



# Configuring Terminal Settings and Sessions

This chapter describes how to configure terminal settings and sessions.

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## Information About Terminal Settings and Sessions

This section includes information about terminal settings and sessions.

### Terminal Session Settings

The Cisco NX-OS software features allow you to manage the following characteristics of terminals:

**Terminal type**

Name used by Telnet when communicating with remote hosts

**Length**

Number of lines of command output displayed before pausing

**Width**

Number of characters displayed before wrapping the line

**Inactive session timeout**

Number of minutes that a session remains inactive before the device terminates it

### Console Port

The console port is an asynchronous serial port that allows you to connect to the device for initial configuration through a standard RS-232 port with an RJ-45 connector. Any device connected to this port must be capable of asynchronous transmission. You can configure the following parameters for the console port:

**Data bits**

Specifies the number of bits in an 8-bit byte that is used for data.

**Inactive session timeout**

Specifies the number of minutes a session can be inactive before it is terminated.

**Parity**

Specifies the odd or even parity for error detection.

**Speed**

Specifies the transmission speed for the connection.

**Stop bits**

Specifies the stop bits for an asynchronous line.

Configure your terminal emulator with 9600 baud, 8 data bits, 1 stop bit, and no parity.

## Virtual Terminals

You can use virtual terminal lines to connect to your Cisco NX-OS device. Secure Shell (SSH) and Telnet create virtual terminal sessions. You can configure an inactive session timeout and a maximum sessions limit for virtual terminals.

## Modem Support

You can connect a modem to the console ports only on the supervisor 1 module. The following modems were tested on devices running the Cisco NX-OS software:

- MultiTech MT2834BA ([http://www.multitech.com/en\\_us/support/families/multimodemii/](http://www.multitech.com/en_us/support/families/multimodemii/))
- Hayes Accura V.92 ([http://www.zoom.com/products/dial\\_up\\_external\\_serial.html#hayes](http://www.zoom.com/products/dial_up_external_serial.html#hayes))




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**Note** Do not connect a modem when the device is booting. Only connect the modem when the device is powered up.

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The Cisco NX-OS software has the default initialization string (ATE0Q1&D2&C1S0=1\015) to detect connected modems. The default string is defined as follows:

**AT**

Attention

**E0 (required)**

No echo

**Q1**

Result code on

**&D2**

Normal data terminal ready (DTR) option

**&C1**

Enable tracking the state of the data carrier

**S0=1**

Pick up after one ring

**\015 (required)**

Carriage return in octal

# Configuring the Console Port

You can set the following characteristics for the console port:

- Data bits
- Inactive session timeout
- Parity
- Speed
- Stop bits

## Before you begin

Log in to the console port.

## SUMMARY STEPS

1. **configure terminal**
2. **line console**
3. **databits** *bits*
4. **exec-timeout** *minutes*
5. **parity** {*even* | *none* | *odd*}
6. **speed** {*300* | *1200* | *2400* | *4800* | *9600* | *38400* | *57600* | *115200*}
7. **stopbits** {*1* | *2*}
8. **exit**
9. (Optional) **show line console**
10. (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>line console</b> <b>Example:</b> <pre>switch# line console switch(config-console)#</pre>	Enters console configuration mode.
<b>Step 3</b>	<b>databits</b> <i>bits</i> <b>Example:</b> <pre>switch(config-console)# databits 7</pre>	Configures the number of data bits per byte. The range is from 5 to 8. The default is 8.

	Command or Action	Purpose
<b>Step 4</b>	<b>exec-timeout</b> <i>minutes</i> <b>Example:</b> switch(config-console)# exec-timeout 30	Configures the timeout for an inactive session. The range is from 0 to 525600 minutes (8760 hours). A value of 0 minutes disables the session timeout. The default is 30 minutes.
<b>Step 5</b>	<b>parity</b> {even   none   odd} <b>Example:</b> switch(config-console)# parity even	Configures the parity. The default is <b>none</b> .
<b>Step 6</b>	<b>speed</b> {300   1200   2400   4800   9600   38400   57600   115200} <b>Example:</b> switch(config-console)# speed 115200	Configures the transmit and receive speed. The default is <b>9600</b> .
<b>Step 7</b>	<b>stopbits</b> {1   2} <b>Example:</b> switch(config-console)# stopbits 2	Configures the stop bits. The default is <b>1</b> .
<b>Step 8</b>	<b>exit</b> <b>Example:</b> switch(config-console)# exit switch(config)#	Exits console configuration mode.
<b>Step 9</b>	(Optional) <b>show line console</b> <b>Example:</b> switch(config)# show line console	Displays the console settings.
<b>Step 10</b>	(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 Virtual Terminals

This section describes how to configure virtual terminals on Cisco NX-OS devices.

### Configuring the Inactive Session Timeout

You can configure a timeout for inactive virtual terminal sessions on a Cisco NX-OS device.

#### SUMMARY STEPS

1. **configure terminal**
2. **line vty**
3. **exec-timeout** *minutes*

4. **exit**
5. (Optional) **show running-config all | begin vty**
6. (Optional) **copy running-config startup-config**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>configure terminal</b> <b>Example:</b> <pre>switch# configure terminal switch(config)#</pre>	Enters global configuration mode.
Step 2	<b>line vty</b> <b>Example:</b> <pre>switch# line vty switch(config-line)#</pre>	Enters line configuration mode.
Step 3	<b>exec-timeout <i>minutes</i></b> <b>Example:</b> <pre>switch(config-line)# exec-timeout 30</pre>	Configures the inactive session timeout. The range is from 0 to 525600 minutes (8760 hours). A value of 0 minutes disables the timeout. The default value is 30.
Step 4	<b>exit</b> <b>Example:</b> <pre>switch(config-line)# exit switch(config)#</pre>	Exits line configuration mode.
Step 5	(Optional) <b>show running-config all   begin vty</b> <b>Example:</b> <pre>switch(config)# show running-config all   begin vty</pre>	Displays the virtual terminal configuration.
Step 6	(Optional) <b>copy running-config startup-config</b> <b>Example:</b> <pre>switch(config)# copy running-config startup-config</pre>	Copies the running configuration to the startup configuration.

## Configuring the Session Limit

You can limit the number of virtual terminal sessions on your Cisco NX-OS device.

### SUMMARY STEPS

1. **configure terminal**
2. **line vty**
3. **session-limit *sessions***
4. **exit**
5. (Optional) **show running-config all | being vty**
6. (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>line vty</b> <b>Example:</b> switch# line vty switch(config-line)#	Enters line configuration mode.
<b>Step 3</b>	<b>session-limit sessions</b> <b>Example:</b> switch(config-line)# session-limit 10	Configures the maximum number of virtual sessions for the Cisco NX-OS device. The range is from 1 to 64. The default is 32.
<b>Step 4</b>	<b>exit</b> <b>Example:</b> switch(config-line)# exit switch(config)#	Exits line configuration mode.
<b>Step 5</b>	(Optional) <b>show running-config all   begin vty</b> <b>Example:</b> switch(config)# show running-config all   begin vty	Displays the virtual terminal configuration.
<b>Step 6</b>	(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 Modem Connections

You can connect a modem to the console port.

### Enabling a Modem Connection

You must enable the modem connection on the port before you can use the modem.

#### Before you begin

Log in to the console port.

## SUMMARY STEPS

1. **configure terminal**
2. **line console**

3. **modem in**
4. **exit**
5. (Optional) **show line**
6. (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>line console</b>	Enters console configuration mode.
<b>Step 3</b>	<b>modem in</b>	Enables modem input on the port.
<b>Step 4</b>	<b>exit</b>	Exits console configuration mode.
<b>Step 5</b>	(Optional) <b>show line</b> <b>Example:</b> <pre>switch(config)# show line</pre>	Displays the console settings.
<b>Step 6</b>	(Optional) <b>copy running-config startup-config</b> <b>Example:</b> <pre>switch(config)# copy running-config startup-config</pre>	Copies the running configuration to the startup configuration.

## Downloading the Default Initialization String

The Cisco NX-OS software provides a default initialization string that you can download for connecting with the modem. The default initialization string is ATE0Q1&D2&C1S0=1\015.

### Before you begin

Log in to the console port.

## SUMMARY STEPS

1. **configure terminal**
2. **line console**
3. **modem init-string default**
4. **exit**
5. (Optional) **show line**
6. (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>line console</b>	
<b>Step 3</b>	<b>modem init-string default</b>	Writes the default initialization string to the modem.
<b>Step 4</b>	<b>exit</b>	Exits console configuration mode.
<b>Step 5</b>	(Optional) <b>show line</b> <b>Example:</b> switch(config)# show line	Displays the console settings.
<b>Step 6</b>	(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 and Downloading a User-Specified Initialization String

You can configure and download your own initialization when the default initialization string is not compatible with your modem.

### Before you begin

Log in to the console port.

## SUMMARY STEPS

1. **configure terminal**
2. **line console**
3. **modem set-string user-input *string***
4. **modem init-string user-input**
5. **exit**
6. (Optional) **show line**
7. (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.



	Command or Action	Purpose
Step 2	<code>line console</code>	
Step 3	<code>modem set-string user-input <i>string</i></code>	Sets the user-specified initialization string for the console port. The initialization string is alphanumeric and case sensitive, can contain special characters, and has a maximum of 100 characters.  <b>Note</b> You must first set the user-input string before initializing the string.
Step 4	<code>modem init-string user-input</code>	Writes the user-specified initialization string to the modem connected to the console port.
Step 5	<code>exit</code>	Exits console configuration mode.
Step 6	(Optional) <code>show line</code>  <b>Example:</b> <code>switch(config)# show line</code>	Displays the console settings.
Step 7	(Optional) <code>copy running-config startup-config</code>  <b>Example:</b> <code>switch(config)# copy running-config startup-config</code>	Copies the running configuration to the startup configuration.

## Initializing a Modem for a Powered-Up Cisco NX-OS Device

If you connect a modem to a powered-up physical device, you must initialize the modem before you can use it.

### Before you begin

After waiting until the Cisco NX-OS device has completed the boot sequence and the system image is running, connect the modem to either the console port on the device.

Enable the modem connection on the port.

### SUMMARY STEPS

1. `modem connect line console}`

### DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>modem connect line console}</code>  <b>Example:</b> <code>switch# modem connect line console</code>	Initializes the modem connected to the device.

# Clearing Terminal Sessions

You can clear terminal sessions on the Cisco NX-OS device.

## SUMMARY STEPS

1. (Optional) **show users**
2. **clear line** *name*

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	(Optional) <b>show users</b>  <b>Example:</b> switch# show users	Displays the user sessions on the device.
<b>Step 2</b>	<b>clear line</b> <i>name</i>  <b>Example:</b> switch# clear line pts/0	Clears a terminal session on a specific line. The line name is case sensitive.

# Displaying Terminal and Session Information

To display terminal and session information, perform one of the following tasks:

Command	Purpose
<b>show terminal</b>	Displays terminal settings.
<b>show line</b>	Displays the console ports settings.
<b>show users</b>	Displays virtual terminal sessions.
<b>show running-config [all]</b>	Displays the user account configuration in the running configuration. The <b>all</b> keyword displays the default values for the user accounts.

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

## Default Settings for File System Parameters

This table lists the default settings for the file system parameters.

*Table 1: Default File System Settings*

Parameter	Default
Default filesystem	bootflash:

## Related Documents for Terminal Settings and Sessions

Related Topic	Document Title
Cisco NX-OS Licensing	<i>Cisco NX-OS Licensing Guide</i>
Command Reference	<i>Cisco Nexus 3548 Switch NX-OS Fundamentals Command Reference</i>

