



# **Configure peer relationships**

## **ONTAP 9**

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# 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::> vserver peer show
```

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

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