



# Upgrading Firmware through Auto Install

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## Firmware Upgrades through Auto Install

Auto Install enables you to upgrade a Cisco UCS domain to the firmware versions contained in a single package in the following two stages:

- **Install Infrastructure Firmware**—Uses the Cisco UCS Infrastructure Software Bundle to upgrade the infrastructure components, such as the fabric interconnects, the I/O modules, and Cisco UCS Manager.
- **Install Server Firmware**—Uses the Cisco UCS B-Series Blade Server Software Bundle to upgrade all blade servers in the Cisco UCS domain and/or the Cisco UCS C-Series Rack-Mount UCS-Managed Server Software Bundle to upgrade all rack servers.

These two stages are independent and can be run or scheduled to run at different times.

You can use Auto Install to upgrade the infrastructure components to one version of Cisco UCS and server components to a different version.

**Note**

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You cannot use Auto Install to upgrade either the infrastructure or the servers in a Cisco UCS domain if Cisco UCS Manager in that domain is at a release prior to Cisco UCS 2.1(1). However, after you upgrade Cisco UCS Manager to Release 2.1(1) or greater, you can use Auto Install to upgrade the remaining components in a Cisco UCS domain that is at the minimum required firmware level. For more information, see *Cautions, Guidelines, and Limitations for Upgrading with Auto Install* and the appropriate [Cisco UCS upgrade guide](#).

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## Direct Upgrade After Auto Install

During Auto Install, the startup version of the default infrastructure pack is configured. To successfully complete a direct upgrade or activation of Cisco UCS Manager, Fabric Interconnects, and IOMs after Auto Install, ensure that the startup version is cleared before starting direct upgrade or activation. If the startup version of the default infrastructure pack is configured, you cannot directly upgrade or activate Cisco UCS Manager, Fabric Interconnects, and IOMs. [Clearing the Startup Version of the Default Infrastructure Pack, on page 6](#) provides detailed steps for clearing the startup version.

## Install Infrastructure Firmware

Install Infrastructure Firmware upgrades all infrastructure components in a Cisco UCS domain, including Cisco UCS Manager, and all fabric interconnects and I/O modules. All components are upgraded to the firmware version included in the selected Cisco UCS Infrastructure Software Bundle.

Install Infrastructure Firmware does not support a partial upgrade to only some infrastructure components in a Cisco UCS domain.

You can schedule an infrastructure upgrade for a specific time to accommodate a maintenance window. However, if an infrastructure upgrade is already in progress, you cannot schedule another infrastructure upgrade. You must wait until the current upgrade is complete before scheduling the next one.

**Note**

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You can cancel an infrastructure firmware upgrade if it is scheduled to occur at a future time. However, you cannot cancel an infrastructure firmware upgrade after the upgrade has begun.

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## Install Server Firmware

Install Server Firmware uses host firmware packages to upgrade all servers and their components in a Cisco UCS domain. All servers whose service profiles include the selected host firmware packages are upgraded to the firmware versions in the selected software bundles, as follows:

- Cisco UCS B-Series Blade Server Software Bundle for all blade servers in the chassis.
- Cisco UCS C-Series Rack-Mount UCS-Managed Server Software Bundle for all rack-mount servers that are integrated into the Cisco UCS domain.

**Note**

You cannot cancel a server firmware upgrade process after you complete the configuration in the **Install Server Firmware** wizard. Cisco UCS Manager applies the changes immediately. However, the timing of the actual reboot of servers occurs depends upon the maintenance policy in the service profile associated with the server.

## Required Order of Steps for Auto Install

If you want to upgrade all components in a Cisco UCS domain to the same package version, you must run the stages of Auto Install in the following order:

- 1 Install Infrastructure Firmware
- 2 Install Server Firmware

This order enables you to schedule the server firmware upgrades during a different maintenance window than the infrastructure firmware upgrade.

## Upgrading the Infrastructure Firmware with Auto Install

The **Firmware Auto Install** tab is not available if the Cisco UCS Manager GUI is at a release lower than 2.1(1).

**Note**

You cannot use Auto Install to upgrade either the infrastructure or the servers in a Cisco UCS domain if Cisco UCS Manager in that domain is at a release prior to Cisco UCS 2.1(1). However, after you upgrade Cisco UCS Manager to Release 2.1(1) or greater, you can use Auto Install to upgrade the remaining components in a Cisco UCS domain that is at the minimum required firmware level. For more information, see *Cautions, Guidelines, and Limitations for Upgrading with Auto Install* and the appropriate [Cisco UCS upgrade guide](#).

### Before You Begin

Complete all prerequisites listed in [Prerequisites for Upgrading and Downgrading Firmware](#).

If your Cisco UCS domain does not use an NTP server to set the time, make sure that the clocks on the primary and secondary fabric interconnects are in sync. You can do this by configuring an NTP server in Cisco UCS Manager or by syncing the time manually.

## Procedure

- Step 1** In the **Navigation** pane, click **Equipment**.
- Step 2** On the **Equipment** tab, click the **Equipment** node.
- Step 3** In the **Work** pane, click the **Firmware Management** tab.
- Step 4** In the **Work** pane, click the **Firmware Auto Install** tab.
- Step 5** In the **Actions** area, click **Install Infrastructure Firmware**.
- Step 6** In the **Prerequisites** page of the **Install Infrastructure Firmware** dialog box, ensure that you address the warnings before proceeding.

Warnings are given in the following categories:

- Whether there are any current critical or major faults.
- Whether a configuration backup has been taken recently.
- Whether the management interface monitoring policy is enabled.
- Whether there is pending fabric interconnect reboot activity.
- Whether NTP is configured.

You can click the hyperlinks for each warning to address them directly. Check the checkbox for each warning that you have addressed, or check the **Ignore All** checkbox to continue without addressing the warnings.

- Step 7** In the **Properties** area of the **Install Infrastructure Firmware** dialog box, complete the following fields:

Name	Description
Name field	The name of the infrastructure pack created and maintained by Cisco UCS. You cannot change the default name in this field or create a custom infrastructure pack.
Description field	A user-defined description of the infrastructure pack. This field is completed by default. However, you can enter your own description if you prefer.  Enter up to 256 characters. You can use any characters or spaces except ` (accent mark), \ (backslash), ^ (carat), " (double quote), = (equal sign), > (greater than), < (less than), or ' (single quote).
Version drop-down list	A list of the software bundles from that are available for you to upgrade the firmware on the infrastructure components.
Force check box	If checked, Cisco UCS attempts the installation even if a previous attempt to install the selected version failed or was interrupted.

- Step 8** In the **Infrastructure Schedule** area of the **Install Infrastructure Firmware** dialog box, do one of the following:

Option	Description
Start Time field	The date and time that the occurrence will run. Click the down arrow at the end of the field to select the date from a calendar.
Upgrade Now check box	If checked, Cisco UCS Manager ignores the <b>Start Time</b> field and upgrades the infrastructure firmware as soon as you click <b>OK</b> .

- Step 9** Click **OK**.  
The **Firmware Installer** field on the **Firmware Auto Install** tab displays the status of the infrastructure firmware upgrade.
- Note** If there is not enough space under bootflash, a warning will display and the upgrade process will stop.

### What to Do Next

Acknowledge the reboot of the primary fabric interconnect. If you do not acknowledge that reboot, Cisco UCS Manager cannot complete the infrastructure upgrade and the upgrade remains pending indefinitely.

## Acknowledging the Reboot of the Primary Fabric Interconnect

### Before You Begin



#### Caution

To upgrade with minimal disruption, you must confirm the following:

- Ensure that all the IOMs that are attached to the Fabric Interconnect are up before you acknowledge the reboot of the Fabric Interconnect. If all IOMs are not up, all the servers connected to the Fabric Interconnect will immediately be re-discovered and cause a major disruption.
- Ensure that both of the Fabric Interconnects and the service profiles are configured for failover.
- Verify that the data path has been successfully restored from the secondary Fabric Interconnect before you acknowledge the reboot of the primary Fabric Interconnect. For more information, see [Verifying that the Data Path is Ready](#).

After you upgrade the infrastructure firmware, Install Infrastructure Firmware automatically reboots the secondary fabric interconnect in a cluster configuration. However, you must acknowledge the reboot of the primary fabric interconnect. If you do not acknowledge the reboot, Install Infrastructure Firmware waits indefinitely for that acknowledgment rather than completing the upgrade.

### Procedure

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- Step 1** On the toolbar, click **Pending Activities**.
  - Step 2** In the **Pending Activities** dialog box, click the **User Acknowledged Activities** tab.
  - Step 3** In the table, locate the row for the pending reboot of the primary fabric interconnect.
  - Step 4** In the **Reboot Now** column for that row, check the **Acknowledge All** check box.
  - Step 5** Click **OK**.  
Cisco UCS Manager immediately reboots the primary fabric interconnect. You cannot stop this reboot after you click **OK**.
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## Canceling an Infrastructure Firmware Upgrade



**Note** You can cancel an infrastructure firmware upgrade if it is scheduled to occur at a future time. However, you cannot cancel an infrastructure firmware upgrade after the upgrade has begun.

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### Procedure

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- Step 1** In the **Navigation** pane, click **Equipment**.
  - Step 2** On the **Equipment** tab, click the **Equipment** node.
  - Step 3** In the **Work** pane, click the **Firmware Management** tab.
  - Step 4** In the **Work** pane, click the **Firmware Auto Install** tab.
  - Step 5** In the **Actions** area, click **Install Infrastructure Firmware**.
  - Step 6** In the **Actions** area of the **Install Infrastructure Firmware** dialog box, click **Cancel Infrastructure Upgrade**.
  - Step 7** If a confirmation dialog box displays, click **Yes**.
  - Step 8** Click **OK**.
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## Clearing the Startup Version of the Default Infrastructure Pack

You must clear the startup version of the default infrastructure pack before directly upgrading or activating Cisco UCS Manager, Fabric Interconnects, and IOMs.

## Procedure

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- Step 1** In the **Navigation** pane, click **Equipment**.
  - Step 2** Click the **Equipment** node.
  - Step 3** In the **Work** pane, click the **Firmware Management** tab.
  - Step 4** In the **Work** pane, click the **Firmware Auto Install** tab.
  - Step 5** In the **Actions** area, click **Clear Startup Version**.
  - Step 6** In the confirmation dialog box that appears, click **Yes**.
  - Step 7** Click **OK**.
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# Upgrading the Server Firmware with Auto Install

The **Firmware Auto Install** tab is not available if the Cisco UCS Manager GUI is at a release lower than 2.1(1).

**Note**

You cannot use Auto Install to upgrade either the infrastructure or the servers in a Cisco UCS domain if Cisco UCS Manager in that domain is at a release prior to Cisco UCS 2.1(1). However, after you upgrade Cisco UCS Manager to Release 2.1(1) or greater, you can use Auto Install to upgrade the remaining components in a Cisco UCS domain that is at the minimum required firmware level. For more information, see *Cautions, Guidelines, and Limitations for Upgrading with Auto Install* and the appropriate [Cisco UCS upgrade guide](#).

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**Note**

You cannot cancel a server firmware upgrade process after you complete the configuration in the **Install Server Firmware** wizard. Cisco UCS Manager applies the changes immediately. However, the timing of the actual reboot of servers occurs depends upon the maintenance policy in the service profile associated with the server.

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### Before You Begin

Complete all prerequisites listed in [Prerequisites for Upgrading and Downgrading Firmware](#).

## Procedure

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- Step 1** In the **Navigation** pane, click **Equipment**.
- Step 2** On the **Equipment** tab, click the **Equipment** node.
- Step 3** In the **Work** pane, click the **Firmware Management** tab.
- Step 4** In the **Work** pane, click the **Firmware Auto Install** tab.
- Step 5** In the **Actions** area, click **Install Server Firmware**.
- Step 6** On the **Prerequisites** page of the **Install Server Firmware** wizard, carefully review the prerequisites and guidelines listed on this page and then do one of the following:
- If you have completed all of the prerequisites, click **Next**.
  - If you have not completed all of the prerequisites, click **Cancel** and complete the prerequisites before you upgrade the server firmware.
- Step 7** On the **Select Package Versions** page of the **Install Server Firmware** wizard, do the following:
- a) If the Cisco UCS domain contains blade servers, choose the software bundle to which you want to upgrade these servers from the **New Version** drop-down list in the **B-Series Blade Server Software** area.
  - b) If the Cisco UCS domain contains rack-mount servers, choose the software bundle to which you want to upgrade these servers from the **New Version** drop-down list in the **C-Series Rack-Mount Server Software** area.  
If the Cisco UCS domain includes both blade servers and rack servers, we recommend that you choose a new firmware version for the B-Series blade servers and C-Series rack-mount servers in the **Select Package Versions** page and upgrade all servers in the domain.  
**Note** If you update the default host firmware package, you might cause the upgrade of firmware on unassociated servers and on servers with associated service profiles that do not include a host firmware package. This firmware upgrade may cause the reboot of those servers according to the maintenance policy defined in the service profile.
  - c) Click **Next**.
- Step 8** On the **Select Host Firmware Packages** page of the **Install Server Firmware** wizard, do the following:
- a) Expand the node for each organization that contains a host firmware package you want to update with the selected software.
  - b) Check the check box next to the name of each host firmware package that you want to update.  
This step updates the selected host firmware package with the new version of firmware. You must choose the host firmware packages included in the service profiles associated with all servers in the Cisco UCS domain to update all servers.
  - c) Click **Next**.
- Step 9** On the **Host Firmware Package Dependencies** page of the **install Server Firmware** wizard, do the following:
- a) Expand the node for each host firmware package listed in the table.
  - b) Review the list of service profiles that include the host firmware package.
  - c) If desired, click a link in one of the following columns:
    - **Host Pack DN** column—Opens the navigator for the host firmware package.
    - **Service Profile DN** column—Opens the navigator for the service profile.



d) Do one of the following:

- If you want to change one or more of the selected host firmware packages, click **Prev**.
- If you are satisfied that you have selected the appropriate host firmware packages and want to review the impact of the server firmware upgrade on the endpoints, click **Next**.
- If you want to start the server upgrade immediately, click **Install**.

**Step 10** On the **Impacted Endpoints Summary** page of the **install Server Firmware** wizard, do the following:

- a) Click the appropriate check boxes to filter the results in the **Impacted Endpoints** table.  
You can filter the results by the type of endpoint and by whether the impact of the upgrade is disruptive or not.
- b) Review the list of impacted endpoints.
- c) If desired, click the link in the **Maintenance Policy** column to open the navigator for that policy.
- d) Do one of the following:
  - If you want to change one or more of the selected host firmware packages, click **Prev**.
  - If you are satisfied that you have selected the appropriate host firmware packages and want to start the server upgrade, click **Install**.

**Step 11** (Optional) To check on the progress of the server firmware upgrade, check the **FSM** tab for each server that you are upgrading.  
The **Firmware Installer** field on the **Firmware Auto Install** tab shows only the status of an infrastructure firmware upgrade.

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