



# **Manual disruptive upgrade using the CLI**

## **ONTAP 9**

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# Manual disruptive upgrade using the CLI

If you can take your cluster offline to upgrade to a new ONTAP release, then you can use the disruptive upgrade method. This method has several steps: disabling storage failover for each HA pair, rebooting each node in the cluster, and then reenabling storage failover.

- You must have satisfied preparation requirements.
- If you are operating in a SAN environment, all SAN clients must be shut down or suspended until the upgrade is complete.

If SAN clients are not shut down or suspended prior to a disruptive upgrade, then the client file systems and applications suffer errors that might require manual recovery after the upgrade is completed.

In a disruptive upgrade, downtime is required because storage failover is disabled for each HA pair, and each node is updated. When storage failover is disabled, each node behaves as a single-node cluster; that is, system services associated with the node are interrupted for as long as it takes the system to reboot.

1. Set the privilege level from admin to advanced, entering **y** when prompted to continue: `set -privilege advanced`

The advanced prompt (**\*>**) appears.

2. Set the new ONTAP software image to be the default image: `system image modify {-node * -iscurrent false} -isdefault true`

This command uses an extended query to change the target ONTAP software image (which is installed as the alternate image) to be the default image for each node.

3. Verify that the new ONTAP software image is set as the default image: `system image show`

In the following example, image 2 is the new ONTAP version and is set as the default image on both nodes:

```
cluster1::*> system image show
```

Node	Image	Is Default	Is Current	Version	Install Date
node0					
	image1	false	true	X.X.X	MM/DD/YYYY TIME
	image2	true	false	Y.Y.Y	MM/DD/YYYY TIME
node1					
	image1	false	true	X.X.X	MM/DD/YYYY TIME
	image2	true	false	Y.Y.Y	MM/DD/YYYY TIME

4 entries were displayed.

4. Perform either one of the following steps:

If the cluster consists of...	Do this...
One node	Continue to the next step.
Two nodes	<p>a. Disable cluster high availability: <code>cluster ha modify -configured false</code></p> <p>Enter <code>y</code> to continue when prompted.</p> <p>b. Disable storage failover for the HA pair: <code>storage failover modify -node * -enabled false</code></p>
More than two nodes	Disable storage failover for each HA pair in the cluster: <code>storage failover modify -node * -enabled false</code>

5. Reboot a node in the cluster: `system node reboot -node nodename -ignore-quorum-warnings`



Do not reboot more than one node at a time.

The node boots the new ONTAP image. The ONTAP login prompt appears, indicating that the reboot process is complete.

6. After the node or set of nodes has rebooted with the new ONTAP image, confirm that the new software is running: `system node image show`

In the following example, image1 is the new ONTAP version and is set as the current version on node0:

```
cluster1::*> system node image show
```

Node	Image	Is Default	Is Current	Version	Install Date
node0	image1	true	true	X.X.X	MM/DD/YYYY TIME
	image2	false	false	Y.Y.Y	MM/DD/YYYY TIME
node1	image1	true	false	X.X.X	MM/DD/YYYY TIME
	image2	false	true	Y.Y.Y	MM/DD/YYYY TIME

4 entries were displayed.

7. Verify that the upgrade is completed successfully:
- Set the privilege level to advanced: `set -privilege advanced`
  - Verify that the upgrade status is complete for each node: `system node upgrade-revert show -node nodename`

The status should be listed as complete.

If the upgrade is not successful, from the node, run the `system node upgrade-revert upgrade` command. If this command does not complete the node's upgrade, contact technical support immediately.

c. Return to the admin privilege level: `set -privilege admin`

8. Repeat Steps 2 through 7 for each additional node.

9. If the cluster consists of two or more nodes, enable storage failover for each HA pair in the cluster:

`storage failover modify -node * -enabled true`

10. If the cluster consists of only two nodes, enable cluster high availability: `cluster ha modify -configured true`

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