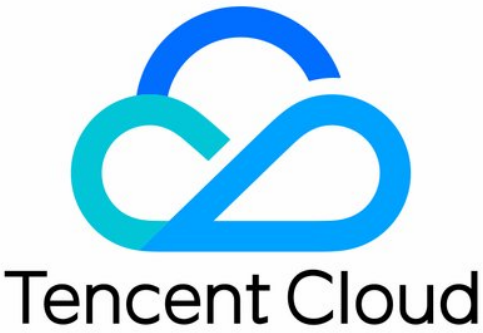
Cloud Block Storage

Snapshots

Product Introduction



Contents

Snapshots
- What Is Snapshot?
- Creating Snapshots
- Rolling Back Snapshots
- Creating Cloud Disks using Snapshots
- Deleting Snapshots

Snapshots
What Is Snapshot?

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Snapshot is a way of data backup provided by Tencent Cloud, used to create a fully usable copy of a specified cloud disk to allow the backup to be independent of the life cycle of the cloud disk. Snapshots include the images of the cloud disk at the time when the copy starts. Snapshots do not occupy users' storage space, and Tencent Cloud stores the snapshots created by users redundantly in multiple available zones to further ensure the reliability of backups. Snapshots are incremental backups, which means only the data changed after the latest snapshot creation is stored. In this way, the time needed to create snapshots is minimized and storage cost is reduced.

You can create a new cloud disk from a snapshot. In this case, the cloud disk has all the data in the snapshot upon creation, and can be used as an accurate copy of the original cloud disk. Since snapshots are region-related, they can only be used under the same region where a cloud disk needs to be created. For more information, please see Create Cloud Disk from Snapshot.

- Now, the snapshot feature is only available in Mainland China regions (except for Guangzhou Zone 1) and Hong Kong region. More regions will be available soon.

How Does Snapshot Work?

1) Copy online data in real time
Snapshots are fully usable copies of cloud disks, which can be used to recover the disk quickly when a problem occurs. Before making any major change to a cloud disk, you can take a snapshot of the disk, which can be used for rollback in case of failure in the change.

2) Back up critical milestones persistently
Snapshots can be used as persistent backups of business data, which can keep the milestone status of the business data.

3) Create a new cloud disk quickly
When disk A creates a snapshot file, users can use it to quickly clone multiple disks, thus achieving a fast server deployment.

Application Scenarios of Snapshots

As a convenient and efficient way of data protection, snapshots are recommended for the following business scenarios:

- **Daily data backup**: Daily backup of system disks and data disks. You can use snapshots to regularly back up important business data to cope with the risk of data loss caused by misoperation, attack or virus.
- **Quick data recovery**: You can create one or more data snapshots before performing major operations, such as changing operating systems, upgrading application software or migrating business data. In this way, when a problem occurs during the upgrade or migration, you can timely recover the business data to normal system data through the data snapshots.
- **Multiple copies of production data**: You can provide real and near real-time production data for applications such as data mining, report query, development and testing by creating snapshots of production data.

Billing of Snapshots

At the initial stage, Tencent Cloud provides a charging policy of limited free trails, that is, the snapshots are free of charge but with limited number.

1) Number of trial snapshots = Number of disks × 7
The number of disks refers to the total number of cloud disks of the user, including data disks and system disks.

2) Snapshot creation policy
When your current number of snapshots is less than the current number of disks × 7, you can create snapshots.

3) Snapshot retention policy
For example, you have 5 cloud disks and create 35 snapshots. And then you terminate one of your cloud disks, your snapshot quota becomes 28 (4*7), but all the 35 snapshots created previously are retained. Tencent Cloud does not delete your snapshots automatically unless you do it yourself.

Auto Snapshot Policy

- **Core business:** For core businesses which have extremely high requirement for RPO (Recovery Point Objective), you are recommended to back up snapshots once every few hours, and retain the backup data for a day.

- **Production business:** Back up snapshots once a week, and retain the snapshot data for a month.
- **Archive business:** Back up snapshots once a month, and retain the snapshot data for a year.

Notes

Database business: Flush & Lock Table
File system: Sync

Creating Snapshots

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You can regularly create snapshots as a kind of data backup after the data is written into a cloud disk. Tencent Cloud creates snapshots in an incremental way, that is, it only creates a snapshot for the data that is different from the last snapshot. Therefore, it can create snapshots in a short time when the data isn't changed much. Although snapshots are saved incrementally, the deletion of them will not affect your use of any snapshot data. The undeleted snapshots can recover the cloud disk to the status of the snapshot.

You can create snapshots in any status of the cloud disk, but snapshots can only save the data that has been written to the cloud disk at the time point of creation. If an application or process is writing data to the cloud disk at that moment, the data may not be saved. If you can pause file write for a while and create a snapshot, the snapshot will be complete. If the pause is not executable, it is recommended that you uninstall the cloud disk from the instance, and then create a snapshot and re-connect it to the CVM instance.

Creating a Snapshot in Console

1) Open CVM Console.

2) Click "Cloud Block Storage" in the navigation pane.

3) Click the "Create Snapshot" button at the end of the cloud disk for which a snapshot needs to be created.

4) Wait for the snapshot to be created.

Creating a Snapshot with API

Please refer to CreateSnapshot API.

Rolling Back Snapshots

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Rolling back snapshot data to a cloud disk can recover the disk data to the state when the snapshot is created. This method is very useful in case of data errors or data losses caused by certain changes.

Snapshots can only be rolled back to the cloud disk in which they are created. If you need to get snapshot data from other cloud disks, please use the service of Creating a Cloud Disk from a Snapshot.

Note:

- When you roll back a snapshot to an elastic cloud disk, the disk must be unmounted.
- When you roll back a snapshot to a non-elastic cloud disk purchased with a CVM, the CVM instance must be shut down.

Rolling Back a Snapshot in Console

1) Open CVM Console.

2) Click "Snapshot" in the navigation pane.

3) Select the snapshot that needs to be rolled back to the disk in the snapshot list, and click "Rollback".

Rolling Back a Snapshot with API

Please refer to ApplySnapshot API.

Creating Cloud Disks using Snapshots

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A cloud disk created from a snapshot has all the data of the snapshot upon creation, so you don't need to perform operations such as partitioning, formatting and creating file system, because the data on the cloud disk would be all erased through formatting. After creating a cloud disk from a snapshot and connecting it to a CVM instance, users can read and write all the data normally on the snapshot. Therefore, snapshots are an important way for data sharing and migration.

Creating a Cloud Disk from a Snapshot in Console

1) Open CVM Console.

2) Click "Snapshot" in the navigation pane.

3) Select the data disk snapshot to be used for disk creation in the snapshot list, and click "Use snapshot to create disks".

4) In the pop-up box, select a region/availability zone, billing model (Only "Annual or Monthly Plan" is supported currently), capacity, quantity and purchase period, and click "OK".

Note:

- The default capacity of a newly purchased cloud disk equals the snapshot size. You can change the capacity to a value greater than the default value.
- A maximum of 10 elastic cloud disks can be created at a time.

Creating a Cloud Disk from a Snapshot with API

Please refer to CreateCbsStorages API.

Deleting Snapshots

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For a data status that will not be used anymore, you can delete the snapshot created at that moment. When you delete a snapshot, only the data exclusive to the snapshot will be deleted, and the cloud disk in which the snapshot is created will not be affected. In addition, deleting a snapshot created earlier in a cloud disk will not affect the use of snapshots created later, which means, each snapshot data provided by Tencent Cloud can independently recover a cloud disk to the data status when the snapshot is created.

Deleting a Snapshot in Console

1) Open CVM Console.

2) Click "Snapshot" in the navigation pane.

3) Click the "Delete" button at the end of the snapshot entry to be deleted.

Or batch deletion:

1) Open CVM Console.

2) Click "Snapshot" in the navigation pane.

3) Check all the snapshots you want to delete (make sure the snapshots are not involved in any tasks), and click "Delete".

Deleting a Snapshot with API

Please refer to DeleteSnapshot API.