

Cloud Server Backup Service

User Guide (Paris and Amsterdam Regions)

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1 Service Overview

1.1 What Is CSBS?

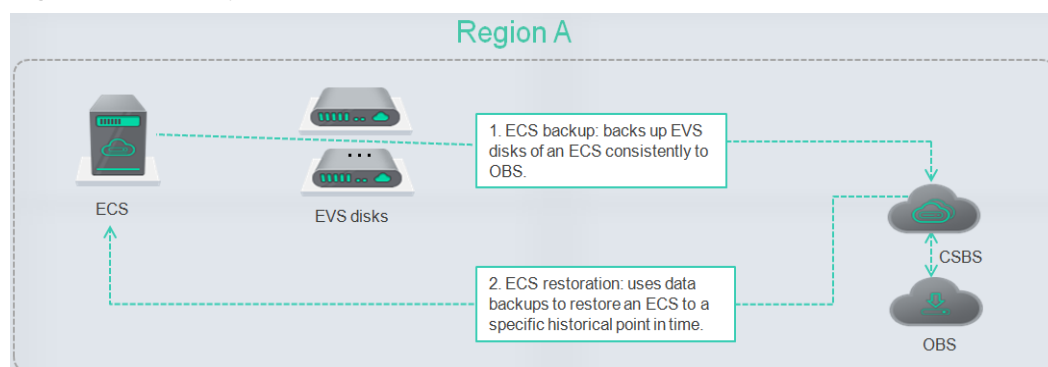
Cloud Server Backup Service (CSBS) enables you to back up Elastic Cloud Servers (ECSs). It works based on the consistency snapshot technology for disks. With CSBS, you can seamlessly use backup data to restore ECS data.

CSBS enhances data integrity and service continuity. For example, if an ECS is faulty or a misoperation causes data loss, you can use data backups to restore data quickly.

By default, CSBS executes a full backup for an ECS that has not been backed up, and performs incremental backups subsequently. Both full backup and incremental backup can restore an ECS to the state at the backup point in time.

CSBS works with ECS and OBS to back up ECS data to object storage, enhancing backup data security. [Figure 1-1](#) shows the CSBS product architecture.

Figure 1-1 CSBS product architecture



Main Functions

CSBS provides the following functions:

- ECS-based backup
- Policy-driven data backup

- Data backup management

1.2 Application Scenarios

CSBS offers backup protection for ECSs. It supports crash-consistent backup, which enhances data security. CSBS can be used in the following scenarios:

- Hacker attacks and virus infection
CSBS can restore an ECS to the latest backup point in time when the ECS has not been affected by hacker attacks and viruses.
- Accidental deletion
CSBS can restore an ECS to the backup point in time prior to accidental deletion.
- Application update errors
CSBS can restore an ECS to the backup point in time prior to application update.
- System breakdown
CSBS can restore an ECS to the backup point in time prior to system breakdown.

1.3 Related Services

Table 1-1 Related services

Interactive Function	Related Service	Reference
CSBS can back up data of the EVS disks on an ECS, and use the backups to restore lost or corrupted data.	Elastic Cloud Server (ECS)	Creating a CSBS Backup
CSBS combines ECS and OBS to back up ECS data to object storage, enhancing backup data security.	Object Storage Service (OBS)	What Is CSBS?
Cloud Trace Service (CTS) records operations of CSBS resources, facilitating query, audit, and backtracking.	Cloud Trace Service (CTS)	Events
CSBS and VBS both provide data backup protection. Table 1-2 describes the differences between CSBS and VBS.	Volume Backup Service (VBS)	What Are the Differences Between CSBS and VBS?

Table 1-2 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 scenarios	An entire ECS needs to be protected.	Only data disks need to be backed up, because the system disk does not contain personal data.
Advantages	Consistency backup is supported. You can back up all EVS disks simultaneously, eliminating data inconsistency caused by backup time difference.	Backup cost is reduced while maintaining data security.

1.4 Basic Concepts

Backup Policies

A backup policy is a set of rules for backing up data, including the policy name, policy status, execution time of backup jobs, backup period, and retention rules. The retention rules specify the retention duration and number of retained backups. After an ECS is associated with a backup policy, it can be automatically backed up according to the backup policy.

Backup

A backup is a copy of the original data that is backed up. A backup is used to restore the original data. It can be generated in a one-off or periodic method.

CSBS supports one-off backup and periodic backup. A one-off backup job is manually created by users and takes effect for only one time. Periodic backup jobs are automatically driven by a user-defined backup policy.

- The name of a one-off backup is **manualbk_XXXX**. It can be user- or system-defined.
- The name of a periodic backup is assigned automatically by the system. The name of a periodic backup is **autobk_XXXX**.

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.

1.5 Region and AZ

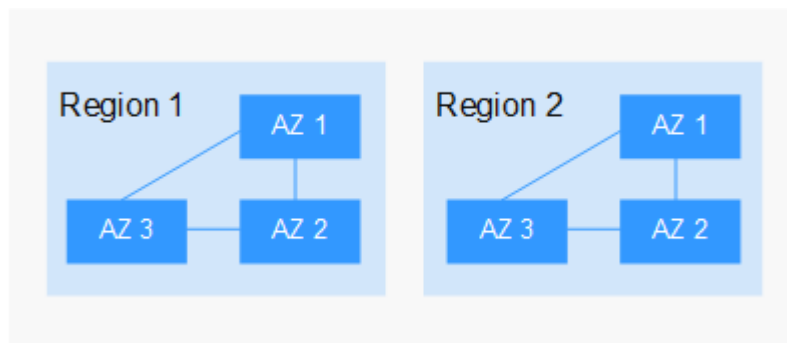
Concept

A region and availability zone (AZ) identify the location of a data center. You can create resources in a specific region and AZ.

- A region is a physical data center, which is completely isolated to improve fault tolerance and stability. The region that is selected during resource creation cannot be changed after the resource is created.
- An AZ is a physical location where resources use independent power supplies and networks. A region contains one or more AZs that are physically isolated but interconnected through internal networks. Because AZs are isolated from each other, any fault that occurs in one AZ will not affect others.

Figure 1-2 shows the relationship between regions and AZs.

Figure 1-2 Regions and AZs



Selecting a Region

You are advised to select a region close to you or your target users. This helps ensure low access latency.

Selecting an AZ

When deploying resources, consider your applications' requirements on disaster recovery (DR) and network latency.

- For high DR capability, deploy resources in different AZs within the same region.
- For lower network latency, deploy resources in the same AZ.

Regions and Endpoints

Before you use an API to call resources, specify its region and endpoint. For more details, see [Regions and Endpoints](#).

1.6 Accessing and Using CSBS

1.6.1 How to Access CSBS

-
- Management console
Use this access method if you do not need secondary development. If you already have a cloud service account, log in to the management console and click **Cloud Server Backup Service** on the homepage.

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 [System-defined Policies/Roles](#).

1.6.2 Constraints and Limitations

Note the following constraints and limitations about CSBS:

- An ECS can be associated with only one backup policy.
- An ECS with shared EVS disks cannot be backed up using CSBS.
- CSBS supports crash-consistent backup of EVS disks on an ECS but not application-consistent backup of them.
- CSBS does not support consistent backup of multiple ECSs.
- CSBS supports backup and restoration of all EVS disks as a whole instead of part of the EVS disks on an ECS. In addition, CSBS does not support file- or directory-level restoration.
- You are not advised to back up an ECS whose capacity exceeds 4 TB.

2 Getting Started

2.1 Scenarios

CSBS supports one-off backup and periodic backup. A one-off backup job is manually created by users and takes effect for only one time. Periodic backup jobs are automatically driven by a user-defined backup policy.

Table 2-1 describes the two backup options.

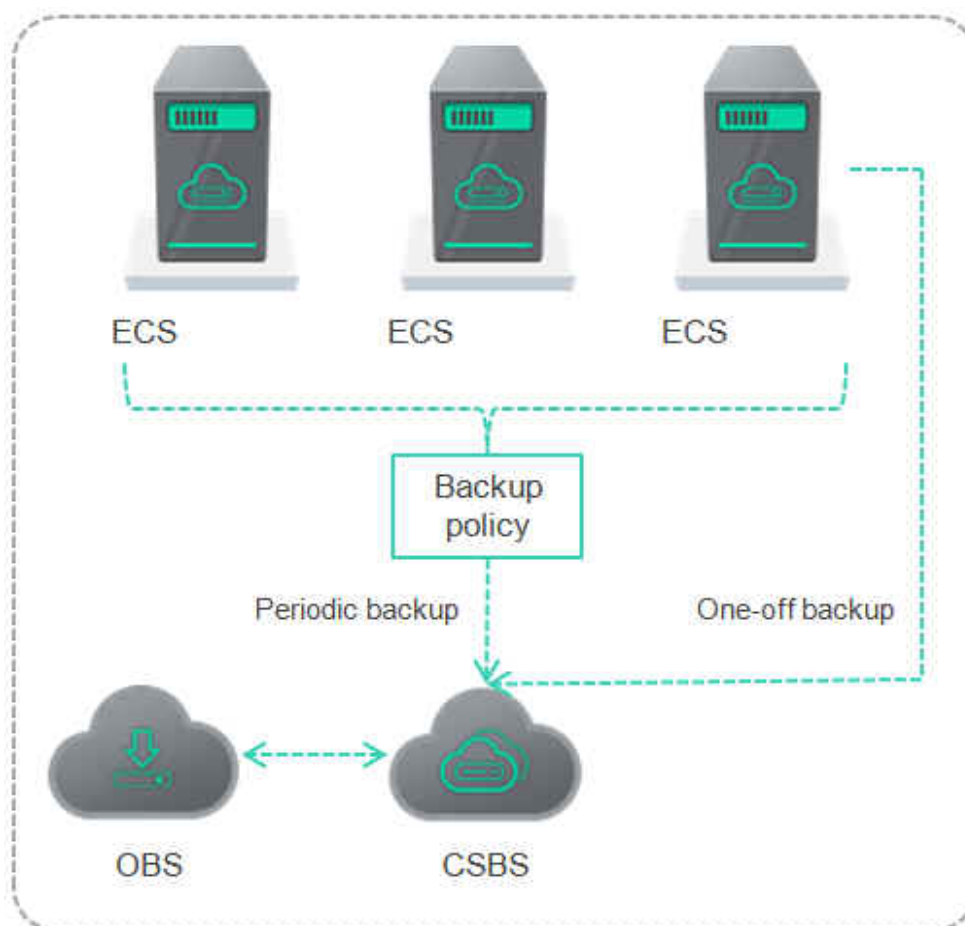
Table 2-1 One-off backup and periodic backup

Item	One-Off Backup	Periodic Backup
Backup policy	None	Required
Number of backup operations	Only one, manual	Periodic operations driven by the backup policy
Backup name	User-defined backup name, which defaults to manualbk_XXXX	System-assigned backup name, which defaults to autobk_XXXX
Backup method	Full backup at the first time and incremental backup subsequently, by default. CSBS allows you to use any backup (no matter it is a full or incremental one) to restore the full data of a server.	Full backup at the first time and incremental backup subsequently, by default. CSBS allows you to use any backup (no matter it is a full or incremental one) to restore the full data of a server.

Item	One-Off Backup	Periodic Backup
Application scenario	Executed before patching or upgrading the OS or upgrading an application on an ECS. A one-off backup can be used to restore an ECS to the original state in case the patching or upgrading fails.	Executed for routine maintenance of an ECS. The latest backup can be used to restore an ECS in case an unexpected failure or data loss occurs.

You can also use the two backup options together if needed. For example, associate all ECSs with a backup policy to execute periodic backup of all ECSs, and manually perform one-off backups for the most important ECSs to further ensure those ECSs' data security, as shown in [Figure 2-1](#).

Figure 2-1 Intermixed use of the two backup options



2.2 Creating a CSBS Backup

This section explains how to create CSBS backup jobs to protect ECS data.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 In the upper right corner of the page, click **Create CSBS Backup**.

Step 3 In the ECS list, select the ECSs you want to back up. After ECSs are selected, they are added to the list of selected ECSs.

Step 4 In the **Configure Backup** area, configure a backup scheme for the selected ECSs.

- **Auto Backup:**

In the **Backup Policy** drop-down list, select a backup policy. Alternatively, click **Create Policy** to create a backup policy. For details about backup policy parameters, see [Creating a Backup Policy](#).

After a backup job is created, the selected ECSs are associated with the backup policy and will be periodically backed up according to the backup policy.

 NOTE

If a selected ECS has been associated with another backup policy, it will be disassociated from the original backup policy automatically and then associated with the new backup policy.

- **Immediate Backup:**

After a backup job is created, all selected ECSs will be backed up immediately for once.

Set the **Name** and **Description** of the backup, as described in [Table 2-2](#).

Table 2-2 Parameter description

Parameter	Description	Remarks
Name	Name of the backup you are creating. Enter a maximum of 255 characters, including only letters, digits, hyphens (-), and underscores (_). NOTE You can use the default name, which is in the format of manualbk_XXXX. If multiple ECSs are to be backed up, the system automatically adds suffixes to their names, for example, backup-0001 and backup-0002.	manualbk_cbf0
Description	Supplementary information about the backup. It cannot exceed 255 characters.	--

You can select both the backup methods at the same time.

Step 5 Click **Next**.

Step 6 On the **Confirm** page, confirm resource details and click **Submit**.

Step 7 Return to the CSBS page as prompted.

- Auto Backup

On the **Policies** tab page, click  on the left of the backup policy name. If all selected ECSs are displayed under **Associated Servers**, they are associated with the backup policy successfully, and automatic backup will be periodically performed as scheduled.

- Immediate Backup

On the **Backups** tab page, if the generated backups are in the **Available** state, the one-off backup job is successful.

----End

3 Management Operations

3.1 Backup

3.1.1 Viewing a Backup

After a backup job is delivered or completed, you can set search criteria to filter backups from the backup list and view backup details.

Prerequisites

A backup job has been created.

View Backup Details

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Backups** tab. Search for backups by filtering conditions.

- You can search for backups by selecting a state from the **All statuses** drop-down list in the upper right corner of the backup list.

[Table 3-1](#) describes each state.

Table 3-1 State description

State	State Attribute	Description
All statuses	--	All statuses of backups.
Available	A stable state	A stable state of a backup after the backup is created This state allows various operations.

State	State Attribute	Description
Creating	An intermediate state	An intermediate state of a backup from the start of a backup job to the completion of the backup job. In this state, a progress bar is displayed indicating the backup progress. If the progress bar remains unchanged for a long time, an exception has occurred. Contact the administrator for support.
Restoring	An intermediate state	An intermediate state when using the backup to restore data. In this state, a progress bar is displayed indicating the restoration progress. If the progress bar remains unchanged for a long time, an exception has occurred. Contact the administrator for support.
Deleting	An intermediate state	An intermediate state from the start of deleting the backup to the completion of deleting the backup. In this state, a progress bar is displayed indicating the deletion progress. If the progress bar remains unchanged for a long time, an exception has occurred. Contact the administrator for support.
Error	A stable state	A backup enters the Error state when an exception occurs when the backup is being used. A backup in this state cannot be used for backup or restoration, and must be deleted manually. If manual deletion fails, contact the administrator for support.

- You can search for backups by selecting a time segment displayed in the upper right corner of the backup list.
- You can search for backups by server name, server ID, backup name, or backup ID. Click  to search for target backups.

Step 3 Click  on the left of a backup name to view details about the backup.

----End

3.1.2 Deleting a Backup

You can delete unwanted backups to reduce space usage and costs.

Context

CSBS supports manual deletion of backups and automatic deletion of expired backups. The latter deletion method is implemented using the backup retention rule in the backup policy. For details, see [Creating a Backup Policy](#).

Prerequisites

- At least one backup exists in CSBS.
- The backups are in the **Available** or **Error** state.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Backups** tab. Locate the ECS backup. For details, see [Viewing a Backup](#).

Step 3 In the row of the backup, click **More** > **Delete**. Alternatively, select the backups you want to delete and click **Delete** in the upper left corner to delete them in a batch.

Step 4 Click **Yes**.

----End

3.2 Backup Policies

3.2.1 Creating a Backup Policy

A backup policy can drive the system to automatically execute CSBS backup jobs at the specified interval. Periodic backups can be used to restore data quickly against data corruption or loss.

Context

- Automatic backup jobs require enabling the backup policy. The system automatically backs up ECSs associated with the backup policy and deletes expired backups.
- Each user can create a maximum of 32 backup policies.
- A maximum of 64 ECSs can be associated with a backup policy.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 On the **Policies** tab page, click **Create Backup Policy**.

Step 3 Set the backup policy parameters according to [Table 3-2](#).

Table 3-2 Parameter description

Parameter	Description	Remarks
Name	Backup policy name. It is a string of 1 to 255 characters that can contain only digits, letters, underscores (_), and hyphens (-).	backup_policy
Status	Whether to enable the backup policy. - Enabled:  - Disabled: 	Only after the backup policy is enabled, the system automatically backs up ECSs associated with the backup policy and deletes expired backups.
Execution Time	Execution time of the backup policy in a day A maximum of 24 backup times can be set in a day. The backup interval must be one hour or more. If backup jobs are executed in two consecutive days, the interval between the execution times of the last backup of the former day and the first backup of the latter day must be one hour or more.	00:00, 02:00 It is recommended that backup jobs be executed during off-peak hours or when there are no services running.
Backup Period	Dates for executing the backup job. - Weekly Specifies on which days of each week the backup job will be executed. You can select multiple days. - Daily Specifies the interval (every 1 to 30 days) for executing the backup job.	Every day If you select Daily , the first backup time is supposed to be on the day when the backup policy is created. If the creation time of the backup policy is later than the latest execution time, the initial backup will be performed in the next backup cycle. It is recommended that backup jobs be executed during off-peak hours or when there are no services running.

Parameter	Description	Remarks
Retention Rule	Rule that specifies how backups will be retained. • Time Period You can choose to retain backups for one month, three months, six months, or one year, or for any desired number (1 to 99999) of days. • Backup Quantity Specifies the maximum allowed number of backups for a single ECS. The value ranges from 1 to 99999. • Permanent NOTE - When the number of retained backups exceeds the preset value, the system automatically deletes the earliest backups. When the retention periods of retained backups exceed the preset value, the system automatically deletes all expired backups. By default, the system automatically clears data every other day. The deleted backup does not affect other backups for restoration. - This parameter applies only to backups automatically scheduled by a backup policy. Those backups generated by a manually executed backup policy are not affected by this parameter and are not automatically deleted. You can manually delete them from the backup list. - A maximum of 10 backups are retained for failed periodic backup jobs. They are retained for one month and can be manually deleted.	6 months

 NOTE

More frequent backup intervals create more backups or retain backups for a longer time, protecting data with a higher level but occupying more storage space. Set an appropriate backup period as required.

Step 4 Click **OK**.

Step 5 In the row of the backup policy, click **Associate Server**.

Step 6 In the available server list, select the ECSs you want to associate. After ECSs are selected, they are added to the list of selected servers.

 NOTE

- A maximum of 64 ECSs can be associated with a backup policy.
- If a selected ECS has been associated with another backup policy, it will be disassociated from the original backup policy automatically and then associated with the new backup policy.
- If EVS disks on an ECS have been associated with a VBS backup policy, disassociate them from the VBS backup policy. Otherwise, two backups are generated for each of the EVS disks.
- An ECS with shared EVS disks cannot be associated with a backup policy.
- You can only select ECSs that are in the **Running** or **Stopped** state.

Step 7 Click **OK**.

----End

3.2.2 Editing a Backup Policy

This section describes how to edit a backup policy.

 NOTE

Changing the backup period does not actually change the time of the day when the backup is scheduled to run. For example, you set to run a backup job every seven days. Three days later, you modified the policy to run a backup job every five days. Then the associated server will be backed up two days after your modification.

To actually change when the backup is scheduled to run, dissociate the original policy and associate the server with a new backup policy.

Prerequisites

You have created at least one backup policy.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Policies** tab.

Step 3 In the row of the backup policy you want to modify, click **Edit**.

Step 4 Edit the backup policy.

Related parameters are described in [Table 3-2](#).

Step 5 Click **OK**.

----End

3.2.3 Deleting a Backup Policy

You can delete backup policies if required.

Prerequisites

You have created at least one backup policy.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Policies** tab.

Step 3 In the row of the backup policy you want to modify, choose **More > Delete**.

NOTE

Deleting a backup policy will not delete backups generated based on the policy. You can manually delete unwanted backups.

Step 4 Click **OK**.

----End

3.2.4 Executing a Backup Policy at Once

You can manually execute a backup policy to back up an associated ECS immediately.

Context

- If an ECS is being backed up, you cannot manually execute a backup policy on it.
- If a manual backup job is still in progress, scheduled automatic backup operations will be postponed to the next backup cycle. An interval of at least 3 hours is recommended between a manual backup operation and a scheduled automatic backup operation.

Prerequisites

At least one backup policy has been created and has been associated with at least one ECS.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Policies** tab.

Step 3 In the upper right corner of the backup policy you want to execute, choose **More > Backup Now**.

Step 4 Click **OK**.

----End

3.2.5 Enabling and Disabling a Backup Policy

This section introduces how to enable and disable a backup policy.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Policies** tab.

Step 3 In the row of the backup policy you want to enable or disable, click **More** and choose **Enable Backup Policy**, or **Disable Backup Policy**

NOTE

- After a backup policy is enabled, periodic backup jobs will be executed according to the backup policy.
- After a backup policy is disabled, the ongoing backup job is not affected but no more scheduled automatic backup jobs will be executed.

Step 4 Click **OK**.

----End

3.2.6 Disassociating ECSs from a Backup Policy

When an ECS associated with a backup policy no longer needs to be backed up, you can disassociate it from the backup policy.

Prerequisites

- You have created at least one backup policy.
- The backup policy is associated with at least one ECS.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Policies** tab.

Step 3 In the row of the backup policy from which you want to disassociate the ECS, click .

Step 4 Under **Associated Servers**, click **Disassociate** in the row of the target ECS, or select the target ECS from the list and then click **Disassociate** in the upper left corner of the list.

 NOTE

- When the target ECS is being backed up, you can still disassociate it. However, the backup job will continue and backups will be generated.
- After an ECS is disassociated from the associated backup policy, its existing backups will not be deleted. If you want to delete them, manually delete them.

Step 5 Click **OK**.

----End

3.2.7 Associating ECSs with a Backup Policy

After creating a backup policy, you can add ECSs to it so that the ECSs are associated with the backup policy.

Prerequisites

- You have created at least one backup policy.
- At least one ECS in the **Running** or **Stopped** state is available.
- A maximum of 64 ECSs can be associated with a backup policy.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Policies** tab.

Step 3 In the row of the backup policy with which you want to associate ECSs, click **Associate Server**.

Step 4 In the server list, select the ECSs you want to associate. After ECSs are selected, they are added to the list of selected servers.

 NOTE

- A maximum of 64 ECSs can be associated with a backup policy.
- If a selected ECS has been associated with another backup policy, it will be disassociated from the original backup policy automatically and then associated with the new backup policy.
- If EVS disks on an ECS have been associated with a VBS backup policy, disassociate them from the VBS backup policy. Otherwise, two backups are generated for each of the EVS disks.
- An ECS with shared EVS disks cannot be associated with a backup policy.
- You can only select ECSs that are in the **Running** or **Stopped** state.

Step 5 Click **OK**.

----End

3.3 Using Backups to Restore ECSs

When EVS disks on an ECS are faulty or ECS data is lost due to misoperations, you can use a backup to restore the ECS.

Context

- CSBS supports backup and restoration of all EVS disks as a whole instead of part of the EVS disks on an ECS.
- Data on data disks cannot be restored to system disks.
- CSBS does not support restoration to ECSs that are in the **Faulty**, **Resizing**, or **Verifying resizing** state.

Prerequisites

- EVS disks on the ECS whose data needs to be restored are running properly.
- The ECS whose data needs to be restored has at least one **Available** backup.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Backups** tab. Locate the backup for the ECS. For details, see [Viewing a Backup](#).

Step 3 In the row of the backup, click **Restore**.

NOTICE

The historical data at the backup point in time will overwrite the current ECS data. The restoration cannot be undone.

Step 4 Optional: Deselect **Start the server immediately after restoration**.

If you deselect **Start the server immediately after restoration**, manually start the ECS after the restoration is complete.

NOTICE

VMs are shut down when restoring ECSs. Therefore, perform a restoration job during off-peak hours.

Step 5 In the **Specified Disk** drop-down list, select the target EVS disk to which the backup will be restored.

 NOTE

- If the ECS has only one EVS disk, the backup is restored to the only EVS disk by default.
- If the ECS has multiple EVS disks, the backup will be restored to the original EVS disk. Alternatively, you can specify another EVS disk for the restoration. The specified EVS disk must have an equal capacity to or a larger capacity than the original EVS disk.
- Data on data disks cannot be restored to system disks.

Step 6 Click **OK** and confirm the restoration is successful.

In the backup list, view the restoration status. When the backup enters the **Available** state and no new failed restoration job exists in **Task Status**, the restoration is successful.

To query failed restoration jobs, see [Processing Failed Jobs](#).

NOTICE

If a Windows ECS is restored, data disks may fail to be displayed due to Windows limitations.

You need to manually set these data disks to be online. For details, see [Data Disks Are Not Displayed After a Windows ECS Is Restored](#).

----End

3.4 Processing Failed Jobs

This section introduces how to handle a failed job.

Prerequisites

At least one failed job exists.

Context

- After a backup job fails, a backup whose **Status** is **Error** is generated, and a message is displayed on the **Backup Jobs** tab page of **Job Status**. Click the question mark  next to the message to view details.
- After a restoration job fails, a message is displayed on the **Restoration Jobs** tab page of **Job Status**. Click  next to the message to view details.

Procedure

Step 1 Log in to the CSBS management console.

1. Log in to the management console.
2. Under Storage > **Cloud Server Backup Service**.

Step 2 Click the **Backups** tab and then click  next to **Job Status**.

Step 3 On the **Backup Jobs** tab page, view the cause of the failed job.

Step 4 On the **Restoration Jobs** tab page, view the cause of the failed job.

Step 5 Optional: Click **Delete** in the row of the failed job to delete the job. Alternatively, click **Delete All** in the upper left corner to delete all failed jobs.

----End

3.5 Events

In CSBS, you can use Cloud Trace Service (CTS) to trace operations in CSBS.

Prerequisites

CTS has been enabled.

Key Operations Recorded by CTS

Table 3-3 CSBS operations that can be recorded by CTS

Operation	Resource Type	Trace Name
Creating a backup policy	backupPolicy	createBackupPolicy
Updating a backup policy	backupPolicy	updateBackupPolicy
Deleting a backup policy	backupPolicy	deleteBackupPolicy
Binding resources	backupPolicy	bindResources
Executing a backup	checkpointItem	createCheckpoint
Restoring a backup	checkpointItem	restoreCheckpointItem
Deleting a backup	checkpointItem	deleteCheckpointItem
Backing up an ECS	cloudServer	backupCloudServer
Deleting a task	operationLog	deleteOperationLog

View Audit Logs

For details about how to view audit logs, see section **Querying Traces** in the *Cloud Trace Service User Guide*.

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** Click  in the upper left corner and select a region and project.
- Step 3** Click **Service List** and choose **Management & Deployment > 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

3.6 Quotas

What Is Quota?

Quotas can limit the number or amount of resources available to users, such as the maximum number of or EVS disks that can be created.

If the existing resource quota cannot meet your service requirements, you can apply for a higher quota.

How Do I View My Quotas?

1. Log in to the management console.
2. In the upper right corner of the page, click  .
The **Quotas** page is displayed.
3. View the used and total quota of each type of resources on the displayed page.
If a quota cannot meet service requirements, apply for a higher quota.

How Do I Apply for a Higher Quota?

The system does not support online quota adjustment.

If you need to adjust a quota, contact the operations administrator.

4 FAQs

4.1 About Concepts

4.1.1 What Is CSBS?

CSBS backs up an entire ECS. It uses the consistent backup data of multiple EVS disks to restore the service data of an ECS. CSBS ensures data security and service continuity.

CSBS provides crash-consistent backup of multiple EVS disks to ensure that these EVS disks are backed up at the same time. Different from application-consistent backup, crash-consistent backup does not freeze applications and file systems and does not include memory data.

4.1.2 What Are Full Backup and Incremental Backup?

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

- A full backup backs up the used capacity, that is, all data in the disk. For example, if a 100 GB disk is allocated with 40 GB data, the backup storage space occupies 40 GB, and the backup size is 40 GB.
- A 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.

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

Suppose ECS **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.

 NOTE

In extreme cases, the size of a backup is the same as the disk size. The used capacity in a full backup and the changed capacity in an incremental backup are calculated based on the data block change in a disk, not by calculating the file change in the operating system. The size of a full backup cannot be evaluated based on the file capacity in the operating system, and the size of an incremental backup cannot be evaluated based on the file size change.

4.1.3 What Is Consistent Backup?

There are three types of backup consistency:

- Inconsistent backup: During a backup, files and disks of an ECS are not backed up at the exact same time.
- Crash-consistent backup: During a backup, files and disks of an ECS are backed up at the exact same point in time, while applications such as databases are not quiesced and memory data is not backed up. Therefore, application consistency is not ensured.
- Application-consistent backup: During a backup, files and disks on the same ECS are backed up at the exact same point in time, and databases are quiesced and memory data is refreshed to ensure application consistency.

4.1.4 What Are the Differences Between CSBS and VBS?

CSBS mainly creates consistency backups online for all EVS disks of the ECS. You are advised to use CSBS in a scenario where the whole ECS, including its configurations and specifications, as well as the consistency data of multiple EVS disks, is protected.

In comparison, VBS generally creates online backups for a single EVS disk (system or data disk) of the ECS. If the system disk does not have user-defined data, you can perform the backup only for the data disk using VBS to safeguard your data and reduce the backup costs.

CSBS backups will also be displayed on the VBS page and can be used to restore individual disks.

4.1.5 What Is a Backup Policy?

A backup policy is a set of rules for backing up data, including the policy name, policy status, execution time of backup jobs, backup period, and retention rules. The retention rules specify the retention duration and number of retained backups. After an ECS is associated with a backup policy, it can be automatically backed up according to the backup policy.

4.1.6 What Are the Differences Between Backup and Snapshot?

Both backup and snapshot provide data redundancy for EVS disks to improve data reliability. [Table 4-1](#) lists the differences between them.

Table 4-1 Differences between backup and snapshot

Technology	Saved In	Synchronization	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. CSBS provides automatic backup by configuring backup policies. Deleting an EVS disk will not clear its backups.	A backup and its source EVS disk reside in the same AZ.	Data can be recovered and services can be restored by restoring the backup data to original disks or creating new disks from backups, ensuring superb data reliability.
Snapshot	Snapshot data is stored with EVS disk data. 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.	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.	A snapshot and its source EVS disk reside in the same AZ.	Data can be recovered and services can be restored by rolling back the snapshot data to original disks or creating new disks from snapshots.

4.2 About Backup

4.2.1 Does CSBS Support Backing Up All EVS Disks on an ECS?

Yes. CSBS supports backup and restoration of all EVS disks as a whole instead of part of the EVS disks on an ECS.

4.2.2 Do I Need to Stop the ECS Before Backing It Up?

No. CSBS allows you to back up ECSs that are in use. When a server is running, data is written into the EVS disks on the server, and some newly generated data is cached in the server memory. During a backup task, data in the memory will not be automatically written into disks, so the disk data and their backups may be inconsistent.

To ensure data integrity, you are advised to perform backup during off-peak hours when no data is written to the disks. For applications that require strict consistency, such as databases and email systems, you are advised to suspend all write operations before the backup. If write operations cannot be suspended, you can stop the application systems or the ECS for offline backup.

4.2.3 Can an ECS with Application Systems Be Backed Up?

Yes, it can be backed up. To back up applications requiring strict consistency, such as databases and email systems, you are advised to suspend all write operations and then perform backup. If write operations cannot be suspended, you can stop the application systems or the ECS for offline backup. Without doing these, status of the ECS after restoration is similar to restart upon an unexpected power failure and log rollback will be performed on databases to keep data consistent.

4.2.4 What Are the Minimum Backup Frequency and Maximum Number of Retained Backups Supported by CSBS?

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

You can manually set the backup time (accurate to minute) in a backup policy. The backup interval must be not shorter than 1 hour.

There is no upper limit on the maximum number of retained backups. You can set it as needed.

4.2.5 How Can I Distinguish Automatic Backups From Manual Backups?

They can be distinguished by name prefix:

- Automatic backups: **autobk_**xxxx
- Manual backups: **manualbk_**xxxx or customized names

4.2.6 Does CSBS Support Cross-Region Backup for ECSs?

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

4.3 About Restoration

4.3.1 Do I Need to Stop the ECS Before Restoring It?

The system shuts down the ECS before restoring ECS data, and automatically starts up the ECS after the restoration is complete.

If you deselect **Start the server immediately after restoration**, you need to manually start the ECS after the restoration is complete.

4.3.2 Can an ECS Be Restored Using Its Backups After It Has Been Changed?

Yes. If an ECS has been backed up and changed such as adding, deleting, or expanding EVS disks, its backups can still be used to restore data. You are advised to back up data again after the change.

If you have added an EVS disk after backup, using the backup to restore data will not change the data on the EVS disk.

If you have deleted an EVS disk after backup, using the backup to restore data will not include the data on the EVS disk.

4.4 Others

4.4.1 How Long Does CSBS Take to Back Up and Restore an ECS?

The initial backup for an ECS is a full backup and subsequent backup operations are all incremental backups. Therefore, the initial backup takes a long time and subsequent incremental operations take shorter times. For example, a full backup of a 100 GB ECS takes approximately 30 minutes, and an incremental backup of 15 GB takes approximately 6 minutes.

A restoration of 100 GB data also takes approximately 30 minutes.

4.4.2 Why CSBS Backups Are Also Displayed on the VBS Console?

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

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

Yes.

Quotas exist to prevent resource overuse. If you need to create more backups, submit a service ticket to apply for higher CSBS quotas.

4.4.4 What Can I Do Against Exceptions in CSBS?

Exceptions in CSBS are mainly abnormal states of server backups. Take the measures described in the following table to handle these exceptions.

Table 4-2 Troubleshooting suggestions

State	Handling Suggestion
Error	Delete the backup in the Error state and create another one.

State	Handling Suggestion
Deletion failed	Delete it again. If the deletion still fails, contact technical support.

5 Troubleshooting Cases

This chapter describes problems you may have when using CSBS.

5.1 Data Disks Are Not Displayed After a Windows ECS Is Restored

Symptom

When a Windows ECS is restored, the data disks are not displayed.

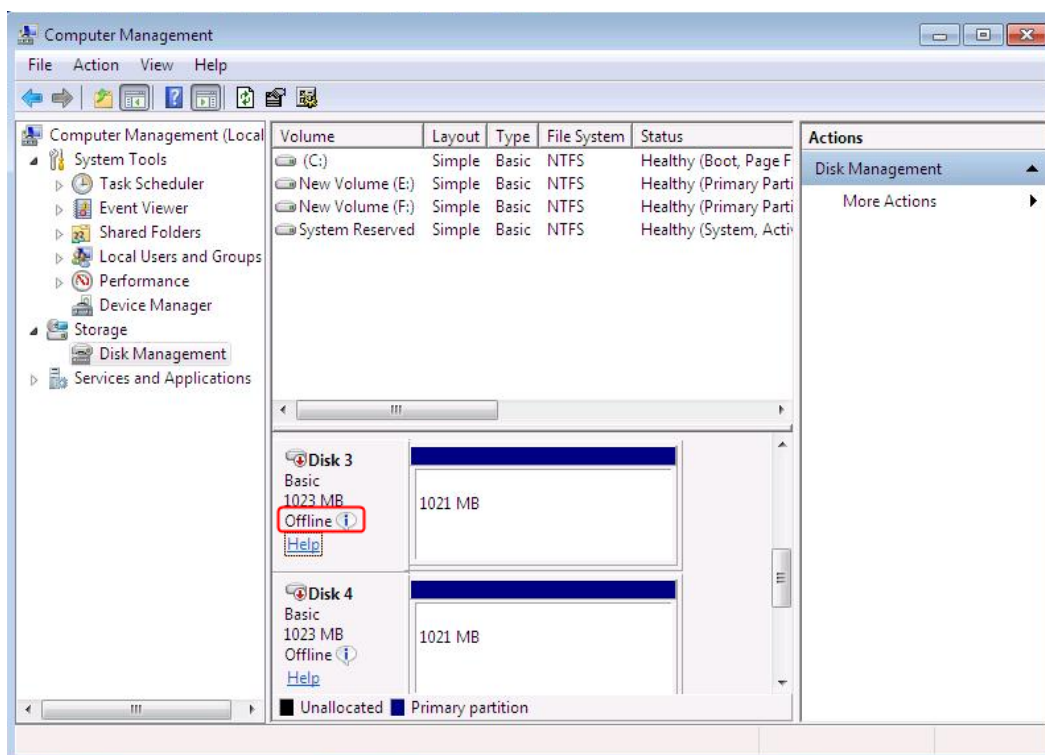
Possible Cause

Due to the limitations of Windows operating systems, data disks are in offline mode after an ECS is stored.

Solution

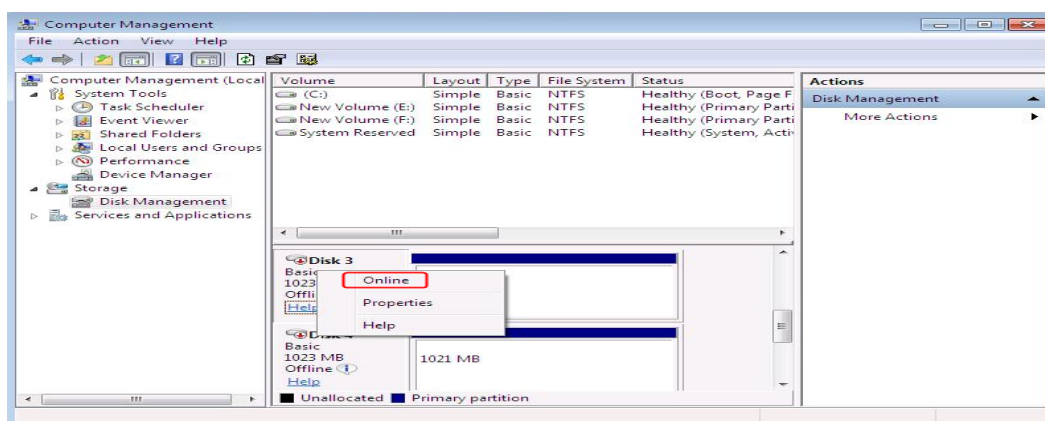
- Step 1** On the Windows desktop, right-click the **My Computer** icon.
- Step 2** Choose **Manage** from the shortcut menu. The **Computer Management** page is displayed.
- Step 3** In the navigation tree, choose **Storage > Disk Management**.
Data disks are in the offline state, as shown in [Figure 5-1](#).

Figure 5-1 Data disks in the offline state



Step 4 Right-click a data disk in the offline state and choose **Online**, as shown in [Figure 5-2](#).

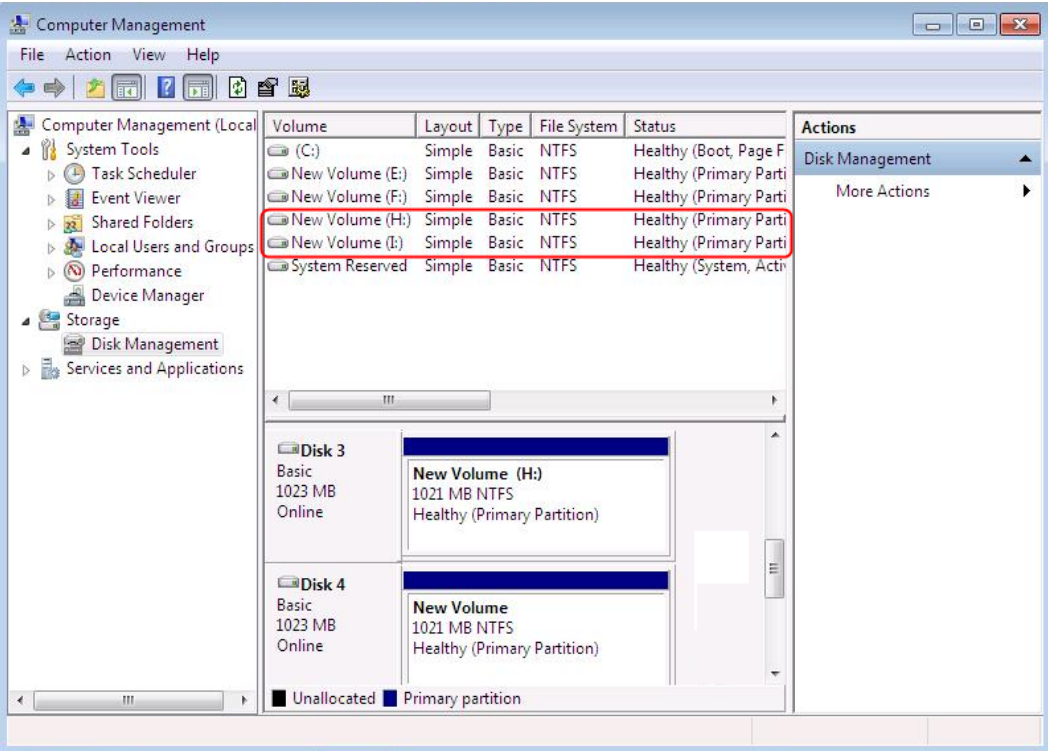
Figure 5-2 Setting a data disk to be online



After the data disk status changes to **Online**, the data disk will be displayed in the disk list, as shown in [Figure 5-3](#).

In addition, the data disk will be properly displayed on the ECS.

Figure 5-3 Viewing online data disks



----End

A Change History

Released On	Description
2018-08-15	This issue is the first official release.