



# **Update clusters**

## System Manager Classic

NetApp  
January 21, 2022

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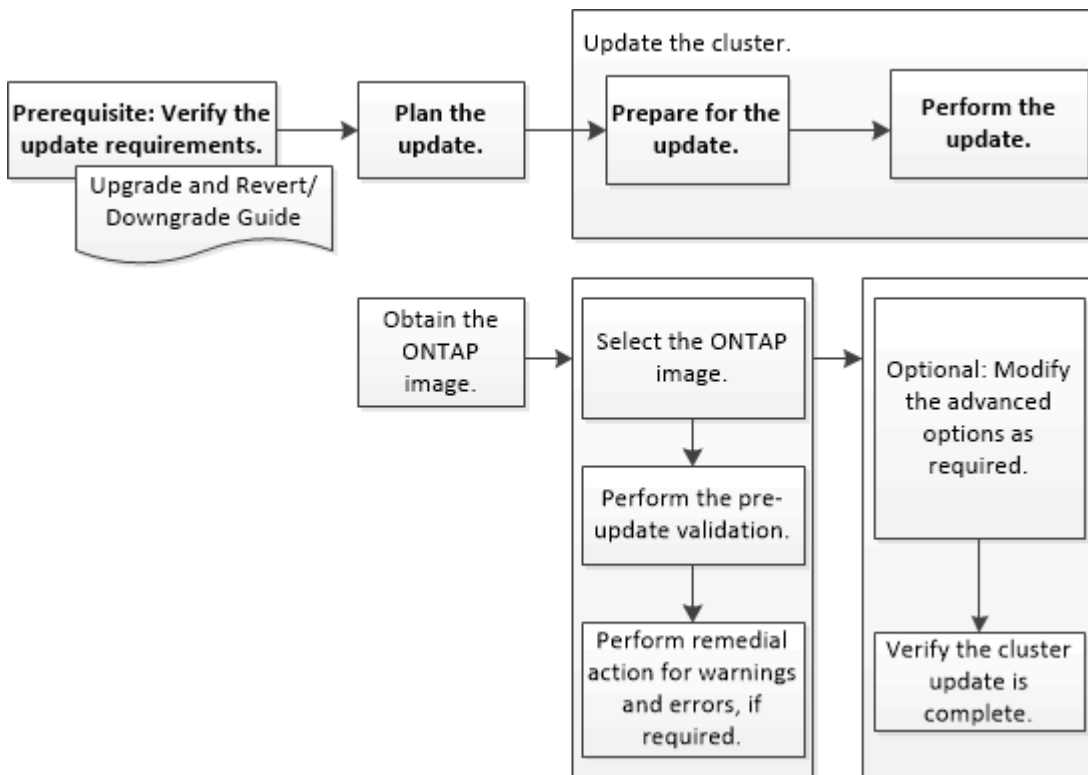
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# Updating clusters

You can use System Manager to update a cluster or the individual nodes in a high-availability (HA) pair. You can also update a cluster in a MetroCluster configuration.

## Updating clusters in a non MetroCluster configuration

You can use System Manager to update a cluster or the individual nodes in a high-availability (HA) pair. To perform an update, you should select an ONTAP image, validate that your cluster or the individual nodes in the HA pair are ready for the update, and then perform the update.

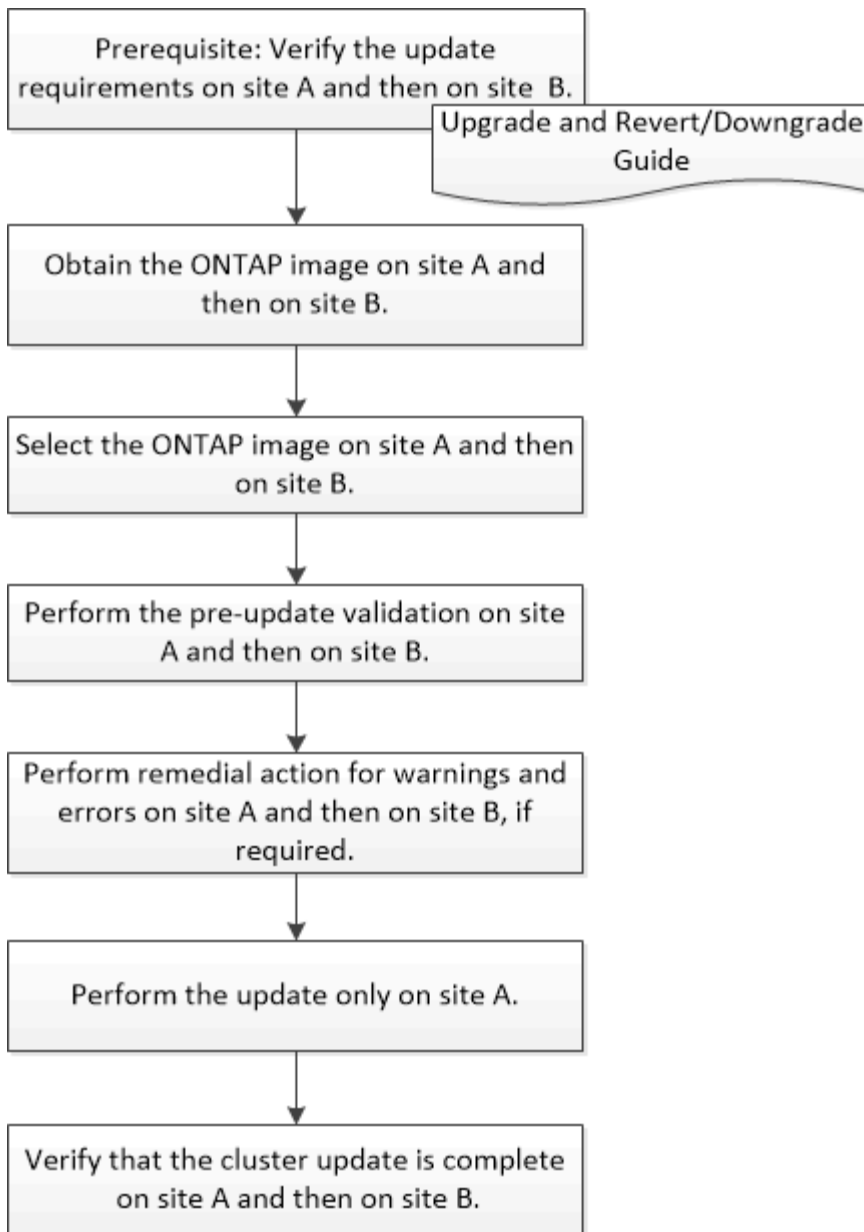


### Related information

[Upgrade ONTAP](#)

## Updating clusters in a MetroCluster configuration

You can use System Manager to update a cluster in MetroCluster configurations. You must perform each operation on both the clusters except for updating the cluster.



Updating site A automatically updates site B.

#### Related information

[Upgrade ONTAP](#)

## Obtaining ONTAP software images

For ONTAP 9.4 and later, you can copy the ONTAP software image from the NetApp Support Site to a local folder. For upgrades from ONTAP 9.3 or earlier, you must copy the ONTAP software image to an HTTP server or FTP server on your network.

#### About this task

To upgrade the cluster to the target release of ONTAP, you require access to software images. Software images, firmware version information, and the latest firmware for your platform model are available on the NetApp Support Site. You should note the following important information:

- Software images are specific to platform models.

You must obtain the correct image for your cluster.

- Software images include the latest version of system firmware that was available when a given version of ONTAP was released.
- If you are upgrading a system with NetApp Volume Encryption to ONTAP 9.5 or later, you must download the ONTAP software image for non-restricted countries, which includes NetApp Volume Encryption.

If you use the ONTAP software image for restricted countries to upgrade a system with NetApp Volume Encryption, the system panics and you lose access to your volumes.

- If you are upgrading from ONTAP 9.3 to 9.7, you must copy the software image for ONTAP 9.5 and 9.7.

### Steps

1. Locate the target ONTAP software in the **Software Downloads** area of the NetApp Support Site.
2. Copy the software image.
  - For ONTAP 9.3 or earlier, copy the software image (for example, `93_q_image.tgz`) from the NetApp Support Site to the directory on the HTTP server or FTP server from which the image will be served
  - For ONTAP 9.4 or later, copy the software image (for example, `97_q_image.tgz`) from the NetApp Support Site to the directory on the HTTP server or FTP server from which the image will be served or to a local folder.

## Updating single-node clusters

You can use System Manager to update single-node clusters.

### Before you begin

- The clusters must be running ONTAP 9.4 or later.
- You must have copied the software image from the NetApp Support Site to an HTTP server on your network, to an FTP server on your network, or to your local system so that the nodes can access the image.

#### [Obtaining ONTAP software images](#)

### About this task

- Starting with System Manager 9.5, you can update single-node clusters in two-pack MetroCluster configurations.

You must perform this operation on both the sites.

- Updating single-node clusters in MetroCluster configurations is not disruptive.

The System Manager user interface is not available while the cluster is rebooting.

- In System Manager 9.4 and later, you can update single-node clusters in non-MetroCluster configurations.

Updating single-node clusters in non-MetroCluster configurations is disruptive. The client data is not available while the update is in progress.

- If you try to perform other tasks while updating the node that hosts the cluster management LIF, an error message might be displayed.

You must wait for the update to finish before performing any operations.

- If the NVMe protocol is configured in System Manager 9.4 and you perform an update from System Manager 9.4 to System Manager 9.5, then the NVMe protocol is available for a grace period of 90 days without a license.

This feature is not available in MetroCluster configurations.

- If the NVMe protocol is not configured in System Manager 9.5 and you perform an update from System Manager 9.5 to System Manager 9.6, then the grace period is not provided, and you must install the NVMe license to use the NVMe protocol.

This feature is not available in MetroCluster configurations.

## Steps

1. Click **Configuration > Cluster > Update**.
2. In the **Cluster Update** tab, add a new software image or select an available software image.

If you want to...	Then...
Add a new software image from the local client	<ol style="list-style-type: none"> <li>a. Click <b>Add from Local Client</b>.</li> <li>b. Search for the software image, and then click <b>Open</b>.</li> </ol>
Add a new software image from the NetApp Support Site	<ol style="list-style-type: none"> <li>a. Click <b>Add from Server</b>.</li> <li>b. In the Add a New Software Image dialog box, enter the URL of the HTTP server or FTP server on which you have saved the image that was downloaded from the NetApp Support Site.  For anonymous FTP, you must specify the URL in the <code>ftp://anonymous@ftpserver</code> format.</li> <li>c. Click <b>Add</b>.</li> </ol>
Select an available image	Choose one of the listed images.

3. Click **Validate** to run the pre-update validation checks to verify whether the cluster is ready for an update.

The validation operation checks the cluster components to validate that the update can be completed, and then displays any errors or warnings. The validation operation also displays any required remedial action that you must perform before updating the software.



You must perform all of the required remedial actions for the errors before proceeding with the update. Although you can ignore the remedial actions for the warnings, the best practice is to perform all of the remedial actions before proceeding with the update.

4. Click **Next**.
5. Click **Update**.

Validation is performed again.

- When the validation is complete, a table displays any errors and warnings, along with any required remedial actions to be taken before proceeding.
- If the validation is completed with warnings, you can choose to select the **Continue update with warnings** checkbox, and then click **Continue**. When the validation is complete and the update is in progress, the update might be paused because of errors. You can click the error message to view the details, and then perform the remedial actions before resuming the update.

After the update is completed successfully, the node reboots, and you are redirected to the System Manager login page. If the node takes a long time to reboot, you must refresh your browser.

6. Log in to System Manager, and verify that the cluster is successfully updated to the selected version by clicking **Configuration > Cluster > Update > Update History**, and then viewing the details.

## Updating a cluster nondisruptively

You can use System Manager to update a cluster or individual nodes in high-availability (HA) pairs that are running ONTAP 8.3.1 or later to a specific version of ONTAP software without disrupting access to client data.

### Before you begin

- All of the nodes must be in HA pairs.
- All of the nodes must be healthy.
- You must have copied the software image from the NetApp Support Site to an HTTP server or FTP server on your network so that the nodes can access the image.

[Obtaining ONTAP software images](#)

### About this task

- If you try to perform other tasks from System Manager while updating the node that hosts the cluster management LIF, an error message might be displayed.

You must wait for the update to finish before performing any operations.

- A rolling update is performed for clusters with fewer than eight nodes, and a batch update is performed for clusters with more than eight nodes.

In a rolling update, the nodes in the cluster are updated one at a time. In a batch update, multiple nodes are updated in parallel.

- You can nondisruptively update ONTAP software from one long-term service (LTS) release to the next LTS release (LTS+1).

For example, if ONTAP 9.1 and ONTAP 9.3 are LTS releases, you can nondisruptively update your cluster from ONTAP 9.1 to ONTAP 9.3.

- Starting with System Manager 9.6, if the NVMe protocol is configured in System Manager 9.5 and you perform an upgrade from System Manager 9.5 to System Manager 9.6, you no longer have a grace period

of 90 days to have the NVMe protocol available without a license. If the grace period is in effect when you upgrade from ONTAP 9.5 to 9.6, the grace period must be replaced with a valid NVMeoF license so you can continue to use the NVMe features.

This feature is not available in MetroCluster configurations.

- If the NVMe protocol is not configured in System Manager 9.5 and you perform an update from System Manager 9.5 to System Manager 9.6, then the grace period is not provided, and you must install the NVMe license to use the NVMe protocol.

This feature is not available in MetroCluster configurations.

- Starting with ONTAP 9.5, at least one NVMe LIF must be configured for each node in an HA pair using the NVMe protocol. You can also create a maximum of two NVMe LIFs per node. When you upgrade to ONTAP 9.5, you must ensure that a minimum of one NVMe LIF is defined for each node in an HA pair using the NVMe protocol.

## Steps

1. Click **Configuration > Cluster > Update**.
2. In the **Update** tab, add a new image or select an available image.

If you want to...	Then...
Add a new software image from the local client	<ol style="list-style-type: none"><li>a. Click <b>Add from Local Client</b>.</li><li>b. Search for the software image, and then click <b>Open</b>.</li></ol>
Add a new software image from the NetApp Support Site	<ol style="list-style-type: none"><li>a. Click <b>Add from Server</b>.</li><li>b. In the Add a New Software Image dialog box, enter the URL of the HTTP server or FTP server on which you have saved the image that was downloaded from the NetApp Support Site.  For anonymous FTP, you must specify the URL in the <code>ftp://anonymous@ftpserver</code> format.</li><li>c. Click <b>Add</b>.</li></ol>
Select an available image	Choose one of the listed images.

3. Click **Validate** to run the pre-update validation checks to verify whether the cluster is ready for an update.

The validation operation checks the cluster components to validate that the update can be completed nondisruptively, and then displays any errors or warnings. It also displays any required remedial action that you must perform before updating the software.



You must perform all of the required remedial actions for the errors before proceeding with the update. Although you can ignore the remedial actions for the warnings, the best practice is to perform all of the remedial actions before proceeding with the update.

4. Click **Next**.



## 5. Click **Update**.

Validation is performed again.

- When the validation is complete, a table displays any errors and warnings, along with any required remedial actions to be taken before proceeding.
- If the validation is completed with warnings, you can choose to select the **Continue update with warnings** checkbox, and then click **Continue**. When the validation is complete and the update is in progress, the update might be paused because of errors. You can click the error message to view the details, and then perform the remedial actions before resuming the update.

After the update is completed successfully, the node reboots, and you are redirected to the System Manager login page. If the node takes a long time to reboot, you must refresh your browser.

## 6. Log in to System Manager and verify that the cluster is successfully updated to the selected version by clicking **Configuration > Cluster > Update > Update History**, and then viewing the details.

### Related information

[How to update a cluster nondisruptively](#)

## Update a cluster nondisruptively

You can use System Manager to update a cluster nondisruptively to a specific ONTAP version. In a nondisruptive update, you have to select an ONTAP image, validate that your cluster is ready for the update, and then perform the update.

During a nondisruptive update, the cluster remains online and continues to serve data.

### Planning and preparing for the update

As part of planning and preparing for the cluster update, you have to obtain the version of the ONTAP image to which you want to update the cluster from the NetApp Support Site, select the software image, and then perform a validation. The pre-update validation verifies whether the cluster is ready for an update to the selected version.

If the validation finishes with errors and warnings, you have to resolve the errors and warnings by performing the required remedial actions, and then verify that the cluster components are ready for the update. For example, during the pre-update validation, if a warning is displayed that offline aggregates are present in the cluster, you must navigate to the aggregate page, and then change the status of all of the offline aggregates to online.

### Performing an update

When you update the cluster, either the entire cluster is updated or the nodes in a high-availability (HA) pair are updated. As part of the update, the pre-update validation is run again to verify that the cluster is ready for the update.

A rolling update or batch update is performed, depending on the number of nodes in the cluster.

- **Rolling update**

One of the nodes is taken offline and is updated while the partner node takes over the storage of that node.

A rolling update is performed for a cluster that consists of two or more nodes. This is the only update method for clusters with less than eight nodes.

- **Batch update**

The cluster is separated into two batches, each of which contains multiple HA pairs.

A batch update is performed for a cluster that consists of eight or more nodes. In such clusters, you can perform either a batch update or a rolling update. This is the default update method for clusters with eight or more nodes.

## Related information

[Updating a cluster nondisruptively](#)

# Cluster Update window

You can use the Cluster Update window to perform an automated cluster update nondisruptively or you can update single-node clusters disruptively.

## Tabs

- **Cluster Update**

Enables you to perform an automated cluster update nondisruptively or you can update single-node clusters disruptively.

- **Update History**

Displays the details of previous cluster updates.

## Cluster Update tab

The Cluster Update tab enables you perform an automated cluster update nondisruptively or you can update single-node clusters disruptively.

## Command buttons

- **Refresh**

Updates the information in the window.

- **Select**

You can select the version of the software image for the update.

- Cluster Version Details: Displays the current cluster version in use and the version details of the nodes or high-availability (HA) pairs.
- Available Software Images: Enables you to select an existing software image for the update.

Alternatively, you can download a software image from the NetApp Support Site and add the image for the update.

- **Validate**

You can view and validate the cluster against the software image version for the update. A pre-update validation checks whether the cluster is in a state that is ready for an update. If the validation is completed with errors, a table displays the status of the various components and the required corrective action for the errors.

You can perform the update only when the validation is completed successfully.

- **Update**

You can update all of the nodes in the cluster or an HA pair in the cluster to the selected version of the software image. While the update is in progress, you can choose to pause the update, and you can then either cancel or resume the update.

If an error occurs, the update is paused and an error message is displayed with the remedial steps. You can choose to either resume the update after performing the remedial steps or cancel the update. You can view the table with the node name, uptime, state, and ONTAP version when the update is successfully completed.

## Update History tab

Displays details about the cluster update history.

### Update History list

- **Image Version**

Specifies the version of the ONTAP image to which the node will be updated.

- **Software Updates Installed on**

Specifies the type of disk on which the updates are installed.

- **Status**

Specifies the status of the software image update (whether the update is successful or cancelled).

- **Start Time**

Specifies the time when the update was started.

- **Completion Time**

Specifies the time when the update was completed.

This field is hidden by default.

- **Time Taken for the Update**

Specifies the time taken for the update to finish.

- **Previous Version**

Specifies the ONTAP version of the node before the update.

- **Updated Version**

Specifies the ONTAP version of the node after the update.

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