

## Confirming the Installation

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This section describes procedures used to confirm that the hardware and software installation and configuration procedures were successful. The following procedures are discussed:

- Using the module LEDs
- Using the `ping` Command
- Using the `show system` Command
- Using the `show config` Command
- Using the `show port` Command

### Using the Module LEDs

This section describes the LEDs used to confirm and troubleshoot operation of the Catalyst 2900 modules. The LEDs on the supervisor engine module indicate the system power and processor status; LEDs on the switching modules indicate the status of the individual switching module and their interfaces.

#### Status LEDs

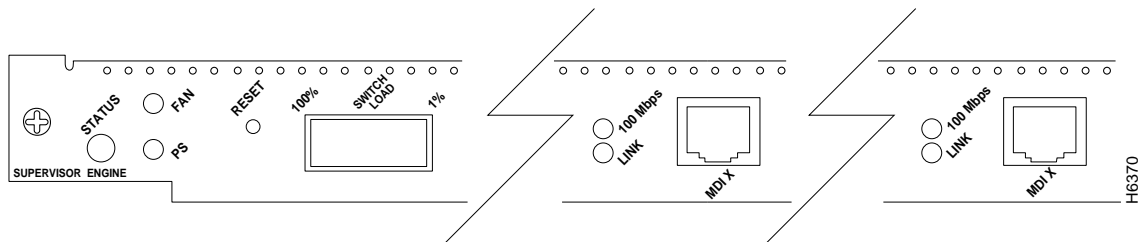
When the Catalyst 2900 is plugged in it runs a series of diagnostic tests. During this period, the status LED is orange. If the switch passes all the tests, the status LED is green. If any tests fail, the status LED turns red. The status LED will also be orange when it is explicitly disabled with the system software.

## Supervisor Engine Module LEDs

The LEDs on the supervisor engine module reflect how the system’s various components are operating and are described in Table 7-1. For a description of the power supply shutdown conditions and threshold status levels, refer to the section “Environmental Monitoring” in the chapter “What Is the Catalyst 2900?.”

The supervisor engine module LEDs are shown in Figure 7-1.

**Figure 7-1 Supervisor Engine Module LEDs**



**Table 7-1 Supervisor Engine Module LEDs**

LED	Description
Status	The switch performs a series of self-tests and diagnostic tests. If all the tests pass, the status LED is green. If any test fails, the status LED is red. During system boot or if the module is disabled, the LED is orange.
Fan	Indicates whether or not the fans are operational. If the fans are operational, the fan LED is green. If the fans are not operational, the fan LED is red.
PS	If the power supply is operational, the PS LED is green. If the power supply detects an anomaly, the PS LED is red.
100 Mbps	Green—Indicates that the port is operating at 100 Mbps.

LED	Description
Link	Green—The port is operational. Orange—The link has been disabled by software. Orange flashing—The link is bad and has been disabled. Off—No signal is detected.

### Switch Load Meter

The switch load-meter LEDs provide a visual indication (as an approximate percentage) of the current traffic load over the backplane. (See Figure 7-2.)

**Figure 7-2**      **Switch Load LED**

Switch Load	Load %
	90-100
	80-89
	70-79
	60-69
	50-59
	40-49
	30-39
	20-29
	10-19
	1-9

H2638

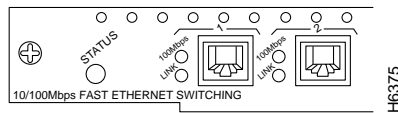
## Using the Module LEDs

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### 10/100BaseTX LEDs

The LEDs provide status information for the module and individual 10/100 Mbps Fast Ethernet interface connections. The LEDs are shown in Figure 7-3 and described in Table 7-3.

**Figure 7-3** 10/100 Mbps Fast Ethernet Switching Module LEDs



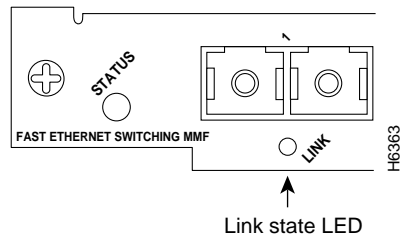
**Table 7-2** 10/100 Mbps Fast Ethernet Module LED Descriptions

LED	Description
Status	The switch performs a series of self-tests and diagnostic tests. If all the tests pass, the Status LED is green. If any test fails, the Status LED is red (or orange for a minor fault). During system boot or if the module is disabled, the LED is orange. During self-test diagnostics, the LED will be orange. If the module is disabled, the LED will be orange.
100-Mbps	Green —Indicates that the port is operating at 100-mbps.
Link (bottom LED)	Green —Indicates the port is operational (signal detected). Orange—Link disabled by software. Orange flashing—Port bad and disabled (hardware failure). Off—No signal detected.

## 100BaseFX 12 Port LEDs

The LEDs on the faceplate of the Fast Ethernet switching module (100BaseFX 12 port), shown in Figure 7-4, are described in Table 7-3.

**Figure 7-4 100BaseFX LEDs**



**Table 7-3 100BaseFX LED Descriptions**

LED	Description
Status	The switch performs a series of self-tests and diagnostic tests. If all the tests pass, the status LED is green. If any test fails, the status LED is red (or orange for a minor fault or if manually disabled).
Link	Green—the port is operational. Orange—the link has been disabled by software. Orange flashing—the link is bad and has been disabled. Off—no signal is detected.

# Using the ping Command

Enter the **ping** command to send Internet Control Message Protocol (ICMP) echo request packets to another node on the network to confirm the connection to that node.

```
ping -s host [packet_size] [packet_count]
```

### Syntax Description

<b>-s</b>	Causes <b>ping</b> to send one datagram per second, printing one line of output for every response received. The <b>ping</b> command does not return any output when no response is received.
<i>host</i>	The IP address or IP alias of the host.
<i>packet_size</i>	(Optional) The number of bytes in a packet, from 1 to 2,000 bytes, with a default of 56 bytes. The actual packet size is eight bytes larger because the switch adds header information.
<i>packet_count</i>	(Optional) The number of packets to send.

### Usage Guidelines

Enter **Ctrl-C** to stop pinging.

Following are sample results of the **ping** command:

- Normal response—The normal response occurs in one to ten seconds, depending on network traffic.
- Destination does not respond—If the host does not respond, a no answer message appears in ten seconds.
- Destination unreachable—The gateway given in the route table for this destination indicates that the destination is unreachable.
- Network or host unreachable—The switch found no corresponding entry in the route table.

### Example

In the following example, a host with IP alias elvis is pinged a single time, then pinged once per second until Ctrl-C is entered to stop pinging:

```
Console> ping elvis
elvis is alive
Console> ping -s elvis
ping elvis: 56 data bytes
64 bytes from elvis: icmp_seq=0. time=11 ms
64 bytes from elvis: icmp_seq=1. time=8 ms
64 bytes from elvis: icmp_seq=2. time=8 ms
64 bytes from elvis: icmp_seq=3. time=7 ms
64 bytes from elvis: icmp_seq=4. time=11 ms
64 bytes from elvis: icmp_seq=5. time=7 ms
64 bytes from elvis: icmp_seq=6. time=7 ms
^C

----elvis PING Statistics----
7 packets transmitted, 7 packets received, 0% packet loss
round-trip (ms)  min/avg/max = 7/8/11
Console>
```

## Using the show system Command

Enter the **show system** command to display the power supply, fan, temperature alarm, system, and modem status; the number of days, hours, minutes, and seconds since the last system restart; the baud rate; the MAC address range; and the system name, location, and contact.

## Using the show configuration Command

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### Example

In the following example, the system status and other information is displayed:

```
Console> show system
PS-Status Fan-Status Temp-Alarm Sys-Status Uptime d,h:m:s
-----
ok          ok          off          ok          27,17:05:50

Modem      Baud  MAC-Address-Range
-----
disabled  9600  00-06-3c-e4-0a-00 to 00-60-3e-e4-0d-ff

System Name          System Location          System Contact
-----
WBU-Catalyst-2900 5  Closet 202 1/F          Luis x5529
Console>
```

## Using the show configuration Command

Enter the **show config** command to display the current system configuration:

```
Console> show config
begin
set password $1$FMFQ$HfZR5DUzVHIRhrz4h6V70
set enablepass $1$FMFQ$HfZR5DUzVHIRhrz4h6V70
set prompt Console>
!
#system
set system baud 9600
set system modem disable
set system name Catalyst 2900
set system location Sunnyvale, CA
set system contact Bob Lewis
!
#snmp
set snmp rmon enable
set snmp community read-only public
set snmp community read-write private
set snmp community read-write-all secret
set snmp trap 171.69.194.181 public
set snmp trap disable
!
```



```
#vlan/trunk
clear trunk all
!
set vlan 1    1/1-2,2/1-24
!
#trunks
!
#MAC filters
clear filter all
!
#cam
set cam agingtime 0
!
#spantree
#vlan 1
set spantree enable          1
set spantree fwddelay 20    1
set spantree hello          2    1
set spantree maxage         20    1
set spantree priority       45    1
set spantree portpri 1/1    32
set spantree portcost 1/1   100
set spantree portpri 1/2    32
set spantree portcost 1/2   100
set spantree portpri 2/1    32
set spantree portcost 2/1   100
.
.
.
set spantree portpri 2/12 32
set spantree portcost 2/12 100
!
#vlan trunk/monitor
!
#ip
set interface sc0 192.122.174.220 255.255.255.0 192.122.174.255
set redirect enable
set route 0.0.0.0 192.122.174.102 1
set arp agingtime 1200
!
#cdp
set cdp 1/1  enable 60
set cdp 1/2  enable 60
set cdp 2/1  enable 60
set cdp 2/2  enable 60
```

## Using the show configuration Command

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```
set cdp 2/3 enable 60
.
.
.
set cdp 2/12 enable 60
!
#ipalias
set ipalias default 0.0.0.0
set ipalias cres 192.122.173.42
set ipalias calypso 171.69.194.181
!
#alias
!
#port monitoring
set monitor 1 1/1 both
set monitor disable
!
#module 1
set port enable 1/1
set port name 1/1
set port duplex 1/1 auto
set port speed 1/1 10
set port level 1/1 auto
set port enable 1/2
set port name 1/2
set port duplex 1/2 10
set port speed 1/2 100
set port level 1/2 auto
!
#module 2
set module enable 2
!
set port enable 2/1
set port name 2/1 auto
set port duplex 2/1 100
set port level 2/1 100
set port enable 2/2
set port name 2/2
set port duplex 2/2 10
set port level 2/2 auto
.
.
set port enable 2/12
set port name 2/12
set port duplex 2/12 10
```

```

set port level      2/12 10
!
end

```

## Using the show port Command

Enter the **show port** command to display the current system configuration:

```

Console> show port

```

Port Name	Status	Vlan	Level	Duplex	Speed	Type
1/1	ready	1	normal	half	100	100 BASE-TX
1/2	ready	1	normal	half	100	100 BASE-TX
2/1 network	ready	1	normal	half	10	10 BASE-T
2/2	connect	1	normal	half	10	10 BASE-T
2/3	connect	1	normal	half	10	10 BASE-T
2/4	connect	1	normal	half	10	10 BASE-T
2/5	connect	1	normal	half	10	10 BASE-T
2/6	connect	1	normal	half	10	10 BASE-T
2/7	connect	1	normal	half	10	10 BASE-T
2/8	connect	1	normal	half	10	10 BASE-T
2/9	connect	1	normal	half	10	10 BASE-T
2/10	connect	1	normal	half	10	10 BASE-T
2/11	connect	1	normal	half	10	10 BASE-T
2/12	connect	1	normal	half	10	10 BASE-T

Port	Align-Err	FCS-Err	Xmit-Err	Rcv-Err
1/1	0	0	0	0
1/2	0	0	0	0
2/1	0	0	0	0
2/2	0	0	0	0
2/3	0	0	0	0
2/4	0	0	0	0
2/5	0	0	0	0
2/6	0	0	0	0
2/7	0	0	0	0
2/8	0	0	0	0
2/9	0	0	0	0
2/10	0	0	0	0
2/11	0	0	0	0
2/12	0	0	0	0

## Using the show port Command

```

Port Single-Col Multi-Coll Late-Coll Excess-Col Carri-Sens Giants
-----
1/1          0          0          0          0          0          0
1/2          0          0          0          0          0          0
2/1          0          0          0          0          0          0
2/2          0          0          0          0          0          0
2/3          0          0          0          0          0          0
2/4          0          0          0          0          0          0
2/5          0          0          0          0          0          0
2/6          0          0          0          0          0          0
2/7          0          0          0          0          0          0
2/8          0          0          0          0          0          0
2/9          0          0          0          0          0          0
2/10         0          0          0          0          0          0
2/11         0          0          0          0          0          0
2/12         0          0          0          0          0          0
Last-Time-Cleared
-----
Fri Apr 28 1995, 16:34:25
Console>

```

Console> (enable) **show port**

```

Port Name          Status      Vlan      Level   Duplex  Speed Type
-----
1/1 Management Port  notconnect 1          normal  half   100  100 BASE-TX
1/2 InterSwitchLink connected trunk    normal  half   100  100 BASE-TX
2/1 Dennis          connected 10         normal  a-half a-10 10/100 BASE-TX
2/2 Luis            notconnect 10         normal  auto   auto 10/100 BASE-TX
2/3 Iris            notconnect 10         normal  auto   auto 10/100 BASE-TX
2/4 Nancy          connected 10         normal  a-half a-10 10/100 BASE-TX
2/5 Arthur          notconnect 20         normal  auto   auto 10/100 BASE-TX
2/6 Ron             notconnect 20         normal  auto   auto 10/100 BASE-TX
2/7 Connie          disabled  20         normal  auto   auto 10/100 BASE-TX
2/8 Bill            notconnect 20         normal  auto   auto 10/100 BASE-TX
2/9                 notconnect 20         normal  auto   auto 10/100 BASE-TX
2/10                notconnect 20         normal  auto   auto 10/100 BASE-TX
2/11                notconnect 20         normal  auto   auto 10/100 BASE-TX
2/12                notconnect 20         normal  full  auto 10/100 BASE-TX

```

```

Port Align-Err  FCS-Err  Xmit-Err  Rcv-Err
-----
1/1            0         0         0         0
1/2            1         0         0         0
2/1            0         0         0         0

```

## Using the show port Command

---

2/2	0	0	0	0
2/3	0	0	0	0
2/4	30	0	0	0
2/5	0	0	0	0
2/6	0	0	0	0
2/7	0	0	0	0
2/8	0	0	0	0
2/9	0	0	0	0
2/10	0	0	0	0
2/11	0	0	0	0
2/12	0	0	0	0

Port	Single-Col	Multi-Coll	Late-Coll	Excess-Col	Carri-Sens	Giants
1/1	0	0	0	0	0	0
1/2	680	418	0	1	0	-
2/1	756	99	0	0	0	0
2/2	0	0	0	0	0	0
2/3	0	0	0	0	0	0
2/4	409	403	0	11	0	1256
2/5	0	0	0	0	0	0
2/6	0	0	0	0	0	0
2/7	0	0	0	0	0	0
2/8	0	0	0	0	0	0
2/9	0	0	0	0	0	0
2/10	0	0	0	0	0	0
2/11	0	0	0	0	0	0
2/12	0	0	0	0	0	0

Last-Time-Cleared

-----  
Wed Dec 27 1995, 16:09:47  
Console> (enable)

## Using the show port Command

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