



## Upgrading the Device using TFTP

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To upgrade the device using trivial file transfer protocol (TFTP), follow these conditions:

- The device must be connected to the network.
- The device must be configured to communicate with the local TFTP server.
- The target device image must be uploaded to the root directory of the local TFTP server.
- [Device Upgrade using TFTP, on page 1](#)
- [Automatic Device Upgrade using TFTP, on page 1](#)
- [Direct Device Upgrade using TFTP, on page 2](#)
- [TFTP Device Upgrade using CLI, on page 3](#)

## Device Upgrade using TFTP

The TFTP device upgrade feature enables you to perform an automatic device upgrade or a direct device upgrade. In an automatic device upgrade, the device periodically checks for the availability of new device using the manifest file and initiates the upgrading process. In a direct device upgrade, the device retrieves the specified device image from the TFTP server and initiates the upgrading process. You can choose either of the following methods:

- [Automatic Device Upgrade using TFTP](#)
- [Direct Device Upgrade using TFTP](#)

## Automatic Device Upgrade using TFTP

### Before you begin

This method enables the device to connect to the local TFTP server at user-determined intervals to check for the availability of new device image. The device detects the device image file and performs the upgrade.

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- Step 1** Create *device.manifest* file and upload to the same TFTP server root directory where the device image is stored.
  - Step 2** Before enabling the TFTP automatic upgrade, configure the TFTP server and time interval.

**Note** The time interval must be specified in the hours format.

**Caution** Do not disconnect or reboot the device until the device download completes. Based on the image file size, the device upgrade may take some time.

## Configuring Manifest File on the TFTP Server

At first, the device retrieves the manifest file from the TFTP server. Based on the information in the manifest file, the device then retrieves the device image from the TFTP server. Once the conditions are satisfied, the device initiates the device upgrade process.

## Manifest File Format

The manifest file must be hosted on the TFTP server. It contains information related to the device image intended for the device upgrade. The manifest file holds the following information:

- Device image filename
- MD5 checksum of the device image file
- Device image version

The manifest file name must be specified based on the IW device model:

| Device Type | Manifest File Name |
|-------------|--------------------|
| IW9167EH    | IW9167EH.manifest  |
| IW9165E     | IW9165E.manifest   |
| IW9165DH    | IW9165DH.manifest  |

### Example format of manifest file:

```
image_name=ap1g6m-k9c1-tar.202307110910
image_md5=376e15acd4e82a49a81d42add904f5b0
image_version=8.8.1.101
```

## Direct Device Upgrade using TFTP

The device obtains the specified device image from the TFTP server. To start the direct device upgrade process, use the following CLI commands:

| Purpose                                      | Command or Action  |
|--|--|
| To configure the TFTP server with IP address | Device#configure tftp server A.B.C.D<br>A.B.C.D: IP address of the TFTP server |

| Purpose                             | Command or Action  |
|-------------------------------------|--|
| To configure the TFTP upgrade image | Device#configure tftp upgrade <image file><br>Device#write<br>Device#reload<br><br>Configure TFTP upgrade image <image file bin> |

The device immediately starts the upgrade process.



**Caution** Do not disconnect or reboot the device until the device download completes. Based on the image file size, the device upgrade may take some time.

## TFTP Device Upgrade using CLI

| Purpose   | Command or Action   |
|---|---|
| To perform a device upgrade using the TFTP server                               | Device#configure tftp server A.B.C.D<br><br>A.B.C.D: IP address of the tftp server  |
| To disable automatic TFTP device upgrade  | Device#configure tftp upgrade automatic disable   |
| To enable automatic TFTP device upgrade   | Device#configure tftp upgrade automatic enable<br>Device#write<br>Device#reload   |
| To check immediately for the manifest file without waiting for the check period | Device#configure tftp upgrade check now   |
| To check TFTP device upgrade periodically                                       | Device#configure tftp upgrade check period 3<br>Device#write<br><br><b>Note</b> The check period must be specified in the hours format. |
| To check TFTP configuration   | Device#show tftp config   |

Example of show TFTP configuration:

```
Device#show tftp config
Automatic TFTP Upgrade settings:
Status: enabled
Server: A.B.C.D
Check period (hours): 3
```

Example of automatic TFTP upgrade:

```
Device#configure tftp server A.B.C.D
Device#configure tftp upgrade check period 3
Device#write
Device#configure tftp upgrade automatic enable
Device#write
Device#reload
```

The device upgrade procedure fails to start:

- If the MD5 checksum reported in the manifest file does not match the MD5 checksum calculated on the device image file (*image\_name*).
- If the device image version reported in the manifest file matches the current device version running on the device.