



# Cisco Security Device Manager (SDM) Quick Start Guide

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This document accompanies the Quick Start Guide for your Cisco router. It describes Security Device Manager (SDM) and shows you how to use it to configure your Cisco IOS.

Cisco Security Device Manager (SDM) is an easy-to-use device management tool that allows you to configure Cisco IOS security features through an intuitive web-based graphical user interface.



## Note

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This document contains the latest information on how to use SDM to give your router an initial configuration. If the Quick Start Guide that came with your router contains SDM startup instructions, do not use those instructions. Use this document instead.

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If you don't want to use SDM to configure the router, see [I Want to Use the Cisco IOS Startup Sequence](#).

## Translated Versions of this Document

Translated versions of this document are available in the following languages: German, Dutch, French, Spanish, Italian.

- Die Deutsche Version dieses Dokuments finden Sie unter <http://www.cisco.com/go/sdm>.
- Voor de Nederlandse versie van dit document ga naar de volgende website: <http://www.cisco.com/go/sdm>.
- Une version Française de ce document est disponible a partir du lien suivant: <http://www.cisco.com/go/sdm>
- Este documento está disponible en español a través de <http://www.cisco.com/go/sdm>
- Una versione italiana di questo documento è disponibile a <http://www.cisco.com/go/sdm>



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# Use SDM to Configure the Router

This section explains how to use the SDM Startup wizard to deploy your router with a working LAN and WAN configuration. Once the router is deployed you can use SDM to further configure LAN and WAN interfaces, dynamic routing, Network Address Translation (NAT), firewalls, Virtual Private Networks (VPNs), and other features on your router. SDM runs under Internet Explorer version 5.5 or later, on a PC that is running Microsoft Windows XP, Windows 2000, Windows ME, Windows NT 4.0 (with Service Pack 4), or Windows 98. SDM runs under Netscape 4.79 on a PC that is running Microsoft Windows XP, Windows 2000, Windows ME, or Windows NT 4.0 (with Service Pack 4).

## Task 1: Install Interface Cards, and Cable the Router

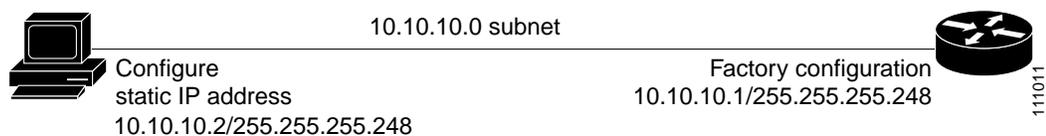
Before SDM can be used to configure the router, you must install all the necessary hardware accessories that are applicable to your router, such as WAN interface cards (WICs), Network Modules (NMs), or AIM cards that you will use to connect to the network. Refer to the Quick Start Guide for your router for instructions on installing these interface cards, cabling the router, and verifying that all the connections are working properly.

## Task 2: Set Up the PC

You have to set up the PC to communicate with SDM. SDM is shipped with a default configuration file that assigns an IP address to a LAN interface on the router, and you must configure the PC to be on the same subnet as the router's LAN interface.

Because the router is not preconfigured as a DHCP server, you must assign a static IP address to the PC. Assign an IP address in the range of 10.10.10.2 to 10.10.10. 6 to the Ethernet port of the PC, as shown in [Figure 1](#). Use the subnet mask 255.255.255.248. The lowest numbered Ethernet interface of the router is preconfigured with the IP address 10.10.10.1.

**Figure 1** Configure the PC with a Static IP Address in the 10.10.10.0 Subnet



Use an Ethernet cable to connect the PC's Ethernet adapter to the lowest-numbered Ethernet port on the router. See [Table 1](#) to determine which port to connect the PC to, and what type of cable to use. The Ethernet LED for your router listed in [Table 1](#) turns on when the connection is made. Although [Figure 1](#) does not show an Ethernet switch between the PC and the router, an Ethernet switch can be used with straight through cables.

**Table 1** Router Port Numbers

Cisco Router Model	Cable Type	Port Number	LED
831, 836, and 837	Straight through (standard)	Ethernet ports 1, 2, 3, or 4	E1, E2, E3, or E4
1701	Crossover, or straight through with Ethernet switch	Ethernet 10/100 (Yellow port on router)	ETH ACT

*Table 1 Router Port Numbers*

Cisco Router Model	Cable Type	Port Number	LED
1711, 1712	Crossover, or straight through with Ethernet switch	WIC 4ESW port 1x	Port 1X
1710, 1721, 1751, 1760	Crossover, or straight through with Ethernet switch	Ethernet 10/100 (Yellow port on router)	ETH ACT or 10/100 ACT
2600	Crossover, or straight through with Ethernet switch	Ethernet 0/0 or FastEthernet 0/0	View LED at port.
3600	Crossover, or straight through with Ethernet switch	FastEthernet 0/0 or FastEthernet 0	View LED at port.
3700	Crossover, or straight through with Ethernet switch	FastEthernet 0/0 or FastEthernet 0	View LED at port.

### Task 3: Start SDM, and Complete the Startup Wizard

To start SDM and begin the router configuration, follow these steps:

**Step 1** Open a web browser on the PC, and enter the following URL:

**https://10.10.10.1**

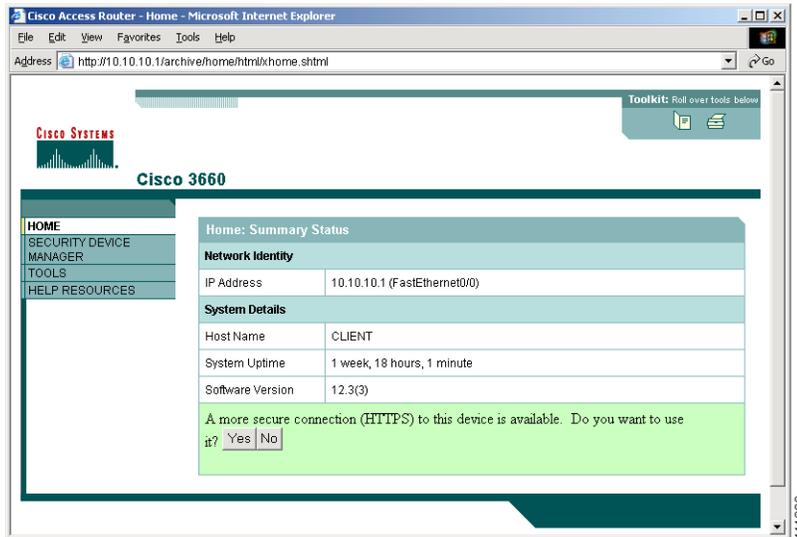


**Note** The **https://...** specifies that the Secure Socket Layer (SSL) protocol be used for a secure connection. You can use **http://...** if SSL is not available.

**Step 2** Enter the username **cisco**, and password **cisco** in the login window. If other login windows appear during the startup process, enter the same credentials (cisco/cisco).

**Step 3** The router's home page appears ([Figure 2](#)). Click **Security Device Manager** in the left frame.

Figure 2 Router Home Page



If the router home page does not appear when you enter the URL **https://10.10.10.1** (or **http://10.10.10.1**), test the connection between the PC and the router by doing the following:

- Check that the Power LED on the router is on, and that the LED for the port to which you connected the PC is on, indicating an active Ethernet connection between the router and the PC. See [Table 1](#) to determine which LED this is. If this LED is not lit, verify that you are using a crossover cable to connect the PC to the router, or that you are using a straight-through cable between the router and the switch.
- If the Launch page still does not appear, verify that the web browser's "work offline" option is disabled. In Internet Explorer, click the **File** menu, and verify that the "work offline" option is unchecked. In Netscape, the default selection in the File menu is set to "work online."
- If the Launch page still does not appear, verify that the file `sdm.tar` is loaded into Flash memory. Open a Telnet session to 10.10.10.1, entering the username **cisco** and the password **cisco**. Enter the **show flash** command to verify that `sdm.tar` is loaded in Flash memory.
- If the web page still does not appear, verify that the PC is configured with a static IP address.

**Step 4** A window appears that informs you that Verisign certifies that this is a Cisco application. Click **Yes**, or click **Grant** to accept the certificate and proceed. If additional certificate windows appear, click **Grant** to accept the certificates.

**Step 5** The SDM Launch page appears after a short time ([Figure 3](#)). Leave this window open and wait for the next window.

Figure 3 SDM Launch Page



- Step 6** A window appears that provides information about the browser and its settings. That window also informs you that SDM will open in another window. You can close this window and wait for the SDM Startup Wizard page to appear.
- Step 7** When the SDM Startup wizard appears, click **Next** to begin configuring the router. Use the wizard to give the router a name, and to configure a LAN interface, a WAN interface, and secure the router. You configure the LAN IP address, and you can create a DHCP server to provide IP addresses to the hosts on the private (inside) network. To configure the WAN, you need to enter the IP address and other parameters provided by your Internet service provider (ISP).

**Tip**

The Startup wizard will ask you to enter an enable secret password to control access to the Cisco IOS. Be sure to write down or remember the enable secret password that you enter. It is not shown in the enable password field or in the summary window, and it cannot be reset without erasing the router configuration.

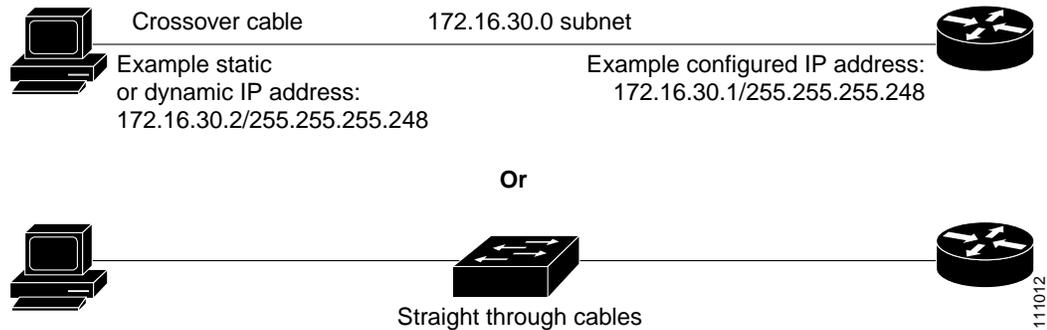
- Step 8** When the Summary window appears, write down the LAN IP address, the username and the user password that you entered, and click **Finish**. You will need this information to reconnect to the router and use SDM to perform additional configuration.
- Step 9** Exit SDM and complete **Task 4** to reconfigure the PC and to reconnect to SDM, using the new IP address you gave to the LAN interface.

## Task 4: Assign a New IP Address to the PC, and Restart SDM

Follow these steps to assign a new IP address to the PC and to continue using SDM:

- Step 1** Assign a new IP address to the PC's Ethernet interface; place it on the same subnet as the router's Ethernet port, which you assigned in [Step 7](#) of Task 3. See [Figure 4](#) for an example configuration. If you configured a DHCP server on the router, configure the PC to obtain an IP address automatically.

**Figure 4** *Configure the PC with an IP Address on the New Subnet*



[Figure 4](#) shows that you can connect the PC directly to the router using a crossover cable, or connect it to a switch using a straight through cable.

- Step 2** Open a web browser on the PC, and enter the SDM URL, using the new IP address that you gave the LAN interface (`https://new-IP-address`). In the example shown in [Figure 4](#), you would enter the following:

```
https://172.16.30.1
```

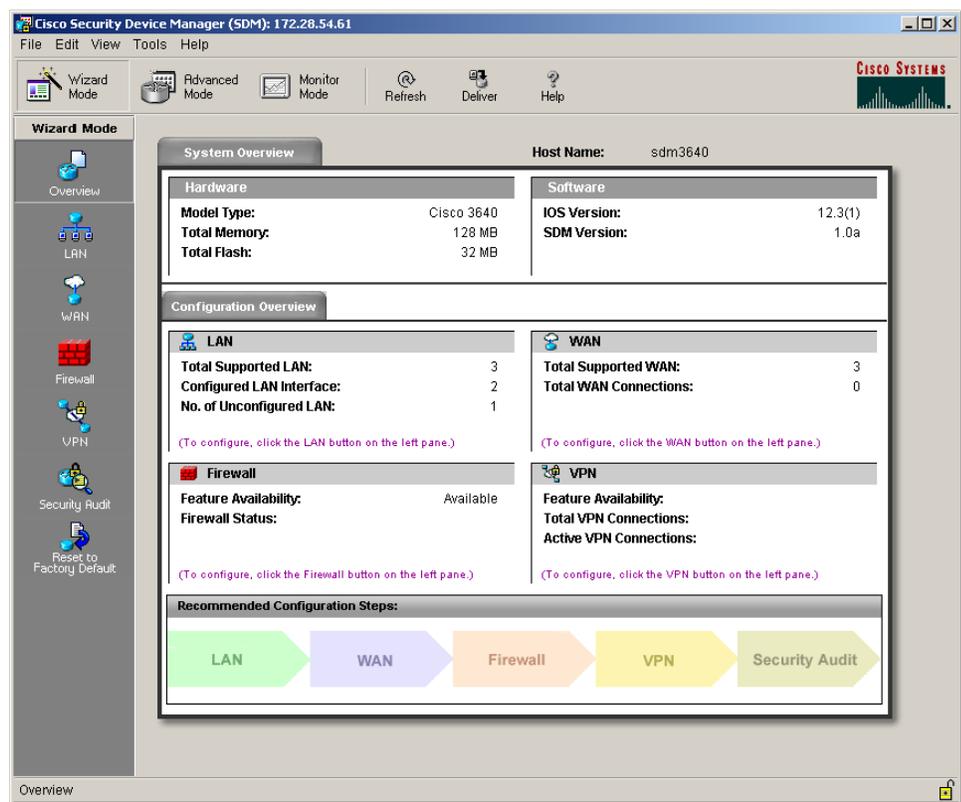
The `https://...` specifies that the Secure Socket Layer (SSL) protocol be used for a secure connection. You can use `http://...` if SSL is not available.

- Step 3** Enter the username and password that you specified in [Step 7](#) in the “[Task 3: Start SDM, and Complete the Startup Wizard](#)” section on page 3.

The SDM Overview window appears, as shown in [Figure 5](#).

To continue configuring your router, see the “[Using SDM](#)” section on page 7.

Figure 5 SDM Overview Window



## Using SDM

Cisco SDM provides a series of easy-to-use wizards that quickly take you step-by-step through configuring your router, without requiring knowledge of the Cisco IOS software CLI. You can use SDM wizards to:

- Configure WAN connections
- Create firewalls
- Configure VPN connections
- Perform Security Audits

To start a wizard, simply click the appropriate button in the left frame of the Overview window, shown in [Figure 5](#).

SDM also provides the Advanced Mode, through which you can configure advanced features, such as Firewall Policy, NAT, VPNs, routing protocols, and other options. To use Advanced Mode, click the **Advanced Mode** button on the SDM toolbar, and then click the button on the left side of the screen for the feature you want to configure.

- To configure NAT, click **NAT** on the left side of the screen while in Advanced Mode. From there you can
  - Click **Designate Interfaces** to designate inside and outside interfaces.

- Click **Address Pool** to define a pool of dynamic NAT IP addresses.
- Click **Add...** to create NAT rules.
- To customize the router's firewall policy or create an ACL, click **Firewall Policy**.
- To allow the router to be securely managed, click **Management Access** in the System tree.

SDM automatically saves changes to the router's running configuration, and you can direct it to save the running configuration to the startup configuration.

## You're Done! Where to Go from Here

Now that you have used SDM to give your router an initial configuration, you can continue to use SDM to configure additional features or modify existing feature configurations. You can use the SDM URL to start SDM and then add to, or modify, your router's configuration at any time.

## For More Information About SDM and About Your Router

For additional information about SDM features, refer to the SDM online help. Additional information about SDM is also available on the SDM website at <http://www.cisco.com/go/sdm>. This website provides access to detailed information about SDM, including an SDM FAQ, data sheet, customer presentation, Flash demo, and links to technical documentation and product updates.

Refer to the Quick Start Guide for your router for other procedures, such as connecting a PC to the router console port so that you can use the CLI when you need to, and using the router LEDs to verify installation. The Quick Start Guide may also contain important warranty information.

## I Want to Use the Cisco IOS Startup Sequence

If you have already configured the router using SDM, you don't need to read this section.

Because SDM uses a default configuration file, your router *will not execute the standard Cisco IOS startup sequence*. You can use this section to run Cisco IOS setup utility and take advantage of a TFTP or BOOTP configuration download, or use other features available through the standard Cisco IOS startup sequence. It also tells you what to do if you want to use SDM in the future.

*SDM has created a default configuration for your router.* The configuration does the following:

- Provides an IP address for your Fast Ethernet interface, enabling an interface to your LAN
- Enables your router's HTTP/HTTPS server, allowing HTTP access from your LAN
- Creates a default username (**cisco**) and password (**cisco**) with privilege level 15
- Enables Telnet/SSM access to the router from your LAN

If you want to erase the existing configuration and take advantage of the Cisco IOS startup sequence, perform the following steps. SDM will remain on the router.

- 
- Step 1** Connect the light blue console cable, included with your router, from the blue console port on your router to a serial port on your PC. Refer to your router's Hardware Installation Guide for instructions.
- Step 2** Connect the power supply to your router, plug the power supply into a power outlet, and turn on your router. Refer to your router's Quick Start Guide for instructions.

- Step 3** Use a terminal emulation program on your PC, with the terminal emulation settings of 9600 baud, 8 data bits, no parity, 1 stop bit, and no flow control, to connect to your router.
- Step 4** At the prompt, enter the **enable** command. The default configuration file does not configure an enable password.
- ```
yourname> enable
yourname#
```
- Step 5** Enter the **erase startup-config** command.
- ```
yourname# erase startup-config
```
- Step 6** Confirm the command by pressing **Enter**.
- Step 7** Enter the **reload** command.
- ```
yourname# reload
```
- Step 8** Confirm the command by pressing **Enter**.
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After you press enter, the router will begin executing the standard startup sequence. If you want to be able to use SDM to perform subsequent configurations for the router, you must use the CLI to add statements to the configuration file. See the [“I Want to Install or Enable SDM on the Router”](#) section for this information.

## I Want to Install or Enable SDM on the Router

In order to use SDM in the future, you must configure the router to support web-based applications, configure it with a user account defined with privilege level 15, and configure it to support the Telnet and SSH protocols.

- The router’s HTTP/HTTPS server must be enabled, using the following Cisco IOS commands:

```
ip http server
ip http secure-server
ip http authentication local
```

If the router uses an IPSec IOS image, the HTTPS server is enabled. Otherwise only the HTTP server is enabled.

- SDM requires a user account that is defined with privilege level 15 (enable privileges):

```
username <username> privilege 15 password 0 <password>
```



**Note** For security purposes, the user account that you define should be different from the default one used in the example above.

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- SSH/Telnet must be configured for local login and privilege level 15:

```
line vty 0 4
 privilege level 15
 login local
 transport input telnet
 transport input telnet ssh
```

- Local logging should (optionally) be enabled to support the log monitoring function:

```
logging buffered 51200 warning
```

Go to <http://www.cisco.com/go/sdm> to obtain SDM documents such as release notes and installation instructions that can be used to obtain the latest version of SDM. If you are configuring a Cisco 830 router, you should obtain the following document:

- Switching Between Cisco Security Device Manager (SDM) and Cisco Router Web Setup Tool (CRWS) on Cisco 83x Series Routers

If you accidentally delete SDM files on the router, or the router was shipped without SDM, you can download SDM free of charge from <http://www.cisco.com/go/sdm> under Software Center. Be sure to download the SDM installation instructions from the Software Center too.

## Cisco.com

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

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