



Restore files from snapshots

ONTAP 9

NetApp
February 12, 2026

This PDF was generated from <https://docs.netapp.com/us-en/ontap/data-protection/snapshot-copies-work-concept.html> on February 12, 2026. Always check docs.netapp.com for the latest.

Table of Contents

Restore files from snapshots	1
Restore a file from an ONTAP snapshot on an NFS or SMB client	1
Enable and disable NFS and SMB client access to ONTAP snapshot directory	1
Enable or disable client access to snapshot directory by editing a volume	2
Enable or disable client access to snapshot directory by editing a share	3
Restore a single file from an ONTAP snapshot	4
Restore part of a file from an ONTAP snapshot	5
Restore the contents of a volume from an ONTAP snapshot	6

Restore files from snapshots

Restore a file from an ONTAP snapshot on an NFS or SMB client

A user on an NFS or SMB client can restore a file directly from a snapshot without the intervention of a storage system administrator.

Every directory in the file system contains a subdirectory named `.snapshot` accessible to NFS and SMB users. The `.snapshot` subdirectory contains subdirectories corresponding to the snapshots of the volume:

```
$ ls .snapshot
daily.2017-05-14_0013/          hourly.2017-05-15_1106/
daily.2017-05-15_0012/          hourly.2017-05-15_1206/
hourly.2017-05-15_1006/         hourly.2017-05-15_1306/
```

Each subdirectory contains the files referenced by the snapshot. If users accidentally delete or overwrite a file, they can restore the file to the parent read-write directory by copying the file from the snapshot subdirectory to the read-write directory:

```
$ ls my.txt
ls: my.txt: No such file or directory
$ ls .snapshot
daily.2017-05-14_0013/          hourly.2017-05-15_1106/
daily.2017-05-15_0012/          hourly.2017-05-15_1206/
hourly.2017-05-15_1006/         hourly.2017-05-15_1306/
$ ls .snapshot/hourly.2017-05-15_1306/my.txt
my.txt
$ cp .snapshot/hourly.2017-05-15_1306/my.txt .
$ ls my.txt
my.txt
```

Enable and disable NFS and SMB client access to ONTAP snapshot directory

You can enable and disable access to the snapshot directory using the ONTAP CLI `-snapdir-access` option of the `volume modify` command, and beginning with ONTAP 9.10.1, you can use System Manager to enable or disable client systems to access to a snapshot directory on a volume. Enabling access makes the snapshot directory visible to clients and allows Windows clients to map a drive to the snapshot directory to view and access its contents. NFS and SMB clients can then restore a file or LUN from a snapshot.

You can enable or disable access to a volume's snapshot directory by editing the volume settings or by editing the volume's share settings.

Enable or disable client access to snapshot directory by editing a volume

Steps

You can enable and disable client snapshot directory access by using ONTAP System Manager or the ONTAP CLI. The snapshot directory on a volume is accessible to clients by default.

System Manager

1. Click **Storage > Volumes**.
2. Select the volume containing the snapshots directory you want to either show or hide.
3. Click  and select **Edit**.
4. In the **Snapshot (Local) Settings** section, select or deselect **Show the Snapshot directory to clients**.
5. Click **Save**.

CLI

1. Check the snapshot directory access status:

```
volume show -vserver <SVM_name> -volume <vol_name> -fields snapdir-access
```

Example:

```
clus1::> volume show -vserver vs0 -volume vol1 -fields snapdir-access
vserver volume snapdir-access
-----
vs0      vol1      false
```

Learn more about `volume show` in the [ONTAP command reference](#).

2. Enable or disable the snapshot directory access:

```
volume modify -vserver <SVM_name> -volume <vol_name> -snapdir-access <true|false>
```

The following example enables snapshot directory access on vol1:

```
clus1::> volume modify -vserver vs0 -volume vol1 -snapdir-access true
Volume modify successful on volume vol1 of Vserver vs0.
```

Learn more about `volume modify` in the [ONTAP command reference](#).

Enable or disable client access to snapshot directory by editing a share

The snapshot directory on a volume is accessible to clients by default.

Steps

1. Click **Storage > Shares**.
2. Select the volume containing the snapshots directory you want to either show or hide.
3. Click  and select **Edit**.
4. In the **Share Properties** section, select or deselect **Allow clients to access snapshots directory**.
5. Click **Save**.

Restore a single file from an ONTAP snapshot

You can use the `volume snapshot restore-file` command to restore a single file or LUN from a snapshot. You can restore the file to a different location in the parent read-write volume if you do not want to replace an existing file.

About this task

If you are restoring an existing LUN, a LUN clone is created and backed up in the form of a snapshot. During the restore operation, you can read from and write to the LUN.

Files with streams are restored by default.

Steps

1. List the snapshots in a volume:

```
volume snapshot show -vserver SVM -volume volume
```

Learn more about `volume snapshot show` in the [ONTAP command reference](#).

The following example shows the snapshots in `vol1`:

```
clus1::> volume snapshot show -vserver vs1 -volume vol1

Vserver Volume Snapshot State Size Total% Used%
----- ----- -----
vs1     vol1   hourly.2013-01-25_0005 valid 224KB 0% 0%
          daily.2013-01-25_0010 valid 92KB 0% 0%
          hourly.2013-01-25_0105 valid 228KB 0% 0%
          hourly.2013-01-25_0205 valid 236KB 0% 0%
          hourly.2013-01-25_0305 valid 244KB 0% 0%
          hourly.2013-01-25_0405 valid 244KB 0% 0%
          hourly.2013-01-25_0505 valid 244KB 0% 0%

7 entries were displayed.
```

2. Restore a file from a snapshot:

```
volume snapshot restore-file -vserver SVM -volume volume -snapshot snapshot
-path file_path -restore-path destination_path
```

Learn more about `volume snapshot restore-file` in the [ONTAP command reference](#).

The following example restores the file `myfile.txt`:

```
cluster1::> volume snapshot restore-file -vserver vs0 -volume vol1  
-snapshot daily.2013-01-25_0010 -path /myfile.txt
```

Restore part of a file from an ONTAP snapshot

You can use the `volume snapshot partial-restore-file` command to restore a range of data from a snapshot to a LUN or to an NFS or SMB container file, assuming you know the starting byte offset of the data and the byte count. You might use this command to restore one of the databases on a host that stores multiple databases in the same LUN.

Beginning with ONTAP 9.12.1, partial restore is available for volumes using [SnapMirror active sync](#).

Steps

1. List the snapshots in a volume:

```
volume snapshot show -vserver SVM -volume volume
```

Learn more about `volume snapshot show` in the [ONTAP command reference](#).

The following example shows the snapshots in `vol1`:

```
clus1::> volume snapshot show -vserver vs1 -volume vol1
```

Vserver	Volume	Snapshot	State	Size	Total%	Used%
vs1	vol1	hourly.2013-01-25_0005	valid	224KB	0%	0%
		daily.2013-01-25_0010	valid	92KB	0%	0%
		hourly.2013-01-25_0105	valid	228KB	0%	0%
		hourly.2013-01-25_0205	valid	236KB	0%	0%
		hourly.2013-01-25_0305	valid	244KB	0%	0%
		hourly.2013-01-25_0405	valid	244KB	0%	0%
		hourly.2013-01-25_0505	valid	244KB	0%	0%

7 entries were displayed.

2. Restore part of a file from a snapshot:

```
volume snapshot partial-restore-file -vserver SVM -volume volume -snapshot  
snapshot -path file_path -start-byte starting_byte -byte-count byte_count
```

The starting byte offset and byte count must be multiples of 4,096.

The following example restores the first 4,096 bytes of the file `myfile.txt`:

```
cluster1::> volume snapshot partial-restore-file -vserver vs0 -volume
vol1 -snapshot daily.2013-01-25_0010 -path /myfile.txt -start-byte 0
-byte-count 4096
```

Restore the contents of a volume from an ONTAP snapshot

You can recover a volume to an earlier point in time by restoring from a snapshot. You can use System Manager or the `volume snapshot restore` command to restore the contents of a volume from a snapshot. Learn more about `volume snapshot restore` in the [ONTAP command reference](#).

About this task

If the volume has SnapMirror relationships, manually replicate all mirror copies of the volume immediately after you restore from a snapshot. Not doing so can result in unusable mirror copies that must be deleted and recreated.

Steps

You can use System Manager or the ONTAP CLI to restore from an earlier snapshot.

System Manager

1. Click **Storage** and select a volume.
2. Under **Snapshot copies**, click  next to the snapshot you want to restore, and select **Restore**.

CLI

1. List the snapshots in a volume:

```
volume snapshot show -vserver <SVM> -volume <volume>
```

The following example shows the snapshot in vol1:

```
clus1::> volume snapshot show -vserver vs1 -volume vol1

Vserver Volume Snapshot State Size Total% Used%
----- ----- -----
vs1     vol1   hourly.2013-01-25_0005 valid 224KB 0% 0%
        vol1   daily.2013-01-25_0010 valid 92KB 0% 0%
        vol1   hourly.2013-01-25_0105 valid 228KB 0% 0%
        vol1   hourly.2013-01-25_0205 valid 236KB 0% 0%
        vol1   hourly.2013-01-25_0305 valid 244KB 0% 0%
        vol1   hourly.2013-01-25_0405 valid 244KB 0% 0%
        vol1   hourly.2013-01-25_0505 valid 244KB 0% 0%

7 entries were displayed.
```

2. Restore the contents of a volume from a snapshot:

```
volume snapshot restore -vserver <SVM> -volume <volume> -snapshot
<snapshot>
```

The following example restores the contents of vol1:

```
cluster1::> volume snapshot restore -vserver vs0 -volume vol1
-snapshot daily.2013-01-25_0010
```

Copyright information

Copyright © 2026 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.