

Cisco SFP and Port Commands

Dec 2019
Updated Apr 2021

I purchased some SFPs to go in to a Cisco 10GB switch, and found they did not work in my switch. While investigating the fault, I found some useful commands to help me.

These commands seem to work on both Cisco IOS and the Nexus switches, albeit with some slightly different syntax.

Show Inventory

Show Inventory - [sh inventory](#) displays information about the switch hardware options:

```
NAME: "Chassis", DESCR: "Nexus 3548 Chassis"
PID: N3K-C3548P-10G      , VID: V02 , SN: FOC1822R0WS

NAME: "Module 1", DESCR: "48x10GE Supervisor"
PID: N3K-C3548P-10G      , VID: V02 , SN: FOC18220S2A

NAME: "Fan 1", DESCR: "Chassis fan module"
PID: NXA-FAN-30CFM-F     , VID: N/A , SN: N/A

NAME: "Fan 2", DESCR: "Chassis fan module"
PID: NXA-FAN-30CFM-F     , VID: N/A , SN: N/A

NAME: "Fan 3", DESCR: "Chassis fan module"
PID: NXA-FAN-30CFM-F     , VID: N/A , SN: N/A

NAME: "Fan 4", DESCR: "Chassis fan module"
PID: NXA-FAN-30CFM-F     , VID: N/A , SN: N/A

NAME: "Power supply 1", DESCR: "AC power supply"
PID: N2200-PAC-400W      , VID: V04 , SN: DTN1817P5GC

NAME: "Power supply 2", DESCR: "AC power supply"
PID: N2200-PAC-400W      , VID: V04 , SN: DTN1817P5Q1
```

Show Interface

Show Interface displays detailed information about each interface. If you only issue the command [sh interface](#) (Nexus) (or [sh interfaces for IOS](#)) then you get information regarding all interfaces.

You can get information on a specific interface by using the Cisco syntax [sh interface ethernet 1/1](#). In this example we get the information for port 1. Depending on your switch you might have to use [ethernet](#) or [GigabitEthernet](#) etc.

```
Ethernet1/1 is up
Dedicated Interface
Hardware: 100/1000/10000/40000 Ethernet, address: 88f0.31ca.b0c8 (bia 88f0.31c
a.b0c8)
MTU 1500 bytes, BW 100000000 Kbit, DLY 10 usec
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA
Port mode is access
full-duplex, 10 Gb/s, media type is 10G
Beacon is turned off
Input flow-control is off, output flow-control is off
Rate mode is dedicated
Switchport monitor is off
EtherType is 0x8100
Last link flapped 00:14:47
Last clearing of "show interface" counters never
```

```

5 interface resets
30 seconds input rate 24 bits/sec, 0 packets/sec
30 seconds output rate 296 bits/sec, 0 packets/sec
Load-Interval #2: 5 minute (300 seconds)
  input rate 192 bps, 0 pps; output rate 360 bps, 0 pps
RX
  0 unicast packets  115 multicast packets  34 broadcast packets
  149 input packets  22045 bytes
  0 jumbo packets  0 storm suppression bytes
  0 runts  0 giants  0 CRC  0 no buffer
  0 input error  0 short frame  0 overrun  0 underrun  0 ignored
  0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
  0 input with dribble  0 input discard
  0 Rx pause
TX
  520 unicast packets  0 multicast packets  0 broadcast packets
  520 output packets  49544 bytes
  0 jumbo packets
  0 output errors  0 collision  0 deferred  0 late collision
  0 lost carrier  0 no carrier  0 babble  0 output discard
  0 Tx pause

```

Show Interface Status

Show Interface Status will display a summary of interfaces and their status. Use either [sh interface status](#) to show all interfaces, or [sh interface ethernet 1/1 status](#) to show specific interface.

```
sh int status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
Gil/0/1		connected	10	a-full	a-1000	10/100/1000BaseTX
Gil/0/2		connected	10	a-full	a-1000	10/100/1000BaseTX
Gil/0/3		connected	10	a-full	a-1000	10/100/1000BaseTX
Gil/0/4		connected	10	a-full	a-1000	10/100/1000BaseTX
Gil/0/5		connected	10	a-full	a-1000	10/100/1000BaseTX
Gil/0/6		connected	10	a-full	a-1000	10/100/1000BaseTX
Gil/0/7		connected	10	a-full	a-1000	10/100/1000BaseTX
Gil/0/8		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/9		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/10		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/11		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/12		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/13		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/14		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/15		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/16		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/17		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/18		notconnect	10	auto	auto	10/100/1000BaseTX
Gil/0/19		connected	20	a-full	a-1000	10/100/1000BaseTX
Gil/0/20		connected	20	a-full	a-1000	10/100/1000BaseTX
Gil/0/21		connected	20	a-full	a-1000	10/100/1000BaseTX
Gil/0/22		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/23		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/24		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/25		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/26		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/27		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/28		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/29		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/30		notconnect	20	auto	auto	10/100/1000BaseTX
Gil/0/31		notconnect	30	auto	auto	10/100/1000BaseTX
Gil/0/32		connected	30	a-full	a-1000	10/100/1000BaseTX
Gil/0/33		connected	30	a-full	a-1000	10/100/1000BaseTX
Gil/0/34		connected	30	a-full	a-1000	10/100/1000BaseTX
Gil/0/35		connected	30	a-full	a-1000	10/100/1000BaseTX
Gil/0/36		connected	30	a-full	a-1000	10/100/1000BaseTX
Gil/0/37		notconnect	30	auto	auto	10/100/1000BaseTX

Gil/0/38	notconnect	30	auto	auto	10/100/1000BaseTX
Gil/0/39	notconnect	30	auto	auto	10/100/1000BaseTX
Gil/0/40	notconnect	30	auto	auto	10/100/1000BaseTX
Gil/0/41	notconnect	40	auto	auto	10/100/1000BaseTX
Gil/0/42	connected	40	a-full	a-1000	10/100/1000BaseTX
Gil/0/43	connected	40	a-full	a-1000	10/100/1000BaseTX
Gil/0/44	connected	40	a-full	a-1000	10/100/1000BaseTX
Gil/0/45	notconnect	40	auto	auto	10/100/1000BaseTX
Gil/0/46	notconnect	40	auto	auto	10/100/1000BaseTX
Gil/0/47	notconnect	40	auto	auto	10/100/1000BaseTX
Gil/0/48	notconnect	40	auto	auto	10/100/1000BaseTX

Show Interface Transceiver Details

Show Interface Transceiver Details gives more specific information about the interface in a port. This is useful for SFPs, not so useful for fixed ethernet interfaces. Use: [sh interface transceiver details](#) .

```
Ethernet1/1
  transceiver is present
  type is Unknown Type-(unknown)
  name is Amphenol
  part number is 603830001
  revision is N
  serial number is APF13350017WFF
  nominal bitrate is 10300 MBit/sec
  Link length supported for copper is 1 m
  cisco id is --
  cisco extended id number is 4

DOM is not supported
```

Show Version

Show Version gives information regarding the hardware, software and BIOS version of the switch. Use: [sh version](#)

```
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Documents: http://www.cisco.com/en/US/products/ps9372/tsd_products_support_series_home.html
Copyright (c) 2002-2014, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software are covered under the GNU Public
License. A copy of the license is available at
http://www.gnu.org/licenses/gpl.html.
```

Software

```
BIOS:      version 1.9.0
loader:    version N/A
kickstart: version 6.0(2)A1(1d)
system:    version 6.0(2)A1(1d)
Power Sequencer Firmware:
  Module 1: version v3.1
BIOS compile time:    10/13/2012
kickstart image file is: bootflash:///n3500-uk9-kickstart.6.0.2.A1.1d.bin
kickstart compile time: 1/30/2014 9:00:00 [01/30/2014 18:31:05]
system image file is:   bootflash:///n3500-uk9.6.0.2.A1.1d.bin
system compile time:    1/30/2014 9:00:00 [01/30/2014 19:39:25]
```

Hardware

```
cisco Nexus 3548 Chassis ("48x10GE Supervisor")
Intel(R) Pentium(R) CPU @ 1.50GHz
with 4117860 kB of memory.
Processor Board ID F0C18220S2A
```

```
Device name: switch
bootflash:   2007040 kB
```

```
Kernel uptime is 0 day(s), 4 hour(s), 23 minute(s), 57 second(s)
```

```
Last reset
```

```
Reason: Unknown
```

```
System version: 6.0(2)A1(1d)
```

```
Service:
```

```
plugin
```

```
Core Plugin, Ethernet Plugin
```

sh mac address-table interface x

Shows the mac table for a particular interface.

```
sh mac address-table interface gigabitEthernet 1/0/1
```

Mac Address Table

Vlan	Mac Address	Type	Ports
10	001d.aa16.a730	DYNAMIC	Gi1/0/1
10	001d.aa1c.7b7c	DYNAMIC	Gi1/0/1
10	00e0.f42c.0bce	DYNAMIC	Gi1/0/1
10	1059.3202.e4c5	DYNAMIC	Gi1/0/1
10	1059.3202.e5ae	DYNAMIC	Gi1/0/1
10	30ab.6a3a.11b6	DYNAMIC	Gi1/0/1
10	3822.e2b6.3385	DYNAMIC	Gi1/0/1
10	3ca8.2a07.a6dc	DYNAMIC	Gi1/0/1
10	3cd9.2b54.cd94	DYNAMIC	Gi1/0/1
10	4016.7ea4.6f21	DYNAMIC	Gi1/0/1
10	408d.5c1e.76bb	DYNAMIC	Gi1/0/1
10	7054.d2c5.08a5	DYNAMIC	Gi1/0/1
10	7085.c2b4.51ad	DYNAMIC	Gi1/0/1
10	7898.e8f9.7ed0	DYNAMIC	Gi1/0/1
10	b8a3.866a.4ad0	DYNAMIC	Gi1/0/1
10	b8ac.6f2c.cf44	DYNAMIC	Gi1/0/1
10	dca6.32e0.7e97	DYNAMIC	Gi1/0/1
10	e89d.8709.d630	DYNAMIC	Gi1/0/1
10	ecb1.d74a.441d	DYNAMIC	Gi1/0/1

```
Total Mac Addresses for this criterion: 19
```

interface down/up

To set a Cisco interface down or up we use the 'shutdown' command. 'shutdown' takes down the interface, 'no shutdown' brings it back up.

To bring down or up and interface, you must first select the interface, then issue the shutdown command.

```
interface gigabitEthernet 1/0/48
```

```
shutdown
```

```
LINK-5-CHANGED: Interface GigabitEthernet1/0/48, changed state to administratively down
```

```
exit
```

```
Switch#show interfaces gigabitEthernet 1/0/48

GigabitEthernet1/0/48 is administratively down, line protocol is down (disabled)
  Hardware is Gigabit Ethernet, address is d0ec.3549.1530 (bia d0ec.3549.1530)
  MTU 1500 bytes, BW 1000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100/1000BaseTX
  input flow-control is on, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/2000/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runs, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 pause output
    0 output buffer failures, 0 output buffers swapped out
```

In the above example, we shutdown interface 48 on a Cisco, we then exit back up so we can run the 'show' command to check the status of the interface. Below we will bring the interface back up.

```
interface gigabitEthernet 1/0/48

no shutdown

exit

Interface GigabitEthernet1/0/48, changed state to down

exit

show interfaces gigabitEthernet 1/0/48

GigabitEthernet1/0/48 is down, line protocol is down (notconnect)
  Hardware is Gigabit Ethernet, address is d0ec.3549.1530 (bia d0ec.3549.1530)
  MTU 1500 bytes, BW 1000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100/1000BaseTX
  input flow-control is on, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/2000/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runs, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
```

```
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 2 interface resets
0 unknown protocol drops
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 pause output
0 output buffer failures, 0 output buffers swapped out
```

Notice that the message says 'interface is down' this just means nothing is plugged in, in the first example where we actually shutdown the interface it states that the interface is 'administratively down'

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Last update: **2023/03/09 22:35**

