



# **Configure peer relationships**

## **ONTAP 9**

NetApp  
April 26, 2023

# Table of Contents

- Configure peer relationships ..... 1
  - Create a cluster peer relationship ..... 1
  - Create an intercluster SVM peer relationship ..... 4
  - Add an intercluster SVM peer relationship ..... 5

# Configure peer relationships

## Create a cluster peer relationship

You can use the `cluster peer create` command to create a peer relationship between a local and remote cluster. After the peer relationship has been created, you can run `cluster peer create` on the remote cluster to authenticate it to the local cluster.

### Before you begin

- You must have created intercluster LIFs on every node in the clusters that are being peered.
- The clusters must be running ONTAP 9.3 or later. (If the clusters are running ONTAP 9.2 or earlier, refer to the procedures in [this archived document](#).)

### Steps

1. On the destination cluster, create a peer relationship with the source cluster:

```
cluster peer create -generate-passphrase -offer-expiration MM/DD/YYYY
HH:MM:SS|1...7days|1...168hours -peer-addr peer_LIF_IPs -initial-allowed-vserver
-peers svm_name,...|* -ipspace ipspace
```

If you specify both `-generate-passphrase` and `-peer-addr`s, only the cluster whose intercluster LIFs are specified in `-peer-addr`s can use the generated password.

You can ignore the `-ipspace` option if you are not using a custom IPspace. For complete command syntax, see the man page.

If you are creating the peering relationship in ONTAP 9.6 or later and you do not want cross-cluster peering communications to be encrypted, you must use the `-encryption-protocol-proposed none` option to disable encryption.

The following example creates a cluster peer relationship with an unspecified remote cluster, and pre-authorizes peer relationships with SVMs `vs1` and `vs2` on the local cluster:

```
cluster02::> cluster peer create -generate-passphrase -offer-expiration
2days -initial-allowed-vserver-peers vs1,vs2
```

```
Passphrase: UCa+6lRVICXeL/gq1WrK7ShR
Expiration Time: 6/7/2017 08:16:10 EST
Initial Allowed Vserver Peers: vs1,vs2
Intercluster LIF IP: 192.140.112.101
Peer Cluster Name: Clus_7ShR (temporary generated)
```

Warning: make a note of the passphrase - it cannot be displayed again.

The following example creates a cluster peer relationship with the remote cluster at intercluster LIF IP addresses 192.140.112.103 and 192.140.112.104, and pre-authorizes a peer relationship with any SVM on the local cluster:

```
cluster02::> cluster peer create -generate-passphrase -peer-addr  
192.140.112.103,192.140.112.104 -offer-expiration 2days -initial-allowed  
-vserver-peers *
```

```
Passphrase: UCa+6lRVICXeL/gq1WrK7ShR  
Expiration Time: 6/7/2017 08:16:10 EST  
Initial Allowed Vserver Peers: vs1,vs2  
Intercluster LIF IP: 192.140.112.101,192.140.112.102  
Peer Cluster Name: Clus_7ShR (temporary generated)
```

Warning: make a note of the passphrase - it cannot be displayed again.

The following example creates a cluster peer relationship with an unspecified remote cluster, and pre-authorizes peer relationships with SVMs `vs1` and `vs2` on the local cluster:

```
cluster02::> cluster peer create -generate-passphrase -offer-expiration  
2days -initial-allowed-vserver-peers vs1,vs2
```

```
Passphrase: UCa+6lRVICXeL/gq1WrK7ShR  
Expiration Time: 6/7/2017 08:16:10 EST  
Initial Allowed Vserver Peers: vs1,vs2  
Intercluster LIF IP: 192.140.112.101  
Peer Cluster Name: Clus_7ShR (temporary generated)
```

Warning: make a note of the passphrase - it cannot be displayed again.

2. On source cluster, authenticate the source cluster to the destination cluster:

```
cluster peer create -peer-addr peer_LIF_IPs -ip-space ip-space
```

For complete command syntax, see the man page.

The following example authenticates the local cluster to the remote cluster at intercluster LIF IP addresses 192.140.112.101 and 192.140.112.102:

```
cluster01::> cluster peer create -peer-addr  
192.140.112.101,192.140.112.102
```

Notice: Use a generated passphrase or choose a passphrase of 8 or more characters.

To ensure the authenticity of the peering relationship, use a phrase or sequence of characters that would be hard to guess.

Enter the passphrase:

Confirm the passphrase:

Clusters cluster02 and cluster01 are peered.

Enter the passphrase for the peer relationship when prompted.

### 3. Verify that the cluster peer relationship was created:

```
cluster peer show -instance
```

```
cluster01::> cluster peer show -instance
```

```
Peer Cluster Name: cluster02
Remote Intercluster Addresses: 192.140.112.101,
192.140.112.102
Availability of the Remote Cluster: Available
Remote Cluster Name: cluster2
Active IP Addresses: 192.140.112.101,
192.140.112.102
Cluster Serial Number: 1-80-123456
Address Family of Relationship: ipv4
Authentication Status Administrative: no-authentication
Authentication Status Operational: absent
Last Update Time: 02/05 21:05:41
IPspace for the Relationship: Default
```

### 4. Check the connectivity and status of the nodes in the peer relationship:

```
cluster peer health show
```

```
cluster01::> cluster peer health show
```

| Node         | cluster-Name              | Node-Name    |                |          |  |
|--------------|---------------------------|--------------|----------------|----------|--|
|              | Ping-Status               | RDB-Health   | Cluster-Health | Avail... |  |
| cluster01-01 | cluster02                 | cluster02-01 |                |          |  |
|              | Data: interface_reachable |              |                |          |  |
|              | ICMP: interface_reachable | true         | true           | true     |  |
|              |                           | cluster02-02 |                |          |  |
|              | Data: interface_reachable |              |                |          |  |
|              | ICMP: interface_reachable | true         | true           | true     |  |
| cluster01-02 | cluster02                 | cluster02-01 |                |          |  |
|              | Data: interface_reachable |              |                |          |  |
|              | ICMP: interface_reachable | true         | true           | true     |  |
|              |                           | cluster02-02 |                |          |  |
|              | Data: interface_reachable |              |                |          |  |
|              | ICMP: interface_reachable | true         | true           | true     |  |

## 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) | <a href="#">Prepare for mirroring and vaulting</a>            |
| System Manager Classic (available with ONTAP 9.7 and earlier)      | <a href="#">Volume disaster recovery preparation overview</a> |

## Create an intercluster SVM peer relationship

You can use the `vserver peer create` command to create a peer relationship between SVMs on local and remote clusters.

### Before you begin

- The source and destination clusters must be peered.
- The clusters must be running ONTAP 9.3. (If the clusters are running ONTAP 9.2 or earlier, refer to the procedures in [this archived document](#).)
- You must have "pre-authorized" peer relationships for the SVMs on the remote cluster.

For more information, see [Creating a cluster peer relationship](#).

### About this task

Previous releases of ONTAP let you authorize a peer relationship for only one SVM at a time. You needed to run the `vserver peer accept` command each time you authorized a pending SVM peer relationship.

Beginning with ONTAP 9.3, you can "pre-authorize" peer relationships for multiple SVMs by listing the SVMs in the `-initial-allowed-vserver` option when you create a cluster peer relationship. For more information, see [Creating a cluster peer relationship](#).

## Steps

1. On the data protection destination cluster, display the SVMs that are pre-authorized for peering:

```
vserver peer permission show
```

```
cluster02::> vserver peer permission show
Peer Cluster      Vserver           Applications
-----
cluster02        vs1,vs2           snapmirror
```

2. On the data protection source cluster, create a peer relationship to a pre-authorized SVM on the data protection destination cluster:

```
vserver peer create -vserver local_SVM -peer-vserver remote_SVM
```

For complete command syntax, see the man page.

The following example creates a peer relationship between the local SVM `pvs1` and the pre-authorized remote SVM `vs1`:

```
cluster01::> vserver peer create -vserver pvs1 -peer-vserver vs1
```

3. Verify the SVM peer relationship:

```
vserver peer show
```

```
cluster01::> vserver peer show
Peer      Peer      Peering
Remote
Vserver   Vserver   State    Peer Cluster Applications
Vserver
-----
pvs1      vs1       peered   cluster02  snapmirror
vs1
```

## Add an intercluster SVM peer relationship

If you create an SVM after configuring a cluster peer relationship, you will need to add a peer relationship for the SVM manually. You can use the `vserver peer create` command to create a peer relationship between SVMs. After the peer relationship has

been created, you can run `vserver peer accept` on the remote cluster to authorize the peer relationship.

### Before you begin

The source and destination clusters must be peered.

### About this task

You can create a peer relationships between SVMs in the same cluster for local data backup. For more information, see the `vserver peer create` man page.

Administrators occasionally use the `vserver peer reject` command to reject a proposed SVM peer relationship. If the relationship between SVMs is in the `rejected` state, you must delete the relationship before you can create a new one. For more information, see the `vserver peer delete` man page.

### Steps

1. On the data protection source cluster, create a peer relationship with an SVM on the data protection destination cluster:

```
vserver peer create -vserver local_SVM -peer-vserver remote_SVM -applications
snapmirror|file-copy|lun-copy -peer-cluster remote_cluster
```

The following example creates a peer relationship between the local SVM`pvs1` and the remote SVM`vs1`

```
cluster01::> vserver peer create -vserver pvs1 -peer-vserver vs1
-applications snapmirror -peer-cluster cluster02
```

If the local and remote SVMs have the same names, you must use a *local name* to create the SVM peer relationship:

```
cluster01::> vserver peer create -vserver vs1 -peer-vserver
vs1 -applications snapmirror -peer-cluster cluster01
-local-name cluster1vs1LocallyUniqueName
```

2. On the data protection source cluster, verify that the peer relationship has been initiated:

```
vserver peer show-all
```

For complete command syntax, see the man page.

The following example shows that the peer relationship between SVM`pvs1` and SVM`vs1` has been initiated:



```
cluster01::> vserver peer show-all
```

| Vserver | Peer Vserver | Peer State | Peer Cluster | Peering Applications |
|---------|--------------|------------|--------------|----------------------|
| -----   | -----        | -----      | -----        | -----                |
| pvs1    | vs1          | initiated  | Cluster02    | snapmirror           |

3. On the data protection destination cluster, display the pending SVM peer relationship:

```
vserver peer show
```

For complete command syntax, see the man page.

The following example lists the pending peer relationships for `cluster02`:

```
cluster02::> vserver peer show
```

| Vserver | Peer Vserver | Peer State |
|---------|--------------|------------|
| -----   | -----        | -----      |
| vs1     | pvs1         | pending    |

4. On the data protection destination cluster, authorize the pending peer relationship:

```
vserver peer accept -vserver local_SVM -peer-vserver remote_SVM
```

For complete command syntax, see the man page.

The following example authorizes the peer relationship between the local SVM `vs1` and the remote SVM `pvs1`:

```
cluster02::> vserver peer accept -vserver vs1 -peer-vserver pvs1
```

5. Verify the SVM peer relationship:

```
vserver peer show
```

```
cluster01::> vservers peer show
```

|         | Peer    | Peer   |              | Peering      |
|---------|---------|--------|--------------|--------------|
| Remote  |         |        |              |              |
| Vserver | Vserver | State  | Peer Cluster | Applications |
| Vserver |         |        |              |              |
| -----   | -----   | -----  | -----        | -----        |
| -----   |         |        |              |              |
| pvs1    | vs1     | peered | cluster02    | snapmirror   |
| vs1     |         |        |              |              |

## 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.