy with "Every 3 days" is created on the second date of a month, the first backup will be created on the fourth date of the month. "Every 3 days" indicates that backups will be created on the first date, fourth date, seventh date, and so on. To ensure stable service running, back up EVS disks during off-peak hours.

Parameter	Description	Remarks
Retention Rule	<p>Time Period: You can choose to retain backups for one month, three months, six months, or one year, or for any desired number (2 to 99999) of days.</p> <p>Backup Quantity: specifies the maximum allowed number of backups for a single EVS disk.</p> <p>NOTE Set this parameter based on the applied quota. For example, if 10 EVS disks are associated with the backup policy and this parameter is set to 10, then at least a quota of 100 backups is required. If the applied quota is smaller than 100, the backup job will fail due to the insufficient quota. To view the quota, read the related tip above the VBS backup list.</p>	<p>Example value: 6</p> <p>A more frequent backup of EVS disks creates more backups and delivers a higher level of data protection but occupies more storage space. Determine the backup frequency based on the data importance and service volume. Perform relatively frequent backup operations for important data.</p> <p>When the number of backups to be retained has exceeded the value of Backup Quantity, the system automatically deletes the earliest backups. After a backup is deleted, the other backups can still be used for restoration.</p>
Retain the first backup in this month	If you select this option, the initial data backup in the current month will be retained.	The first backup in the current month will not be deleted. For example, if the current month is February, the first backup generated in February will not be deleted during February. The first backup generated in January, together with other backups generated in January, will be deleted in sequence.
Enable	<p>You can turn on the switch () to enable the backup policy or turn off the switch () to disable the backup policy.</p>	<p>If you have disabled the backup policy or have turned off the switch (), you can select the backup policy in the backup policy list and turn on the switch () to enable it.</p>

Step 6 Add tags to the backup.

A tag is represented in the form of a key-value pair. Tags are used to identify, classify, and search for cloud resources.

Tags added in a backup policy apply to all backups generated using the backup policy. Tags are used to filter and manage backup resources only. A backup policy can have a maximum of 10 tags.

Table 3-3 describes parameters of a tag.

Table 3-3 Parameter description

Parameter	Description	Example Value
Key	<p>Each tag of a backup has a unique key. The key of a tag is user-definable or is selected from those of existing tags in TMS.</p> <p>The naming rules for a tag key are as follows:</p> <ul style="list-style-type: none"> ● It ranges from 1 to 36 Unicode characters. ● It can contain only letters, digits, hyphens (-), and underscores (_). 	Key_0001
Value	<p>The values of tags can be repetitive and can be blank.</p> <p>The naming rules for a tag value are as follows:</p> <ul style="list-style-type: none"> ● It ranges from 0 to 43 Unicode characters. ● It can contain only letters, digits, hyphens (-), and underscores (_). 	Value_0001

Step 7 Click **OK**.

----End

3.2.2 Associating EVS Disks with a Backup Policy or Disassociating Them from a Backup Policy

After creating a backup policy, you can associate EVS disks to the backup policy. Later, the system will back up the EVS disks automatically according to the execution times specified in the backup policy. If an EVS disk no longer needs automatic backup, you can disassociate it from the backup policy.

Procedure

Step 1 Log in to the management console.

Step 2 Click  in the upper left corner of the management console and select a region and a project.

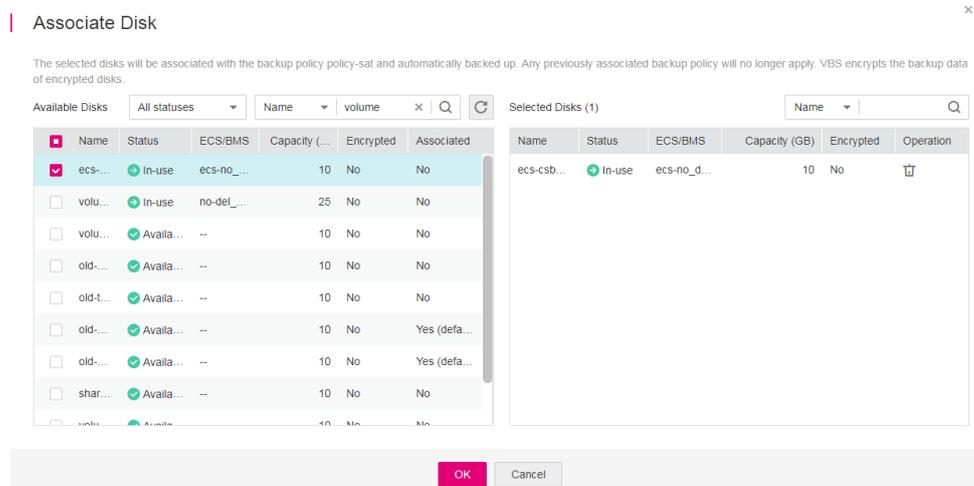
Step 3 Click . Under **Storage**, click **Volume Backup Service**.

Step 4 On the **Volume Backup Service** page, click **Policies** to go to the **Policies** tab page.

Step 5 Select an existing backup policy and click . The list of associated EVS disks is displayed.

- Associating EVS disks
 - a. Click **Associate**. Alternatively, click **Associate Disk** in the **Operation** column. The **Associate Disk** dialog box is displayed listing the EVS disks.
 - b. Select the EVS disks that need to be associated with the backup policy (EVS disks in **Awaiting transfer**, **Expansion failed**, **Restoration failed**, **Rollback failed**, **Error**, or **Deletion failed** state cannot be associated).
-  **NOTE**
- You can select EVS disks that have been associated with other backup policies. However, the system will disassociate them from the relevant backup policies and then associate them with the new backup policy.
- c. Optional: In the search box above the list, select a state and specify whether to search for an EVS disk by EVS disk name, EVS disk ID, or ECS ID and enter the corresponding value to search.
 - d. Confirm the selected EVS disks to add them to the **Selected Disks** list on the right.
 - e. Optional: In the search box above the **Selected Disks** list, specify whether to search for an EVS disk by its name or ID and enter the corresponding value to search. If the EVS disk is displayed, it has been selected.
 - f. Confirm that the correct EVS disks are selected and click **OK** to complete the association. See [Figure 3-7](#).

Figure 3-7 Associating a disk



 **NOTE**

If you select a large number (greater than 40) of EVS disks, the association operation may take a long time and a dialog box is displayed asking you whether to continue the association operation. Click **OK** to continue.

- g. Ensure that the backup policy is enabled. When the point in time specified by the backup policy arrives, select the backup policy. Then on the **Backup Jobs** panel, ensure that a backup job is generated.
 - h. On the VBS backup list, locate the needed backup according to **Name** (the **Backup Name** specified in the backup job). When the **Status** is **Available**, the backup job of the associated EVS disks is complete.
- Disassociating EVS disks

- a. In the list of associated EVS disks, locate the EVS disk to be disassociated from the backup policy and click **Disassociate** in the **Operation** column.
The **Disassociate Disk** dialog box is displayed.
- b. Optional: In the list of associated EVS disks, select one or more EVS disks to be disassociated from the backup policy and click **Disassociate** above the list.
The **Disassociate Disk** dialog box is displayed.
- c. Confirm the EVS disk information and click **OK**.
The **Associated Disks** panel does not display the EVS disks that are disassociated from this backup policy.

----End

3.2.3 Searching for Associated EVS Disks

To query an EVS disk from a backup policy with a large number of EVS disks associated, you can set filtering criteria to search it.

Procedure

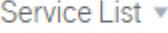
- Step 1** Log in to the management console.
- Step 2** Click  in the upper left corner of the management console and select a region and a project.
- Step 3** Click . Under **Storage**, click **Volume Backup Service**.
- Step 4** On the **Volume Backup Service** page, click **Policies** to go to the **Policies** tab page.
- Step 5** Click  in the row of the desired policy. The list of associated EVS disks is displayed in the **Associated Disks** panel.
- Step 6** In the upper right corner of the list, select a state to search for EVS disks in the state.
- Step 7** (Optional) Specify whether to search for an EVS disk by its name or ID and enter the corresponding value, and click  to search. **Figure 3-8** displays these options..

Figure 3-8 Searching for associated EVS disks



----End

3.2.4 Viewing Backup Jobs

On the **Backup Jobs** panel of the backup policy, you can view all backup jobs of the selected backup policy. If a backup job is in the **Failed** or **Timed out** state, you can click **Back Up Again** in the **Operation** column to manually back up the EVS disk again.

In the upper right corner of the list, you can select a state from the **All statuses** drop-down list to search for backup jobs.

The **Backup Jobs** list can show policy-driven backup jobs that have been executed in the past 30 days.

For policy-driven backup jobs executed more than 30 days ago, you can check whether they are successful on the VBS backup list:

1. If a backup was generated at the specified point in time more than 30 days ago and it is in the **Available** state, the backup job is successful.
2. If the expected backup is not displayed, the existing number of backups has not reached the maximum allowed value and you have not deleted it, or the backup is displayed but it is in the **Error** state, the backup job has failed.

 **NOTE**

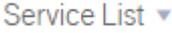
For **Failed** backup jobs that were completed in the last date, the management console can report alarms to tenants through email and text message (if tenants have registered their email addresses and mobile phone numbers).

3.2.5 Managing Backup Policy Tags

You can add tags to a backup policy as well as edit and delete these tags. Tags are used to filter and manage backup resources only.

Step 1 Log in to the management console.

Step 2 Click  in the upper left corner of the management console and select a region and a project.

Step 3 Click . Under **Storage**, click **Volume Backup Service**.

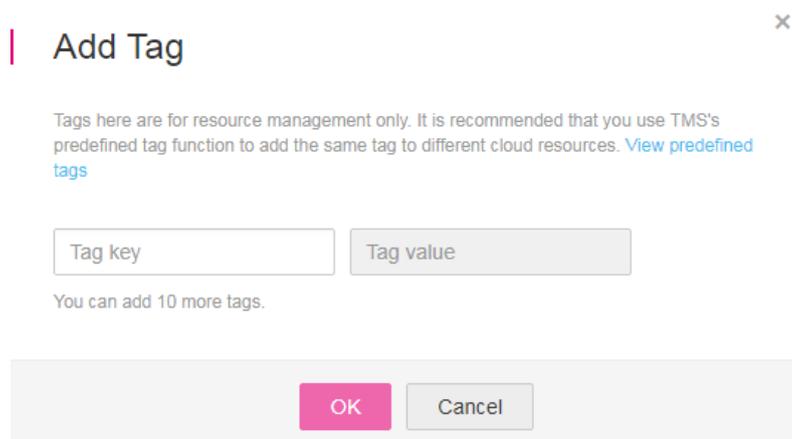
Step 4 On the **Volume Backup Service** page, click **Policies** to go to the **Policies** tab page.

Step 5 In the row of the desired policy, click . The **Tags** panel displays existing tags of the backup policy.

- Adding tags
 - a. In the upper left corner of the **Tags** panel, click **Add Tag**.
 - b. In the dialog box that is displayed, set the key and value of the new tag. [Table 3-3](#) describes the parameters.

A backup policy can have a maximum of 10 tags. For details, see [Figure 3-9](#).

Figure 3-9 Adding tags



- c. Click **OK**.
- Editing a tag
 - a. In the **Operation** column of the tag that you want to edit, click **Edit**.
 - b. In the **Edit Tag** dialog box that is displayed, modify the tag value. [Table 3-3](#) describes the parameters.
 - c. Click **OK**.
- Deleting a tag
 - a. In the **Operation** column of the tag that you want to delete, click **Delete**.
 - b. In the dialog box that is displayed, confirm the deletion information.
 - c. Click **OK**.

----End

3.2.6 (Optional) Other Operations with Backup Policies

You can edit, enable, execute, and delete backup policies.

Step 1 Log in to the management console.

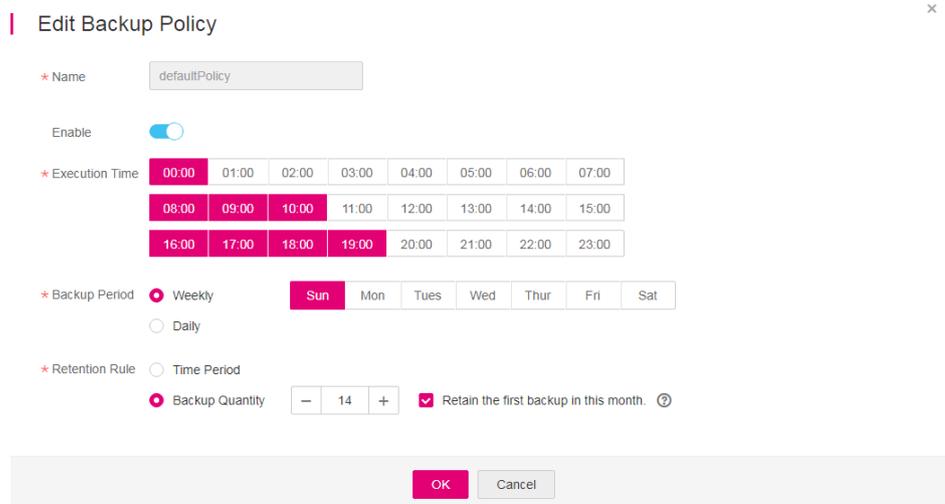
Step 2 Click  in the upper left corner of the management console and select a region and a project.

Step 3 Click . Under **Storage**, click **Volume Backup Service**.

Step 4 On the **Volume Backup Service** page, click **Policies** to go to the **Policies** tab page.

- Editing a backup policy
 - a. In the **Operation** column of the backup policy that you want to modify, click **Edit**. The **Edit Backup Policy** dialog box is displayed. See [Figure 3-10](#).

Figure 3-10 Editing backup policies



- b. Modify the backup policy parameters. [Table 3-2](#) describes the parameters.
 - c. Click **OK**.
- Enabling a backup policy

In the **Operation** column of the backup policy you want to enable, click **Edit**. On the displayed page, click  to turn on this option.

Alternatively, you can choose **More > Enable** in the **Operation** column for the backup policy. In the dialog box that is displayed asking your confirmation, click **OK**.

After the backup policy is successfully enabled, the policy status in the **Enable** column changes to **Enabled**, and the system will automatically execute periodic backup jobs based on policy settings.

- Executing a backup policy

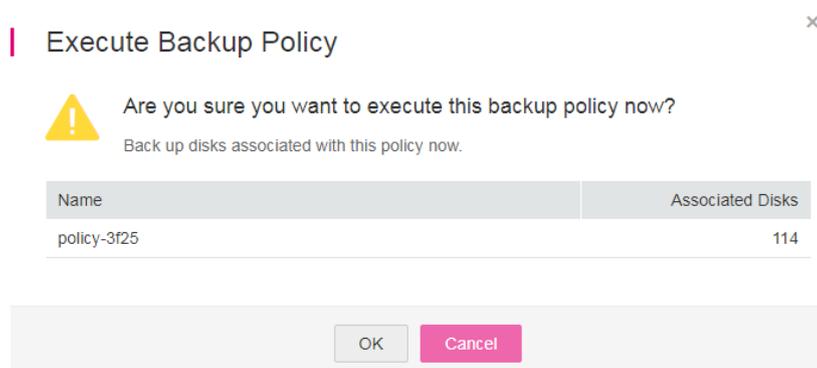
 **NOTE**

Before performing this operation, check whether EVS disks are associated with the backup policy. If not, associate EVS disks with the backup policy first.

- a. When the backup policy is associated with EVS disks, select the backup policy, and choose **More > Execute** in the **Operation** column.

A confirmation dialog box is displayed. See [Figure 3-11](#).

Figure 3-11 Executing a backup policy



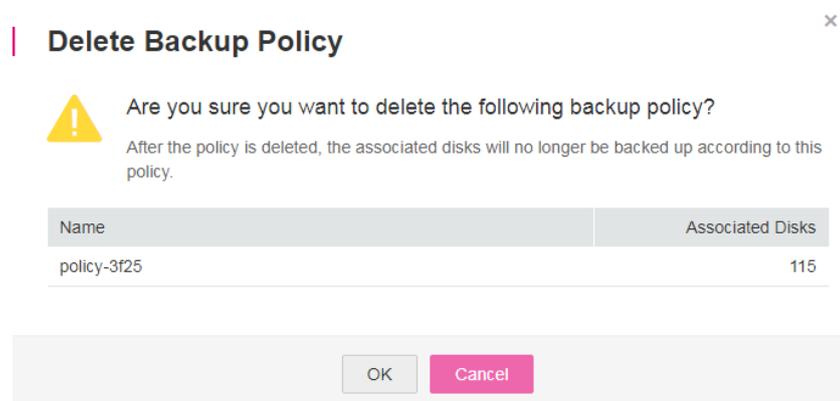
- b. Confirm the backup policy parameter information and click **OK**.
On the **Backup Jobs** panel, view all the backup jobs executed based on this backup policy.
- Deleting a backup policy

 **NOTE**

After a backup policy is deleted, the backup data that has already been generated by the backup policy is still available.

- a. Select the backup policy that you want to delete, and choose **More > Delete** in the **Operation** column. The **Delete Backup Policy** dialog box is displayed. See [Figure 3-12](#).

Figure 3-12 Deleting a backup policy



- b. Confirm the deletion information and click **OK**.

----End

3.3 Data Restoration Using a VBS Backup

You can use VBS backups to restore EVS disks to a given point in time or create EVS disks. Data on the EVS disks is equivalent to the backup data.

Restore an EVS Disk Using a VBS Backup

You can use a VBS backup to restore an EVS disk to the time when the backup was created.

Before restoring the disk data, stop the server to which the EVS disk is attached and detach the EVS disk from the server. After the EVS disk data is restored, attach the EVS disk to the server and start the server.

Instant Restore is a feature that provides the instant restoration function for fast restoring disk data, greatly reducing the restoration time compared with the normal restoration function. For details, see [1.4 Introduction to Instant Restore](#).

Only VBS backups in the **My backups** list can be used for a restoration. Those VBS backups in the **Backups shared with me** list are unavailable for a restoration.

Step 1 Log in to the management console.

Step 2 Click  in the upper left corner of the management console and select a region and a project.

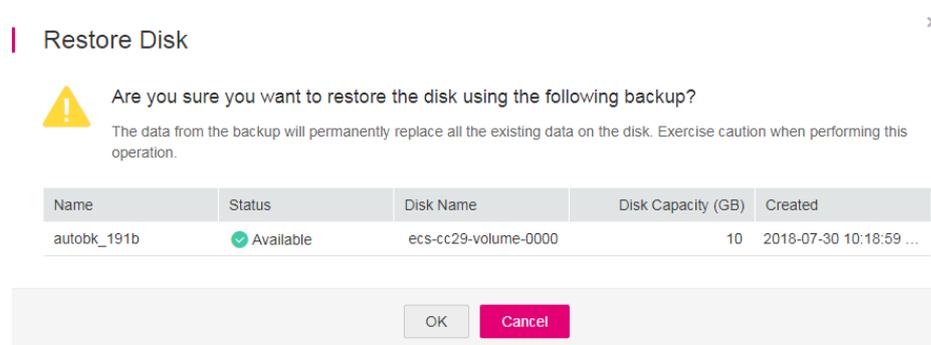
Step 3 Click . Under **Storage**, click **Volume Backup Service**.

Step 4 On the **Volume Backup Service** page, if the **Status** of the VBS backup is **Available**, click **Restore Disk** in the **Operation** column.

Step 5 Click **OK** as prompted. See [Figure 3-13](#). Then, check whether the data is restored successfully.

You can refresh the page after 10 seconds to view the data restoration status. When the **Status** of the backup changes back to **Available**, the restoration has been successfully completed.

Figure 3-13 Disk restoration



----End

Create an EVS Disk Using a VBS Backup

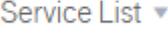
You can use a VBS backup to create an EVS disk. After the EVS disk is created, the data on the new disk is the same as that in the VBS backup.

Instant Restore also supports fast disk creation using backups, saving your time. For details, see [1.4 Introduction to Instant Restore](#).

VBS backups in both the **My backups** and **Backups shared with me** lists can be used to create EVS disks.

Step 1 Log in to the management console.

Step 2 Click  in the upper left corner of the management console and select a region and a project.

Step 3 Click . Under **Storage**, click **Volume Backup Service**.

Step 4 In the **My Backups** or **Backups shared with me** list, confirm the **Status** of the VBS backup is **Available** and click **Create Disk** in the **Operation** column.

Step 5 Set the disk parameters.

 **NOTE**

For details about these parameters, see the parameter description table in "Creating an EVS Disk" in the *Elastic Volume Service User Guide*.

Note the following items when setting disk parameters:

- You can choose the same AZ to which the owning EVS disk of the backup data belongs, or you can choose a different AZ.
- The capacity of the newly created EVS disk cannot be smaller than that of the source EVS disk of the backup data.

If it is larger than the backup capacity, initialize the incremental disk space. For details, see "Initializing an EVS Disk (Linux)" in the *Elastic Volume Service User Guide*.

- You can create a disk of any type regardless of the backup's disk type.
- Batch creation is not supported when using backup data to create EVS disks. You can create only one EVS disk at a time.

Step 6 Click **Create Now**.

Step 7 Confirm the VBS backup information and click **Submit**.

Step 8 Switch back to the **Elastic Volume Service** page. Check whether the EVS disk is successfully created.

Instant restoration only takes several minutes to create a new disk by using a backup.

This disk status changes from **Creating** to **Available**, **Restoring**, then **Available**. Instant restoration is so fast that you may not notice the **Restoring** state. After the state has changed from **Creating** to **Available**, the new disk has been successfully created. After the state has changed from **Restoring** to **Available**, backup data has been successfully restored to the created EVS disk.

---End

3.4 Viewing VBS Traces

Scenarios

CTS records operations of VBS resources, facilitating query, audit, and backtracking.

Prerequisites

You have enabled CTS and the tracker is running properly. For details about how to enable CTS, see section "Enabling CTS" in the *Cloud Trace Service User Guide*.

Key Operations Recorded by CTS

Table 3-4 VBS operations that can be recorded by CTS

Operation	Resource Type	Trace
Create backup	vbs	bksCreateBackup
Delete backup	vbs	bksDeleteBackup

Operation	Resource Type	Trace
Restore backup	vbs	bksRestoreBackup
Associate backup policy	autobackup	addPolicyResource
Disassociate backup policy	autobackup	deletePolicyResource
Execute backup policy now	autobackup	actionPolicy
Create backup policy	autobackup	createPolicy
Delete backup policy	autobackup	deletePolicy
Modify backup policy	autobackup	modifyPolicy
Create backup driven by backup policy	autobackup	scheduleCreateBackup
Delete backup driven by backup policy	autobackup	scheduleDeleteBackup
Add/Modify policy tags	autobackup	batchAddPolicyTag
Delete policy tags	autobackup	batchDeletePolicyTag
Add/Modify policy tag	autobackup	addPolicyTag
Delete backup policy tag	autobackup	deletePolicyTag

Viewing CTS Traces

- Step 1** Log in to the management console.
- Step 2** In the upper left corner of the page, click  and select the desired region and project.
- Step 3** Click **Service List**. Under **Management & Deployment**, click **Cloud Trace Service**.
- Step 4** In the navigation pane on the left, choose **Trace List**.
- Step 5** On the trace list page, click **Filter**. In the displayed box, specify **Trace Source**, **Resource Type**, and **Search By**, and click **Query** to query the specified traces.

For details about other operations, see section "Querying Real-Time Traces" in the *Cloud Trace Service User Guide*.

----End

Disabling or Enabling a Tracker

This section describes how to disable an existing tracker on the CTS console. After the tracker is disabled, the system will stop recording operations, but you can still view existing operation records.

- Step 1** Log in to the management console.

Step 2 In the upper left corner of the page, click  and select the desired region and project.

Step 3 Click **Service List**. Under **Management & Deployment**, click **Cloud Trace Service**.

Step 4 Click **Tracker** in the left pane.

Step 5 Click **Disable** on the right of the tracker information.

Step 6 Click **OK**.

Step 7 After the tracker is disabled, its status changes from **Disable** to **Enable**. To enable the tracker again, click **Enable** and then click **OK**. The system will start recording operations again.

----End

3.5 VBS Operation Instances

This section explains how to use VBS to ensure data security in different scenarios, its limitations, and its typical operations.

Scenarios

VBS applies to the following scenarios:

- **Hardware faults**
Production storage devices on the cloud platform have faults.
- **Software faults**
System faults cause data losses (for example, the billing system malfunctions and the system incorrectly delivers resource deletion commands) and application system faults on a user's guest OSs.
- **User misoperations**
User misoperations cause data loss and system bootup failures.

Requirements and Limitations

- EVS disks cannot be restored in a batch.
- If you use data backups to create an EVS disk, the new EVS disk cannot be used as a system disk.

EVS Disk Data Backup

VBS works only on EVS disks. For details, see [2.2 Creating a VBS Backup](#).

EVS Disk Data Restoration

You can use a VBS backup to restore an EVS disk to the time when the backup was created.

Before restoring the disk data, stop the server to which the EVS disk is attached and detach the EVS disk from the server. After the restoration is complete, re-attach the EVS disk and start the server. For details, see [3.3 Data Restoration Using a VBS Backup](#).

Create an EVS Disk Using a VBS Backup

After an EVS disk is created using a data backup, the initial data of the new EVS disk is the same as the initial backup data. For details, see [Create an EVS Disk Using a VBS Backup](#).

4 FAQs

- [4.1 What Are the Differences Between CSBS and VBS?](#)
- [4.2 Does VBS Support Simultaneous Backup of All EVS Disks on a Server?](#)
- [4.3 Do I Need to Stop the Server Before Backing Up EVS Disks on a Server Using VBS?](#)
- [4.4 How Long Does VBS Take to Back Up an EVS Disk?](#)
- [4.5 Does VBS Support Cross-Region Backup and Restoration?](#)
- [4.6 Do I Need to Stop the Server Before Restoring EVS Disk Data with a VBS Backup?](#)
- [4.7 Why Are CSBS Backups Displayed on the VBS Backup Page?](#)
- [4.8 Can a VBS Backup of a System Disk Be Used to Restore the System Disk of an ECS?](#)
- [4.9 Can I Use a VBS Backup to Restore an EVS Disk Whose Capacity Has Been Expanded?](#)
- [4.10 Is There a Quota Limit on the Number of Backups?](#)
- [4.11 What Can I Do Against Exceptions in VBS?](#)
- [4.12 Why Add Tags to a VBS Backup or Backup Policy?](#)
- [4.13 Does Backup Can Be Performed Several Times a Day?](#)
- [4.14 Can a Disk Only Be Associated With One Policy?](#)
- [4.15 What Are Full Backup and Incremental Backup?](#)
- [4.16 What Are the Differences Between Backup and Snapshot?](#)
- [4.17 Why Is the Remaining Space Not Changed After a Backup Is Deleted?](#)

4.1 What Are the Differences Between CSBS and VBS?

Table 4-1 lists the differences between Cloud Server Backup Service (CSBS) and Volume Backup Service (VBS).

Table 4-1 Difference list

Item	VBS	CSBS
Backup objects	One or more specified EVS disks (system or data disks)	All EVS disks (including system and data disks) on a single ECS
Recommended scenario	Only data disks need to be backed up, because the system disk does not contain personal data.	An entire ECS that needs to be protected
Advantages	Data is secure while the service is cost-competitive.	All EVS disks on an ECS have consistent data. They are backed up at the same time, eliminating the problem of data inconsistency caused by backups generated at different points in time.

4.2 Does VBS Support Simultaneous Backup of All EVS Disks on a Server?

Yes. Users can create a backup policy and associate the backup policy with multiple EVS disks. Then the backup policy can be executed to back up the multiple EVS disks at the same time.

4.3 Do I Need to Stop the Server Before Backing Up EVS Disks on a Server Using VBS?

VBS can back up EVS disks that are being used. When a server is running, data is written onto EVS disks on the server, and some newly generated data is stored in the server memory as cached data. During EVS disk backup, the data in the memory will not be automatically written onto the EVS disk, resulting in data inconsistency between the EVS disk and its backup.

To ensure data consistency and integrity, back up EVS disks during off-peak hours when no data write operations are being performed on the EVS disks, or stop all data write operations on the EVS disks before backup. For a strict requirement for data integrity, stop the server (cached data is written to EVS disks) and start an offline backup job.

4.4 How Long Does VBS Take to Back Up an EVS Disk?

The initial backup of an EVS disk is a full backup and subsequent backup operations are all incremental backups. The initial backup takes a long time whereas subsequent incremental operations are much shorter. For example, a full backup of a 50 GB EVS disk with an increment of 10 GB takes approximately 35 minutes, whereas an incremental backup takes approximately 6 minutes.

4.5 Does VBS Support Cross-Region Backup and Restoration?

No. Currently VBS supports only backup and restoration within a region but not across regions.

4.6 Do I Need to Stop the Server Before Restoring EVS Disk Data with a VBS Backup?

Yes. Before restoring the EVS disk data using a VBS backup, you must stop the server to which the EVS disk is attached, and detach the EVS disk from the server. After the EVS disk data is restored, attach the EVS disk to the server and start the server.

4.7 Why Are CSBS Backups Displayed on the VBS Backup Page?

CSBS backups of ECSs are also displayed on the VBS backup page and can be distinguished from VBS backups by **Source** in the backup details.

To use CSBS to back up a server is to back up every disk of the server. These disk backups are displayed on the VBS backup list and can be directly used to restore disks.

Backups whose **Source** is **CSBS** can be deleted only on the CSBS page.

4.8 Can a VBS Backup of a System Disk Be Used to Restore the System Disk of an ECS?

Yes. You can restore the system disk using a VBS backup. Before restoring the system disk, you must detach it from the ECS.

You can also use a VBS backup of the system disk to create new EVS disks. However, newly created EVS disks cannot be used as system disks.

4.9 Can I Use a VBS Backup to Restore an EVS Disk Whose Capacity Has Been Expanded?

Yes and the capacity of the EVS disk after restored is the post-expansion capacity. If you want to use the capacity added to the disk, you need to attach the restored disk to an ECS, log in to the ECS, and then manually modify the file system configuration. For detailed operations, see sections about post-expansion operations on EVS disks in the *Elastic Volume Service User Guide*.

4.10 Is There a Quota Limit on the Number of Backups?

Yes.

This quota exists to prevent resource overuse. If you need to create more VBS backups, contact customer service to apply for a higher quota.

4.11 What Can I Do Against Exceptions in VBS?

Exceptions in VBS mainly include abnormal states of VBS backups and backup jobs. Take the following measures to handle these exceptions.

Table 4-2 Measures against abnormal VBS backup states

State	Handling Suggestion
Error	Delete the VBS backups in the Error state and re-create them.
Deletion failed	Contact technical support, and do not perform any operation on the backup data before technical support personnel respond. If you want a quick response, contact technical support immediately upon discovering the problem.

Table 4-3 Measures against abnormal VBS backup job states

State	Handling Suggestion
Timed out	<ol style="list-style-type: none"> In the Backup Name column of the backup job list, check whether the backup name is displayed. <ul style="list-style-type: none"> If yes, locate the backup on the VBS backup list according to the backup name. Check whether the backup is in the Available state. If it is in the Available state, the backup job is successful and no further actions are required. If no, click Back Up Again in the Operation column to perform a manual backup operation. If no, click Back Up Again in the Operation column to perform a manual backup operation. If the problem persists, contact customer service, and do not perform any operation on the backup data before customer service personnel respond. If you want a quick response, contact customer service immediately upon discovering the problem.

State	Handling Suggestion
Failed	<ol style="list-style-type: none"> 1. Above the VBS backup list, you can see messages indicating the backup usage. If the backup quantity quota is not sufficient to support your new backups, contact customer service to apply for a higher quota. Then click Back Up Again in the Operation column of the Backup Jobs list to perform a manual backup operation. 2. In the EVS list, check whether the EVS disk to be backed up is in the Available or In-use state. If no, after the EVS disk restores to the Available or In-use state, click Back Up Again in the Operation column of the Backup Jobs list to perform a manual backup operation. 3. In the VBS backup list, check whether the EVS disk is in the Disk Name column and the backup state is Creating. If yes, after the backup restores to the Available state, click Back Up Again in the Operation column of the Backup Jobs list to perform a manual backup operation. 4. For other circumstances, click Back Up Again in the Operation column of the Backup Jobs list to perform a manual backup operation. If the backup job state is still abnormal, contact customer service, and do not perform any operation on the backup data before customer service personnel respond. If you want a quick response, contact customer service immediately upon discovering the problem.

4.12 Why Add Tags to a VBS Backup or Backup Policy?

Tags are used to identify and classify backups that are automatically or manually generated with VBS. Tags are used to filter and manage backup resources only. All backups with tags are centrally managed in TMS. They can be filtered by search criteria. When a tag is added to a backup policy, the tag applies to all backups generated by the backup policy.

A tag is described using a key-value pair. A backup or backup policy can have a maximum of 10 tags by default. Each tag has only one key and one value. The key and value can exist in either sequence in a tag. Each key is unique among all tags of a VBS backup or backup policy, whereas values can be repetitive or blank.

4.13 Does Backup Can Be Performed Several Times a Day?

Yes. Up to 24 automatic backup jobs can be executed per day. Manual backup jobs have no such restriction.

The minimum frequency for policy-driven backup is once per integral hour. Manual backup can be performed at any frequency.

4.14 Can a Disk Only Be Associated With One Policy?

Yes. If an EVS disk you select to be associated with the target policy has been associated with another one, the system will disassociate it from the original policy and then associate it with the target one.

4.15 What Are Full Backup and Incremental Backup?

After an initial full backup, an ECS continues to be backed up incrementally by default.

- The initial full backup covers data on every disk of the ECS. If a 100 GB disk contains 40 GB data, the initial backup consumes 40 GB backup space.
- Subsequent incremental backup backs up data changed since the last backup. If 5 GB data changed since the last backup, only the 5 GB changed data will be backed up.

VBS allows you to use any backup (no matter it is a full or incremental one) to restore the data of the entire EVS disk. By virtue of this, manual or automatic deletion of a backup will not affect the restoration function.

Suppose EVS disk **X** has backups **A**, **B**, and **C** (in time sequence) and every backup involves data changes. If backup **B** is deleted, you can still use backup **A** or **C** to restore data.

4.16 What Are the Differences Between Backup and Snapshot?

Both backup and snapshot provide data redundancy for EVS disks to improve data reliability. [Table 4-4](#) lists the differences between them.

Table 4-4 Differences between backup and snapshot

Technology	Saved In	Synchronizati on	DR Range	Service Recovery
Backup	Backup data is stored in OBS, instead of EVS disks. This realizes data restoration upon EVS disk data loss or corruption.	A backup is the data copy of an EVS disk at a given point in time. VBS provides automatic backup by configuring backup policies. Deleting an EVS disk will not clear its backups.	A snapshot and its source EVS disk reside in the same AZ.	Data can be retrieved and services can be restored by restoring the backup data to original disks or creating new disks from backups, ensuring superb data reliability.

Technology	Saved In	Synchronizati on	DR Range	Service Recovery
Snapshot	<p>Snapshot data is stored with EVS disk data.</p> <p>NOTE Creation of and rollback to snapshots are faster than creation of and restoration from backups, because the latter requires data migration that consumes extra time.</p>	<p>A snapshot is the state of an EVS disk at a specific point in time. When you delete an EVS disk, the snapshots of the EVS disk are also deleted.</p>	<p>A snapshot and its source EVS disk reside in the same AZ.</p>	<p>You can use a snapshot to roll back its original EVS disk or create an EVS disk for data retrieve and service recovery.</p>

4.17 Why Is the Remaining Space Not Changed After a Backup Is Deleted?

This situation appears because the deletion is an asynchronous operation. The deleted backup is not charged any longer and the space occupied by the backup is released on the background, even if the remaining space on the UI is not updated.

5 Troubleshooting Cases

Symptom

Failed to attach EVS disks despite following the procedure: Create EVS disks using the same VBS backup (XFS file system backup) and attach them to the same server (to which multiple EVS disks with XFS file system backup have been attached). Running the **mount** command to attach EVS disks fails.

Possible Causes

The superblock of an EVS disk (with XFS file systems) stores a universally unique identifier (UUID) about the file system. If a server has multiple disks (with XFS file systems), multiple UUIDs will exist on the server. Multiple disks may have the same UUID, which can cause the file system mounting to fail.

Fault Diagnosis

When attaching an EVS disk, use parameters without UUID control or reallocate a new UUID to ensure that each UUID is unique.

Procedure

Step 1 Log in to the server to which EVS disks failed to be attached.

Step 2 Resolve the problem in either of the following ways:

- Use a parameter without UUID when attaching an EVS disk: Run **mount -o nouuid /dev/Device name /Mount path**, for example:
mount -o nouuid /dev/sda6 /mnt/aa
- Reallocate a new UUID: Run **xfs_admin -U generate /dev/Device name**.

NOTE

Because setting a parameter without UUID requires you to execute the command every time, you are advised to reallocate a new UUID.

----End

A Change History

Release Date	What's New
2018-08-20	Updated the following content: Accepted in OTC 3.2.
2018-07-30	Updated the following content: Added description of setting backup times on specified hours as well as setting retention rules by week and by day.
2018-05-28	Updated the following content: Accepted in OTC 3.1.
2018-05-18	Updated the following content: <ul style="list-style-type: none"> ● Added description of the relationship between VBS and TMS. ● Modified description of tag-related parameters. ● Split section 3.2. ● Widened the first column of table 1-1.
2018-04-30	Updated the following content: <ul style="list-style-type: none"> ● Modified the characters supported by tags. ● Modified section "Related Services". ● Updated the EVS disk states that do not support association with backup policies in "Associate EVS Disks with a Backup Policy or Disassociate Them from a Backup Policy". ● Deleted the backup restrictions on EVS disk capacity and ECS status from "Precautions".
2018-01-23	Updated the following content: <ul style="list-style-type: none"> ● Updated the document based on the new console layout. ● Updated the description of shared backups in section "Manage Shared VBS Backups". ● Added a question "What Are the Differences Between CSBS and VBS?"

Release Date	What's New
2017-10-26	<p>Updated the following content:</p> <p>Added the statement of "These tags are used to filter and manage backup resources only."</p>
2017-10-13	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Added the description of searching for backups by tag. ● Added "Example Value" to the parameter description of tags.
2017-09-30	<p>Updated the following content:</p> <p>Updated the description of backup sharing.</p>
2017-09-08	<p>Updated the following content:</p> <p>Added the description of backup sharing.</p>
2017-07-30	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Added the description of tags. ● Added a question "Why Add Tags to a VBS Backup or Backup Policy?" ● Added the section of "Basic Concepts." ● Added the operation of selecting a region and a project for a login.
2017-05-22	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Changed the two different font colors to black. ● Changed "however, historical non-encrypted backups will be unchanged." to "however, historical non-encrypted backups will remain unchanged." ● Changed "cache data" to "cached data". ● Updated the description of cached data in section 4.2 Must I Stop the ECS Before Backing Up EVS Disks on an ECS Using VBS? ● Updated the parameter description for "Backup Time " in section 3.2 Data Backup Using a Backup Policy.
2017-04-28	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Updated the note for "Create an EVS Disk Using a VBS Backup" in section 3.3 Data Restoration Using a VBS Backup. ● Deleted all limitations about SCSI EVS disks. ● Updated the note for backing up encrypted EVS disks in section 2.2 Creating a VBS Backup. ● Updated the answer to the question of "Must I Stop the ECS Before Backing Up EVS Disks on an ECS Using VBS" in chapter 4 FAQs. ● Updated the parameter description for "Create a Backup Policy" in section 3.2 Data Backup Using a Backup Policy.

Release Date	What's New
2017-03-30	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Added section 1.5 User Permissions. ● Updated the note for "Precautions" in section 2.2 Creating a VBS Backup. ● Updated the note for "Create a Backup Policy" and "Associate EVS Disks with a Backup Policy or Disassociate Them from a Backup Policy" in section 3.2 Data Backup Using a Backup Policy. ● Updated the note for "Create an EVS Disk Using a VBS Backup" in section 3.3 Data Restoration Using a VBS Backup.
2017-02-28	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Updated the note for "View Backup Jobs" in section 3.2 Data Backup Using a Backup Policy. ● Deleted the note for "(Optional) Other Operations with Backup Policies" in section 3.2 Data Backup Using a Backup Policy.
2017-02-08	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Added "View the Status of a Backup Job" in section 3.1 VBS Backup Management. ● Updated the description of step 4 and the note of step 5 for "Search for a VBS Backup" in section 3.1 VBS Backup Management.
2017-01-20	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Added "Search for Associated EVS Disks" in section 3.2 Data Backup Using a Backup Policy. ● Added the description of encrypted EVS disks in section 3.2 Data Backup Using a Backup Policy. ● Added the description of parameters Disk Encryption and Key Name in section 3.3 Data Restoration Using a VBS Backup. ● Added the steps of searching for associated EVS disks in section 3.2 Data Backup Using a Data Backup Policy. ● Updated the description of parameter Backups in section 3.2 Data Backup Using a Backup Policy. ● Updated the steps of associating EVS disks in section 3.2 Data Backup Using a Backup Policy. ● Deleted the note for "Create an EVS Disk Using a VBS Backup" in section 3.3 Data Restoration Using a VBS Backup.

Release Date	What's New
2017-01-14	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Added Step 4 to "Delete a VBS Backup" in section 3.1 VBS Backup Management. ● Added section 4.9 What Can I Do Against Exceptions in VBS. ● Updated the operation of associating EVS disks in section 3.2 Data Backup Using a Backup Policy. ● Updated the description of backup jobs in section 3.2 Data Backup Using a Backup Policy. ● Updated the description of the default backup policy in section 3.2 Data Backup Using a Backup Policy. ● Updated the description of parameters AZ, Disk Type, and Quantity in Table "Parameter description" of section 3.3 Data Restoration Using a VBS Backup. ● Changed the Back Up button to Back Up Again in section 3.2 Data Backup Using a Backup Policy.5
2016-12-30	<p>Updated the following content: Updated section 3.2 Data Backup Using a Backup Policy.</p>
2016-11-30	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Added section 1.4 Backup Policy Overview. ● Added section 3.2 Data Backup Using a Backup Policy.
2016-11-24	<p>Updated the following content:</p> <ul style="list-style-type: none"> ● Added section 2.1 Operation Procedure. ● Added Step 3 description in "Delete a VBS Backup" of section 3.1 VBS Backup Management.
2016-10-19	<p>Updated the following content: Added VBS troubleshooting cases.</p>
2016-07-15	<p>Updated the following content: Added VBS operation instances.</p>
2017-02-14	<p>This issue is the first official release.</p>

B Glossary

For details about the terms involved in this document, see [Glossary](#).