



Upgrading or Downgrading with APIC Releases Prior to 4.x Using the GUI



Note Ensure that you check and follow these guidelines:

- [Workflow to Upgrade or Downgrade the Cisco ACI Fabric](#)
- [Pre-Upgrade/Downgrade Checklists](#)
- [Guidelines and Limitations for Upgrading or Downgrading](#)

- [Downloading APIC and Switch Images on APICs, on page 1](#)
- [Upgrading or Downgrading the Cisco APIC from Releases Prior to Release 4.x, on page 2](#)
- [Upgrading or Downgrading the Leaf and Spine Switches Through APIC Running Prior to Release 4.x, on page 3](#)
- [Upgrading or Downgrading the Catalog Through APIC Running Prior to Release 4.x, on page 5](#)

Downloading APIC and Switch Images on APICs

This procedure is to download firmware images of APICs and ACI switches into APIC's firmware repository from an external file server or from your local machine.

Procedure

- Step 1** On the menu bar, choose **ADMIN > Firmware**, and in the **Navigation** pane, click **Controller Firmware**. In the **Work** pane, the Cisco APICs display the current firmware that is loaded on each controller. Also displayed is a status about when the firmware was last upgraded or downgraded.
- Step 2** In the **Navigation** pane, click **Download Tasks**.
- Step 3** In the **Work** pane, choose **General > Actions**, and click **Create Outside Firmware source**.
- Step 4** In the **Create Outside Firmware Source** dialog box, perform the following actions:
 - a) In the **Source Name** field, enter a name for the Cisco APIC image file, for example *apic_image*.
 - b) In the **Protocol** field, click the **HTTP** radio button.

Note If you want to download the software image from an http source or a Secure Copy Protocol (SCP) source, click the appropriate radio button and use the format `<SCP server>:/<path>`. An example URL is `10.67.82.87:/home/<username>/ACI/aci-apic-dk9.1.0.2j.iso`.

c) In the **Url** field, enter the URL from where the image must be downloaded. Click **Submit**.
Wait for the Cisco APIC firmware images to download.

Step 5 In the **Navigation** pane, click **Download Tasks**. In the **Work** pane, click **Operational** to view the download status of the images.

After the download reaches 100% in the **Navigation** pane, click **Firmware Repository**.

In the **Work** pane, the downloaded version numbers and image sizes are displayed.

Upgrading or Downgrading the Cisco APIC from Releases Prior to Release 4.x



Note If you are upgrading to the release 4.0 or later, make sure to delete all existing switch firmware and maintenance group prior to performing Cisco Application Policy Infrastructure Controller (APIC) upgrades.

See [Pre-Upgrade/Downgrade Checklists](#) for details.

Use these GUI-based procedures to upgrade or downgrade the software on the Cisco APICs in your fabric.

If you are not able to upgrade or downgrade the software on the Cisco APICs in your fabric using these GUI-based upgrade procedures for some reason (such as if you received a Cisco APIC through a new order or Product Returns & Replacements (RMA), and the version is old and not able to join the fabric to perform an upgrade using the GUI), you can perform a clean installation of the software on the Cisco APICs through the CIMC instead to upgrade or downgrade your Cisco APIC software. See [Installing Cisco APIC Software Using Virtual Media](#) for those procedures.

If you are downgrading the software on the Cisco APICs, the process is identical to the process for upgrading the software, except that the target release that you choose will be earlier than the currently installed release. The text for dialogs, fields, buttons, and other controls in the Cisco APIC GUI specify “upgrade” even though you are downgrading the software.

Before you begin

Ensure that you check and follow these guidelines:

- [Workflow to Upgrade or Downgrade the Cisco ACI Fabric](#)
- [Pre-Upgrade/Downgrade Checklists](#)
- [Guidelines and Limitations for Upgrading or Downgrading](#)

Procedure

- Step 1** In the **Navigation** pane, click **Controller Firmware**. In the **Work** pane, choose **Actions > Upgrade Controller Firmware Policy**. In the **Upgrade Controller Firmware Policy** dialog box, perform the following actions:
- In the **Target Firmware Version** field, from the drop-down list, choose the image version to which you want to upgrade or downgrade.
 - In the **Apply Policy** field, click the radio button for **Apply now**. Click **Submit**.
- The **Status** dialog box displays the **Changes Saved Successfully** message, and the upgrade or downgrade process begins. The Cisco APICs are upgraded or downgraded serially so that the controller cluster is available during the upgrade or downgrade.
- Step 2** Verify the status of the upgrade or downgrade in the **Work** pane by clicking **Controller Firmware** in the **Navigation** pane.
- The controllers upgrade or downgrade in random order. After a controller image is upgraded or downgraded, it drops from the cluster and it reboots with the newer version while the other Cisco APICs in the cluster are still operational. After the controller reboots, it joins the cluster again. Then the cluster converges, and the next controller image starts to upgrade or downgrade. If the cluster does not immediately converge and is not fully fit, the upgrade or downgrade will wait until the cluster converges and is fully fit. During this period, a **Waiting for Cluster Convergence** message is displayed in the **Status** column for each Cisco APIC as it upgrades or downgrades.
- When the Cisco APIC that the browser is connected to is upgraded or downgraded and it reboots, the browser displays an error message.
- Step 3** In the browser URL field, enter the URL for the Cisco APIC that has already been upgraded or downgraded, and sign in to the Cisco APIC as prompted.
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Upgrading or Downgrading the Leaf and Spine Switches Through APIC Running Prior to Release 4.x



Note This is a switch upgrade or downgrade procedure using the APIC GUI that is running on release prior to release 4.x. If your APICs are already upgraded to the version 4.x or later, the GUI procedure is different even if switches are still running versions prior to release 14.x. In such a case, check the corresponding section, such as:

If you are downgrading the software on the Cisco APICs, the process is identical to the process for upgrading the software, except that the target release that you choose will be earlier than the currently installed release. The text for dialogs, fields, buttons, and other controls in the Cisco APIC GUI specify “upgrade” even though you are downgrading the software.

- Release 4.x or 5.0: [Upgrading or Downgrading with APIC Releases 4.x or 5.0 Using the GUI](#)
 - Release 5.1 or later: [Upgrading or Downgrading with APIC Release 5.1 or Later Using the GUI](#)
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Before you begin

Ensure that you check and follow these guidelines:

- Wait until all the controllers are upgraded or downgraded to the new firmware version before proceeding to upgrade or downgrade the switch firmware.
- [Workflow to Upgrade or Downgrade the Cisco ACI Fabric](#)
- [Pre-Upgrade/Downgrade Checklists](#)
- [Guidelines and Limitations for Upgrading or Downgrading](#)

Procedure

Step 1 In the **Navigation** pane, right-click **Fabric Node Firmware** and click **Firmware Upgrade Wizard**.

In the **Work** pane, the **Create Firmware Group** dialog box appears.

Step 2 In the **Create Firmware Group** dialog box, perform the following actions:

- a) Under **Nodes**, click the **Select All** tab to choose all the nodes in the fabric in the **Selected** column. Click **Next**.
- b) Under **Firmware Group**, in the **Group Name** field, enter a group name.
- c) In the **Ignore Compatibility Check** field, leave the setting in the default **off** (unchecked) setting, unless you are specifically told to disable the compatibility check feature.

Note If you choose to disable the compatibility check feature by entering a check mark in the box next to the Ignore Compatibility Check field, you run the risk of making an unsupported upgrade or downgrade to your system, which could result in your system going to an unavailable state.

- d) In the **Target Firmware Version** field, from the drop-down list, choose the desired image version to which you want to upgrade or downgrade the switches. Click **Next**.
- e) Under **Maintenance Group**, create two maintenance groups for all the switches. For example, create one group with the even-numbered devices and the other group with the odd-numbered devices.

Note While a single maintenance group will upgrade all leaf and spine switches at the same time, Cisco recommends that you divide your leaf and spine switches into multiple (two or more) maintenance groups to prevent the entire fabric from going down during a software upgrade or downgrade. Dividing up the leaf and spine switches into two or more maintenance groups, composed of roughly equivalent groups of leaf and spine switches, allows continued operation of the fabric during software upgrades by upgrading half (or less) of the fabric nodes at one time.

- f) Click the **Create Maintenance Group** tab.
- g) In the **Create Maintenance Group** dialog box, in the **Group Name** field, enter a name for the group.
- h) In the **Run Mode** field, choose the **Pause only Upon Upgrade Failure** radio button which is the default mode.
- i) Check the **Graceful Maintenance** check box if you want to isolate the node from the fabric prior to the reboot that occurs during the upgrade or downgrade operation so that traffic is pro-actively diverted to other available switches.
- j) Click **Submit**.
- k) Click **Finish**.

In the **Work** pane, all the switches are displayed with the name of the firmware group and the maintenance group under which they are scheduled for upgrade or downgrade.

- Step 3** In the **Navigation** pane, expand **Fabric Node Firmware > Firmware Groups**, and click the name of the firmware group that you created.
The **Work** pane displays details about the firmware policy that was created earlier.
- Step 4** In the **Navigation** pane, expand **Fabric Node Firmware > Maintenance Groups**, and click the maintenance group that you created.
The **Work** pane displays details about the maintenance policy.
- Step 5** Right-click the maintenance group you created and click **Upgrade Now**.
- Step 6** In the **Upgrade Now** dialog box, for **Do you want to upgrade the maintenance group policy now?**, click **Yes**. Click **OK**.

Note In the **Work** pane, the **Status** displays that all the switches in the group are being upgraded or downgraded simultaneously. The default concurrency in a group is set at 20. Therefore, up to 20 switches at a time will get upgraded or downgraded, and then the next set of 20 switches are upgraded or downgraded. If there are any virtual port channel (vPC) configurations in the fabric, the upgrade or downgrade process will upgrade or downgrade only one switch at a time out of the two switches in a vPC domain regardless of the concurrency setting. In case of any failures, the scheduler pauses and manual intervention is required by the Cisco APIC administrator. Each switch generally takes about 10 minutes for the upgrade or downgrade. The switches will reboot when they upgrade or downgrade, connectivity drops, and the controllers in the cluster will not communicate for some time with the switches in the group. After the switches rejoin the fabric after rebooting, you will see all the switches from the controller node.

- Step 7** In the **Navigation** pane, click **Fabric Node Firmware**.
In the **Work** pane, view all the switches listed. In the **Current Firmware** column view the upgrade image details listed against each switch. Verify that the switches in the fabric are upgraded or downgraded to the new image.

Upgrading or Downgrading the Catalog Through APIC Running Prior to Release 4.x

The catalog is used by the upgrade compatibility check that can be turned on and off through **Ignore Compatibility Check**. The catalog image is embedded in an APIC image and is upgraded or downgraded when a Cisco APIC image is upgraded or downgraded. However, if for some reason the catalog image was not upgraded or downgraded along with the APIC image, there is an option to manually upgrade or downgraded the catalog. This procedure is rarely used and not available in the APIC GUI with later releases.

If you are downgrading the software on the Cisco APICs, the process is identical to the process for upgrading the software, except that the target release that you choose will be earlier than the currently installed release. The text for dialogs, fields, buttons, and other controls in the Cisco APIC GUI specify “upgrade” even though you are downgrading the software.

Procedure

- Step 1** On the menu bar, choose **ADMIN > Firmware**. In the **Navigation** pane, click **Catalog Firmware**.

Step 2 In the **Work** pane, choose **Actions > Change Catalog Firmware Policy**.

Step 3 In the **Change Catalog Firmware Policy** dialog box, perform the following actions:

- a) In the **Catalog Version** field, choose the desired catalog firmware version.
 - b) In the **Apply Policy** field, click the **Apply now** radio button to upgrade or downgrade the firmware immediately. Click **Submit**.
 - c) In the **Work** pane, wait until the image displays that the **Target Firmware version** field matches the image version in the **Current Firmware Version** field.
The Catalog version is now upgraded or downgraded.
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