



# **What should I verify before I upgrade?**

## **ONTAP 9**

NetApp  
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# What to verify before upgrading

If you don't use [Active IQ](#) Upgrade Advisor to plan your upgrade, you should verify your cluster upgrade limits and your cluster activity before you upgrade.

## Verify cluster upgrade limits

If you don't use [Active IQ](#) Upgrade Advisor, you need to verify that your cluster does not exceed the platform system limits. SAN also has limits that you should verify in addition to the platform system limits.

1. Verify that the cluster does not exceed the system limits for your platform.

[NetApp Hardware Universe](#)

2. If your cluster is configured for SAN, verify that it does not exceed the configuration limits for FC, FCoE, and iSCSI.

[NetApp Hardware Universe](#)

3. Determine the CPU and disk utilization: `node run -node node_name -command sysstat -c 10 -x 3`

You should monitor CPU and disk utilization for 30 seconds. The values in the **CPU** and **Disk Util** columns should not exceed 50% for all 10 measurements reported. No additional load should be added to the cluster until the upgrade is complete. NOTE: CPU and disk utilization can vary at different times in your environment. Therefore, it is best to check your CPU and disk utilization during the timeframe of your anticipated upgrade window.

## Verify current cluster activity

If you don't use [Active IQ](#) Upgrade Advisor, before upgrading, you should manually verify that no jobs are running and that any CIFS sessions that are not continuously available are terminated.

### Verify that no jobs are running

Before upgrading the ONTAP software, you must verify the status of cluster jobs. If any aggregate, volume, NDMP (dump or restore), or Snapshot jobs (such as create, delete, move, modify, replicate, and mount jobs) are running or queued, you must allow the jobs to finish successfully or stop the queued entries.

1. Review the list of any running or queued aggregate, volume, or Snapshot jobs: `job show`

```
cluster1::> job show
```

Job ID	Name	Owning Vserver	Node	State
8629	Vol Reaper	cluster1	-	Queued
Description: Vol Reaper Job				
8630	Certificate Expiry Check	cluster1	-	Queued
Description: Certificate Expiry Check				
.				
.				
.				

2. Delete any running or queued aggregate, volume, or Snapshot copy jobs: `job delete -id job_id`

```
cluster1::> job delete -id 8629
```

3. Verify that no aggregate, volume, or Snapshot jobs are running or queued: `job show`

In this example, all running and queued jobs have been deleted:

```
cluster1::> job show
```

Job ID	Name	Owning Vserver	Node	State
9944	SnapMirrorDaemon_7_2147484678	cluster1	node1	Dormant
Description: Snapmirror Daemon for 7_2147484678				
18377	SnapMirror Service Job	cluster1	node0	Dormant
Description: SnapMirror Service Job				

2 entries were displayed

## Identifying active CIFS sessions that should be terminated

Before upgrading the ONTAP software, you should identify and gracefully terminate any CIFS sessions that are not continuously available.

Continuously available CIFS shares, which are accessed by Hyper-V or Microsoft SQL Server clients using the SMB 3.0 protocol, do not need to be terminated before upgrading.

1. Identify any established CIFS sessions that are not continuously available: `vserver cifs session show -continuously-available Yes -instance`

This command displays detailed information about any CIFS sessions that have no continuous availability. You should terminate them before proceeding with the ONTAP upgrade.

```
cluster1::> vserver cifs session show -continuously-available Yes
-instance
```

```

Node: node1
Vserver: vs1
Session ID: 1
Connection ID: 4160072788
Incoming Data LIF IP Address: 198.51.100.5
Workstation IP address: 203.0.113.20
Authentication Mechanism: NTLMv2
Windows User: CIFS\user1
UNIX User: nobody
Open Shares: 1
Open Files: 2
Open Other: 0
Connected Time: 8m 39s
Idle Time: 7m 45s
Protocol Version: SMB2_1
Continuously Available: No
1 entry was displayed.
```

2. If necessary, identify the files that are open for each CIFS session that you identified: `vserver cifs session file show -session-id session_ID`

```
cluster1::> vserver cifs session file show -session-id 1
```

```
Node:      node1
Vserver:   vs1
Connection: 4160072788
Session:    1
File      File      Open Hosting
Continuously
ID        Type        Mode Volume          Share              Available
-----
1         Regular    rw   vol10             homedirshare       No
Path: \TestDocument.docx
2         Regular    rw   vol10             homedirshare       No
Path: \file1.txt
2 entries were displayed.
```

## Related information

[Considerations for session-oriented protocols](#)

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