



# Upgrading a Cisco IOS XE Image on Amazon Web Services

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The procedure in this chapter shows how to upgrade a Cisco IOS XE 16.7.1 image or later running on a Cisco CSR 1000V.

Consider the following before you upgrade the IOS XE image:

- To upgrade an IOS XE image for a Cisco CSR 1000V running in AWS, the current version of IOS XE running on the Cisco CSR 1000V instance must be Cisco IOS XE Fuji 16.7.1 or later.
- For Cisco IOS XE Everest 16.6 and earlier on AWS, you cannot use the Cisco CSR 1000v .bin file to upgrade a Cisco CSR1000V instance. You must re-deploy a new instance from the AWS Marketplace and migrate your configuration and licenses.
- You cannot downgrade a Cisco CSR 1000V image on AWS to Cisco IOS XE Everest 16.6.2 or earlier. For example, if you are running Cisco IOS XE Fuji 16.7.1 or later, you must not downgrade to Cisco IOS XE Everest 16.6.2 or earlier.
- To upgrade or downgrade a Cisco CSR 1000V image running on AWS, you must expand the .bin file and use the `packages.conf` to upgrade to the new version.
- The only currently available downgrade for a Cisco IOS XE Gibraltar 16.10.1 image is to Cisco IOS XE Fuji 16.9.2. You cannot downgrade a Cisco CSR 1000V image running on AWS from Cisco IOS XE Gibraltar 16.10 to Cisco IOS XE Fuji 16.9.1 or earlier.



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**Note** To check the version of your Cisco IOS XE image for your Cisco CSR 1000V instance, run the `show version` command.

```
Router# show version
Cisco IOS XE Software, Version 2017-11-08_14.44_user4
Cisco IOS Software [Fuji], Virtual XE Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Experimental
Version 16.8.2017110
```

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# How to Upgrade a Cisco IOS XE Image on Amazon Web Services

## Procedure

**Step 1** `scp -i <key.pem file> upgrade-imageecs-user@csr-public-ip-address: copied-upgrade-image`

Copy the new image to the CSR 1000V boot flash memory. You can choose any name for the copy of the image in bootflash; for example, `upgrade.bin`.

**Step 2** `request platform software package expand file bootflash:upgrade.bin to bootflash:upgrade/`

Expand the image that is in boot flash memory.

**Note** If you have already performed an upgrade on this CSR 1000V instance before, use a different directory name when you perform the upgrade the second time. For example, if you used the `request platform software package expand file bootflash:upgrade.bin to bootflash:upgrade/` command when you performed the upgrade the first time, this command expands the bin file in the 'upgrade' directory of the bootflash and places the `packages.conf` file in the upgrade directory.

When you perform an upgrade anytime after, ensure that you use a different directory name. For example, your upgrade command could read `request platform software package expand file bootflash:upgrade2.bin to bootflash:upgrade2/`. Note that the directory name is `upgrade2` in this instance.

### Example:

```
Router# request platform software package expand file bootflash:upgrade.bin to
bootflash:upgrade/
Nov  8 03:25:34.412 %INSTALL-5-OPERATION_START_INFO: R0/0: packtool: Started expand package
bootflash:upgrade.bin
Verifying parameters
Expanding superpackage bootflash:upgrade.bin
Validating package type
Copying package files
SUCCESS: Finished expanding all-in-one software package.
```

**Step 3** `configure terminal`

Enters the global configuration mode.

**Step 4** `boot system bootflash:upgrade/packages.conf`

Adds a boot system entry to the `packages.conf` file that was generated in step 2. For example, the boot system entry to the `/bootflash/upgrade/packages.conf` file as shown in the example.

### Example:

The following example shows how to correctly enter a boot system entry:

```
Router(config)# boot system bootflash:upgrade/packages.conf
```

**Note** Do **not** add the boot system entry like this: `boot system bootflash:upgrade.bin`. This command tells the Cisco CSR 1000V to boot from `upgrade.bin`. However, the CSR 1000V boot fails if the file size of the `upgrade.bin` is greater than the low memory size that is allowed by GRUB in AWS.

**Note** Ensure that you point the boot system command entry to the `packages.conf` file expanded in the upgrade directory as mentioned in step 2. You must use the same directory name that you have specified in step 2.

**Step 5** `end`

Exits the global configuration mode and returns to the privileged EXEC mode.

**Example:**

```
Router(config)# end
Router#
```

**Step 6** `show run | sec boot`

Verifies the boot system entry.

**Example:**

```
Router# show run | sec boot
boot-start-marker
boot system bootflash:upgrade/packages.conf
boot-end-marker
diagnostic bootup level minimal
```

**Step 7** `copy running-configuration startup-configuration`

Saves the configuration.

**Example:**

```
Router# copy running-configuration startup-configuration
Building configuration
...

[OK]
```

**Step 8** Reload the router.

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