

Power Up and Initial Configuration

This chapter guides you through a basic controller configuration, which is sufficient for you to access your network. Complex configuration procedures are beyond the scope of this publication and can be found in the modular configuration and command reference publications in the Cisco IOS software configuration documentation set that corresponds to the software release installed on your Cisco hardware.

- Checking Conditions Prior to System Startup, on page 1
- Powering Up the Controller, on page 2
- Performing the Initial Configuration on the Controller, on page 7
- Saving Your Controller Configuration, on page 18
- Verifying the Initial Configuration, on page 18
- Powering Off the Controller Safely, on page 19
- Environmental Monitoring and Reporting Functions, on page 20

Checking Conditions Prior to System Startup

Ensure that all the card slots and compartments are closed. Install blank faceplates on empty slots. Always have power supply slots filled. If you leave a power supply slot uncovered, then you risk exposure to hazardous voltages on the power pins on the midplane.

Warning **Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.**

Statement 1029

Note To view the boot sequence, you must have a console connection to the controller before it powers up.

Ensure that the following conditions are addressed before starting up the controller:

- The network interface cable or the optional Management port cable is connected.
- The chassis is securely mounted and grounded.

- The power and interface cables are connected.
- Your PC with terminal emulation program (Putty or equivalent) is connected to the console port, powered up, and is configured for 9600 baud, 8 data bits, 1 stop bit, no parity, with flow control set to none.
- You have selected passwords for access control.
- Captive installation screws are tight on all removable components.
- The console terminal is turned on.
- You have determined the IP addresses for the network interfaces.

Powering Up the Controller

Before you begin

Before you power on, make sure that:

- The power supply cord is plugged into the power supply inlet.
- All cables are connected.
- Your computer is powered up and connected.

You are now ready to power on the system for the first time.

Procedure

Step 1 Move the chassis power switch to the ON position.

Listen for the fans; you should immediately hear them operating. Ensure that the power supply LED OK is green and the FAIL LED is not illuminated. The front-panel indicator LEDs provide power, activity, and status information useful during bootup. For more detailed information about the LEDs, see the **LEDs** section.

Step 2 Observe the initialization process.

When the system boot is complete (the process takes a few seconds), the controller begins to initialize.

Loading from ROMMON with a System Image in Bootflash

The following is an example of what is displayed during the system boot process:

```
Initializing Hardware ...


System integrity status: 80170200  21030116  Procyon RSM done


System Bootstrap, Version Private [ravshan2-10NovPrePilot 101], DEVELOPMENT SOFTWARE
Copyright (c) 1994-2023 by cisco Systems, Inc.
Compiled Fri Nov 10 19:00:06 2023 by ravshan2

Current image running: Boot ROM1
Last reset cause: LocalSoft
```

```
CW9800H-K9 platform with 134217728 Kbytes of main memory

rommon 1 > boot tftp:

          IP_ADDRESS: 10.65.124.108
      IP_SUBNET_MASK: 255.255.0.0
     DEFAULT_GATEWAY: 10.65.124.1
         TFTP_SERVER: 10.105.203.186
           TFTP_FILE: /dukrishn/CW9800-wlc-universalk9.2024-02-23_20.53_dukrishn-ice-1714.SSA.bin
        TFTP_MACADDR: c4:7e:e0:d2:d6:ff
        TFTP_VERBOSE: Progress
    TFTP_RETRY_COUNT: 36
        TFTP_TIMEOUT: 7200
        TFTP_BLKSIZE: 1460
       TFTP_CHECKSUM: No
          ETHER_PORT: 3
    ETHER_SPEED_MODE: Auto Detect
link up
Receiving /dukrishn/CW9800-wlc-universalk9.2024-02-23_20.53_dukrishn-ice-1714.SSA.bin from
10.105.203.186

File reception completed.
Boot image size = 1494461062 (0x5913aa86) bytes

ROM:RSA Self Test Passed
ROM:Sha512 Self Test Passed

Package header rev 3 structure detected
Validating main package signatures

RSA Signed DEVELOPMENT Image Signature Verification Successful.
Validating subpackage signatures
Image validated

Waiting for remote chassis to join
#######
Chassis number is 1
All chassis in the stack have been discovered. Accelerating discovery

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           170 West Tasman Drive
           San Jose, California 95134-1706



Cisco IOS Software [IOSXE], C9800 Software (C9800_IOSXE-K9), Experimental Version 17.14.20240223:151608
 [BLD_V1714_THROTTLE_S2C_20240220_123726-dirty:/nobackup/dukrishn/ice1714 105]
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Compiled Fri 23-Feb-24 20:46 by dukrishn


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```

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Software feature.



The default license boot level has been set to none

Database already initialized
FIPS: Flash Key Check : Found Key , FIPS Mode Enabled
cisco CW9800H2 (1WKPH) processor (revision 1WKPH) with 3664340K/6147K bytes of memory.
Processor board ID FLX271000V1
Router operating mode: Autonomous
1 Virtual Ethernet interface
8 Ten Gigabit Ethernet interfaces
2 Forty Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
134217728K bytes of physical memory.
26763263K bytes of eUSB flash at bootflash:.
26763263K bytes of eUSB flash at bootflash-2:.
468786007K bytes of SATA hard disk at harddisk:.
468786007K bytes of SATA hard disk at harddisk-2:.
0K bytes of Cloud S3 Storage at cloudfs:.

Base Ethernet MAC Address          : C4:7E:E0:D2:D6:80

Installation mode is BUNDLE


WARNING: ** NOTICE **  The H.323 protocol is no longer supported from IOS-XE release 17.6.1. Please
 consider using SIP for multimedia applications.



Press RETURN to get started!



Initializing Hardware ...


System integrity status: 80170200  21030116  Procyon RSM done


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        TFTP_MACADDR: c4:7e:e0:d2:d6:ff
        TFTP_VERBOSE: Progress
    TFTP_RETRY_COUNT: 36
        TFTP_TIMEOUT: 7200
        TFTP_BLKSIZE: 1460
       TFTP_CHECKSUM: No
          ETHER_PORT: 3
    ETHER_SPEED_MODE: Auto Detect
link up
Receiving /dukrishn/CW9800-wlc-universalk9.2024-02-23_20.53_dukrishn-ice-1714.SSA.bin from
10.105.203.186

File reception completed.
Boot image size = 1494461062 (0x5913aa86) bytes

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The default license boot level has been set to none

Database already initialized
FIPS: Flash Key Check : Found Key , FIPS Mode Enabled
cisco CW9800H2 (1WKPH) processor (revision 1WKPH) with 3664340K/6147K bytes of memory.
Processor board ID FLX271000V1
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Base Ethernet MAC Address          : C4:7E:E0:D2:D6:80

Installation mode is BUNDLE


 WARNING: ** NOTICE **  The H.323 protocol is no longer supported from IOS-XE release 17.6.1. Please
 consider using SIP for multimedia applications.



Press RETURN to get started!
```

Performing the Initial Configuration on the Controller

Using the Cisco IOS-XE CLI - Cisco Setup Command Facility

The **setup** command facility prompts you to enter the information that is needed to configure a controller quickly. The facility takes you through an initial configuration, including wireless configurations.

Note The setup command facility is entered automatically if there is no configuration on the controller when it is booted into Cisco IOS-XE.

You will be prompted for wireless configuration after the Day 0 banner.

For information on modifying the configuration after you create it, see the Cisco Catalyst 9800 Series Wireless Controller Software Configuration Guide and the Cisco Catalyst 9800 Series Wireless Controller Command Reference Guide.

Note Presently, there is no direct method to get back to your previous configuration. Press **Ctrl-C** to restart the configuration and return to the setup without saving the configuration.

Procedure

Step 1 Navigate to the Day 0 setup wizard using the **write erase** command or directly on the Day 0 device.

Step 2 Configure the device management or service port in the deveice management interface set up. This interface enables the basic configuration to access the device using the GUI. This is an optional configuration where you can opt to configure only the wireless management interface and not the device management.

```
Configure device management interface?[yes]:
```

Step 3 Configure the device management IP to access the device using the GUI.

```
 Configure static IP address? [yes]:
    Enter the interface IP [GigabitEthernet0]: 192.168.1.10
    Enter the subnet mask [GigabitEthernet0] [255.0.0.0]: 255.255.255.0
```

Step 4 Configure a static route to access the device using the GUI.

```
Interface belongs to VRF "Mgmt-intf". Please configure a static route on the VRF
Enter the destination prefix: 0.0.0.0
Enter the destination mask: 0.0.0.0
Enter the forwarding router IP: 10.104.170.1
```

Step 5 Enter the management username and password.

```
Enter the management username: cisco
```

```
  Enter the password: ********
  Reenter the password: ********
```

Step 6 Configure the wireless management if you haven't configured a device management interface.

```
Basic management setup is now complete. At this point, it is possible to save the above and
continue wireless setup using the webUI (for this, choose 'no' below)

Would you like to continue with the wireless setup? [yes]: yes
```

Note
If you have not configured the device management, the setup moves to **Step 8** before displaying the above banner.

You will be allowed to exit the wizard after configuring at least one of the interfaces, that is, device or wireless management.

If you select **Yes**, you need to follow the upcoming steps. Also, you can access the device using the IP configured in **Step 4**.

Step 7 Configure the Wireless management interface:

```
Configuring wireless management interface
  Select interface to be used for wireless management
   1. TenGigabitEthernet0/0/1 [Up]
   2.  [Up]
   3. TenGigabitEthernet0/0/3 [Up]
  Choose the interface to config [1]:
```

Step 8 Enter a VLAN ID:

```
Enter the vlan ID (1-4094): 112
```

Step 9 Configure an IPv4 or IPv6 address:

```
  Configure IPv4 address? [yes]:
    Enter the interface IP [TenGigabitEthernet0/0/1]: 9.11.112.40
    Enter the subnet mask [TenGigabitEthernet0/0/1] [255.0.0.0]: 255.255.255.0
  Configure IPv6 address? [yes]: no
```

Step 10 Configure a VLAN DHCP server and IP address:

```
 Do you want to configure a VLAN DHCP Server? [yes]: yes
   Enter the VLAN DHCP Server IP [TenGigabitEthernet0/0/1]: 9.11.112.45
```

Step 11 (Optional) Setting a static route to attach an AP client to the controller. The default options for static route prompts you to configure a default route. However, you can specify a different route as well.

```
 Configure static route? [yes/no]: yes
  Enter the destination prefix [0.0.0.0]:
  Enter the destination mask [0.0.0.0]:
  Enter the forwarding router IP: 9.11.112.1
```

Note
If you configure the device as HA RMI and you haven't configured a default route (that is, source and destination as 0.0.0.0), the wizard asks for the default route information.

```
Basic management setup is now complete. At this point, it is possible to save the above and
continue wireless setup using the webUI(for this, choose 'no' below)
```

```
Would you like to continue with the wireless setup? [yes]
```

Step 12 Choose the deployment mode:

```
 Choose the deployment mode
    1. Standalone
    2. Active
    3. Standby
 Enter your selection [1]:
```

Note
You can choose from one of the following deployment modes:

- **Standalone**: In this mode, you do not get to view any high availability pairing information.
- **Active**: In this mode, the controller needs to be configured with all the Day 0 information.
- **Standby**: In this mode, the configuration proceeds to the **High Availability** configuration.

Step 13 Configure the system name or hostname:

```
Enter the hostname [WLC]: ciscowlc
```

Note
This is a mandatory step. The hostname needs to confirm to the RFC standards.

Step 14 (Optional) Configure the login credentials for an AP.

```
Configure credentials for management access on Access Points? [yes]:
  Enter the management username: cisco
  Enter the management password: ****
    Reenter the password: ****
  Enter the privileged mode access password: ****
    Reenter the password: ****
```

Step 15 Configure the country code. You can specify multiple country codes by separating them with a comma.

```
Configure country code for wireless operation in ISO format ? [US]:
```

Step 16 Configure the date and NTP to allow access points to join the controller. You can configure time using an NTP server or manually.

Note
You need to enter time in the following format:

DAY-MONTH-YEAR

```
Configure NTP server ? [yes/no]: no
Enter the day:
Enter the month:
Enter the year:

Configure a NTP server now? [yes]:
Enter ntp server address : 9.11.112.45
Enter a polling interval between 16 and 131072 secs which is power of 2: 16
```

Step 17 (Optional) Configure a timezone:

```
Configure timezone? [yes]:
 Enter name of timezone: ind
 Enter hours offset from UTC (-23,23): 5
 Enter mins offset from UTC (0,59) [0]: 30
```

Step 18 (Optional) Configure the expected client density:

```
Configure Wireless client density? [yes]:
 Choose the client density
   1. Low
   2. Typical
   3. High
 Enter your selection [2]: 3
```

Step 19 (Optional) Configure AAA servers:

Note
You can configure a maximum of 6 servers during Day 0 configuration.

```
Configure AAA servers? [yes]:
 Enter the AAA server address: 9.11.112.46
 Enter the AAA key: ***
Do you want to add more AAA servers? [yes]:
 Enter the AAA server address: 9.11.112.47
 Enter the AAA key: ***
Do you want to add more AAA servers? [yes]: no
```

Note
The AAA servers are required for WPA2 Enterprise. You need to configure AAA only in one place. If you follow **Step 21**, WPA2 Enterprise will not ask for AAA servers in **Step 22**.

Step 20 (Optional) Configure the wireless network settings to configure WLAN information for an AP and client join:

```
Configure Wireless network settings? [yes]:
```

Step 21 (Optional) Configure an SSID for client join:

```
Enter the network name or service set identifier (SSID):
Choose the network type
    1. Employee
    2. Guest
```

If you choose **Employee** as the network type, the following options are displayed:

```
Choose the security type
    1. WPA Personal
    2. WPA Enterprise
   Enter your selection [2]:
```

If you choose **WPA2 Personal**, you will need to enter a pre-shared key (ASCII).

```
Enter the pre-shared key (ASCII):
```

If you choose **WPA2 Enterprise**, you will be able to add multiple AAA servers.

```
Enter the AAA server address:
Enter the AAA key:
Enter more AAA server details? [yes]
```

If you choose **Guest**, you get to view the following options:

```
Please choose the security type:
1. Webauth
2. Authbypass
3. Consent
4. Webconsent
Enter the security type:
```

Step 22 (Optional) Configure a virtual IP address. The recommended virtual IP address is 192.0.2.1.

```
Configure virtual IP? [yes]:
 Enter the virtual IP [192.0.6.1]:
```

Step 23 (Optional) Configure an RF network name.

```
Configure RF-Network Name? [yes]:
 Enter the RF-Network Name: ciscorf
```

Step 24 (Optional) Configure high availability.

Irrespective of the deployment mode; Active or Standby, the default HA pairing type is RMI

Note
For information on HA pairing types, see **Part: High Availability (High Availability > Information About Redundancy Management Interface)** in *Cisco Catalyst CW9800M Wireless Controller Software Configuration Guide*.

Note
If you have not configured a default route earlier, you need to enter the gateway IP of the last resort.

If you choose the deployment mode as Standby, you need to specify the VLAN ID for completing the pairing:

```
Enter the RMI IP for local chassis: 9.11.112.51
Enter the RMI IP for remote chassis: 9.11.112.50
Enter the wireless management VLAN: 112
```

Completing the Configuration

When using the Cisco setup command facility, and after you have provided all the information requested by the facility as described in **Using the Cisco setup Command Facility** section, the final configuration appears.

To complete your controller configuration, follow these steps.

Procedure

Step 1 The facility prompts you to save the configuration.

- If you answer no, the configuration information you entered is not saved, and you return to the controller enable prompt (**WLC#**). Enter **setup** to return to the System Configuration dialog box.
- If you answer yes, the configuration is saved, and you are returned to the user EXEC prompt (`WLC>`).

```
Use this configuration? {yes/no} : yes
Building configuration...
Use the enabled mode 'configure' command to modify this configuration.

%LINK-3-UPDOWN: Interface GigabitEthernet0/1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1/0, changed state to up

<Additional messages omitted.>
```

Step 2 When messages stop appearing on your screen, press Return to get the `WLC>` prompt.

Step 3 The `WLC>` prompt indicates that you are now at the command-line interface (CLI).

You have just completed an initial controller configuration. Note that this is not a complete configuration. At this point, you have two choices:

- Run the setup command facility again, and create another configuration:

```
Device> enable
Password: password
Device# setup
```

- Modify the existing configuration or configure additional features by using the CLI:

```
Device> enable
Password:  password
Device# configure terminal
Device(config)#
```

Using the Cisco IOS-XE CLI—Manual Configuration

This section shows you how to access the CLI to perform the initial configuration on the controller

If the system configuration message does not appear, it means a default configuration file was installed on the controller prior to shipping.

Follow these steps to configure the controller.

Procedure

Step 1 Enter **no** when the following system message appears on the controller.

```
--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no
```

Step 2 Press **Return** and continue with the manual configuration:

Several log messages are displayed.

Step 3 Press **Return** to bring up the `WLC>` prompt

Step 4 Type **enable** to enter privileged EXEC mode.

```
Device> enable
Device#
```

Configuring the Controller Hostname

Note The Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllersprovides a simplified first time out-of-box installation and configuration interface for all series of wireless controllers.

To learn more about the Day 0 Express setup on the Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllers, please refer https://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/8-8/b_c9800_wireless_controller_series_web_dg.html

Note If you prefer to configure the device manually, you need to configure the following to terminate the Day0 Wizard:

- Wireless management interface
- AP country code must be set

The hostname used in CLI prompts the default configuration filenames. If you do not configure the controller hostname, the controller uses the factory-assigned default hostname **WLC**.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. **Note** Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**hostname** *name* **Example:** `Device(config)# hostname myWLC`	Specifies or modifies the hostname for the network server.
Step 4	**end** **Example:** `Device(config)# end`	(Optional) Returns to privileged EXEC mode.

Configuring the Enable and Enable Secret Passwords

To provide an additional layer of security, particularly for passwords that cross the network or are stored on a TFTP server, you can use either the **enable password** command or **enable secret** command. Both commands accomplish the same thing—they allow you to establish an encrypted password that users must enter to access privileged EXEC (enable) mode.

We recommend that you use the **enable secret** command because it uses an improved encryption algorithm.

Note If you configure the enable secret command, it takes precedence over the enable password command; the two commands cannot be in effect simultaneously.

For more information, see the **Configuring Passwords and Privileges** chapter in the *Cisco IOS Security Configuration Guide*. Also see the **Cisco IOS Password Encryption Facts** tech note and the **Cisco Guide to Harden Cisco IOS Devices** tech note.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. **Note** Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**enable secret** *password* **Example:** `Device(config)# enable secret greentree`	Specifies an additional layer of security over the **enable password** command.
Step 4	**end** **Example:** `Device(config)# end`	Returns to privileged EXEC mode.
Step 5	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. Verify that your new enable or enable secret password works.
Step 6	**end** **Example:** `Device(config)# end`	(Optional) Returns to privileged EXEC mode.

Configuring the Console Idle Privileged EXEC Timeout

By default, the privileged EXEC command interpreter waits 10 minutes to detect user input before timing out.

When you configure the console line, you can also set communication parameters, specify autobaud connections, and configure terminal operating parameters for the terminal that you are using. For more information on configuring the console line, see the *Cisco IOS Configuration Fundamentals and Network Management Configuration Guide*. In particular, see the *Configuring Operating Characteristics for Terminals* and *Troubleshooting and Fault Management* chapters.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. **Note** Enter your password if prompted.
Step 2	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 3	**line console 0** **Example:** `Device(config)# line console 0`	Configures the console line and starts the line configuration command collection mode.
Step 4	**exec-timeout** *minutes* [*seconds*] **Example:** `Device(config)# exec-timeout 0 0`	Sets the idle privileged EXEC timeout, which is the interval that the privileged EXEC command interpreter waits until user input is detected. The example shows how to specify no timeout. Setting the exec-timeout value to 0 will cause the controller to never log out once logged in. This could have security implications if you leave the console without manually logging out using the disable command.
Step 5	**end** **Example:** `Device(config)# end`	Returns to privileged EXEC mode.
Step 6	**show running-config** **Example:** `Device# show running-config`	Displays the running configuration file. Verify that you have configured the idle privileged EXEC timeout correctly.

Example

The following example shows how to set the console idle privileged EXEC timeout to 2 minutes 30 seconds:

```
line console
exec-timeout 2 30
```

The following example shows how to set the console idle privileged EXEC timeout to 30 seconds:

```
line console
exec-timeout 0 30
```

Gigabit Ethernet Management Interface Overview

The controller provides an Ethernet management port named GigabitEthernet0.

The purpose of this interface is to allow users to perform management tasks on the controller; it is an interface that should not, and often cannot, forward network traffic, but can be used to access the controller through Telnet and SSH to perform management tasks on the controller. The interface is most useful in troubleshooting scenarios when other forwarding interfaces are inactive.

The following aspects of the management Ethernet interface should be noted:

- The controller has one management Ethernet interface named GigabitEthernet0.
- IPv4, IPv6, and ARP are the only routed protocols supported for the interface.
- The interface provides a way to access the controller even if forwarding interfaces are not functional, or the Cisco IOS is down.
- The management Ethernet interface is part of its own VRF. See the *Cisco Catalyst 9800 Series Wireless Controller Software Configuration Guide* for more details.

Default Gigabit Ethernet Configuration

By default, a forwarding VRF is configured for the interface with a special group named Mgmt-intf. This cannot be changed. This isolates the traffic on the management interface away from the forwarding plane. Otherwise, the interface can be configured like other Gigabit Ethernet interfaces for most functions.

For example, the default configuration is as follows:

```
interface GigabitEthernet0
vrf forwarding Mgmt-intf
ip address 200.165.200.225 255.255.255.224
negotiation auto
```

Note The controller does not support front-panel networking. You can enter the guest shell commands with in the controller's terminal, but you cannot configure NAT on the controller. Therefore, this type of networking does not work. Only management mode (Mgmt-intf VRF) is supported.

Configuring Gigabit Ethernet Interfaces

This section shows how to assign an IP address and interface description to an Ethernet interface on your controller.

For comprehensive configuration information on Gigabit Ethernet interfaces, see the **Configuring LAN Interfaces** chapter of the *Cisco IOS Interface and Hardware Component Configuration Guide*.

For information on the interface numbering, see the *Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllerss Software Configuration Guide*.



Note For comprehensive configuration information about IP routing and IP routing protocols, see the **Configuring IP Routing Protocol-Independent Feature** on **cisco.com**.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. **Note** Enter your password if prompted.
Step 2	**show ip interface brief** **Example:** `Device# show ip interface brief`	Displays a brief status of the interfaces that are configured for IP. Learn which type of Ethernet interface is on your controller.
Step 3	**configure terminal** **Example:** `Device# configure terminal`	Enters global configuration mode.
Step 4	**interface gigabitethernet 0** **Example:** `Device(config)# interface gigabitethernet 0`	Specifies the Ethernet interface and enters the interface configuration mode.
Step 5	**ip address** *ip-address mask* **Example:** `Device(config-if)# ip address 209.165.200.240 255.255.255.224`	Sets a primary IP address for an interface.
Step 6	**no shutdown** **Example:** `Device(config-if)# no shutdown`	Enables an interface.
Step 7	**end** **Example:** `Device(config-if)# end`	Returns to privileged EXEC mode.
Step 8	**show ip interface brief** **Example:** `Device# show ip interface brief`	Displays a brief status of the interfaces that are configured for IP. Verify that the interfaces are up and configured correctly.

Saving Your Controller Configuration

This section describes how to avoid losing your configuration at the next system reload or power cycle by saving the running configuration to the startup configuration in NVRAM. The NVRAM provides 32 MB of storage on the controller.

Note To aid file recovery and minimize downtime in case of file corruption, we recommend that you save backup copies of the startup configuration file and the Cisco IOS-XE software system image file on a server

Note To avoid losing work you have completed, be sure to save your configuration occasionally as you proceed. Use the **copy running-config startup-config** command to save the configuration to NVRAM.

Procedure

	Command or Action	Purpose
Step 1	**enable** **Example:** `Device> enable`	Enables privileged EXEC mode. **Note** Enter your password if prompted.
Step 2	**copy running-config startup-config** **Example:** `Device# copy running-config startup-config`	Saves the running configuration to the startup configuration.

Verifying the Initial Configuration

Enter the following commands in Cisco IOS-XE to verify the initial configuration on the controller:

- **show version**—Displays the system hardware version, the installed software version, the names and sources of configuration files, the boot images, and the amount of installed DRAM, NVRAM, and flash memory.
- **show diag**—Lists and displays the chassis, slot location, and subslot location details.
- **show interfaces**— Shows if interfaces are operating correctly and if interfaces and line protocols are in the correct state, either up or down.
- **show ip interface brief**—Displays a summary of the interfaces configured for IP protocol.
- **show configuration**—Helps verify if you have configured the correct hostname and password.

After you have completed and verified the initial configuration, the specific features and functions are ready to be configured. See the *Cisco Catalyst CW9800H1 and CW9800H2 Wireless Controllers Software Configuration Guide*.

Powering Off the Controller Safely

Before you begin

We recommend that before turning off all power to the chassis, you issue the reload command. This ensures that the operating system cleans up all the file systems.

Procedure

Step 1 Slip on the ESD-preventive wrist strap included in the accessory kit.

Step 2 Change the controller **config-register** by issuing the following commands:

```
wlc#
wlc# conf t
wlc(config)# config-register 0x2100
```

Step 3 Save the controller configuration using the following command:

```
wlc# write memory
```

Step 4 Enter the **reload** command.

Step 5 Confirm the reload command:

```
wlc# reload

Reload command is being issued on Active unit, this will reload the whole stack
Proceed with reload? [confirm]
Chassis 1 reloading, reason - Reload command
Feb  6 19:50:38.556: %PMAN-5-EXITACTION: F0/0: pvp: Process manager is exiting:
Feb  6 19:5
Initializing Hardware ...
System integrity status: 90170200 21030107
```

Step 6 After confirming the reload command, wait until the system bootstrap message is displayed before powering off the system:

```
System Bootstrap, Version 12.2(20170919:091604)
[pand16_7_v2 101], DEVELOPMENT SOFTWARE
Copyright (c) 1994-2017  by cisco Systems, Inc.
Compiled Tue 09/19/2017  2:21:10.32 by pand
Current image running: Boot ROM0
Last reset cause: LocalSoft
QWLC-1GL platform with 33554432 Kbytes of main memory
rommon 1 >
```

Step 7 Move the chassis power switch to the Standby position.

Note
The fans in the power supply modules will continue to run even if the chassis power switch is in the Standby position.

Note

After powering off the controller, wait for a minimum of 30 seconds before powering it on again.

Environmental Monitoring and Reporting Functions

Environmental monitoring and reporting functions allow you to maintain normal system operation by identifying and resolving adverse conditions prior to loss of operation.

Caution To prevent overheating of the chassis, ensure that your system is drawing cool inlet air. Over temperature conditions may occur if the system is drawing in the exhaust air of other equipment. Ensure adequate clearance around the sides of the chassis so that cooling air can flow through the chassis interior unimpeded and exhaust air exits the chassis and is not drawn into the inlet vent of another device.

Alarm Monitoring

The controller displays the CRIT, MAJ, and MIN alarm indicator LEDs. These LEDs indicate controller status at all times, but you must directly observe these LEDs to become aware of a controller alarm condition. Additionally, you can use the **show facility-alarm status** command to view the alarms.

Note To clear the the alarm LED, you need to shutdown the ports which are not connected.

The following is a sample output of the **show facility-alarm status** command on the Cisco Catalyst CW9800H1 Wireless Controller:

```
Device# show facility-alarm status

System Totals  Critical: 9  Major: 0  Minor: 0

Source                    Time                  Severity      Description [Index]
------                    ------                --------      -------------------

Chassis 1 Power Supply Mod Sep 14 2022 14:08:53   CRITICAL      Power Supply Failure [0]

xcvr container 0/0/0       Sep 14 2022 14:09:12   CRITICAL      Transceiver Missing - Link
 Down [1]

xcvr container 0/0/1       Sep 14 2022 14:09:12   CRITICAL      Transceiver Missing - Link
 Down [1]

xcvr container 0/0/2       Sep 14 2022 14:09:12   CRITICAL      Transceiver Missing - Link
 Down [1]

xcvr container 0/0/6       Sep 14 2022 14:09:12   CRITICAL      Transceiver Missing - Link
 Down [1]

TenGigabitEthernet0/0/7    Sep 14 2022 14:09:14   CRITICAL      Physical Port Link Down [1]

xcvr container 0/1/0       Sep 14 2022 14:09:17   CRITICAL      Transceiver Missing - Link
 Down [1]
```

```
TwentyFiveGigE0/1/1        Sep 14 2022 14:09:22   CRITICAL      Physical Port Link Down [1]

TwentyFiveGigE0/1/2        Sep 14 2022 14:09:23   CRITICAL      Physical Port Link Down [1]
```

The following is a sample output of the **show facility-alarm status** command on the Cisco Catalyst CW9800H2 Wireless Controller:

```
Device# show facility-alarm status

System Totals  Critical: 3  Major: 0  Minor: 0

Source                     Time                  Severity      Description [Index]
------                     ------                --------      -------------------

Chassis 1 Power Supply Mod Sep 13 2022 23:30:03   CRITICAL      Power Supply Failure [0]

Chassis 2 Power Supply Mod Sep 13 2022 23:30:57   CRITICAL      Power Supply Failure [0]

xcvr container 0/1/1       Sep 13 2022 23:30:21   CRITICAL      Transceiver Missing - Link
 Down [1]
```

To clear a visual alarm, you must resolve the alarm condition. The **clear facility-alarm** command does not clear an alarm LED on the controller.

Environmental Monitoring

The environmental monitoring functions use sensors to monitor the temperature of the cooling air as it moves through the chassis.

The local power supplies provide the ability to monitor:

- Input and output voltage
- Output current
- Outlet temperature

The controller is expected to meet the following environmental operating conditions:

- Operating Temperature Nominal: 41° to 104° F (5° to 40° C)
- Operating Temperature Short Term: 41° to 122° F (5° to 50° C)
- Operating Humidity Nominal (relative humidity): 5 to 85% non-condensing
- Operating Humidity Short Term: 5 to 90% non-condensing
- Operating Altitude: 0 to 10,000 feet (0 to 3000 meters)
- AC Input Range: 85 to 264 VAC with AC PEM
- DC Input Range: -40.5 to -72 VDC with 48V DC PEM

In addition, the power supplies monitor internal power supply temperatures and voltages. A power supply is either within tolerance (normal) or out of tolerance (critical). If an internal power supply temperature or voltage reaches a critical level, the power supply shuts down without any interaction with the system processor.

The environmental monitoring functions use the following levels of status conditions to monitor the system:

- **Normal**—All monitored parameters are within normal tolerances.

- **Warning**—The system has exceeded a specified threshold. The system continues to operate, but operator action is recommended to bring the system back to a normal state.
- **Critical**—An out-of-tolerance temperature or voltage condition exists. The system continues to operate, but the system is approaching shutdown. Immediate operator action is required.
- **Shutdown**—Before any shutdown, the system logs the status of monitored parameters in NVRAM so that you can retrieve it later to help determine the cause of the problem.
- **Power supply shutdown**—The power supply detected an internal out-of-tolerance overvoltage, overcurrent, or temperature condition and shut itself down. All DC power remains disabled until you toggle the chassis power switch.

Fan Failures

Six internal fans draw cooling air in through the front of the chassis and across internal components to maintain an acceptable operating temperature. The fans are located at the rear of the chassis. The fans in the controller are numbered from 0 to 5, right to left.

When the system power is on, all fans should be operational. However, the system continues to operate even if a fan fails.

Use the **show platform hardware slot p2 fan status** command to view the status of the fans, for example:

```
Device# show platform hardware slot p2 fan status

Fan group 1 speed: 60%
Fan 0: Normal
Fan 1: Normal
Fan 2: Normal
Fan 3: Normal
Fan 4: Normal
Fan 5: Normal
```

Reporting Functions

The chassis manager on the forwarding engine control processor manages the local resources of the forwarding processor. The controller displays warning messages on the console, if the chassis interface-monitored parameters exceed a threshold. You can also retrieve and display environmental status reports with the following commands:

- **show environment all**
- **show version**
- **show inventory**
- **show platform**
- **show platform software status control-processor**
- **show diag**

Parameters are measured and reporting functions are updated every 60 seconds. A brief description of each of these commands follows.

show environment all command

The **show environment all** command displays temperature, voltage, fan, and power supply information.

The following is a sample output of the **show environment all** command on the Cisco Catalyst CW9800H1 Wireless Controller:

```
Device# show environment all

Sensor List:  Environmental Monitoring
 Sensor                   Location        State           Reading
 Vin                      P0              Normal          228 V AC
 Iin                      P0              Normal          1 A
 Vout                     P0              Normal          12 V DC
 Iout                     P0              Normal          17 A
 Temp1                    P0              Normal          35 Celsius
 Temp2                    P0              Normal          31 Celsius
 Temp3                    P0              Normal          39 Celsius
 Temp: CPU Core           R0              Normal          47 Celsius
 Temp: Front              R0              Normal          33 Celsius
 Temp: Inlet              R0              Normal          28 Celsius
 Temp: Middle             R0              Normal          36 Celsius
 Temp: U1_P0              R0              Normal          59 Celsius
 Temp: Rear               R0              Normal          42 Celsius
 Temp: Outlet             R0              Normal          39 Celsius
 Temp: Middle 2           R0              Normal          35 Celsius
 Temp: Right B            R0              Normal          49 Celsius
 Temp: U1_S1_P0           R0              Normal          51 Celsius
 Temp: Right T            R0              Normal          49 Celsius
 Temp: U1_S0_P0           R0              Normal          52 Celsius
 VSeq1: VX1               R0              Normal          11916 mV
 VSeq1: VX2               R0              Normal          12012 mV
 VSeq1: VX3               R0              Normal          5031 mV
 VSeq1: VX4               R0              Normal          1804 mV
 VSeq1: VX5               R0              Normal          3290 mV
 VSeq1: VX7               R0              Normal          2505 mV
 VSeq1: VX8               R0              Normal          1796 mV
 VSeq1: VX9               R0              Normal          1776 mV
 VSeq1: VX10              R0              Normal          1004 mV
 VSeq1: VX11              R0              Normal          862 mV
 VSeq1: VX12              R0              Normal          883 mV
 VSeq1: VX13              R0              Normal          1196 mV
 VSeq1: VX14              R0              Normal          597 mV
 VSeq1: VX15              R0              Normal          0 mV
 VSeq1: VX16              R0              Normal          1086 mV
 VSeq2: VX2               R0              Normal          900 mV
 VSeq2: VX3               R0              Normal          907 mV
 VSeq2: VX4               R0              Normal          849 mV
 VSeq2: VX5               R0              Normal          998 mV
 VSeq2: VX7               R0              Normal          593 mV
 VSeq2: VX10              R0              Normal          908 mV
 VSeq2: VX11              R0              Normal          1499 mV
 VSeq2: VX12              R0              Normal          1202 mV
 VSeq2: VX13              R0              Normal          1097 mV
 VSeq2: VX14              R0              Normal          747 mV
 Temp: FC FANS            R0              Fan Speed 60%   28 Celsius
 Temp: FC FAN0            P0              Fan Speed 60%   28 Celsius
 Temp: FC FAN1            P1              Fan Speed 60%   28 Celsius

Device#
```

The following is sample output of the **show environment all** command on the Cisco Catalyst CW9800H2 Wireless Controller:

```
Device# show environment all

Sensor List:  Environmental Monitoring
 Sensor                   Location        State           Reading
 Vin                      P0              Normal          228 V AC
 Iin                      P0              Normal          1 A
 Vout                     P0              Normal          12 V DC
 Iout                     P0              Normal          17 A
 Temp1                    P0              Normal          35 Celsius
 Temp2                    P0              Normal          31 Celsius
 Temp3                    P0              Normal          39 Celsius
 Temp: CPU Core           R0              Normal          47 Celsius
 Temp: Front              R0              Normal          33 Celsius
 Temp: Inlet              R0              Normal          28 Celsius
 Temp: Middle             R0              Normal          36 Celsius
 Temp: U1_P0              R0              Normal          59 Celsius
 Temp: Rear               R0              Normal          42 Celsius
 Temp: Outlet             R0              Normal          39 Celsius
 Temp: Middle 2           R0              Normal          35 Celsius
 Temp: Right B            R0              Normal          49 Celsius
 Temp: U1_S1_P0           R0              Normal          51 Celsius
 Temp: Right T            R0              Normal          49 Celsius
 Temp: U1_S0_P0           R0              Normal          52 Celsius
 VSeq1: VX1               R0              Normal          11916 mV
 VSeq1: VX2               R0              Normal          12012 mV
 VSeq1: VX3               R0              Normal          5031 mV
 VSeq1: VX4               R0              Normal          1804 mV
 VSeq1: VX5               R0              Normal          3290 mV
 VSeq1: VX7               R0              Normal          2505 mV
 VSeq1: VX8               R0              Normal          1796 mV
 VSeq1: VX9               R0              Normal          1776 mV
 VSeq1: VX10              R0              Normal          1004 mV
 VSeq1: VX11              R0              Normal          862 mV
 VSeq1: VX12              R0              Normal          883 mV
 VSeq1: VX13              R0              Normal          1196 mV
 VSeq1: VX14              R0              Normal          597 mV
 VSeq1: VX15              R0              Normal          0 mV
 VSeq1: VX16              R0              Normal          1086 mV
 VSeq2: VX2               R0              Normal          900 mV
 VSeq2: VX3               R0              Normal          907 mV
 VSeq2: VX4               R0              Normal          849 mV
 VSeq2: VX5               R0              Normal          998 mV
 VSeq2: VX7               R0              Normal          593 mV
 VSeq2: VX10              R0              Normal          908 mV
 VSeq2: VX11              R0              Normal          1499 mV
 VSeq2: VX12              R0              Normal          1202 mV
 VSeq2: VX13              R0              Normal          1097 mV
 VSeq2: VX14              R0              Normal          747 mV
 Temp: FC FANS            R0              Fan Speed 60%   28 Celsius
 Temp: FC FAN0            P0              Fan Speed 60%   28 Celsius
 Temp: FC FAN1            P1              Fan Speed 60%   28 Celsius

Device#
```

show version Command

The **show version** command displays the system hardware configuration, software version, and names and sources of configuration files and boot images.

The following is a sample output of the **show version** command on the Cisco Catalyst CW9800H1 Wireless Controller:

```
Device# show version
Cisco IOS XE Software, Version 2023-11-24_13.07_dukrishn
Cisco IOS Software [IOSXE], C9800 Software (C9800_IOSXE-K9), Experimental Version
17.14.20231124:061439
[BLD_POLARIS_DEV_LATEST_20231116_004758-31-gf7f413007d01-dirty:/nobackup/dukrishn/ice 108]
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documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.


ROM: (c)
WLC uptime is 1 week, 2 days, 45 minutes
Uptime for this control processor is 1 week, 2 days, 48 minutes
System returned to ROM by BootRomUpgrade
System image file is "bootflash:noddp.bin"
Last reload reason: BootRomUpgrade



This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.

License Type: Smart License is permanent
License Level: adventerprise
Next reload license Level: adventerprise
AIR License Level: AIR DNA Advantage
Next reload AIR license Level: AIR DNA Advantage

The current crypto throughput level is 0 kbps


Smart Licensing Status: Smart Licensing Using Policy

cisco CW9800H2 (1WKPH) processor (revision 1WKPH) with 3664453K/6147K bytes of memory.
Processor board ID FLX271000V1
Router operating mode: Autonomous
1 Virtual Ethernet interface
8 Ten Gigabit Ethernet interfaces
2 Forty Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
134217728K bytes of physical memory.
26763263K bytes of eUSB flash at bootflash:.
```

```
468786007K bytes of SATA hard disk at harddisk:.
0K bytes of Cloud S3 Storage at cloudfs:.

Base Ethernet MAC Address          : C4:7E:E0:D2:D6:80

Installation mode is BUNDLE

Configuration register is 0x0
```

The following is a sample output of the **show version** command on the Cisco Catalyst CW9800H2 Wireless Controller:

```
Device# show version
Cisco IOS XE Software, Version 2023-11-24_13.07_dukrishn
Cisco IOS Software [IOSXE], C9800 Software (C9800_IOSXE-K9), Experimental Version
17.14.20231124:061439
[BLD_POLARIS_DEV_LATEST_20231116_004758-31-gf7f413007d01-dirty:/nobackup/dukrishn/ice 108]
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Compiled Fri 24-Nov-23 11:45 by dukrishn


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documentation or "License Notice" file accompanying the IOS-XE software,
or the applicable URL provided on the flyer accompanying the IOS-XE
software.


ROM: (c)
WLC uptime is 1 week, 2 days, 45 minutes
Uptime for this control processor is 1 week, 2 days, 48 minutes
System returned to ROM by BootRomUpgrade
System image file is "bootflash:noddp.bin"
Last reload reason: BootRomUpgrade



This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
use. Delivery of Cisco cryptographic products does not imply
third-party authority to import, export, distribute or use encryption.
Importers, exporters, distributors and users are responsible for
compliance with U.S. and local country laws. By using this product you
agree to comply with applicable laws and regulations. If you are unable
to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:
http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.

License Type: Smart License is permanent
License Level: adventerprise
Next reload license Level: adventerprise
AIR License Level: AIR DNA Advantage
Next reload AIR license Level: AIR DNA Advantage

The current crypto throughput level is 0 kbps
```

```
Smart Licensing Status: Smart Licensing Using Policy

cisco CW9800H2 (1WKPH) processor (revision 1WKPH) with 3664453K/6147K bytes of memory.
Processor board ID FLX271000V1
Router operating mode: Autonomous
1 Virtual Ethernet interface
8 Ten Gigabit Ethernet interfaces
2 Forty Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
134217728K bytes of physical memory.
26763263K bytes of eUSB flash at bootflash:.
468786007K bytes of SATA hard disk at harddisk:.
0K bytes of Cloud S3 Storage at cloudfs:.

Base Ethernet MAC Address          : C4:7E:E0:D2:D6:80

Installation mode is BUNDLE

Configuration register is 0x0
```

show inventory Command

The **show inventory** command displays an extended report that includes the product inventory listing of all the Cisco products installed in the networking device.

The following is a sample output of the **show inventory** command on the Cisco Catalyst CW9800H1 Wireless Controller:

```
Device# show inventory

NAME: "Chassis 1", DESCR: "Cisco CW9800H1 Chassis"
PID: CW9800H1          , VID: V00  , SN: FLX271000UP

NAME: "Chassis 1 Power Supply Module 0", DESCR: "Cisco 750W AC Power Supply Reverse Air"
PID: PWR-CH1-750WACR   , VID: V01  , SN: ART2720FCEM

NAME: "Chassis 1 Power Supply Module 1", DESCR: "Cisco 750W AC Power Supply Reverse Air"
PID: PWR-CH1-750WACR   , VID: V01  , SN: ART2720FCEK

NAME: "Chassis 1 Fan Tray", DESCR: "Cisco CW9800H1 Fan Tray"
PID: CW9800H1-FAN      , VID:      , SN:

NAME: "module 0", DESCR: "Cisco CW9800H1 Modular Interface Processor"
PID: CW9800H1          , VID:      , SN:

NAME: "SPA subslot 0/1", DESCR: "3-port 25 Gigabit SFP28 Ethernet Port Adapter"
PID: 3xSFP28           , VID: V00  , SN: JAE2721000K

NAME: "subslot 0/1 transceiver 1", DESCR: "SFP 10/25GE CSR-S"
PID: SFP-10/25G-CSR-S    , VID: A    , SN: FNS27040MPY

NAME: "subslot 0/1 transceiver 2", DESCR: "SFP 10/25GE LR-S"
PID: SFP-10/25G-LR-S     , VID: 01   , SN: OPM264405LB

NAME: "SPA subslot 0/2", DESCR: "1-port 25 Gigabit SFP28 Ethernet Port Adapter"
PID: 1xSFP28           , VID: N/A  , SN: JAE12345678

NAME: "subslot 0/2 transceiver 0", DESCR: "SFP 10/25GE CSR-S"
PID: SFP-10/25G-CSR-S    , VID: A    , SN: FNS2620113F

NAME: "SPA subslot 0/0", DESCR: "8-port 10G/1G multirate Ethernet Port Adapter"
PID: 8xSFP+            , VID: N/A  , SN: JAE12345678
```

```
NAME: "subslot 0/0 transceiver 3", DESCR: "10GE LR"
PID: SFP-10G-LR          , VID: V02  , SN: AVD2315K3Z6

NAME: "subslot 0/0 transceiver 4", DESCR: "10GE SR"
PID: SFP-10G-SR-S        , VID: V01  , SN: OPM2327008U

NAME: "subslot 0/0 transceiver 5", DESCR: "10GE SR"
PID: SFP-10G-SR-S        , VID: V01  , SN: OPM232700KT

NAME: "subslot 0/0 transceiver 7", DESCR: "GE T"
PID: GLC-TE              , VID: V03  , SN: MTC262002ZW

NAME: "module R0", DESCR: "Cisco CW9800H1 Route Processor"
PID: CW9800H1          , VID: V00  , SN: FLX271000UP

NAME: "module F0", DESCR: "Cisco CW9800H1 Embedded Services Processor"
PID: CW9800H1          , VID:      , SN:
```

The following is a sample output of the **show inventory** command on the Cisco Catalyst CW9800H2 Wireless Controller:

```
Device# show inventory

NAME: "Chassis 1", DESCR: "Cisco CW9800H2 Chassis"
PID: CW9800H2          , VID: V00  , SN: FLX271000V1

NAME: "Chassis 1 Power Supply Module 0", DESCR: "Cisco 750W AC Power Supply Reverse Air"
PID: PWR-CH1-750WACR   , VID: V01  , SN: ART2720FDB4

NAME: "Chassis 1 Power Supply Module 1", DESCR: "Cisco 750W AC Power Supply Reverse Air"
PID: PWR-CH1-750WACR   , VID: V01  , SN: ART2720FDER

NAME: "Chassis 1 Fan Tray", DESCR: "Cisco CW9800H2 Fan Tray"
PID: CW9800H2-FAN      , VID:      , SN:

NAME: "module 0", DESCR: "Cisco CW9800H2 Modular Interface Processor"
PID: CW9800H2          , VID:      , SN:

NAME: "SPA subslot 0/1", DESCR: "2-port 40 Gigabit QSFP Ethernet Port Adapter"
PID: 2xQSFP            , VID: V00  , SN: JAE2721028S

NAME: "subslot 0/1 transceiver 0", DESCR: "QSFP 40GE LR"
PID: QSFP-40G-LR4        , VID: 20   , SN: ACW26271SVN

NAME: "SPA subslot 0/0", DESCR: "8-port 10G/1G multirate Ethernet Port Adapter"
PID: 8xSFP+            , VID: N/A  , SN: JAE12345678

NAME: "subslot 0/0 transceiver 0", DESCR: "10GE SR"
PID: SFP-10G-SR-S        , VID: V01  , SN: OPM232700AA

NAME: "subslot 0/0 transceiver 1", DESCR: "10GE SR"
PID: SFP-10G-SR          , VID: V03  , SN: AVD233096W2

NAME: "subslot 0/0 transceiver 2", DESCR: "10GE SR"
PID: SFP-10G-SR          , VID: V03  , SN: FNS244906QF

NAME: "subslot 0/0 transceiver 3", DESCR: "10GE SR"
PID: SFP-10G-SR          , VID: V03  , SN: ACW26192BAK

NAME: "subslot 0/0 transceiver 4", DESCR: "10GE SR"
PID: SFP-10G-SR          , VID: V03  , SN: AVD22139D9X

NAME: "subslot 0/0 transceiver 5", DESCR: "10GE SR"
PID: SFP-10G-SR          , VID: V03  , SN: ACW26200T6A
```

```
NAME: "subslot 0/0 transceiver 6", DESCR: "10GE SR"
PID: SFP-10G-SR          , VID: V03  , SN: ACW26200T6Q

NAME: "subslot 0/0 transceiver 7", DESCR: "10GE SR"
PID: SFP-10G-SR          , VID: V03  , SN: ACW26200T6F

NAME: "module R0", DESCR: "Cisco CW9800H2 Route Processor"
PID: CW9800H2            , VID: V00  , SN: FLX271000V1

NAME: "module F0", DESCR: "Cisco CW9800H2 Embedded Services Processor"
PID: CW9800H2            , VID:      , SN:

NAME: "Chassis 2", DESCR: "Cisco CW9800H2 Chassis"
PID: CW9800H2            , VID: V00  , SN: FLX271000PA

NAME: "Chassis 2 Power Supply Module 0", DESCR: "Cisco 750W AC Power Supply Reverse Air"
PID: PWR-CH1-750WACR     , VID: V01  , SN: ART2720FCG6

NAME: "Chassis 2 Power Supply Module 1", DESCR: "Cisco 750W AC Power Supply Reverse Air"
PID: PWR-CH1-750WACR     , VID: V01  , SN: ART2720FCDG

NAME: "Chassis 2 Fan Tray", DESCR: "Cisco CW9800H2 Fan Tray"
PID: CW9800H2-FAN        , VID:      , SN:
```

show platform Command

The **show platform** command displays platform information.

The following is a sample output of the **show platform** command on the Cisco Catalyst CW9800H1 Wireless Controller:

```
Device# show platform

Chassis type: CW9800H1

Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
0         CW9800H1            ok                    00:03:31
 0/0      8xSFP+              ok                    00:02:41
 0/1      3xSFP28             ok                    00:02:41
 0/2      1xSFP28             ok                    00:02:41
R0        CW9800H1            ok, active            00:03:31
F0        CW9800H1            ok, active            00:03:31
P0        PWR-CH1-750WACR     ok                    00:03:15
P1        PWR-CH1-750WACR     ps, fail              00:03:15
P2        CW9800H1-FAN        ok                    00:03:16

Slot      CPLD Version        Firmware Version
--------- ------------------- ------------------------------------
0         23050912            Private [ravshan2-10NovPrePilot 101]
R0        23050912            Private [ravshan2-10NovPrePilot 101]
F0        23050912            Private [ravshan2-10NovPrePilot 101]
```

The following is a sample output of the **show platform** command on the Cisco Catalyst CW9800H2 Wireless Controller:

```
Device# show platform

Chassis type: CW9800H2

Slot      Type                State                 Insert time (ago)
--------- ------------------- --------------------- -----------------
0         CW9800H2            ok                    00:02:16
 0/0      8xSFP+              ok                    00:01:21
```

```
 0/1      2xQSFP              ok                    00:01:21
R0        CW9800H2            ok, active            00:02:16
F0        CW9800H2            ok, active            00:02:16
P0        PWR-CH1-750WACR     ok                    00:02:00
P1        PWR-CH1-750WACR     ps, fail              00:02:00
P2        CW9800H2-FAN        ok                    00:02:01

Slot      CPLD Version        Firmware Version
--------- ------------------- ---------------------------------------
0         23050912            Private [ravshan2-10NovPrePilot 101]
R0        23050912            Private [ravshan2-10NovPrePilot 101]
F0        23050912            Private [ravshan2-10NovPrePilot 101]
```

show platform software status control-processor Command

The **show platform software status control-processor** command displays the average load, memory usage, and CPU utilization levels at which the controller is running. The output also specifies whether the levels of these system health parameters are within defined thresholds.

The following is a sample output of the **show platform software status control-processor** command on the Cisco Catalyst CW9800H1 Wireless Controller

```
Device# show platform software status control-processor

1-RP0: online, statistics updated 3 seconds ago
Load Average: healthy
  1-Min: 0.25, status: healthy, under 8.00
  5-Min: 0.60, status: healthy, under 8.00
  15-Min: 0.29, status: healthy, under 10.00
Memory (kb): healthy
  Total: 131243264
  Used: 6892520 (5%), status: healthy
  Free: 124350744 (95%)
  Committed: 9267196 (7%), under 95%
Per-core Statistics
CPU0: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU1: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU2: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU3: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.10, Nice:  0.00, Idle: 99.89
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU4: CPU Utilization (percentage of time spent)
  User:  0.20, System:  0.10, Nice:  0.00, Idle: 99.70
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU5: CPU Utilization (percentage of time spent)
  User:  0.80, System:  0.60, Nice:  0.00, Idle: 98.60
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU6: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU7: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.19, Nice:  0.00, Idle: 99.70
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU8: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU9: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
```

```
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU10: CPU Utilization (percentage of time spent)
  User:  0.30, System:  0.10, Nice:  0.00, Idle: 99.59
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU11: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.89
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU12: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU13: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU14: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU15: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU16: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU17: CPU Utilization (percentage of time spent)
  User:  0.19, System:  0.09, Nice:  0.00, Idle: 99.70
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU18: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU19: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU20: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU21: CPU Utilization (percentage of time spent)
  User:  1.10, System:  0.60, Nice:  0.00, Idle: 98.30
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU22: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU23: CPU Utilization (percentage of time spent)
  User:  2.80, System:  0.00, Nice:  0.00, Idle: 97.19
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU24: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU25: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU26: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU27: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU28: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU29: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.09, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU30: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
```

```
CPU31: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.09, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU32: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU33: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU34: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU35: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU36: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.89
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU37: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU38: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.30, Nice:  0.00, Idle: 99.70
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU39: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
```

The following is a sample output of the **show platform software status control-processor** command on the Cisco Catalyst CW9800H2 Wireless Controller

```
Device# show platform software status control-processor

1-RP0: online, statistics updated 4 seconds ago
Load Average: healthy
  1-Min: 1.66, status: healthy, under 8.00
  5-Min: 0.95, status: healthy, under 8.00
  15-Min: 0.38, status: healthy, under 10.00
Memory (kb): healthy
  Total: 131243260
  Used: 6454800 (5%), status: healthy
  Free: 124788460 (95%)
  Committed: 8706136 (7%), under 95%
Per-core Statistics
CPU0: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU1: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU2: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU3: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.10, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU4: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.09, Nice:  0.00, Idle: 99.80
  IRQ:  0.00, SIRQ:  0.09, IOwait:  0.00
CPU5: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU6: CPU Utilization (percentage of time spent)
  User:  0.59, System:  0.19, Nice:  0.00, Idle: 99.20
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
```

```
CPU7: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU8: CPU Utilization (percentage of time spent)
  User:  2.60, System:  0.00, Nice:  0.00, Idle: 97.39
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU9: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU10: CPU Utilization (percentage of time spent)
  User:  0.30, System:  0.20, Nice:  0.00, Idle: 99.49
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU11: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.09, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU12: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU13: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.10, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU14: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU15: CPU Utilization (percentage of time spent)
  User:  0.20, System:  0.00, Nice:  0.00, Idle: 99.80
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU16: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU17: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU18: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU19: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU20: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU21: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU22: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU23: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU24: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU25: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU26: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU27: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU28: CPU Utilization (percentage of time spent)
```

```
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU29: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU30: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU31: CPU Utilization (percentage of time spent)
  User:  0.89, System:  0.69, Nice:  0.00, Idle: 98.40
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU32: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU33: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU34: CPU Utilization (percentage of time spent)
  User:100.00, System:  0.00, Nice:  0.00, Idle:  0.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU35: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.20, Nice:  0.00, Idle: 99.70
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU36: CPU Utilization (percentage of time spent)
  User:  5.20, System:  0.00, Nice:  0.00, Idle: 94.79
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU37: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU38: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU39: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00

2-RP0: online, statistics updated 2 seconds ago
Load Average: healthy
  1-Min: 1.06, status: healthy, under 8.00
  5-Min: 0.67, status: healthy, under 8.00
  15-Min: 0.27, status: healthy, under 10.00
Memory (kb): healthy
  Total: 131243260
  Used: 5955048 (5%), status: healthy
  Free: 125288212 (95%)
  Committed: 8500272 (6%), under 95%
Per-core Statistics
CPU0: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU1: CPU Utilization (percentage of time spent)
  User:  0.60, System:  0.40, Nice:  0.00, Idle: 99.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU2: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.09, Nice:  0.00, Idle: 99.80
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU3: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.09, Nice:  0.00, Idle: 99.80
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU4: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU5: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.09, Nice:  0.00, Idle: 99.80
```

```
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU6: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU7: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SI
*Sep 13 23:31:38.046: %SMART_LIC-3-COMM_FAILED: Communications failure with the Cisco Smart
 License Utility (CSLU) : Unable to resolve server hostname/domain name RQ:  0.00, IOwait:
  0.00
CPU8: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU9: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.09, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU10: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU11: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU12: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.09, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU13: CPU Utilization (percentage of time spent)
  User:  0.20, System:  0.00, Nice:  0.00, Idle: 99.80
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU14: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU15: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU16: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU17: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU18: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU19: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU20: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU21: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.89
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU22: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU23: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.10, Nice:  0.00, Idle: 99.79
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU24: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.89
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU25: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
```

```
CPU26: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU27: CPU Utilization (percentage of time spent)
  User:  0.10, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU28: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU29: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.00, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU30: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU31: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU32: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.09, Nice:  0.00, Idle: 99.90
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU33: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU34: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU35: CPU Utilization (percentage of time spent)
  User:  0.79, System:  0.59, Nice:  0.00, Idle: 98.60
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU36: CPU Utilization (percentage of time spent)
  User:  0.20, System:  0.20, Nice:  0.00, Idle: 99.60
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU37: CPU Utilization (percentage of time spent)
  User:  0.09, System:  0.09, Nice:  0.00, Idle: 99.80
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU38: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00, Idle:100.00
  IRQ:  0.00, SIRQ:  0.00, IOwait:  0.00
CPU39: CPU Utilization (percentage of time spent)
  User:  0.00, System:  0.00, Nice:  0.00,
```

show diag chassis eeprom detail Command

The **show diag chassis eeprom detail** command displays the configuration hardware information, including power or fan module P0 and P1 EPPROM data.

Note To reset the device to its factory defaults, perform the following:

1. Open the controller console on PUTTY and reload the controller.
2. When you get ################## while the image loads, right-click on the top ribbon and select **special command** and **break** to get the ROMMON prompt.
3. Issue the following command:

   ```
   rommon 1 > confreg 0x8000
   ```

4. Boot the image.

   You will be able to view the write erased configuration and load the image thereafter.
5. After the image loads, you get to view the configuration back to 0x2102.

The following is a sample output of the **show diag chassis eeprom detail** command on the Cisco Catalyst CW9800H1 Wireless Controller:

```
Device# show diag chassis eeprom detail

MIDPLANE EEPROM data:

Product Identifier (PID) : CW9800H1
Version Identifier (VID) : V00
PCB Serial Number        : JAE2721096A
Top Assy. Part Number    : 68-7672-03
Hardware Revision        : 0.4
Asset ID                 :
CLEI Code                : CMM0000000

Power/Fan Module P0 EEPROM data:

Product Identifier (PID) : PWR-CH1-750WACR
Version Identifier (VID) : V01
PCB Serial Number        : ART2720FCEM
Hardware Revision        : 1.0
Asset ID                 :
CLEI Code                : CMUPAG1CAA

Power/Fan Module P1 EEPROM data:

Product Identifier (PID) : PWR-CH1-750WACR
Version Identifier (VID) : V01
PCB Serial Number        : ART2720FCEK
Hardware Revision        : 1.0
Asset ID                 :
CLEI Code                : CMUPAG1CAA
Device#
```

The following is a sample output of the **show diag chassis eeprom detail** command on the Cisco Catalyst CW9800H2 Wireless Controller:

```
Device# show diag chassis eeprom detail

MIDPLANE EEPROM data:

Product Identifier (PID) : CW9800H2
Version Identifier (VID) : V00
```

```
PCB Serial Number        : JAE27210962
Top Assy. Part Number    : 68-7673-03
Hardware Revision        : 0.4
Asset ID                 :
CLEI Code                : CMM0000000

Power/Fan Module P0 EEPROM data:

Product Identifier (PID) : PWR-CH1-750WACR
Version Identifier (VID) : V01
PCB Serial Number        : ART2720FDB4
Hardware Revision        : 1.0
Asset ID                 :
CLEI Code                : CMUPAG1CAA

Power/Fan Module P1 EEPROM data:

Product Identifier (PID) : PWR-CH1-750WACR
Version Identifier (VID) : V01
PCB Serial Number        : ART2720FDER
Hardware Revision        : 1.0
Asset ID                 :
CLEI Code                : CMUPAG1CAA
Device#
```