



Manage the snapshot reserve

ONTAP 9

NetApp
February 12, 2026

Table of Contents

- Manage the snapshot reserve 1
 - Learn about managing the ONTAP snapshot reserve 1
 - When to increase the snapshot reserve 1
 - How deleting protected files can lead to less file space than expected 2
 - Monitor ONTAP snapshot disk consumption 3
 - Check available ONTAP snapshot reserve on a volume 3
 - Modify the ONTAP snapshot reserve 4
 - Autodelete ONTAP snapshots 4

Manage the snapshot reserve

Learn about managing the ONTAP snapshot reserve

The *snapshot reserve* sets aside a percentage of disk space for snapshots, five percent by default. Because snapshots use space in the active file system when the snapshot reserve is exhausted, you might want to increase the snapshot reserve as needed. Alternatively, you can autodelete snapshots when the reserve is full.

When to increase the snapshot reserve

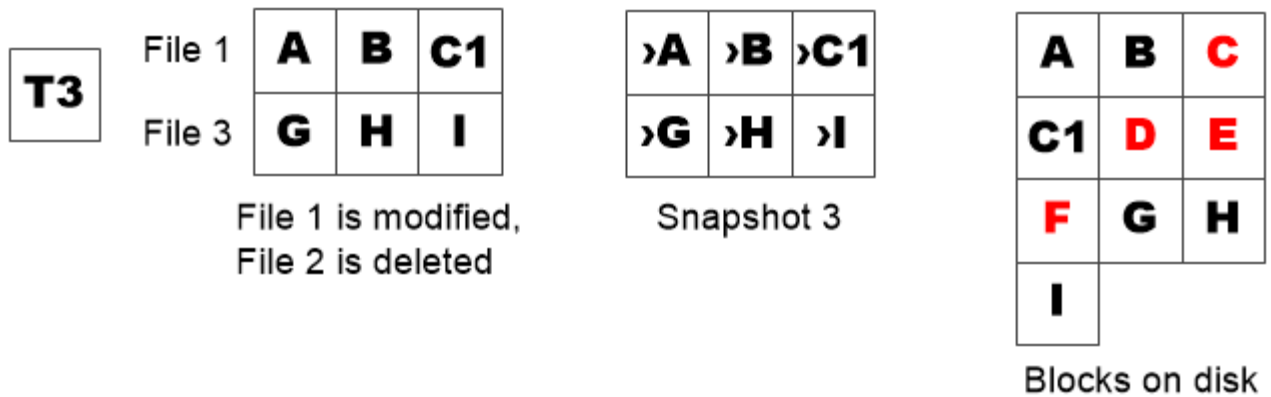
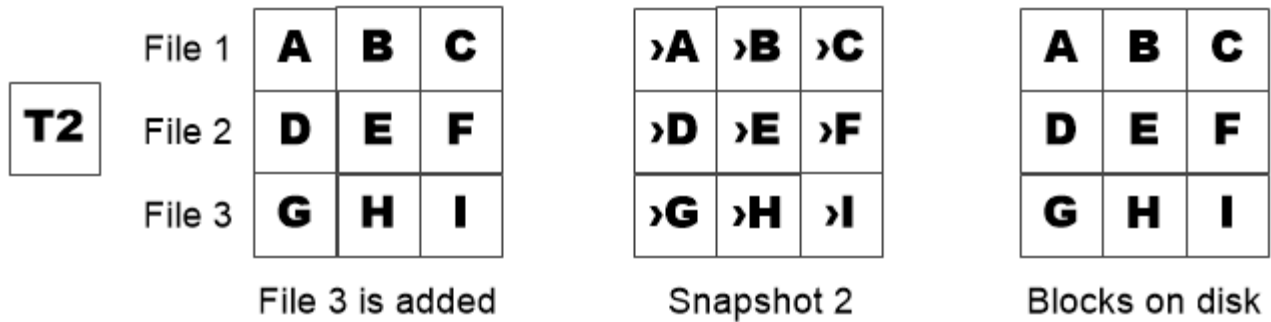
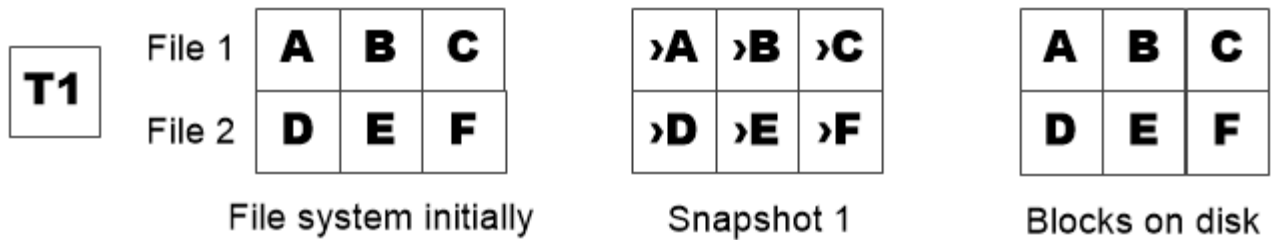
In deciding whether to increase the snapshot reserve, it's important to remember that a snapshot records only changes to files since the last snapshot was made. It consumes disk space only when blocks in the active file system are modified or deleted.

This means that the rate of change of the file system is the key factor in determining the amount of disk space used by snapshots. No matter how many snapshots you create, they will not consume disk space if the active file system has not changed.

A FlexVol volume containing database transaction logs, for example, might have a snapshot reserve as large as 20% to account for its greater rate of change. Not only will you want to create more snapshots to capture the more frequent updates to the database, you will also want to have a larger snapshot reserve to handle the additional disk space the snapshots consume.



A snapshot consists of pointers to blocks rather than copies of blocks. You can think of a pointer as a "claim" on a block: ONTAP "holds" the block until the snapshot is deleted.



A Snapshot copy consumes disk space only when blocks in the active file system are modified or deleted.

How deleting protected files can lead to less file space than expected

A snapshot points to a block even after you delete the file that used the block. This explains why an exhausted snapshot reserve might lead to the counter-intuitive result in which deleting an entire file system results in less space being available than the file system occupied.

Consider the following example. Before deleting any files, the `df` command output is as follows:

```
Filesystem      kbytes  used  avail  capacity
/vol/vol0/      3000000 3000000 0       100%
/vol/vol0/.snapshot 1000000 500000 500000  50%
```

After deleting the entire file system and making a snapshot of the volume, the `df` command generates the following output:

Filesystem	kbytes	used	avail	capacity
/vol/vol0/	3000000	2500000	500000	83%
/vol/vol0/.snapshot	1000000	3500000	0	350%

As the output shows, the entire 3 GB formerly used by the active file system is now being used by snapshots, in addition to the 0.5 GB used before the deletion.

Because the disk space used by the snapshots now exceeds the snapshot reserve, the overflow of 2.5 GB “spills” into the space reserved for active files, leaving you with 0.5 GB free space for files where you might reasonably have expected 3 GB.

Learn more about the commands described in this procedure in the [ONTAP command reference](#).

Monitor ONTAP snapshot disk consumption

You can monitor snapshot disk consumption using the `df` command. The command displays the amount of free space in the active file system and the snapshot reserve.

Step

1. Display snapshot disk consumption: `df`

The following example shows snapshot disk consumption:

```
cluster1::> df
Filesystem      kbytes  used   avail  capacity
/vol/vol0/      3000000 3000000 0       100%
/vol/vol0/.snapshot 1000000 500000 500000  50%
```

Learn more about the commands described in this procedure in the [ONTAP command reference](#).

Check available ONTAP snapshot reserve on a volume

You might want to check how much snapshot reserve is available on a volume by using the `snapshot-reserve-available` parameter with the `volume show` command. Learn more about `volume show` in the [ONTAP command reference](#).

Step

1. Check the snapshot reserve available on a volume:

```
vol show -vserver SVM -volume volume -fields snapshot-reserve-available
```

The following example displays the available snapshot reserve for `vol1`:

```
cluster1::> vol show -vserver vs0 -volume vol1 -fields snapshot-reserve-
available

vserver volume snapshot-reserve-available
-----
vs0      vol1      4.84GB
```

Modify the ONTAP snapshot reserve

You might want to configure a larger snapshot reserve to prevent snapshots from using space reserved for the active file system. You can decrease the snapshot reserve when you no longer need as much space for snapshots.

Step

1. Modify the snapshot reserve:

```
volume modify -vserver SVM -volume volume -percent-snapshot-space snap_reserve
```

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

The following example sets the snapshot reserve for `vol1` to 10 percent:

```
cluster1::> volume modify -vserver vs0 -volume vol1 -percent-snapshot
-space 10
```

Autodelete ONTAP snapshots

You can use the `volume snapshot autodelete modify` command to trigger automatic deletion of snapshots when the Snapshot reserve is exceeded. By default, the oldest snapshots are deleted first. Learn more about `volume snapshot autodelete modify` in the [ONTAP command reference](#).

About this task

LUN and file clones are deleted when there are no more snapshots to be deleted.

Step

1. Autodelete snapshots:

```
volume snapshot autodelete modify -vserver SVM -volume volume -enabled
true|false -trigger volume|snap_reserve
```

The following example autodeletes snapshots for `vol1` when the snapshot reserve is exhausted:

```
cluster1::> volume snapshot autodelete modify -vserver vs0 -volume vol1  
-enabled true -trigger snap_reserve
```

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.