



**Installing Cisco Security Device Manager (SDM)**



## **Cisco Security Device Manager (SDM)**

Cisco Router and Security Device Manager (SDM) is a Web-based device-management tool for Cisco routers that can improve the productivity of network managers, simplify router deployments, and help troubleshoot complex network and VPN connectivity issues.

Cisco SDM supports a wide range of Cisco IOS Software releases and is available free of charge on Cisco router models from Cisco 830 Series to Cisco 7301. It ships preinstalled on all new Cisco 850 Series, Cisco 870 Series, Cisco 1800 Series, Cisco 2800 Series, and Cisco 3800 Series integrated services routers.

Network and security administrators and channel partners can use Cisco SDM for faster and easier deployment of Cisco routers for integrated services such as dynamic routing, WAN access, WLAN, firewall, VPN, SSL VPN, IPS, and QoS.



## Cisco Security Device Manager (SDM)

Q. What are the minimum requirements of the browser client workstation to support Cisco SDM?

A. Cisco SDM is supported on Windows-based PC platforms and industry-standard browsers only:

- Windows 2003 Server (Standard Edition), Windows XP Professional, Windows 2000 Professional, Windows NT 4.0 Workstation (Service Pack 4), and Windows ME.

Note: Windows 2000 Advanced Server is not supported by Cisco SDM.

- Internet Explorer 5.5 or later or Netscape 7.1 and 7.2
- Java Virtual Machine (JVM) built-in browsers required, Java plug-in (Java Runtime Environment Version 1.4.2\_05 or later)



## Preparing Your Router For SDM

Cisco shows additional steps, but only two steps are necessary to prepare your router to be managed via SDM (from your PC):

**Step 1** Enable the HTTP and/or HTTPS servers.

```
r1(config)#ip http server  
-and/or-  
r1config)# ip http secure-server
```

**Step 2** Create a user account defined with privilege level 15 (enable privileges).

```
r1(config)#ip http authentication local  
r1(config)#username packetlab privilege 15 password packetlab
```

**Step 3** If you are going to run SDM from the router, you must enable vty line login using the account you created in step 2 (this step is only required for installations running SDM from the router)

```
r1(config)#line vty 0 4  
r1(config-line)#login local
```



## Downloading Cisco SDM

You will need a CCO login to download the Cisco SDM software.

Select a File to Download			
Sort by: <input type="text" value="Filename"/> <input type="button" value="Go"/>			
Filename	Release	Date	Size (Bytes)
<a href="#">SDMv2.5-Readme.html</a> SDMv2.5-Readme.html	2.5	08-FEB-2008	157005
<a href="#">SDMr25.pdf</a> Release Notes for Cisco Router and Security Device Manager	2.5	20-JAN-2008	473910
<a href="#">SDMUpdate.xml</a> File for SDM update reference. You need not download this file	1.8	14-DEC-2007	5098
<a href="#">SDM-V25.zip</a> Cisco Router and Security Device Manager(SDM)-English Edition	2.5	13-DEC-2007	14896171
<a href="#">SDMr241.pdf</a> Release Notes for Cisco Router and Security Device Manager	2.4.1	20-SEP-2007	478809
<a href="#">SDMr24.pdf</a> Release Notes for Cisco Router and Security Device Manager	2.4	20-SEP-2007	459379
<a href="#">SDMv2.4.1-Readme.html</a> Readme File for SDM2.4.1	2.4.1	16-JUL-2007	147800



## Launching SDM (PC)

Type in the IP address of the device you want to manage (or select it from a dropdown list of previously used IP addresses). If you are using HTTPS, select the checkbox. Finally, click the 'Launch' button.





## Common Problems With PC Based SDM

**Firewalls** – be sure to turn off your personal firewall or create an exception for SDM if needed.

**Browser** – SDM will launch in your default browser. If your default browser is not Internet Explorer, then you might encounter problems. I use Firefox as my default browser so I've installed a Firefox add in called 'IE View' and specified that whenever SDM launches it will be passed to Internet Explorer.

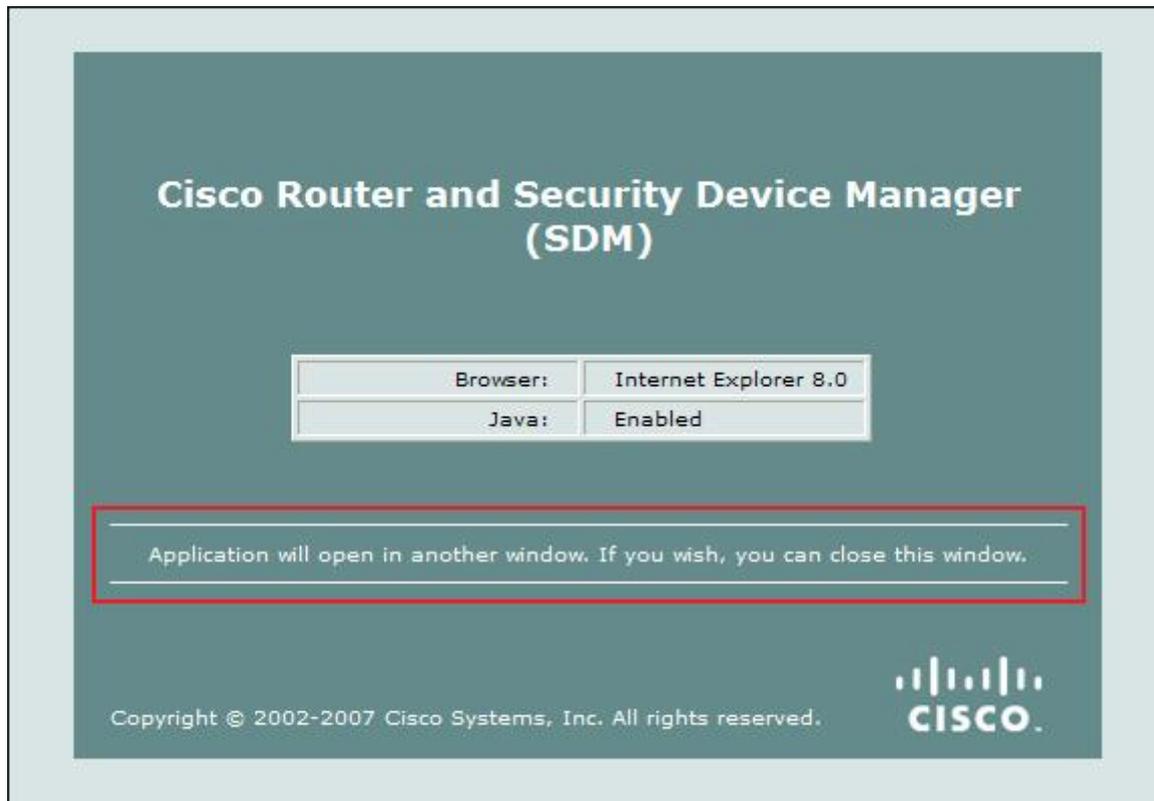
**Java** – For those who don't know, Java is a platform agnostic language whose motto is ""Write Once, Debug Everywhere"". Also, it was created by Satan. I fucking hate Java. Cisco seems to love it. I had a problem with SDM not working for certain sections (like IPS). I installed an older version of Java, and this issue was fixed.

**Popups** – SDM loves to launch popups. I've wasted time troubleshooting SDM only to find a Java popup requesting a login to be the culprit. For whatever reason this (applet?) did not show up in the task bar so once it was behind another window...it was completely invisible. You'll want to watch your popup blocker when working with SDM.



## Launching SDM (PC)

This should be the first window you see:





## Launching SDM (PC)

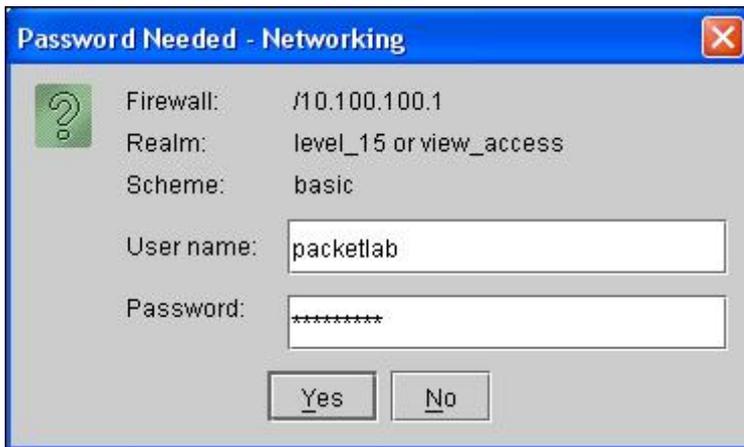
A separate popup will launch. Provide the credentials you configured while preparing the router for SDM.

A screenshot of a Windows 'Connect to' dialog box. The title bar reads 'Connect to 10.100.100.1' and includes help and close buttons. The main area has a blue header with a key icon. The text inside reads: 'The server 10.100.100.1 at level\_15 or view\_access requires a username and password.' Below this is a warning: 'Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).' There are two input fields: 'User name:' with a dropdown menu showing 'packetlab' and a user icon, and 'Password:' with a masked field of ten black dots. A checkbox labeled 'Remember my password' is unchecked. At the bottom are 'OK' and 'Cancel' buttons.



## Launching SDM (PC)

Beware the popups (you may or may not see these depending on your setup(Java version)).



Almost there...this can take a while; be patient.

The screenshot displays the Cisco Router and Security Device Manager (SDM) interface. The title bar reads "Cisco Router and Security Device Manager (SDM): 10.100.100.1". The main menu includes "File", "Edit", "View", "Tools", and "Help". The navigation bar contains icons for "Home", "Configure", "Monitor", "Refresh", "Save", "Search", and "Help", along with the Cisco logo.

The "About Your Router" section is visible, showing a router icon and fields for "Host Name:", "Hardware", and "Software". The "Hardware" section lists "Model Type:", "Available / Total Memory(MB):", and "Available / Total Flash(MB):". The "Software" section lists "IOS Version:" and "SDM Version:". A "Status" dialog box is overlaid on the interface, containing a document icon and the text: "Please wait while SDM is loading the current configuration from your router." Below this text is a progress bar with 10 segments, 7 of which are filled. The dialog also displays "Parsing router's running config...".

The "Configuration Overview" section is partially visible, showing "Interfaces and Connect...", "Total Supported LAN:", "Configured LAN Interface:", "DHCP Server:", "Firewall Policies", "VPN", "IPSec (Site-to-Site):", "Xauth Login Required:", "No. of DMVPN Clients:", "Routing", "GRE over IPSec:", "Easy VPN Remote:", "No. of Active VPN Clients:", "Intrusion Prevention", "Active Signatures:", "No. of IPS-enabled Interfaces:", "SDF Version:", and a link to "Security Dashboard".

The bottom left corner of the interface shows "SDM Home" and a yellow status indicator.

Done! Here's what SDM will look like once it has fully loaded.

The screenshot shows the Cisco Router and Security Device Manager (SDM) interface for a Cisco 2610XM router. The window title is "Cisco Router and Security Device Manager (SDM): 10.100.100.1". The interface includes a menu bar (File, Edit, View, Tools, Help) and a toolbar with icons for Home, Configure, Monitor, Refresh, Save, Search, and Help. The Cisco logo is in the top right corner.

**About Your Router**

Host Name: r1

**Hardware** [More ...](#)

- Model Type: Cisco 2610XM
- Available / Total Memory(MB): 40/128 MB
- Total Flash Capacity: 48 MB

**Software** [More ...](#)

- IOS Version: 12.4(25c)
- SDM Version: 2.5

Feature Availability: IP  Firewall  VPN  IPS  NAC

**Configuration Overview** [View Running Config](#)

**Interfaces and Connections**  Up (1)  Down (18)

- Total Supported LAN: 2
- Configured LAN Interface: 1
- DHCP Server: Not Configured
- Total Supported WAN: 1(Serial T1 CSU/DSU)
- Total WAN Connections: 0

**Firewall Policies**  Inactive

**VPN**  Up (0)

- IPSec (Site-to-Site): 0
- Xauth Login Required: 0
- No. of DMVPN Clients: 0
- GRE over IPSec: 0
- Easy VPN Remote: 0
- No. of Active VPN Clients: 0

**Routing**

- No. of Static Route: 0
- Dynamic Routing Protocols: None

**Intrusion Prevention**

- Active Signatures: 0
- No. of IPS-enabled Interfaces: 0
- SDF Version:

[Security Dashboard](#)

17:55:05 UTC Tue Feb 23 2010



## Installing And Running SDM On The Router

As mentioned in an earlier slide you will need to allow login to a privilege level 15 account on your vty lines. Since you've already created a local privilege level 15 account, you can simply add 'login local' to your vty line(s):

```
r1(config)#line vty 0 4
r1(config-line)#login local
```

Unfortunately, you'll need to run the SDM installer again (double click 'setup' in the unzipped SDM folder) to add the required files to your router.





## Installing And Running SDM On The Router

You'll need connectivity to the router that you want to manage as well as having prepared the router with the steps listed earlier.

The screenshot shows a window titled "Cisco SDM - Installation Wizard" with a red close button in the top right corner. The window has a blue header bar. Below the header, the title "Router Authentication" is displayed in bold. Underneath, the instruction "Enter router authentication information." is shown. To the right of this text is a small graphic of a computer monitor, keyboard, and a CD/DVD. Below this, a larger instruction reads: "Enter the router's IP address/Hostname, username and password. To install files on your router you should be a Privilege level 15 user or view user of type SDM\_Administrator(root)." There are three input fields: "Hostname/IP Address:" with the value "10.100.100.1", "Username:" with the value "packetlab", and "Password:" with a masked password represented by black bars. At the bottom of the window, there is a red-bordered box containing a note: "Note: HTTP should be turned on in your router for the installation to succeed. The install application will turn on HTTP or HTTPS server on the router if it is not turned on." At the very bottom, there are three buttons: "< Back", "Next >", and "Cancel".

**Cisco SDM - Installation Wizard**

**Router Authentication**  
Enter router authentication information.

Enter the router's IP address/Hostname, username and password. To install files on your router you should be a Privilege level 15 user or view user of type SDM\_Administrator(root).

Hostname/IP Address: 10.100.100.1

Username: packetlab

Password: [Masked]

Note: HTTP should be turned on in your router for the installation to succeed. The install application will turn on HTTP or HTTPS server on the router if it is not turned on.

< Back   Next >   Cancel



## Installing And Running SDM On The Router

Cisco SDM - Installation Wizard

**Router Authentication**  
Enter router authentication information.

Enter the router's IP address/Hostname, username and password. To install files on your router you should be a Privilege level 15 user or view user of type SDM\_Administrator(root).

Hostname: Connecting to the router. Please wait...

Username:

Password:

Note: HTTP should be turned on in your router for the installation to succeed. The install application will turn on HTTP or HTTPS server on the router if it is not turned on.

< Back    Next >    Cancel



## Installing And Running SDM On The Router

If there is a problem with connecting to the router or with credentials; you'll see the following popup:





## Installing And Running SDM On The Router

I like to choose 'custom' here so I can verify the files being added to my router and to see if I have sufficient memory available.





## Installing And Running SDM On The Router

Cisco SDM - Installation Wizard

Select Cisco SDM Components

SDM: Install Cisco Router and Security Device Manager.

Cisco Secure Desktop Package

Cisco Secure WebVPN Client Package

Cisco Secure Desktop (CSD) and Cisco Secure WebVPN client (SVC) packages are required if you plan to configure this router as a WebVPN gateway with CSD and SVC feature.

Install Cisco SDM Express.

WLAN: Install the Wireless Application.

Space Required on:	flash:	9248 KB
Space Available on:	flash:	12056 KB

< Back   Next >   Cancel

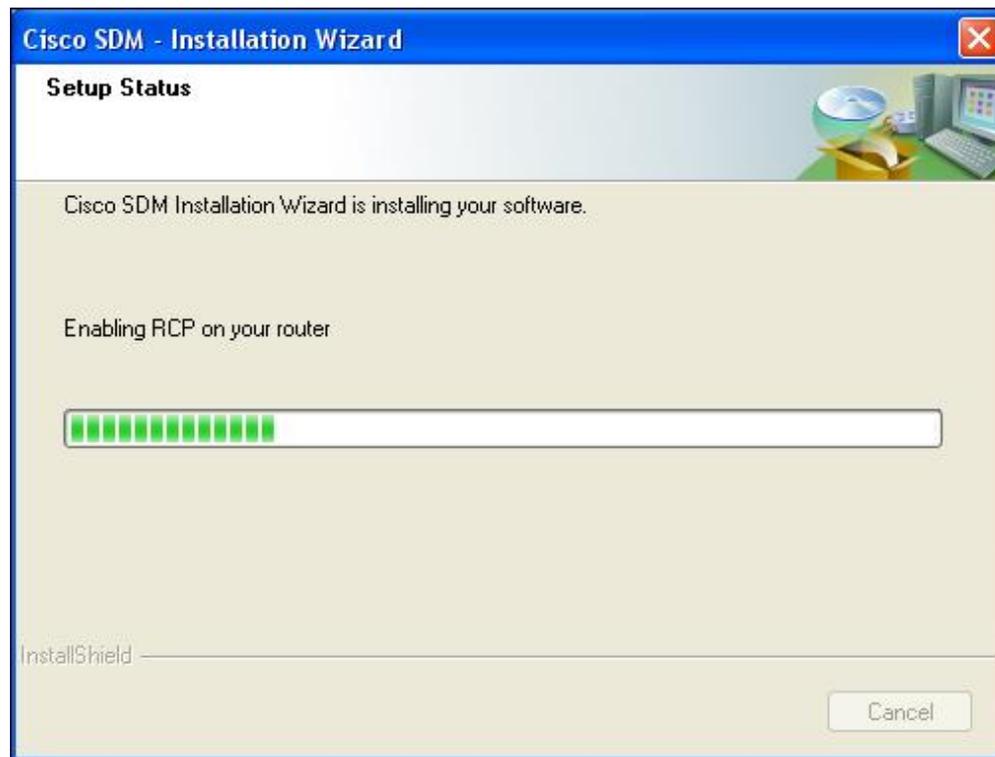


## Installing And Running SDM On The Router





## Installing And Running SDM On The Router





## Installing And Running SDM On The Router

Cisco SDM will add a number of new files to your router:

```
r1#dir
```

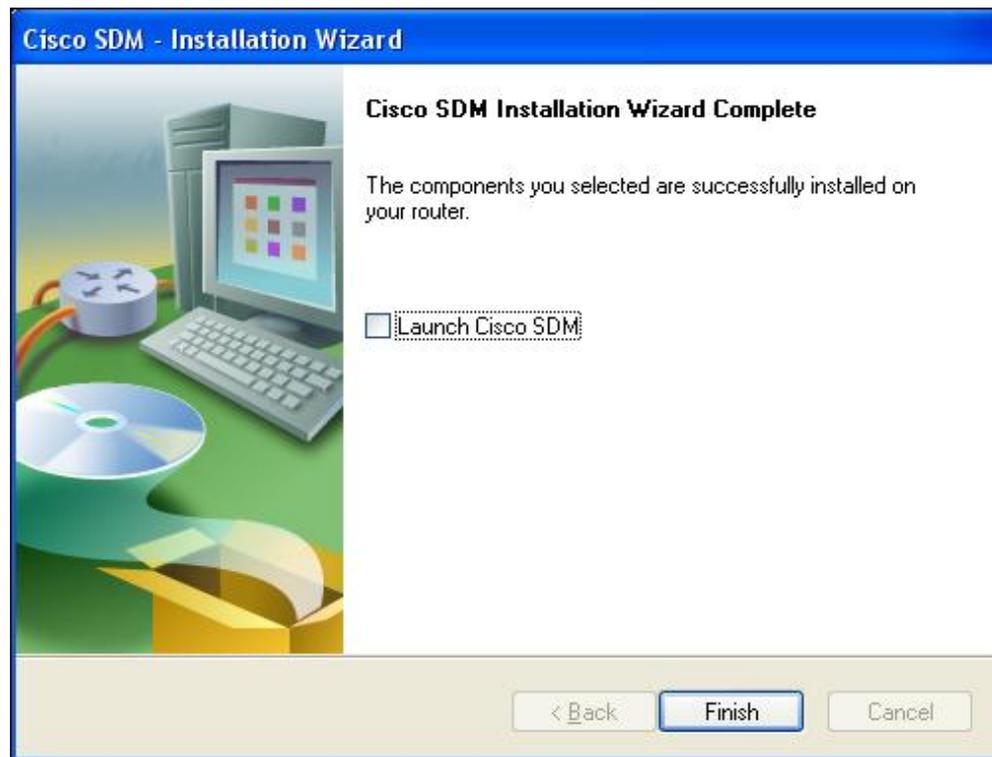
```
Directory of flash:/
```

```
  1  -rw-      29965496          <no date>  c2600-adventerprisek9-mz.124-  
25c.bin  
  2  -rw-      7754580          <no date>  c2600-i-mz.123-26.bin  
  3  -rw-       265061          <no date>  crashinfo_20020301-000020  
  4  -rw-         1038  Feb 25 2010 10:45:15 +00:00  home.shtml  
  5  -rw-         2754  Feb 25 2010 10:45:15 +00:00  sdmconfig-26xx.cfg  
  6  -rw-       112640  Feb 25 2010 10:45:16 +00:00  home.tar  
  7  -rw-       527849  Feb 25 2010 10:45:22 +00:00  128MB.sdf  
  8  -rw-      1505280  Feb 25 2010 10:45:41 +00:00  common.tar  
  9  -rw-      6389760  Feb 25 2010 10:46:57 +00:00  sdm.tar  
 10  -rw-       931840  Feb 25 2010 10:47:07 +00:00  es.tar
```

```
50331644 bytes total (2874696 bytes free)
```



## Installing And Running SDM On The Router





## Installing And Running SDM On The Router

While you can launch SDM from the last installation window, you'll have to manually launch it in the future from your browser via 'https://x.x.x.x' where x.x.x.x is your router's IP address.

Note that the SDM installation enabled the HTTPS server on my router. I had previously only enabled HTTP. It will also configure your router for SSH.

Login with the credentials you created earlier:

A screenshot of a Windows-style dialog box titled "Authentication Required". The dialog has a blue header bar with a red close button in the top right corner. On the left side, there is a blue circular icon containing a white question mark. To the right of the icon, the text reads: "A username and password are being requested by https://10.100.100.1. The site says: 'level\_15 or view\_access'". Below this text are two input fields: "User Name:" followed by a white text box, and "Password:" followed by a white text box. At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

## Cisco Router and Security Device Manager (SDM)

Browser:	Firefox 3.5.7
Java:	Enabled

Application will open in another window. If you wish, you can close this window.

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The page at <https://10.100.100.1> says:



You have an active popup blocker. Please disable it for SDM to function

OK



## Installing And Running SDM On The Router

The screenshot shows a Mozilla Firefox browser window titled "SDM Launch Page (10.100.100.1) - Mozilla Firefox". The address bar shows the URL "https://10.100.100.1/archive/flash:common/common/runAPP.shtml?homeFS=flash:&amp;commonFS=1". The main content area features a header "Cisco Router and Security Device Manager (SDM)" above a colorful diagram of network services including LAN, WAN, VPN, Wireless, IPS, NAC, QoS, and Firewall. Below the diagram is the text "V 2.5" and the Cisco logo with the text "Copyright © 2002 - 2007 Cisco Systems, Inc. All rights reserved." A blue progress bar indicates "Loading Cisco SDM. Please wait ...". A red-bordered message box contains the text: "SDM for 10.100.100.1 will open in another window. Do not close this window until you exit SDM." The browser's status bar at the bottom shows "Done" and the IP address "10.100.100.1".



## Installing And Running SDM On The Router

**Warning - Security**

Do you want to accept the certificate from web site "IOS-Self-Signed-Certificate-487079400" for the purpose of exchanging encrypted information?

Publisher authenticity verified by: "Unknown issuer"

 The security certificate was issued by a company that is not trusted.

 The security certificate has not expired and is still valid.

Caution: "IOS-Self-Signed-Certificate-487079400" asserts that this content is safe. You should only accept this content if you trust "IOS-Self-Signed-Certificate-487079400" to make that assertion.

[More Details](#)

**Warning - HTTPS**

 **Hostname Mismatch**

The hostname in the server security certificate does not match the name of the server.

Hostname of the URL: 10.100.100.1  
Hostname from the certificate: IOS-Self-Signed-Certificate-487079400

Do you want to proceed?

**Warning - Security**

 Do you want to trust the signed applet distributed by "Cisco Systems"?

Publisher authenticity verified by: "Thawte Consulting cc"

 The security certificate was issued by a company that is trusted.

 The security certificate has expired or is not yet valid.

Caution: "Cisco Systems" asserts that this content is safe. You should only accept this content if you trust "Cisco Systems" to make that assertion.

[More Details](#)



# Installing And Running SDM On The Router

Cisco Router and Security Device Manager (SDM): 10.100.100.1

File Edit View Tools Help

Home Configure Monitor Refresh Save Search Help

CISCO

**About Your Router**

Host Name:

Hardware	Software
<b>Model Type:</b>	<b>IOS Version:</b>
<b>Available / Total Memory(MB):</b>	<b>SDM Version:</b>
<b>Available / Total Flash(MB):</b>	
<b>Features:</b>	

**Configuration Overview**

Interfaces and Connect

**Total Supported LAN:**

**Configured LAN Interface:**

**DHCP Server:**

Firewall Policies

VPN

**IPSec (Site-to-Site):**

**Xauth Login Required:**

**No. of DMVPN Clients:**

**GRE over IPSec:**

**Easy VPN Remote:**

**No. of Active VPN Clients:**

Routing

**No. of Static Route:**

**Dynamic Routing Protocols:**

Intrusion Prevention

**Active Signatures:**

**No. of IPS-enabled Interfaces:**

**SDF Version:**

[Security Dashboard](#)

**Status**

Please wait while SDM is loading the current configuration from your router.

Discovering router hardware attributes...

SDM Home



# Installing And Running SDM On The Router

Cisco Router and Security Device Manager (SDM): 10.100.100.1

File Edit View Tools Help

Home Configure Monitor Refresh Save Search Help

CISCO

### About Your Router

Host Name: r1

Hardware	More...	Software	More...
<b>Model Type:</b>	Cisco 2610XM	<b>IOS Version:</b>	12.4(25c)
<b>Available / Total Memory(MB):</b>	40/128 MB	<b>SDM Version:</b>	2.5
<b>Total Flash Capacity:</b>	48 MB		

Feature Availability: IP  Firewall  VPN  IPS  NAC

### Configuration Overview

View Running Config

Interfaces and Connections		Firewall Policies		VPN		Routing		Intrusion Prevention	
Up (1)		Inactive		Up					
<b>Total Supported LAN:</b>	2	<b>Total Supported WAN:</b>	1(Serial T1 CSU/DSU)	<b>IPSec (Site-to-Site):</b>		<b>GRE over IPSec:</b>		<b>Active Signatures:</b>	
<b>Configured LAN Interface:</b>	1	<b>Total WAN Connections:</b>	0	<b>Xauth Login Required:</b>		<b>Easy VPN Remote:</b>		<b>No. of IPS-enabled Interfaces:</b>	
<b>DHCP Server:</b>	Not Configured			<b>No. of DMVPN Clients:</b>		<b>No. of Active VPN Clients:</b>		<b>SDF Version:</b>	
								<b>Security Dashboard</b>	
<b>No. of Static Route:</b>	0								
<b>Dynamic Routing Protocols:</b>	None								

11:03:51 UTC Thu Feb 25 2010



## Summary

Installing and running Cisco Security Device Manager is a fairly straight forward process. You will need to be aware of a few issue though:

- 1) You will need to configure your router to allow SDM to manage it
- 2) If you want to run SDM locally, you will need to make sure that your Java, firewall, and browser settings are adjusted as needed. You will also need to be running Windows.
- 3) If you want to run SDM from the router, you will need to make sure that you have sufficient storage on the router to install the needed SDM files.