



# Set Up Your Cisco Router

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## Introduction

Security Device Manager (SDM) allows you to manage your Cisco router with a graphical web interface. This document explains how to install SDM on your router if SDM is not already installed on your router.

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## Requirements

To perform the steps described in this document, you need to have these items:

- A PC with an Internet connection
- A [crossover Ethernet cable](#)

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## Prepare Your Router to Support SDM

Before you download SDM, you need to make changes to your router to support SDM. To prepare your router to support SDM, follow these steps:

### Connect to the Router

To connect to your router, follow these steps:

1. Create a HyperTerminal connection to your router. For more information about how to create a HyperTerminal connection refer to the [Create a HyperTerminal Connection](#) document.
2. Log into the router. The default login is username cisco, password cisco. Otherwise, use the administrator login and password you entered in the Internet Worksheet (B10 and B11).

```
Username: cisco
Password:
```

**Note:** If you do not know the password for your router, refer to [Reset the Password on the Router](#).

3. Type **enable** to access the privileged mode. If you have set an enable password, use the password that you entered in the Internet Worksheet (B12).

```
Router> enable
Router#
```

### Verify the Software Image on the Router

To confirm the version of Cisco IOS® software on your router, follow these steps:

Type **show version** to view your software version.

The command-line output looks similar to this example:

```
Router# show version
Cisco IOS Software, C831 Software (C831-K9O3Y6-M), Version 12.3(8)YG, RELEASE SOFTWARE (fc1)
Synched to technology version 12.3(10.3)T2
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2004 by Cisco Systems, Inc.
Compiled Thu 16-Dec-04 23:46 by ealyon
```

If your Cisco IOS software version is earlier than 12.3, you must upgrade your software. For detailed instructions, refer to [Upgrade the Software Image on a Cisco Router](#).

### Verify Router Flash Memory

To verify the amount of space available in flash memory, type **show flash** to display details about flash memory usage.

```
Router#show flash

System flash directory:
File Length Name/status
  1 5638936 c831-k9o3y6-mz.123-2.XC2.bin
[5639000 bytes used, 19264680 available, 24903680 total]
24576K bytes of processor board System flash (Read/Write)
```

If you have at least 8 MB (8000000 bytes) available in flash memory, you do not need to remove files from flash memory in order to install SDM.

**Note:** If you have a wireless router, you need 9.7 MB available in flash memory to install Security Device Manager (SDM) with the wireless configuration module.

If you have less than 8 MB available in flash memory, you need to delete files before you install SDM. See [Reclaim Flash Memory](#) for instructions. If you have less than 8 MB of total flash memory, contact the [SMB Technical Assistance Center \(SMB TAC\)](#) for assistance.

### Erase Webflash Memory

If you have an 830 series router, you need to remove Cisco Router Web Setup Tool (CRWS) files from from webflash memory in order to access SDM. To remove the files from webflash memory, follow these steps:

1. Type **erase webflash** and press **Enter**, and press **Enter** again to confirm.

```
Router#erase webflash
Erasing the webflash filesystem will remove all files! Continue? [confirm]
```

2. The router displays this message during the erase.

```
Erasing device... eeeeeeeeeeeeeeeee ..erased
Erase of webflash: complete
Router#
```

## Configure Your Router to Support SDM

To configure your router to support SDM, follow these steps:

1. Type **configure terminal** and press **Enter** to enter configuration mode.

```
Router# configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#
```

2. Type **ip http server** and press **Enter** to enable HTTP server.

```
Router(config)#ip http server
```

3. Type **ip http secure-server** and press **Enter** to enable Secure HTTP server.

```
Router(config)#ip http secure-server
```

4. Type **ip http authentication local** to enable local authentication.

```
Router(config)#ip http authentication local
```

5. Type **ip http timeout-policy idle 600 life 86400 requests 10000** and press **Enter**.

```
Router(config)#ip http timeout-policy idle 600 life 86400 requests 10000
```

6. Type **username *username* privilege 15 password 0 *password*** to create a user account with configuration privileges. Use the username and password that you entered in the LAN Addressing Worksheet (B10 and B11).

```
Router(config)#username username privilege 15 password 0 password
```

**Note:** You will use this username and password to access SDM.

7. Enter these commands to enable telnet and SSH:

- a. Type **line vty 0 4** and press **Enter**.

```
Router(config)#line vty 0 4
```

- b. Type **privilege level 15** and press **Enter**.

```
Router(config-line)#privilege level 15
```

- c. Type **login local** and press **Enter**.

```
Router(config-line)#login local
```

d. Type **transport input telnet ssh** and press **Enter**.

```
Router(config-line)#transport input telnet ssh
```

e. Type **exit** and press **Enter**.

```
Router(config-line)#exit
Router(config)#
```

- Type **interface FastEthernet0** and press **Enter** to configure the Ethernet interface.

**Note:** The name of the Ethernet interface varies with some router models. Review this table to confirm the name for the Ethernet interface on your router. For example, if your router interface lists Ethernet0, you need to enter the command **interface Ethernet0**.

Router Model	First Ethernet Interface
SOHO	Ethernet0
800 Series	Ethernet0
1760	FastEthernet0/0
1700 Series	FastEthernet0
1800	FastEthernet0/0
2600 Series	FastEthernet0/0
2800	FastEthernet0/0

```
Router(config-if)#interface FastEthernet0
Router(config-if)#
```

- Type **ip address ip-address subnet-mask** with the IP address and subnet mask from the LAN Addressing Worksheet (L6A and L2A). Press **Enter**.

```
Router(config-if)#ip address 192.168.10.1 255.255.255.0
```

- Type **no shutdown** and press **Enter** to make the interface active.

```
Router(config-if)# no shutdown
```

- Type **end** to leave configuration mode.

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

- Type **write memory** to save the configuration.

```
Router(config)#write memory  
Building configuration...  
[OK]
```

- Click **File > Exit** to exit HyperTerminal.

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## Download SDM

To download the SDM files, follow these steps:

**Note:** SDM is provided on the CD included with your router. However, Cisco recommends that you download the software from Cisco.com to ensure that you have the most recent version.

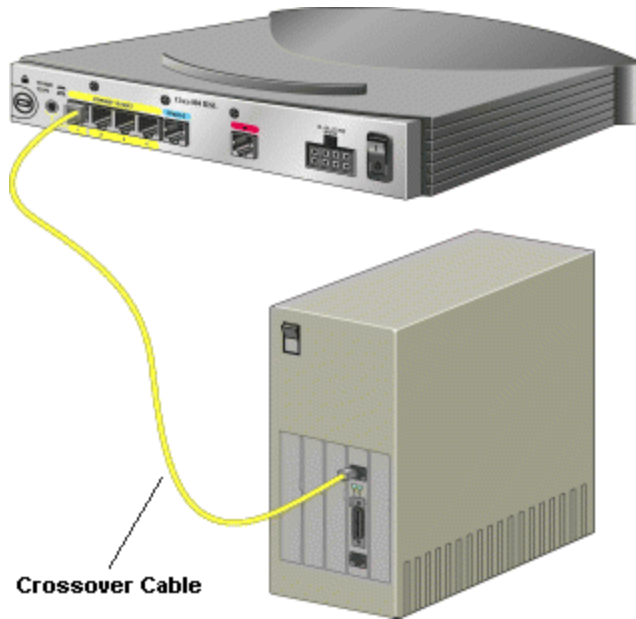
1. Open <http://www.cisco.com/pcgi-bin/tablebuild.pl/sdm>.
2. Click the SDM-Vnn.zip file for the SDM version you want download.
3. Review the End User License Agreement and click **Accept**.
4. Click the SDM-Vnn.zip file to download the file.
5. Log in with your Cisco.com user ID and password to begin the download.
6. Extract the SDM-Vnn.zip file to your PC desktop. For more information about how to extract the files from .zip format, review the documentation for your zip utility.

## Confirm Connectivity to the Router

To confirm connectivity between your PC and the router, follow these steps:

1. Change your PC IP address to an address that matches the router Ethernet IP address you entered in the LAN Addressing Worksheet (fields **L6A** and **L2A**). For example, if your router has IP address 192.168.10.1, change your PC to 192.168.10.2. To change your PC IP address, go to **Control Panel > Network and Dial-Up Connections > TCP/IP Properties**. For more information on how to configure an IP address on your PC, refer to [Configure an IP Address on Your PC](#).

2. Connect the crossover cable to the RJ-45 Ethernet port of your PC and the yellow Ethernet port of the router.



3. Verify that your PC can send traffic to the router with a ping test.
  - a. Click **Start > Run**
  - b. Type **command** or **cmd** to launch a DOS prompt.
  - c. Type **ping router-IP-address** and press **Enter**.

For more information on how to do a ping test, refer to [Troubleshoot Ethernet Connectivity](#).

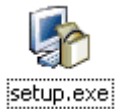
```
Command Prompt
C:\>ping 192.168.10.1
Pinging 192.168.10.1 with 32 bytes of data:
Reply from 192.168.10.1: bytes=32 time<10ms TTL=128
Reply from 192.168.10.1: bytes=32 time<10ms TTL=128
Reply from 192.168.10.1: bytes=32 time<10ms TTL=128
Reply from 192.168.10.1: bytes=32 time<10ms TTL=128
Ping statistics for 192.168.10.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
```

4. Type **exit** and press **Enter** to close the window.

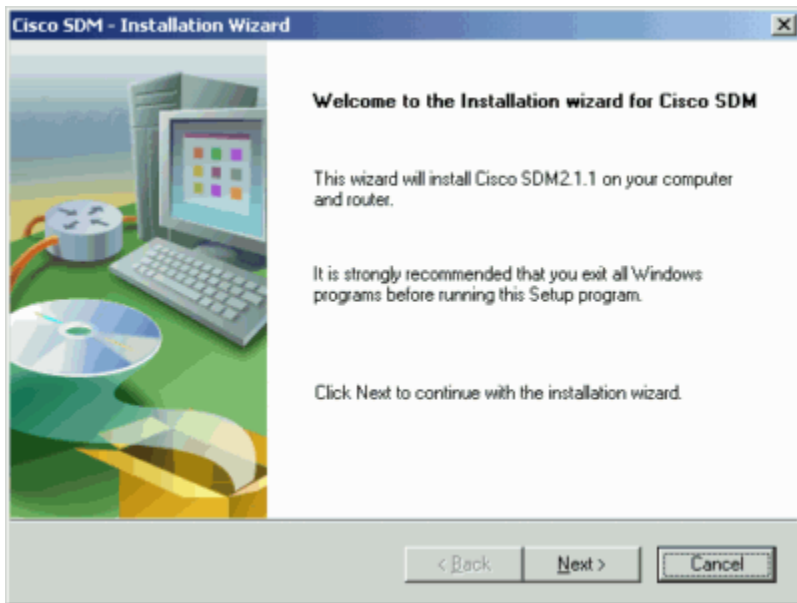
### Install Security Device Manager

To install Security Device Manager, follow these steps:

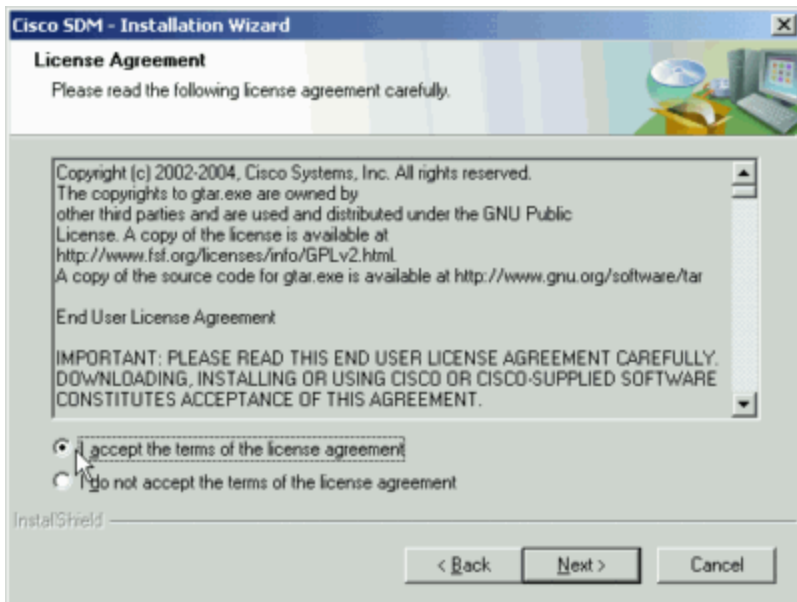
1. Open the SDM folder on the desktop and double click the **setup.exe** file.



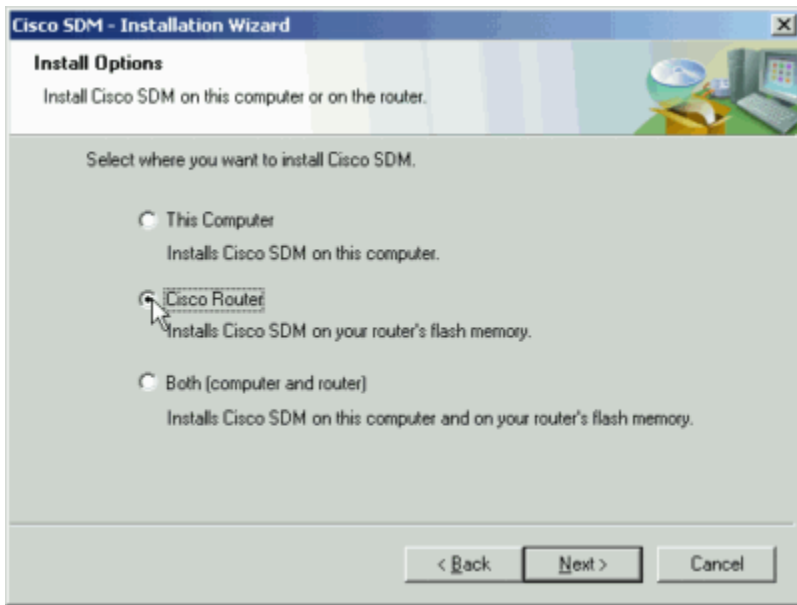
2. Click **Next**.



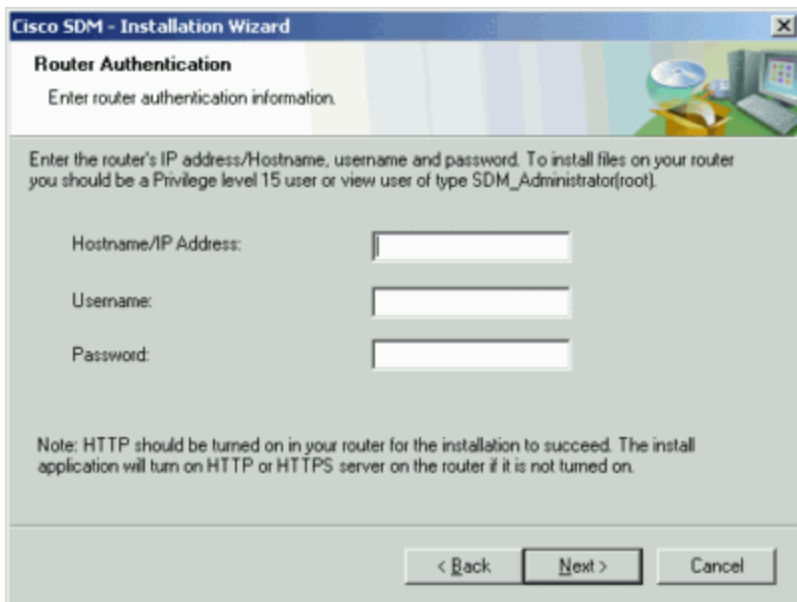
3. Choose **I accept the terms of the license agreement** and click **Next**.



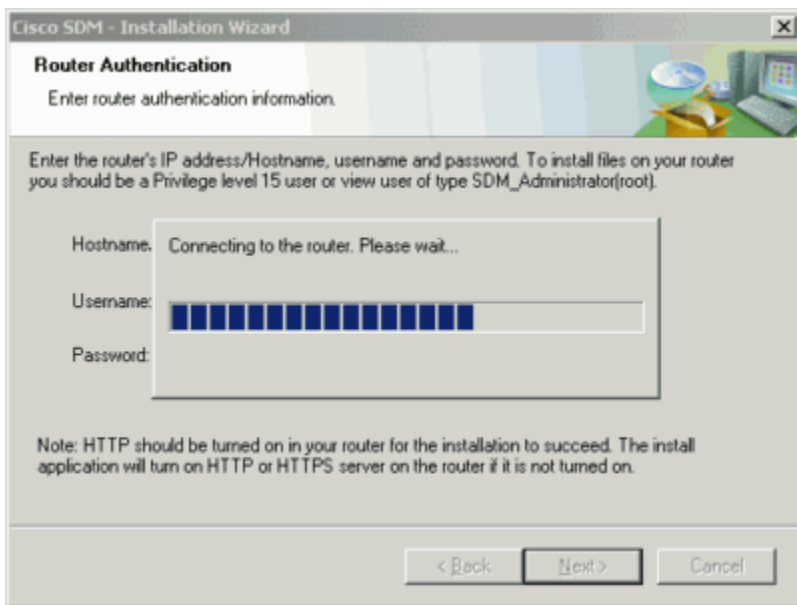
4. Choose **Cisco Router** and click **Next** to install SDM on the router.



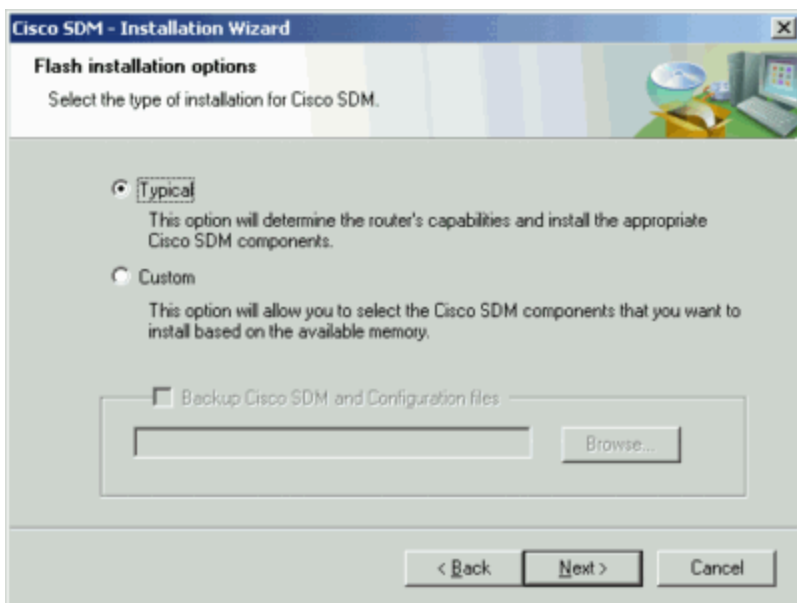
5. In the **Hostname/IP Address** field, enter the IP address from the LAN Addressing Worksheet (L6A). In the **Username** field, enter the username that you entered in the LAN Addressing Worksheet (B10). In the Password field, enter the password that you entered in the LAN Addressing Worksheet (B11).



6. SDM accesses the router with your login information. If SDM cannot access the router, see [Troubleshoot the Procedure](#).

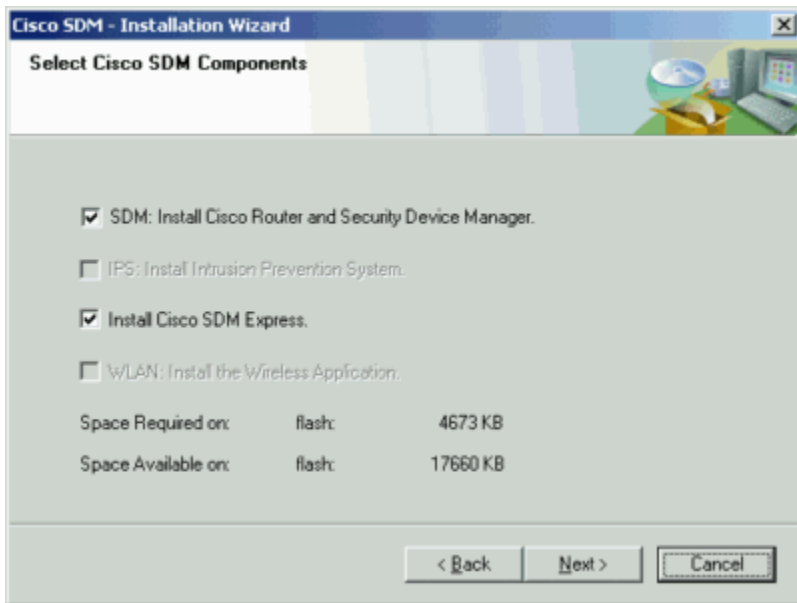


7. Choose **Typical** and click **Next**.

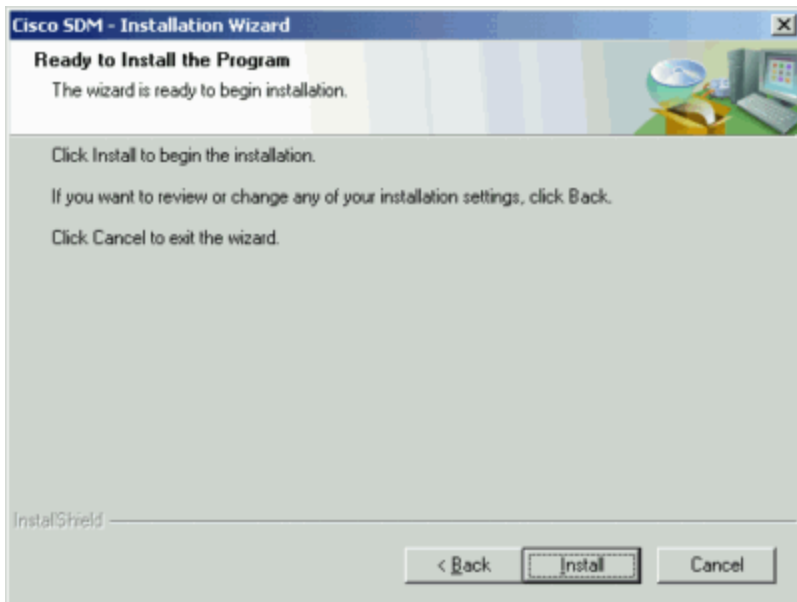


8. Check **SDM: Install Cisco Router and Security Device Manager** and **Install Cisco SDM Express**. If you have a wireless router, check **WLAN: Install the Wireless Application**. Click **Next**.

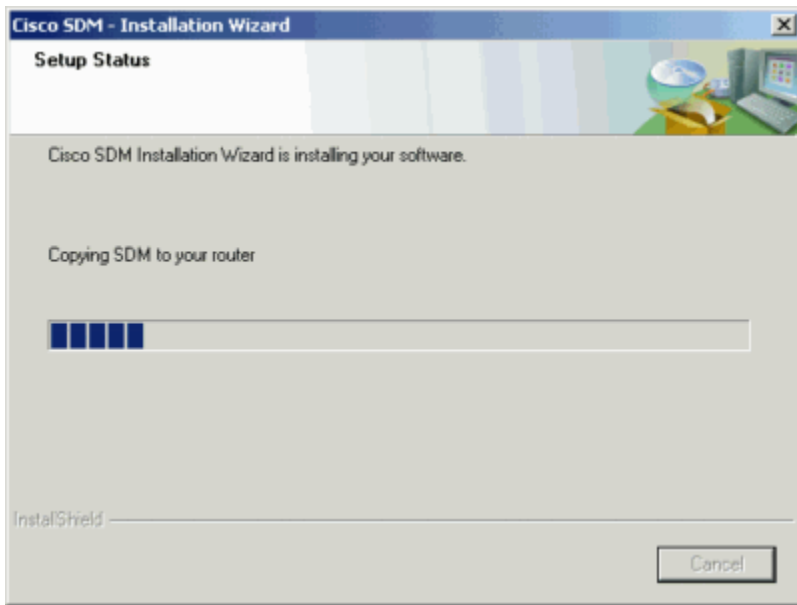
**Note:** If you want to use Intrusion Prevention System (IPS), you need to upgrade your IOS image to Release 12.3(8)T4 or later. For more information, contact the [SMB Technical Assistance Center \(SMB TAC\)](#).



9. Click **Install** to begin installation.



10. The Installation Wizard copies the SDM files to the router.



11. Click **Finish** to complete the installation.

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### Next Step

You have now installed SDM on your router.

Refer to [Configure your Router with Security Device Manager](#) to configure your router with SDM.

**Note:** If you have an ASA Security Appliance in your network, refer to [Configure Your Router with Security Device Manager with ASA](#).

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### Troubleshoot the Procedure

This section provides information about common problems that you may encounter. If this information does not solve your problem, contact the [SMB Technical Assistance Center \(SMB TAC\)](#) for assistance.

Problem	Cause(s) and Suggested Solution(s)

SDM cannot access my router when I enter my login information.

- See to the [Confirm Connectivity to the Router](#).
- If the tests in [Confirm Connectivity to the Router](#) are successful, see [Prepare Your Router to Support SDM](#).

## Reclaim Flash Memory

If there is insufficient space to copy the new software image into flash, the router displays an error message. To resolve this problem, you need to delete files from Flash memory and reclaim flash memory space. To reclaim flash memory, follow these steps:

1. Type **show flash** and press **Enter** to show the files in flash memory.

```
System flash directory:
File Length Name/status
  1  5877460 c1700-y-mz.123-12.bin
  2  3885056 sdm.tar
  3  1545 sdmconfig-1721.cfg
[9764061 bytes used, 23528223 available, 33292284 total]
32768K bytes of processor board System flash (Read/Write)
```

2. Review the files to determine what files you can delete. You can delete unused .cfg configuration files or .bin software image files.



**Caution:** Ensure that you do not delete a .cfg configuration file or a .bin software image file that is in use.

3. Type **del filename.ext** to remove unnecessary files. Press **Enter** to confirm.

```
Router# del filename.ext

Router# Delete filename [filename.ext]?
Router# Delete flash:filename.ext [confirm]
Router#
```

4. Type **squeeze flash** to reclaim flash memory. Press **Enter**.

```
Router# squeeze flash
Squeeze operation may take a while. Continue? [confirm]
squeeze in progress... eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
Rebuild file system directory...
Squeeze of flash complete
Router#
```

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## Related Information

- [Cable Descriptions](#)
- [Configure an IP Address on Your PC](#)
- [Reset the Password on a Cisco Router](#)
- [Configure Your Router with Security Device Manager](#)

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