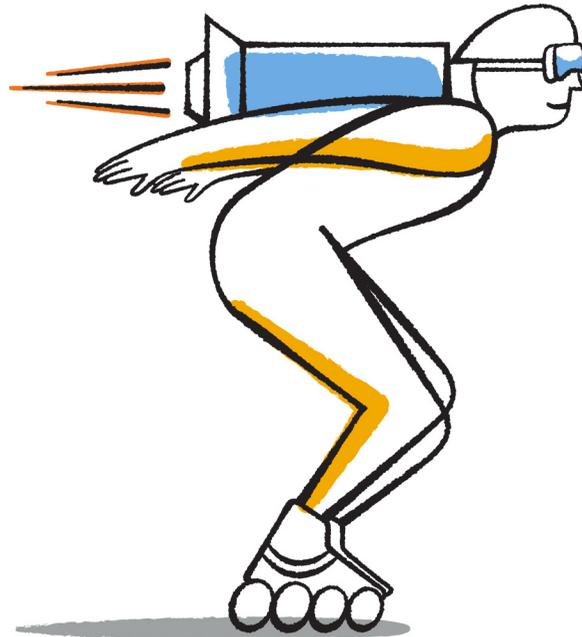




NetApp®

Clustered Data ONTAP® 8.3

Volume Backup Using SnapVault® Express Guide



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Deciding whether to use this guide

This guide describes how to quickly configure SnapVault backup relationships between volumes that are located in different clusters. The SnapVault backup contains a set of read-only backup copies, which are located on a destination volume that you can use for restoring data when data is corrupted or lost.

You should use this guide if you want to create SnapVault backup relationships for volumes in the following way:

- You are working with clusters running Data ONTAP 8.3 or later.
- You are a cluster administrator.
- You are using FlexVol volumes and not an Infinite Volume.
- You have configured an authenticated peer relationship between the two clusters.
[Clustered Data ONTAP 8.3 Cluster Peering Express Guide](#)
- You have enabled SnapVault licenses on both the source and the destination clusters.
- You do not want to back up data for a single file or LUN restore.
- You want to use best practices, not explore every available option.
- You do not want to read a lot of conceptual background.
- You want to use OnCommand System Manager, not the command-line interface or an automated scripting tool.

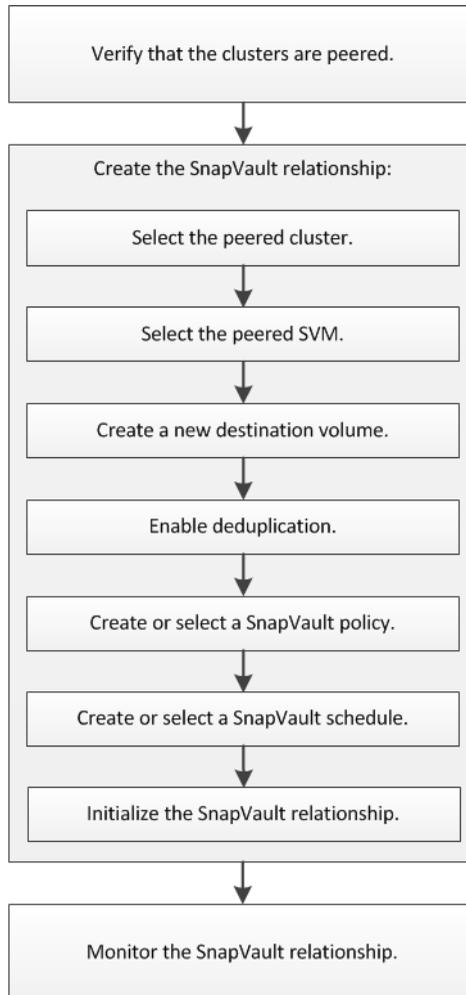
If these assumptions are not correct for your situation, or if you want more conceptual background information, you should see the following resources:

- [Clustered Data ONTAP 8.3 Data Protection Guide](#)
- [NetApp Technical Report 4015: SnapMirror Configuration and Best Practices Guide for Clustered Data ONTAP](#)
- [NetApp Technical Report 4183: SnapVault Best Practices Guide](#)
- [NetApp Documentation: OnCommand Workflow Automation \(current releases\)](#)

OnCommand Workflow Automation enables you to run prepackaged workflows that automate management tasks such as the workflows described in Express Guides.

SnapVault backup configuration workflow

Configuring a SnapVault backup relationship includes verifying the cluster peer relationship, creating the SnapVault relationship between the source and the destination volumes, and monitoring the SnapVault relationship.



Verifying the cluster peer relationship

Before you set up a volume for data protection by using SnapVault technology, you must verify that the source and destination clusters are peered and are communicating with each other through the peer relationship.

Steps

1. Enter the URL `https://IP-address-of-cluster-management-LIF` in a web browser and log in to System Manager using your cluster administrator credential.
2. Expand the **Cluster** hierarchy in the left navigation pane.
3. Click **Configuration > Peers** to ensure that the peered cluster is authenticated and available.

The destination cluster is cluster-1 and the source cluster is cluster-2.

Peer Cluster	Availability	Authentication Status
cluster-1	available	ok

Creating the SnapVault relationship

You must create a SnapVault relationship between the source volume on one cluster and the destination volume on the peered cluster to create a SnapVault backup.

Before you begin

- You must have the cluster administrator user name and password for the destination cluster.
- The destination aggregate must have available space.

About this task

You must perform this task from the **source** cluster.

Steps

1. Expand the **Storage Virtual Machines** hierarchy in the left navigation pane.

2. Select the source SVM that contains the volume you want to back up, and then click **Storage > Volumes**.
3. Select the volume you want to back up from the Volumes list, and then click **Protect by > Vault**. The Create Vault Relationship window is displayed.
4. In the **Destination Volume** section, select the peered cluster.
5. Specify the SVM for the destination volume:

If the SVM is...	Then...
Peered	Select the peered SVM from the list.
Not peered	<ol style="list-style-type: none"> a. Select the SVM. b. Click Authenticate. c. Enter the cluster administrator's credentials of the peered cluster, and then click Create.

6. Create a new destination volume:
 - a. Select the **New Volume** option.
 - b. Use the default volume name or enter a new volume name.
 - c. Select the destination aggregate.
 - d. Ensure that the **Enable dedupe** check box is selected.

Destination Volume

Cluster: ?

✔ Cluster peering status is healthy. ?

Storage Virtual Machine:

Volume: New Volume Select Volume

Volume name:

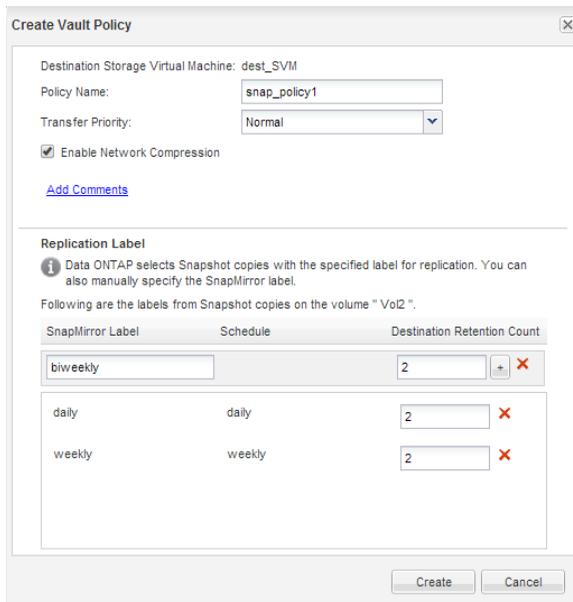
Aggregate:

Enable dedupe 743.45 MB available (of 784.35 MB)

7. In the **Configuration Details** section, specify the SnapVault policy:

If you want to...	Then...
Assign an existing policy	Select a SnapVault policy from the list.

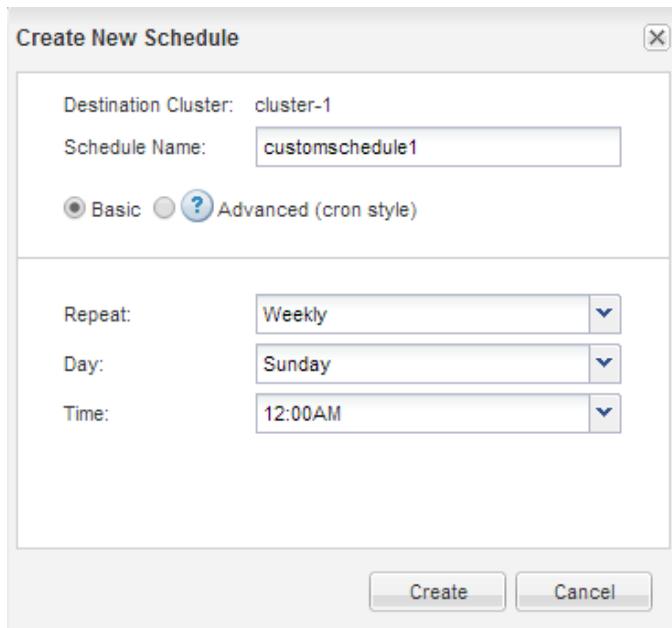
If you want to...	Then...
Create a new policy	<ol style="list-style-type: none"> a. Click Create Policy. b. In the Create Vault Policy window, specify a policy name and set the schedule transfer priority. Normal priority transfers are scheduled before the low priority transfers. By default, the priority is set to normal. c. Select the Enable Network Compression check box to compress the data that is being transferred. d. Specify a replication label and destination retention count. e. Click Create.



8. Specify the SnapVault schedule:

If you want to...	Then...
Assign an existing schedule	From the list of schedules, select an existing schedule.

If you want to...	Then...
Create a new schedule	<ol style="list-style-type: none"><li data-bbox="529 239 798 263">a. Click Create Schedule.<li data-bbox="529 291 1147 343">b. In the Create New Schedule window, specify a name for the schedule.<li data-bbox="529 371 1229 527">c. Choose one of the following options:<ul style="list-style-type: none"><li data-bbox="569 423 1201 447">• Basic to specify recurring days and recurring schedule details<li data-bbox="569 475 1229 527">• Advanced to specify the advanced cron options in months, days, week days (if applicable), hours, and minutes<li data-bbox="529 552 700 574">d. Click Create.



Create New Schedule

Destination Cluster: cluster-1

Schedule Name:

Basic **Advanced (cron style)**

Repeat: ▼

Day: ▼

Time: ▼

9. Ensure that the **Initialize Relationship** check box is selected to transfer the base Snapshot copy, and then click **Create**

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The screenshot shows a 'Configuration Details' dialog box with the following settings:

- Vault Policy:** XDPDefault (with a 'Create Policy' link). Below it, the text reads 'Snapshot with labels matching:daily, weekly'.
- Vault Schedule:** daily (with a 'Create Schedule' link). Below it, the text reads 'Every Night at 0:10 am'. A 'None' radio button is also present.
- Initialize Relationship:** Checked (indicated by a checked checkbox).

At the bottom right, there are 'Create' and 'Cancel' buttons.

The wizard creates the relationship with the specified vault policy and schedule. The relationship is initialized by starting a baseline transfer of data from the source volume to the destination volume.

The Status section shows the status of each job.

The screenshot shows a 'Creating Vault Relationship - Status' dialog box with the following sections:

- Source Volume:**
 - Cluster: cluster-2
 - Storage Virtual Machine: source_SVM
 - Volume: VoI2 (Used space 112 KB)
- Destination Volume:**
 - Cluster: cluster-1
 - Storage Virtual Machine: dest_SVM
 - Volume: source_SVM_VoI2_vault
- Configuration Details:**
 - Vault Policy: XDPDefault
 - Vault Schedule: daily
- Status:**

Create volume	✔ Completed successfully
Enable dedupe	✔ Completed successfully
Create backup schedule	✔ Completed successfully
Create relationship	✔ Completed successfully
Initialize relationship	✔ Started successfully

An 'Ok' button is located at the bottom right.

10. Verify that the relationship status of the SnapVault relationship is in the **snapmirrored** state.
 - a. Select the volume from the Volumes list, and then click **Data Protection**.
 - b. In the **Data Protection** bottom tab, verify that the SnapMirror relationship you created is listed and the relationship state is **snapmirrored** and type is **vault**.

Volumes

Name	Aggregate	Status	Thin Provisioned	% Used	Available Space	Total Space	Storage Efficiency
Vol1	aggr3	Online	No	6	18.67 MB	20 MB	Disabled
Vol2	aggr3	Online	No	5	18.89 MB	20 MB	Disabled
dest_SVM_vol_040_mi...	aggr1	Online	No	5	42.62 MB	45 MB	Disabled
source_SVM_root	aggr1	Online	No	5	18.86 MB	20 MB	Disabled

Destination Storage Virtua...	Destination Volume	Is Healthy	Relationship State	Transfer ...	Type	Lag ...	Policy
dest_SVM	source_SVM_Vol2_vault	Yes	Snapmirrored	Idle	Vault	None	XDPDefault

Details | Space Allocation | Snapshot Copies | Storage Efficiency | **Data Protection**

Monitoring the SnapVault relationship

You should periodically monitor the status of the SnapVault relationships to ensure that the data is backed up on the destination volume per the specified schedule.

About this task

You must perform this task from the **destination** cluster.

Steps

1. Expand the **Storage Virtual Machines** hierarchy in the left navigation pane.
2. Select the Storage Virtual Machine (SVM) that contains the destination volume, and then click **Protection**.

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3. Select the SnapVault relationship between the source and the destination volumes, and then verify the status in the **Details** bottom tab.

The health status of the SnapVault relationship, any transfer errors, and the lag time are displayed:

- The Is Healthy field must display **Yes**.
For most data transfer failures, the field displays **No**. In some failure cases, however, the field continues to display **Yes**. You must check the transfer errors in the Details section to ensure that no data transfer failure occurred.
- The Relationship State field must display **Snapmirrored**.
- The Lag Time must be not more than the transfer schedule interval.
For example, if the transfer schedule is daily, then the lag time must not be more than a day.

You should troubleshoot any issues in the SnapVault relationships. The troubleshooting procedures for SnapMirror relationships are also applicable to SnapVault relationships.

NetApp Technical Report 4015: SnapMirror Configuration and Best Practices Guide for Clustered Data ONTAP

The screenshot displays the 'Protection' interface. At the top, there is a table with columns: Source Storage, Source Volume, Destination Volume, Is Healthy, Relationship State, Transfer Status, Relationship Type, Lag Time, and Policy Name. The first row shows a relationship between 'source_SVM' and 'source_SVM_Vol2_vault' with a 'Yes' health status and 'Snapmirrored' relationship state.

Below the table, a detailed view of the relationship is shown. The 'Is Healthy' field is highlighted in yellow and shows 'Yes' with a green dot. The 'Relationship State' field is highlighted in yellow and shows 'Snapmirrored'. The 'Transfer Status' is 'Idle'. The 'Last Transfer Error' is 'None'. The 'Last Transfer Type' is 'Initialize'. The 'Lag Time' is '30 min(s)'. The 'Latest Snapshot Timestamp' is '09/10/2014 01:53:08'. The 'Latest Snapshot Copy' is 'snapmirror.3e61ed5f-31a3-11e4-98c005056974d2d_2147484683.2014-0'.

At the bottom, there are three tabs: 'Details', 'Policy Details', and 'Snapshot Copies'. The 'Details' tab is currently selected.

Where to find additional information

Additional documentation is available to help you restore data from a destination volume to test the backed-up data or when the source volume is lost.

Express guide

- [*Clustered Data ONTAP 8.3 Volume Restore Using SnapVault Express Guide*](#)
Describes how to quickly restore a volume from a SnapVault backup in clustered Data ONTAP.

Comprehensive guide

- [*Clustered Data ONTAP 8.3 Data Protection Guide*](#)
Describes how to plan and manage disaster recovery and disk-to-disk backup of clustered systems.

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