Upgrading the Switch Software

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Finding the Software Version

The package files for the Cisco IOS XE software are stored on the system board flash device (flash:).

You can use the **show version** privileged EXEC command to see the software version that is running on your switch.

Note Although the **show version** output always shows the software image running on the switch, the model name shown at the end of this display is the factory configuration and does not change if you upgrade the software license.

You can also use the **dir** *filesystem:* privileged EXEC command to see the directory names of other software images that you might have stored in flash memory.

Software Images

Release	Image Type	File Name
Cisco IOS XE 17.14.1	CAT9K_IOSXE	cat9k_iosxe.17.14.01.SPA.
	No Payload Encryption (NPE)	cat9k_iosxe_npe.17.14.01.

Upgrading the ROMMON

To know the ROMMON or bootloader version that applies to every major and maintenance release, see ROMMON Versions.

You can upgrade the ROMMON before, or, after upgrading the software version. If a new ROMMON version is available for the software version you are upgrading to, proceed as follows:

- Upgrading the ROMMON in the primary SPI flash device

  This ROMMON is upgraded automatically. When you upgrade from an existing release on your switch to a later or newer release for the first time, and there is a new ROMMON version in the new release, the system automatically upgrades the ROMMON in the primary SPI flash device, based on the hardware version of the switch.

- Upgrading the ROMMON in the golden SPI flash device

  You must manually upgrade this ROMMON. Enter the **upgrade rom-monitor capsule golden switch** command in privileged EXEC mode.

Note

- In case of a Cisco StackWise Virtual setup, upgrade the active and standby supervisor modules.
- In case of a High Availability set up, upgrade the active and standby supervisor modules.

After the ROMMON is upgraded, it will take effect on the next reload. If you go back to an older release after this, the ROMMON is not downgraded. The updated ROMMON supports all previous releases.

Software Installation Commands

Summary of Software Installation Commands	
To install and activate the specified file, and to commit changes to be persistent across reloads: **`install add file`** *`filename`* [**`activate commit`**] To separately install, activate, commit, cancel, or remove the installation file: **`install ?`**	
add file tftp: *filename*	Copies the install file package from a remote location to the device and performs a compatibility check for the platform and image versions.
activate [**auto-abort-timer**]	Activates the file, and reloads the device. The **auto-abort-timer** keyword automatically rolls back image activation.
commit	Makes changes persistent over reloads.
rollback to committed	Rolls back the update to the last committed version.

Summary of Software Installation Commands	
abort	Cancels file activation, and rolls back to the version that was running before the current installation procedure started.
remove	Deletes all unused and inactive software installation files.

Upgrading in Install Mode

Follow these instructions to upgrade from one release to another, using **install** commands, in install mode. To perform a software image upgrade, you must be booted into IOS through **boot flash:packages.conf**.

Before you begin

Caution You must comply with these cautionary guidelines during an upgrade:

- Do not power cycle the switch.
- Do not disconnect power or remove the supervisor module.
- Do not perform an online insertion and replacement (OIR) of either supervisor (in a High Availability setup), if one of the supervisor modules in the chassis is in the process of a bootloader upgrade or when the switch is booting up.
- Do not perform an OIR of a switching module (linecard) when the switch is booting up.

Note that you can use this procedure for the following upgrade scenarios:

When upgrading from ...	To...
Cisco IOS XE 17.13.x or earlier releases	Cisco IOS XE 17.14.x

The sample output in this section displays upgrade from Cisco IOS XE 17.13.1 to Cisco IOS XE 17.14.1 using **install** commands.

Procedure

Step 1 Clean-up

install remove inactive

Use this command to clean-up old installation files in case of insufficient space and to ensure that you have at least 1GB of space in flash, to expand a new image.

The following sample output displays the cleaning up of unused files, by using the **install remove inactive** command:

```
Switch# install remove inactive

install_remove: START Mon Mar 25 19:51:48 UTC 2024
```

```
Cleaning up unnecessary package files
Scanning boot directory for packages ... done.
Preparing packages list to delete ...
    cat9k-cc_srdriver.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-espbase.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-guestshell.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-rpbase.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-rpboot.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-sipbase.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-sipspa.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-srdriver.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-webui.17.13.01.SPA.pkg
      File is in use, will not delete.
    cat9k-wlc.17.13.01.SPA.pkg
      File is in use, will not delete.
    packages.conf
      File is in use, will not delete.
  done.

The following files will be deleted:
[switch 1]:
/flash/cat9k-cc_srdriver.17.13.01.SPA.pkg
/flash/cat9k-espbase.17.13.01.SPA.pkg
/flash/cat9k-guestshell.17.13.01.SPA.pkg
/flash/cat9k-rpbase.17.13.01.SPA.pkg
/flash/cat9k-rpboot.17.13.01.SPA.pkg
/flash/cat9k-sipbase.17.13.01.SPA.pkg
/flash/cat9k-sipspa.17.13.01.SPA.pkg
/flash/cat9k-srdriver.17.13.01.SPA.pkg
/flash/cat9k-webui.17.13.01.SPA.pkg
/flash/cat9k-wlc.17.13.01.SPA.pkg
/flash/packages.conf

Do you want to remove the above files? [y/n]y

[switch 1]:
Deleting file flash:cat9k-cc_srdriver.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-espbase.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-guestshell.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-rpbase.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-rpboot.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-sipbase.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-sipspa.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-srdriver.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-webui.17.13.01.SPA.pkg ... done.
Deleting file flash:cat9k-wlc.17.13.01.SPA.pkg ... done.
Deleting file flash:packages.conf ... done.
SUCCESS: Files deleted.
--- Starting Post_Remove_Cleanup ---
Performing Post_Remove_Cleanup on all members
[1] Post_Remove_Cleanup package(s) on switch 1
[1] Finished Post_Remove_Cleanup on switch 1
Checking status of Post_Remove_Cleanup on [1]
Post_Remove_Cleanup: Passed on [1]
Finished Post_Remove_Cleanup
```

```
SUCCESS: install_remove Mon Mar 25 19:52:25 UTC 2024
Switch#
```

Step 2 Copy new image to flash

a) **copy tftp:***[[//location]/directory]/filename* **flash:**

Use this command to copy the new image from a TFTP server to flash memory. The location is either an IP address or a host name. The filename is specified relative to the directory used for file transfers. Skip this step if you want to use the new image from a TFTP server.

```
Switch# copy tftp://10.8.0.6/image/cat9k_iosxe.17.14.01.SPA.bin flash:

destination filename [cat9k_iosxe.17.14.01.SPA.bin]?
Accessing tftp://10.8.0.6/image/cat9k_iosxe.17.14.01.SPA.bin...
Loading /cat9k_iosxe.17.14.01.SPA.bin from 10.8.0.6 (via GigabitEthernet0/0):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 601216545 bytes]

601216545 bytes copied in 50.649 secs (11870255 bytes/sec)
```

b) **dir flash:*.bin**

Use this command to confirm that the image has been successfully copied to flash.

```
Switch# dir flash:*.bin

Directory of flash:/*.bin

Directory of flash:/

434184 -rw- 601216545    Mar 25 2024 10:18:11 -07:00 cat9k_iosxe.17.14.01.SPA.bin
11353194496 bytes total (8976625664 bytes free)
```

Step 3 Set boot variable

a) **boot system flash:packages.conf**

Use this command to set the boot variable to **flash:packages.conf**.

```
Switch(config)# boot system flash:packages.conf
```

b) **no boot manual**

Use this command to configure the switch to auto-boot. Settings are synchronized with the standby switch, if applicable.

```
Switch(config)# no boot manual
Switch(config)# exit
```

c) **write memory**

Use this command to save boot settings.

```
Switch# write memory
```

d) **show bootvar**

Use this command to verify the boot variable (packages.conf) and manual boot setting (no):

```
Switch# show bootvar
BOOT variable = bootflash:packages.conf
MANUAL_BOOT variable = no
```

```
BAUD variable = 9600
ENABLE_BREAK variable = yes
BOOTMODE variable does not exist
IPXE_TIMEOUT variable does not exist
CONFIG_FILE variable =

Standby BOOT variable = bootflash:packages.conf
Standby MANUAL_BOOT variable = no
Standby BAUD variable = 9600
Standby ENABLE_BREAK variable = yes
Standby BOOTMODE variable does not exist
Standby IPXE_TIMEOUT variable does not exist
Standby CONFIG_FILE variable =
```

Step 4 Install image to flash

install add file activate commit

Use this command to install the image.

We recommend that you point to the source image on a TFTP server or the flash , if you have copied the image to flash memory.

The following sample output displays installation of the Cisco IOS XE 17.14.1 software image to flash:

```
Switch# install add file flash:cat9k_iosxe.17.14.01.SPA.bin activate commit
_install_add_activate_commit: START Mon Mar 25 16:37:25 IST 2024

*Mar 25 16:37:26.544 IST: %INSTALL-5-INSTALL_START_INFO: R0/0: install_engine: Started
install one-shot flash:cat9k_iosxe.17.14.01.SPA.bin
install_add_activate_commit: Adding PACKAGE
install_add_activate_commit: Checking whether new add is allowed ....

This operation requires a reload of the system. Do you want to proceed?
Please confirm you have changed boot config to flash:packages.conf [y/n]y

--- Starting initial file syncing ---
Copying image file: flash:cat9k_iosxe.17.14.01.SPA.bin to standby
Info: Finished copying flash:cat9k_iosxe.17.14.01.SPA.bin to standby
Finished initial file syncing

--- Starting Add ---
Performing Add on Active/Standby
  [R0] Add package(s) on R0
  [R0] Finished Add on R0
  [R1] Add package(s) on R1
  [R1] Finished Add on R1
Checking status of Add on [R0 R1]
Add: Passed on [R0 R1]
Finished Add

Image added. Version: 17.14.01

install_add_activate_commit: Activating PACKAGE
Following packages shall be activated:
/flash/cat9k-wlc.17.14.01.SPA.pkg
/flash/cat9k-webui.17.14.01.SPA.pkg
/flash/cat9k-srdriver.17.14.01.SPA.pkg
/flash/cat9k-sipspa.17.14.01.SPA.pkg
/flash/cat9k-sipbase.17.14.01.SPA.pkg
/flash/cat9k-rpboot.17.14.01.SPA.pkg
/flash/cat9k-rpbase.17.14.01.SPA.pkg
/flash/cat9k-guestshell.17.14.01.SPA.pkg
/flash/cat9k-espbase.17.14.01.SPA.pkg
/flash/cat9k-cc_srdriver.17.14.01.SPA.pkg
```

```
This operation may require a reload of the system. Do you want to proceed? [y/n]y

--- Starting Activate ---
Performing Activate on Active/Standby
*Mar 25 16:45:21.695 IST: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R0/0: rollback_timer:
 Install auto abort timer will expire in 7200 seconds  [R0] Activate package(s) on R0
  [R0] Finished Activate on R0
  [R1] Activate package(s) on R1
  [R1] Finished Activate on R1
Checking status of Activate on [R0 R1]
Activate: Passed on [R0 R1]
Finished Activate

*Mar 25 16:45:25.233 IST: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R1/0: rollback_timer:
 Install auto abort timer will expire in 7200 seconds--- Starting Commit ---
Performing Commit on Active/Standby
  [R0] Commit package(s) on R0
  [R0] Finished Commit on R0
  [R1] Commit package(s) on R1
  [R1] Finished Commit on R1
Checking status of Commit on [R0 R1]
Commit: Passed on [R0 R1]
Finished Commit

Install will reload the system now!
SUCCESS: install_add_activate_commit  Mon Mar 25 16:46:18 IST 2024
```

Note
The system reloads automatically after executing the **install add file activate commit command**. You do not have to manually reload the system.

Step 5 Verify installation

After the software has been successfully installed, use the **dir flash:** command to verify that the flash partition has ten new `.pkg` files and two `.conf` files.

a) **dir flash:*.conf**

The following is sample output of the **dir flash:*.pkg** command:

```
Switch# dir flash:*.pkg
Directory of flash:/*.pkg
Directory of flash:/
475140 -rw- 2012104    Nov 20 2023 09:52:41 -07:00 cat9k-cc_srdriver.17.13.01.SPA.pkg
475141 -rw- 70333380   Nov 20 2023 09:52:44 -07:00 cat9k-espbase.17.13.01.SPA.pkg
475142 -rw- 13256      Nov 20 2023 09:52:44 -07:00 cat9k-guestshell.17.13.01.SPA.pkg
475143 -rw- 349635524  Nov 20 2023 09:52:54 -07:00 cat9k-rpbase.17.13.01.SPA.pkg
475149 -rw- 24248187   Nov 20 2023 09:53:02 -07:00 cat9k-rpboot.17.13.01.SPA.pkg
475144 -rw- 25285572   Nov 20 2023 09:52:55 -07:00 cat9k-sipbase.17.13.01.SPA.pkg
475145 -rw- 20947908   Nov 20 2023 09:52:55 -07:00 cat9k-sipspa.17.13.01.SPA.pkg
475146 -rw- 2962372    Nov 20 2023 09:52:56 -07:00 cat9k-srdriver.17.13.01.SPA.pkg
475147 -rw- 13284288   Nov 20 2023 09:52:56 -07:00 cat9k-webui.17.13.01.SPA.pkg
475148 -rw- 13248      Nov 20 2023 09:52:56 -07:00 cat9k-wlc.17.13.01.SPA.pkg

491524 -rw- 25711568   Mar 25 2024 11:49:33 -07:00  cat9k-cc_srdriver.17.14.01.SPA.pkg
491525 -rw- 78484428   Mar 25 2024 11:49:35 -07:00  cat9k-espbase.17.14.01.SPA.pkg
491526 -rw- 1598412    Mar 25 2024 11:49:35 -07:00  cat9k-guestshell.17.14.01.SPA.pkg
491527 -rw- 404153288  Mar 25 2024 11:49:47 -07:00  cat9k-rpbase.17.14.01.SPA.pkg
491533 -rw- 31657374   Mar 25 2024 11:50:09 -07:00  cat9k-rpboot.17.14.01.SPA.pkg
491528 -rw- 27681740   Mar 25 2024 11:49:48 -07:00  cat9k-sipbase.17.14.01.SPA.pkg
491529 -rw- 52224968   Mar 25 2024 11:49:49 -07:00  cat9k-sipspa.17.14.01.SPA.pkg
491530 -rw- 31130572   Mar 25 2024 11:49:50 -07:00  cat9k-srdriver.17.14.01.SPA.pkg
491531 -rw- 14783432   Mar 25 2024 11:49:51 -07:00  cat9k-webui.17.14.01.SPA.pkg
```

```
491532 -rw- 9160       Mar 25 2024 11:49:51 -07:00  cat9k-wlc.17.14.01.SPA.pkg

11353194496 bytes total (8963174400 bytes free)
```

b) **dir flash:*.conf**

The following is sample output of the **dir flash:*.conf** command. It displays the .conf files in the flash partition; note the two .conf files:

- `packages.conf`—the file that has been re-written with the newly installed .pkg files.
- `cat9k_iosxe.17.14.01.SPA.conf`— a backup copy of the newly installed packages.conf file.

```
Switch# dir flash:*.conf

Directory of flash:/*.conf
Directory of flash:/

16631  -rw- 4882 Mar 25 2024 05:39:42 +00:00  packages.conf
16634  -rw- 4882 Mar 25 2024 05:34:06 +00:00  cat9k_iosxe.17.14.01.SPA.conf
```

Step 6 Verify version

show version

After the image boots up, use this command to verify the version of the new image.

The following sample output of the **show version** command displays the Cisco IOS XE 17.14.1 image on the device:

```
Switch# show version

Cisco IOS XE Software, Version 17.14.01
Cisco IOS Software, Catalyst L3 Switch Software (CAT9K_IOSXE), Version 17.14.1, RELEASE
SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2024 by Cisco Systems, Inc..
<output truncated>
```

Downgrading in Install Mode

Follow these instructions to downgrade from one release to another, in install mode. To perform a software image downgrade, you must be booted into IOS through **boot flash:packages.conf**.

Before you begin

Note that you can use this procedure for the following downgrade scenarios:

When downgrading from ...	To ...
Cisco IOS XE 17.14.x	Cisco IOS XE 17.13.x or earlier releases.

Note New switch models that are introduced in a release cannot be downgraded. The release in which a module is introduced is the minimum software version for that model. We recommend upgrading all existing hardware to the same release as the latest hardware.

The sample output in this section shows downgrade from Cisco IOS XE 17.14.1 to Cisco IOS XE 17.13.1, using **install** commands.

Procedure

Step 1 Clean-up

install remove inactive

Use this command to clean-up old installation files in case of insufficient space and to ensure that you have at least 1GB of space in flash, to expand a new image.

The following sample output displays the cleaning up of unused files, by using the **install remove inactive** command:

```
Switch# install remove inactive
 install_remove: START Mon Nov 20 11:42:27 IST 2023

Cleaning up unnecessary package files

No path specified, will use booted path bootflash:packages.conf

Cleaning bootflash:
  Scanning boot directory for packages ... done.
  Preparing packages list to delete ...
    cat9k-cc_srdriver.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-espbase.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-guestshell.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-rpbase.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-rpboot.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-sipbase.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-sipspa.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-srdriver.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-webui.17.14.01.SSA.pkg
      File is in use, will not delete.
    cat9k-wlc.17.14.01.SSA.pkg
      File is in use, will not delete.
    packages.conf
      File is in use, will not delete.
  done.
SUCCESS: No extra package or provisioning files found on media. Nothing to clean.

SUCCESS: install_remove  Mon Nov 20 11:42:39 IST 2023

--- Starting Post_Remove_Cleanup ---
```

```
Performing Post_Remove_Cleanup on all members
[1] Post_Remove_Cleanup package(s) on switch 1
[1] Finished Post_Remove_Cleanup on switch 1
Checking status of Post_Remove_Cleanup on [1]
Post_Remove_Cleanup: Passed on [1]
Finished Post_Remove_Cleanup

SUCCESS: install_remove Mon Nov 20 19:52:25 UTC 2023
Switch#
```

Step 2 Copy new image to flash

a) **copy tftp:***[[//location]/directory]/filename* **flash:**

Use this command to copy the new image from a TFTP server to flash memory. The location is either an IP address or a host name. The filename is specified relative to the directory used for file transfers. Skip this step if you want to use the new image from a TFTP server.

```
Switch# copy tftp://10.8.0.6/image/cat9k_iosxe.17.13.01.SPA.bin flash:
Destination filename [cat9k_iosxe.17.13.01.SPA.bin]?
Accessing tftp://10.8.0.6//cat9k_iosxe.17.13.01.SPA.bin...
Loading /cat9k_iosxe.17.13.01.SPA.bin from 10.8.0.6 (via GigabitEthernet0/0):
!!!
```

```
Switch# show bootvar
BOOT variable = bootflash:packages.conf
MANUAL_BOOT variable = no
BAUD variable = 9600
ENABLE_BREAK variable = yes
BOOTMODE variable does not exist
IPXE_TIMEOUT variable does not exist
CONFIG_FILE variable =

Standby BOOT variable = bootflash:packages.conf
Standby MANUAL_BOOT variable = no
Standby BAUD variable = 9600
Standby ENABLE_BREAK variable = yes
Standby BOOTMODE variable does not exist
Standby IPXE_TIMEOUT variable does not exist
Standby CONFIG_FILE variable =
```

Step 4 Downgrade software image

install add file activate commit

Use this command to install the image.

We recommend that you point to the source image on a TFTP server or the flash , if you have copied the image to flash memory.

The following example displays the installation of the Cisco IOS XE 17.13.1 software image to flash, by using the **install add file activate commit** command.

```
Switch# install add file flash:cat9k_iosxe.17.13.01.SPA.bin activate commit
_install_add_activate_commit: START Mon Nov 20 21:37:25 IST 2023

*Nov 20 16:37:26.544 IST: %INSTALL-5-INSTALL_START_INFO: R0/0: install_engine: Started
install one-shot flash:cat9k_iosxe.17.13.01.SPA.bin
install_add_activate_commit: Adding PACKAGE
install_add_activate_commit: Checking whether new add is allowed ....

This operation requires a reload of the system. Do you want to proceed?
Please confirm you have changed boot config to flash:packages.conf [y/n]y

--- Starting initial file syncing ---
Copying image file: flash:cat9k_iosxe.17.13.01.SPA.bin to standby
Info: Finished copying flash:cat9k_iosxe.17.13.01.SPA.bin to standby
Finished initial file syncing

--- Starting Add ---
Performing Add on Active/Standby
  [R0] Add package(s) on R0
  [R0] Finished Add on R0
  [R1] Add package(s) on R1
  [R1] Finished Add on R1
Checking status of Add on [R0 R1]
Add: Passed on [R0 R1]
Finished Add

Image added. Version: 17.13.1
install_add_activate_commit: Activating PACKAGE
Following packages shall be activated:
/flash/cat9k-wlc.17.13.01.SPA.pkg
/flash/cat9k-webui.17.13.01.SPA.pkg
/flash/cat9k-srdriver.17.13.01.SPA.pkg
/flash/cat9k-sipspa.17.13.01.SPA.pkg
/flash/cat9k-sipbase.17.13.01.SPA.pkg
/flash/cat9k-rpboot.17.13.01.SPA.pkg
```

```
/flash/cat9k-rpbase.17.13.01.SPA.pkg
/flash/cat9k-guestshell.17.13.01.SPA.pkg
/flash/cat9k-espbase.17.13.01.SPA.pkg
/flash/cat9k-cc_srdriver.17.13.01.SPA.pkg

This operation may require a reload of the system. Do you want to proceed? [y/n]y

--- Starting Activate ---
Performing Activate on Active/Standby

*Nov 20 21:45:21.695 IST: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R0/0: rollback_timer:
 Install auto abort timer will expire in 7200 seconds  [R0] Activate package(s) on R0
  [R0] Finished Activate on R0
  [R1] Activate package(s) on R1
  [R1] Finished Activate on R1
Checking status of Activate on [R0 R1]
Activate: Passed on [R0 R1]
Finished Activate


*Nov 20 21:45:25.233 IST: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R1/0: rollback_timer:
 Install auto abort timer will expire in 7200 seconds--- Starting Commit ---
Performing Commit on Active/Standby
  [R0] Commit package(s) on R0
  [R0] Finished Commit on R0
  [R1] Commit package(s) on R1
  [R1] Finished Commit on R1
Checking status of Commit on [R0 R1]
Commit: Passed on [R0 R1]
Finished Commit

Install will reload the system now!
SUCCESS: install_add_activate_commit  Mon Nov 20 21:46:18 IST 2023
```

Note
The system reloads automatically after executing the **install add file activate commit** command. You do not have to manually reload the system.

Step 5 Verify version

show version

After the image boots up, use this command to verify the version of the new image.

Note
When you downgrade the software image, the ROMMON version does not downgrade. It remains updated.

The following sample output of the **show version** command displays the Cisco IOS XE 17.13.1 image on the device:

```
Switch# show version
Cisco IOS XE Software, Version 17.13.01
Cisco IOS Software [Dublin], Catalyst L3 Switch Software (CAT9K_IOSXE), Version 17.13.1,
RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2023 by Cisco Systems, Inc.
<output truncated>
```

Field-Programmable Gate Array Version Upgrade

A field-programmable gate array (FPGA) is a type of programmable memory device that exists on Cisco switches. They are re-configurable logic circuits that enable the creation of specific and dedicated functions.

To check the current FPGA version, enter the **show firmware version all** command in privileged EXEC mode or the **version -v** command in ROMMON mode.

Note

- Not every software release has a change in the FPGA version.
- The version change occurs as part of the regular software upgrade and you do not have to perform any other additional steps.