



# Preparing to install SnapDrive for UNIX

## Snapdrive for Unix

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# Preparing to install SnapDrive for UNIX

The hosts on which you are installing SnapDrive for UNIX must meet the specific software, hardware, browser, database, and operating system requirements. For the latest information about these requirements, see the Interoperability Matrix.

## Related information

[NetApp Interoperability](#)

## Hardware and software configuration

Depending on your storage system, you can configure Fibre Channel (FC), Internet Small Computer System Interface (iSCSI), or a Network File System (NFS) configuration that uses NFS directory trees.

### FC or iSCSI configuration checks

Although Fibre Channel Protocol (FCP) and Internet Small Computer System Interface (iSCSI) were once distributed as separate utilities, you can find both FCP and iSCSI configuration support available in AIX Host Utilities.

If you have a configuration that uses FC or iSCSI, you must complete the following tasks before you install SnapDrive for UNIX:

- Make sure you have installed AIX Host Utilities on your host system.
- Set up your host and storage systems.

To work with the host, follow the instructions in the documentation that comes with the host utilities to your storage systems. Configurations that include multipathing or Volume Manager software must use the software that is supported by the AIX Host Utilities and SnapDrive for UNIX.



The latest information about SnapDrive for UNIX and its requirements is available in the Interoperability Matrix.

## Related information

[NetApp Interoperability](#)

### NFS configuration checks

For configurations that use Network File System (NFS), you must check that NFS clients are operating correctly, before you set up your host and storage systems.

If you have a configuration that use NFS, you must complete the following tasks:

- Ensure the NFS clients are operating correctly.

For more information about managing NFS protocols, see the [File Access and Protocols Management](#)

[Guide for 7-Mode](#) if you are using Data ONTAP 7-Mode; see the [File Access Management Guide for NFS](#) if you are using clustered Data ONTAP.

- Set up your host and storage systems.

To use SnapDrive for UNIX with NFS-mounted directories on the storage systems, you must ensure that the storage system directories are correctly exported to the host. If your host has multiple Internet Protocol (IP) interfaces as well as data and management interfaces to the storage system, then you must ensure that the directory is exported correctly to both the data and management interfaces. SnapDrive for UNIX issues warnings unless all such interfaces have read or write permissions, or in the case of the `snapdrive snap connect` command with the `-readonly` option, at least read-only permissions. The `snapdrive snap restore` and `snapdrive snap connect` commands fail if none of those interfaces have permission to access the directory.

## Preparing your storage system

Before you install SnapDrive for UNIX, you must prepare your storage system by ensuring that your storage system meets some requirements.

You must prepare your storage system by checking for the following conditions:

- Storage system readiness
- System requirements
- Storage system partner IP address
- SnapDrive for UNIX configurations in an NFS environment
- Volume preparation for UNIX LUNs and NFS entities
- The `snap reserve` option is set to 0
- In Data ONTAP operating in 7-Mode, the `vfiler.vol_clone_zapi_allow` configuration variable is set to `on`, to connect to a Snapshot copy for a volume or LUN in a vFiler unit.

## Verification of storage system readiness and licenses

Before you install SnapDrive for UNIX, you must verify the storage system readiness and check for licenses of certain software.

You must ensure that the following conditions are met:

- The storage systems are online.
- The storage systems meet the minimum system requirements for SnapDrive for UNIX.
- The HBAs or network interface cards (NICs) in your storage systems meet the requirements for your host operating system.

For more information about HBA cards, see the [Interoperability Matrix](#).

- The hosts and the storage systems can communicate by using an Internet Protocol (IP).
- The licenses for the following are valid:
  - SnapRestore

- MultiStore software
- Secure HTTP access to the storage system

## Related information

[NetApp Interoperability](#)

## Storage system partner IP address or interface name confirmation

When you run the setup program on your storage system, it prompts you to provide an IP address or interface name for a partner storage system to use in case of a failover. If you do not provide this, SnapDrive for UNIX cannot search for the storage entities on a storage system that it took over.

A partner IP address or the interface name is the IP address or the interface name of the partner storage system in an HA pair setup. If the primary storage system fails, the partner storage system takes over the functioning of the primary storage system.

### Example: storage system setup script

The following sample output of the storage system setup script requests the IP address:

```
storage_system_A> setup...
Should interface e0 take over a partner IP address during failover?
[n]: y
Please enter the IP address or interface name to be taken over by e0
[]: 10.2.21.35
storage_system_A> reboot -t 0
```

This example uses the IP address 10.2.21.35.

## Guidelines for NFS configurations

Before you install SnapDrive for UNIX, you should consider the location where the Network File System (NFS) service runs and the location to which the storage system directories are exported. You should check the NFS client permissions and the interface read-write permissions.

When you use SnapDrive for UNIX to restore or connect to NFS-mounted directories, you must ensure that the storage system directories are exported correctly to the host. If your host has multiple IP interfaces that can access the storage system, you must ensure that the directory is exported correctly to each one of them.

SnapDrive for UNIX issues warnings unless all such interfaces have read-write permissions, or, in the case of `snapdrive snap connect` with the `-readonly` option, or at least read-only permission. The `snapdrive snap restore` and `snapdrive snap connect` commands fail if none of these interfaces have permission to access the directory.

When you perform Single File SnapRestore (SFSR) as a root user, you must ensure that the storage system directories are exported with read-write permissions on the host and the following export rules must be set:

- `rw=<hostname>, root=<hostname>` in Data ONTAP operating in 7-Mode
- `rwrule = sys, rorule=sys, superuser= sys` in clustered Data ONTAP

## Related information

[ONTAP 9 NFS Reference](#)

[Data ONTAP 8.2 File Access and Protocols Management Guide for 7-Mode](#)

## Storage system volume preparation

You can either use the command prompt on the storage system or the FilerView option to create a storage system volume for the dedicated use of SnapDrive for UNIX.

You must complete the following tasks on the storage system to create a volume that can hold the SnapDrive for UNIX Logical Unit Numbers (LUN) or Network File System (NFS) entities attached to a single host:

- Create a storage system volume.
- If you are in an Fibre Channel or Internet Small Computer System Interface (iSCSI) environment, reset the `snapdrive snap reserve` option to zero percent on the storage system volume that holds all the LUNs attached to the host, for volume optimization.

When you create a volume on a storage system to hold LUNs or the NFS directory trees, you should be aware of the following:

- You can create multiple LUNs or NFS directory trees on a storage system volume.
- You should not store user data in the root volume on the storage system or vFiler unit.

## Related information

[ONTAP 9 NFS Reference](#)

[Data ONTAP 8.2 File Access and Protocols Management Guide for 7-Mode](#)

## Volume optimization in an FC or iSCSI environment

You can optimize your volume usage in a FC and Internet Small Computer System Interface (iSCSI) environment by having host-specific Logical Units Numbers (LUNs) on the same volume.

In addition to this, you can also optimize your volumes by performing a few other tasks:

- When multiple hosts share the same storage system, each host should have its own dedicated storage system volume to hold all the LUNs connected to that host.
- When multiple LUNs exist on a storage system volume, it is best for the dedicated volume, on which the LUNs reside to contain only the LUNs for a single host. It must not contain any other files or directories.

## Resetting the snap reserve option

When you use Data ONTAP in a Fibre Channel (FC) or Internet Small Computer System Interface (iSCSI) environment, you should reset the `snap reserve` option to zero

percent on all storage system volumes that contains SnapDrive for UNIX LUNs.

By default, the `snap reserve` option for Data ONTAP 7.1.x is 20 percent.

### Resetting the snap reserve option on the storage system

When you use Data ONTAP in a Fibre Channel or Internet Small Computer System Interface (iSCSI) environment, you should reset the `snap reserve` option to zero percent on the storage system, for volume optimization.

#### Steps

1. Access the storage system either by running the `telnet` command from the host or from the storage system console.
2. Enter the following command:

```
snap reserve vol_name 0
```

`vol_name` is the name of the volume on which you want to set the `snap reserve` option.

### Resetting the snap reserve option by using FilerView

When you use Data ONTAP in an FC or iSCSI environment, you should reset the `snap reserve` option to 0 percent by using FilerView.

#### Steps

1. Open a FilerView session to the storage system holding the volume whose `snap reserve` setting is to be changed.
2. From the main FilerView, navigate to **Volumes > Snapshot > Configure**.
3. In the **Volume** field, select the volume whose `snap reserve` setting is to be changed.
4. In the **Snapshot Reserve** field, enter 0.
5. Click **Apply**.

## Host preparation for installing SnapDrive for UNIX

You must prepare the host before you can install SnapDrive for UNIX on your system. As part of the host preparation, you must install the AIX Host Utilities.

### Installing AIX Host Utilities

If your configuration requires AIX Host Utilities, you must install them and ensure that the system is set up correctly.

You should use the documentation that comes with AIX Host Utilities. It contains information about volume managers, multipathing, and the other features that you must set up before you install SnapDrive for UNIX.

## Verifying the hosts are ready

You must verify that the hosts are ready. To start the verification operations, you should first test whether the host is connected to the storage system by entering the `ping filename` command.

You must also confirm that the hosts and the storage system can communicate with each other. To confirm this, execute the `snapdrive storage show -all` command and check if the hosts and storage system are communicating. Verify that the hosts are ready by performing certain operations:

- Confirm that you have set up the host and storage system correctly according to the instructions in the Host Utilities documentation for the host.
- Confirm that you have a configuration that uses NFS, and configure the exports file.
- Confirm that the host meets the minimum requirements for SnapDrive for UNIX, including the required operating system patches.

### Related information

[ONTAP 9 NFS Reference](#)

[Data ONTAP 8.2 File Access and Protocols Management Guide for 7-Mode](#)

[NetApp Support](#)

[AIX Host Utilities 6.0 Installation and Setup Guide](#)



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