



# Manage LIFs

ONTAP 9

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# Manage LIFs

## Configure LIF service policies for an ONTAP cluster

You can configure LIF service policies to identify a single service or a list of services that will use a LIF.

### Create a service policy for LIFs

You can create a service policy for LIFs. You can assign a service policy to one or more LIFs; thereby allowing the LIF to carry traffic for a single service or a list of services.

You need advanced privileges to run the `network interface service-policy create` command.

#### About this task

Built-in services and service policies are available for managing data and management traffic on both data and system SVMs. Most use cases are satisfied using a built-in service policy rather than creating a custom service policy.

You can modify these built-in service policies, if required.

#### Steps

1. View the services that are available in the cluster:

```
network interface service show
```

Services represent the applications accessed by a LIF as well as the applications served by the cluster. Each service includes zero or more TCP and UDP ports on which the application is listening.

The following additional data and management services are available:

```
cluster1::> network interface service show

Service                                Protocol:Ports
-----
cluster-core                           -
data-cifs                               -
data-core                               -
data-flexcache                         -
data-iscsi                             -
data-nfs                               -
intercluster-core                      tcp:11104-11105
management-autosupport                 -
management-bgp                          tcp:179
management-core                         -
management-https                       tcp:443
management-ssh                          tcp:22
12 entries were displayed.
```

2. View the service policies that exist in the cluster:

```

cluster1::> network interface service-policy show

Vserver      Policy                      Service: Allowed Addresses
-----  -----
-----  -----
cluster1
    default-intercluster      intercluster-core: 0.0.0.0/0
                                management-https: 0.0.0.0/0

    default-management        management-core: 0.0.0.0/0
                                management-autosupport: 0.0.0.0/0
                                management-ssh: 0.0.0.0/0
                                management-https: 0.0.0.0/0

    default-route-announce   management-bgp: 0.0.0.0/0

Cluster
    default-cluster          cluster-core: 0.0.0.0/0

vs0
    default-data-blocks      data-core: 0.0.0.0/0
                                data-iscsi: 0.0.0.0/0

    default-data-files       data-core: 0.0.0.0/0
                                data-nfs: 0.0.0.0/0
                                data-cifs: 0.0.0.0/0
                                data-flexcache: 0.0.0.0/0

    default-management       data-core: 0.0.0.0/0
                                management-ssh: 0.0.0.0/0
                                management-https: 0.0.0.0/0

7 entries were displayed.

```

### 3. Create a service policy:

```

cluster1::> set -privilege advanced
Warning: These advanced commands are potentially dangerous; use them
only when directed to do so by technical support.
Do you wish to continue? (y or n): y

cluster1::> network interface service-policy create -vserver <svm_name>
-policies <service_policy_name> -services <service_name> -allowed
-addresses <IP_address/mask,...>

```

- "service\_name" specifies a list of services that should be included in the policy.
- "IP\_address/mask" specifies the list of subnet masks for addresses that are allowed to access the services in the service policy. By default, all specified services are added with a default allowed address list of 0.0.0.0/0, which allows traffic from all subnets. When a non-default allowed address list is provided, LIFs using the policy are configured to block all requests with a source address that does not match any of the specified masks.

The following example shows how to create a data service policy, *svm1\_data\_policy*, for an SVM that includes *NFS* and *SMB* services:

```
cluster1::> set -privilege advanced
Warning: These advanced commands are potentially dangerous; use them
only when directed to do so by technical support.
Do you wish to continue? (y or n): y

cluster1::> network interface service-policy create -vserver svm1
-priority svm1_data_policy -services data-nfs,data-cifs,data-core
```

The following example shows how to create an intercluster service policy:

```
cluster1::> set -privilege advanced
Warning: These advanced commands are potentially dangerous; use them
only when directed to do so by technical support.
Do you wish to continue? (y or n): y

cluster1::> network interface service-policy create -vserver cluster1
-priority intercluster1 -services intercluster-core
```

#### 4. Verify that the service policy is created.

```
cluster1::> network interface service-policy show
```

The following output shows the service policies that are available:

```

cluster1::> network interface service-policy show

Vserver      Policy                                Service: Allowed Addresses
-----  -----
-----  -----
cluster1
    default-intercluster      intercluster-core: 0.0.0.0/0
                                management-https: 0.0.0.0/0

    intercluster1            intercluster-core: 0.0.0.0/0

    default-management       management-core: 0.0.0.0/0
                                management-autosupport: 0.0.0.0/0
                                management-ssh: 0.0.0.0/0
                                management-https: 0.0.0.0/0

    default-route-announce  management-bgp: 0.0.0.0/0

Cluster
    default-cluster          cluster-core: 0.0.0.0/0

vs0
    default-data-blocks      data-core: 0.0.0.0/0
                                data-iscsi: 0.0.0.0/0

    default-data-files       data-core: 0.0.0.0/0
                                data-nfs: 0.0.0.0/0
                                data-cifs: 0.0.0.0/0
                                data-flexcache: 0.0.0.0/0

    default-management       data-core: 0.0.0.0/0
                                management-ssh: 0.0.0.0/0
                                management-https: 0.0.0.0/0

    svm1_data_policy         data-core: 0.0.0.0/0
                                data-nfs: 0.0.0.0/0
                                data-cifs: 0.0.0.0/0

9 entries were displayed.

```

### After you finish

Assign the service policy to a LIF either at the time of creation or by modifying an existing LIF.

## Assign a service policy to a LIF

You can assign a service policy to a LIF either at the time of creating the LIF or by modifying the LIF. A service policy defines the list of services that can be used with the LIF.

### About this task

You can assign service policies for LIFs in the admin and data SVMs.

### Step

Depending on when you want to assign the service policy to a LIF, perform one of the following actions:

| If you are...   | Assign the service policy...   |
|-----------------|--|
| Creating a LIF  | network interface create -vserver <i>svm_name</i> -lif <lif_name> -home-node <node_name> -home-port <port_name> {(-address <IP_address> -netmask <IP_address>) -subnet-name <subnet_name>} -service-policy <service_policy_name> |
| Modifying a LIF | network interface modify -vserver <svm_name> -lif <lif_name> -service-policy <service_policy_name>   |

When you specify a service policy for a LIF, you need not specify the data protocol and role for the LIF. Creating LIFs by specifying the role and data protocols is also supported.



A service policy can only be used by LIFs in the same SVM that you specified when creating the service policy.

### Examples

The following example shows how to modify the service policy of a LIF to use the default- management service policy:

```
cluster1::> network interface modify -vserver cluster1 -lif lif1 -service -policy default-management
```

## Commands for managing LIF service policies

Use the `network interface service-policy` commands to manage LIF service policies.

Learn more about `network interface service-policy` in the [ONTAP command reference](#).

### Before you begin

Modifying the service policy of a LIF in an active SnapMirror relationship disrupts the replication schedule. If you convert a LIF from intercluster to non-intercluster (or vice versa), those changes are not replicated to the peered cluster. To update the peer cluster after modifying the LIF service policy, first perform the `snapmirror abort` operation then [resynchronize the replication relationship](#).

| If you want to...                                      | Use this command...                                  |
|--|--|
| Create a service policy (advanced privileges required) | <code>network interface service-policy create</code> |

| If you want to...  | Use this command...                               |
|--|---|
| Add an additional service entry to an existing service policy (advanced privileges required) | network interface service-policy add-service      |
| Clone an existing service policy (advanced privileges required)                              | network interface service-policy clone            |
| Modify a service entry in an existing service policy (advanced privileges required)          | network interface service-policy modify-service   |
| Remove a service entry from an existing service policy (advanced privileges required)        | network interface service-policy remove-service   |
| Rename an existing service policy (advanced privileges required)                             | network interface service-policy rename           |
| Delete an existing service policy (advanced privileges required)                             | network interface service-policy delete           |
| Restore a built-in service-policy to its original state (advanced privileges required)       | network interface service-policy restore-defaults |
| Display existing service policies  | network interface service-policy show             |

#### Related information

- [network interface service show](#)
- [network interface service-policy](#)
- [snapmirror abort](#)

## Create ONTAP LIFs

An SVM serves data to clients through one or more network logical interfaces (LIFs). You must create LIFs on the ports you want to use to access data. A LIF (network interface) is an IP address associated with a physical or logical port. If there is a component failure, a LIF can fail over to or be migrated to a different physical port, thereby continuing to communicate with the network.

#### Best practice

Switch ports connected to ONTAP should be configured as spanning-tree edge ports to reduce delays during LIF migration.

#### Before you begin

- You must be a cluster administrator to perform this task.
- The underlying physical or logical network port must have been configured to the administrative up status.

- If you are planning to use a subnet name to allocate the IP address and network mask value for a LIF, the subnet must already exist.

Subnets contain a pool of IP addresses that belong to the same layer 3 subnet. They are created using System Manager or the `network subnet create` command.

Learn more about `network subnet create` in the [ONTAP command reference](#).

- The mechanism for specifying the type of traffic handled by a LIF has changed. For ONTAP 9.5 and earlier, LIFs used roles to specify the type of traffic it would handle. Beginning with ONTAP 9.6, LIFs use service policies to specify the type of traffic it would handle.

## About this task

- You cannot assign NAS and SAN protocols to the same LIF.

The supported protocols are SMB, NFS, FlexCache, iSCSI, and FC; iSCSI and FC cannot be combined with other protocols. However, NAS and Ethernet-based SAN protocols can be present on the same physical port.

- You should not configure LIFs that carry SMB traffic to automatically revert to their home nodes. This recommendation is mandatory if the SMB server is to host a solution for nondisruptive operations with Hyper-V or SQL Server over SMB.

- You can create both IPv4 and IPv6 LIFs on the same network port.
- All the name mapping and host-name resolution services used by an SVM, such as DNS, NIS, LDAP, and Active Directory, must be reachable from at least one LIF handling data traffic of the SVM.
- A LIF handling intracluster traffic between nodes should not be on the same subnet as a LIF handling management traffic or a LIF handling data traffic.
- Creating a LIF that does not have a valid failover target results in a warning message.
- If you have a large number of LIFs in your cluster, you can verify the LIF capacity supported on the cluster:
  - System Manager: Beginning with ONTAP 9.12.0, view the throughput on the Network Interface grid.
  - CLI: Use the `network interface capacity show` command and the LIF capacity supported on each node by using the `network interface capacity details show` command (at the advanced privilege level).

Learn more about `network interface capacity show` and `network interface capacity details show` in the [ONTAP command reference](#).

- Beginning with ONTAP 9.7, if other LIFs already exist for the SVM in the same subnet, you do not need to specify the home port of the LIF. ONTAP automatically chooses a random port on the specified home node in the same broadcast domain as the other LIFs already configured in the same subnet.

Beginning with ONTAP 9.4, FC-NVMe is supported. If you are creating an FC-NVMe LIF you should be aware of the following:

- The NVMe protocol must be supported by the FC adapter on which the LIF is created.
- FC-NVMe can be the only data protocol on data LIFs.
- One LIF handling management traffic must be configured for every storage virtual machine (SVM) supporting SAN.
- NVMe LIFs and namespaces must be hosted on the same node.

- A maximum of two NVMe LIFs handling data traffic can be configured per SVM, per node.
- When you create a network interface with a subnet, ONTAP automatically selects an available IP address from the selected subnet and assigns it to the network interface. You can change the subnet if there is more than one subnet, but you cannot change the IP address.
- When you create (add) an SVM, for a network interface, you cannot specify an IP address that is in the range of an existing subnet. You will receive a subnet conflict error. This issue occurs in other workflows for a network interface, such as creating or modifying inter-cluster network interfaces in SVM settings or cluster settings.
- Beginning with ONTAP 9.10.1, the `network interface` CLI commands include an `-rdma-protocols` parameter for NFS over RDMA configurations. Creating network interfaces for NFS over RDMA configurations is supported in System Manager beginning with ONTAP 9.12.1. For more information, see [Configure LIFs for NFS over RDMA](#).
- Beginning with ONTAP 9.11.1, automatic iSCSI LIF failover is available on All-Flash SAN Array (ASA) platforms.

iSCSI LIF failover is automatically enabled (the failover policy is set to `sfo-partner-only` and the auto-revert value is set to `true`) on newly created iSCSI LIFs if no iSCSI LIFs exist in the specified SVM or if all existing iSCSI LIFs in the specified SVM are already enabled with iSCSI LIF failover.

If after you upgrade to ONTAP 9.11.1 or later, you have existing iSCSI LIFs in an SVM that have not been enabled with the iSCSI LIF failover feature and you create new iSCSI LIFs in the same SVM, the new iSCSI LIFs assume the same failover policy (`disabled`) of the existing iSCSI LIFs in the SVM.

#### [iSCSI LIF failover for ASA platforms](#)

Beginning with ONTAP 9.7, ONTAP automatically chooses the home port of a LIF, as long as at least one LIF already exists in the same subnet in that IPspace. ONTAP chooses a home-port in the same broadcast domain as other LIFs in that subnet. You can still specify a home port, but it is no longer required (unless no LIFs yet exist in that subnet in the specified IPspace).

Beginning with ONTAP 9.12.0, the procedure you follow depends on the interface that you use—System Manager or the CLI:

## System Manager

### Use System Manager to add a network interface

#### Steps

1. Select **Network > Overview > Network Interfaces**.
2. Select  **Add**.
3. Select one of the following interface roles:
  - a. Data
  - b. Intercluster
  - c. SVM Management
4. Select the protocol:
  - a. SMB/CIFS and NFS
  - b. iSCSI
  - c. FC
  - d. NVMe/FC
  - e. NVMe/TCP
5. Name the LIF or accept the name generated from your previous selections.
6. Accept the home node or use the drop-down to select one.
7. If at least one subnet is configured in the IPspace of the selected SVM, the subnet drop-down is displayed.
  - a. If you select a subnet, choose it from the drop-down.
  - b. If you proceed without a subnet, the broadcast domain drop-down is displayed:
    - i. Specify the IP address. If the IP address is in use, a warning message will display.
    - ii. Specify a subnet mask.
8. Select the home port from the broadcast domain, either automatically (recommended) or by selecting one from the drop-down menu. The Home port control is displayed based on the broadcast domain or subnet selection.
9. Save the network interface.

## CLI

### Use the CLI to create a LIF

#### Steps

1. Determine which broadcast domain ports you want to use for the LIF.

```
network port broadcast-domain show -ipspace ipspacel
```

| IPspace  | Broadcast   |      | Update   |  |
|----------|-------------|------|--|--|
| Name     | Domain name | MTU  | Port List  | Status Details                               |
| ipspace1 | default     | 1500 | node1:e0d<br>node1:e0e<br>node2:e0d<br>node2:e0e | complete<br>complete<br>complete<br>complete |

Learn more about `network port broadcast-domain show` in the [ONTAP command reference](#).

- Verify that the subnet you want to use for the LIFs contains sufficient unused IP addresses.

```
network subnet show -ipspace ipspace1
```

Learn more about `network subnet show` in the [ONTAP command reference](#).

- Create one or more LIFs on the ports you want to use to access data.



NetApp recommends creating subnet objects for all LIFs on data SVMs. This is especially important for MetroCluster configurations, where the subnet object enables ONTAP to determine failover targets on the destination cluster because each subnet object has an associated broadcast domain. For instructions, refer to [Create a subnet](#).

```
network interface create -vserver _SVM_name_ -lif _lif_name_
-service-policy _service_policy_name_ -home-node _node_name_ -home
-port port_name {-address _IP_address_ - netmask _Netmask_value_ |
-subnet-name _subnet_name_} -firewall- policy _policy_ -auto-revert
{true|false}
```

- home-node is the node to which the LIF returns when the `network interface revert` command is run on the LIF.

You can also specify whether the LIF should automatically revert to the home-node and home-port with the -auto-revert option.

Learn more about `network interface revert` in the [ONTAP command reference](#).

- home-port is the physical or logical port to which the LIF returns when the `network interface revert` command is run on the LIF.
- You can specify an IP address with the -address and -netmask options, or you enable allocation from a subnet with the -subnet\_name option.
- When using a subnet to supply the IP address and network mask, if the subnet was defined with a gateway, a default route to that gateway is added automatically to the SVM when a LIF is created using that subnet.
- If you assign IP addresses manually (without using a subnet), you might need to configure a

default route to a gateway if there are clients or domain controllers on a different IP subnet. Learn more about [network route create](#) in the [ONTAP command reference](#).

- `-auto-revert` enables you to specify whether a data LIF is automatically reverted to its home node under circumstances such as startup, changes to the status of the management database, or when the network connection is made. The default setting is `false`, but you can set it to `true` depending on network management policies in your environment.

- `-service-policy` Beginning with ONTAP 9.5, you can assign a service policy for the LIF with the `-service-policy` option.

When a service policy is specified for a LIF, the policy is used to construct a default role, failover policy, and data protocol list for the LIF. In ONTAP 9.5, service policies are supported only for intercluster and BGP peer services. In ONTAP 9.6, you can create service policies for several data and management services.

- `-data-protocol` enables you to create a LIF that supports the FCP or NVMe/FC protocols. This option is not required when creating an IP LIF.

#### 4. **Optional:** Assign an IPv6 address in the `-address` option:

- Use the `network ndp prefix show` command to view the list of RA prefixes learned on various interfaces.

The `network ndp prefix show` command is available at the advanced privilege level.

Learn more about `network ndp prefix show` in the [ONTAP command reference](#).

- Use the format `prefix::id` to construct the IPv6 address manually.

`prefix` is the prefix learned on various interfaces.

For deriving the `id`, choose a random 64-bit hexadecimal number.

#### 5. Verify that the LIF interface configuration is correct.

```
network interface show -vserver vs1
```

| Vserver | Logical Interface | Status | Network Address/Mask | Current Node | Current Port | Is |
|---------|-------------------|--------|----------------------|--------------|--------------|----|
| Home    |                   |        |                      |              |              |    |
| vs1     | lif1              | up/up  | 10.0.0.128/24        | node1        | e0d          |    |
| true    |                   |        |                      |              |              |    |

Learn more about `network interface show` in the [ONTAP command reference](#).

#### 6. Verify that the failover group configuration is as desired.

```
network interface show -failover -vserver vs1
```

| Vserver | Logical interface | Home Node:Port   | Failover Policy | Failover Group |
|---------|-------------------|--|-----------------|----------------|
| vs1     | lif1              | node1:e0d  | system-defined  | ipspacel       |
|         |                   | Failover Targets: node1:e0d, node1:e0e, node2:e0d, node2:e0e |                 |                |

7. Verify that the configured IP address is reachable:

| To verify an... | Use...        |
|-----------------|---------------|
| IPv4 address    | network ping  |
| IPv6 address    | network ping6 |

### Examples

The following command creates a LIF and specifies the IP address and network mask values using the `-address` and `-netmask` parameters:

```
network interface create -vserver vs1.example.com -lif datalif1
-service-policy default-data-files -home-node node-4 -home-port e1c
-address 192.0.2.145 -netmask 255.255.255.0 -auto-revert true
```

The following command creates a LIF and assigns IP address and network mask values from the specified subnet (named `client1_sub`):

```
network interface create -vserver vs3.example.com -lif datalif3
-service-policy default-data-files -home-node node-3 -home-port e1c
-subnet-name client1_sub - auto-revert true
```

The following command creates an NVMe/FC LIF and specifies the `nvme-fc` data protocol:

```
network interface create -vserver vs1.example.com -lif datalif1 -data
-protocol nvme-fc -home-node node-4 -home-port 1c -address 192.0.2.145
-netmask 255.255.255.0 -auto-revert true
```

## Modify ONTAP LIFs

You can modify a LIF by changing the attributes, such as home node or current node, administrative status, IP address, netmask, failover policy, firewall policy, and service policy. You can also change the address family of a LIF from IPv4 to IPv6.

### About this task

- When modifying a LIF's administrative status to down, any outstanding NFSv4 locks are held until the LIF's administrative status is returned to up.

To avoid lock conflicts that can occur when other LIFs attempt to access the locked files, you must move the NFSv4 clients to a different LIF before setting the administrative status to down.

- You cannot modify the data protocols used by an FC LIF. However, you can modify the services assigned to a service policy or change the service policy assigned to an IP LIF.

To modify the data protocols used by a FC LIF, you must delete and re-create the LIF. To make service policy changes to an IP LIF, there is a brief outage while the updates occur.

- You cannot modify either the home node or the current node of a node-scoped management LIF.
- When using a subnet to change the IP address and network mask value for a LIF, an IP address is allocated from the specified subnet; if the LIF's previous IP address is from a different subnet, the IP address is returned to that subnet.
- To modify the address family of a LIF from IPv4 to IPv6, you must use the colon notation for the IPv6 address and add a new value for the `-netmask-length` parameter.
- You cannot modify the auto-configured link-local IPv6 addresses.
- Modification of a LIF that results in the LIF having no valid failover target results in a warning message.

If a LIF that does not have a valid failover target attempts to fail over, an outage might occur.

- Beginning with ONTAP 9.5, you can modify the service policy associated with a LIF.

In ONTAP 9.5, service policies are supported only for intercluster and BGP peer services. In ONTAP 9.6, you can create service policies for several data and management services.

- Beginning with ONTAP 9.11.1, the automatic iSCSI LIF failover is available on All-Flash SAN Array (ASA) platforms.

For pre-existing iSCSI LIFs, meaning LIFs created prior to upgrading to 9.11.1 or later, you can modify the failover policy to [enable automatic iSCSI LIF failover](#).

- ONTAP utilizes Network Time Protocol (NTP) to synchronize time across the cluster. After changing LIF IP addresses, you may need to update the NTP configuration to prevent synchronization failures. For more information, refer to the [NetApp Knowledge Base: NTP synchronization fails after LIF IP change](#).

The procedure you follow depends on the interface that you use—System Manager or the CLI:

## System Manager

Beginning with ONTAP 9.12.0, you can use System Manager to edit a network interface

### Steps

1. Select **Network > Overview > Network Interfaces**.
2. Select  > **Edit** beside the network interface you want to change.
3. Change one or more of the network interface settings. For details, see [Create a LIF](#).
4. Save your changes.

## CLI

### Use the CLI to modify a LIF

### Steps

1. Modify a LIF's attributes by using the `network interface modify` command.

The following example shows how to modify the IP address and network mask of LIF `data1if2` using an IP address and the network mask value from subnet `client1_sub`:

```
network interface modify -vserver vs1 -lif data1if2 -subnet-name
client1_sub
```

The following example shows how to modify the service policy of a LIF.

```
network interface modify -vserver siteA -lif node1_inter1 -service
-policy example
```

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

2. Verify that the IP addresses are reachable.

| If you are using... | Then use...                |
|---------------------|----------------------------|
| IPv4 addresses      | <code>network ping</code>  |
| IPv6 addresses      | <code>network ping6</code> |

Learn more about `network ping` in the [ONTAP command reference](#).

## Migrate ONTAP LIFs

You might have to migrate a LIF to a different port on the same node or a different node within the cluster, if the port is either faulty or requires maintenance. Migrating a LIF is similar to LIF failover, but LIF migration is a manual operation, while LIF failover is the

automatic migration of a LIF in response to a link failure on the LIF's current network port.

## Before you begin

- A failover group must have been configured for the LIFs.
- The destination node and ports must be operational and must be able to access the same network as the source port.

## About this task

- BGP LIFs reside on the home-port and cannot be migrated to any other node or port.
- You must migrate LIFs hosted on the ports belonging to a NIC to other ports in the cluster, before removing the NIC from the node.
- You must execute the command for migrating a cluster LIF from the node where the cluster LIF is hosted.
- A node-scoped LIF, such as a node-scoped management LIF, cluster LIF, intercluster LIF, cannot be migrated to a remote node.
- When an NFSv4 LIF is migrated between nodes, a delay of up to 45 seconds results before the LIF is available on a new port.

To work around this problem, use NFSv4.1 where no delay is encountered.

- You can migrate iSCSI LIFs on All-Flash SAN Array (ASA) platforms running ONTAP 9.11.1 or later.

Migrating iSCSI LIFs is limited to ports on the home-node or the HA partner.

- If your platform is not an All-Flash SAN Array (ASA) platform running ONTAP version 9.11.1 or later, you cannot migrate iSCSI LIFs from one node to another node.

To work around this restriction, you must create an iSCSI LIF on the destination node. Learn about [creating iSCSI LIFs](#).

- If you want to migrate a LIF (network interface) for NFS over RDMA, you must ensure the destination port is RoCE capable. You must be running ONTAP 9.10.1 or later to migrate a LIF with the CLI, or ONTAP 9.12.1 to migrate using System Manager. In System Manager, once you have selected your RoCE capable destination-port, you must check the box next to **Use RoCE ports** to complete the migration successfully. Learn more about [configuring LIFs for NFS over RDMA](#).
- VMware VAAI copy offload operations fail when you migrate the source or the destination LIF. Learn about copy off-load:
  - [NFS environments](#)
  - [SAN environments](#)

The procedure you follow depends on the interface that you use—System Manager or the CLI:

## System Manager

### Use System Manager to migrate a network interface

#### Steps

1. Select **Network > Overview > Network Interfaces**.
2. Select  > **Migrate** beside the network interface you want to change.



For an iSCSI LIF, in the **Migrate Interface** dialog box, select the destination node and port of the HA partner.

If you want to migrate the iSCSI LIF permanently, select the checkbox. The iSCSI LIF must be offline before it is permanently migrated. Additionally, once an iSCSI LIF is permanently migrated, it cannot be undone. There is no revert option.

3. Click **Migrate**.
4. Save your changes.

#### CLI

### Use the CLI to migrate a LIF

#### Step

Depending on whether you want to migrate a specific LIF or all the LIFs, perform the appropriate action:

| If you want to migrate...                          | Enter the following command...   |
|--|--|
| A specific LIF                                     | <code>network interface migrate</code>   |
| All the data and cluster-management LIFs on a node | <code>network interface migrate-all</code>                                       |
| All of the LIFs off of a port                      | <code>network interface migrate-all -node &lt;node&gt; -port &lt;port&gt;</code> |

The following example shows how to migrate a LIF named `datalif1` on the SVM `vs0` to the port `e0d` on node `0b`:

```
network interface migrate -vserver vs0 -lif datalif1 -dest-node node0b  
-dest-port e0d
```

The following example shows how to migrate all the data and cluster-management LIFs from the current (local) node:

```
network interface migrate-all -node local
```

#### Related information

- [network interface migrate](#)

## Revert a LIF to its home port after an ONTAP node failover or port migration

You can revert a LIF to its home port after it fails over or is migrated to a different port either manually or automatically. If the home port of a particular LIF is unavailable, the LIF remains at its current port and is not reverted.

### About this task

- If you administratively bring the home port of a LIF to the up state before setting the automatic revert option, the LIF is not returned to the home port.
- The LIF does not automatically revert unless the value of the "auto-revert" option is set to true.
- You must ensure that the "auto-revert" option is enabled for the LIFs to revert to their home ports.

The procedure you follow depends on the interface that you use—System Manager or the CLI:

#### System Manager

##### Use System Manager to revert a network interface to its home port

###### Steps

1. Select **Network > Overview > Network Interfaces**.
2. Select  > **Revert** beside the network interface you want to change.
3. Select **Revert** to revert a network interface to its home port.

#### CLI

##### Use the CLI to revert a LIF to its home port

###### Step

Revert a LIF to its home port manually or automatically:

| If you want to revert a LIF to its home port... | Then enter the following command...   |
|---|---|
| Manually  | <code>network interface revert -vserver vserver_name -lif lif_name</code>                   |
| Automatically                                   | <code>network interface modify -vserver vserver_name -lif lif_name -auto-revert true</code> |

Learn more about `network interface` in the [ONTAP command reference](#).

## Recover an incorrectly configured ONTAP LIF

A cluster cannot be created when the cluster network is cabled to a switch but not all of the ports configured in the Cluster IPspace can reach the other ports configured in the Cluster IPspace.

## About this task

In a switched cluster, if a cluster network interface (LIF) is configured on the wrong port, or if a cluster port is wired into the wrong network, the `cluster create` command can fail with the following error:

```
Not all local cluster ports have reachability to one another.  
Use the "network port reachability show -detail" command for more details.
```

Learn more about `cluster create` in the [ONTAP command reference](#).

The results of the `network port show` command might show that several ports are added to the Cluster IPspace because they are connected to a port that is configured with a cluster LIF. However, the results of the `network port reachability show -detail` command reveal which ports do not have connectivity to one another.

Learn more about `network port show` in the [ONTAP command reference](#).

To recover from a cluster LIF configured on a port that is not reachable to the other ports configured with cluster LIFs, perform the following steps:

### Steps

1. Reset the home port of the cluster LIF to the correct port:

```
network port modify -home-port
```

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

2. Remove the ports that do not have cluster LIFs configured on them from the cluster broadcast domain:

```
network port broadcast-domain remove-ports
```

Learn more about `network port broadcast-domain remove-ports` in the [ONTAP command reference](#).

3. Create the cluster:

```
cluster create
```

## Result

When you complete the cluster creation, the system detects the correct configuration and places the ports into the correct broadcast domains.

## Related information

- [network port reachability show](#)

# Delete ONTAP LIFs

You can delete a network interface (LIF) that is no longer required.

## Before you begin

LIFs to be deleted must not be in use.

## Steps

1. Mark the LIFs you want to delete as administratively down using the following command:

```
network interface modify -vserver vserver_name -lif lif_name -status  
-admin down
```

2. Use the `network interface delete` command to delete one or all LIFs:

| If you want to delete... | Enter the command ...   |
|--------------------------|---|
| A specific LIF           | <code>network interface delete -vserver vserver_name -lif lif_name</code> |
| All LIFs                 | <code>network interface delete -vserver vserver_name -lif *</code>        |

Learn more about `network interface delete` in the [ONTAP command reference](#).

The following command deletes the LIF `mgmtlif2`:

```
network interface delete -vserver vs1 -lif mgmtlif2
```

3. Use the `network interface show` command to confirm that the LIF is deleted.

Learn more about `network interface show` in the [ONTAP command reference](#).

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