Install the software using commands

Install the software using install commands

From Cisco IOS XE 17.18.1a, all Cisco IOS XE platforms are shipped in install mode by default. Users can boot the platform, and upgrade or downgrade to Cisco IOS XE software versions using a set of **install** commands.

Restrictions for installing the software using install commands

- ISSU is not covered in this feature.
- Install mode requires a reboot of the system.

Information about installing the software using install commands

For routers shipped in install mode, a set of **install** commands can be used for starting, upgrading and downgrading of platforms in install mode.

From Cisco IOS XE 17.18.1a release, this update is applicable to all Cisco IOS XE platforms.

The following table describes the differences between Bundle mode and Install mode:

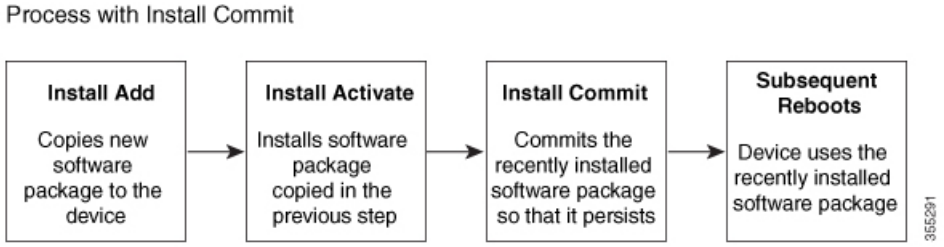
Table 1: Bundle mode vs Install mode

Bundle mode	Install mode
This mode provides a consolidated boot process, using local (hard disk, flash) or remote (TFTP) .bin image. **Note** Bundle boot from USB and TFTPBoot is not supported.	This mode uses the local (bootflash) packages.conf file for the boot process.
This mode uses a single .bin file.	.bin file is replaced with expanded .pkg files in this mode.
CLI: `#boot system file <filename>`	CLI: `#install add file bootflash: [activate commit]`
To upgrade in this mode, point the boot system to the new image.	To upgrade in this mode, use the **install** commands.
Image Auto-Upgrade: When a new Field-Replaceable Unit (FRU) is inserted in a modular chassis, manual intervention is required to get the new FRU running with the same version as the active FRUs.	Image Auto-Upgrade: When a new FRU is inserted in a modular chassis, the joining FRU is auto-upgraded to the image version in sync with the active FRUs.
Rollback: Rollback to the previous image with multiple Software Maintenance Updates (SMUs) may require multiple reloads.	Rollback: Enables rollback to an earlier version of Cisco IOS XE software, including multiple patches in single reload.

Install mode process flow

The install mode process flow comprises three commands to perform installation and upgrade of software on platforms–**install add**, **install activate**, and **install commit**.

The following flow chart explains the install process with **install** commands:



The **install add** command copies the software package from a local or remote location to the platform. The location can be FTP, HTTP, HTTPs, or TFTP. The command extracts individual components of the .package file into subpackages and packages.conf files. It also validates the file to ensure that the image file is specific to the platform on which it is being installed.

The **install activate** command performs the required validations and provisions the packages previously added using the **install add** command. It also triggers a system reload.

The **install commit** command confirms the packages previously activated using the **install activate** command, and makes the updates persistent over reloads.

Note Installing an update replaces any previously installed software image. At any time, only one image can be installed in a device.

The following set of install commands is available:

Table 2: List of install Commands

Command	Syntax	Purpose
install add	**install add file** *location:filename.bin*	Copies the contents of the image, package, and SMUs to the software repository. File location may be local or remote. This command does the following: • Validates the file–checksum, platform compatibility checks, and so on. • Extracts individual components of the package into subpackages and packages.conf • Copies the image into the local inventory and makes it available for the next steps.
install activate	**install activate**	Activates the package added using the **install add** command. • Use the **show install summary** command to see which image is inactive. This image will get activated. • System reloads on executing this command. Confirm if you want to proceed with the activation. Use this command with the **prompt-level none** keyword to automatically ignore any confirmation prompts.

Command	Syntax	Purpose
(install activate) auto abort-timer	**install activate auto-abort timer** *<30-1200>*	The **auto-abort timer** starts automatically, with a default value of 120 minutes. If the **install commit** command is not executed within the time provided, the activation process is terminated, and the system returns to the last-committed state. • You can change the time value while executing the **install activate** command. • The **install commit** command stops the timer, and continues the installation process. • The **install activate auto-abort timer stop** command stops the timer without committing the package. • Use this command with the **prompt-level none** keyword to automatically ignore any confirmation prompts. • This command is valid only in the three-step install variant.
install commit	**install commit**	Commits the package activated using the **install activate** command, and makes it persistent over reloads. • Use the **show install summary** command to see which image is uncommitted. This image will get committed.

Command	Syntax	Purpose
install abort	**install abort**	Terminates the installation and returns the system to the last-committed state. • This command is applicable only when the package is in activated status (uncommitted state). • If you have already committed the image using the **install commit** command, use the **install rollback to** command to return to the preferred version.
install remove	**install remove {file** <*filename*> **| inactive}**	Deletes inactive packages from the platform repository. Use this command to free up space. • **file**: Removes specified files. • **inactive**: Removes all the inactive files.
install rollback to	**install rollback to {base | label | committed | id}**	Rolls back the software set to a saved installation point or to the last-committed installation point. The following are the characteristics of this command: • Requires reload. • Is applicable only when the package is in committed state. • Use this command with the **prompt-level none** keyword to automatically ignore any confirmation prompts. **Note** If you are performing install rollback to a previous image, the previous image must be installed in install mode. Only SMU rollback is possible in bundle mode.

Command	Syntax	Purpose
install deactivate	**install deactivate file** <*filename*>	Removes a package from the platform repository. This command is supported only for SMUs. • Use this command with the **prompt-level none** keyword to automatically ignore any confirmation prompts.

The following show commands are also available:

Table 3: List of show Commands

Command	Syntax	Purpose
show install log	**show install log**	Provides the history and details of all install operations that have been performed since the platform was booted.
show install package	**show install package** <*filename*>	Provides details about the .pkg/.bin file that is specified.
show install summary	**show install summary**	Provides an overview of the image versions and their corresponding install states for all the FRUs. • The table that is displayed will state for which FRUs this information is applicable. • If all the FRUs are in sync in terms of the images present and their state, only one table is displayed. • If, however, there is a difference in the image or state information among the FRUs, each FRU that differs from the rest of the stack is listed in a separate table.
show install active	**show install active**	Provides information about the active packages for all the FRUs. If there is a difference in the information among the FRUs, each FRU that differs from the rest of the stack is listed in a separate table.

Command	Syntax	Purpose
show install inactive	**show install inactive**	Provides information about the inactive packages, if any, for all the FRUs. If there is a difference in the information among the FRUs, each FRU that differs from the rest of the stack is listed in a separate table.
show install committed	**show install committed**	Provides information about the committed packages for all the FRUs. If there is a difference in the information among the FRUs, each FRU that differs from the rest of the stack is listed in a separate table.
show install uncommitted	**show install uncommitted**	Provides information about uncommitted packages, if any, for all the FRUs. If there is a difference in the information among the FRUs, each FRU that differs from the rest of the stack is listed in a separate table.
show install rollback	**show install rollback {point-id | label}**	Displays the package associated with a saved installation point.
show version	**show version [rp-slot] [installed [user-interface] | provisioned | running]**	Displays information about the current package, along with hardware and platform information.

Boot the platform in install mode

You can install, activate, and commit a software package using a single command (one-step install) or multiple separate commands (three-step install).

If the platform is working in bundle mode, the one-step install procedure must be used to initially convert the platform from bundle mode to install mode. Subsequent installs and upgrades on the platform can be done with either one-step or three-step variants.

One step installation or converting from bundle mode to install mode

Note

- All the CLI actions (for example, add, activate, and so on) are executed on all the available FRUs.
- The configuration save prompt will appear if an unsaved configuration is detected.
- The reload prompt will appear after the second step in this workflow. Use the **prompt-level none** keyword to automatically ignore the confirmation prompts.
- If the prompt-level is set to None, and there is an unsaved configuration, the install fails. You must save the configuration before reissuing the command.

Use the one-step install procedure described below to convert a platform running in bundle boot mode to install mode. After the command is executed, the platform reboots in install boot mode.

Later, the one-step install procedure can also be used to upgrade the platform.

This procedure uses the **install add file activate commit** command in privileged EXEC mode to install a software package, and to upgrade the platform to a new version.

SUMMARY STEPS

1. **enable**
2. **install add file location:** *filename* [**activate commit**]
3. **exit**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device>enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**install add file location:** *filename* [**activate commit**] **Example:** `Device#install add file bootflash:c8000be-universalk9.BLD_V177_THROTTLE_LATEST_20211021_031123_V17_7_0_117.SSA.bin activate commit`	Copies the software install package from a local or remote location (through FTP, HTTP, HTTPs, or TFTP) to the platform and extracts the individual components of the .package file into subpackages and packages.conf files. It also performs a validation and compatibility check for the platform and image versions, activates the package, and commits the package to make it persistent across reloads. The platform reloads after this command is run.
Step 3	**exit** **Example:** `Device#exit`	Exits privileged EXEC mode and returns to user EXEC mode.

Three step installation

Note

- All the CLI actions (for example, add, activate, and so on) are executed on all the available FRUs.
- The configuration save prompt will appear if an unsaved configuration is detected.
- The reload prompt will appear after the install activate step in this workflow. Use the **prompt-level none** keyword to automatically ignore the confirmation prompts.

The three-step installation procedure can be used only after the platform is in install mode. This option provides more flexibility and control to the customer during installation.

This procedure uses individual **install add**, **install activate**, and **install commit** commands for installing a software package, and to upgrade the platform to a new version.

SUMMARY STEPS

1. **enable**
2. **install add file location:** *filename*
3. **show install summary**
4. **install activate** [**auto-abort-timer** <*time*>]
5. **install abort**
6. **install commit**
7. **install rollback to committed**
8. **install remove** {**file** *filesystem: filename* | **inactive**}
9. **show install summary**
10. **exit**

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device>enable`	Enables privileged EXEC mode. Enter your password, if prompted.
Step 2	**install add file location:** *filename* **Example:** `Device#install add file bootflash:c8000be-universalk9.BLD_V177_THROTTLE_LATEST_20211027_030841_V17_7_0_120.SSA.bin`	Copies the software install package from a remote location (through FTP, HTTP, HTTPs, or TFTP) to the platform, and extracts the individual components of the .package file into subpackages and packages.conf files.
Step 3	**show install summary** **Example:** `Device#show install summary`	(Optional) Provides an overview of the image versions and their corresponding install state for all the FRUs.

	Command or Action	Purpose
Step 4	**install activate** [**auto-abort-timer** <*time*>] **Example:** `Device# install activate auto-abort-timer 120`	Activates the previously added package and reloads the platform. • When doing a full software install, do not provide a package filename. • In the three-step variant, **auto-abort-timer** starts automatically with the **install activate** command; the default for the timer is 120 minutes. If the **install commit** command is not run before the timer expires, the install process is automatically terminated. The platform reloads and boots up with the last committed version.
Step 5	**install abort** **Example:** `Device#install abort`	(Optional) Terminates the software install activation and returns the platform to the last committed version. • Use this command only when the image is in activated state, and not when the image is in committed state.
Step 6	**install commit** **Example:** `Device#install commit`	Commits the new package installation and makes the changes persistent over reloads.
Step 7	**install rollback to committed** **Example:** `Device#install rollback to committed`	(Optional) Rolls back the platform to the last committed state.
Step 8	**install remove** {**file** *filesystem: filename* | **inactive**} **Example:** `Device#install remove inactive`	(Optional) Deletes software installation files. • **file**: Deletes a specific file • **inactive**: Deletes all the unused and inactive installation files.
Step 9	**show install summary** **Example:** `Device#show install summary`	(Optional) Displays information about the current state of the system. The output of this command varies according to the **install** commands run prior to this command.
Step 10	**exit** **Example:** `Device#exit`	Exits privileged EXEC mode and returns to user EXEC mode.

Upgrade in the install mode

Use either the one-step installation or the three-step installation to upgrade the platform in install mode.

Downgrade in the install mode

Use the **install rollback** command to downgrade the platform to a previous version by pointing it to the appropriate image, provided the image you are downgrading to was installed in install mode.

The **install rollback** command reloads the platform and boots it with the previous image.

Note The **install rollback** command succeeds only if you have not removed the previous file using the **install remove inactive** command.

Alternatively, you can downgrade by installing the older image using the **install** commands.

Terminate a software installation

You can terminate the activation of a software package in the following ways:

- When the platform reloads after activating a new image, the auto-abort-timer is triggered (in the three-step install variant). If the timer expires before issuing the **install commit** command, the installation process is terminated, and the platform reloads and boots with the last committed version of the software image.

  Alternatively, use the **install auto-abort-timer stop** command to stop this timer, without using the **install commit** command. The new image remains uncommitted in this process.

- Using the **install abort** command returns the platform to the version that was running before installing the new software. Use this command before issuing the **install commit** command.

Configuration examples for installing the software using install commands

The following is an example of the one-step installation or converting from bundle mode to install mode:

```
Router#install add file bootflash:c81g2be-universalk9.17.18.01a.SPA.bin activate commit

*Aug 28 02:08:20.193: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
add_activate_commit
bootflash:c81g2be-universalk9.17.18.01a.SPA.bininstall_add_activate_commit: START Thu Aug
28 02:08:20 UTC 2025
install_add: START Thu Aug 28 02:08:20 UTC 2025
install_add: Adding IMG
--- Starting initial file syncing ---
Copying bootflash:c81g2be-universalk9.17.18.01a.SPA.bin from  R0 to  R0
Info: Finished copying to the selected
Finished initial file syncing

--- Starting Add ---
Performing Add on all members
Checking status of Add on [R0]
Add: Passed on [R0]
Image added. Version: 17.18.01a.0.182
```

```
Finished Add

install_activate: START Thu Aug 28 02:08:28 UTC 2025
install_activate: Activating IMG
Following packages shall be activated:
/bootflash/c81g2be-firmware_device_mcu.17.18.01a.SPA.pkg
/bootflash/c81g2be-mono-universalk9.17.18.01a.SPA.pkg
/bootflash/c81g2be-firmware_pse_si3470a.17.18.01a.SPA.pkg
/bootflash/c81g2be-rpboot.17.18.01a.SPA.pkg

This operation may require a reload of the system. Do you want to proceed? [y/n]
*Aug 28 02:08:28.832: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
activate NONEy

--- Starting Activate ---
Performing Activate on all members

 [1] Activate package(s) on  R0

*Aug 28 02:08:59.279: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R0/0: rollback_timer:
Install auto abort timer will expire in 7200 seconds
Warning: Booting with bundle mode will be deprecated in the near future. Migration to install
 mode is required.
Building configuration...
[OK]
*Aug 28 02:09:13.122: %SYS-6-PRIVCFG_ENCRYPT_SUCCESS: Successfully encrypted private config
 file [1] Finished Activate on  R0
Checking status of Activate on [R0]
Activate: Passed on [R0]
Finished Activate

--- Starting Commit ---
Performing Commit on all members
 [1] Commit package(s) on  R0
 [1] Finished Commit on  R0
Checking status of Commit on [R0]
Commit: Passed on [R0]
Finished Commit operation

SUCCESS: install_add_activate_commit Thu Aug 28 02:09:30 UTC 2025

Router#
*Aug 28 02:09:30.058: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 add_activate_commitAug 28 02:09:

[BootramDDR v7 RELEASE SOFTWARE (P) compiled 2025-07-16T12:06:41-07:00]

Warning: MFG Key Enabled !!!

System Bootstrap, Version 17.18(1r), RELEASE SOFTWARE
Copyright (c) 1994-2025 by cisco Systems, Inc.

Current image running: Boot ROM0

Last reset cause: LocalSoft
C8161-G2 platform with 8388608 Kbytes of main memory
Warning: MFG key enabled, bypassing BIOS protection feature
......
Located bootflash:packages.conf
#

Package header rev 3 structure detected
IsoSize = 0
Performing Integrity Check ...
```

```
Performing Signature Verification ...
Image validated
Aug 28 02:11:30.058: %BOOT-5-OPMODE_LOG: R0/0: binos: System booted in AUTONOMOUS mode

Router#show version
Cisco IOS XE Software, Version 17.18.01a
Cisco IOS Software [IOSXE], c81g2be Software (ARMV8EL_LINUX_IOSD-UNIVERSALK9-M), Version
17.18.1a, RELEASE SOFTWARE (fc5)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
Compiled Fri 15-Aug-25 07:05 by mcpre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documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.


ROM: 17.18(1r)

Router uptime is 3 days, 26 minutes
Uptime for this control processor is 3 days, 27 minutes
```

The following is an example of the three-step installation:

```
Router#install add file bootflash:c81g2be-universalk9.17.18.01a.SPA.bin

*Sep  1 12:46:01.370: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install add
 bootflash:c81g2be-universalk9.17.18.01a.SPA.bininstall_add: START Mon Sep 01 12:46:01 UTC
 2025
install_add: Adding IMG
--- Starting initial file syncing ---
Copying bootflash:c81g2be-universalk9.17.18.01a.SPA.bin from  R0 to  R0
Info: Finished copying to the selected
Finished initial file syncing

--- Starting Add ---
Performing Add on all members
Checking status of Add on [R0]
Add: Passed on [R0]
Image added. Version: 17.18.01a.0.182

Finished Add

SUCCESS: install_add /bootflash/c81g2be-universalk9.17.18.01a.SPA.bin Mon Sep 01 12:47:03
UTC 2025

Router#
*Sep  1 12:47:03.698: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 add bootflash:/c81g2be-universalk9.17.18.01a.SPA.bin

Router#show install summary
[ R0 ] Installed Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
```

```
Type  St   Filename/Version
--------------------------------------------------------------------------------
IMG   C    17.17.01.0.6
IMG   I    17.18.01a.0.182

--------------------------------------------------------------------------------
Auto abort timer: inactive
--------------------------------------------------------------------------------

Router#install activate

*Sep  1 12:53:48.533: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
activate NONEinstall_activate: START Mon Sep 01 12:53:48 UTC 2025
install_activate: Activating IMG
Following packages shall be activated:
/bootflash/c81g2be-firmware_device_mcu.17.18.01a.SPA.pkg
/bootflash/c81g2be-mono-universalk9.17.18.01a.SPA.pkg
/bootflash/c81g2be-firmware_pse_si3470a.17.18.01a.SPA.pkg
/bootflash/c81g2be-rpboot.17.18.01a.SPA.pkg

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

--- Starting Activate ---
Performing Activate on all members

 [1] Activate package(s) on  R0

*Sep  1 12:55:55.135: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R0/0: rollback_timer:
Install auto abort timer will expire in 7200 seconds [1] Finished Activate on  R0
Checking status of Activate on [R0]
Activate: Passed on [R0]
Finished Activate

SUCCESS: install_activate Mon Sep 01 12:56:07 UTC 2025

Router#
*Sep  1 12:56:07.855: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 activate

[BootramDDR v7 RELEASE SOFTWARE (P) compiled 2025-07-16T12:06:41-07:00]

Warning: MFG Key Enabled !!!

System Bootstrap, Version 17.18(1r), RELEASE SOFTWARE
Copyright (c) 1994-2025 by cisco Systems, Inc.

Current image running: Boot ROM0

Last reset cause: LocalSoft
C8161-G2 platform with 8388608 Kbytes of main memory
Warning: MFG key enabled, bypassing BIOS protection feature
......
Located bootflash:packages.conf
#

Package header rev 3 structure detected
IsoSize = 0
Performing Integrity Check ...
Performing Signature Verification ...
Image validated
Sep  1 12:58:00.562: %BOOT-5-OPMODE_LOG: R0/0: binos: System booted in AUTONOMOUS mode

Router# install commit
*Sep  1 13:01:30.773: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
```

```
commitinstall_commit: START Mon Sep 01 13:01:30 UTC 2025
--- Starting Commit ---
Performing Commit on all members
 [1] Commit packages(s) on  R0
 [1] Finished Commit packages(s) on  R0
Checking status of Commit on [R0]
Commit: Passed on [R0]
Finished Commit operation

SUCCESS: install_commit Mon Sep 01 13:01:34 UTC 2025

Router#
*Sep  1 13:01:34.870: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 commit

Router#show version
Cisco IOS XE Software, Version 17.18.01a
Cisco IOS Software [IOSXE], c81g2be Software (ARMV8EL_LINUX_IOSD-UNIVERSALK9-M), Version
17.18.1a, RELEASE SOFTWARE (fc5)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
Compiled Fri 15-Aug-25 07:05 by mcpre


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documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.


ROM: 17.18(1r)

Router uptime is 48 minutes
Uptime for this control processor is 49 minutes
System returned to ROM by Image Install
System image file is "bootflash:packages.conf"
Last reload reason: Image Install



This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.


Technology Package License Information:

------------------------------------------------------------------
```

```
Technology     Type         Technology-package Technology-package
                            Current            Next Reboot
------------------------------------------------------------------
Smart License  Perpetual    essentials         essentials

The current crypto throughput level is 250000 kbps (Aggregate)


Smart Licensing Status: Smart Licensing Using Policy

cisco C8161-G2 (1RU) processor with 1901039K/6147K bytes of memory.
Processor board ID FGL2909L1MK
Router operating mode: Autonomous
1 Virtual Ethernet interface
10 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
8388608K bytes of physical memory.
18271231K bytes of flash memory at bootflash:.

Configuration register is 0x2102
```

The following is an example of terminating the software install activation:

```
Router#install add file bootflash:c81g2be-universalk9.17.17.01eftr3.SPA.bin

*Sep  1 07:03:03.363: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install add
 bootflash:c81g2be-universalk9.17.17.01eftr3.SPA.bininstall_add: START Mon Sep 01 07:03:03
 UTC 2025
install_add: Adding IMG


--- Starting initial file syncing ---
Copying bootflash:c81g2be-universalk9.17.17.01eftr3.SPA.bin from  R0 to  R0
Info: Finished copying to the selected
Finished initial file syncing

--- Starting Add ---
Performing Add on all members

*Sep  1 07:03:57.186: %LINK-3-UPDOWN: Interface GigabitEthernet0/0/0, changed state to up
*Sep  1 07:03:58.187: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0,
 changed state to upChecking status of Add on [R0]
Add: Passed on [R0]
Image added. Version: 17.17.01.0.6

Finished Add

SUCCESS: install_add /bootflash/c81g2be-universalk9.17.17.01eftr3.SPA.bin Mon Sep 01 07:04:03
 UTC 2025

Router#
*Sep  1 07:04:03.635: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 add bootflash:/c81g2be-universalk9.17.17.01eftr3.SPA.bin

Router#install activate

*Sep  1 10:18:41.330: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
activate NONEinstall_activate: START Mon Sep 01 10:18:41 UTC 2025
install_activate: Activating IMG
Following packages shall be activated:
/bootflash/c81g2be-firmware_device_mcu.17.17.01eftr3.SPA.pkg
/bootflash/c81g2be-rpboot.17.17.01eftr3.SPA.pkg
/bootflash/c81g2be-firmware_pse_si3470a.17.17.01eftr3.SPA.pkg
```

```
/bootflash/c81g2be-mono-universalk9.17.17.01eftr3.SPA.pkg

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

--- Starting Activate ---
Performing Activate on all members

 [1] Activate package(s) on  R0



*Sep  1 10:20:36.317: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R0/0: rollback_timer:
Install auto abort timer will expire in 7200 seconds [1] Finished Activate on  R0
Checking status of Activate on [R0]
Activate: Passed on [R0]
Finished Activate

SUCCESS: install_activate Mon Sep 01 10:20:48 UTC 2025

Router#
*Sep  1 10:20:48.628: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 activateSep  1

[BootramDDR v7 RELEASE SOFTWARE (P) compiled 2025-07-16T12:06:41-07:00]

Warning: MFG Key Enabled !!!

System Bootstrap, Version 17.17.01eftr3, RELEASE SOFTWARE
Copyright (c) 1994-2025 by cisco Systems, Inc.

Current image running: Boot ROM0

Last reset cause: LocalSoft
C8161-G2 platform with 8388608 Kbytes of main memory
Warning: MFG key enabled, bypassing BIOS protection feature
......
Located bootflash:packages.conf
#

Package header rev 3 structure detected
IsoSize = 0
Performing Integrity Check ...
Performing Signature Verification ...
Image validated
Sep  1 10:22:00.562: %BOOT-5-OPMODE_LOG: R0/0: binos: System booted in AUTONOMOUS mode

Router#show install summary
[ R0 ] Installed Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
IMG   C    17.18.01a.0.182
IMG   U    17.17.01.0.6

--------------------------------------------------------------------------------
Auto abort timer: active , time before rollback - 01:48:10
--------------------------------------------------------------------------------

Router>enable

Router#install abort
```

```
*Sep  1 10:35:41.477: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
cancelinstall_abort: START Mon Sep 01 10:35:41 UTC 2025

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

--- Starting Abort ---
Performing Abort on all members

 [1] Abort packages(s) on  R0


Checking status of Abort on [R0]
Abort: Passed on [R0]
Finished Abort operation

SUCCESS: install_abort Mon Sep 01 10:36:31 UTC 2025

Router#
*Sep  1 10:36:31.863: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 abort

Router#show install summary
[ R0 ] Installed Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
IMG   C    17.18.01a.0.182

--------------------------------------------------------------------------------
Auto abort timer: inactive
--------------------------------------------------------------------------------
```

The following is an example of downgrading in install mode:

```
ROUTER# install add file bootflash:c81g2be-universalk9.17.17.01eftr3.SPA.bin activate commit


*Sep  1 13:51:06.918: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
add_activate_commit
bootflash:c81g2be-universalk9.17.17.01eftr3.SPA.bininstall_add_activate_commit: START Mon
Sep 01 13:51:06 UTC 2025
install_add: START Mon Sep 01 13:51:06 UTC 2025
install_add: Adding IMG
--- Starting initial file syncing ---
Copying bootflash:c81g2be-universalk9.17.17.01eftr3.SPA.bin from  R0 to  R0
Info: Finished copying to the selected
Finished initial file syncing

--- Starting Add ---
Performing Add on all members
Checking status of Add on [R0]
Add: Passed on [R0]
Image added. Version: 17.17.01.0.6

Finished Add

install_activate: START Mon Sep 01 13:52:06 UTC 2025
install_activate: Activating IMG
Following packages shall be activated:
/bootflash/c81g2be-firmware_device_mcu.17.17.01eftr3.SPA.pkg
/bootflash/c81g2be-rpboot.17.17.01eftr3.SPA.pkg
```

```
/bootflash/c81g2be-firmware_pse_si3470a.17.17.01eftr3.SPA.pkg
/bootflash/c81g2be-mono-universalk9.17.17.01eftr3.SPA.pkg

This operation may require a reload of the system. Do you want to proceed? [y/n]
*Sep  1 13:52:06.555: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
activate NONEy

--- Starting Activate ---
Performing Activate on all members

 [1] Activate package(s) on  R0

*Sep  1 13:54:03.583: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R0/0: rollback_timer:
Install auto abort timer will expire in 7200 seconds [1] Finished Activate on  R0
Checking status of Activate on [R0]
Activate: Passed on [R0]
Finished Activate

--- Starting Commit ---
Performing Commit on all members
 [1] Commit package(s) on  R0
 [1] Finished Commit on  R0
Checking status of Commit on [R0]
Commit: Passed on [R0]
Finished Commit operation

SUCCESS: install_add_activate_commit Mon Sep 01 13:54:29 UTC 2025

Router#
*Sep  1 13:54:29.118: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 add_activate_commit


[BootramDDR v7 RELEASE SOFTWARE (P) compiled 2025-07-16T12:06:41-07:00]

Warning: MFG Key Enabled !!!

System Bootstrap, Version 17.17.01eftr3, RELEASE SOFTWARE
Copyright (c) 1994-2025 by cisco Systems, Inc.

Current image running: Boot ROM0

Last reset cause: LocalSoft
C8161-G2 platform with 8388608 Kbytes of main memory
Warning: MFG key enabled, bypassing BIOS protection feature
......
Located bootflash:packages.conf
#

Package header rev 3 structure detected
IsoSize = 0
Performing Integrity Check ...
Performing Signature Verification ...
Image validated
Sep  1 13:56:00.562: %BOOT-5-OPMODE_LOG: R0/0: binos: System booted in AUTONOMOUS mode

Router>enable

Router#show version
Cisco IOS XE Software, Version 17.17.01eftr3
Cisco IOS Software [IOSXE], c81g2be Software (ARMV8EL_LINUX_IOSD-UNIVERSALK9-M), Version
17.17.1eftr3, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
```

```
Compiled Mon 03-Mar-25 05:51 by mcpre


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or the applicable URL provided on the flyer accompanying the IOS-XE
software.
```

The following is an example of rolling back the platform to the last committed version

```
Router#show install summary
[ R0 ] Installed Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
IMG   C    17.17.01.0.6

--------------------------------------------------------------------------------
Auto abort timer: inactive
--------------------------------------------------------------------------------

Router#install rollback to committed
install_rollback: START Mon Sep 01 14:03:12 UTC 2025
install_rollback: Rolling back to committed

*Sep  1 14:03:12.114: %INSTALL-5-INSTALL_START_INFO: R0/0: install_mgr: Started install
rollback
This operation may require a reload of the system. Do you want to proceed? [y/n]y

--- Starting Rollback ---
Performing Rollback on all members

 [1] Rollback package(s) on  R0
 [1] Finished Rollback package(s) on  R0
Checking status of Rollback on [R0]
Rollback: Passed on [R0]
Finished Rollback operation

SUCCESS: install_rollback Mon Sep 01 14:04:36 UTC 2025

Router#
*Sep  1 14:04:36.726: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_mgr: Completed install
 rollback


[BootramDDR v7 RELEASE SOFTWARE (P) compiled 2025-07-16T12:06:41-07:00]

Warning: MFG Key Enabled !!!

System Bootstrap, Version 17.18(1r), RELEASE SOFTWARE
Copyright (c) 1994-2025 by cisco Systems, Inc.

Current image running: Boot ROM0

Last reset cause: LocalSoft
C8161-G2 platform with 8388608 Kbytes of main memory
```

```
Warning: MFG key enabled, bypassing BIOS protection feature
......
Located bootflash:packages.conf
#

Package header rev 3 structure detected
IsoSize = 0
Performing Integrity Check ...
Performing Signature Verification ...
Image validated
Sep  1 14:06:00.562: %BOOT-5-OPMODE_LOG: R0/0: binos: System booted in AUTONOMOUS mode

Router#show install summary
[ R0 ] Installed Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
IMG   C    17.18.01a.0.182

--------------------------------------------------------------------------------
Auto abort timer: inactive
--------------------------------------------------------------------------------
```

The following are sample outputs for show commands:

show install log

```
Router#show install log
[0|install_op_boot]: START Mon Sep  1 13:55:20 Universal 2025
[0|install_op_boot(INFO, )]: Mount IMG INI state base image
[0|install_op_boot]: END SUCCESS  Mon Sep  1 13:55:21 Universal 2025
```

show install summary

```
Router#show install summary
[ R0 ] Installed Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
IMG   C    17.18.01a.0.182

--------------------------------------------------------------------------------
Auto abort timer: inactive
--------------------------------------------------------------------------------
```

show install package *filesystem: filename*

```
Router#show install package bootflash:c81g2be-universalk9.17.18.01a.SPA.bin
  Package: c81g2be-universalk9.17.18.01a.SPA.bin
    Size: 770579420
    Timestamp:
  Canonical path: /bootflash/c81g2be-universalk9.17.18.01a.SPA.bin

    Raw disk-file SHA1sum:
      7ad1937824348118d3139d25e9f76974bdab836c
  Header size:     1084 bytes
  Package type:    30000
  Package flags:   0
  Header version:  3
```

```
Internal package information:
  Name: rp_super
  BuildTime: 2025-08-15_07.13
  ReleaseDate: 2025-08-15_06.47
  BootArchitecture: arm64
  RouteProcessor: device
  Platform: C81G2BE
  User: mcpre
  PackageName: universalk9
  Build: 17.18.01a
  CardTypes:

Package is bootable from media and tftp.
Package contents:

Package: c81g2be-mono-universalk9.17.18.01a.SPA.pkg
  Size: 690905088
  Timestamp:

  Raw disk-file SHA1sum:
    9f13173d385de7033ab5fd64fc81a80bce3749b1
  Header size:     4096 bytes
  Package type:    30000
  Package flags:   0
  Header version:  3

  Internal package information:
    Name: mono
    BuildTime: 2025-08-15_07.13
    ReleaseDate: 2025-08-15_06.47
    BootArchitecture: arm64
    RouteProcessor: device
    Platform: C81G2BE
    User: mcpre
    PackageName: mono-universalk9
    Build: 17.18.01a
    CardTypes:

  Package is bootable from media and tftp.
  Package contents:

Package: c81g2be-firmware_charon_mcu.17.18.01a.SPA.pkg
  Size: 200704
  Timestamp:

  Raw disk-file SHA1sum:
    6fdb949a0495d87dec59d77f6070e68bacb93024
  Header size:     4096 bytes
  Package type:    40000
  Package flags:   0
  Header version:  3

  Internal package information:
    Name: firmware_device_mcu
    BuildTime: 2025-08-15_07.13
    ReleaseDate: 2025-08-15_06.47
    BootArchitecture: none
    RouteProcessor: device
    Platform: C81G2BE
    User: mcpre
    PackageName: firmware_device_mcu
    Build: 17.18.01a
    CardTypes:
```

```
    Package is not bootable.
  Package: c81g2be-firmware_pse_si3470a.17.18.01a.SPA.pkg
    Size: 49152
    Timestamp:

    Raw disk-file SHA1sum:
      cdde430bf4f45824743e7ae6bdacb7fca2216929
    Header size:     4096 bytes
    Package type:    40000
    Package flags:   0
    Header version:  3

    Internal package information:
      Name: firmware_pse_si3470a
      BuildTime: 2025-08-15_07.13
      ReleaseDate: 2025-08-15_06.47
      BootArchitecture: none
      RouteProcessor: device
      Platform: C81G2BE
      User: mcpre
      PackageName: firmware_pse_si3470a
      Build: 17.18.01a
      CardTypes:

    Package is not bootable.
```

show install active

```
Router#show install active
[ R0 ] Active Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
IMG   C    17.18.01a.0.182

--------------------------------------------------------------------------------
Auto abort timer: inactive
--------------------------------------------------------------------------------
```

show install inactive

```
Router#show install inactive
[ R0 ] Inactive Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
No Inactive Packages
```

show install committed

```
Router#show install committed
[ R0 ] Committed Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
IMG   C    17.18.01a.0.182

--------------------------------------------------------------------------------
```

```
Auto abort timer: inactive
---------------------------------------------------------------------------
```

show install uncommitted

```
Router#show install uncommitted
[ R0 ] Uncommitted Package(s) Information:
State (St): I - Inactive, U - Activated & Uncommitted,
            C - Activated & Committed, D - Deactivated & Uncommitted
--------------------------------------------------------------------------------
Type  St   Filename/Version
--------------------------------------------------------------------------------
No Uncommitted Packages
```

Troubleshooting software installation using install commands

Problem Troubleshooting the software installation

Solution Use the following show commands to view installation summary, logs, and software versions.

- **show install summary**
- **show install log**
- **show version**
- **show version running**

Problem Other installation issues

Solution Use the following commands to resolve installation issue:

- **dir** <*install directory*>
- **more location:***packages.conf*
- **show tech-support install**: this command automatically runs the **show** commands that display information specific to installation.
- **request platform software trace archive target bootflash** <*location*>: this command archives all the trace logs relevant to all the processes running on the system since the last reload, and saves this information in the specified location.