



# Basic Device Management

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This chapter describes how to configure, manage, and verify the basic setting on your Cisco NX-OS device.

- [Information About Basic Device Management, on page 1](#)
- [Changing the Device Hostname, on page 3](#)
- [Configuring the Management Interface, on page 4](#)
- [Configuring the Default Gateway, on page 5](#)
- [Configuring the MOTD Banner, on page 6](#)
- [Configuring the Time Zone, on page 7](#)
- [Configuring Summer Time \(Daylight Saving Time\), on page 8](#)
- [Manually Setting the Device Clock, on page 9](#)
- [Managing Users, on page 10](#)
- [Enabling or Disabling a Telnet Server Connection, on page 11](#)
- [Secure Erase, on page 11](#)
- [Verifying the Device Configuration, on page 13](#)
- [Default Settings for Basic Device Parameters, on page 13](#)

## Information About Basic Device Management

This section provides information about basic device management.

### Device Hostname

You can change the device hostname displayed in the command prompt from the default (switch) to another character string. When you give the device a unique hostname, you can easily identify the device from the command-line interface (CLI) prompt.

## Interface



**Note** If the management 10/100 Ethernet port (mgmt0) interface of the Cisco MDS 9700 Series switches has a preconfigured /0 IPv6 address that cannot be removed, use the **write erase boot** command to clear the complete configuration of the device and reload it. Perform this process before commissioning the device into production as this process is disruptive to user traffic if it is applied to the active supervisor of a system. Ensure an active console connection to the supervisor as this process will remove the IPv4 address of the mgmt0 interface.

The management interface allows multiple simultaneous Telnet or SNMP sessions. You can remotely configure the device through the management interface (mgmt0), but first you must configure some IP parameters so that the switch is reachable. You can manually configure the management interface from the CLI. You can configure the mgmt 0 interface with either IPv4 address parameters or an IPv6 address.

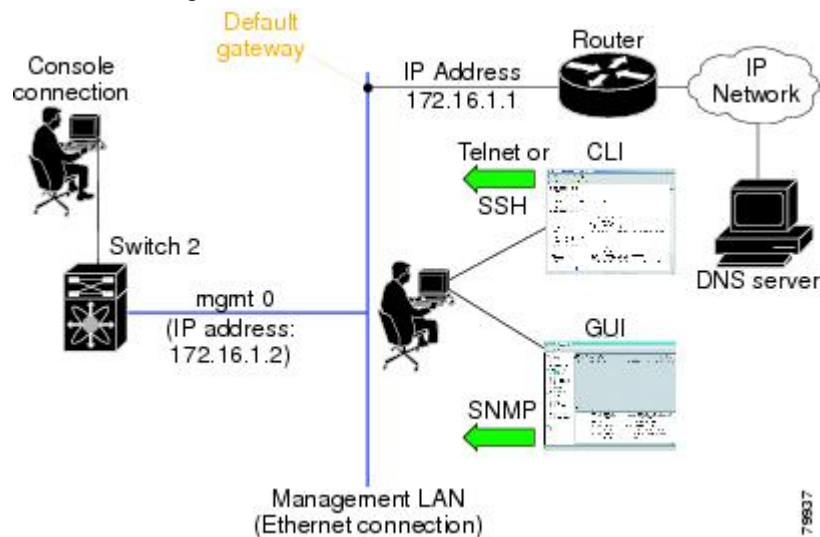
On devices with dual supervisor modules, a single IP address is used to manage the switch. The active supervisor module's mgmt0 interface uses this IP address. The mgmt0 interface on the standby supervisor module remains in an inactive state and cannot be accessed until a switchover happens. After a switchover, the mgmt0 interface on the standby supervisor module becomes active and assumes the same IP address as the previously active supervisor module.

The management port (mgmt0) is autosensing and operates in full duplex mode at a speed of 10/100/1000 Mbps. Autosensing supports both the speed and the duplex mode.

## Default Gateway

*Figure 1: Default Gateway*

The supervisor module sends IP packets with unresolved destination IPv4 addresses to the default gateway.



## Message-of-the-Day Banner

The message-of-the-day (MOTD) banner displays before the user login prompt on the device. This message can contain any information that you want to display for users of the device.

## Device Clock

If you do not synchronize your device with a valid outside timing mechanism, such as an NTP clock source, you can manually set the clock time when your device boots.

## Time Zone and Summer Time (Daylight Saving Time)

You can configure the time zone and summer time (daylight saving time) setting for your device. These values offset the clock time from Coordinated Universal Time (UTC). UTC is International Atomic Time (TAI) with leap seconds added periodically to compensate for the Earth's slowing rotation. UTC was formerly called Greenwich Mean Time (GMT).

## User Sessions

You can display the active user session on your device. You can also send messages to the user sessions. For more information about managing user sessions and accounts, see the Cisco Nexus security configuration guide for your device.

## Telnet Server Connection

The Telnet server is disabled by default on all switches in the Cisco MDS 9000 Family. You can enable the Telnet server if you do not require a secure SSH connection. However, if you require a secure SSH connection, you need to disable the default Telnet connection and then enable the SSH connection.



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**Note** For information on connecting a terminal to the supervisor module console port, refer to the [Cisco MDS 9200 Series Hardware Installation Guide](#) or the [Cisco MDS 9500 Series Hardware Installation Guide](#).

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**Note** The Cisco NX-OS software allows a maximum of 16 sessions on any switch in the Cisco MDS 9500 Series or the Cisco MDS 9200 Series.

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## Changing the Device Hostname

You can change the device hostname displayed in the command prompt from the default (switch) to another character string.

### SUMMARY STEPS

1. **configure terminal**
2. **{ hostname | switchname } name**
3. **exit**
4. (Optional) **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	<b>configure terminal</b> <b>Example:</b> <pre>switch# configure terminal switch(config)#</pre>	Enters global configuration mode.
<b>Step 2</b>	<b>{hostname   switchname} name</b> <b>Example:</b> Using the <b>hostname</b> command: <pre>switch(config)# hostname Engineering1 Engineering1(config)#</pre> Using the <b>switchname</b> command: <pre>Engineering1(config)# switchname Engineering2 Engineering2(config)#</pre>	Changes the device hostname. The <i>name</i> argument is alphanumeric, case sensitive, and has a maximum length of 63 characters. The default name is switch.  <b>Note</b> The <b>switchname</b> command performs the same function as the <b>hostname</b> command.
<b>Step 3</b>	<b>exit</b> <b>Example:</b> <pre>Engineering2(config)# exit Engineering2#</pre>	Exits global configuration mode.
<b>Step 4</b>	(Optional) <b>copy running-config startup-config</b> <b>Example:</b> <pre>Engineering2# copy running-config startup-config</pre>	Copies the running configuration to the startup configuration.

## Configuring the Management Interface

You can manually configure the management interface from the CLI. You can configure the mgmt 0 interface with either IPv4 address parameters or an IPv6 address.



**Note** You only need to configure the mgmt0 interface on the active supervisor module. When a supervisor module switchover occurs, the new active supervisor module uses the same configuration for the mgmt0 interface.

### Before you begin

Establish a connection on the console port.

## SUMMARY STEPS

1. **configure terminal**
2. **interface mgmt 0**
3. **ip address {ipv4-address subnet-mask | ipv6-address}**
4. **exit**

5. (Optional) **show interface mgmt 0**
6. (Optional) **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>configure terminal</b> <b>Example:</b> switch# configure terminal switch(config)#	Enters global configuration mode.
Step 2	<b>interface mgmt 0</b> <b>Example:</b> switch(config)# interface mgmt 0 switch(config-if)#	Specifies the mgmt0 interface and enters the interface configuration mode.
Step 3	<b>ip address {ipv4-address subnet-mask   ipv6-address}</b> <b>Example:</b> switch(config-if)# ip address 1.1.1.0 255.255.255.0	Configures the IPv4 or IPv6 address on the mgmt 0 interface.
Step 4	<b>exit</b> <b>Example:</b> switch(config-if)# exit switch(config)#	Returns to global configuration mode.
Step 5	(Optional) <b>show interface mgmt 0</b> <b>Example:</b> switch(config)# show interface mgmt 0	Displays the mgmt 0 interface information.
Step 6	(Optional) <b>copy running-config startup-config</b> <b>Example:</b> switch(config)# copy running-config startup-config	Copies the running configuration to the startup configuration.

## Configuring the Default Gateway

You can manually configure the management interface from the CLI. You can configure the mgmt 0 interface with either IPv4 address parameters or an IPv6 address.

### Before you begin

Establish a connection on the console port.

### SUMMARY STEPS

1. **configure terminal**
2. **ip default gateway ipv4-address**

3. (Optional) **show ip route**
4. (Optional) **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	<b>configure terminal</b> <b>Example:</b> <pre>switch# configure terminal switch(config)#</pre>	Enters global configuration mode.
<b>Step 2</b>	<b>ip default gateway <i>ipv4-address</i></b> <b>Example:</b> <pre>switch(config)# ip default-gateway 172.16.1.1</pre>	Configures the IPv4 address for the default gateway.
<b>Step 3</b>	(Optional) <b>show ip route</b> <b>Example:</b> <pre>switch(config)# show ip route</pre>	Displays the default gateway configuration.
<b>Step 4</b>	(Optional) <b>copy running-config startup-config</b> <b>Example:</b> <pre>switch(config)# copy running-config startup-config</pre>	Configures the IPv4 or IPv6 address on the mgmt 0 interface.

## Configuring the MOTD Banner

You can configure the MOTD to display before the login prompt on the terminal when a user logs in. The MOTD banner has the following characteristics:

- Maximum of 254 characters per line
- Maximum of 40 lines

### SUMMARY STEPS

1. **configure terminal**
2. **banner motd *delimiting-character message delimiting-character***
3. **exit**
4. (Optional) **show banner motd**
5. (Optional) **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	<b>configure terminal</b> <b>Example:</b>	Enters global configuration mode.

	Command or Action	Purpose
	switch# configure terminal switch(config)#	
<b>Step 2</b>	<b>banner motd</b> <i>delimiting-character message delimiting-character</i>  <b>Example:</b> switch(config)# banner motd #Welcome to the Switch# switch(config)#	Configures the MOTD banner. Do not use the <i>delimiting-character</i> in the <i>message</i> text.  <b>Note</b> Do not use " or % as a delimiting character.
<b>Step 3</b>	<b>exit</b>  <b>Example:</b> switch(config)# exit switch#	Exits global configuration mode.
<b>Step 4</b>	(Optional) <b>show banner motd</b>  <b>Example:</b> switch# show banner motd	Displays the configured MOTD banner.
<b>Step 5</b>	(Optional) <b>copy running-config startup-config</b>  <b>Example:</b> switch# copy running-config startup-config	Copies the running configuration to the startup configuration.

## Configuring the Time Zone

You can configure the time zone to offset the device clock time from UTC.

### SUMMARY STEPS

1. **configure terminal**
2. **clock timezone** *zone-name offset-hours offset-minutes*
3. **exit**
4. (Optional) **show clock**
5. (Optional) **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	<b>configure terminal</b>  <b>Example:</b> switch# configure terminal switch(config)#	Enters global configuration mode.
<b>Step 2</b>	<b>clock timezone</b> <i>zone-name offset-hours offset-minutes</i>  <b>Example:</b> switch(config)# clock timezone EST -5 0	Configures the time zone. The <i>zone-name</i> argument is a 3-character string for the time zone acronym (for example, PST or EST). The <i>offset-hours</i> argument is the offset from

	Command or Action	Purpose
		the UTC and the range is from -23 to 23 hours. The range for the <i>offset-minutes</i> argument is from 0 to 59 minutes.
<b>Step 3</b>	<b>exit</b> <b>Example:</b> switch(config)# exit switch#	Exits global configuration mode.
<b>Step 4</b>	(Optional) <b>show clock</b> <b>Example:</b> switch# show clock	Displays the time and time zone.
<b>Step 5</b>	(Optional) <b>copy running-config startup-config</b> <b>Example:</b> switch# copy running-config startup-config	Copies the running configuration to the startup configuration.

## Configuring Summer Time (Daylight Saving Time)

You can configure when summer time, or daylight saving time, is in effect for the device and the offset in minutes.

### SUMMARY STEPS

1. **configure terminal**
2. **clock summer-time** *zone-name start-week start-day start-month start-time end-week end-day end-month end-time offset-minutes*
3. **exit**
4. (Optional) **show clock detail**
5. (Optional) **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	<b>configure terminal</b> <b>Example:</b> switch# configure terminal switch(config)#	Enters global configuration mode.
<b>Step 2</b>	<b>clock summer-time</b> <i>zone-name start-week start-day start-month start-time end-week end-day end-month end-time offset-minutes</i> <b>Example:</b> switch(config)# clock summer-time PDT 1 Sunday March 02:00 1 Sunday November 02:00 60	Configures summer time or daylight saving time.  The <i>zone-name</i> argument is a three character string for the time zone acronym (for example, PST and EST).  The values for the <i>start-day</i> and <i>end-day</i> arguments are <b>Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, and Sunday</b> .



	Command or Action	Purpose
		<p>The values for the <i>start-month</i> and <i>end-month</i> arguments are <b>January, February, March, April, May, June, July, August, September, October, November, and December</b>.</p> <p>The value for the <i>start-time</i> and <i>end-time</i> arguments are in the format <i>hh:mm</i>.</p> <p>The range for the <i>offset-minutes</i> argument is from 0 to 1440 minutes.</p>
Step 3	<p><b>exit</b></p> <p><b>Example:</b></p> <pre>switch(config)# exit switch#</pre>	Exits global configuration mode.
Step 4	<p>(Optional) <b>show clock detail</b></p> <p><b>Example:</b></p> <pre>switch(config)# show clock detail</pre>	Displays the configured MOTD banner.
Step 5	<p>(Optional) <b>copy running-config startup-config</b></p> <p><b>Example:</b></p> <pre>switch# copy running-config startup-config</pre>	Copies the running configuration to the startup configuration.

## Manually Setting the Device Clock

You can set the clock manually if your device cannot access a remote time source.

### Before you begin

Configure the time zone.

### SUMMARY STEPS

1. **clock set** *time day month year*
2. (Optional) **show clock**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<p><b>clock set</b> <i>time day month year</i></p> <p><b>Example:</b></p> <pre>switch# clock set 15:00:00 30 May 2008 Fri May 30 15:14:00 PDT 2008</pre>	<p>Configures the device clock.</p> <p>The format for the <i>time</i> argument is <i>hh:mm:ss</i>.</p> <p>The range for the <i>day</i> argument is from 1 to 31.</p> <p>The values for the <i>month</i> argument are <b>January, February, March, April, May, June, July, August, September, October, November, and December</b>.</p>

	Command or Action	Purpose
		The range for the <i>year</i> argument is from 2000 to 2030.
<b>Step 2</b>	(Optional) <b>show clock</b>  <b>Example:</b> <code>switch(config)# show clock</code>	Displays the current clock value.

**Related Topics**

[Configuring the Time Zone](#), on page 7

## Managing Users

You can display information about users logged into the device and send messages to those users.

### Displaying Information about the User Sessions

You can display information about the user session on the device.

**SUMMARY STEPS**

1. **show users**

**DETAILED STEPS**

	Command or Action	Purpose
<b>Step 1</b>	<b>show users</b>  <b>Example:</b> <code>switch# show users</code>	Displays the user sessions.

### Sending a Message to Users

You can send a message to active users currently using the device CLI.

**SUMMARY STEPS**

1. (Optional) **show users**
2. **send** [*session line*] *message-text*

**DETAILED STEPS**

	Command or Action	Purpose
<b>Step 1</b>	(Optional) <b>show users</b>  <b>Example:</b> <code>switch# show users</code>	Displays the active user sessions.

	Command or Action	Purpose
Step 2	<b>send</b> [session line] message-text <b>Example:</b> switch# send Reloading the device is 10 minutes!	Sends a message to all active users or to a specific user. The message can be up to 80 alphanumeric characters and is case sensitive.

## Enabling or Disabling a Telnet Server Connection

You can enable or disable the Telnet server connection.

### SUMMARY STEPS

1. **configure terminal**
2. **[no] feature telnet**
3. (Optional) **show telnet server**
4. (Optional) **copy running-config startup-config**

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>configure terminal</b> <b>Example:</b> switch# configure terminal switch(config)#	Enters global configuration mode.
Step 2	<b>[no] feature telnet</b> <b>Example:</b> switch(config)# feature telnet	Enables the Telnet server connection. Use the <b>no</b> form of the command to disable the Telnet server connection. The default is disabled.
Step 3	(Optional) <b>show telnet server</b> <b>Example:</b> switch(config)# show telnet server	Displays the Telnet server configuration.
Step 4	(Optional) <b>copy running-config startup-config</b> <b>Example:</b> switch(config)# copy running-config startup-config	Copies the running configuration to the startup configuration.

## Secure Erase

The Secure Erase feature allows erasure of all customer information from Cisco MDS switches. Cisco MDS switches can store software images, switch configuration, software logs, and operational history. The information stored can have customer-specific information such as details of network architecture, user credentials, and customer data which can be a potential target for data theft.

The Secure Erase feature is useful in the following scenarios:

- Returning a device: If you must return a device to your supplier for replacement.
- Recovering a compromised device: If the key information or credentials that are stored on a device are compromised, to reset the device to factory configuration and reconfigure it.
- Decommissioning a device: If a device is being removed from service as part of redeployment or end of life where the device may leave the security of the data center.

## Prerequisites for Performing Secure Erase

- Ensure that all the software images, configurations, personal data, and so on, are backed up (if required) before performing the secure erase operation.
- Ensure that power is not interrupted while the secure erase process is in progress otherwise the erasure will not be completed.
- Ensure that neither In-Service Software Upgrade (ISSU) nor In-Service Software Downgrade (ISSD) is in progress before starting the secure erase process.

## Guidelines and Limitations for Secure Erase

- The secure erase process is disruptive for any network traffic traversing the target device. Ensure that alternate links or paths are active for data traffic if this operation is done on an in-service device.
- After secure erase process is finished, the behavior is different for fabric and modular switches:
  - For supervisors in Director switches and for fabric switches, the device remains at the *loader* prompt.
  - For linecards in Director switches, the linecards will be powered down.
- Erasing a Director switch's active supervisor or any fabric switch will cause remote connectivity to be permanently lost. To verify when the process has completed and that there were no errors, execute the command on the console session. However, erasure of Director linecards and standby supervisor may be started and monitored from an SSH session.

## Performing Secure Erase

Modules in Director switches must be erased individually. To erase all modules on a Director switch, erase them in the order of 1) linecards, 2) standby supervisor, and 3) active supervisor.

To securely erase all information on a Director module, perform this step:

Erase all data on a module:

```
switch# factory-reset module number
```

After the erasure process, the module will remain at the *loader* prompt if it is a supervisor and in the powered down state if it is a linecard.

If the module is a linecard that is being replaced, the new linecard will need to be powered up after it is inserted into the slot, as follows:

1. Enter global configuration mode:  
switch# **configure t**
2. Power up the linecard:  
Switch(config)# **no poweroff module** *number*

Fabric switches are single module switches and do not require the **module** option. To securely erase all information on a fabric switch, perform this step:

Erase all data on the switch:

```
switch# factory-reset
```

After the erasure process, the switch will remain at the *loader* prompt.

## Verifying the Device Configuration

To verify the configuration after bootstrapping the device using POAP, use one of the following commands:

Command	Purpose
<b>show running-config</b>	Displays the running configuration.
<b>show startup-config</b>	Displays the startup configuration.

For detailed information about the fields in the output from these commands, see the Cisco Nexus command reference for your device.

## Default Settings for Basic Device Parameters

This table lists the default settings for basic device parameters.

**Table 1: Default Basic Device Parameters**

Parameters	Default
MOTD banner text	User Access Verification
Clock time zone	UTC

