Catalyst 3560-C and 2960-C Switch Getting Started Guide

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About This Guide

This guide describes how to use Express Setup to initially configure your Catalyst 3560-C and 2960-C switches. It also covers switch management options, basic installation, port and module connection procedures, and troubleshooting.

For additional installation and configuration information for the switch, see the Catalyst 3560-C and 2960-C documentation on Cisco.com. For system requirements, important notes, limitations, open and resolved bugs, and last-minute documentation updates, see the release notes, also on Cisco.com. For translations of the warnings that appear in this publication, see the *Regulatory Compliance and Safety Information for the Catalyst* 3560-C and 2960-C switches on Cisco.com.

When using the online publications, see the documents that match the Cisco IOS software version running on the switch.

Box Contents
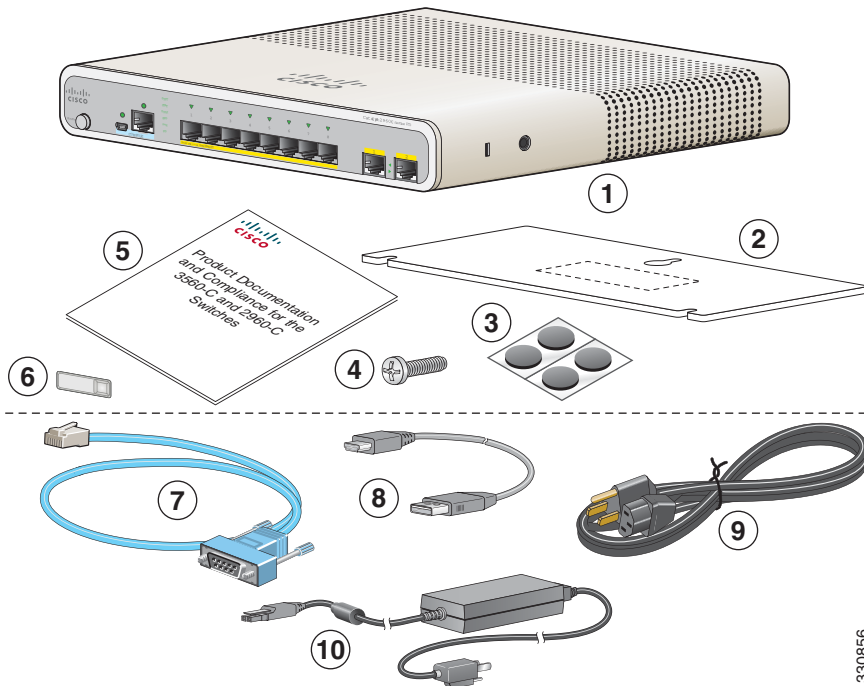
1	Catalyst 2960-C switch[1]	**6**	Reset button cover
2	Mounting template	**7**	(Optional) Console cable[2]
3	Four rubber mounting feet	**8**	(Optional) USB cable[2]
4	Three number 8 Phillips pan-head screws	**9**	AC power cord[3]
5	Documentation	**10**	Power adapter[4]

1. Catalyst 2960CPD-8PT-L switch shown for example. Your switch model might look different.

2. Orderable on all Catalyst 2960-C and 3560-C switches.

3. Orderable for switches with an AC power connector.

4. Orderable for switches with an AUX power connector.

Running Express Setup

You should use Express Setup to enter the initial IP information. You can then access the switch through the IP address for further configuration.

> ✎
> **Note** To use the CLI-based initial setup program, see Appendix C, "*Configuring the Switch with the CLI Setup Program,*" in the switch hardware guide.

You need this equipment:

- PC with Windows 2000, XP, Vista, or Windows Server 2003
- Web browser (Internet Explorer 6.0, 7.0, or Firefox 1.5, 2.0, or later) with JavaScript enabled
- Straight-through or crossover Category 5 or 6 cable

> ✎
> **Note** Before running Express Setup, disable any pop-up blockers or proxy settings on your browser and any wireless client running on your PC.

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Step 1 Make sure that nothing is connected to the switch.

During Express Setup, the switch acts as a DHCP server. If your PC has a static IP address, temporarily configure your PC settings to use DHCP before going to the next step.

Note Write down the static IP address. You will need this IP address in Step 10.

Step 2 Power the switch:

For switch models with an AC power connector

- Plug the AC power cord into the AC power connector and into an AC power outlet.

For switch models with an AUX power connector

- Connect a 10/100/1000 uplink port to a PoE switch, such as a Catalyst 3750-X.

    Or

- Plug the auxiliary power adapter cord into the AUX power connector and into an AC power outlet.

Note For more information on powering the switches, see the "Switch Installation" chapter in the hardware guide.

Step 3   Approximately 30 seconds after the switch powers on, it begins the power-on self-test (POST), which can take up to 5 minutes.

During POST, the SYSTEM LED blinks green, and the other LEDs turn green.

When POST is complete, the SYSTEM LED turns green, and the other LEDs turn off.

Troubleshooting:

If the SYSTEM LED blinks green, does not turn green, or turns amber, contact your Cisco representative or reseller. The switch failed the POST.

Step 4   Press and hold the Mode button until all of the LEDs next to the console port turn green. You might need to hold the button for 3 to 5 seconds.

The switch is now in Express Setup mode.

Before going to the next step, make sure that all LEDs next to the console port are green.

Troubleshooting:

If the LEDs blink after you press the Mode button, release it. Blinking LEDs mean that the switch is already configured and cannot go into Express Setup mode. For more information, see the "Resetting the Switch" section on page 21. You can also use the CLI setup program described in the switch hardware guide.

208780
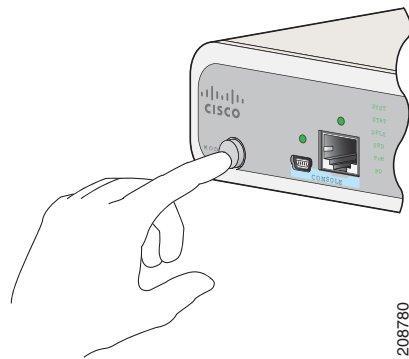
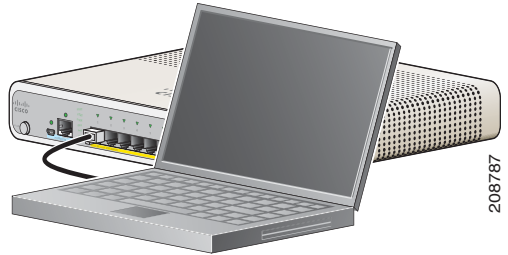|		
Step 5	Connect a Category 5 or 6 Ethernet cable to any 10/100 or 10/100/1000 Ethernet downlink port (such as port 1) on the switch front panel. Connect the other end of the cable to the Ethernet port on your PC. Before going to the next step, wait until the port LEDs on the switch and your PC or laptop are green or blinking green. The green port LEDs mean a successful connection. **Troubleshooting:** If the port LEDs do not turn green after about 30 seconds, make sure that: • You connected the Ethernet cable to one of the downlink switch ports (not to an uplink port such as the dual-purpose port). • You are using an undamaged Category 5 or 6 Ethernet cable. • The other device is turned on.	
Step 6	Enter the IP address **10.0.0.1** in a web browser, and press **Enter**. When prompted, enter the default password, *cisco*. **Note** The switch ignores text in the username field. The Express Setup window appears. **Troubleshooting:** If the Express Setup window does not appear, make sure that any pop-up blockers or proxy settings on your browser are disabled and that any wireless client is disabled on your PC or laptop.	

Step 7   Enter the required settings in the Express Setup window.

    Note   All entries must be in English letters.

Required Fields

In the Network Settings fields:

- In the Management Interface (VLAN ID) field, the default is *1*.

    Note   We recommend that you use the default VLAN value. During Express Setup, VLAN 1 is the only VLAN on the switch.

    Enter a new VLAN ID only if you want to change the management interface through which you manage the switch. The VLAN ID range is 1 to 1001.

- In the IP Address field, enter the IP address of the switch.

- In the Subnet Mask field, click the drop-down arrow, and select a subnet mask.

- In the Default Gateway field, enter the IP address for the default gateway (router).

- In the Switch Password field, enter your password. The password can be from 1 to 25 alphanumeric characters, can start with a number, is case sensitive, allows embedded spaces, but does not allow spaces at the beginning or end. In the Confirm Switch Password field, enter your password again.

    Note   You must change the password from the default password, *cisco*.

Additional Fields

You can enter the optional information now, or enter it later by using the device manager. For more information about the Express Setup fields, see the online help for the Express Setup window.

Click **Submit** to save your changes and to complete the initial setup.

Step 8   After you click **Submit**, these events occur:

- The switch is configured and exits Express Setup mode.

- The browser displays a warning message and tries to connect with the earlier switch IP address. Typically, connectivity between the PC and the switch is lost because the configured switch IP address is in a different subnet from the IP address on the PC.

Step 9   Disconnect the switch from the PC, and install the switch in your network. See the "Installing the Switch" section on page 12.

Step 10 If you changed the static IP address on your PC in Step 1, change it to the previously configured static IP address.

Step 11 You can now manage the switch by using the Cisco Network Assistant, the device manager, or both. See the "Managing the Switch" section on page 9 for information about configuring and managing the switch.

You can display the device manager by following these steps:

1. Start a web browser on your PC or laptop.

2. Enter the switch IP address, username, and password (assigned in Step 7) in the web browser, and press **Enter**. The device manager page appears.

Troubleshooting:

If the device manager page does not appear:

- Confirm that the port LED for the switch port connected to your network is green.

- Confirm that the PC or laptop that you are using to access the switch has network connectivity by connecting it to a well-known web server in your network. If there is no network connection, troubleshoot the network settings on the PC or laptop.

- Make sure that the switch IP address in the browser is correct.

- If the switch IP address in the browser is correct, the switch port LED is green, and the PC or laptop has network connectivity, continue troubleshooting by reconnecting the PC or laptop to the switch. Configure a static IP address on the PC or laptop that is in the same subnet as the switch IP address. For example:

  – If your switch IP address is 172.20.20.85 and your PC or laptop IP address is 172.20.20.84, both devices are in the same network.

  – If your switch IP address is 172.20.20.85 and your PC or laptop IP address is 10.0.0.2, the devices are in different networks and cannot communicate directly.

- When the LED on the switch port connected to the PC or laptop is green, re-enter the switch IP address in a web browser to display the device manager. When the device manager appears, you can continue with the switch configuration.

Managing the Switch

After completing Express Setup and installing the switch in your network, you can use one of these options for further configuration:

- Device Manager
- Cisco Network Assistant
- Command-Line Interface
- Other Management Options

Device Manager

The simplest way to manage the switch is by using the device manager in the switch memory. This web interface offers quick configuration and monitoring. You can access the device manager from anywhere in your network through a web browser.

1. Launch a web browser on your PC or workstation.

2. Enter the switch IP address in the web browser, and press **Enter**. The device manager page appears.

3. Use the device manager to perform basic switch configuration and monitoring. See the device manager online help for more information.

4. For more advanced configuration, download and run the Cisco Network Assistant, which is described in the next section.

Cisco Network Assistant

Cisco Network Assistant is a software program that you download from Cisco.com and run on your PC. It offers advanced options for configuring and monitoring multiple devices, including switches, switch clusters, switch stacks, routers, and access points. Network Assistant is free—there is no charge to download, install, or use it.

1. Go to this Web address:
   http://www.cisco.com/en/US/products/ps5931/index.html

   You must be a registered Cisco.com user, but you need no other access privileges.

2. Click the **Download Software** link, and select the version you want to download.

3. Download the Network Assistant installer, and run it. (You can run it directly from the Web if your browser offers this choice.)

4. When you run the installer, follow the displayed instructions. In the final panel, click **Finish** to complete the Network Assistant installation.

See the Network Assistant online help and the getting started guide for more information.

Command-Line Interface

You can enter Cisco IOS commands and parameters through the CLI. Access the CLI by using one of these options:

- Switch RJ-45 Console Port
- Switch USB Mini-Type B Console Port

Switch RJ-45 Console Port

1. Connect the RJ-45-to-DB-9 adapter cable to the 9-pin serial port on the PC. Connect the other end of the cable to the console port on the switch.

2. Start a terminal-emulation program on the PC.

3. Configure the PC terminal emulation software for 9600 baud, 8 data bits, no parity, 1 stop bit, and no flow control.

4. Use the CLI to enter commands to configure the switch. See the software configuration guide and the command reference for more information.

Switch USB Mini-Type B Console Port

If you use the USB-mini console port, you must install the Cisco Windows USB device driver on the PC that is connected to that port. See the switch hardware installation guide for installation instructions.

5. Start a terminal-emulation program on the PC.

6. Configure the PC terminal emulation software for 9600 baud, 8 data bits, no parity, 1 stop bit, and no flow control.

7. Use the CLI to enter commands to configure the switch. See the software configuration guide and the command reference for more information.

Note   You cannot use the switch console port and the switch USB-mini console port at the same time to access the CLI.

Other Management Options

You can use SNMP management applications such as CiscoWorks LAN Management Solution (LMS) and Cisco netManager to configure and manage the switch. You also can manage it from an SNMP-compatible workstation that is running applications such as Cisco netManager or SunNet Manager.

The Cisco Configuration Engine is a network management device that works with embedded Cisco Networking Services (CNS) agents in the switch software. You can use it to automate initial configurations and configuration updates on the switch.

See the for a list of supporting documentation.

Installing the Switch

This section covers desk-mounting procedures. As examples, all the illustrations show the Catalyst 2960CPD-8PT-L switch. For alternate mounting procedures, such as installing the switch in a rack, under the desk, on a wall, or for using a mounting tray and magnet, see the *Catalyst 3560-C and 2960-C Switch Hardware Installation Guide* on Cisco.com.

Equipment That You Need

- Number-2 Phillips screwdriver
- Drill with a #27 drill bit (0.144-inch [3.7 mm])

Before You Begin

Before installing the switch, these guidelines must be met:

- Clearance to front panels is such that the LEDs can be easily read.
- Power cord reaches from the power outlet to the connector on the switch.
- Cabling is away from sources of electrical noise, such as radios, power lines, and fluorescent lighting fixtures.
- Temperature around the unit does not exceed 113°F (45°C). If the switch is installed in a closed or multirack assembly, the temperature around it might be greater than normal room temperature.
- Humidity around the switch does not exceed 95 percent.
- Altitude at the installation site is not greater than 10,000 feet.

- Airflow around the switch and through the vents must be unrestricted. We strongly recommend that you allow at least 3 in. (7.6 cm) of clearance from the left, right, and top sides of the switch to avoid any flow blockage. If you are installing the switch in a rack, allow at least 1.75 in. (4 cm) of empty rack space above each switch.

- When placing the switch on a flat horizontal surface, we strongly recommend that you attach the rubber feet to the switch.

- For 10/100/1000 fixed ports, cable lengths from the switch to connected devices can be up to 328 feet (100 meters).

- For cable lengths for small form-factor pluggable (SFP)-module connections, see the hardware installation guide on Cisco.com and the module documentation.

Installation Warning Statements

This section includes the basic installation warning statements. Translations of these warning statements appear in the *Regulatory Compliance and Safety Information for the Catalyst 3560-C and 2960-C Switches* document on Cisco.com.

Warning **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:**

This unit should be mounted at the bottom of the rack if it is the only unit in the rack.

When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.

If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack. Statement 1006

Warning **Class 1 laser product.** Statement 1008

Warning **This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.** Statement 1024

Warning **To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 113°F (45°C)** Statement 1047

Note For Catalyst 3560CG-8PC-S, 3560CG-8TC-S, and 2960CG-8TC-L switches, the maximum recommended ambient temperature is: 104°F (40°C).

Warning **To prevent airflow restriction, allow clearance around the ventilation openings to be at least:**
3 in. (7.6 cm) Statement 1076

On a Desk or Shelf (without Mounting Screws)

To place the switch on a desk without using the mounting screws, attach the four rubber feet on the bottom panel of the switch.

On a Desk or Shelf (with Mounting Screws)

You can use the mounting screws to mount the switch:

*   On a desk or a shelf

*   Under a desk or a shelf

*   On a wall

Note For instructions on mounting the switch under a desk or on a wall, see the hardware installation guide on Cisco.com.

To secure the switch on top of or under a desk or a shelf, use the mounting template and three mounting screws.

1. Position the mounting template on the mounting surface with the two side-by-side slots forward. Peel the adhesive strip off the bottom, and attach the template.

2. Use a 0.144-inch (3.7 mm) or a #27 drill bit to drill a 1/2-inch (12.7 mm) hole in the three template screw slot positions.

3. Insert the screws in the slots on the template, and tighten until they touch the template. Remove the template from the mounting surface.

Note Use the supplied number 8 Phillips pan-head screws, or use larger pan-head screws to securely mount the switch.
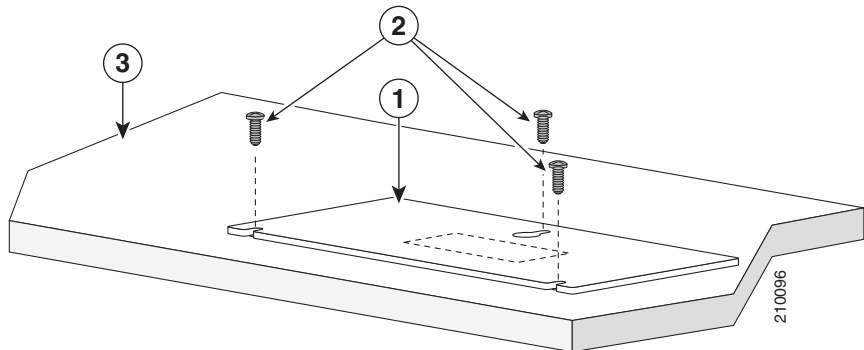

1	Mounting template	3	Desk or shelf
2	Screws		
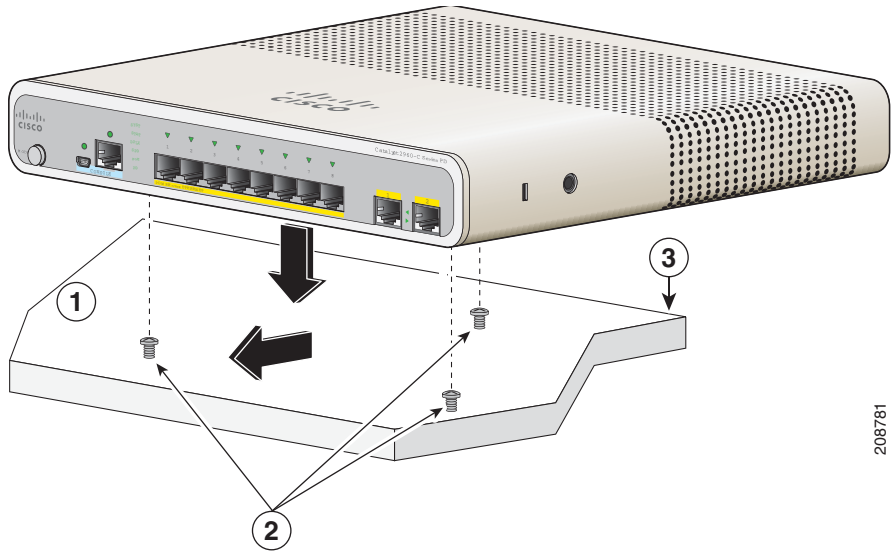
1	Slides on this way	**3**	Desk or shelf
2	Screws		

4. Place the switch onto the mounting screws, and slide it forward until it locks in place.

Connecting to the Switch Ports

Connect to the 10/100 and 10/100/1000 Ports

Step 1	When you connect to servers, workstations, IP phones, wireless access points, and routers, insert a straight-through, twisted four-pair, Category 5 cable in a switch 10/100/1000 port. Use a crossover, twisted four-pair, Category 5 cable when you connect to other switches, hubs, or repeaters.	
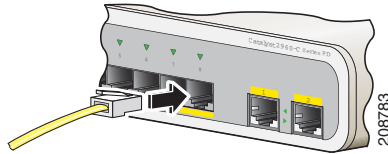
Step 2   Insert the other cable end into an RJ-45 port on the other device.

The fixed ports on some Catalyst 3560-C and 2960-C models support Power over Ethernet (PoE) and PoE+. See the switch software configuration guide for more information. Some models also support PoE pass-through. For information on the PoE pass-through feature, see the switch hardware guide.
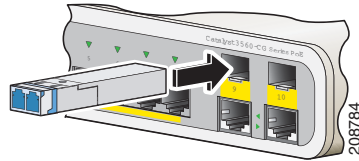
Note The automatic medium-dependent interface crossover (auto-MDIX) feature is enabled by default. The switch detects the required cable type for copper Ethernet connections and configures the interfaces. You can use either a crossover or a straight-through cable for connections to a copper 10/100/1000 module port on the switch, regardless of the type of connected device.
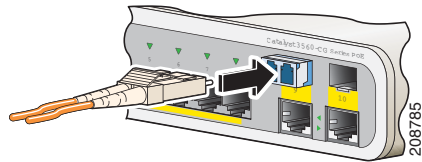
Install the SFP Modules

Some Catalyst 3560-C and 2960-C models have SFP module slots.

Step 1	Grasp the module on the sides, and insert it into the switch slot until you feel the connector snap into place.	
Step 2	Connect an appropriate cable to the module port. Connect the other cable end to the other device.	

For a list of supported modules, see the release notes on Cisco.com. For detailed instructions on installing, removing, and connecting to SFP modules, see the documentation that came with the SFP module.

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Caution   Removing and installing an SFP module can shorten its useful life. Do not remove and insert SFP modules more often than is absolutely necessary.

Connecting to PoE Devices

You can connect the switch to IP devices such as IP phones and access points. Some switch models can power the IP device, depending upon the surplus power they have. See the switch hardware guide for information.

Step 1 When you connect the 10/100 or 10/100/1000 downlink ports to IP phones, wireless access points, and so on, connect a straight-through, twisted four-pair, Category 5 cable to a switch port.

Step 2 Connect the other cable end into an RJ-45 port on the other device.

Verify Port Connectivity

After you connect the switch port and another device, the port LED turns amber while the switch establishes a link. This process takes about 30 seconds, and then the LED turns green. If the LED turns off, the target device might not be turned on, there might be a cable problem, or there might be a problem with the adapter installed in the target device. See the "In Case of Difficulty" section on page 19 for information about online assistance.

In Case of Difficulty

If you experience difficulty, help is available in this section and also on Cisco.com. This section includes Express Setup troubleshooting, how to reset the switch, how to access help online, and where to find more information.

Troubleshooting Express Setup

If Express Setup does not run, or if the Express Setup page does not appear in your browser:

Did you verify that POST ran successfully before starting Express Setup?	If not, make sure that only the SYST and STAT LEDs are green before you press the Mode button to enter the Express Setup mode. POST errors are usually fatal. Contact your Cisco technical support representative if your switch fails POST.
Did you press the Mode button while the switch was still running POST?	If yes, wait until POST completes. Power cycle the switch. Wait until POST completes. Confirm that the SYST and STAT LEDs are green. Press the Mode button to enter Express Setup mode.
Did you try to continue without confirming that the switch was in Express Setup mode?	Verify that all LEDs next to the RJ-45 console port are green. If necessary, press the Mode button to enter Express Setup mode.
Does your PC have a static IP address?	If yes, before connecting to the switch, change your PC settings to temporarily use DHCP.
Did you connect a crossover cable instead of a straight-through Ethernet cable between a switch port and the PC Ethernet port?	If yes, connect a straight-through cable to an Ethernet port on the switch and the PC. Wait 30 seconds before you enter **10.0.0.1** in the browser.

Did you connect the Ethernet cable to the console port instead of to a 10/100/1000 Ethernet port on the switch?	If yes, disconnect the cable from the console port. Then connect the cable to an Ethernet port on the switch and on the PC. Wait 30 seconds before you enter **10.0.0.1** in the browser. **Note** The console port is outlined in blue, and the Ethernet port is outlined in yellow.
Did you wait 30 seconds after you connected the switch and the PC before you entered the IP address in your browser?	If not, wait 30 seconds, re-enter **10.0.0.1** in the browser, and press **Enter**.
Did you enter the wrong address in the browser, or is there an error message?	If yes, re-enter **10.0.0.1** in the browser, and press **Enter**.

Resetting the Switch

Follow these steps to return your switch to the factory default settings. These are reasons why you might want to reset the switch:

- You installed the switch in your network and cannot connect to it because you assigned the wrong IP address.

- You want to reset the password on the switch.

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Caution   Resetting the switch reboots the switch.

To reset the switch in one of these ways:

- Press the Reset button on the rear panel.

- Press and hold the Mode button. The switch LEDs begin blinking after about 3 seconds. Continue holding down the Mode button. The LEDs stop blinking after 7 more seconds, and the switch reboots.

The switch now behaves like an unconfigured switch. You can enter the switch IP information by using Express Setup as described in the "Running Express Setup" section on page 4.

Accessing Help Online

First look for a solution to your problem in the troubleshooting section of the switch hardware installation guide or the switch software configuration guide on Cisco.com. You can also access the Cisco Technical Support and Documentation website for a list of known hardware problems and extensive troubleshooting documentation.

For More Information

For more information about the switch, see these documents on Cisco.com:

- *Release Notes for the Catalyst 3560-C Switch*

- *Release Notes for the Catalyst 2960-C Switch*

- *Catalyst 3560-C and 2960-C Switch Hardware Installation Guide*

- *Regulatory Compliance and Safety Information for the Catalyst 3560-C and 2960-C Switches*

- *Catalyst 2960 and 2960-S Switch Software Configuration Guide*

- *Catalyst 2960 and 2960-S Switch Command Reference*

- *Catalyst 3560 Switch Software Configuration Guide*

- *Catalyst 3560 Switch Command Reference*

- *Catalyst 3750, 3560, 3550, 2975, 2970, 2960, and 2960-S Switch System Message Guide*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

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