

2 Plug-In Installation Guide

This document describes the precautions, preparations, and procedure for plug-in installation, as well as plug-in uninstallation.

NOTE

This document describes how to install the plug-in on a CE6881 switch.

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2.1 Precautions for Plug-In Installation

Before installing the plug-in, read the precautions carefully.

- Starting from V200R001C00, the switch supports only local mirroring by default and does not support remote mirroring (including Layer 2 and Layer 3 remote mirroring). After the switch is upgraded from a version earlier than V200R001C00 to V200R001C00 or a later version, the remote mirroring configuration is lost. To use this function, download and install the required plug-in first. For details, see the appropriate plug-in operation guide.

If there is the remote mirroring configuration before the upgrade, run the **install-module *file-name* next-startup** command before the upgrade to specify the mirroring plug-in to be installed at the next startup. After the upgrade is complete, the remote mirroring configuration is automatically loaded. If there is no remote mirroring configuration before the upgrade but remote mirroring needs to be configured after the upgrade, you can still run this command before the upgrade to specify the mirroring plug-in to be installed at the next startup, and configure remote mirroring after the upgrade is complete.

To obtain the plug-in and operation guide, contact technical support personnel or log in to <https://support.huawei.com/enterprise> or <https://support.huawei.com>.

- The remote mirroring function is excluded from the system software and delivered as a plug-in since V200R001C00. To use this function, see this document.
- The plug-in should be uploaded or downloaded to the **\$_install_mod** directory of the device. In a stack, if an active/standby switchover is required or may occur, you are advised to upload or download the plug-in to the **\$_install_mod** directories of all the devices.
- The version of the remote mirroring plug-in to be installed must match the software version.
- In different scenarios, you are advised to install the plug-in according to the following procedure.

Table 2-1 Procedure of installing the plug-in in different scenarios

Scenario	Procedure
Only the plug-in needs to be installed, and the device does not need to be upgraded. Alternatively, the plug-in needs to be installed after the device is upgraded.	1. Upload or download the plug-in to the switch. 2. Configure the plug-in to take effect immediately.
The device needs to be upgraded and the plug-in needs to be installed. Ensure that the functions supported by the plug-in are enabled before the upgrade and can still take effect after the upgrade.	1. Upload or download the plug-in to the switch. 2. Configure the plug-in to take effect upon the next startup. 3. Upgrade the device.

2.2 Preparations

2.2.1 Preparing the Plug-in

Procedure

- Step 1** Log in to <https://support.huawei.com/enterprise> or <https://support.huawei.com>, and search for and download the required plug-in by referring to [Table 2-2](#).

Table 2-2 Basic information about plug-ins

Applicable Product	Plug-in Name	Applicable Software Version
CE9860EI	CE9800_V200R023C00SPC500_ERSPAN_MOD001.MOD	V200R023C00SPC500
CE8850EI	CE8850EI_V200R023C00SPC500_ERSPAN_MOD001.MOD	

Applicable Product	Plug-in Name	Applicable Software Version
CE8861EI	CE8861EI_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE8868EI	CE8868EI_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6881/ CE6820/ CE6863/ CE6863E/ CE6881K/ CE6863K/ CE6881E	CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6856HI	CE6856HI_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6857EI	CE6857EI_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6857E	CE6857E_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6857F	CE6857F_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6865EI	CE6865EI_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6865E, CE8850E-32 CQ-EI	CE6865E_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6870-48S 6CQ-EI	CE6870S-EI_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE6870-48T 6CQ-EI	CE6870T-EI_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE5882	CE5882_V200R023C00SPC500_ERSPAN_MOD001.mod	
CE5881	CE5800_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE5855E	CE5855E_V200R023C00SPC500_ERSPAN_MOD001.MOD	
CE5855F	CE5855F_V200R023C00SPC500_ERSPAN_MOD001.MOD	

----End

2.2.2 Verifying the Running System Software Version

Procedure

- Step 1** Verify the running system software version of the switch.

```
<HUAWEI> display version
Huawei Versatile Routing Platform Software
VRP (R) software, Version 8.200 (CE6881 V200R023C00SPC500)
...
```

- Step 2** Check whether the switch has plug-ins installed.

```
<HUAWEI> display module-information
Module Information
-----
Module      Version      InstallTime      PackageName
-----
-           -           -               -
-----
Total = 0
```

If there are running plug-ins on the switch, the names and versions of the plug-ins will be displayed.

----End

2.2.3 Checking Available Space in the Flash Memory

Prerequisites

The available space in the flash memory of a device must be larger than the size of the plug-in software to be uploaded or downloaded to the device.

Procedure

- Step 1** Check the available space in the flash memory.

Run the **dir** command in the user view to check the available space in the flash memory of the device.

- Run the **dir** or **dir flash:/** command to check the storage space in the flash memory of the device. In a stack, the two commands display the storage space in the flash memory of the master device.
- Run the **dir slot-id##flash:/** command to check the storage space in the flash memories of all devices except the master device in a stack.

```
<HUAWEI> dir
Directory of flash:/

Idx Attr  Size(Byte) Date      Time      FileName
0  drwx    -   Mar 09 2019 01:48:16  $_backuphome
1  dr-x    -   Jun 21 2019 11:22:32  $_checkpoint
2  dr-x    -   Jun 20 2019 08:41:56  $_install_mod
.....
674,928 KB total (178,120 KB free)
```

Step 2 (Optional) Delete unneeded files.

If the available space in the flash memory is less than the size of the plug-in software to be uploaded or downloaded to the device, delete unneeded files.

NOTE

Before deleting the .cc system software package, .cfg, .zip, or .dat configuration file, .dat or .zip license file, or .pat patch file, ensure that it is not in use.

- A file deleted using the **delete filename** command is placed into the recycle bin but still occupies space in the flash memory. To permanently delete files from the recycle bin, run the **reset recycle-bin** command.
- A file deleted using the **delete /unreserved filename** command is permanently deleted without being placed into the recycle bin. This command is equivalent to running the **delete filename** command first and then the **reset recycle-bin** command.

Permanently delete the unneeded file **test.txt** from the device.

```
<HUAWEI> delete /unreserved flash:/test.txt
```

In a stack, permanently delete the unneeded file **test.txt** from the device with the stack ID 2.

```
<HUAWEI> delete /unreserved 2#flash:/test.txt
```

----End

2.3 Plug-in Installation Procedure

In different scenarios, you are advised to install the plug-in according to the following procedure.

Table 2-3 Procedure of installing the plug-in in different scenarios

Scenario	Procedure
Only the plug-in needs to be installed, and the device does not need to be upgraded. Alternatively, the plug-in needs to be installed after the device is upgraded.	1. Upload or download the plug-in to the switch. 2. Configure the plug-in to take effect immediately.
The device needs to be upgraded and the plug-in needs to be installed. Ensure that the functions supported by the plug-in are enabled before the upgrade and can still take effect after the upgrade.	1. Upload or download the plug-in to the switch. 2. Configure the plug-in to take effect upon the next startup. 3. Upgrade the device.

2.3.1 Uploading/Downloading the Plug-in to the Device

You can use one of the following methods to upload/download the plug-in to the device based on the actual conditions.

2.3.1.1 Uploading the Plug-In to the Switch Functioning as an FTP Server

Pre-configuration Tasks

Before uploading the plug-in from a PC to the switch that functions as an FTP server, you have completed the following tasks:

- Ensure that there are reachable routes between the PC and switch.
- Ensure that the PC supports the FTP client software.

The following example uses the switch as an FTP server. In this example, the FTP user name is **ftpuser**, the password is **Huawei@123**, the switch IP address is **10.1.1.1/24**, the PC IP address is **10.1.1.2/24**, and the FTP working directory is **flash:/\$_install_mod/**. You can change the settings according to the live-network plan.

NOTE

The FTP protocol has security risks; therefore, SFTP is recommended for file management.

Procedure

Step 1 Configure the switch as an FTP server.

Enable the FTP service on the switch, and set the FTP user name to **ftpuser** and password to **Huawei@123**.

```
<HUAWEI> system-view
[~HUAWEI] ftp server enable
[*HUAWEI] commit
[~HUAWEI] aaa
[~HUAWEI-aaa] local-user ftpuser password irreversible-cipher Huawei@123
[*HUAWEI-aaa] local-user ftpuser service-type ftp
[*HUAWEI-aaa] local-user ftpuser level 3
[*HUAWEI-aaa] local-user ftpuser ftp-directory flash:/$_install_mod/
[*HUAWEI-aaa] commit
[~HUAWEI-aaa] return
```

NOTE

The user privilege level must be set to 3 or higher, so that FTP connections can be successfully established.

Step 2 Connect to the FTP server from the PC.

NOTE

This example assumes that the PC runs a Windows operating system.

Save the plug-in to the specified directory (for example, **D:**) on the PC. Choose **Start > Run**. Enter **cmd** and press **Enter**. Enter **ftp 10.1.1.1**. Enter the user name and password as prompted, and press **Enter**. Set the file transfer mode to **binary**.

```
C:\Documents and Settings\Administrator>ftp 10.1.1.1
Connected to 10.1.1.1.
```

```
220 FTP service ready.
User (10.1.1.2:(none)): ftpusher //Enter the FTP user name.
331 Password required for ftpusher.
Password: //Enter the FTP password.
230 User logged in.
ftp> binary //Set the file transfer mode to binary.
200 Type set to I.
```

Step 3 Upload the plug-in software to the switch from the PC.

Run the **put local-filename [remote-filename]** command to upload the plug-in software from the PC to the **flash:/\$_install_mod** directory on the switch. After the plug-in software is uploaded, run the **bye** command to terminate the FTP connection.

```
ftp> put D:\CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD
200 Port command okay.
150 Opening BINARY mode data connection for CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD.
226 Transfer complete.
ftp: 109144 bytes sent in 0.05sSeconds 2322.21Kbytes/sec.
ftp> bye
221 Server closing.

C:\Documents and Settings\Administrator>
```

Step 4 Check for the plug-in software on the switch.

Run the **cd** command on the switch to enter the **\$_install_mod** directory and run the **dir** command to check whether the plug-in software is uploaded to this directory.

```
<HUAWEI> cd flash:/$_install_mod
<HUAWEI> dir
Directory of flash:/$_install_mod/

  Idx  Attr   Size(Byte)  Date      Time      FileName
   0  -rw-    80,362  Jun 20 2019 18:56:58  CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD

674,928 KB total (178,152 KB free)
```

----End

2.3.1.2 Downloading the Plug-In to the Switch Functioning as an FTP Client

Pre-configuration Tasks

Before downloading the plug-in from a PC to the switch that functions as an FTP client, you have completed the following tasks:

- Ensure that there are reachable routes between the PC and switch.
- Ensure that the FTP server program is installed on the PC.

In the following example, the switch is used as the FTP client and the PC is used as the FTP server. The FTP user name is **ftpusher**, the password is **Huawei@123**, the PC IP address is **10.1.1.1/24**, and the switch IP address is **10.1.1.2/24**. You can change the settings according to the live-network plan.

NOTE

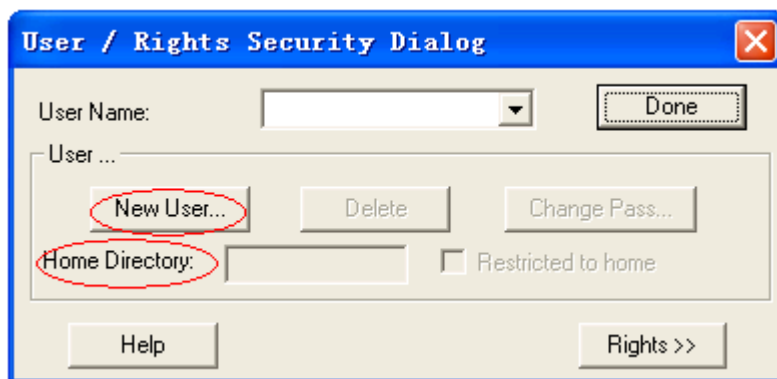
The FTP protocol has security risks; therefore, SFTP is recommended for file management.

Procedure

Step 1 Configure the PC as an FTP server.

Run the FTP server program (for example, wftpd32) on the PC. Choose **Security > Users/rights**.

Figure 2-1 Configuring the FTP server



Click **New User** in the displayed dialog box, and set the user name to **ftpuser** and password to **Huawei@123**. Enter the FTP working directory in the **Home Directory** text box on the PC. In this example, the working directory is **D:\ftp**. Click **Done** to close the dialog box. Do not close the FTP server program when the plug-in is being downloaded.

Step 2 Connect to the FTP server from the switch.

```
<HUAWEI> cd flash:/$_install_mod //Set the current working directory of the switch.
<HUAWEI> ftp 10.1.1.1
Trying ftp 10.1.1.1 ...
Press CTRL + K to abort
Connected to ftp 10.1.1.1.
220 WFTPD 2.0 service (by Texas Imperial Software) ready for new user
User(ftp 10.1.1.1:(none)):ftpuser //Enter the FTP user name.
331 Give me your password, please
Enter password: //Enter the FTP password.
230 Logged in successfully
[ftp] binary //Set the file transfer mode to binary.
200 Type is Image (Binary)
```

Step 3 Download the plug-in software.

Run the **get local-filename [remote-filename]** command on the switch to download the plug-in software from the FTP server (PC). After the software is downloaded, run the **bye** command to terminate the FTP connection.

```
[ftp] get CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD
500 Unidentified command SIZE CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD
200 PORT command okay
150 "D:\FTP\CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD" file ready to send (109144 bytes) in
IMAGE / Binary mode
..
226 Transfer finished successfully.

FTP: 109144 byte(s) received in 1.533 second(s) 69.527Kbyte(s)/sec.
[ftp] bye
```

Step 4 Check for the plug-in software on the switch.

Run the **cd** command on the switch to enter the **\$_install_mod** directory and run the **dir** command to check whether the plug-in software is uploaded to this directory.

```
<HUAWEI> cd flash:/$_install_mod
<HUAWEI> dir
Directory of flash:/$_install_mod/

  Idx  Attr   Size(Byte)  Date      Time      FileName
   0   -rw-      80,362   Jun 20 2019 18:56:58  CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD

674,928 KB total (178,152 KB free)
```

----End

2.3.1.3 Downloading the Plug-In to the Switch Functioning as an SFTP Client

Pre-configuration Tasks

Before downloading the plug-in from a PC to the switch that functions as an SFTP client, you have completed the following tasks:

- Ensure that there are reachable routes between the PC and switch.
- Ensure that the SFTP server program is installed on the PC.

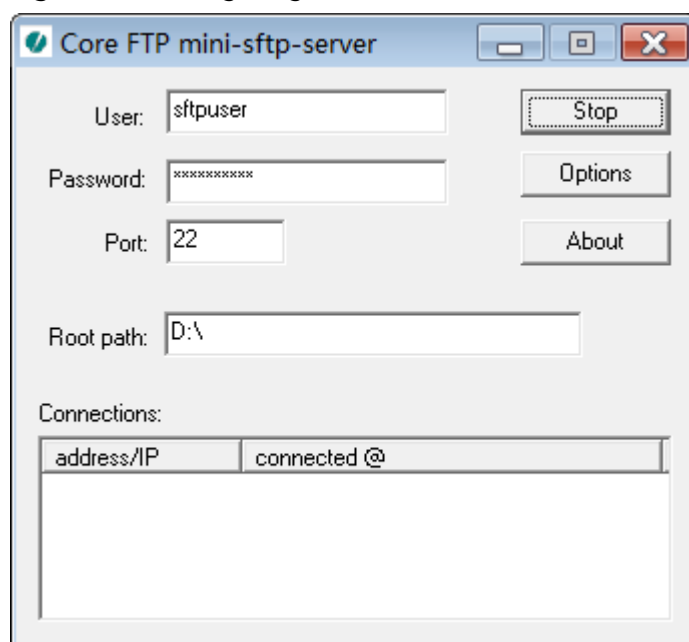
In the following example, the switch is used as the SFTP client and the PC is used as the SFTP server. The SFTP user name is **sftpuser**, the password is **Huawei@123**, the switch IP address is **10.1.1.2/24**, and the PC IP address is **10.1.1.1/24**. You can change the settings according to the live-network plan.

Procedure

Step 1 Configure the PC as an SFTP server.

Run the SFTP server program (for example, Core FTP mini-sftp-server) on the PC.

Figure 2-2 Configuring the SFTP server



In the displayed dialog box, set **User** to **sftpuser** and **Password** to **Huawei@123**. Set **Root path** to the SFTP working directory on the PC, for example, **D:**. Do not close the SFTP server program when the plug-in is being downloaded.

Step 2 Connect to the SFTP server from the switch.

```
<HUAWEI> cd flash:/$_install_mod/ //Set the current working directory of the switch.
<HUAWEI> system-view
[~HUAWEI] ssh client first-time enable
[*HUAWEI] commit
[~HUAWEI] sftp 10.1.1.1
Trying 10.1.1.1 ...
Press CTRL+K to abort
Connected to 10.1.1.1 ...
The server is not authenticated. Continue to access it? [Y/N]: y
Save the server's public key? [Y/N]: n

Please input the username: sftpuser //Enter the SFTP user name.
Enter password: //Enter the SFTP password.
sftp-client>
```

Step 3 Download the plug-in software.

Run the **get local-filename [remote-filename]** command on the switch to download the plug-in software from the SFTP server (PC). After the software is downloaded, run the **quit** command to terminate the SFTP connection.

```
sftp-client> get CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD
Remote file: / CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD ----> Local file:
CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD
Downloading the file. Please wait.../
Downloading file successfully ended.
File download is completed in 1 seconds.
sftp-client> quit
```

Step 4 Check for the plug-in software on the switch.

Run the **cd** command on the switch to enter the **\$_install_mod** directory and run the **dir** command to check whether the plug-in software is uploaded to this directory.

```
<HUAWEI> cd flash:/$_install_mod
<HUAWEI> dir
Directory of flash:/$_install_mod/

  Idx  Attr   Size(Byte) Date      Time      FileName
   0  -rw-    80,362 Jun 20 2019 18:56:58 CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD

674,928 KB total (178,152 KB free)
```

----End

2.3.2 Installing the Plug-in

Two methods are available to install the plug-in. Select a method according to [2.1 Precautions for Plug-In Installation](#).

 NOTE

In a stack, before loading the plug-in, you are advised to run the **copy file-name all#flash:/\$_install_mod/** command to copy the plug-in to the **\$_install_mod** directories of all devices.

- Configure the device to install the plug-in immediately.

```
<HUAWEI> install-module CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD
```
- Configure the device to install the plug-in upon the next startup.

```
<HUAWEI> install-module CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD next-startup
```

2.3.3 Verifying the Installation

- Run the **display module-information verbose** command to check whether the plug-in is successfully installed.
If no information about the plug-in is displayed, the plug-in fails to be installed.
- Run the **display module-information next-startup** command to check the plug-in to be installed upon the next startup.

```
<HUAWEI> display module-information next-startup
Next startup module packages

-----
No.  PackageName
-----
1    flash:/$_install_mod/CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD
-----
Total = 1
```

If no information about the plug-in is displayed, the plug-in to be installed upon the next startup fails to be configured.

2.4 Uninstalling the Plug-in

Context

Select an uninstallation method that suits your need.

NOTE

Before uninstalling the plug-in, delete the configurations of features related to this plug-in. Exercise caution when uninstalling the plug-in.

Procedure

Step 1 Configure the device to uninstall the plug-in immediately.

```
<HUAWEI> uninstall-module CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD
This will uninstall the module. Are you sure? [Y/N]: y
```

To check whether the plug-in has been uninstalled after the **uninstall-module file-name** command is executed, run the **display module-information** command.

```
<HUAWEI> display module-information
Module Information
-----
Module  Version      InstallTime      PackageName
-----
-        -            -                -                //No plug-in is installed on the switch.
-----
Total = 0
```

Step 2 Configure the device to uninstall the plug-in upon the next startup.

```
<HUAWEI> uninstall-module CE6800_V200R023C00SPC500_ERSPAN_MOD001.MOD next-startup
```

To check whether the configuration is successful after the **uninstall-module file-name next-startup** command is executed, run the **display module-information next-startup** command.

```
<HUAWEI> display module-information next-startup
Next startup module packages
-----
No.   PackageName
-----
-     --                //No plug-in will be automatically installed upon the next startup.
-----
Total = 0

----End
```