

Upgrade the Device using TFTP

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.

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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.

Upgrade Methods

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.

Procedure

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

The manifest file is a configuration component that acts as a roadmap for the device upgrade process.

- Provides instructions for retrieving the device image from the TFTP server.
- Defines the conditions that must be satisfied before the upgrade begins.

Upgrade Process Workflow

1. The device retrieves the manifest file from the TFTP server.
2. The device parses the manifest file to locate the device image.
3. The device retrieves the image from the TFTP server.
4. The device verifies the required conditions and initiates the upgrade.

Manifest File Format

The manifest file contains the device image filename, MD5 checksum, and device image version required for the device upgrade process.

The manifest file includes the following information:

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

Table 1: Manifest file names by device model

Device Type	Manifest File Name
IW9167EH	IW9167EH.manifest

Device Type	Manifest File Name
IW9165E	IW9165E.manifest
IW9165DH	IW9165DH.manifest

Example Manifest File Format

```
image_name=ap1g6m-k9c1-tar.202307110910

image_md5=376e15acd4e82a49a81d42add904f5b0

image_version=8.8.1.101
```

Direct Device Upgrade using TFTP

Direct device upgrade using TFTP is a configuration method where the device retrieves a specified image file directly from a remote TFTP server to perform a system update.

- Requires a reachable TFTP server with the target image file.
- Uses specific CLI commands to define the server address and file path.
- Initiates the upgrade process immediately upon command execution.

TFTP Upgrade Configuration Commands

Table 2: TFTP Upgrade Configuration

Purpose	Command or Action
To configure the TFTP server with IP address	`Device#configure tftp server A.B.C.D` A.B.C.D: IP address of the TFTP server
To configure the TFTP upgrade image	`Device#configure tftp upgrade <image file>` Configure TFTP upgrade image <image file bin>



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

Procedure

Step 1 Use the **configure tftp server** *ip-address* command to configure the TFTP server IP address.

Example:

```
Device# configure tftp server A.B.C.D
```

ip-address :IP address of the TFTP server.

Step 2 Enable or disable automatic TFTP device upgrades.

- Use the **configure tftp upgrade automatic disable**command to disable automatic TFTP device upgrades.

  ```
  Device# configure tftp upgrade automatic disable
  ```

- Use the **configure tftp upgrade automatic enable**command to enable automatic TFTP device upgrades.

  ```
  Device#configure tftp upgrade automatic enable
  ```

Step 3 Use the **configure tftp upgrade check period** *period*command to configure the check period for TFTP device upgrades.

Example:

```
Device# configure tftp upgrade check period 3
```

Note
The check period must be specified in the hours format.

Step 4 Use the **configure tftp upgrade check now** command to check for the manifest file immediately.

Example:

```
Device# configure tftp upgrade check now
```

Step 5 Use the **show tftp config** command to verify the TFTP configuration.

Example:

```
Device# show tftp config
```

The device upgrade procedure fails to start under the following conditions:

- 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.

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
```