



Basic Software Configuration

Very little configuration is required to establish basic connectivity to your Catalyst 6000 family switch. This section describes the basic tasks needed to get your switch up and running:

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- Step 1** Prepare to Configure the Switch—Gather the information you need to configure the switch.
 - Step 2** Establish a Console Port Connection—Connect to the switch via the console port to access the command-line interface (CLI).
 - Step 3** Set the Switch IP Address—Assign an IP address, subnet mask, and default gateway to the switch interface.
 - Step 4** Configure Ethernet Ports—Make sure the Ethernet, Fast Ethernet, and Gigabit Ethernet ports are properly configured to communicate with connected devices.
 - Step 5** Configure the Global System Settings—Configure global settings such as system name, date and time, prompt, and passwords.
 - Step 6** Check Network Connectivity—Use the **ping** and **tracert** commands to test network connectivity.
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Prepare to Configure the Switch

Before you configure the switch, make sure the switch, modules, and power supplies are installed and cabled as described in the *Catalyst 6000 Family Installation Guide* and *Catalyst 6000 Family Module Installation Guide* publications.

Before you begin configuring the switch, you should collect the following information:

- A map or diagram of your network topology showing how the Catalyst 6000 family switch will be used in the network.
- The IP address and netmask for the switch. You will assign this address to the in-band (sc0) interface on the switch.

Establish a Console Port Connection

Connecting a terminal to the supervisor engine console port allows you to access the switch CLI before the switch is configured and connected to the network.

**Note**

Refer to the *Catalyst 6000 Family Module Installation Guide* for information on connecting a terminal to the console port.

You must enter privileged mode to perform most of the tasks described in this publication. Enter the **enable** command to enter privileged mode.

To connect to the switch via the console port and enter privileged mode, perform these steps:

	Task	Command
Step 1	Make sure the terminal connected to the console port is configured as follows: 9600 baud, 8 data bits, no parity, 2 stop bits.	–
Step 2	Power up the switch. Output from the bootup script appears on the terminal screen.	–
Step 3	At the Enter Password prompt, press Return .	–
Step 4	Enter privileged mode.	enable
Step 5	At the Enter Password prompt, press Return .	–

This example shows how to enter privileged mode (by default, both the normal and privileged mode passwords are not set; press **Return** at the Enter Password prompts):

```
<... output truncated ...>
```

```
Cisco Systems Console
```

```
Enter password:
Console> enable
Enter password:
Console> (enable)
```

Set the Switch IP Address

Before you can Telnet to your Catalyst 6000 family switch, you need to assign an IP address, a netmask, and a default gateway to allow the switch to use IP.

When configuring the switch for the first time, assign the in-band (sc0) interface to the default VLAN, VLAN 1. After you have configured additional VLANs, you can assign the interface to any VLAN. Make sure the IP address you specify belongs to the subnet associated with that VLAN.

To assign an IP address, netmask, and default gateway to your switch, perform these steps in privileged mode:

	Task	Command
Step 1	Assign an IP address and netmask to the switch.	set interface sc0 <i>ip_addr/netmask</i>
Step 2	(Optional) Assign the switch interface to a VLAN. (If you do not specify a VLAN, VLAN 1 is used.)	set interface sc0 <i>vlan_num</i>
Step 3	Assign a default gateway to the switch.	set ip route default <i>gateway</i>
Step 4	Verify the in-band interface configuration.	show interface
Step 5	Verify the default gateway assignment.	show ip route
Step 6	Test connectivity to a remote host on the network.	ping [-s] <i>host</i> [<i>packet_size</i>] [<i>packet_count</i>]

This example shows how to assign an IP address and default gateway to the switch, verify the configuration, and check connectivity to a remote host:

```

Console> (enable) set interface sc0 10.1.1.50/255.0.0.0
Interface sc0 IP address and netmask set.
Console> (enable) set interface sc0 100
Interface sc0 vlan set.
Console> (enable) set ip route default 10.1.1.1
Route added.
Console> (enable) show interface
s10: flags=51<UP,POINTOPOINT,RUNNING>
      slip 0.0.0.0 dest 0.0.0.0
sc0: flags=63<UP,BROADCAST,RUNNING>
      vlan 100 inet 10.1.1.50 netmask 255.0.0.0 broadcast 10.255.255.255
Console> (enable) show ip route
Fragmentation  Redirect  Unreachable
-----
enabled        enabled   enabled
Destination      Gateway      Flags   Use      Interface
-----
default          10.1.1.1    UG      0        sc0
10.0.0.0         10.1.1.50   U       0        sc0
default          default     UH      0        s10
Console> (enable) ping 10.1.1.100
10.1.1.100 is alive
Console> (enable)

```

Configure Ethernet Ports

Ethernet, Fast Ethernet, and Gigabit Ethernet ports on both ends of a link must use the same port speed and duplex. Ethernet and Fast Ethernet ports autonegotiate duplex mode. 10/100-Mbps Fast Ethernet ports autonegotiate port speed. Gigabit Ethernet ports are always full duplex.

Configure Ethernet Ports

To set the port configuration on Ethernet ports, perform these steps in privileged mode:

	Task	Command
Step 1	On 10/100-Mbps Fast Ethernet ports, set the port speed. Use the auto keyword to configure the port to autonegotiate both port speed and duplex mode with the connected port.	set port speed <i>mod_num/port_num</i> { 10 100 auto }
Step 2	On Ethernet or Fast Ethernet ports, set the port duplex mode. Use the auto keyword to configure the port to autonegotiate duplex mode ¹ .	set port duplex <i>mod_num/port_num</i> { full half auto }
Step 3	Enable the port, if necessary.	set port enable <i>mod_num/port_num</i>
Step 4	Set the port name, if desired.	set port name <i>mod_num/port_num</i> <i>name_string</i>
Step 5	Verify the port configuration.	show port <i>mod_num/port_num</i>

1. On 10/100-Mbps Fast Ethernet ports, you cannot change the duplex mode manually if the port speed is set to **auto**.

This example shows how to configure a 10/100-Mbps Fast Ethernet port to autonegotiate speed and duplex, set the port name, and verify the port configuration:

```

Console> (enable) set port speed 2/12 auto
Port 2/12 speed set to auto detect.
Console> (enable) set port name 2/12 NT Server 12
Port 2/12 name set.
Console> (enable) show port 2/12
Port Name           Status      Vlan      Level Duplex Speed Type
-----
2/12 NT Server 12   connect    1         normal a-half a-100 10/100BaseTX
<... output truncated ...>
Console> (enable)

```

Configure the Global System Settings

You can specify a variety of useful global system settings for your switch, such as system name, current date and time, system prompt, and passwords.

To configure the global system settings, perform these steps in privileged mode:

	Task	Command
Step 1	Set the system name.	set system name <i>name_string</i>
Step 2	Set the current date and time.	set time <i>mm/dd/yy hh:mm:ss</i>
Step 3	Set the system prompt. (By default, if the system name is set, it is used as the prompt. Use this command to override the default name.)	set prompt <i>prompt_string</i>
Step 4	Set the console password (used to access the switch CLI).	set password
Step 5	Set the enable password (used to access privileged configuration mode).	set enablepass

This example shows how to configure the global system settings:

```

Console> (enable) set system name Catalyst 6000
System name set.
Catalyst 6000> (enable) set time 08/18/98 10:08:00
Sat Apr 18 1998, 10:08:00
Catalyst 6000> (enable) set password
Enter old password:
Enter new password:
Retype new password:
Password changed.
Catalyst 6000> (enable) set enablepass
Enter old password:
Enter new password:
Retype new password:
Password changed.
Catalyst 6000> (enable)

```

Check Network Connectivity

After you assign an IP address and a default gateway and connect at least one properly configured switch port to the network, you should be able to communicate with other nodes on the network.

To check whether the switch is properly connected and configured, perform these steps in privileged mode:

	Task	Command
Step 1	Ping another node on the network.	ping [-s] <i>host</i> [<i>packet_size</i>] [<i>packet_count</i>]
Step 2	(Optional) Trace the route of packets through the network to another node (only Layer 3 devices, such as routers, will appear in the path).	tracert [-q <i>nqueries</i>] <i>host</i> [<i>data_size</i>]
Step 3	If the host is unresponsive, check the IP address, subnet mask, broadcast address, and VLAN assignment of the in-band (sc0) switch interface.	show interface
Step 4	If the interface is properly configured, check the default gateway assignment.	show ip route

This example shows how to check connectivity out a switch port using the **ping** and **traceroute** commands:

```
Console> (enable) ping -s 172.20.52.20 1200 4
PING 172.20.52.20: 1200 data bytes
1208 bytes from 172.20.52.20: icmp_seq=0. time=6 ms
1208 bytes from 172.20.52.20: icmp_seq=1. time=6 ms
1208 bytes from 172.20.52.20: icmp_seq=2. time=6 ms
1208 bytes from 172.20.52.20: icmp_seq=3. time=5 ms

----172.20.52.20 PING Statistics----
4 packets transmitted, 4 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 5/5/6
Console> (enable) traceroute 172.20.52.20 1400
traceroute to 172.20.52.20 (172.20.52.20), 30 hops max, 1440 byte
packets
 1 172.20.52.33 (172.20.52.33)  2 ms  3 ms  1 ms
 2 172.20.52.20 (172.20.52.20)  4 ms  * 4 ms
Console> (enable)
```

■ Check Network Connectivity