



## Hardware Module Commands

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To use these commands in System Admin VM, you must be in a user group associated with appropriate command rules and data rules. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

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# hw-module attention-led

To enable attention-LED for a specific node, use the **hw-module attention-led** command in the System Admin Config mode. To disable the attention-LED, use the **no** form of this command.

**hw-module attention-led location** *node-id*

**no hw-module attention-led location** *node-id*

## Syntax Description

<b>location</b> <i>node-id</i>	Specifies the target location. The <i>node-id</i> argument is expressed in the <i>rack/slot</i> notation.
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## Command Default

Disabled.

## Command Modes

System Admin Config

## Command History

Release	Modification
Release 5.0.0	This command was introduced.

## Usage Guidelines

Use the **show led** command in the System Admin EXEC mode to verify the output of the **hw-module attention-led** command.

## Examples

This example shows how to enable attention-LED and then verify the output using the **show led** command:

```

sysadmin-vm:0_RP0#config
sysadmin-vm:0_RP0(config)#hw-module attention-led location 0/3
sysadmin-vm:0_RP0(config-location-0/3)#commit
Tue Aug 27 18:59:28.740 UTC
Commit complete.
sysadmin-vm:0_RP0(config-location-0/3)#exit
Tue Aug 27 18:59:32.439 UTC
sysadmin-vm:0_RP0(config)#exit
Tue Aug 27 18:59:34.285 UTC

sysadmin-vm:0_RP0#show led location 0/3
Tue Aug 27 18:59:59.723 UTC
=====
Location  LED Name                               Mode      Color
=====
0/3
          0/3-Attention LED                       WORKING   BLUE
          0/3-Status LED                         WORKING   GREEN

```

# hw-module location

To recover the RP (route processor) and SC (shelf controller) card or all the nodes in a system, use the **hw-module location** command in Sysadmin EXEC mode.

## System Admin EXEC Mode

**hw-module location** [*node-id*|*all*] **bootmedia** [*recovery-partition*|*usb*|*network*] **reload**

### Syntax Description

*node-id*|*all*

Node whose hardware attributes you want to configure. The *node-id* is expressed in the *rack/slot* notation in the System Admin EXEC mode and represented in the *rack/slot/module* format in the XR EXEC mode.

To configure all nodes, use *all*.

**Note** Enter the **show platform** command to see the location of all nodes installed in the router.

*recovery-partition*

Recovers the router using the recovery image in the hard disk partition.

### Command Default

None

### Command Modes

System Admin EXEC

### Command History

Release	Modification
Release 5.0.0	This command was introduced.
Release 5.2.3	A reload of the hardware after the slice is shutdown using the <b>reload</b> keyword is not required as the slice is dynamically reset.
Release 5.2.5	Introduced keyword <b>bootmedia recovery-partition</b> . This keyword can be used in conjunction with the <b>hw-module location</b> command only in the Sysadmin mode.

**Usage Guidelines**

To reset a specific node, or to put a node into maintenance mode, use the **hw-module location** command in System Admin EXEC mode.

The **force** keyword forces an immediate reload or shutdown of the router without waiting for an orderly system shutdown.

**Caution**

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A forced reload or shutdown can corrupt the file system. Therefore, use the **force** keyword only when a normal reload or shutdown does not work.

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To ensure that the router has recovered from the forced shutdown, perform a normal reload after restarting the router.

**Examples**

The following example shows how to change the state of the hardware module to offline to perform diagnostics:

```
sysadmin-vm:0_RP0#hw-module location 0/3 offline
Take hardware module offline ? [no,yes] yes
```

The following example shows how to recover a router from a state of disaster, using the recovery image in the hard disk partition.:

```
sysadmin-vm:0_RP0#hw-module location 0/RP1 bootmedia recovery-partition
```

# hw-module logging onboard disable

To disable onboard failure logging (OBFL), use the **hw-module logging onboard disable** command in System Admin Config mode. To enable OBFL again, use the **no** form of this command.

**hw-module location *node-id* logging onboard disable**

**no hw-module location *node-id* logging onboard disable**

## Syntax Description

**location *node-id***

Enables or disables OBFL for the designated node. The *node-id* argument is entered in the *rack/slot* notation.

## Command Default

By default, OBFL logging is enabled.

## Command Modes

System Admin Config mode

## Command History

### Release

### Modification

Release 5.0.0

This command was introduced.

## Usage Guidelines

When the OBFL feature is disabled, existing OBFL logs are preserved. To resume OBFL data collection, enable the OBFL feature again.



### Note

If a new node is inserted, and OBFL is enabled for that slot, then OBFL is enabled for the new node. If a card is removed from a router and inserted into a different router, the card assumes the OBFL configuration for the new router.

## Examples

The following example shows how to disable OBFL for a card:

```
sysadmin-vm:0_RP0#config
sysadmin-vm:0_RP0(config)# hw-module location 0/1 logging onboard disable
```

## hw-module reset auto disable

To disable the node reset feature on a specific node, use the **hw-module reset auto disable** command in System Admin Config mode. To reenble the reset feature on a specific node, use the **no** form of this command.

**hw-module reset auto disable location** *node-id*

**no hw-module reset auto disable location** *node-id*

### Syntax Description

<b>location</b> <i>node-id</i>	Identifies the node on which you want to disable the auto reset feature in case of errors. The <i>node-id</i> argument is entered in the <i>rack/slot</i> notation.
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### Command Default

The node reset feature is disabled for all nodes.

### Command Modes

System Admin Config

### Command History

Release	Modification
Release 5.0.0	This command was introduced.

### Examples

This example shows how to disable the reset feature on a node:

```
sysadmin-vm:0_RP0# config
sysadmin-vm:0_RP0(config)# hw-module reset auto disable location 0/1
sysadmin-vm:0_RP0(config-location-0/1)# commit
Tue Aug 27 19:47:37.841 UTC
Commit complete.
sysadmin-vm:0_RP0(config-location-0/3)# exit
Tue Aug 27 19:47:37.841 UTC
sysadmin-vm:0_RP0(config)# exit
```

# hw-module shutdown

To administratively shut down a specific node, use the **hw-module shutdown** command in System Admin Config mode. To return a node to the up state, use the **no** form of this command.

**hw-module shutdown location** *node-id*

**no hw-module shutdown location** *node-id*

## Syntax Description

<b>location</b> <i>node-id</i>	Identifies the node you want to shut down. The <i>node-id</i> argument is expressed in the <i>rack/slot</i> notation.
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## Command Default

Nodes are in the up state when the system is powered on and when the software boots on the cards.

## Command Modes

## Command History

Release	Modification
Release 5.0.0	This command was introduced.

## Usage Guidelines

Nodes that are shut down do not have power.

Route processors (RPs), Fan tray (FT), and Power tray (PT) cannot be shutdown using the **hw-module shutdown** command.

Enter the **show platform** command in System Admin EXEC mode to display the results of the **hw-module shutdown** command.

## Examples

This example shows how to shutdown the node 0/1 and view the result using the **show platform** command:

```

sysadmin-vm:0_RP0#config
Tue Aug 27 12:47:40.391 UTC
Entering configuration mode terminal
sysadmin-vm:0_RP0# hw-module shutdown location 0/1
sysadmin-vm:0_RP0(config-location-0/1)# commit
Tue Aug 27 12:47:57.307 UTC
Commit complete.
sysadmin-vm:0_RP0(config-location-0/1)# exit
Tue Aug 27 12:48:00.171 UTC
sysadmin-vm:0_RP0(config)# exit
Tue Aug 27 12:48:02.619 UTC
sysadmin-vm:0_RP0# show platform location 0/1
Tue Aug 27 12:48:20.766 UTC
Location  Card Type                HW State    SW State    Config State
-----
0/1        NC6-10X100G-M          PRESENT     SW_INACTIVE SHUT

```

## show hw-module fpd

To display the hardware module information, use the **show hw-module fpd** command in the System Admin EXEC mode.

```
show hw-module [location {node-id| all}] fpd [fpd-name ]
```

### Syntax Description

<i>fpd-name</i>	Displays information about the field-programmable device (FPD). The value for the <i>fpd-name</i> argument can be one of the following: <ul style="list-style-type: none"> <li>• BAO-MB FPGA</li> <li>• BIOS FPD</li> <li>• CCC FPGA</li> <li>• CCC Power-On</li> <li>• CPU Complex FPD</li> <li>• Ethernet Switch</li> <li>• Fantray FPGA</li> <li>• PM0-DT-PriMCU</li> <li>• PM0-DT-Sec5vMCU</li> <li>• PM0-DT-Sec54vMCU</li> <li>• PM1-DT-PriMCU</li> <li>• PM1-DT-Sec5vMCU</li> <li>• PM1-DT-Sec54vMCU</li> <li>• PM2-DT-PriMCU</li> <li>• PM2-DT-Sec5vMCU</li> <li>• PM2-DT-Sec54vMCU</li> <li>• Slice-1 GN2411</li> </ul>
<b>location</b> <i>node-id</i>	Specifies the target location. The <i>node-id</i> argument is expressed in the <i>rack/slot</i> notation.
<b>all</b>	Displays hardware module information from all the nodes.

### Command Default

None



**Command Modes** System Admin EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Release 5.0.0	This command was introduced.

**Examples** The following example shows how to view the output of **show hw-module** command:

```

sysadmin-vm:0_RP0#show hw-module fpd Slice-1\ GN2411
Mon Aug 19 09:03:30.797 UTC
                                FPD Versions
                                =====
Location      Card type      HWver  FPD device      Status  Running Download
-----
0/3           NC6-10X100G-M 1.0    Slice-1 GN2411  READY  2.07    2.07

```

# show inventory

To retrieve and display information about all the Cisco products that are installed in the router, use the **show inventory** command in System Admin EXEC or XR EXEC mode.

## System Admin EXEC Mode

**show inventory** [**all**| **chassis**| **fan**| **location** {*node-id*}| **power**| **raw**]

## XR EXEC Mode

**show inventory** [*locationspecifier*| **all**| **location** {*locationspecifier*| **all**}| **oid**| **raw**]

### Syntax Description

<b>all</b>	(Optional) Displays inventory information for all the physical entities in the chassis.
<b>location</b> { <i>node-id</i> }	(Optional) Displays inventory information for a specific node, or for all nodes in the chassis.
<b>raw</b>	(Optional) Displays raw information about the chassis for diagnostic purposes.
<b>chassis</b>	(Optional) Displays inventory information for the entire chassis.
<i>locationspecifier</i>	(Optional) Displays the name of the location.
<b>oid</b>	(Optional) Displays OID information about the chassis.
<b>fan</b>	(Optional) Displays inventory information for the fans.
<b>power</b>	(Optional) Displays inventory information for the power supply.

### Command Default

All inventory information for the entire chassis is displayed.

### Command Modes

System Admin EXEC  
XR EXEC

### Command History

Release	Modification
Release 5.0.0	This command was introduced.

### Usage Guidelines

Enter the **show inventory** command with the **raw** keyword to display every RFC 2737 entity installed in the router, including those without a PID, unique device identifier (UDI), or other physical identification.

If any of the Cisco products do not have an assigned PID, the output displays incorrect PIDs, and version ID (VID) and serial number (SN) elements may be missing.

For UDI compliance products, the PID, VID, and SN are stored in EEPROM. Use the **show inventory** command to display this information.

## Examples

The following example shows partial sample output from the **show inventory** command with the **raw** keyword:

```
sysadmin-vm:0_RP0# show inventory raw
Tue Aug 27 13:32:31.730 UTC

Name: Rack 0-Chassis          Descr: NCS 6008-8-Slot Chassis
PID: N/A                    VID: N/A                    SN: N/A

Name: Rack 0-LineCard Chassis backplane Descr: NCS 6008-8-Slot Chassis Backplane
PID: N/A                    VID: N/A                    SN: N/A

Name: Rack 0-MidPlane IDPROM Descr: NCS 6008-8-Slot Chassis
PID: NCS-6008              VID: V01                    SN: SAD12345678

Name: Rack 0-Line Card Slot 0 Descr: NCS 6008-8-Slot Line Card Slot
PID: N/A                    VID: N/A                    SN: N/A

Name: 0/0-Card                Descr: NCS 6000 10x100G Multi-Service CXP P0
PID: N/A                    VID: N/A                    SN: N/A

Name: 0/0-Motherboard         Descr: Motherboard Module
PID: N/A                    VID: N/A                    SN: N/A
--More--
```

[Table 1: show inventory Field Descriptions, on page 11](#) describes the significant fields shown in the display.

**Table 1: show inventory Field Descriptions**

Field	Description
NAME	Hardware for which the inventory information is displayed. If you are displaying the chassis inventory, this field shows “chassis.” If you are displaying raw inventory, or all inventory information for all nodes in the chassis, this field shows the node name in partially qualified format. For a node, the NAME is expressed in <i>rack/slot</i> notation.
DESCR	Describes the chassis or the node.  Chassis descriptions provide the name of the chassis and its Gbps. Node descriptions provide the type of node and its software version.
PID	Physical model name of the chassis or node.
VID	Physical hardware revision of the chassis or node.
SN	Physical serial number for the chassis or node.

# show led

To display LED information for the router, or for a specific LED location, use the **show led** command in System Admin EXEC mode.

**show led** [**location** [ *node-id* ]] **trace** {**all**| *trace-name*} [**location** *node-id* [**all**| *trace-attributes*]]

## Syntax Description

<b>location</b> <i>node-id</i>	Specifies the node for which to display LED information. The <i>node-id</i> argument is entered in the <i>rack/slot</i> notation.
<b>trace</b>	Displays LED debug traces information.
<i>trace-name</i>	Trace name.
<b>location</b> <i>node-id</i>	Specifies the target location. The <i>node-id</i> argument is expressed in the <i>rack/slot</i> notation.
<i>trace-attribute</i>	Trace attribute.
<b>all</b>	Displays all the details.

## Command Default

If no node is specified, information about all LEDs on the router is displayed.

## Command Modes

System Admin EXEC

## Command History

Release	Modification
Release 5.0.0	This command was introduced.

## Usage Guidelines

Enter the **show platform** command to see the location of all nodes installed in the router.

## Examples

The following example sample output from the **show led** command with the keyword:

```

sysadmin-vm:0_RP0# show led
Tue Aug 27 13:44:33.770 UTC
=====
Location  LED Name                Mode      Color
=====
0/0
          0/0-Attention LED      WORKING   OFF
          0/0-Status LED      WORKING   GREEN
0/1
          0/1-Attention LED      -         -

```

```

0/1-Status LED          -          -
0/RP0
0/RP0-Attention LED    WORKING  OFF
0/RP0-Status LED      WORKING  GREEN
0/RP0-Alarm Minor LED WORKING  AMBER
0/RP0-Alarm Major LED WORKING  AMBER
0/RP0-Alarm Critical LED WORKING  OFF
0/RP1
0/RP1-Attention LED    WORKING  OFF
0/RP1-Status LED      WORKING  GREEN
0/RP1-Alarm Minor LED WORKING  AMBER
0/RP1-Alarm Major LED WORKING  AMBER
0/RP1-Alarm Critical LED WORKING  OFF
0/FC0
0/FC0-Attention LED    WORKING  OFF

```

**Table 2: show led location Field Descriptions**

Field	Description
LOCATION	Location of the node. LOCATION is expressed in the <i>rack/slot</i> notation.
LED Name	Name of the LED.
MODE	Current operating mode of the specified node.
COLOR	Color of the LED.

# show platform

To display information and status for each node in the system, use the **show platform** command in System Admin EXEC or XR EXEC mode.

## System Admin EXEC Mode

**show platform** [**detail** | **slices**] [**location** [ *node-id* ]]

## XR EXEC Mode

**show platform**

### Syntax Description

<b>detail</b>	Displays details of node type and state.
<b>slices</b>	Displays summary of node forwarding slices.
<b>location</b> <i>node-id</i>	Specifies the target node. The <i>node-id</i> argument is entered in the <i>rack/slot</i> notation.

### Command Default

Status and information are displayed for all nodes in the system.

### Command Modes

System Admin EXEC  
XR EXEC

### Command History

Release	Modification
Release 5.0.0	This command was introduced.
Release 5.2.3	The output for the <b>detail</b> keyword captures card failure events and the reason for failure when <b>show platform</b> command is run in System Admin EXEC mode.

### Usage Guidelines

The **show platform** command provides a summary of the nodes in the system, including node type and status. For NCS 6008, EP1 will be displayed as, **Not allowed online**, until the required license is bought.

### Examples

The following example shows sample output from the **show platform** command:

```
sysadmin-vm:0_RP0#show platform
Wed Aug 28 06:49:49.822 UTC
Location Card Type HW State SW State Config State
-----
```

0/RP0	NC6-RP	OPERATIONAL	OPERATIONAL	NSHUT
0/RP1	NC6-RP	OPERATIONAL	OPERATIONAL	NSHUT
0/FC0	NC6-FC	OPERATIONAL	N/A	NSHUT
0/FT0	P-L-FANTRAY	OPERATIONAL	N/A	NSHUT
0/FT1	P-L-FANTRAY	OPERATIONAL	N/A	NSHUT
0/3	NC6-10X100G-M	OPERATIONAL	OPERATIONAL	NSHUT
0/PT1	NCS-AC-PWRTRAY	OPERATIONAL	N/A	NSHUT

## upgrade hw-module fpd

To manually upgrade the current field-programmable device (FPD) image package on a module, use the **upgrade hw-module fpd** command in System Admin EXEC mode.

**upgrade hw-module location** *{node-id|all}* **fpd** *{fpd-type|all}* [**force**]

### Syntax Description

<b>all</b>	Upgrades all FPD images on the selected module.
<i>fpd-type</i>	Upgrades a specific field-programmable gate array (FPGA) image on the module. Use the <b>show fpd package</b> command to view all available FPGA images available for a specific module.
<b>force</b>	(Optional) Forces the update of the indicated FPD image package on a shared port adapter (SPA) that meets the minimum version requirements. Without this option, the manual upgrade upgrades only incompatible FPD images.
<b>location</b> <i>{node-id all}</i>	Specifies the node for which to upgrade the FPD image. The <i>node-id</i> argument is expressed in the <i>rack/slotsubslot</i> notation. Use the <b>all</b> keyword to indicate all nodes.

### Command Default

None

### Command Modes

System Admin EXEC mode

### Command History

Release	Modification
Release 5.0.0	This command was introduced.

### Usage Guidelines

#### Note

The use of the force option when doing a fpd upgrade is not recommended except under explicit direction from Cisco engineering or TAC.

During the upgrade procedure, the module must be offline (shut down but powered).

Naming notation for the *node-id* argument is *rack/slotsubslot*; a slash between values is required as part of the notation.

- *rack* —Chassis number of the rack.
- *slot* —Physical slot number of the SPA interface processor (SIP).



**Examples**

This example shows how to upgrade the Ethernet Switch and view the output using the **show hw-module fpd** command:

```
sysadmin-vm:0_RP0# upgrade hw-module location 0/RP0 fpd Ethernet
sysadmin-vm:0_RP0# show hw-module fpd
Tue Aug 27 14:54:10.200 UTC
```

Location	Card type	HWver	FPD device	Status	FPD Versions	
					Running	Download
0/0	NC6-10X100G-M	0.2	CCC FPGA	READY	1.14	1.14
0/0	NC6-10X100G-M	0.2	BAO-MB FPGA	READY	1.00	1.00
0/0	NC6-10X100G-M	0.2	CCC Power-On	READY	1.30	1.30
0/0	NC6-10X100G-M	0.2	Ethernet Switch	READY	1.32	1.32
0/0	NC6-10X100G-M	0.2	BIOS FPD	READY	9.10	9.10
0/0	NC6-10X100G-M	1.0	Slice-1 GN2411	READY	2.07	2.07
0/1	NC6-10X100G-M	0.2	CCC FPGA	READY	1.14	1.14
0/1	NC6-10X100G-M	0.2	BAO-MB FPGA	READY	1.00	1.00
0/1	NC6-10X100G-M	0.2	CCC Power-On	READY	1.30	1.30
0/1	NC6-10X100G-M	0.2	Ethernet Switch	READY	1.32	1.32
0/1	NC6-10X100G-M	0.2	BIOS FPD	READY	9.10	9.10
0/1	NC6-10X100G-M	1.0	Slice-1 GN2411	READY	2.07	2.07
0/RP0	NC6-RP	0.1	CCC FPGA	UPGD SKIP	1.00	1.00
0/RP0	NC6-RP	0.1	CCC Power-On	UPGD SKIP	1.30	1.30
0/RP0	NC6-RP	0.1	Ethernet Switch	UPGD SKIP	1.32	1.32
0/RP0	NC6-RP	0.1	CPU Complex FPD	UPGD SKIP	3.06	3.06
0/RP0	NC6-RP	0.1	BIOS FPD	UPGD SKIP	9.10	9.10
0/RP1	NC6-RP	0.1	CCC FPGA	READY	1.00	1.00
0/RP1	NC6-RP	0.1	CCC Power-On	READY	1.30	1.30

