



Pair volumes using a volume ID or pairing key

Element Software

NetApp
June 11, 2021

Table of Contents

- Pair volumes using a volume ID or pairing key 1
- Find more information 1
- Pair volumes using a volume ID 1
- Pair volumes using a pairing key 2

Pair volumes using a volume ID or pairing key

The pairing process involves pairing two volumes by using either a volume ID or a pairing key.

1. Pair volumes by selecting one of the following methods:
 - Using a volume ID: Use this method if you have cluster administrator access to both clusters on which volumes are to be paired. This method uses the volume ID of the volume on the remote cluster to initiate a connection.
 - Using a pairing Key: Use this method if you have cluster administrator access to only the source cluster. This method generates a pairing key that can be used on the remote cluster to complete the volume pair.



The volume pairing key contains an encrypted version of the volume information and might contain sensitive information. Only share this key in a secure manner.

Find more information

- [Pair volumes using a volume ID](#)
- [Pair volumes using a pairing key](#)

Pair volumes using a volume ID

You can pair a volume with another volume on a remote cluster if you have cluster administrator credentials for the remote cluster.

What you'll need

- Ensure that the clusters containing the volumes are paired.
- Create a new volume on the remote cluster.



You can assign a replication source and target after the pairing process. A replication source or target can be either volume in a volume pair. You should create a target volume that contains no data and has the exact characteristics of the source volume, such as size, block size setting for the volumes (either 512e or 4k), and QoS configuration. If you assign an existing volume as the replication target, the data on that volume will be overwritten. The target volume can be greater or equal in size to the source volume, but it cannot be smaller.

- Know the target Volume ID.

Steps

1. Select **Management > Volumes**.
2. Click the **Actions** icon for the volume you want to pair.
3. Click **Pair**.
4. In the **Pair Volume** dialog box, select **Start Pairing**.
5. Select **I Do** to indicate that you have access to the remote cluster.

6. Select a **Replication Mode** from the list:

- **Real-time (Asynchronous)**: Writes are acknowledged to the client after they are committed on the source cluster.
- **Real-time (Synchronous)**: Writes are acknowledged to the client after they are committed on both the source and target clusters.
- **Snapshots Only**: Only snapshots created on the source cluster are replicated. Active writes from the source volume are not replicated.

7. Select a remote cluster from the list.

8. Choose a remote volume ID.

9. Click **Start Pairing**.

The system opens a web browser tab that connects to the Element UI of the remote cluster. You might be required to log on to the remote cluster with cluster administrator credentials.

10. In the Element UI of the remote cluster, select **Complete Pairing**.

11. Confirm the details in **Confirm Volume Pairing**.

12. Click **Complete Pairing**.

After you confirm the pairing, the two clusters begin the process of connecting the volumes for pairing. During the pairing process, you can see messages in the **Volume Status** column of the **Volume Pairs** window. The volume pair displays the following message until the volume pair source and target are assigned: `PausedMisconfigured`

Find more information

- [Volume pairing messages](#)
- [Volume pairing warnings](#)
- [Assign a replication source and target to paired volumes](#)

Pair volumes using a pairing key

If you do not have cluster admin credentials for a remote cluster, you can pair a volume with another volume on a remote cluster using a pairing key.

What you'll need

- Ensure that the clusters containing the volumes are paired.
- Ensure that there is a volume on the remote cluster to use for the pairing.



You can assign a replication source and target after the pairing process. A replication source or target can be either volume in a volume pair. You should create a target volume that contains no data and has the exact characteristics of the source volume, such as size, block size setting for the volumes (either 512e or 4k), and QoS configuration. If you assign an existing volume as the replication target, the data on that volume will be overwritten. The target volume can be greater or equal in size to the source volume, but it cannot be smaller.

Steps

1. Select **Management > Volumes**.
2. Click **Actions** icon for the volume you want to pair.
3. Click **Pair**.
4. In the **Pair Volume** dialog box, select **Start Pairing**.
5. Select **I Do Not** to indicate that you do not have access to the remote cluster.
6. Select a **Replication Mode** from the list:
 - **Real-time (Asynchronous)**: Writes are acknowledged to the client after they are committed on the source cluster.
 - **Real-time (Synchronous)**: Writes are acknowledged to the client after they are committed on both the source and target clusters.
 - **Snapshots Only**: Only snapshots created on the source cluster are replicated. Active writes from the source volume are not replicated.
7. Click **Generate Key**.



This action generates a text key for pairing and creates an unconfigured volume pair on the local cluster. If you do not complete the procedure, you will need to manually delete the volume pair.

8. Copy the pairing key to your computer's clipboard.
9. Make the pairing key accessible to the cluster admin at the remote cluster site.



The volume pairing key should be treated in a secure manner and not used in a way that would allow accidental or unsecured access.



Do not modify any of the characters in the pairing key. The key becomes invalid if it is modified.

10. In the remote cluster Element UI, select **Management > Volumes**.
11. Click the Actions icon for the volume you want to pair.
12. Click **Pair**.
13. In the **Pair Volume** dialog box, select **Complete Pairing**.
14. Paste the pairing key from the other cluster into the **Pairing Key** box.
15. Click **Complete Pairing**.

After you confirm the pairing, the two clusters begin the process of connecting the volumes for pairing. During the pairing process, you can see messages in the **Volume Status** column of the **Volume Pairs** window. The volume pair displays **PausedMisconfigured** until the volume pair source and target are assigned.

Find more information

- [Volume pairing messages](#)
- [Volume pairing warnings](#)

- Assign a replication source and target to paired volumes

Copyright Information

Copyright © 2021 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.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

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.