



Post-upgrade cluster verification

ONTAP 9

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Post-upgrade cluster verification

After you upgrade you should verify your cluster version, cluster health, and storage health.

Verify cluster version

After all of the HA pairs have been upgraded, you must use the version command to verify that all of the nodes are running the target release.

The cluster version is the lowest version of ONTAP running on any node in the cluster. If the cluster version is not the target ONTAP release, you can upgrade your cluster.

- 1. Verify that the cluster version is the target ONTAP release: `version`
- 2. If the cluster version is not the target ONTAP release, you can verify the upgrade status of all nodes `system node upgrade-revert show`

Verify cluster health

After you upgrade a cluster, you should verify that the nodes are healthy and eligible to participate in the cluster, and that the cluster is in quorum.

- 1. Verify that the nodes in the cluster are online and are eligible to participate in the cluster: `cluster show`

```
cluster1::> cluster show
Node                      Health  Eligibility
-----
node0                     true    true
node1                     true    true
```

If any node is unhealthy or ineligible, check EMS logs for errors and take corrective action.

- 2. Set the privilege level to advanced: `set -privilege advanced`
- 3. Enter `y` to continue.
- 4. Verify the configuration details for each RDB process.
 - The relational database epoch and database epochs should match for each node.
 - The per-ring quorum master should be the same for all nodes.

Note that each ring might have a different quorum master.

To display this RDB process...	Enter this command...
Management application	<code>cluster ring show -unitname mgmt</code>

To display this RDB process...	Enter this command...
Volume location database	<code>cluster ring show -unitname vldb</code>
Virtual-Interface manager	<code>cluster ring show -unitname vifmgr</code>
SAN management daemon	<code>cluster ring show -unitname bcomd</code>

This example shows the volume location database process:

```
cluster1::*> cluster ring show -unitname vldb
Node      UnitName Epoch      DB Epoch DB Trnxs Master      Online
-----
node0     vldb      154      154      14847   node0      master
node1     vldb      154      154      14847   node0      secondary
node2     vldb      154      154      14847   node0      secondary
node3     vldb      154      154      14847   node0      secondary
4 entries were displayed.
```

5. If you are operating in a SAN environment, verify that each node is in a SAN quorum: `event log show -messagename scsiblade.*`

The most recent scsiblade event message for each node should indicate that the scsi-blade is in quorum.

```
cluster1::*> event log show -messagename scsiblade.*
Time              Node              Severity      Event
-----
MM/DD/YYYY TIME  node0              INFORMATIONAL scsiblade.in.quorum: The
scsi-blade ...
MM/DD/YYYY TIME  node1              INFORMATIONAL scsiblade.in.quorum: The
scsi-blade ...
```

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

Related information

[System administration](#)

Verify storage health

After you upgrade a cluster, you should verify the status of your disks, aggregates, and volumes.

1. Verify disk status:

To check for...	Do this...
Broken disks	a. Display any broken disks: <code>storage disk show -state broken</code> b. Remove or replace any broken disks.
Disks undergoing maintenance or reconstruction	a. Display any disks in maintenance, pending, or reconstructing states: <code>storage disk show -state maintenance pending reconstructing</code> b. Wait for the maintenance or reconstruction operation to finish before proceeding.

2. Verify that all aggregates are online by displaying the state of physical and logical storage, including storage aggregates: `storage aggregate show -state !online`

This command displays the aggregates that are *not* online. All aggregates must be online before and after performing a major upgrade or reversion.

```
cluster1::> storage aggregate show -state !online
There are no entries matching your query.
```

3. Verify that all volumes are online by displaying any volumes that are *not* online: `volume show -state !online`

All volumes must be online before and after performing a major upgrade or reversion.

```
cluster1::> volume show -state !online
There are no entries matching your query.
```

4. Verify that there are no inconsistent volumes: `volume show -is-inconsistent true`

If any inconsistent volumes are returned, you must contact NetApp Support before you precede with the upgrade.

Related information

[Disk and aggregate management](#)

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