



# CHAPTER 1

## Getting Started

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This chapter describes IDM and provides information for getting started using IDM. It contains the following sections:

- [Advisory, page 1-1](#)
- [Introducing IDM, page 1-1](#)
- [System Requirements, page 1-2](#)
- [Initializing the Sensor, page 1-3](#)
- [Increasing the Memory Size of the Java Plug-In \(IPS 6.0\(1\) Only\), page 1-42](#)
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### Advisory

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer, and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute, or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return the enclosed items immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at the following website:

<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance, contact us by sending e-mail to [export@cisco.com](mailto:export@cisco.com).

### Introducing IDM

IDM is a web-based, Java Web Start application that enables you to configure and manage your sensor. The web server for IDM resides on the sensor. You can access it through Internet Explorer or Firefox web browsers.

The IDM user interface consists of the File and Help menus. There are Home, Configuration, and Monitoring buttons. The Configuration, and Monitoring buttons open menus in the left-hand TOC pane with the configuration pane on the right.

The following four buttons appear next to the Home, Configuration, and Monitoring buttons:

- Back—Takes you to the pane you were previously on.
- Forward—Takes you forward to the next pane you have been on.
- Refresh—Loads the current configuration from the sensor.
- Help—Opens the online help in a new window.

The Home window provides a high-level view of the state of the sensor and contains the following system information:

- Device Information—Displays the host name, the IPS software version, the IDM version, whether Bypass mode is enabled or disabled, the missed packets percentage, the IP address, the device type, the amount of memory, the amount of data storage, and the number of sensing interfaces.
- System Resources Status—Displays the CPU and memory usage of the sensor.
- Interface Status—Displays the status of the management and sensing interfaces. Choose the entry in the Interface Status table to view the received and transmitted packets count for each interface.
- Alert Summary—Displays how many Informational, Low, Medium, and High alerts the sensor has and how many alerts have a threat rating value above 80.




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**Note** Alarm counts grow until you clear the Event Store or until the Event Store buffer is overwritten.

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- Alert Profile— Displays a graphical view of the number of alerts at each severity level plus the count for alerts that have threat rating values above 80.

IDM constantly retrieves status information to keep the Home window updated.

To disable auto refresh, uncheck the **Auto refresh every 10 seconds** check box. By default it is checked and the window is refreshed every 10 seconds. You can also refresh the window manually by clicking Refresh Page.

To configure the sensor, choose **Configuration** and go through the menus in the left-hand pane. To configure monitoring, click **Monitoring** and go through the menus in the left-hand pane.

New configurations do not take effect until you click **Apply** on the pane you are configuring. Click **Reset** to discard current changes and return settings to their previous state for that pane.

## System Requirements

IDM has the following system requirements:

- Windows 2000 Service Pack 4, Windows XP (English or Japanese version)
  - Internet Explorer 6.0 with Java Plug-in 1.4.2 or 1.5 or Firefox 1.5 with Java Plug-in 1.4.2 or 1.5
  - Pentium IV or AMD Athlon or equivalent running at 450 Mhz or higher
  - 512 MB minimum
  - 1024 x 768 resolution and 256 colors (minimum)
- Sun SPARC Solaris
  - Sun Solaris 2.8 or 2.9
  - Firefox 1.5 with Java Plug-in 1.4.2 or 1.5

- 512 MB minimum
- 1024 x 768 resolution and 256 colors (minimum)
- Linux
  - Red Hat Linux 9.0 or Red Hat Enterprise Linux WS, Version 3 running GNOME or KDE
  - Firefox 1.5 with Java Plug-in 1.4.2 or 1.5
  - 256 MB minimum, 512 MB or more strongly recommended
  - 1024 x 768 resolution and 256 colors (minimum)

**Note**

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Although other web browsers may work with IDM, we support only the listed browsers.

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## Initializing the Sensor

This section explains how to initialize the sensor, and contains the following topics:

- [Understanding the setup Command, page 1-3](#)
- [Understanding the System Configuration Dialog](#)
- [Initializing the Sensor, page 1-5](#)
- [Verifying Initialization, page 1-39](#)

## Understanding the setup Command

After you install the sensor on your network, you must use the **setup** command to initialize it. With the **setup** command, you configure basic sensor settings, including the hostname, IP interfaces, Telnet server, web server port, access control lists, and time settings, and you assign and enable virtual sensors and interfaces. After you initialize the sensor, you can communicate with it over the network. You are now ready to configure intrusion prevention.

## Understanding the System Configuration Dialog

When you enter the **setup** command, an interactive dialog called the System Configuration Dialog appears on the system console screen. The System Configuration Dialog guides you through the configuration process.

The values shown in brackets next to each prompt are the current values.

You must go through the entire System Configuration Dialog until you come to the option that you want to change. To accept default settings for items that you do not want to change, press **Enter**.

To return to the EXEC prompt without making changes and without going through the entire System Configuration Dialog, press **Ctrl-C**.

The System Configuration Dialog also provides help text for each prompt. To access the help text, enter **?** at a prompt.

When you complete your changes, the System Configuration Dialog shows you the configuration that you created during the setup session. It also asks you if you want to use this configuration. If you enter **yes**, the configuration is saved. If you enter **no**, the configuration is not saved and the process begins again. There is no default for this prompt; you must enter either **yes** or **no**.

You can configure daylight savings time either in recurring mode or date mode. If you choose recurring mode, the start and end days are based on week, day, month, and time. If you choose date mode, the start and end days are based on month, day, year, and time. Choosing disable turns off daylight savings time.



**Note**

You only need to set the date and time in the System Configuration Dialog if the system is an appliance and is NOT using NTP.



**Note**

The System Configuration Dialog is an interactive dialog. The default settings are displayed.

Example 1-1 shows a sample System Configuration Dialog.

**Example 1-1 Example System Configuration Dialog**

```
--- System Configuration Dialog ---
```

```
At any point you may enter a question mark '?' for help.
User ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '[]'.
```

```
Current Configuration:
```

```
service host
network-settings
host-ip 10.1.9.201/24,10.1.9.1
host-name sensor
telnet-option disabled
ftp-timeout 300
np login-banner-text
exit
time-zone-settings
offset 0
standard-time-zone-name UTC
exit
summertime-option disabled
ntp-option disabled
exit
service web-server
port 443
exit
service interface
physical-interfaces FastEthernet0/0
admin-state enabled
subinterface-type inline-vlan-pair
subinterface 1
description Created via setup by user asmith
vlan1 200
vlan2 300
exit
```

```
exit
exit
physical-interfaces FastEthernet0/1
admin-state enabled
exit
physical-interfaces FastEthernet0/2
admin-state enabled
exit
physical-interfaces GigabitEthernet0/0
admin-state enabled
exit
inline-interfaces newPair
description Created via setup by user asmith
interface1 FastEthernet0/1
interface2 FastEthernet0/2
exit
exit
service analysis-engine
virtual-sensor newVs
description Created via setup by user cisco
signature-definition newSig
event-action-rules rules0
anomaly-detection
anomaly-detection-name ad0
operational-mode inactive
exit
physical-interface GigabitEthernet0/0
exit
virtual-sensor vs0
physical-interface FastEthernet0/0 subinterface-number 1
logical-interface newPair
exit
exit
```

Current time: Wed May 5 10:25:35 2006

## Initializing the Sensor

This section describes how to initialize the various sensor platforms, and contains the following topics:

- [Initializing the Appliance, page 1-6](#)
- [Initializing IDSM2, page 1-14](#)
- [Initializing AIP SSM, page 1-21](#)
- [Initializing NM CIDS, page 1-28](#)
- [Initializing AIM IPS, page 1-33](#)

## Initializing the Appliance



**Note** The interfaces change according to the appliance model, but the prompts are the same for all models.



**Note** Setup supports multiple virtual sensors. In IPS 5.x, Setup added new subinterfaces to virtual sensor vs0. In IPS 6.0, adding new subinterfaces is a two-step process. You first organize the interfaces when you edit the virtual sensor configuration. You then choose which interfaces and subinterfaces are assigned to which virtual sensors.

To initialize the appliance, follow these steps:

**Step 1** Log in to the appliance using an account with administrator privileges using either a serial connection or a monitor and keyboard:



**Note** You cannot use a monitor and keyboard with IDS-4215, IPS 4240, IPS 4255, IPS 4260, or IPS 4270-20.



**Note** Both the default username and password are **cisco**.

**Step 2** The first time you log in to the appliance you are prompted to change the default password. Passwords must be at least eight characters long and be strong, that is, not be a dictionary word. After you change the password, the `sensor#` prompt appears.

**Step 3** Enter the **setup** command.  
The System Configuration Dialog is displayed.

**Step 4** Press the spacebar to get to the following question:  
`Continue with configuration dialog?[yes]:`

Press the spacebar to show one page at a time. Press **Enter** to show one line at a time.

**Step 5** Enter **yes** to continue.

**Step 6** Specify the hostname.  
The hostname is a case-sensitive character string up to 64 characters. Numbers, “\_” and “-” are valid, but spaces are not acceptable. The default is `sensor`.

**Step 7** Specify the IP interface.  
The IP interface is in the form of IP Address/Netmask, Gateway: `X.X.X.X/mn,Y.Y.Y.Y`, where `X.X.X.X` specifies the sensor IP address as a 32-bit address written as 4 octets separated by periods, `mn` specifies the number of bits in the netmask, and `Y.Y.Y.Y` specifies the default gateway as a 32-bit address written as 4 octets separated by periods.

**Step 8** Specify the Telnet server status.  
You can disable or enable Telnet services. The default is disabled.

**Step 9** Specify the web server port.

The web server port is the TCP port used by the web server (1 to 65535). The default is 443.



**Note** If you change the web server port, you must specify the port in the URL address of your browser when you connect to the IDM in the format `https://appliance_ip_address:port` (for example, `https://10.1.9.201:1040`).



**Note** The web server is configured to use TLS/SSL encryption by default. Setting the port to 80 does not disable the encryption.

**Step 10** Enter **yes** to modify the network access list.

- a. If you want to delete an entry, enter the number of the entry and press **Enter**, or press **Enter** to get to the Permit line.
- b. Enter the IP address and netmask of the network you want to add to the access list.  
 The IP network interface is in the form of IP Address/Netmask: *X.X.X.X/nn*, where *X.X.X.X* specifies the network IP address as a 32-bit address written as 4 octets separated by periods and *nn* specifies the number of bits in the netmask for that network.  
 For example, 10.0.0.0/8 permits all IP addresses on the 10.0.0.0 network (10.0.0.0-10.255.255.255) and 10.1.1.0/24 permits only the IP addresses on the 10.1.1.0 subnet (10.1.1.0-10.1.1.255).  
 If you want to permit access to a single IP address than the entire network, use a 32-bit netmask. For example, 10.1.1.1/32 permits just the 10.1.1.1 address.
- c. Repeat Step b until you have added all networks that you want to add to the access list.
- d. Press **Enter** at a blank permit line to proceed to the next step.

**Step 11** Enter **yes** to modify the system clock settings.

- a. Enter **yes** if you want to use NTP.  
 You need the NTP server IP address, the NTP key ID, and the NTP key value. If you do not have those at this time, you can configure NTP later.
- b. Enter **yes** to modify summertime settings.



**Note** Summertime is also known as DST. If your location does not use Summertime, go to Step n.

- c. Choose recurring, date, or disable to specify how you want to configure summertime settings.  
 The default is recurring.
- d. If you chose recurring, specify the month you want to start summertime settings.  
 Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is march.
- e. Specify the week you want to start summertime settings.  
 Valid entries are first, second, third, fourth, fifth, and last. The default is first.
- f. Specify the day you want to start summertime settings.  
 Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.
- g. Specify the time you want to start summertime settings.

The default is 02:00:00.



**Note** The default recurring summertime parameters are correct for time zones in the United States. The default values specify a start time of 2:00 a.m. on the second Sunday in March, and a stop time of 2:00 a.m. on the first Sunday in November. The default summertime offset is 60 minutes.

- h. Specify the month you want summertime settings to end.  
Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is november.
- i. Specify the week you want the summertime settings to end.  
Valid entries are first, second, third, fourth, fifth, and last. The default is last.
- j. Specify the day you want the summertime settings to end.  
Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.
- k. Specify the time you want summertime settings to end.
- l. Specify the DST zone.  
The zone name is a character string up to 24 characters long in the pattern [A-Za-z0-9()+:./-]+\$.
- m. Specify the summertime offset.  
Specify the summertime offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.
- n. Enter **yes** to modify the system time zone.
- o. Specify the standard time zone name.  
The zone name is a character string up to 24 characters long.
- p. Specify the standard time zone offset.  
Specify the standard time zone offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.

**Step 12** Enter **yes** to modify the interface and virtual sensor configuration.

The current interface configuration appears:

```
Current interface configuration
Command control: GigabitEthernet0/1
Unassigned:
Promiscuous:
FastEthernet0/0
FastEthernet0/1
FastEthernet0/2
FastEthernet0/3
GigabitEthernet0/0

Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0
```

```
[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:
```

**Step 13** Enter **1** to edit the interface configuration.



**Note** The following options let you create and delete interfaces. You assign the interfaces to virtual sensors in the virtual sensor configuration. If you are using promiscuous mode for your interfaces and are not subdividing them by VLAN, no additional configuration is necessary.

The following options appear:

```
[1] Remove interface configurations.
[2] Add/Modify Inline Vlan Pairs.
[3] Add/Modify Promiscuous Vlan Groups.
[4] Add/Modify Inline Interface Pairs.
[5] Add/Modify Inline Interface Pair Vlan Groups.
[6] Modify interface default-vlan.
Option:
```

**Step 14** Enter **2** to add inline VLAN pairs.



**Caution** The new VLAN pair is not automatically added to a virtual sensor.

The list of available interfaces is displayed:

```
Available Interfaces
[1] FastEthernet0/0
[2] FastEthernet0/1
[3] FastEthernet0/2
[4] FastEthernet0/3
[5] GigabitEthernet0/0
Option:
```

**Step 15** Enter **1** to add an inline VLAN pair to FastEthernet0/0, for example:

```
Inline Vlan Pairs for FastEthernet0/0
None
```

**Step 16** Enter a subinterface number and description:

```
Subinterface Number:
Description[Created via setup by user asmith]:
```

**Step 17** Enter numbers for VLAN 1 and 2:

```
Vlan1[]: 200
Vlan2[]: 300
```

**Step 18** Press **Enter** to return to the available interfaces menu.



**Note** Entering a carriage return at a prompt without a value returns you to the previous menu.

```
[1] FastEthernet0/0
[2] FastEthernet0/1
[3] FastEthernet0/2
```

```
[4] FastEthernet0/3
[5] GigabitEthernet0/0
Option:
```




---

**Note** At this point, you can configure another interface, for example, FastEthernet0/1, for inline VLAN pair.

---

**Step 19** Press **Enter** to return to the top-level interface editing menu.

The following options appear:

```
[1] Remove interface configurations.
[2] Add/Modify Inline Vlan Pairs.
[3] Add/Modify Promiscuous Vlan Groups.
[4] Add/Modify Inline Interface Pairs.
[5] Add/Modify Inline Interface Pair Vlan Groups.
[6] Modify interface default-vlan.
Option:
```

**Step 20** Enter **4** to add an inline interface pair.

The following options appear:

```
Available Interfaces
FastEthernet0/1
FastEthernet0/2
FastEthernet0/3
GigabitEthernet0/0
```

**Step 21** Enter the pair name, description, and which interfaces you want to pair:

```
Pair name: newPair
Description[Created via setup by user asmith:
Interface1[]: FastEthernet0/1
Interface2[]: FastEthernet0/2
Pair name:
```

**Step 22** Press **Enter** to return to the top-level interface editing menu.

The following options appear:

```
[1] Remove interface configurations.
[2] Add/Modify Inline Vlan Pairs.
[3] Add/Modify Promiscuous Vlan Groups.
[4] Add/Modify Inline Interface Pairs.
[5] Add/Modify Inline Interface Pair Vlan Groups.
[6] Modify interface default-vlan.
Option:
```

**Step 23** Press **Enter** to return to the top-level editing menu.

The following options appear:

```
[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:
```

**Step 24** Enter **2** to edit the virtual sensor configuration.

The following options appear:

```
[1] Remove virtual sensor.
[2] Modify "vs0" virtual sensor configuration.
```

```
[3] Create new virtual sensor.
Option:
```

**Step 25** Enter **2** to modify the virtual sensor configuration, vs0.

The following options appear:

```
Virtual Sensor: vs0
  Anomaly Detection: ad0
  Event Action Rules: rules0
  Signature Definitions: sig0

No Interfaces to remove.

Unassigned:
Promiscuous:
  [1] FastEthernet0/3
  [2] GigabitEthernet0/0
Inline Vlan Pair:
  [3] FastEthernet0/0:1 (Vlans: 200, 300)
Inline Interface Pair:
  [4] newPair (FastEthernet0/1, FastEthernet0/2)
Add Interface:
```

**Step 26** Enter **3** to add inline VLAN pair FastEthernet0/0:1.

**Step 27** Enter **4** to add inline interface pair NewPair.

**Step 28** Press **Enter** to return to the top-level virtual sensor menu.

The following options appear:

```
Virtual Sensor: vs0
  Anomaly Detection: ad0
  Event Action Rules: rules0
  Signature Definitions: sig0
  Inline Vlan Pair:
    FastEthernet0/0:1 (Vlans: 200, 300)
  Inline Interface Pair:
    newPair (FastEthernet0/1, FastEthernet0/2)

[1] Remove virtual sensor.
[2] Modify "vs0" virtual sensor configuration.
[3] Create new virtual sensor.
Option: FastEthernet0/1, FastEthernet0/2)
Add Interface:
```

**Step 29** Press **Enter** to return to the top-level interface and virtual sensor configuration menu.

The following options appear:

```
[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:
```

**Step 30** Enter **yes** if you want to modify the default threat prevention settings:



**Note** The sensor comes with a built-in override to add the deny packet event action to high risk rating alerts. If you do not want this protection, disable automatic threat prevention.

The following appears:

```
Virtual sensor newVs is configured to prevent high risk threats in inline mode. (Risk
Rating 90-100)
Virtual sensor vs0 is configured to prevent high risk threats in inline mode.
(Risk Rating 90-100)
Do you want to disable automatic threat prevention on all virtual sensors?[no]:
```

**Step 31** Enter **yes** to disable automatic threat prevention on all virtual sensors.

**Step 32** Press **Enter** to exit the interface and virtual sensor configuration.

The following completed configuration appears:

```
The following configuration was entered.
service host
network-settings
host-ip 10.1.9.201/24,10.1.9.1
host-name sensor
telnet-option disabled
ftp-timeout 300
no login-banner-text
exit
time-zone-settings
offset 0
standard-time-zone-name UTC
exit
summertime-option disabled
ntp-option disabled
exit
service web-server
port 342
exit
service interface
physical-interfaces FastEthernet0/0
admin-state enabled
subinterface-type inline-vlan-pair
subinterface 1
description Created via setup by user asmith
vlan1 200
vlan2 300
exit
exit
exit
physical-interfaces FastEthernet0/1
admin-state enabled
exit
physical-interfaces FastEthernet0/2
admin-state enabled
exit
physical-interfaces GigabitEthernet0/0
admin-state enabled
exit
inline-interfaces newPair
description Created via setup by user asmith
interface1 FastEthernet0/1
interface2 FastEthernet0/2
exit
exit
service analysis-engine
virtual-sensor newVs
description Created via setup by user cisco
signature-definition newSig
event-action-rules rules0
anomaly-detection
```

```

anomaly-detection-name ad0
operational-mode inactive
exit
physical-interface GigabitEthernet0/0
exit
virtual-sensor vs0
physical-interface FastEthernet0/0 subinterface-number 1
logical-interface newPair
service event-action-rules rules0
overrides deny-packet-inline
override-item-status Disabled
risk-rating-range 90-100
exit
exit

```

[0] Go to the command prompt without saving this config.  
 [1] Return back to the setup without saving this config.  
 [2] Save this configuration and exit setup.

**Step 33** Enter **2** to save the configuration.

```

Enter your selection[2]: 2
Configuration Saved.

```

**Step 34** Enter **yes** to modify the system date and time.



**Note** This option is not available when NTP has been configured. The appliances get their time from the configured NTP server.

- a. Enter the local date (yyyy-mm-dd).
- b. Enter the local time (hh:mm:ss).

**Step 35** Reboot the appliance:

```

sensor# reset
Warning: Executing this command will stop all applications and reboot the node.
Continue with reset? []:

```

**Step 36** Enter **yes** to continue the reboot.

**Step 37** Display the self-signed X.509 certificate (needed by TLS):

```

sensor# show tls fingerprint
MD5: C4:BC:F2:92:C2:E2:4D:EB:92:0F:E4:86:53:6A:C6:01
SHA1: 64:9B:AC:DE:21:62:0C:D3:57:2E:9B:E5:3D:04:8F:A7:FD:CD:6F:27

```

**Step 38** Write down the certificate fingerprints.

You need the fingerprints to check the authenticity of the certificate when connecting to this appliance with a web browser.

**Step 39** Apply the most recent service pack and signature update.

The Readme explains how to apply the most recent software update.

You are now ready to configure your appliance for intrusion prevention.

**For More Information**

- For more information on the System Configuration Dialog, see [Understanding the System Configuration Dialog, page 1-3](#).
- For the procedure for configuring NTP, see [Configuring the Sensor to Use an NTP Time Source, page 2-23](#).
- For information on how to obtain the most recent software, see [Obtaining Cisco IPS Software, page 13-1](#).

## Initializing IDSM2

To initialize IDSM2, follow these steps:

**Step 1** Session in to IDSM2 using an account with administrator privileges:

- For Catalyst software:
 

```
console> enable
console> (enable) session module_number
```
- For Cisco IOS software:
 

```
router# session slot slot_number processor 1
```



**Note** Both the default username and password are **cisco**.

**Step 2** The first time you log in to IDSM2 you are prompted to change the default password. Passwords must be at least eight characters long and be strong, that is, not be a dictionary word. After you change the password, the `sensor#` prompt appears.

**Step 3** Enter the `setup` command.  
The System Configuration Dialog is displayed.

**Step 4** Press the spacebar to get to the following question:  
`Continue with configuration dialog?[yes]:`

Press the spacebar to show one page at a time. Press **Enter** to show one line at a time.

**Step 5** Enter `yes` to continue.

**Step 6** Specify the hostname.  
The hostname is a case-sensitive character string up to 64 characters. Numbers, “\_” and “-” are valid, but spaces are not acceptable. The default is `sensor`.

**Step 7** Specify the IP interface.  
The IP interface is in the form of IP Address/Netmask, Gateway: `X.X.X.X/nm,Y.Y.Y.Y`, where `X.X.X.X` specifies the IDSM2 IP address as a 32-bit address written as 4 octets separated by periods where `X = 0-255`, `nm` specifies the number of bits in the netmask, and `Y.Y.Y.Y` specifies the default gateway as a 32-bit address written as 4 octets separated by periods where `Y = 0-255`.

**Step 8** Specify the Telnet server status.  
You can disable or enable Telnet services. The default is disabled.

**Step 9** Specify the web server port.

The web server port is the TCP port used by the web server (1 to 65535). The default is 443.



**Note** If you change the web server port, you must specify the port in the URL address of your browser when you connect to the IDM in the format `https://IDSM2_ip_address:port` (for example, `https://10.1.9.201:1040`).



**Note** The web server is configured to use TLS/SSL encryption by default. Setting the port to 80 does not disable the encryption.

**Step 10** Enter **yes** to modify the network access list.

- a. If you want to delete an entry, enter the number of the entry and press **Enter**, or press **Enter** to get to the Permit line.
- b. Enter the IP address and netmask of the network you want to add to the access list.  
 The IP network interface is in the form of IP Address/Netmask: *X.X.X.X/nn*, where *X.X.X.X* specifies the network IP address as a 32-bit address written as 4 octets separated by periods where *X* = 0-255, *nn* specifies the number of bits in the netmask for that network.  
 For example, 10.0.0.0/8 permits all IP addresses on the 10.0.0.0 network (10.0.0.0-10.255.255.255) and 10.1.1.0/24 permits only the IP addresses on the 10.1.1.0 subnet (10.1.1.0-10.1.1.255).  
 If you want to permit access to a single IP address than the entire network, use a 32-bit netmask. For example, 10.1.1.1/32 permits just the 10.1.1.1 address.
- c. Repeat Step b until you have added all networks that you want to add to the access list.
- d. Press **Enter** at a blank permit line to proceed to the next step.

**Step 11** Enter **yes** to modify the system clock settings.

- a. Enter **yes** if you want to use NTP.  
 You need the NTP server IP address, the NTP key ID, and the NTP key value. If you do not have those at this time, you can configure NTP later.
- b. Enter **yes** to modify summertime settings.



**Note** Summertime is also known as DST. If your location does not use Summertime, go to Step n.

- c. Choose recurring, date, or disable to specify how you want to configure summertime settings.  
 The default is recurring.
- d. If you chose recurring, specify the month you want to start summertime settings.  
 Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is march.
- e. Specify the week you want to start summertime settings.  
 Valid entries are first, second, third, fourth, fifth, and last. The default is first.
- f. Specify the day you want to start summertime settings.  
 Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.
- g. Specify the time you want to start summertime settings.

The default is 02:00:00.



**Note** The default recurring summertime parameters are correct for time zones in the United States. The default values specify a start time of 2:00 a.m. on the second Sunday in March, and a stop time of 2:00 a.m. on the first Sunday in November. The default summertime offset is 60 minutes.

- h. Specify the month you want summertime settings to end.  
Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is november.
- i. Specify the week you want the summertime settings to end.  
Valid entries are first, second, third, fourth, fifth, and last. The default is last.
- j. Specify the day you want the summertime settings to end.  
Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.
- k. Specify the time you want summertime settings to end.
- l. Specify the DST zone.  
The zone name is a character string up to 24 characters long in the pattern [A-Za-z0-9()+:;\_-]+\$.
- m. Specify the summertime offset.  
Specify the summertime offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.
- n. Enter **yes** to modify the system time zone.
- o. Specify the standard time zone name.  
The zone name is a character string up to 24 characters long.
- p. Specify the standard time zone offset.  
Specify the standard time zone offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.

**Step 12** Enter **yes** to modify the interface and virtual sensor configuration.

The current interface configuration appears:

```
Current interface configuration
Command control: GigabitEthernet0/2
Unassigned:
Promiscuous:
GigabitEthernet0/7
GigabitEthernet0/8

Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0

[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:
```

**Step 13** Enter **1** to edit the interface configuration.



**Note** The following options let you create and delete interfaces. You assign the interfaces to virtual sensors in the virtual sensor configuration. If you are using promiscuous mode for your interfaces and are not subdividing them by VLAN, no additional configuration is necessary.



**Note** The IDSM2 does not support the Add/Modify Inline Interface Pair Vlan Groups option. When running an inline interface pair the two IDSM2 data ports are configured as access ports or a trunk port carrying only the native VLAN. The packets do not have 802.1q headers and cannot be separated by VLAN. To monitor multiple VLANs inline, use Inline VLAN Pairs.

The following options appear:

```
[1] Remove interface configurations.
[2] Add/Modify Inline Vlan Pairs.
[3] Add/Modify Promiscuous Vlan Groups.
[4] Add/Modify Inline Interface Pairs.
[5] Modify interface default-vlan.
```

Option:

**Step 14** Enter **3** to add promiscuous VLAN groups.

The list of available interfaces is displayed:

```
Available Interfaces
[1] GigabitEthernet0/7
[2] GigabitEthernet0/8
Option:
```

**Step 15** Enter **2** to add VLAN groups to GigabitEthernet0/8.

```
Promiscuous Vlan Groups for GigabitEthernet0/8
None
Subinterface Number:
```

a. Enter **10** to add subinterface 10.

```
Subinterface Number: 10
Description[Created via setup by user asmith]:
Select vlans:
[1] All unassigned vlans.
[2] Enter vlans range.
Option:
```

b. Enter **1** to assign all unassigned VLANs to subinterface 10.

```
Subinterface Number:
```

c. Enter **9** to add subinterface 9.

```
Subinterface Number: 9
Description[Created via setup by user asmith]:
Vlans[]:
```

d. Enter **1-100** to assign VLANs 1-100 to subinterface 9.



**Note** This removes VLANs 1-100 from the unassigned VLANs contained in subinterface 10.

e. Repeat Steps c and d until you have added all VLAN groups.

- f. Press **Enter** at a blank subinterface line to return to list of interfaces available for VLAN groups.

The following options appear:

```
[1] GigabitEthernet0/7
[2] GigabitEthernet0/8
Option:
```

- Step 16** Press **Enter** to return to the top-level interface configuration menu.

The following options appear:

```
[1] Remove interface configurations.
[2] Add/Modify Inline Vlan Pairs.
[3] Add/Modify Promiscuous Vlan Groups.
[4] Add/Modify Inline Interface Pairs.
[5] Modify interface default-vlan.
Option:
```

- Step 17** Press **Enter** to return to the top-level menu.

The following options appear:

```
[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:
```

- Step 18** Enter **2** to edit the virtual sensor configuration.

The following option appears:

```
[1] Modify "vs0" virtual sensor configuration.
Option:
```

- Step 19** Enter **1** to modify the virtual sensor vs0 configuration.

The following options appear:

```
Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0

Anomaly Detection Configuration
[1] ad0
[2] Create a new anomaly detection configuration
Option[1]:
```

- Step 20** Enter **1** to use the existing anomaly-detection configuration, ad0.

The following options appear:

```
Signature Definition Configuration
[1] sig0
[2] Create a new signature definition configuration
Option[1]:
```

- Step 21** Enter **1** to use the existing event-action-rules configuration, rules0.

The following options appear:

```
Virtual Sensor: newVs
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: newSig
```

No Interfaces to remove.

```

Unassigned:
  Promiscuous:
    [1] GigabitEthernet0/7
  Promiscuous Vlan Groups:
    [2] GigabitEthernet0/8:10 (Vlans: unassigned)
    [3] GigabitEthernet0/8:9 (Vlans: 1-100)
Add Interface:

```

**Step 22** Enter **2** to add VLAN group GigabitEthernet0/8:9 to the virtual sensor vs0.

Your configuration appears with the following options:

```

[0] Go to the command prompt without saving this config.
[1] Return back to the setup without saving this config.
[2] Save this configuration and exit setup.

```

**Step 23** Press **Enter** to return to the top-level virtual sensor configuration menu.

The following options appear:

```

Virtual Sensor: vs0
  Anomaly Detection: ad0
  Event Action Rules: rules0
  Signature Definitions: newSig
  Promiscuous Vlan Groups:
    GigabitEthernet0/8:10 (Vlans: unassigned)
    GigabitEthernet0/8:9 (Vlans: 1-100)

  [1] Modify "vs0" virtual sensor configuration.
Option:

```

**Step 24** Press **Enter** to return to the top-level interface and virtual sensor configuration menu.

The following options appear:

```

  [1] Edit Interface Configuration
  [2] Edit Virtual Sensor Configuration
  [3] Display configuration
Option:

```

**Step 25** Press **Enter** to exit the interface and virtual sensor configuration menu.

**Step 26** Enter **yes** if you want to modify the default threat prevention settings:




---

**Note** The sensor comes with a built-in override to add the deny packet event action to high risk rating alerts. If you do not want this protection, disable automatic threat prevention.

---

The following appears:

```

  Virtual sensor newVs is configured to prevent high risk threats in inline mode. (Risk
  Rating 90-100)
  Virtual sensor vs0 is configured to prevent high risk threats in inline mode.
  (Risk Rating 90-100)
Do you want to disable automatic threat prevention on all virtual sensors?[no]:

```

**Step 27** Enter **yes** to disable automatic threat prevention on all virtual sensors.

The following completed configuration appears:

```

The following configuration was entered.
service host
network-settings
host-ip 10.1.9.201/24,10.1.9.1

```

```

host-name IDSM2
telnet-option disabled
ftp-timeout 300
no login-banner-text
exit
time-zone-settings
offset 0
standard-time-zone-name UTC
exit
summertime-option disabled
ntp-option disabled
exit
service web-server
port 342
exit
service interface
physical-interfaces GigabitEthernet0/8
admin-state enabled
subinterface-type vlan-group
subinterface 9
description Created via setup by user asmith
vlans range 1-100
exit
subinterface 10
description Created via setup by user asmith
vlans unassigned
exit
exit
exit
exit
service analysis-engine
virtual-sensor vs0
description Created via setup by user cisco
signature-definition sig0
event-action-rules rules0
anomaly-detection
anomaly-detection-name ad0
operational-mode inactive
exit
physical-interface GigabitEthernet0/8 subinterface-number 9
physical-interface GigabitEthernet0/8 subinterface-number 10
service event-action-rules rules0
overrides deny-packet-inline
override-item-status Disabled
risk-rating-range 90-100
exit

```

[0] Go to the command prompt without saving this config.

[1] Return back to the setup without saving this config.

[2] Save this configuration and exit setup.

**Step 28** Enter 2 to save the configuration.

```

Enter your selection[2]: 2
Configuration Saved.

```

**Step 29** Reboot IDSM2:

```

IDSM2# reset
Warning: Executing this command will stop all applications and reboot the node.
Continue with reset? []:

```

**Step 30** Enter **yes** to continue the reboot.

**Step 31** Display the self-signed X.509 certificate (needed by TLS):

```
IDSM2# show tls fingerprint
MD5: C4:BC:F2:92:C2:E2:4D:EB:92:0F:E4:86:53:6A:C6:01
SHA1: 64:9B:AC:DE:21:62:0C:D3:57:2E:9B:E5:3D:04:8F:A7:FD:CD:6F:27
```

**Step 32** Write down the certificate fingerprints.

You need the fingerprints to check the authenticity of the certificate when connecting to this IDSM2 with a web browser.

**Step 33** Apply the most recent service pack and signature update.

The Readme explains how to apply the most recent software update.

You are now ready to configure your IDSM2 for intrusion prevention.

#### For More Information

- For more information on the System Configuration Dialog, see [Understanding the System Configuration Dialog, page 1-3](#).
- For the procedure for configuring NTP, see [Configuring the Sensor to Use an NTP Time Source, page 2-23](#).
- For information on how to obtain the most recent software, see [Obtaining Cisco IPS Software, page 13-1](#).

## Initializing AIP SSM

To initialize AIP SSM, follow these steps:

**Step 1** Session in to AIP SSM using an account with administrator privileges:

```
asa# session 1
```



**Note** Both the default username and password are **cisco**.

**Step 2** The first time you log in to AIP SSM you are prompted to change the default password.

Passwords must be at least eight characters long and be strong, that is, not be a dictionary word.

After you change the password, the `sensor#` prompt appears.

**Step 3** Enter the `setup` command.

The System Configuration Dialog is displayed.

**Step 4** Press the spacebar to get to the following question:

```
Continue with configuration dialog?[yes]:
```

Press the spacebar to show one page at a time. Press **Enter** to show one line at a time.

**Step 5** Enter **yes** to continue.

**Step 6** Specify the hostname.

The hostname is a case-sensitive character string up to 64 characters. Numbers, “\_” and “-” are valid, but spaces are not acceptable. The default is `sensor`.

**Step 7** Specify the IP interface.

The IP interface is in the form of IP Address/Netmask, Gateway:  $X.X.X.X/nn, Y.Y.Y.Y$ , where  $X.X.X.X$  specifies the IDSM2 IP address as a 32-bit address written as 4 octets separated by periods where  $X = 0-255$ ,  $nn$  specifies the number of bits in the netmask, and  $Y.Y.Y.Y$  specifies the default gateway as a 32-bit address written as 4 octets separated by periods where  $Y = 0-255$ .

**Step 8** Specify the Telnet server status.

You can disable or enable Telnet services. The default is disabled.

**Step 9** Specify the web server port.

The web server port is the TCP port used by the web server (1 to 65535). The default is 443.



**Note** If you change the web server port, you must specify the port in the URL address of your browser when you connect to the IDM in the format `https://AIP_SSM_ip_address:port` (for example, `https://10.1.9.201:1040`).



**Note** The web server is configured to use TLS/SSL encryption by default. Setting the port to 80 does not disable the encryption.

**Step 10** Enter **yes** to modify the network access list.

a. If you want to delete an entry, enter the number of the entry and press Enter, or press Enter to get to the Permit line.

b. Enter the IP address and netmask of the network you want to add to the access list.

The IP network interface is in the form of IP Address/Netmask:  $X.X.X.X/nn$ , where  $X.X.X.X$  specifies the network IP address as a 32-bit address written as 4 octets separated by periods where  $X = 0-255$ ,  $nn$  specifies the number of bits in the netmask for that network.

For example,  $10.0.0.0/8$  permits all IP addresses on the 10.0.0.0 network (10.0.0.0-10.255.255.255) and  $10.1.1.0/24$  permits only the IP addresses on the 10.1.1.0 subnet (10.1.1.0-10.1.1.255).

If you want to permit access to a single IP address than the entire network, use a 32-bit netmask. For example,  $10.1.1.1/32$  permits just the 10.1.1.1 address.

c. Repeat Step b until you have added all networks that you want to add to the access list.

d. Press Enter at a blank permit line to proceed to the next step.

**Step 11** Enter **yes** to modify the system clock settings.

a. Enter **yes** if you want to use NTP.

You need the NTP server IP address, the NTP key ID, and the NTP key value. If you do not have those at this time, you can configure NTP later.

b. Enter **yes** to modify summertime settings.



**Note** Summertime is also known as DST. If your location does not use Summertime, go to Step n.

c. Choose recurring, date, or disable to specify how you want to configure summertime settings. The default is recurring.

d. If you chose recurring, specify the month you want to start summertime settings.

Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is march.

- e. Specify the week you want to start summertime settings.

Valid entries are first, second, third, fourth, fifth, and last. The default is first.

- f. Specify the day you want to start summertime settings.

Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.

- g. Specify the time you want to start summertime settings.

The default is 02:00:00.




---

**Note** The default recurring summertime parameters are correct for time zones in the United States. The default values specify a start time of 2:00 a.m. on the second Sunday in March, and a stop time of 2:00 a.m. on the first Sunday in November. The default summertime offset is 60 minutes.

---

- h. Specify the month you want summertime settings to end.

Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is november.

- i. Specify the week you want the summertime settings to end.

Valid entries are first, second, third, fourth, fifth, and last. The default is last.

- j. Specify the day you want the summertime settings to end.

Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.

- k. Specify the time you want summertime settings to end.

- l. Specify the DST zone.

The zone name is a character string up to 24 characters long in the pattern [A-Za-z0-9()+:./-]+\$.

- m. Specify the summertime offset.

Specify the summertime offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.

- n. Enter **yes** to modify the system time zone.

- o. Specify the standard time zone name.

The zone name is a character string up to 24 characters long.

- p. Specify the standard time zone offset.

Specify the standard time zone offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.

- Step 12** Enter **yes** to modify the interface and virtual sensor configuration.

The current interface configuration appears:

```
Current interface configuration
Command control: GigabitEthernet0/0
Unassigned:
Monitored:
  GigabitEthernet0/1
```

```

Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0

[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:

```

**Step 13** Enter **1** to edit the interface configuration.




---

**Note** You do not need to configure interfaces on AIP SSM. You should ignore the Modify interface default-vlan setting. The separation of traffic across virtual sensors is configured differently for AIP SSM than for other sensors.

---

The following option appears:

```

[1] Modify interface default-vlan.
Option:

```

**Step 14** Press **Enter** to return to the top-level interface and virtual sensor configuration menu.

The following options appear:

```

[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:

```

**Step 15** Enter **2** to edit the virtual sensor configuration.

```

[1] Remove virtual sensor.
[2] Modify "vs0" virtual sensor configuration.
[3] Create new virtual sensor.
Option:

```

**Step 16** Enter **2** to modify the virtual sensor vs0 configuration.

The following appears:

```

Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0

```

No Interfaces to remove.

```

Unassigned:
Monitored:
  [1] GigabitEthernet0/1
Add Interface:

```

**Step 17** Enter **1** to add GigabitEthernet0/1 to virtual sensor vs0.




---

**Note** With ASA 7.2 and earlier, one virtual sensor is supported. The virtual sensor to which GigabitEthernet0/1 is assigned is used for monitoring packets coming from the adaptive security appliance. We recommend that you assign GigabitEthernet0/1 to vs0, but you can assign it to another virtual sensor if you want to.

---




---

**Note** With ASA 7.2.3 and later with IPS 6.0, multiple virtual sensors are supported. The ASA 7.2.3 can direct packets to specific virtual sensors or can send packets to be monitored by a default virtual sensor. The default virtual sensor is the virtual sensor to which you assign GigabitEthernet0/1. We recommend that you assign GigabitEthernet0/1 to vs0, but you can assign it to another virtual sensor if you want to.

---

**Step 18** Press **Enter** to return to the main virtual sensor menu.

**Step 19** Enter **3** to create a virtual sensor.

The following option appears:

```
Name []:
```

**Step 20** Enter a name and description for your virtual sensor.

```
Name[]: newVs
Description[Created via setup by user cisco]: New Sensor
Anomaly Detection Configuration
  [1] ad0
  [2] Create a new anomaly detection configuration
Option[2]:
```

**Step 21** Enter **1** to use the existing anomaly-detection configuration, ad0.

The following options appear:

```
Signature Definition Configuration
  [1] sig0
  [2] Create a new signature definition configuration
Option[2]:
```

**Step 22** Enter **2** to create a signature-definition configuration file.

**Step 23** Enter the signature-definition configuration name, **newsig**.

The following options appear:

```
Event Action Rules Configuration
  [1] rules0
  [2] newRules
  [3] Create a new event action rules configuration
Option[3]:
```

**Step 24** Enter **1** to use the existing event-action-rules configuration, rules0.




---

**Note** If GigabitEthernet0/1 has not been assigned to vs0, you are prompted to assign it to the new virtual sensor.

---




---

**Note** With ASA 7.2 and earlier, one virtual sensor is supported. The virtual sensor to which GigabitEthernet0/1 is assigned is used for monitoring packets coming from the adaptive security appliance. We recommend that you assign GigabitEthernet0/1 to vs0, but you can assign it to another virtual sensor if you want to.

---



**Note** With ASA 7.2.3 and later with IPS 6.0, multiple virtual sensors are supported. The ASA 7.2.3 can direct packets to specific virtual sensors or can send packets to be monitored by a default virtual sensor. The default virtual sensor is the virtual sensor to which you assign GigabitEthernet0/1. We recommend that you assign GigabitEthernet0/1 to vs0, but you can assign it to another virtual sensor if you want to.

The following options appear:

```
Virtual Sensor: newVs
  Anomaly Detection: ad0
  Event Action Rules: rules0
  Signature Definitions: newSig
  Monitored:
    GigabitEthernet0/1

[1] Remove virtual sensor.
[2] Modify "newVs" virtual sensor configuration.
[3] Modify "vs0" virtual sensor configuration.
[4] Create new virtual sensor.
```

Option:

**Step 25** Press **Enter** to exit the interface and virtual sensor configuration menu.

The following option appears:

```
Modify default threat prevention settings?[no]:
```

**Step 26** Enter **yes** if you want to modify the default threat prevention settings:



**Note** The sensor comes with a built-in override to add the deny packet event action to high risk rating alerts. If you do not want this protection, disable automatic threat prevention.

The following appears:

```
Virtual sensor newVs is configured to prevent high risk threats in inline mode. (Risk
Rating 90-100)
Virtual sensor vs0 is configured to prevent high risk threats in inline mode.
(Risk Rating 90-100)
Do you want to disable automatic threat prevention on all virtual sensors?[no]:
```

**Step 27** Enter **yes** to disable automatic threat prevention on all virtual sensors.

The following completed configuration appears:

The following configuration was entered.

```
service host
network-settings
host-ip 10.1.9.201/24,10.1.9.1
host-name AIP SSM
telnet-option disabled
access-list 10.0.0.0/8
access-list 64.0.0.0/8
ftp-timeout 300
no login-banner-text
exit
time-zone-settings
offset 0
standard-time-zone-name UTC
exit
```

```

summertime-option disabled
ntp-option disabled
exit
service web-server
port 342
exit
service analysis-engine
virtual-sensor newVs
description New Sensor
signature-definition newSig
event-action-rules rules0
anomaly-detection
anomaly-detection-name ad0
exit
physical-interfaces GigabitEthernet0/1
exit
exit
service event-action-rules rules0
overrides deny-packet-inline
override-item-status Disabled
risk-rating-range 90-100
exit
exit

```

[0] Go to the command prompt without saving this config.

[1] Return back to the setup without saving this config.

[2] Save this configuration and exit setup.

**Step 28** Enter **2** to save the configuration.

```
Enter your selection[2]: 2
```

```
Configuration Saved.
```

**Step 29** Reboot AIP SSM.

```
AIP SSM# reset
```

```
Warning: Executing this command will stop all applications and reboot the node.
```

```
Continue with reset? []:
```

**Step 30** Enter **yes** to continue the reboot.

**Step 31** Display the self-signed X.509 certificate (needed by TLS):

```
AIP SSM# show tls fingerprint
```

```
MD5: C4:BC:F2:92:C2:E2:4D:EB:92:0F:E4:86:53:6A:C6:01
```

```
SHA1: 64:9B:AC:DE:21:62:0C:D3:57:2E:9B:E5:3D:04:8F:A7:FD:CD:6F:27
```

**Step 32** Write down the certificate fingerprints.

You need the fingerprints to check the authenticity of the certificate when connecting to this AIP SSM with a web browser.

**Step 33** Apply the most recent service pack and signature update.

The Readme explains how to apply the most recent software update.

You are now ready to configure your AIP SSM for intrusion prevention.

**For More Information**

- For more information on the System Configuration Dialog, see [Understanding the System Configuration Dialog, page 1-3](#).
- For the procedure for configuring NTP, see [Configuring the Sensor to Use an NTP Time Source, page 2-23](#).
- For the procedure for configuring traffic on AIP SSM, refer to [Configuring AIP SSM](#).
- For information on how to obtain the most recent software, see [Obtaining Cisco IPS Software, page 13-1](#).

## Initializing NM CIDS

**Note**


---

NM CIDS does not support inline interface pairs or VLAN pairs. Nor does it support virtualization.

---

To initialize NM CIDS, follow these steps:

---

**Step 1** Session to NM CIDS using an account with administrator privileges:

```
router# service-module IDS-Sensor slot_number/port_number session
```




---

**Note** Both the default username and password are **cisco**.

---

**Step 2** The first time you log in to NM CIDS you are prompted to change the default password. Passwords must be at least eight characters long and be strong, that is, not be a dictionary word. After you change the password, the `sensor#` prompt appears.

**Step 3** Enter the **setup** command.  
The System Configuration Dialog is displayed.

**Step 4** Press the spacebar to get to the following question:  
`Continue with configuration dialog?[yes]:`

Press the spacebar to show one page at a time. Press **Enter** to show one line at a time.

**Step 5** Enter **yes** to continue.

**Step 6** Specify the hostname.  
The hostname is a case-sensitive character string up to 64 characters. Numbers, “\_” and “-” are valid, but spaces are not acceptable. The default is sensor.

**Step 7** Specify the IP interface.  
The IP interface is in the form of IP Address/Netmask, Gateway: `X.X.X.X/nm, Y.Y.Y.Y`, where `X.X.X.X` specifies the NM CIDS IP address as a 32-bit address written as 4 octets separated by periods where `X = 0-255`, `nm` specifies the number of bits in the netmask, and `Y.Y.Y.Y` specifies the default gateway as a 32-bit address written as 4 octets separated by periods where `Y = 0-255`.

**Step 8** Specify the Telnet server status.  
You can disable or enable Telnet services. The default is disabled.

**Step 9** Specify the web server port.  
The web server port is the TCP port used by the web server (1 to 65535). The default is 443.



**Note** If you change the web server port, you must specify the port in the URL address of your browser when you connect to the IDM in the format `https://nmcids_ip_address:port` (for example, `https://10.1.9.201:1040`).



**Note** The web server is configured to use TLS/SSL encryption by default. Setting the port to 80 does not disable the encryption.

**Step 10** Enter **yes** to modify the network access list.

- a. If you want to delete an entry, enter the number of the entry and press **Enter**, or press **Enter** to get to the Permit line.
- b. Enter the IP address and netmask of the network you want to add to the access list.

The IP network interface is in the form of IP Address/Netmask: `X.X.X.X/nn`, where `X.X.X.X` specifies the network IP address as a 32-bit address written as 4 octets separated by periods where `X = 0-255`, `nn` specifies the number of bits in the netmask for that network.

For example, `10.0.0.0/8` permits all IP addresses on the 10.0.0.0 network (10.0.0.0-10.255.255.255) and `10.1.1.0/24` permits only the IP addresses on the 10.1.1.0 subnet (10.1.1.0-10.1.1.255).

If you want to permit access to a single IP address than the entire network, use a 32-bit netmask. For example, `10.1.1.1/32` permits just the 10.1.1.1 address.

- c. Repeat Step b until you have added all networks that you want to add to the access list.
- d. Press **Enter** at a blank permit line to proceed to the next step.

**Step 11** Enter **yes** to modify the system clock settings.

- a. Enter **yes** if you want to use NTP.  
You need the NTP server IP address, the NTP key ID, and the NTP key value. If you do not have those at this time, you can configure NTP later.
- b. Enter **yes** to modify summertime settings.



**Note** Summertime is also known as DST. If your location does not use Summertime, go to Step n.

- c. Choose recurring, date, or disable to specify how you want to configure summertime settings.  
The default is recurring.
- d. If you chose recurring, specify the month you want to start summertime settings.  
Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is march.
- e. Specify the week you want to start summertime settings.  
Valid entries are first, second, third, fourth, fifth, and last. The default is first.
- f. Specify the day you want to start summertime settings.  
Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.
- g. Specify the time you want to start summertime settings.  
The default is 02:00:00.



**Note** The default recurring summertime parameters are correct for time zones in the United States. The default values specify a start time of 2:00 a.m. on the second Sunday in March, and a stop time of 2:00 a.m. on the first Sunday in November. The default summertime offset is 60 minutes.

- h. Specify the month you want summertime settings to end.  
Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is november.
- i. Specify the week you want the summertime settings to end.  
Valid entries are first, second, third, fourth, fifth, and last. The default is last.
- j. Specify the day you want the summertime settings to end.  
Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.
- k. Specify the time you want summertime settings to end.
- l. Specify the DST zone.  
The zone name is a character string up to 24 characters long in the pattern [A-Za-z0-9()+;\_/-]+\$.
- m. Specify the summertime offset.  
Specify the summertime offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.
- n. Enter **yes** to modify the system time zone.
- o. Specify the standard time zone name.  
The zone name is a character string up to 24 characters long.
- p. Specify the standard time zone offset.  
Specify the standard time zone offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.

**Step 12** Enter **yes** to modify the interface and virtual sensor configuration.

The current interface configuration appears:

```
Current interface configuration
Command control: FastEthernet0/0
Unassigned:
Promiscuous:
FastEthernet0/1

Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0

[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:
```

**Step 13** Enter **1** to edit the interface configuration.



**Note** The following options let you create and delete interfaces. You assign the interfaces to virtual sensors in the virtual sensor configuration. If you are using promiscuous mode for your interfaces and are not subdividing them by VLAN, no additional configuration is necessary.

The following option appears:

```
[1] Modify interface default-vlan.
Option:
```

**Step 14** Enter **1** to modify the default VLAN setting:

```
FastEthernet0/1 default-vlan[0]: 45
[1] Modify interface default-vlan.
Option:
```

**Step 15** Press **Enter** to return to the top-level interface and virtual sensor configuration menu.

The following options appear:

```
[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:
```

**Step 16** Enter **2** to edit the virtual sensor configuration.

The following option appears:

```
Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0
```

No Interfaces to remove.

```
Unassigned:
Monitored:
[1] FastEthernet0/1
Add Interface:
```

**Step 17** Enter **1** to add FastEthernet0/1 to virtual sensor vs0.

**Step 18** Press **Enter** to return to the top-level interface and virtual sensor configuration menu.

The following options appear:

```
Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0
Monitored:
FastEthernet0/1

[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:
```

**Step 19** Press **Enter** to exit the interface and virtual sensor configuration menu.

**Step 20** Enter **yes** if you want to modify the default threat prevention settings.



**Note** The sensor comes with a built-in override to add the deny packet event action to high risk rating alerts. If you do not want this protection, disable automatic threat prevention.

The following appears:

```
Virtual sensor newVs is configured to prevent high risk threats in inline mode. (Risk
Rating 90-100)
Virtual sensor vs0 is configured to prevent high risk threats in inline mode.
(Risk Rating 90-100)
Do you want to disable automatic threat prevention on all virtual sensors?[no]:
```

**Step 21** Enter **yes** to disable automatic threat prevention on all virtual sensors.

The following completed configuration appears:

The following configuration was entered.

```
service host
network-settings
host-ip 10.1.9.201/24,10.1.9.1
host-name NM CIDS
telnet-option disabled
ftp-timeout 300
no login-banner-text
exit
time-zone-settings
offset 0
standard-time-zone-name UTC
exit
summertime-option disabled
ntp-option disabled
exit
service web-server
port 342
exit
service interface
physical-interfaces FastEthernet0/0
default-vlan 45
exit
exit
service analysis-engine
virtual-sensor vs0
description Created via setup by user cisco
signature-definition sig0
event-action-rules rules0
anomaly-detection
anomaly-detection-name ad0
operational-mode inactive
exit
physical-interface FastEthernet0/1
service event-action-rules rules0
overrides deny-packet-inline
override-item-status Disabled
risk-rating-range 90-100
exit
exit
```

- [0] Go to the command prompt without saving this config.
- [1] Return back to the setup without saving this config.
- [2] Save this configuration and exit setup.

**Step 22** Enter **2** to save the configuration.

```
Enter your selection[2]: 2
Configuration Saved.
```

**Step 23** Reboot NM CIDS:

```
NM CIDS# reset
Warning: Executing this command will stop all applications and reboot the node.
Continue with reset? []:
```

**Step 24** Enter **yes** to continue the reboot.**Step 25** Display the self-signed X.509 certificate (needed by TLS):

```
NM CIDS# show tls fingerprint
MD5: C4:BC:F2:92:C2:E2:4D:EB:92:0F:E4:86:53:6A:C6:01
SHA1: 64:9B:AC:DE:21:62:0C:D3:57:2E:9B:E5:3D:04:8F:A7:FD:CD:6F:27
```

**Step 26** Write down the certificate fingerprints.

You need the fingerprints to check the authenticity of the certificate when connecting to this NM CIDS with a web browser.

**Step 27** Apply the most recent service pack and signature update.

The Readme explains how to apply the most recent software update.

You are now ready to configure your NM CIDS for intrusion prevention.

**For More Information**

- For more information on the System Configuration Dialog, see [Understanding the System Configuration Dialog, page 1-3](#).
- For the procedure for configuring NTP, see [Configuring the Sensor to Use an NTP Time Source, page 2-23](#).
- For information on how to obtain the most recent software, see [Obtaining Cisco IPS Software, page 13-1](#).

## Initializing AIM IPS

To initialize AIM IPS, follow these steps:

**Step 1** Session in to AIM IPS using an account with administrator privileges:

```
router# service-module ids-sensor 0/0 session
Trying 10.1.9.1, 2322 ... Open
```

```
sensor login: cisco
Password:
```



**Note** Both the default username and password are **cisco**.

**Step 2** The first time you log in to AIM IPS you are prompted to change the default password.

Passwords must be at least eight characters long and be strong, that is, not be a dictionary word.

After you change the password, the `sensor#` prompt appears.

**Step 3** Enter the **setup** command.

The System Configuration Dialog is displayed.

**Step 4** Press the spacebar to get to the following question:

Continue with configuration dialog?[yes]:

Press the spacebar to show one page at a time. Press **Enter** to show one line at a time.

**Step 5** Enter **yes** to continue.

**Step 6** Specify the hostname.

The hostname is a case-sensitive character string up to 64 characters. Numbers, “\_” and “-” are valid, but spaces are not acceptable. The default is sensor.

**Step 7** Specify the IP interface.

The IP interface is in the form of IP Address/Netmask, Gateway: *X.X.X.X/nn, Y.Y.Y.Y*, where *X.X.X.X* specifies the AIM IPS IP address as a 32-bit address written as 4 octets separated by periods where *X* = 0-255, *nn* specifies the number of bits in the netmask, and *Y.Y.Y.Y* specifies the default gateway as a 32-bit address written as 4 octets separated by periods where *Y* = 0-255.



**Note** The *Y.Y.Y.Y* gateway address is either the IP address from the IDS-Sensor interface of the router, or if you configured the IDS-Sensor interface of the router using the **ip unnumbered** command, then it is the IP address of the other interface of the router that is being shared with the IDS-Sensor interface.

**Step 8** Specify the Telnet server status.

You can disable or enable Telnet services. The default is disabled.

**Step 9** Specify the web server port.

The web server port is the TCP port used by the web server (1 to 65535). The default is 443.



**Note** If you change the web server port, you must specify the port in the URL address of your browser when you connect to the IDM in the format `https://AIM_IPS_ip_address:port` (for example, `https://10.1.9.201:1040`).



**Note** The web server is configured to use TLS/SSL encryption by default. Setting the port to 80 does not disable the encryption.

**Step 10** Enter **yes** to modify the network access list.

- a. If you want to delete an entry, enter the number of the entry and press Enter, or press Enter to get to the Permit line.
- b. Enter the IP address and netmask of the network you want to add to the access list.

The IP network interface is in the form of IP Address/Netmask: *X.X.X.X/nn*, where *X.X.X.X* specifies the network IP address as a 32-bit address written as 4 octets separated by periods where *X* = 0-255, *nn* specifies the number of bits in the netmask for that network.

For example, 10.0.0.0/8 permits all IP addresses on the 10.0.0.0 network (10.0.0.0-10.255.255.255) and 10.1.1.0/24 permits only the IP addresses on the 10.1.1.0 subnet (10.1.1.0-10.1.1.255).

If you want to permit access to a single IP address than the entire network, use a 32-bit netmask. For example, 10.1.1.1/32 permits just the 10.1.1.1 address.

- c. Repeat Step b until you have added all networks that you want to add to the access list.
- d. Press Enter at a blank permit line to proceed to the next step.

**Step 11** Enter **yes** to modify the system clock settings.

- a. Enter **yes** if you want to use NTP.

You need the NTP server IP address, the NTP key ID, and the NTP key value. If you do not have those at this time, you can configure NTP later.

- b. Enter **yes** to modify summertime settings.




---

**Note** Summertime is also known as DST. If your location does not use Summertime, go to Step n.

---

- c. Choose recurring, date, or disable to specify how you want to configure summertime settings.

The default is recurring.

- d. If you chose recurring, specify the month you want to start summertime settings.

Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is march.

- e. Specify the week you want to start summertime settings.

Valid entries are first, second, third, fourth, fifth, and last. The default is first.

- f. Specify the day you want to start summertime settings.

Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.

- g. Specify the time you want to start summertime settings.

The default is 02:00:00.




---

**Note** The default recurring summertime parameters are correct for time zones in the United States. The default values specify a start time of 2 a.m. on the second Sunday in March, and a stop time of 2 a.m. on the first Sunday in November. The default summertime offset is 60 minutes.

---

- h. Specify the month you want summertime settings to end.

Valid entries are january, february, march, april, may, june, july, august, september, october, november, and december. The default is november.

- i. Specify the week you want the summertime settings to end.

Valid entries are first, second, third, fourth, fifth, and last. The default is last.

- j. Specify the day you want the summertime settings to end.

Valid entries are sunday, monday, tuesday, wednesday, thursday, friday, and saturday. The default is sunday.

- k. Specify the time you want summertime settings to end.

- l. Specify the DST zone.

The zone name is a character string up to 24 characters long in the pattern [A-Za-z0-9()+:./-]+\$.

- m. Specify the summertime offset.

Specify the summertime offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.

n. Enter **yes** to modify the system time zone.

o. Specify the standard time zone name.

The zone name is a character string up to 24 characters long.

p. Specify the standard time zone offset.

Specify the standard time zone offset from UTC in minutes (negative numbers represent time zones west of the Prime Meridian). The default is 0.

**Step 12** Enter **yes** to modify the interface and virtual sensor configuration.

You may receive a warning that Analysis Engine is initializing and you cannot modify the virtual sensor configuration at this time. Press the space bar to receive the following menu:

```
[0] Go to the command prompt without saving this config.
[1] Return back to the setup without saving this config.
[2] Save this configuration and exit setup.
```

Enter your selection[2]:

If you receive the warning that Analysis Engine is initializing, enter **2** to save your configuration thus far and exit setup. You can then reenter setup and press **Enter** until you are back to the interface and virtual sensor menu.

**Step 13** Enter **2** to modify the virtual sensor configuration.

```
Modify interface/virtual sensor configuration?[no]: yes
```

```
Current interface configuration
```

```
Command control: Management0/0
```

```
Unassigned:
```

```
Monitored:
```

```
GigabitEthernet0/1
```

```
Virtual Sensor: vs0
```

```
Anomaly Detection: ad0
```

```
Event Action Rules: rules0
```

```
Signature Definitions: sig0
```

```
[1] Edit Interface Configuration
```

```
[2] Edit Virtual Sensor Configuration
```

```
[3] Display configuration
```

```
Option:
```

**Step 14** Enter **2** to edit the virtual sensor vs0 configuration.

The following appears:

```
Virtual Sensor: vs0
```

```
Anomaly Detection: ad0
```

```
Event Action Rules: rules0
```

```
Signature Definitions: sig0
```

```
No Interfaces to remove.
```

```
Unassigned:
```

```
Monitored:
```

```
[1] GigabitEthernet0/1
```

```
Add Interface:
```

**Step 15** Enter **1** to add GigabitEthernet0/1 to virtual sensor vs0.

```
Add Interface: 1
```

```

Virtual Sensor: vs0
Anomaly Detection: ad0
Event Action Rules: rules0
Signature Definitions: sig0
Monitored:
  GigabitEthernet0/1

[1] Edit Interface Configuration
[2] Edit Virtual Sensor Configuration
[3] Display configuration
Option:

```

**Step 16** Press **Enter** to exit the interface and virtual sensor configuration menu.

The following option appears:

```
Modify default threat prevention settings?[no]:
```

**Step 17** Enter **yes** if you want to modify the default threat prevention settings:




---

**Note** The sensor comes with a built-in override to add the deny packet event action to high risk rating alerts. If you do not want this protection, disable automatic threat prevention.

---

The following appears:

```

Virtual sensor newVs is configured to prevent high risk threats in inline mode. (Risk
Rating 90-100)
Virtual sensor vs0 is configured to prevent high risk threats in inline mode.
(Risk Rating 90-100)
Do you want to disable automatic threat prevention on all virtual sensors?[no]:

```

**Step 18** Enter **yes** to disable automatic threat prevention on all virtual sensors.

The following completed configuration appears:

The following configuration was entered.

```

service host
network-settings
host-ip 10.1.9.201/24,10.1.9.1
host-name AIM IPS
telnet-option disabled
access-list 10.0.0.0/8
access-list 64.0.0.0/8
ftp-timeout 300
no login-banner-text
exit
time-zone-settings
offset 0
standard-time-zone-name UTC
exit
summertime-option disabled
ntp-option disabled
exit
service web-server
port 443
exit
service analysis-engine
virtual-sensor vs0
physical-interface GigabitEthernet0/1
exit
exit

```

```

service event-action-rules rules0
overrides deny-packet-inline
override-item-status Disabled
risk-rating-range 90-100
exit
exit

```

```

[0] Go to the command prompt without saving this config.
[1] Return back to the setup without saving this config.
[2] Save this configuration and exit setup.

```

**Step 19** Enter **2** to save the configuration.

```

Enter your selection[2]: 2
Configuration Saved.

```

**Step 20** Reboot AIM IPS:

```

AIM IPS# reset
Warning: Executing this command will stop all applications and reboot the node.
Continue with reset? []:

```

**Step 21** Enter **yes** to continue the reboot.

**Step 22** Log in to AIM IPS, and display the self-signed X.509 certificate (needed by TLS):

```

AIM IPS# show tls fingerprint
MD5: C4:BC:F2:92:C2:E2:4D:EB:92:0F:E4:86:53:6A:C6:01
SHA1: 64:9B:AC:DE:21:62:0C:D3:57:2E:9B:E5:3D:04:8F:A7:FD:CD:6F:27

```

**Step 23** Write down the certificate fingerprints.

You need the fingerprints to check the authenticity of the certificate when connecting to this AIM IPS with a web browser.

**Step 24** Apply the most recent service pack and signature update.

The Readme explains how to apply the most recent software update.

You are now ready to configure your AIM IPS for intrusion prevention.

---

#### For More Information

- For more information on the System Configuration Dialog, see [Understanding the System Configuration Dialog, page 1-3](#).
- For the procedure for configuring NTP, see [Configuring the Sensor to Use an NTP Time Source, page 2-23](#).
- For the procedure for configuring the IDS-Sensor interface, refer to [Using an Unnumbered IP Address Interface](#).
- For information on how to obtain the most recent software, see [Obtaining Cisco IPS Software, page 13-1](#).

## Verifying Initialization

To verify that you initialized your sensor, follow these steps:

**Step 1** Log in to the sensor.

**Step 2** View your configuration:

```

sensor# show configuration
! -----
! Current configuration last modified Wed Nov 16 11:23:21 2006
! -----
! Version 6.0(0.2)
! Host:
!   Realm Keys          key1.0
! Signature Definition:
!   Signature Update    S184.0   2005-11-09

! -----
service interface
exit
! -----
service analysis-engine
global-parameters
ip-logging
max-open-iplog-files 50
exit
exit
virtual-sensor vs0
description default virtual sensor
signature-definition sig0
event-action-rules rules0
anomaly-detection
anomaly-detection-name ad0
operational-mode learn
exit
exit
exit
! -----
service authentication
exit
! -----
service event-action-rules rules0
overrides deny-attacker-inline
override-item-status Enabled
risk-rating-range 0-100
exit
exit
! -----
service host
network-settings
host-ip 10.89.130.108/23,10.89.130.1
host-name sensor
telnet-option enabled
access-list 0.0.0.0/0
access-list 10.0.0.0/8
access-list 64.0.0.0/8
ftp-timeout 150
exit
time-zone-settings
offset 0
standard-time-zone-name UTC

```

```

exit
password-recovery allowed
exit
! -----
service logger
exit
! -----
service network-access
general
enable-acl-logging true
master-blocking-sensors 1.1.1.1
password bar
port 443
tls true
username foo
exit
never-block-hosts 1.1.1.1
exit
user-profiles test
exit
cat6k-devices 2.2.2.2
communication ssh-3des
profile-name test
block-vlans 12
exit
exit
router-devices 1.1.1.1
communication ssh-3des
profile-name test
block-interfaces 2.2.2.2 in
exit
response-capabilities block
exit
router-devices 3.3.3.3
communication ssh-3des
profile-name test
response-capabilities block|rate-limit
exit
exit
! -----
service notification
trap-destinations 1.1.1.1
trap-community-name something1
trap-port 166
exit
enable-notifications true
enable-set-get true
exit
! -----
service signature-definition sig0
signatures 2002 0
status
enabled true
exit
exit
signatures 2200 0
engine service-generic
specify-payload-source no
exit
exit
signatures 2202 0
engine atomic-ip
specify-ip-total-length yes
ip-total-length 12

```

```

exit
exit
exit
exit
! -----
service ssh-known-hosts
rsal-keys 10.89.130.72
length 1024
exponent 35
modulus 123015580885566039934287351002587653918192484054259603815920527749611655
42176138623148347589841831265831897841200949075192510730433429613298427164703821
15018377013402532698957593057061259778152893255492349859332687387121067704990725
87538411757554422994558230630572671733280051457220642360910995447890862728013
exit
exit
! -----
service trusted-certificates
exit
! -----
service web-server
exit
! -----
service anomaly-detection ad0
learning-accept-mode auto
action rotate
schedule periodic-schedule
start-time 10:00:00
interval 90
exit
exit
illegal-zone
other
default-thresholds
threshold-histogram low num-source-ips 19
exit
exit
exit
exit
sensor#

```




---

**Note** You can also use the **more current-config** command to view your configuration.

---

**Step 3** Display the self-signed X.509 certificate (needed by TLS):

```

sensor# show tls fingerprint
MD5: C4:BC:F2:92:C2:E2:4D:EB:92:0F:E4:86:53:6A:C6:01
SHA1: 64:9B:AC:DE:21:62:0C:D3:57:2E:9B:E5:3D:04:8F:A7:FD:CD:6F:27

```

**Step 4** Write down the certificate fingerprints.

You need the fingerprints to check the authenticity of the certificate when connecting to this sensor with a web browser.

---

#### For More Information

For the procedure for logging in to the various sensors, refer to [Logging In to the Sensor](#).

# Increasing the Memory Size of the Java Plug-In (IPS 6.0(1) Only)

**Caution**

This section applies to IPS 6.0(1) only. If you have upgraded to IPS 6.0(2), you can disregard this section.

To correctly run IDM, your browser must have Java Plug-in 1.4.2 or 1.5 installed. By default the Java Plug-in allocates 64 MB of memory to IDM. IDM can run out of memory while in use, which can cause IDM to freeze or display blank screens. Running out of memory can also occur when you click **Refresh**. An `OutOfMemoryError` message appears in the Java console whenever this occurs. You must change the memory settings of Java Plug-in before using IDM. The mandatory minimum memory size is 256 MB.

**Note**

We recommend that you use Sun Microsystems Java. Using any other version of Java could cause problems with IDM.

This section contains the following topics:

- [Java Plug-In on Windows, page 1-42](#)
- [Java Plug-In on Linux and Solaris, page 1-43](#)

## Java Plug-In on Windows

To change the settings of Java Plug-in on Windows for Java Plug-in 1.4.2 and 1.5, follow these steps:

- 
- Step 1** Close all instances of Internet Explorer or Netscape.
- Step 2** Choose **Start > Settings > Control Panel**.
- Step 3** If you have Java Plug-in 1.4.2 installed:
- Choose **Java Plug-in**.  
The Java Plug-in Control Panel appears.
  - Click the **Advanced** tab.
  - In the Java RunTime Parameters field, enter **-Xms256m**.
  - Click **Apply** and exit the Java Control Panel.
- Step 4** If you have Java Plug-in 1.5 installed:
- Choose **Java**.  
The Java Control Panel appears.
  - Click the **Java** tab.
  - Click **View** under Java Applet Runtime Settings.  
The Java Runtime Settings window appears.
  - In the Java Runtime Parameters field, enter **-Xms256m**, and then click **OK**.
  - Click **OK** and exit the Java Control Panel.
-

## Java Plug-In on Linux and Solaris

To change the settings of Java Plug-in 1.4.2 or 1.5 on Linux and Solaris, follow these steps:

**Step 1** Close all instances of Netscape or Mozilla.

**Step 2** Bring up Java Plug-in Control Panel by launching the ControlPanel executable file.



**Note** In the Java 2 SDK, this file is located at <SDK installation directory>/jre/bin/ControlPanel. For example if your Java 2 SDK is installed at /usr/j2se, the full path is /usr/j2se/jre/bin/ControlPanel.



**Note** In a Java 2 Runtime Environment installation, the file is located at <JRE installation directory>/bin/ControlPanel.

**Step 3** If you have Java Plug-in 1.4.2 installed:

- a. Click the **Advanced** tab.
- b. In the Java RunTime Parameters field, enter **-Xms256m**.
- c. Click **Apply** and close the Java Control Panel.

**Step 4** If you have Java Plug-in 1.5 installed:

- a. Click the **Java** tab.
- b. Click **View** under Java Applet Runtime Settings.
- c. In the Java Runtime Parameters field, enter **-Xms256m**, and then click **OK**.
- d. Click **OK** and exit the Java Control Panel.

## Logging In to IDM



**Note**

The number of concurrent CLI sessions is limited based on the platform. IDS-4215 and NM CIDS are limited to three concurrent CLI sessions. All other platforms allow ten concurrent sessions.

This section describes how to log in to IDM for IPS 6.0(1) and IPS 6.0(2). It contains the following topics:

- [Prerequisites, page 1-44](#)
- [Supported User Role, page 1-44](#)
- [Logging In to IDM 6.0\(1\), page 1-44](#)
- [Logging In to IDM 6.0\(2\), page 1-45](#)
- [IDM and Cookies, page 1-47](#)
- [IDM and Certificates, page 1-47](#)

## Prerequisites

IDM is part of the version 6.0 sensor. You must use the **setup** command to initialize the sensor so that it can communicate with IDM.

### For More Information

For the procedure for using the **setup** command to initialize the sensor, see [Initializing the Sensor, page 1-3](#).

## Supported User Role

The following user roles are supported:

- Administrator
- Operator
- Viewer

## Logging In to IDM 6.0(1)

IDM is a web-based, Java application that enables you to configure and manage your sensor. The web server for IDM resides on the sensor. You can access it through Internet Explorer or Firefox web browsers.

To log in to IDM, follow these steps:

**Step 1** Open a web browser and enter the sensor IP address:

```
https://sensor_ip_address
```



**Note** IDM is already installed on the sensor.



**Note** The default address is `https://10.1.9.201`, which you change to reflect your network environment when you initialize the sensor. When you change the web server port, you must specify the port in the URL address of your browser when you connect to IDM in the format `https://sensor_ip_address:port` (for example, `https://10.1.9.201:1040`).

A Security Alert dialog box appears.

**Step 2** In the Enter Network Password dialog box, Enter your username and password, and click **OK**.



**Note** The default username and password are both **cisco**. You were prompted to change the password during sensor initialization.

The Cisco IDM 6.0 Information window opens and informs you that it is loading IDM. IDM appears in another browser window.

The Memory Warning dialog box displays the following message:

Your current Java memory heap size is less than 256 MB. You must increase the Java memory heap size before launching IDM. Click Help for information on changing the Java memory heap size.

- Step 3** Click **Help** to see the procedure for changing the Java memory heap size.
- Step 4** Follow the directions for changing the Java memory heap size.
- Step 5** Close any browser windows you have open.
- Step 6** Relaunch IDM by opening a browser window and typing the sensor IP address.
- Step 7** In the Password Needed - Networking dialog box, enter your username and password, and click **Yes**.

A Warning dialog box displays the following message:

There is no license key installed on the sensor. To install a new license, go to Configuration > Licensing.

The Status dialog box displays the following message:

Please wait while the IDM is loading the current configuration from the Sensor.

The main window of IDM appears.

---

#### For More Information

- For more information about security and IDM, see [IDM and Certificates, page 1-47](#).
- For the procedure for using the **setup** command to initialize the sensor, see [Initializing the Sensor, page 1-3](#).
- For the procedure for increasing the Java memory heap size, see [Increasing the Memory Size of the Java Plug-In \(IPS 6.0\(1\) Only\), page 1-42](#).
- For the procedure for licensing the sensor, see [Licensing the Sensor, page 1-49](#).

## Logging In to IDM 6.0(2)

IDM is a web-based, Java Web Start application that enables you to configure and manage your sensor. The web server for IDM resides on the sensor. You can access it through Internet Explorer or Firefox web browsers.

To log in to IDM, follow these steps:

- 
- Step 1** Open a web browser and enter the sensor IP address:

`https://sensor_ip_address`



---

**Note** IDM is already installed on the sensor.

---




---

**Note** The default address is `https://10.1.9.201`, which you change to reflect your network environment when you initialize the sensor. When you change the web server port, you must specify the port in the URL address of your browser when you connect to IDM in the format `https://sensor_ip_address:port` (for example, `https://10.1.9.201:1040`).

---

A Security Alert dialog box appears.

**Step 2** Click **Yes** to accept the security certificate.

The Cisco IPS Device Manager Version 6.0 window appears.

**Step 3** To launch IDM, click **Run IDM**.

The JAVA loading message box appears.

The Warning - Security dialog box appears.

**Step 4** To verify the security certificate, check the Always trust content from this publisher check box, and click **Yes**.

The JAVA Web Start progress dialog box appears.

The IDM on *ip\_address* dialog box appears.

**Step 5** To create a shortcut for IDM, click **Yes**.




---

**Note** You must have JRE 1.4.2 or JRE 1.5 (JAVA 5) installed to create shortcuts for IDM. If you have JRE 1.6 (JAVA 6) installed, the shortcut is created automatically.

---

The Cisco IDM Launcher dialog box appears.

**Step 6** To authenticate IDM, enter your username and password, and click **OK**.




---

**Note** Both the default username and password are **cisco**. You were prompted to change the password during sensor initialization.

---

IDM begins to load.

The Status dialog box appears with the following message:

Please wait while IDM is loading the current configuration from the sensor.

The main window of IDM appears.




---

**Note** If you created a shortcut, you can launch IDM by double-clicking the IDM shortcut icon. You can also close the The Cisco IPS Device Manager Version 6.0 window. After you launch IDM, is it not necessary for this window to remain open.

---

**For More Information**

- For more information about security and IDM, see [IDM and Certificates, page 1-47](#).
- For the procedure for using the **setup** command to initialize the sensor, see [Initializing the Sensor, page 1-3](#).
- For the procedure for licensing the sensor, see [Licensing the Sensor, page 1-49](#).

## IDM and Cookies

IDM uses cookies to track sessions, which provide a consistent view. IDM uses only session cookies (temporary), not stored cookies. Because the cookies are not stored locally, there is no conflict with your browser cookie policy. The cookies are handled by the IDM Java Start application rather than the browser.

## IDM and Certificates

This section explains how certificates work with IDM, and contains the following topics:

- [Understanding Certificates, page 1-47](#)
- [Validating the CA, page 1-48](#)

## Understanding Certificates

IPS 6.0 contains a web server that is running IDM and that the management stations, such as VMS, connect to. Blocking forwarding sensors also connect to the web server of the master blocking sensor. To provide security, this web server uses an encryption protocol known as TLS, which is closely related to SSL protocol. When you enter a URL in to the web browser that starts with `https://ip_address`, the web browser responds by using either TLS or SSL protocol to negotiate an encrypted session with the host.

**Caution**

---

The web browser initially rejects the certificate presented by IDM because it does not trust the CA.

---

**Note**

---

IDM is enabled by default to use TLS and SSL. We highly recommend that you use TLS and SSL.

---

The process of negotiating an encrypted session in TLS is called “handshaking,” because it involves a number of coordinated exchanges between client and server. The server sends its certificate to the client. The client performs the following three-part test on this certificate:

1. Is the issuer identified in the certificate trusted?

Every web browser ships with a list of trusted third-party CAs. If the issuer identified in the certificate is among the list of CAs trusted by your browser, the first test is passed.

2. Is the date within the range of dates during which the certificate is considered valid?

Each certificate contains a Validity field, which is a pair of dates. If the date falls within this range of dates, the second test is passed.

3. Does the common name of the subject identified in the certificate match the URL hostname?

The URL hostname is compared with the subject common name. If they match, the third test is passed.

When you direct your web browser to connect with IDM, the certificate that is returned fails because the sensor issues its own certificate (the sensor is its own CA) and the sensor is not already in the list of CAs trusted by your browser.

When you receive an error message from your browser, you have three options:

- Disconnect from the site immediately.
- Accept the certificate for the remainder of the web browsing session.
- Add the issuer identified in the certificate to the list of trusted CAs of the web browser and trust the certificate until it expires.

The most convenient option is to permanently trust the issuer. However, before you add the issuer, use out-of-band methods to examine the fingerprint of the certificate. This prevents you from being victimized by an attacker posing as a sensor. Confirm that the fingerprint of the certificate appearing in your web browser is the same as the one on your sensor.



#### Caution

If you change the organization name or hostname of the sensor, a new certificate is generated the next time the sensor is rebooted. The next time your web browser connects to IDM, you will receive the manual override dialog boxes. You must perform the certificate fingerprint validation again for Internet Explorer and Firefox.

## Validating the CA

Use the following procedure to validate the CA for the web browsers. This example shows how to validate the CA for Internet Explorer, but you can also use it for validating the CA for Firefox.

To use Internet Explorer to validate the certificate fingerprint, follow these steps:

- 
- Step 1** Open a web browser and enter the sensor IP address to connect to IDM:

`https://sensor_ip_address`

The Security Alert window appears.

- Step 2** Click **View Certificate**.

The Certificate Information window appears.

- Step 3** Click the **Details** tab.

- Step 4** Scroll down the list to find Thumbprint and select it.

You can see the thumbprint in the text field.




---

**Note** Leave the Certificate window open.

---

- Step 5** Connect to the sensor in one of the following ways:

- Connect a terminal to the console port of the sensor.
- Use a keyboard and monitor directly connected to the sensor.

- Telnet to the sensor.
- Connect through SSH.

**Step 6** Display the TLS fingerprint:

```
sensor# show tls fingerprint
MD5: C4:BC:F2:92:C2:E2:4D:EB:92:0F:E4:86:53:6A:C6:01
SHA1: 64:9B:AC:DE:21:62:0C:D3:57:2E:9B:E5:3D:04:8F:A7:FD:CD:6F:27
```

**Step 7** Compare the SHA1 fingerprint with the value displayed in the open Certificate thumbprint text field. You have validated that the certificate that you are about to accept is authentic.



**Caution**

If the fingerprints do not match, you need to determine why. Make sure you are connected to the correct IP address for the sensor. If you are connected to the correct IP address and the fingerprints do not match, this could indicate that your sensor may have been compromised.

**Step 8** Click the **General** tab.

**Step 9** Click **Install Certificate**.

The Certificate Import Wizard appears.

**Step 10** Click **Next**.

The Certificate Store dialog box appears.

**Step 11** Check the **Place all certificates in the following store** check box, and then click **Browse**.

The Select Certificate Store dialog box appears.

**Step 12** Click **Trusted Root Certification Authorities**, and then click **OK**.

**Step 13** Click **Next**, and then click **Finish**.

The Security Warning dialog box appears.

**Step 14** Click **Yes**, and then click **OK**.

**Step 15** Click **OK** to close the Certificate dialog box.

**Step 16** Click **Yes** to open IDM.

## Licensing the Sensor

This section describes how to license the sensor, and contains the following topics:

- [Understanding Licensing](#), page 1-50
- [Service Programs for IPS Products](#), page 1-50
- [Field Definitions](#), page 1-52
- [Obtaining and Installing the License Key](#), page 1-52

## Understanding Licensing

**Note**

You must be administrator to view license information in the Licensing pane and to install the sensor license key.

Although the sensor functions without the license key, you must have a license key to obtain signature updates. To obtain a license key, you must have the following:

- Cisco Service for IPS service contract  
Contact your reseller, Cisco service or product sales to purchase a contract. For more information, see [Service Programs for IPS Products, page 1-50](#).
- Your IPS device serial number  
To find the IPS device serial number in IDM, choose **Configuration > Licensing**, or in the CLI use the **show version** command.
- Valid Cisco.com username and password

Trial license keys are also available. If you cannot get your sensor licensed because of problems with your contract, you can obtain a 60-day trial license that supports signature updates that require licensing.

You can obtain a license key from the Cisco.com licensing server, which is then delivered to the sensor. Or, you can update the license key from a license key provided in a local file. Go to <http://www.cisco.com/go/license> and click **IPS Signature Subscription Service** to apply for a license key. For the procedure, see [Obtaining and Installing the License Key, page 1-52](#).

You can view the status of the license key on the Licensing pane in IDM. Whenever you start IDM, you are informed of your license status—whether you have a trial, invalid, or expired license key. With no license key, an invalid license key, or an expired license key, you can continue to use IDM but you cannot download signature updates.

When you enter the CLI, you are informed of your license status. For example, you receive the following message if there is no license installed:

```
***LICENSE NOTICE***
There is no license key installed on the system.
The system will continue to operate with the currently installed
signature set. A valid license must be obtained in order to apply
signature updates. Please go to http://www.cisco.com/go/license
to obtain a new license or install a license.
```

You will continue to see this message until you install a license key.

## Service Programs for IPS Products

You must have a Cisco Services for IPS service contract for any IPS product so that you can download a license key and obtain the latest IPS signature updates. If you have a direct relationship with Cisco Systems, contact your account manager or service account manager to purchase the Cisco Services for IPS service contract. If you do not have a direct relationship with Cisco Systems, you can purchase the service account from a one-tier or two-tier partner.

When you purchase the following IPS products you must also purchase a Cisco Services for IPS service contract:

- IDS-4215
- IDS-4235
- IDS-4250
- IPS 4240
- IPS 4255
- IPS 4260
- IPS 4270-20
- IDSM2
- NM CIDS
- AIM IPS

When you purchase an ASA 5500 series adaptive security appliance product that does not contain IPS, you must purchase a SMARTnet contract.

**Note**

---

SMARTnet provides operating system updates, access to Cisco.com, access to TAC, and hardware replacement NBD on site.

---

When you purchase an ASA 5500 series adaptive security appliance product that ships with AIP SSM installed or if you purchase AIP SSM to add to your ASA 5500 series adaptive security appliance product, you must purchase the Cisco Services for IPS service contract.

**Note**

---

Cisco Services for IPS provides IPS signature updates, operating system updates, access to Cisco.com, access to TAC, and hardware replacement NBD on site.

---

For example, if you purchased an ASA-5510 and then later wanted to add IPS and purchased an ASA-SSM-AIP-10-K9, you must now purchase the Cisco Services for IPS service contract. After you have the Cisco Services for IPS service contract, you must also have your product serial number to apply for the license key.

**Caution**

---

If you ever send your product for RMA, the serial number will change. You must then get a new license key for the new serial number.

---

**For More Information**

For the procedure for obtaining and installing the license key, see [Obtaining and Installing the License Key, page 1-52](#).

## Field Definitions

The following fields and buttons are found in the Licensing pane.

Field Descriptions:

- **Current License**—Provides the status of the current license:
  - **License Status**—Current license status of the sensor.
  - **Expiration Date**—Date when the license key expires (or has expired).  
If the key is invalid, no date is displayed.
  - **Serial Number**—Serial number of the sensor.
- **Update License**—Specifies from where to obtain the new license key:
  - **Cisco Connection Online**—Contacts the license server at Cisco.com for a license key.
  - **License File**—Specifies that a license file be used.
  - **Local File Path**—Indicates where the local file containing the license key is.

Button Functions:

- **Download**—Lets you download a copy of your license to the computer that IDM is running on and save it to a local file. You can then replace a lost or corrupted license, or reinstall your license after you have reimaged the sensor.



---

**Note** The Download button is disabled unless you have a valid license on the sensor.

---

- **Browse Local**—Invokes a file browser to find the license key.
- **Update License**—Delivers a new license key to the sensor based on the selected option.

## Obtaining and Installing the License Key



---

**Note** In addition to a valid Cisco.com username and password, you must also have a Cisco Services for IPS service contract before you can apply for a license key.

---

To obtain and install the license key, follow these steps:

---

**Step 1** Log in to IDM using an account with administrator privileges.

**Step 2** Choose **Configuration > Licensing**.

The Licensing pane displays the status of the current license. If you have already installed your license, you can click **Download** to save it if needed.

**Step 3** Obtain a license key by doing one of the following:

- Check the **Cisco Connection Online** check box to obtain the license from Cisco.com.  
IDM contacts the license server on Cisco.com and sends the server the serial number to obtain the license key. This is the default method. Go to Step 4.
- Check the **License File** check box to use a license file.  
To use this option, you must apply for a license key at [www.cisco.com/go/license](http://www.cisco.com/go/license).

The license key is sent to you in e-mail and you save it to a drive that IDM can access. This option is useful if your computer cannot access Cisco.com. Go to Step 7.

**Step 4** Click **Update License**.

The Licensing dialog box appears.

**Step 5** Click **Yes** to continue.

The Status dialog box informs you that the sensor is trying to connect to Cisco.com. An Information dialog box confirms that the license key has been updated.

**Step 6** Click **OK**.

**Step 7** Go to [www.cisco.com/go/license](http://www.cisco.com/go/license).

**Step 8** Fill in the required fields.



**Caution**

You must have the correct IPS device serial number because the license key only functions on the device with that number.

Your license key will be sent to the e-mail address you specified.

**Step 9** Save the license key to a hard-disk drive or a network drive that the client running IDM can access.

**Step 10** Log in to IDM.

**Step 11** Choose **Configuration > Licensing**.

**Step 12** Under Update License, check the **Update From: License File** check box.

**Step 13** In the Local File Path field, specify the path to the license file or click **Browse Local** to browse to the file. The Select License File Path dialog box appears.

**Step 14** Browse to the license file and click **Open**.

**Step 15** Click **Update License**.

---

**For More Information**

For more information about service contracts, see [Service Programs for IPS Products, page 1-50](#).

