



Restore files from a SnapMirror destination volume

ONTAP 9

NetApp
July 19, 2023

Table of Contents

- Restore files from a SnapMirror destination volume 1
 - Restore a single file, LUN, or NVMe namespace from a SnapMirror destination 1
 - Restore the contents of a volume from a SnapMirror destination 3

Restore files from a SnapMirror destination volume

Restore a single file, LUN, or NVMe namespace from a SnapMirror destination

You can restore a single file, LUN, a set of files or LUNs from a Snapshot copy, or an NVMe namespace from a SnapMirror destination volume. Beginning with ONTAP 9.7, you can also restore NVMe namespaces from a SnapMirror Synchronous destination. You can restore files to the original source volume or to a different volume.

What you'll need

To restore a file or LUN from a SnapMirror Synchronous destination (supported beginning with ONTAP 9.5), you must first delete and release the relationship.

About this task

The volume to which you are restoring files or LUNs (the destination volume) must be a read-write volume:

- SnapMirror performs an *incremental restore* if the source and destination volumes have a common Snapshot copy (as is typically the case when you are restoring to the original source volume).
- Otherwise, SnapMirror performs a *baseline restore*, in which the specified Snapshot copy and all the data blocks it references are transferred to the destination volume.

Steps

1. List the Snapshot copies in the destination volume:

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

For complete command syntax, see the man page.

The following example shows the Snapshot copies on the `vserverB:secondary1` destination:

```
cluster_dst:> volume snapshot show -vserver vserverB -volume secondary1
```

Vserver	Volume	Snapshot	State	Size	Total% Used%
-----	-----	-----	-----	-----	-----
vserverB	secondary1	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%

7 entries were displayed.

2. Restore a single file or LUN or a set of files or LUNs from a Snapshot copy in a SnapMirror destination volume:

```
snapmirror restore -source-path SVM:volume|cluster://SVM/volume, ...  
-destination-path SVM:volume|cluster://SVM/volume, ... -source-snapshot snapshot  
-file-list source_file_path,@destination_file_path
```

For complete command syntax, see the man page.



You must run this command from the destination SVM or the destination cluster.

The following command restores the files `file1` and `file2` from the Snapshot copy `daily.2013-01-25_0010` in the original destination volume `secondary1`, to the same location in the active file system of the original source volume `primary1`:

```
cluster_dst:> snapmirror restore -source-path vserverB:secondary1  
-destination-path vserverA:primary1 -source-snapshot daily.2013-01-  
25_0010 -file-list /dir1/file1,/dir2/file2
```

```
[Job 3479] Job is queued: snapmirror restore for the relationship with  
destination vserverA:primary1
```

The following command restores the files `file1` and `file2` from the Snapshot copy `daily.2013-01-25_0010` in the original destination volume `secondary1`, to a different location in the active file system of the original source volume `primary1`.

The destination file path begins with the `@` symbol followed by the path of the file from the root of the original source volume. In this example, `file1` is restored to `/dir1/file1.new` and `file2` is restored to `/dir2.new/file2` on `primary1`:

```
cluster_dst:> snapmirror restore -source-path vserverB:secondary1
               -destination-path vserverA:primary1 -source-snapshot daily.2013-01-
               25_0010 -file-list
               /dir/file1,@/dir1/file1.new,/dir2/file2,@/dir2.new/file2
```

```
[Job 3479] Job is queued: snapmirror restore for the relationship with
destination vserverA:primary1
```

The following command restores the files `file1` and `file3` from the Snapshot copy `daily.2013-01-25_0010` in the original destination volume `secondary1`, to different locations in the active file system of the original source volume `primary1`, and restores `file2` from `snap1` to the same location in the active file system of `primary1`.

In this example, the file `file1` is restored to `/dir1/file1.new` and `file3` is restored to `/dir3.new/file3`:

```
cluster_dst:> snapmirror restore -source-path vserverB:secondary1
               -destination-path vserverA:primary1 -source-snapshot daily.2013-01-
               25_0010 -file-list
               /dir/file1,@/dir1/file1.new,/dir2/file2,/dir3/file3,@/dir3.new/file3
```

```
[Job 3479] Job is queued: snapmirror restore for the relationship with
destination vserverA:primary1
```

Restore the contents of a volume from a SnapMirror destination

You can restore the contents of an entire volume from a Snapshot copy in a SnapMirror destination volume. You can restore the volume's contents to the original source volume or to a different volume.

About this task

The destination volume for the restore operation must be one of the following:

- A read-write volume, in which case SnapMirror performs an *incremental restore*, provided that the source and destination volumes have a common Snapshot copy (as is typically the case when you are restoring to the original source volume).



The command fails if there is not a common Snapshot copy. You cannot restore the contents of a volume to an empty read-write volume.

- An empty data protection volume, in which case SnapMirror performs a *baseline restore*, in which the specified Snapshot copy and all the data blocks it references are transferred to the source volume.

Restoring the contents of a volume is a disruptive operation. SMB traffic must not be running on the SnapVault primary volume when a restore operation is running.

If the destination volume for the restore operation has compression enabled, and the source volume does not have compression enabled, disable compression on the destination volume. You need to re-enable compression after the restore operation is complete.

Any quota rules defined for the destination volume are deactivated before the restore is performed. You can use the `volume quota modify` command to reactivate quota rules after the restore operation is complete.

Steps

1. List the Snapshot copies in the destination volume:

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

For complete command syntax, see the man page.

The following example shows the Snapshot copies on the `vserverB:secondary1` destination:

```
cluster_dst::> volume snapshot show -vserver vserverB -volume secondary1
```

Vserver Used%	Volume	Snapshot	State	Size	Total%
-----	-----	-----	-----	-----	-----
vserverB 0%	secondary1	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%

7 entries were displayed.

2. Restore the contents of a volume from a Snapshot copy in a SnapMirror destination volume:

```
snapmirror restore -source-path SVM:volume|cluster://SVM/volume, ...  
-destination-path SVM:volume|cluster://SVM/volume, ... -source-snapshot snapshot
```

For complete command syntax, see the man page.



You must run this command from the destination SVM or the destination cluster.

The following command restores the contents of the original source volume `primary1` from the Snapshot copy `daily.2013-01-25_0010` in the original destination volume `secondary1`:

```
cluster_dst:> snapmirror restore -source-path vserverB:secondary1  
-destination-path vserverA:primary1 -source-snapshot daily.2013-01-  
25_0010
```

Warning: All data newer than Snapshot copy `daily.2013-01-25_0010` on volume `vserverA:primary1` will be deleted.

Do you want to continue? {y|n}: y

```
[Job 34] Job is queued: snapmirror restore from source  
vserverB:secondary1 for the snapshot daily.2013-01-25_0010.
```

3. Remount the restored volume and restart all applications that use the volume.

Other ways to do this in ONTAP

To perform these tasks with...	See this content...
The redesigned System Manager (available with ONTAP 9.7 and later)	Restore a volume from an earlier Snapshot copy
System Manager Classic (available with ONTAP 9.7 and earlier)	Volume restore using SnapVault overview

Copyright information

Copyright © 2023 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.