



## CHAPTER 3

# Installing the ASA 5550

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### Caution

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Read the safety warnings in the *Regulatory Compliance and Safety Information for the Cisco ASA 5500 Series* and follow proper safety procedures when performing these steps.

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### Warning

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**Only trained and qualified personnel should install, replace, or service this equipment.** Statement 49

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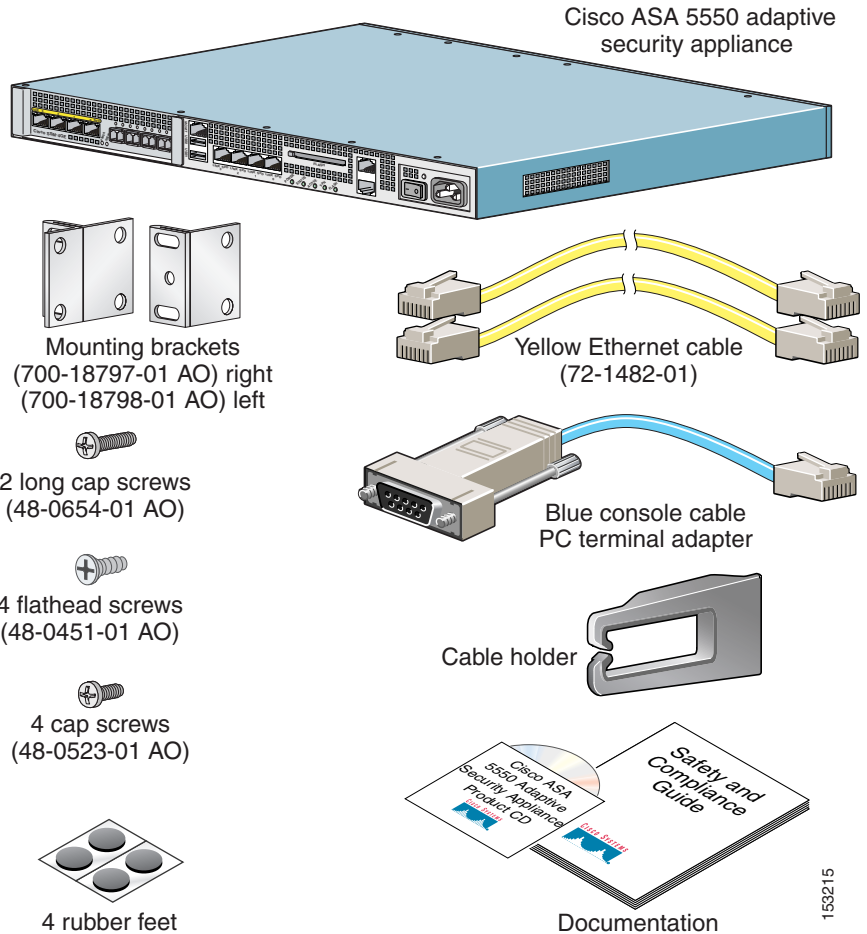
This chapter describes the ASA 5550 adaptive security appliance and rack-mount and installation procedures for the adaptive security appliance. This chapter includes the following sections:

- [Verifying the Package Contents, page 3-2](#)
- [Installing the Chassis, page 3-3](#)
- [Installing SFP Modules, page 3-6](#)
- [Ports and LEDs, page 3-9](#)
- [Connecting Interface Cables, page 3-13](#)
- [What to Do Next, page 3-19](#)

# Verifying the Package Contents

Verify the contents of the packing box, shown in [Figure 3-1](#), to ensure that you have received all items necessary to install the Cisco ASA 5550.

**Figure 3-1** Contents of ASA 5550 Package



# Installing the Chassis

This section describes how to rack-mount and install the adaptive security appliance. You can mount the adaptive security appliance in a 19-inch rack (with a 17.5- or 17.75-inch opening).



## Warning

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**To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety.**

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The following information can help plan equipment rack installation:

- Allow clearance around the rack for maintenance.
- When mounting a device in an enclosed rack ensure adequate ventilation. An enclosed rack should never be overcrowded. Make sure that the rack is not congested, because each unit generates heat.
- When mounting a device in an open rack, make sure that the rack frame does not block the intake or exhaust ports.
- If the rack contains only one unit, mount the unit at the bottom of the rack.
- If the rack is partially filled, load the rack from the bottom to the top, with the heaviest component at the bottom of the rack.
- If the rack contains stabilizing devices, install the stabilizers prior to mounting or servicing the unit in the rack.



## Warning

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**Before performing any of the following procedures, ensure that the power source is off. (AC or DC). To ensure that power is removed from the DC circuit, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.**

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## Rack-Mounting the Chassis

To rack-mount the chassis, perform the following steps.



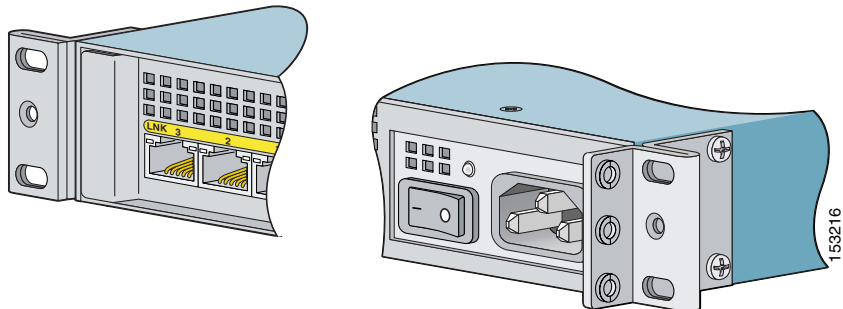
### Note

You can use the mounting brackets to mount the chassis to the front or the back of the rack, with the front panel or the rear panel of the chassis facing outward.

### Step 1

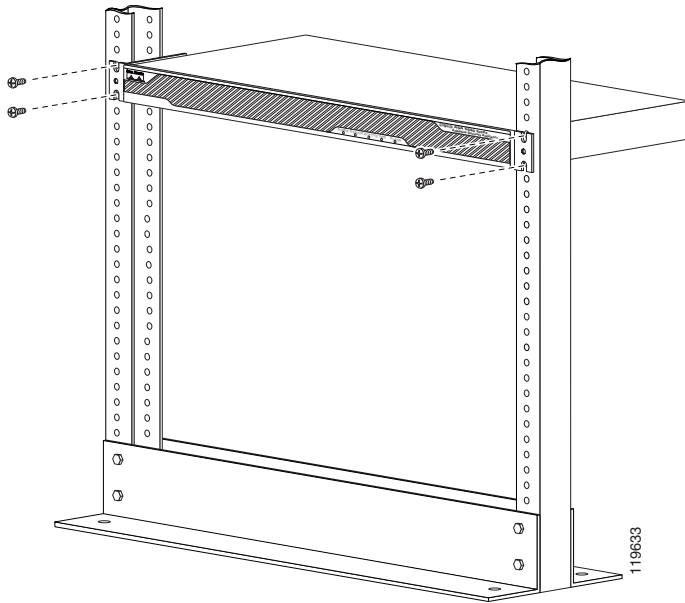
Attach the rack-mount brackets to the chassis using the supplied screws. Attach the brackets to the holes as shown in [Figure 3-2](#). After the brackets are secured to the chassis, you can rack-mount it.

**Figure 3-2** Installing the Right and Left Brackets



### Step 2

Attach the chassis to the rack using the supplied screws, as shown in [Figure 3-3](#).

**Figure 3-3** *Rack-Mounting the Chassis***Note**

[Figure 3-2](#) shows the rack mounting brackets attached to the rear of the chassis while [Figure 3-3](#) shows the rack mounting brackets attached to the front of the chassis. You can attach the mounting brackets to the front or the rear of the chassis so that you can have the front panel or the rear panel of the chassis facing outward.

[Figure 3-2](#) shows the brackets attached to the rear so you can see how that configuration appears while [Figure 3-3](#) shows the brackets attached to the front so that you can see how that configuration appears. In [Step 1](#) and [Step 2](#), you will choose to have either the brackets rear mounted or front mounted but not both.

To remove the chassis from the rack, remove the screws that attach the chassis to the rack, and then remove the chassis.

# Installing SFP Modules

The adaptive security appliance uses a field-replaceable SFP module to establish fiber Gigabit Ethernet connections.

This section describes how to install and remove SFP modules in the adaptive security appliance. This section includes the following topics:

- [SFP Module, page 3-6](#)
- [Installing an SFP Module, page 3-8](#)

## SFP Module

The SFP (Small Form-Factor Pluggable) module is a hot-swappable input/output device that plugs into the fiber ports.



### Note

If you install an SFP module after the switch has powered on, you must reload the adaptive security appliance to enable the SFP module.

[Table 3-1](#) lists the SFP modules that are supported by the adaptive security appliance.

**Table 3-1**      *Supported SFP Modules*

SFP Module	Type of Connection	Cisco Part Number
1000BASE-LX/LH	Fiber	GLC-LH-SM=
1000BASE-SX	Fiber	GLC-SX-MM=

The 1000BASE-LX/LH and 1000BASE-SX SFP modules are used to establish fiber connections. Use fiber cables with LC connectors to connect to an SFP module. The SFP modules support 850 to 1550 nm nominal wavelengths. The cables must not exceed the required cable length for reliable communications. [Table 3-2](#) lists the cable length requirements.

**Table 3-2** Cabling Requirements for Fiber-Optic SFP Modules

SFP Module	62.5/125 micron Multimode 850 nm Fiber	50/125 micron Multimode 850 nm Fiber	62.5/125 micron Multimode 1310 nm Fiber	50/125 micron Multimode 1310 nm Fiber	9/125 micron Single-mode 1310 nm Fiber
LX/LH	—	—	550 m at 500 Mhz-km	550 m at 400 Mhz-km	10 km
SX	275 m at 200 Mhz-km	550 m at 500 Mhz-km	—	—	—

Use only Cisco-certified SFP modules on the adaptive security appliance. Each SFP module has an internal serial EEPROM that is encoded with security information. This encoding provides a way for Cisco to identify and validate that the SFP module meets the requirements for the adaptive security appliance.

**Note**

Only SFP modules certified by Cisco are supported on the adaptive security appliance.

**Caution**

Protect your SFP modules by inserting clean port plugs into the SFPs after the cables are extracted from them. Be sure to clean the optic surfaces of the fiber cables before you plug them back into the optical bores of another SFP module. Avoid getting dust and other contaminants into the optical bores of your SFP modules: The optics do not work correctly when obstructed with dust.

**Warning**

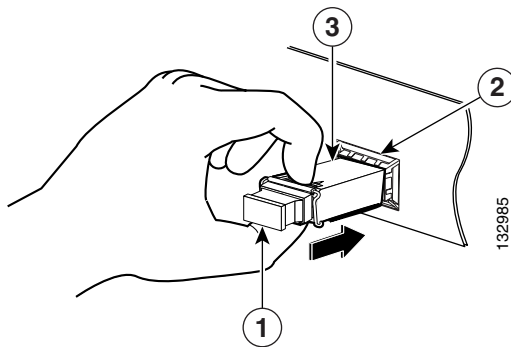
**Because invisible laser radiation may be emitted from the aperture of the port when no cable is connected, avoid exposure to laser radiation and do not stare into open apertures.** Statement 70

## Installing an SFP Module

To install an SFP module in a fiber port in Slot 1, perform the following steps:

- Step 1** Line up the SFP module with the port and slide the SFP module into the port slot until it locks into position as shown in [Figure 3-4](#).

**Figure 3-4** Installing an SFP Module



<b>1</b>	Port plug	<b>3</b>	SFP module
<b>2</b>	Port slot		



**Caution**

Do not remove the port plugs from the SFP module until you are ready to connect the cables.

- Step 2** Remove the port plug; then connect the network cable to the SFP module.
- Step 3** Connect the other end of the cable to your network. For more information on connecting the cables, see [Chapter 3, “Connecting Interface Cables.”](#)



**Caution**

The latching mechanism used on many SFP modules locks them into place when cables are connected. Do not pull on the cabling in an attempt to remove the SFP module.

## Ports and LEDs

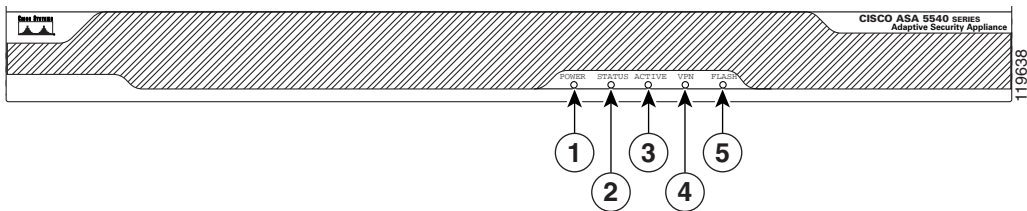
This section describes the front and rear panels. [Figure 3-5](#) shows the front panel LEDs. This section includes the following topics:

- [Front Panel LEDs, page 3-9](#)
- [Rear Panel LEDs and Ports in Slot 0, page 3-10](#)
- [Ports and LEDs in Slot 1, page 3-12](#)

## Front Panel LEDs

[Figure 3-5](#) shows the LEDs on the front panel of the adaptive security appliance.

**Figure 3-5** Front Panel LEDs



	LED	Color	State	Description
1	Power	Green	On	The system has power.

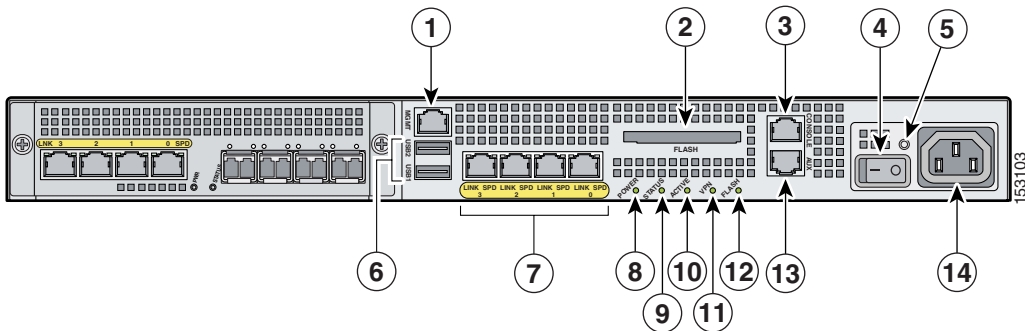
## Ports and LEDs

	LED	Color	State	Description
2	Status	Green	Flashing	The power-up diagnostics are running or the system is booting.
			Solid	The system has passed power-up diagnostics.
			Amber	Solid
3	Active	Green	Flashing	There is network activity.
4	VPN	Green	Solid	VPN tunnel is established.
5	Flash	Green	Solid	The CompactFlash is being accessed.

## Rear Panel LEDs and Ports in Slot 0

Figure 3-6 shows the rear panel LEDs and ports in Slot 0.

**Figure 3-6** Rear Panel LEDs and Ports on Slot 0 (AC Power Supply Model Shown)



1	Management Port <sup>1</sup>	6	USB 2.0 interfaces <sup>2</sup>	11	VPN LED
2	External CompactFlash slot	7	Network interfaces <sup>3</sup>	12	Flash LED
3	Serial Console port	8	Power indicator LED	13	AUX port
4	Power switch	9	Status indicator LED	14	Power connector
5	Power indicator LED	10	Active LED		

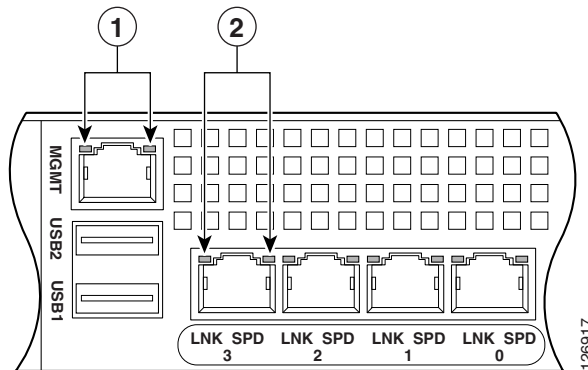
1. The management 0/0 interface is a Fast Ethernet interface designed for management traffic only.
2. Reserved for future use.

- GigabitEthernet interfaces, from right to left, GigabitEthernet 0/0, GigabitEthernet 0/1, GigabitEthernet 0/2, and GigabitEthernet 0/3.

For more information on the Management Port, see the **management-only** command in the *Cisco Security Appliance Command Reference*.

Figure 3-7 shows the adaptive security appliance rear panel LEDs.

**Figure 3-7 Rear Panel Link and Speed Indicator LEDs**



<b>1</b>	MGMT indicator LEDs	<b>2</b>	Network interface LEDs
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Table 3-3 lists the rear MGMT and Network interface LEDs.

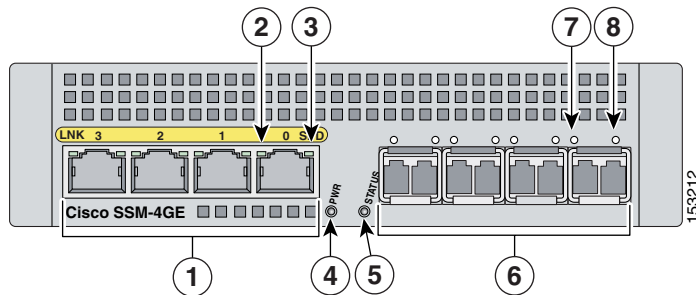
**Table 3-3 Link and Speed LEDs**

Indicator	Color	Description
Left side	Solid green	Physical link
	Green flashing	Network activity
Right side	Not lit	10 Mbps
	Green	100 Mbps
	Amber	1000 Mbps

## Ports and LEDs in Slot 1

Figure 3-8 illustrates the ports and LEDs in Slot 1.

**Figure 3-8** Ports and LEDs in Slot 1



1	Copper Ethernet ports	5	Status LED
2	RJ-45 Link LED	6	Fiber Ethernet ports
3	RJ-45 Speed LED	7	SFP Link LED
4	Power LED	8	SFP Speed LED



### Note

Figure 3-8 shows SFP modules installed in the fiber Ethernet ports. You must order and install the SFP modules if you want to establish fiber Ethernet connectivity. For more information on fiber ports and SFP modules, see the “Installing SFP Modules” section on page 3-6.

Table 3-4 describes the LEDs in Slot 1.

**Table 3-4** LEDs on Bus G1

	LED	Color	State	Description
2, 7	LINK	Green	Solid	There is an Ethernet link.
			Flashing	There is Ethernet activity.

**Table 3-4** LEDs on Bus G1 (continued)

	LED	Color	State	Description
3, 8	SPEED	Off	10 MB	There is no network activity.
		Green	100 MB	There is network activity at 100 Mbps.
		Amber	1000 MB (GigE)	There is network activity at 1000 Mbps.
4	POWER	Green	On	The system has power.
5	STATUS	Green	Flashing	The system is booting.
		Green	Solid	The system booted correctly.
		Amber	Solid	The system diagnostics failed.

## Connecting Interface Cables

This section describes how to connect the appropriate cables to the Console, Auxiliary, Management, copper Ethernet, and fiber Ethernet ports.

To connect cables to the network interfaces, perform the following steps:

- 
- Step 1** Place the chassis on a flat, stable surface, or in a rack (if you are rack-mounting it).
- Step 2** Connect to the Management port.

The adaptive security appliance has a dedicated interface for device management that is referred to as the Management0/0 port. The Management0/0 port is a Fast Ethernet interface. This port is similar to the Console port, but the Management0/0 port only accepts incoming traffic to the adaptive security appliance.

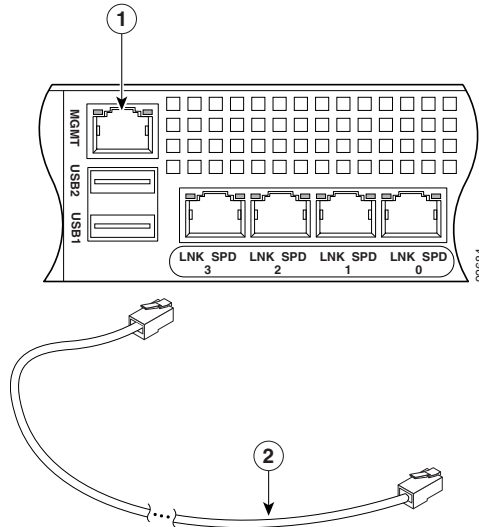


**Note** You can configure any interface to be a management-only interface using the **management-only** command. You can also disable management-only mode on the management interface. For more information about this command, see the **management-only** command in the *Cisco Security Appliance Command Reference*.

- a. Locate an Ethernet cable, which has an RJ-45 connector on each end.

- b. Connect one RJ-45 connector to the Management0/0 port, as shown in [Figure 3-9](#).
- c. Connect the other end of the Ethernet cable to the Ethernet port on your computer or to your management network.

**Figure 3-9** Connecting to the Management Port



<b>1</b>	Management port	<b>2</b>	RJ-45 to RJ-45 Ethernet cable
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**Step 3** Connect to the Console port.

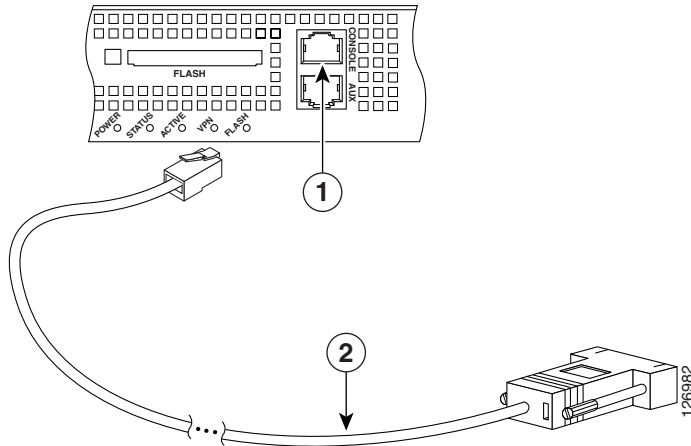
- a. Before connecting a computer or terminal to any ports, check to determine the baud rate of the serial port. The baud rate of the computer or terminal must match the default baud rate (9600 baud) of the Console port of the adaptive security appliance.

Set up the terminal as follows: 9600 baud (default), 8 data bits, no parity, 1 stop bits, and Flow Control (FC) = Hardware.

- b. Locate the serial console cable, which has an RJ-45 connector on one end and a DB-9 connector on the other end for the serial port on your computer.
- c. Connect the RJ-45 connector to the Console port of the adaptive security appliance as shown in [Figure 3-10](#).

- d. Connect the DB-9 connector to the console port on your computer.

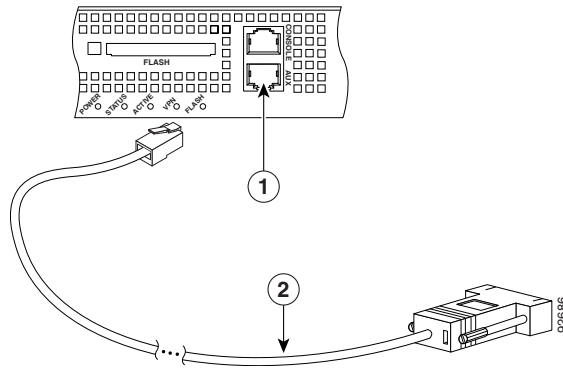
**Figure 3-10** Connecting the Console Cable



<b>1</b>	RJ-45 Console port	<b>2</b>	RJ-45 to DB-9 console cable
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**Step 4** Connect to the Auxiliary port (labeled AUX).

- a. Locate the serial console cable, which has an RJ-45 connector on one end and a DB-9 connector on the other end for the serial port on your computer.
- b. Connect the RJ-45 connector of the cable to the Auxiliary port (labeled AUX) on the adaptive security appliance, as shown in [Figure 3-11](#).
- c. Connect the other end of the cable, the DB-9 connector, to the serial port on your computer.

**Figure 3-11 Connecting to the AUX Port**

<b>1</b>	RJ-45 AUX port	<b>2</b>	RJ-45 to DB-9 console cable
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**Step 5** Connect to copper Ethernet ports to be used for network connections. Copper Ethernet ports are available both in Slot 0 and Slot 1.

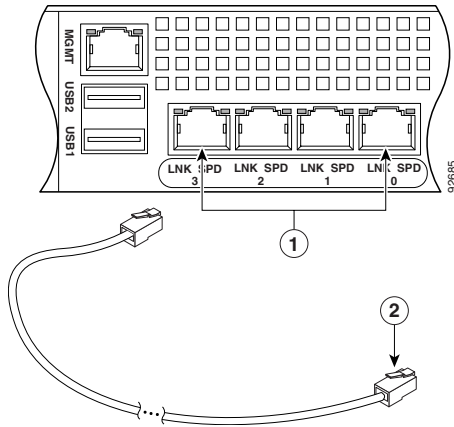


**Note** You must use a port in Slot 0 for the inside interface, and a port in Slot 1 for the outside interface.

- a. Connect one end of an Ethernet cable to a copper Ethernet port, as shown in [Figure 3-12](#) and [Figure 3-13](#).

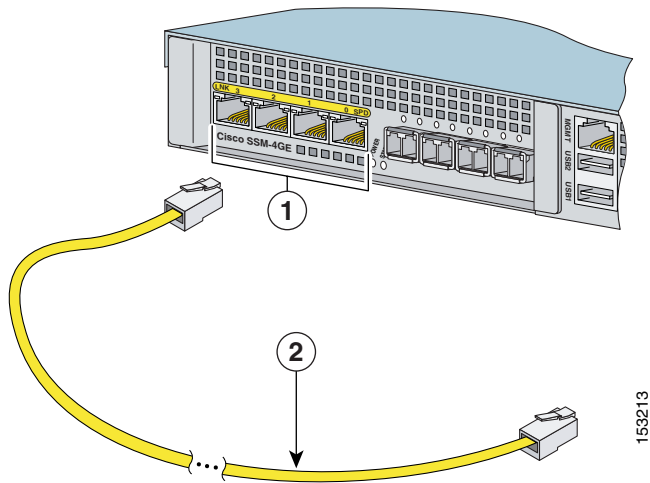


**Figure 3-12** Connecting to a Copper Ethernet Interface in Slot 0



<b>1</b>	Copper Ethernet ports	<b>2</b>	RJ-45 connector
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**Figure 3-13** Connecting to a Copper Ethernet Interfaces in Slot 1



<b>1</b>	Copper Ethernet ports	<b>2</b>	RJ-45 connector
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- b. Connect the other end of the Ethernet cable to a network device, such as a router, switch or hub.

**Step 6** Connect to fiber Ethernet ports to be used for network connections.

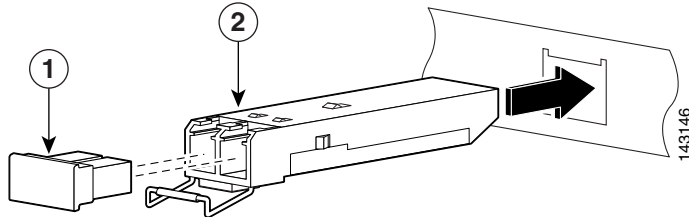


**Note** Slot 1 contains four copper Ethernet ports and four fiber Ethernet ports. You can use both types of ports, but you can only have a total of four Slot 1 ports in use at a time. For example, you could use two copper Ethernet ports and two fiber Ethernet ports.

For each fiber port you want to use, perform the following steps:

- a. Install the SFP module:
  - Insert and slide the SFP module into the fiber port until you hear a click. The click indicates that the SFP module is locked into the port.
  - Remove the port plug from the installed SFP as shown in [Figure 3-14](#).

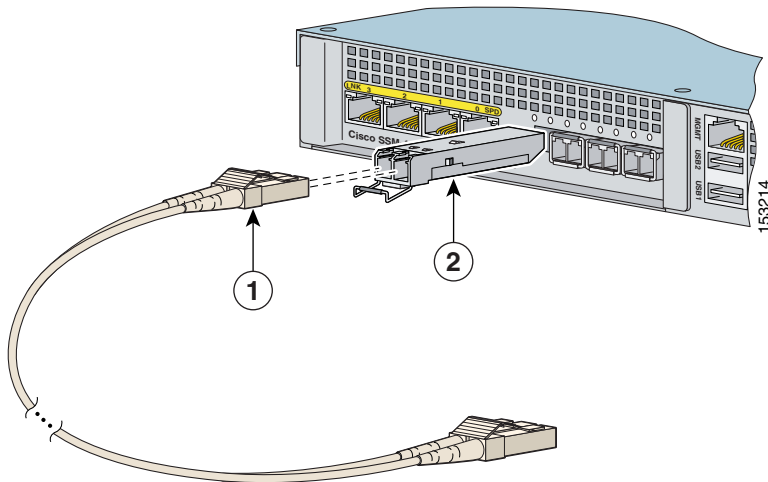
**Figure 3-14** Removing the Fiber Port Plug



<b>1</b>	Port plug	<b>2</b>	SFP module
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- b. Connect the LC connector to the SFP module as shown in [Figure 3-15](#).

**Figure 3-15** Connecting the LC Connector



<b>1</b>	LC connector	<b>2</b>	SFP module
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- c. Connect the other end of the cable to a network device, such as a router, switch, or hub.

**Step 7** Connect the power cord to the adaptive security appliance and plug the other end to the power source.

**Step 8** Power on the chassis.

## What to Do Next

Continue with [Chapter 1, “Configuring the Adaptive Security Appliance.”](#)

■ What to Do Next