Managing the Switch

Displaying Information About Installed Hardware Modules

To display information about the switch hardware and the hardware modules installed in the switch chassis, use the **show hardware** command.

Enter the **show hardware** command.

Example:

```
switch# show hardware
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) 2002-2015, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
```

```
Software
  BIOS:        version 1.7.0
  kickstart: version 8.3(0)SK(1) [build 8.3(0)SK(0.47)] [gdb]
  system:      version 8.3(0)SK(1) [build 8.3(0)SK(0.47)] [gdb]
  BIOS compile time:       10/10/2017
  kickstart image file is: bootflash:///n7700-s3-kickstart.8.3.0.SK.0.47.gbin
  kickstart compile time:  5/31/2018 23:00:00 [03/02/2018 06:26:13]
  system image file is:    bootflash:///n7700-s3-dk9.8.3.0.SK.0.47.gbin
  system compile time:     5/31/2018 23:00:00 [03/02/2018 08:23:10]


Hardware
  cisco Nexus7700 C7702 (2 Slot) Chassis ("Supervisor Module-3")
  Intel(R) Xeon(R) CPU         with 32744992 kB of memory.
  Processor Board ID JAE183300QX

  Device name: APEX2
  bootflash:    4014080 kB
  slot0:        7989768 kB (expansion flash)

Kernel uptime is 6 day(s), 23 hour(s), 38 minute(s), 57 second(s)

Last reset at 448455 usecs after  Wed Jun  3 19:10:58 2015

  Reason: Reset Requested by CLI command reload
  System version: 8.3(0)SK(0.47)
  Service:

plugin
  Core Plugin, Ethernet Plugin
--------------------------------
Switch hardware ID information
--------------------------------

Switch is booted up
  Switch type is : Nexus7700 C7702 (2 Slot) Chassis
  Model number is N77-C7702
  H/W version is 0.202
  Part Number is 73-100796-02
  Part Revision is 02
  Manufacture Date is Year 19 Week 13
  Serial number is JPG1913002X
  CLEI code is CMM1700DRA

--------------------------------
Chassis has 2 Module slots
--------------------------------

Module1  ok
  Module type is : 100 Gbps Ethernet Module
  0 submodules are present
  Model number is N77-F430CQ-36
  H/W version is 0.203
  Part Number is 73-101350-02
  Part Revision is 05
  Manufacture Date is Year 19 Week 41
  Serial number is JAE214303LY
  CLEI code is

Module2  ok
  Module type is : Supervisor Module-3
  0 submodules are present
  Model number is N77-SUP3E
```

```
    H/W version is 0.909
    Part Number is 73-16310-09
    Part Revision is 09
    Manufacture Date is Year 18 Week 33
    Serial number is JAE2150086E
    CLEI code is

----------------------------------------
Chassis has 2 PowerSupply Slots
----------------------------------------

PS1 ok
  Power supply type is: 3000.00W 220v AC
  Model number is N7K-AC-3KW
  H/W version is 1.0
  Part Number is 341-0428-01
  Part Revision is A0
  Manufacture Date is Year 16 Week 52
  Serial number is DTM165200TK
  CLEI code is CMUPABRCAA

PS2 ok
  Power supply type is: 3000.00W 220v AC
  Model number is N77-AC-3KW
  H/W version is 1.0
  Part Number is 341-0600-01
  Part Revision is A0
  Manufacture Date is Year 17 Week 32
  Serial number is DTM173200S1
  CLEI code is CMUPAB4CAA

----------------------------------
Chassis has 1 Fan slots
----------------------------------

Fan1(sys_fan1) ok
  Model number is N77-C7702-FAN
  H/W version is 0.0
  Part Number is 73-100660-02
  Part Revision is 04
  Manufacture Date is Year 19 Week 6
  Serial number is DCH1906A020
  CLEI code is
```

Displaying the Hardware Inventory for a Switch

To display information about the field replaceable units (FRUs), including product IDs, serial numbers, and version IDs, use the **show inventory** command.

Enter the **show inventory** command.

Example:

```
switch# show inventory
NAME: "Chassis",  DESCR: "Nexus7700 C7702 (2 Slot) Chassis "
PID: N77-C7702          ,  VID: V00 ,  SN: JPG1913002X
```

```
NAME: "Slot 1",  DESCR: "100 Gbps Ethernet Module"
PID: N77-F430CQ-36      , VID: V00 , SN: JAE214303LW

NAME: "Slot 2",  DESCR: "Supervisor Module-3"
PID: N77-SUP3E          , VID: V00 , SN: JAE2150086E

NAME: "Slot 33",  DESCR: "Nexus7700 C7702 (2 Slot) Chassis Power Supply"
PID: N7K-AC-3KW         , VID: V01 , SN: DTM165200TK

NAME: "Slot 34",  DESCR: "Nexus7700 C7702 (2 Slot) Chassis Power Supply"
PID: N77-AC-3KW         , VID: V01 , SN: DTM173200S1

NAME: "Slot 35",  DESCR: "Nexus7700 C7702 (2 Slot) Chassis Fan Module"
PID: N77-C7702-FAN      , VID: V00 , SN: DCH1906A020
```

Displaying the Backplane and Serial Number Information

You can display the backplane information, including the serial number for the switch, by using the **show sprom backplane** command.

Enter the **show sprom backplane** command.

Example:

```
switch# show sprom backplane 1
DISPLAY backplane sprom contents:
Common block:
 Block Signature : 0xabab
 Block Version   : 3
 Block Length    : 160
 Block Checksum  : 0x170c
 EEPROM Size     : 65535
 Block Count     : 5
 FRU Major Type  : 0x6001
 FRU Minor Type  : 0x0
 OEM String      : Cisco Systems, Inc.
 Product Number  : N77-C7702
 Serial Number   : JPG1913002X
 Part Number     : 73-100796-02
 Part Revision   : 02
 Mfg Deviation   : 0
 H/W Version     : 0.202
 Mfg Bits        : 0
 Engineer Use    : 0
 snmpOID         : 9.12.3.1.3.1648.0.0
 Power Consump   : 0
 RMA Code        : 0-0-0-0
 CLEI Code       : CMM1700DRA
 VID             : V00
Chassis specific block:
 Block Signature : 0x6001
 Block Version   : 3
 Block Length    : 39
 Block Checksum  : 0x360
 Feature Bits    : 0x0
```

```
 HW Changes Bits : 0x1
 Stackmib OID    : 0
 MAC Addresses   : 8c-60-4f-30-db-00
 Number of MACs  : 128
 OEM Enterprise  : 9
 OEM MIB Offset  : 5
 MAX Connector Power: 0
WWN software-module specific block:
 Block Signature : 0x6005
 Block Version   : 1
 Block Length    : 0
 Block Checksum  : 0x268
wwn usage bits:
 00 00 00 00 00 00 00 00
 01 00 03 ff ff 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
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 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00 00 00 00 00 00 00
 00 00
License software-module specific block:
 Block Signature : 0x6006
 Block Version   : 1
 Block Length    : 16
 Block Checksum  : 0x17d
lic usage bits:
 c0 46 00 00 00 00 00 00
Second Serial number specific block:
 Block Signature : 0x6007
 Block Version   : 1
 Block Length    : 28
 Block Checksum  : 0x31e
 Serial Number   : JAE191106QG

switch# show sprom backplane 2
DISPLAY backplane sprom contents:
Common block:
 Block Signature : 0xabab
 Block Version   : 3
```

```
     Block Length    : 160
     Block Checksum  : 0x170c
     EEPROM Size     : 65535
     Block Count     : 5
     FRU Major Type  : 0x6001
     FRU Minor Type  : 0x0
     OEM String      : Cisco Systems, Inc.
     Product Number  : N77-C7702
     Serial Number   : JPG1913002X
     Part Number     : 73-100796-02
     Part Revision   : 02
     Mfg Deviation   : 0
     H/W Version     : 0.202
     Mfg Bits        : 0
     Engineer Use    : 0
     snmpOID         : 9.12.3.1.3.1648.0.0
     Power Consump   : 0
     RMA Code        : 0-0-0-0
     CLEI Code       : CMM1700DRA
     VID             : V00
Chassis specific block:
     Block Signature : 0x6001
     Block Version   : 3
     Block Length    : 39
     Block Checksum  : 0x360
     Feature Bits    : 0x0
     HW Changes Bits : 0x1
     Stackmib OID    : 0
     MAC Addresses   : 8c-60-4f-30-db-00
     Number of MACs  : 128
     OEM Enterprise  : 9
     OEM MIB Offset  : 5
     MAX Connector Power: 0
WWN software-module specific block:
     Block Signature : 0x6005
     Block Version   : 1
     Block Length    : 0
     Block Checksum  : 0x268
wwn usage bits:
     00 00 00 00 00 00 00 00
     01 00 03 ff ff 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
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     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
```

```
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00 00 00 00 00 00 00
     00 00
License software-module specific block:
 Block Signature : 0x6006
 Block Version   : 1
 Block Length    : 16
 Block Checksum  : 0x17d
lic usage bits:
 c0 46 00 00 00 00 00 00
Second Serial number specific block:
 Block Signature : 0x6007
 Block Version   : 1
 Block Length    : 28
 Block Checksum  : 0x31e
 Serial Number   : JAE191106QG
```

Displaying Environmental Information for a Switch

You can display all of the environment-related switch information by using the **show environment** command.

Enter the **show environment** command.

Example:

```
switch# show environment
Power Supply:
Voltage: 50 Volts
Power                           Actual       Total
Supply    Model                 Output      Capacity     Status
                                (Watts )    (Watts )
-------   -------------------   ----------  ----------   --------------
1         N7K-AC-3KW               251 W       3000 W      Ok
2         N77-AC-3KW               245 W       3000 W      Ok


                                Actual       Power
Module    Model                  Draw      Allocated     Status
                                (Watts )    (Watts )
-------   -------------------   ----------  ----------   --------------
1         N77-F430CQ-36           604 W       1000 W     Powered-Up
2         N77-SUP3E               100 W        190 W     Powered-Up
fan1      N77-C7702-FAN            39 W        300 W     Powered-Up

N/A - Per module power not available


Power Usage Summary:
--------------------
Power Supply redundancy mode (configured)           PS-Redundant
Power Supply redundancy mode (operational)          PS-Redundant

Total Power Capacity (based on configured mode)         3000 W
Total Power of all Inputs (cumulative)                  6000 W
```

```
Total Power Output (actual draw)                                 496 W
Total Power Allocated (budget)                                  1045 W
Total Power Available for additional modules                    1955 W

Clock:
-----------------------------------------------------------
Clock           Model               Hw          Status
-----------------------------------------------------------
A               Clock Module        --          NotSupported/None
B               Clock Module        --          NotSupported/None


Fan:
---------------------------------------------------------
Fan             Model               Hw          Status
---------------------------------------------------------
Fan1(sys_fan1)  N77-C7702-FAN       0.0         Ok
Fan_in_PS1      --                  --          Ok
Fan_in_PS2      --                  --          Ok
Fan Zone Speed: Zone 1: 0x79


Temperature:
----------------------------------------------------------------------
Module   Sensor        MajorThresh   MinorThres   CurTemp    Status
                       (Celsius)     (Celsius)    (Celsius)
----------------------------------------------------------------------
1        Crossbar1(s1) 125           115          51         Ok
1        Crossbar2(s2) 125           115          51         Ok
1        Arb-mux (s3)  125           115          35         Ok
1        L2L3Dev1(s5)  125           115          31         Ok
1        L2L3Dev2(s6)  125           115          29         Ok
1        L2L3Dev3(s7)  125           115          34         Ok
1        L2L3Dev4(s8)  125           115          32         Ok
1        L2L3Dev5(s9)  125           115          31         Ok
1        L2L3Dev6(s10) 125           115          32         Ok
2        Inlet  (s1)   60            42           17         Ok
2        Crossbar(s2)  125           115          58         Ok
2        L2L3Dev1(s3)  125           110          39         Ok
2        Arbiter (s4)  125           105          47         Ok
2        CPU1CORE1(s5) 85            75           27         Ok
2        CPU1CORE2(s6) 85            75           26         Ok
2        CPU1CORE3(s7) 85            75           26         Ok
2        CPU1CORE4(s8) 85            75           24         Ok
2        CPU2CORE1(s9) 85            75           23         Ok
2        CPU2CORE2(s10) 85           75           21         Ok
2        CPU2CORE3(s11) 85           75           24         Ok
2        CPU2CORE4(s12) 85           75           19         Ok
2        DDR3DIMM1(s13) 95           85           25         Ok
2        DDR3DIMM2(s14) 95           85           24         Ok
2        DDR3DIMM4(s16) 95           85           22         Ok
2        DDR3DIMM5(s17) 95           85           21         Ok
```

Displaying Temperatures for Modules

Each module has temperature sensors with two thresholds:

- Minor temperature threshold—When a minor threshold is exceeded, a minor alarm occurs and the following actions occur for all four sensors:

- Displays system messages

- Sends Call Home alerts (if configured)

- Sends SNMP notifications (if configured)

- Major temperature threshold—When a major threshold is exceeded, a major alarm occurs and the following actions occur:

  - For sensors 1, 3, and 4 (outlet and onboard sensors), the following actions occur:

    - Displays system messages.

    - Sends Call Home alerts (if configured). For more information, refer Associating an Alert Group with a Destination Profile .

    - Sends SNMP notifications (if configured). For more information, refer Enabling SNMP Notifications.

  - For sensor 2 (intake sensor), the following actions occur:

    - If the threshold is exceeded in a switching module, only that module is shut down.

    - If the threshold is exceeded in an active supervisor module with HA-standby or standby present, only that supervisor module is shut down and the standby supervisor module takes over.

    - If you do not have a standby supervisor module in your switch, you have up to 2 minutes to decrease the temperature. During this interval, the software monitors the temperature every 5 seconds and continuously sends system messages as configured.

Tip We recommend that you install dual supervisor modules. If you are using a switch without dual supervisor modules, we recommend that you immediately replace the fan module if just one fan is not working.

Note A threshold value of -127 indicates that no thresholds are configured or applicable.

You can display temperature readings for module temperature sensors by using the **show environment temperature** command.

Enter the **show environment temperature** command.

Example:

```
switch# show environment temperature
Temperature:
-------------------------------------------------------------------
Module    Sensor          MajorThresh   MinorThres   CurTemp     Status
                          (Celsius)     (Celsius)    (Celsius)
-------------------------------------------------------------------
1         Crossbar1(s1)   125              115          51          Ok
1         Crossbar2(s2)   125              115          51          Ok
```

```
1       Arb-mux (s3)    125            115        35        Ok
1       L2L3Dev1(s5)    125            115        31        Ok
1       L2L3Dev2(s6)    125            115        29        Ok
1       L2L3Dev3(s7)    125            115        34        Ok
1       L2L3Dev4(s8)    125            115        32        Ok
1       L2L3Dev5(s9)    125            115        31        Ok
1       L2L3Dev6(s10)   125            115        32        Ok
2       Inlet  (s1)     60             42         17        Ok
2       Crossbar(s2)    125            115        58        Ok
2       L2L3Dev1(s3)    125            110        39        Ok
2       Arbiter (s4)    125            105        47        Ok
2       CPU1CORE1(s5)   85             75         27        Ok
2       CPU1CORE2(s6)   85             75         26        Ok
2       CPU1CORE3(s7)   85             75         26        Ok
2       CPU1CORE4(s8)   85             75         24        Ok
2       CPU2CORE1(s9)   85             75         23        Ok
2       CPU2CORE2(s10)  85             75         21        Ok
2       CPU2CORE3(s11)  85             75         24        Ok
2       CPU2CORE4(s12)  85             75         19        Ok
2       DDR3DIMM1(s13)  95             85         25        Ok
2       DDR3DIMM2(s14)  95             85         24        Ok
2       DDR3DIMM4(s16)  95             85         22        Ok
2       DDR3DIMM5(s17)  95             85         21        Ok
```

Connecting to a Module

At any time, you can connect to any module by using the **attach module** command. Once you are at the module prompt, you can obtain further details about the module by using module-specific commands in EXEC mode.

Step 1   Enter the **attach module** *slot_number* command.

Example:

```
switch# attach module 1
switch#
```

Provides direct access to the I/O module in slot 1 (in this example, the supervisor module is in slot 2).

Step 2   **dir bootflash**

Example:

```
switch# dir bootflash
Example:
switch# dir bootflash:
   80667580     Feb 21 22:04:59 2008  n7700-s2-kickstart.7.3.0.DX.1.bin
   22168064     Feb 21 22:04:19 2008  n7700-s2-dk9.7.3.0.DX.1.bin
      16384     Jan 03 19:56:00 2005  lost+found/
Usage for bootflash://sup-local
  234045440 bytes used
 1684602880 bytes free
 1918648320 bytes total
switch#
```

Note   To exit the module-specific prompt, use the **exit** command.

Tip   If you are not accessing the switch from a console terminal, this step is the only way to access the standby supervisor module.

Saving the Module Configuration

To save the new configuration along with the non-default VDC configuration to nonvolatile storage, use the **copy running-config startup-config vdc-all** command from EXEC mode. Once you enter these commands, the running and the startup copies of the configuration are identical.

The following table lists various scenarios when module configurations are preserved or lost.

Scenario	Consequence
A particular switching module is removed and you used the **copy running-config startup-config vdc-all** command again.	The configured module information is lost.
A particular switching module is removed and the same switching module is replaced before you enter the **copy running-config startup-config vdc-all** command again.	The configured module information is preserved.
A particular switching module is removed and replaced with the same type switching module, and you entered the **reload module** *slot_number* command.	The configured module information is preserved.
A particular switching module is reloaded when you enter the **reload module** *slot_number* command.	The configured module information is preserved.

Displaying Power Usage Information

To display the power usage information for the entire switch, use the **show environment power** command. This command shows the power usage for many of the modules installed in the switch. For the older modules that do not have the capability to output this information, the output is shown as N/A.

Note   Power usage is reserved for both supervisor modules regardless of whether one or both supervisor modules are present.

Enter the **show environment power** command.

Reloading a Module

You can reset a module by using the **reload module** command and specifying the module by its slot number in the chassis.

⚠

| Caution | Reloading a module disrupts traffic through the module. |

Step 1 Enter the **configure terminal** command to enter the configuration terminal mode.

Example:

```
switch# configure terminal
switch(config)#
```

Step 2 Specify the slot number for the module that you are resetting by entering the **reload module** *slot_number*command.

Example:

```
switch(config)# reload module 1
```

Rebooting the Switch

To reboot or reload the switch, use the **reload** command without any options. When you use this command, you reboot the switch.

✎

| Note | If you need to use the **reload** command, be sure to save the running configuration by using the **copy running-config startup-config vdc-all** command beforehand. |

Step 1 Start the configuration mode by entering the **configure terminal** command.

Example:

```
switch# configure terminal
switch(config)#
```

Step 2 Save the running configuration by entering the **copy running-config startup-config vdc-all** command.

Example:

```
switch(config)# copy running-config startup-config vdc-all
```

Step 3 Reload the switch by entering the **reload** command.

Example:

```
switch(config)# reload
```

Overview of Supervisor Modules

The Cisco Nexus 7702 switch has one supervisor module slot. You can install any one of the following types of supervisor modules:

- Supervisor 2 Enhanced (N77-SUP2E)

- Supervisor 3 Enhanced (N77-SUP3E)

Note For the Supervisor 2 Enhanced (N77-SUP2E) supervisor module in the Cisco Nexus 7702 chassis, the minimum EPLD version supported is 1.4. For more information about EPLD upgrades, please refer Cisco Nexus 7000 Series FPGA/EPLD Upgrade Release Notes, Release 7.2

Note You can use only one type of supervisor module in a switch.

The supervisor module is automatically powered up and started with the switch.

Overview of I/O Module Support

The following F3-Series modules are supported by the Cisco Nexus 7700 Series switches:

- F3-Series Enhanced 48-port 1-/10-G Ethernet with XL (N77-F348XP-23)

- F3-Series Enhanced 24-port 40-G Ethernet with XL (N77-F324FQ-25)

- F3-Series Enhanced 12-port 100-G Ethernet with XL (N77-F312CK-26)

The following F4-Series module is supported by the Cisco Nexus 7700 Series switches:

- F4-Series 30-port 100-G Ethernet (N77-F430CQ-36)

The following M3 Series modules are supported by the Cisco Nexus 7700 Series switches:

- M3-Series 48-port 1-/10-G Ethernet (N77-M348XP-23L)

- M3-Series 24-port 40-G Ethernet (N77-M324FQ-25L)

- M3-Series 12-port 100-G Ethernet (N77-M312CQ-26L)

Accessing an I/O Module through a Console

You can troubleshoot bootup problems for an I/O module by accessing the module through its console port. This action establishes a console mode that you must exit in order to use other Cisco NX-OS commands.

To attach to the console port for an I/O module, use the **attach console module** command to specify the module you need to work with.

Note To exit the console mode, enter the **~,** command.

Attach to the console port for the I/O module by entering the **attach console module** *slot_number* command.

Example:

```
switch# attach console module 1
connected
Escape character is `~,' (tilde comma]
```

Displaying Information for the Installed Modules

You can display information about the modules installed in the switch chassis by using the **show module** command. This information includes module type, bootup status, MAC addresses, serial numbers, software versions, and hardware versions. You can use this command in the following ways to display information about all of the installed module or specific modules:

- For information on all modules, use the **show module** command.

- For information on a specific supervisor or I/O module, use the **show module** *slot_number* command to specify a slot number.

For a description of the module status indicated by one of the above **show module** commands, see the following table.

I/O Module State	Description
powered up	The hardware has electrical power. When the hardware is powered up, the software begins booting.
testing	The module has established connection with the supervisor and the module is performing bootup diagnostics.
initializing	The diagnostics have completed successfully and the configuration is being downloaded.
failure	The switch detects a module failure upon initialization and automatically attempts to power-cycle the module three times. After the third attempt, the module powers down.
ok	The switch is ready to be configured.
power-denied	The switch detects insufficient power for an I/O module to power up.

I/O Module State	Description
active	This module is the active supervisor module and the switch is ready to be configured.

Use the **show module** [*slot_number*]command in one of the following ways:

Option	Description
show module	Displays information for all of the installed modules.
show module *slot_number*	Displays information for a supervisor or I/O module that you specify by its slot number.

Display information for all or specific modules.

Displaying Information for All Installed Modules

Displaying Information for a Specific Supervisor or I/O Module

```
switch# show module
Mod   Ports  Module-Type                          Model              Status
---   -----  ------------------------------------ ------------------ ----------
1     30     100 Gbps Ethernet Module             N77-F430CQ-36       ok
2     0      Supervisor Module-3                   N77-SUP3E           active *

Mod  Sw              Hw
---  --------------  ------
1    8.3(0)SK(0.47)  0.203
2    8.3(0)SK(0.47)  0.909


Mod  MAC-Address(es)                       Serial-Num
---  ------------------------------------  ----------
1    00-27-90-a1-ab-50 to 00-27-90-a1-ab-b3  JAE214303LW
2    00-3c-10-17-55-ec to 00-3c-10-17-55-ff  JAE2150086E

Mod  Online Diag Status
---  ------------------
1    Pass
2    Pass

* this terminal session
switch# show module 1
Mod   Ports  Module-Type                      Model            Status
---   -----  -------------------------------- ---------------- ------
1     30     100 Gbps Ethernet Module         N77-F430CQ-36      ok

Mod  Sw              Hw
---  --------------  ------
1    8.3(0)SK(0.47)  0.203



Mod  MAC-Address(es)                       Serial-Num
```

```
---  -------------------------------------  ----------
1    00-27-90-a1-ab-50 to 00-27-90-a1-ab-b3  JAE214303LW

Mod  Online Diag Status
---  ------------------
1    Pass

Chassis Ejector Support: Enabled
Ejector Status:
Left ejector CLOSE, Right ejector CLOSE, Module HW does support
ejector based shutdown, Ejector policy enabled.
switch#
```

Purging the Module Configuration

You can clear the running configuration for an I/O slot that is not functioning by using the **purge module** command in EXEC mode.

✎

Note   This command does not work on supervisor slots nor on any I/O slot that currently has a powered-up module.

Before you begin

Verify that either the I/O slot is empty or the I/O module installed in the slot is powered down.

Clear the running configuration by using the **purge module** *slot_number* **running-config** command.

Example:

switch# **purge module 1 running-config**

Power Modes Overview

You can configure one of the following power modes to either use the combined power provided by the installed power supply units (no power redundancy) or to provide power redundancy when there is a power loss:

Combined mode

This mode allocates the combined power of all power supplies to active power for switch operations. This mode does not allocate reserve power for power redundancy in case of power outages or power supply failures.

Power-supply (n+1) redundancy mode

This mode allocates one power supply as a reserve power supply in case an available power supply fails. The remaining power supplies are allocated for available power. The reserve power supply must be at least as powerful as each power supply used for the available power.

Input-source (grid) redundancy mode

This mode allocates half of the power to available power and the other half to reserve power. You must use a different power source for the active and reserve power sources so that if the power source used for active power fails, the other power source used for the reserve power can provide power for the switch.

Full redundancy mode

This mode provides both power-supply (n+1) and input-source (grid) redundancies. As happens with the input-source redundancy mode, this mode allocates half of the power supplies to provide available power and the other half of the power supplies to provide the reserve power. One of the reserve power supplies can alternatively be used to provide power if a power supply supplying the available power fails.

Guidelines for Configuring Power Redundancy Modes

The amounts of available and reserve power depend on the power redundancy mode that you specify and the number of power supplies installed in the switch. For each redundancy mode, consider the following:

Combined mode

The available power equals the combined output of all installed power supplies. There is no reserve power. You activate this mode by using the **power redundancy-mode combined** command.

Power supply (n+1) redundancy mode

The power supply that outputs the most power provides the reserve power so that it can take over for any other power supply that fails, and all of the other installed power supplies provide the available power. You activate this power mode by using the **power redundancy-mode ps-redundant** command.

Input-source (grid) redundancy mode

The available power is provided by one power source and the reserve power is provided by the other power source. If the power source providing the available power fails, the switch uses the reserve power source to provide its required power. You activate this power mode by using the **power redundancy-mode insrc_redundant** command.

Full redundancy mode

Full redundancy provides both power-supply redundancy and input-source redundancy. For power-supply redundancy, the power supply with the most output provides reserve power and the other power supplies provide the available power. For input-source redundancy, the available power is provided by one power source and the reserve power is provided by another power source You activate this power mode by using the **power redundancy-mode redundant** command.

Configuring the Power Mode

You can configure the power supply mode by using the **power redundancy-mode** command.

Note   To display the current power supply configuration, use the **show environment power** command.

Step 1   Start the configuration mode by entering the **configure terminal** command.

Example:

```
switch# configure terminal
switch(config)#
```

Step 2   Specify one of the following power modes by entering the **power redundancy-mode** *mode* command:

 • For combined mode, include the **combined** keyword.

 • For power supply redundancy mode, include the **ps-redundant** keyword.

 • For input source redundancy mode, include the **insrc_redundant** keyword.

 • For full redundancy mode, include the **redundant** keyword.

Example:

```
switch(config)# power redundancy-mode redundant
switch(config)#
```

Maximum Power Available for 3-kW AC Power Supplies

The maximum power available for operations depends on the input power from your power source, the number and output capabilities of your power supplies, and the power redundancy mode that you use. The following table lists the amount of power available for 3-kW AC power supplies depending on power inputs, numbers of power supplies, and the mode used.

Power Inputs	Power Supplies	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
1 input (220 V)	1	3000 W	—	—	—
	2	6000 W	3000 W	3000 W	3000 W
1 input (110 V)	1	1450 W	—	—	—
	2	2900 W	1450 W	1450 W	1450 W

Maximum Power Available for 3-kW DC Power Supplies

The maximum power available for operations depends on the input power from your power source, the number and output capabilities of your power supplies, and the power redundancy mode that you use. The following table lists the amount of power available for 3-kW DC power supplies depending on power inputs, numbers of power supplies, and the mode used.

Power Inputs	Power Supplies	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
1 input	1	3000 W	—	—	—
	2	6000 W	3000 W	3000 W	3000 W

Maximum Power Available for 3.5-kW Inputs (AC)

The maximum power available for operations depends on the input power from your power source, the number and output capabilities of your power supplies, and the power redundancy mode that you use. The following table lists the amount of power available for 3.5-kW HVAC/HVDC power supplies depending on AC power inputs, number of power supplies, and the mode used.

Power Inputs	Power Supplies	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode
1 input (277 V)	1	3500 W	—	—	—
	2	7000 W	3500 W	3500 W	3500 W
1 input (220/230 V)	1	3500 W	—	—	—
	2	7000 W	3500 W	3500 W	3500 W
1 input (210 V)	1	3100 W	—	—	—
	2	6200 W	3100 W	3100 W	3100 W
1 input (110 V)	1	1500 W	—	—	—
	2	3000 W	1500 W	1500 W	1500 W

Note A combination of 3-kW AC and 3.5-kW HVAC/HVDC power supplies can be used.

Maximum Power Available for 3.5-kW Inputs (DC)

The maximum power available for operations depends on the input power from your power source, the number and output capabilities of your power supplies, and the power redundancy mode that you use. The following table lists the amount of power available for 3.5-kW HVAC/HVDC power supplies depending on DC power inputs, number of power supplies, and the mode used.

Power Inputs	Power Supplies	Combined Mode	Power Supply Redundancy Mode	Input Source Redundancy Mode	Full Redundancy Mode	
1 input (380 V)	1	3,500 W	—	—	—	
	2	7,000 W	3,500 W	3,500 W	3,500 W	
1 input (220/240 V)	1	3,500 W	—	—	—	—
	2	7,000 W	3,500 W	3,500 W	3,500 W	3,500 W
1 input (210 V)	1	3,100 W	—	—	—	
	2	6,200 W	3,100 W	3,100 W	3,100 W	

Note   A combination of 3-kW DC and 3.5-kW HVAC/HVDC power supplies can be used.

Overview of Fan Trays

Note   During normal switch operations, all 3 fan trays in a switch should be of the same type.

The Cisco Nexus 7702 switch has one fan tray with three variable speed fans. The fan tray can be removed and replaced while the switch is operating without presenting an electrical hazard or damage to the switch. The switch can operate without the fan tray for up to two minutes. If a fan tray is not installed within that time, the switch will automatically shutdown.

Note   When one of the three fans in the fan tray fails, the remaining two fans run at a higher speed to compensate for the failed fan and keep the switch operating.

Caution   If one or more fans fail within a fan tray, the Fan Status LED turns red. A fan failure could lead to temperature alarms if not corrected immediately.

The fan status is continuously monitored by the software. In case of a fan failure, the following actions occur:

- System messages are displayed.

- Call Home alerts are sent (if configured). For more information, refer Associating an Alert Group with a Destination Profile .

- SNMP notifications are sent (if configured). For more information, refer Enabling SNMP Notifications.

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Displaying the Status for the Fan Trays

To display the status for the , use the **show environment fan** command as shown in the following example.

Enter the **show environment fan** command.

Example: