



CHAPTER 3

Understanding the CLI

This chapter describes the Cisco NX-OS software CLI.

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Information About the CLI Prompt

Once you have successfully accessed the device, the CLI prompt displays in the terminal window of your console port or remote workstation (see [Example 3-1](#)).

Example 3-1 Initial CLI Prompt

```
User Access Verification
login: admin
Password: <password>
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2008, Cisco Systems, Inc. All rights reserved.
```

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switch#

You can change the default device hostname (see the “[Changing the Device Hostname](#)” section on [page 5-5](#)).

From the CLI prompt, you can do the following:

- Use CLI commands for configuring features
- Access the command history
- Use command parsing functions

Command Modes

This section includes the following topics:

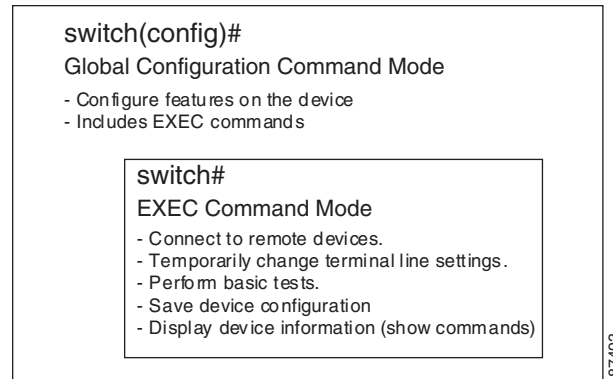
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About Command Modes

The Cisco NX-OS CLI is divided into command modes, which define the actions available to the user. Command modes are “nested” and must be accessed in sequence. As you navigate from one command mode to another, an increasingly larger set of commands become available. All commands in a higher command mode are accessible from lower command modes. For example, the **show** commands are available from any configuration command mode. [Figure 3-1](#) shows how command access builds from EXEC mode to global configuration mode.

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Figure 3-1 Command Modes



EXEC Command Mode

When you first log in, the Cisco NX-OS software places you in EXEC mode. The commands available in EXEC mode include the **show** commands that display device status and configuration information, the **clear** commands, and other commands that perform actions that you do not save in the device configuration.

Global Configuration Command Mode

Global configuration mode provides access to the broadest range of commands. The term “global” indicates characteristics or features that affect the device as a whole. You can enter commands in global configuration mode to configure your device globally, or to enter more specific configuration modes to configure specific elements such as interfaces or protocols.

To access the global configuration mode, follow this step:

	Command	Purpose
Step 1	configure terminal	Enters global configuration mode.
	Example: switch# configure terminal switch(config)#	Note The CLI prompt changes to indicate that you are in global configuration mode.

Interface Configuration Command Mode

One example of a specific configuration mode that you enter from global configuration mode is interface configuration mode. To configure interfaces on your device, you must specify the interface and enter interface configuration mode.

You must enable many features on a per-interface basis. Interface configuration commands modify the operation of the interfaces on the device, such as Ethernet interfaces or management interfaces (mgmt 0).

For more information about configuring interfaces, see the *Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide, Release 4.0*.

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For more information about interface commands, see the *Cisco Nexus 7000 Series NX-OS Interfaces Command Reference, Release 4.0*.

SUMMARY STEPS

1. **configure terminal**
2. **interface** *type number*

DETAILED STEPS

	Command	Purpose
Step 1	configure terminal Example: switch# configure terminal switch(config)#	Enters global configuration mode.
Step 2	interface <i>type number</i> Example: switch(config)# interface ethernet 2/2 switch(config-if)#	Specifies the interface you that want to configure. The CLI places you into interface configuration mode for the specified interface Note The CLI prompt changes to indicate that you are in interface configuration mode.

Subinterface Configuration Command Mode

From global configuration mode, you can access a configuration submode for configuring VLAN interfaces called subinterfaces. In subinterface configuration mode, you can configure multiple virtual interfaces on a single physical interface. Subinterfaces appear to a protocol as distinct physical interfaces.

Subinterfaces also allow multiple encapsulations for a protocol on a single interface. For example, you can configure IEEE 802.1Q encapsulation to associate a subinterface with a VLAN.

For more information about configuring subinterfaces, see the *Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide, Release 4.0*.

For more information about subinterface commands, see the *Cisco Nexus 7000 Series NX-OS Interfaces Command Reference, Release 4.0*.

SUMMARY STEPS

1. **configure terminal**
2. **interface** *type number.subint*


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DETAILED STEPS

	Command	Purpose
Step 1	configure terminal Example: switch# configure terminal switch(config)#	Enters global configuration mode.
Step 2	interface <i>type number.subint</i> Example: switch(config)# interface ethernet 2/2.1 switch(config-subif)#	Specifies the VLAN interface to be configured. The CLI places you into a subinterface configuration mode for the specified VLAN interface. Note The CLI prompt changes to indicate that you are in global configuration mode.

Exiting a Configuration Command Mode

To exit from any configuration command mode, perform one of the following tasks:

Command	Purpose
exit Example: switch(config-if)# exit switch(config)#	Exits from the current configuration command mode and return to the previous configuration command mode.
end Example: switch(config)# end switch#	Exits from the configuration command mode and returns to EXEC mode.
Ctrl-z Example: switch(config)# ^z switch#	Exits the current configuration command mode and returns to EXEC mode.  Caution If you use Ctrl-Z at the end of a command line in which a valid command has been typed, the CLI adds the command to the running configuration file. We recommend that you exit a configuration mode using the exit or end command.

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Command Mode Summary

Table 3-1 summarizes information about the main command modes.

Table 3-1 Command Mode Summary

Mode	Access Method	Prompt	Exit Method
EXEC	From the login prompt, enter your username and password.	switch#	To exit to the login prompt, use the exit command.
Global configuration	From EXEC mode, use the configure terminal command.	switch(config)#	To exit to EXEC mode, use the end or exit command or press Ctrl-Z .
Interface configuration	From global configuration mode, use an interface command and specify an interface with an interface command.	switch(config-if)#	To exit to global configuration mode, use the exit command. To exit to EXEC mode, use the end command or press Ctrl-Z .
Subinterface configuration	From global configuration mode, specify a subinterface with an interface command.	switch(config-subif)#	To exit to global configuration mode, use the exit command. To exit to EXEC mode, use the end command or press Ctrl-Z .
VDC configuration	From global configuration mode, use the vdc command and specify a VDC name.	switch(config-vdc)#	To exit to global configuration mode, use the exit command. To exit to EXEC mode, use the end command or press Ctrl-Z .
VRF configuration	From global configuration mode, use the vrf command and specify a routing protocol.	switch(config-vrf)#	To exit to global configuration mode, use the exit command. To exit to EXEC mode, use the end command or press Ctrl-Z .
EXEC for a nondefault VDC	From EXEC mode, use the switchto vdc command and specify a VDC.	switch-vdc2#	To exit to the default VDC, use the exit command or the switchback command.
EXEC for a nondefault VRF	From EXEC mode, use the routing-context vrf command and specify a VRF.	switch%red#	To exit to the default VRF, use the routing-context vrf default command.

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Special Characters

Table 3-2 lists the characters that have special meaning in Cisco NX-OS text strings and should be used only in regular expressions or other special contexts.

Table 3-2 *Special Characters*

Character	Description
%	Percent
#	Pound, hash, or number
...	Ellipsis
	Vertical bar
< >	Less than or greater than
[]	Brackets
{ }	Braces

Keystroke Shortcuts

Table 3-3 lists command key combinations that can be used in both EXEC and configuration modes:

Table 3-3 *Keystroke Shortcuts*

Key(s)	Description
Ctrl-A	Moves the cursor to the beginning of the line.
Ctrl-B	Moves the cursor one character to the left. When you enter a command that extends beyond a single line, you can press the Left Arrow or Ctrl-B keys repeatedly to scroll back toward the system prompt and verify the beginning of the command entry, or you can press the Ctrl-A key combination.
Ctrl-C	Cancels the command and returns to the command prompt.
Ctrl-D	Deletes the character at the cursor.
Ctrl-E	Moves the cursor to the end of the line.
Ctrl-F	Moves the cursor one character to the right.
Ctrl-G	Exits to the previous command mode without removing the command string.
Ctrl-K	Deletes all characters from the cursor to the end of the command line.
Ctrl-L	Redisplays the current command line.
Ctrl-N	Displays the next command in the command history.
Ctrl-O	Clears the terminal screen.
Ctrl-P	Displays the previous command in the command history.
Ctrl-R	Redisplays the current command line.
Ctrl-T	Transposes the character to the left of the cursor with the character located to the right of the cursor.

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Table 3-3 Keystroke Shortcuts (continued)

Key(s)	Description
Ctrl-U	Deletes all characters from the cursor to the beginning of the command line.
Ctrl-V	Removes any special meaning for the following keystroke. For example, press Ctrl-V before entering a question mark (?) in a regular expression.
Ctrl-W	Deletes the word to the left of the cursor.
Ctrl-X, H	Lists the history of commands you have entered. When using this key combination, press and release the Ctrl and X keys together before pressing H.
Ctrl-Y	Recalls the most recent entry in the buffer (press keys simultaneously).
Ctrl-Z	Ends a configuration session, and returns you to EXEC mode. When used at the end of a command line in which a valid command has been typed, the resulting configuration is first added to the running configuration file.
↑	Displays the previous command in the command history.
↓	Displays the next command in the command history.
→ ←	Moves your cursor through the command history, either forward or backwards, to locate a command string.
?	Displays a list of available commands.
Tab	<p>Completes the word for you after entering the first characters of the word, and then pressing the Tab key. All options that match are presented.</p> <p>Use tabs to complete the following items:</p> <ul style="list-style-type: none"> • Command names • Scheme names in the file system • Server names in the file system • Filenames in the file system <p>Example</p> <pre>switch(config)# xm<Tab> switch(config)# xml <Tab> switch(config)# xml server</pre> <p>Example</p> <pre>switch(config)# c<Tab> callhome class-map clock cts cdp cli control-plane</pre> <p>switch(config)# cl<Tab> class-map cli clock switch(config)# cla<Tab> switch(config)# class-map</p>

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Table 3-3 Keystroke Shortcuts (continued)

Key(s)	Description
	<p>Example</p> <pre>switch# cd bootflash:<Tab> bootflash: bootflash://sup-1/ bootflash://sup-remote/ bootflash:/// bootflash://sup-2/ bootflash://sup-standby/ bootflash://module-5/ bootflash://sup-active/ bootflash://module-6/ bootflash://sup-local/</pre> <p>Example</p> <pre>switch# cd bootflash://mo<Tab> bootflash://module-5/ bootflash://module-6/ cvswitch# cd bootflash://module-</pre>

Abbreviating Commands

You can abbreviate commands and keywords by entering the first few characters of a command. The abbreviation must include sufficient characters to make it unique from other commands or keywords. If you are having trouble entering a command, check the system prompt and enter the question mark (?) for a list of available commands. You might be in the wrong command mode or using incorrect syntax.

Table 3-4 lists examples of command abbreviations.

Table 3-4 Examples of Command Abbreviations

Command	Abbreviation
configure terminal	conf t
copy running-config startup-config	copy run start
interface ethernet 1/2	int e 1/2
show running-config	sh run

Identifying Your Location in the Command Hierarchy

Some features have configuration submode hierarchy nested more than one level. In these cases, you can display information about your present working context (PWC).

SUMMARY STEPS

1. where detail

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DETAILED STEPS

	Command	Purpose
Step 1	<p>where detail</p> <p>Example:</p> <pre>switch# configure terminal switch(config)# interface mgmt0 switch(config-if)# where detail mode: conf interface mgmt0 username: admin vdc: switch routing-context vrf: default</pre>	Displays the PWC.

Using the no Form of a Command

Almost every configuration command has a **no** form that can be used to disable a feature, revert to a default value, or remove a configuration. The Cisco NX-OS command reference publications describe the function of the **no** form of the command whenever a **no** form is available.

This example shows how to disable a feature:

```
switch# configure terminal
switch(config)# feature bgp
switch(config)# no feature bgp
```

This example shows how to revert to the default value for a feature:

```
switch# configure terminal
switch(config)# banner motd #Welcome to the switch#
switch(config)# show banner motd
Welcome to the switch
switch(config)# no banner motd
switch(config)# show banner motd
User Access Verification
```

This example shows how to remove the configuration for a feature:

```
switch# configure terminal
switch(config)# role feature-group name security
switch(config-role-featuregrp)# feature aaa
switch(config-role-featuregrp)# feature radius
switch(config-role-featuregrp)# feature tacacs
switch(config-role-featuregrp)# exit
switch(config)# show role feature-group

feature group: L3
feature: router-bgp
feature: router-eigrp
feature: router-isis
feature: router-ospf
feature: router-rip

feature group: security
feature: aaa
feature: radius
feature: tacacs
switch(config)# no role feature-group name security
```

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```
switch(config)# show role feature-group

feature group: L3
feature: router-bgp
feature: router-eigrp
feature: router-isis
feature: router-ospf
feature: router-rip
```

This example shows how to use the **no** form of a command in EXEC mode:

```
switch# system standby manual-boot
system standby manual-boot option enabled
switch# system no standby manual-boot
system standby manual-boot option disabled
```

Configuring CLI Variables

This section includes the following topics:

- [About CLI Variables, page 3-11](#)
- [Configuring CLI Variables, page 3-11](#)

About CLI Variables

The Cisco NX-OS software supports the definition and use of variables in CLI commands.

You can use CLI variables in the following ways: □

- Entered directly on the command line.
- Passed to a script initiated using the **run-script** command. The variables defined in the parent shell are available for use in the child **run-script** command process (see the [“Running a Command Script” section on page 3-14](#)).

CLI variables have the following characteristics: □

- Cannot have nested references through another variable
- Can exist only for the current session

Cisco NX-OS supports one predefined variable: **TIMESTAMP**. This variable refers to the time of execution of the command in the format **YYYY-MM-DD-HH.MM.SS**.



Note

The **TIMESTAMP** variable name is case sensitive. All letters must be uppercase.

Configuring CLI Variables

You can define CLI session variables to persist only for the duration of your CLI session. These variables are useful for scripts that you execute periodically. You can reference the variable by enclosing the name in parentheses and preceding it with a dollar sign (\$), for example **\$(variable-name)**.

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SUMMARY STEPS

1. **cli var name** *variable-name variable-text*
2. **show cli variables**

DETAILED STEPS

	Command	Purpose
Step 1	cli var name <i>variable-name variable-text</i> Example: switch# cli var name testinterface ethernet 2/1	Configures the CLI session variable. The <i>variable-name</i> argument is alphanumeric, case sensitive, and has a maximum length is 31 characters. The <i>variable-text</i> argument is alphanumeric, case sensitive, can contain spaces, and has a maximum length of 200 characters.
Step 2	show cli variables Example: switch# show cli variables	(Optional) Displays the CLI variable configuration.

Command Aliases

You can define command aliases to replace frequently used commands. The command aliases can represent all or part of the command syntax.



Note

The Cisco NX-OS software provides one default alias, **alias**, which displays all user-defined aliases.

This section includes the following topics:

- [About Command Aliases, page 3-12](#)
- [Defining Command Aliases, page 3-13](#)

About Command Aliases

Command alias support has the following characteristics:

- Command aliases are global for all user sessions.
- Command aliases persist across reboots if you save them to the startup configuration.
- Command alias translation always takes precedence over any keyword in any configuration mode or submode.
- Command alias configuration takes effect for other user sessions immediately.
- You cannot delete or change the default command alias **alias**, which aliases the **show cli alias** command.
- You can nest aliases to a maximum depth of 1. One command alias can refer to another command alias that must refer to a valid command, not to another command alias.
- A command alias always replaces the first command keyword on the command line.

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- You can define command aliases for commands in any command mode.
- If you reference a CLI variable in a command alias, the current value of the variable appears in the alias, not the variable reference.

Defining Command Aliases

You can define command aliases for commonly used commands.

SUMMARY STEPS

1. **configure terminal**
2. **cli alias name** *alias-name alias-text*
3. **exit**
4. **alias**
5. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	configure terminal Example: switch# configure terminal switch(config)#	Enters global configuration mode.
Step 2	cli alias name <i>alias-name</i> <i>alias-text</i> Example: switch(config)# cli alias name ethint interface ethernet	Configures the command alias. The alias name is an alphanumeric string that is not case sensitive and must begin with an alphabetic character. The maximum length is 30 characters.
Step 3	exit Example: switch(config)# exit switch#	Exits global configuration mode.
Step 4	alias Example: switch# alias	(Optional) Displays the command alias configuration.
Step 5	copy running-config startup-config Example: switch# copy running-config startup-config	(Optional) Copies the running configuration to the startup configuration.

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Command Scripts

You can create scripts of commands to perform multiple tasks.

This section includes the following topics:

- [Running a Command Script, page 3-14](#)
- [Echoing Information to the Terminal, page 3-14](#)
- [Echoing Information to the Terminal, page 3-14](#)

Running a Command Script

You can create a list of command in a file and execute them from the CLI. You can use CLI variables in the command script (see the “[Configuring CLI Variables](#)” section on page 3-11).



Note

You cannot create the script files at the CLI prompt. You can create the script file on a remote device and copy it to the Cisco NX-OS device. This section assumes that the script file resides in the bootflash:.

SUMMARY STEPS

1. `run-script filename`

DETAILED STEPS

	Command	Purpose
Step 1	<code>run-script filename</code> Example: <code>switch# run-script testfile</code>	Executes the commands in the file.

Echoing Information to the Terminal

You can echo information to the terminal, which is particularly useful from a command script. You can reference CLI variables and use formatting options in the echoed text. [Table 3-5](#) lists the formatting options you can insert in the text.

Table 3-5 *Formatting Options for the echo Command*

Formatting Option	Description
<code>\b</code>	Back spaces.
<code>\c</code>	Removes the new line character at the end of the text string.
<code>\f</code>	Inserts a form feed character.
<code>\n</code>	Inserts a new line character.
<code>\r</code>	Returns to the beginning of the text line.
<code>\t</code>	Inserts a horizontal tab character.

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Table 3-5 Formatting Options for the echo Command (continued)

Formatting Option	Description
\v	Inserts a vertical tab character.
\\	Displays a backslash character.
\nnn	Displays the corresponding ASCII octal character.

SUMMARY STEPS

1. `echo [-e] [text]`
`echo [backslash-interpret] [text]`

DETAILED STEPS

	Command	Purpose
Step 1	echo [-e] [text] Example: switch# echo This is a test. This is a test.	Displays information on the terminal. In Cisco NX-OS Release 4.0(2) and earlier releases, the -e keyword indicates that the text string contains formatting options (see Table 3-5). The <i>text</i> argument is alphanumeric, case sensitive and can contain blanks. The maximum length is 200 characters. The default is a blank line.
	echo [backslash-interpret] [text] Example: switch# echo This is a test. This is a test.	Displays information on the terminal. In Cisco NX-OS Release 4.0(3) and later releases, the backslash-interpret keyword indicates that the text string contains formatting options (see Table 3-5). The <i>text</i> argument is alphanumeric, case sensitive and can contain blanks. The maximum length is 200 characters. The default is a blank line.

Delaying Command Action

You can delay a command action for a period of time, which is particularly useful with in a command script.

SUMMARY STEPS

1. `sleep seconds`

DETAILED STEPS

	Command	Purpose
Step 1	sleep seconds Example: switch# sleep 30	Cause a delay for a number of second. The range is from 0 to 2147483647.

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Context-Sensitive Help

The Cisco NX-OS software provides context-sensitive help in the CLI. You can use a question mark (?) at any point in a command to list the valid input options.

CLI uses the caret (^) symbol to isolate input errors. The ^ symbol appears at the point in the command string where you have entered an incorrect command, keyword, or argument.

Table 3-6 shows how to use error isolation and context-sensitive help when setting the clock.

Table 3-6 Context-Sensitive Help Example

	Command	Purpose
Step 1	clock ? Example: switch# clock ? set HH:MM:SS Current Time switch# clock	Displays the command syntax for the clock command in EXEC mode. The switch output shows that the set keyword is required for using the clock command.
Step 2	clock set ? Example: switch# clock set ? WORD HH:MM:SS Current Time switch# clock set	Displays the command syntax for setting the time. The help output shows that the current time is required for setting the clock and how to format the time.
Step 3	clock set HH:MM:SS Example: switch# clock set 13:32:00<CR> % Incomplete command switch#	Adds the current time. Switch indicates the command is incomplete.
Step 4	Ctrl-P or the Up Arrow Example: switch# <Ctrl-P> switch# clock set 13:32:00	Displays the previous command that you entered.
Step 5	clock set HH:MM:SS ? Example: switch# clock set 13:32:00 ? <1-31> Day of the month switch# clock set 13:32:00	Displays the additional arguments for the clock set command.

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Special Characters

You can also use other keyboard characters (such as ! or ~) as single-character patterns, but certain keyboard characters have special meanings when used in regular expressions. Table 3-7 lists the keyboard characters that have special meanings.

Table 3-7 Special Characters with Special Meaning

Character	Special Meaning
.	Matches any single character, including white space.
*	Matches 0 or more sequences of the pattern.
+	Matches 1 or more sequences of the pattern.
?	Matches 0 or 1 occurrences of the pattern.
^	Matches the beginning of the string.
\$	Matches the end of the string.
_ (underscore)	Matches a comma (,), left brace ({), right brace (}), left parenthesis ((), right parenthesis ()), the beginning of the string, the end of the string, or a space.

To use these special characters as single-character patterns, remove the special meaning by preceding each character with a backslash (\). This example contains single-character patterns that match a dollar sign (\$), an underscore (_), and a plus sign (+), respectively:

```
\$ \_ \+
```

Single-Character Patterns

The simplest regular expression is a single character that matches the same single character in the command output. You can use any letter (A–Z, a–z) or digit (0–9) as a single-character pattern. You can specify a range of single-character patterns to match against command output.

To specify a range of single-character patterns, enclose the single-character patterns in square brackets ([]). For example, you can create a regular expression that matches a string containing one of the following letters: a, e, i, o, or u. Only one of these characters must exist in the string for pattern matching to succeed. In this case, [aeiou] matches any one of the five vowels of the lowercase alphabet, while [abcdABCD] matches any one of the first four letters of the lowercase or uppercase alphabet. You can simplify ranges by entering only the endpoints of the range separated by a dash (-). Also, you can include a caret (^) at the start of the range to match strings that do not include the range of characters.

Table 3-8 shows examples of regular expressions with ranges of characters.

Table 3-8 Example Expressions with Ranges of Characters

Example	Description
[a-dA-D]	Matches the characters abcdABCD.
[a-dA-D\ -]	Matches the characters abcdABCD and hyphen (-).
[a-dA-D\ -\]]	Matches the characters abcdABDC, hyphen (-), and right square bracket (]).
[^a-dqsv]	Matches any letter except a-dqsv.
[^\]d]	Matches anything except a right square bracket (]) or the letter d.

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Multiple-Character Patterns

You can also specify a pattern containing multiple characters by joining letters, digits, or keyboard characters that do not have special meanings. For example, `a4%` is a multiple-character regular expression.

With multiple-character patterns, the order is important. The regular expression `a4%` matches the character `a` followed by a `4` followed by a percent sign (`%`). If the string does not have `a4%`, in that order, pattern matching fails. The multiple-character regular expression `a.` (the character `a` followed by a period) uses the special meaning of the period character to match the letter `a` followed by any single character. With this example, the strings `ab`, `a!`, or `a2` are all valid matches for the regular expression.

You can remove the special meaning of a special character by inserting a backslash before it. For example, when the expression `a\.` is used in the command syntax, only the string `a.` will be matched.

Anchoring

You can match a regular expression pattern against the beginning or the end of the string by “anchoring” these regular expressions to a portion of the string using the special characters shown in [Table 3-9](#).

Table 3-9 *Special Characters Used for Anchoring*

Character	Description
<code>^</code>	Matches the beginning of the string.
<code>\$</code>	Matches the end of the string.

For example, the regular expression `^con` matches any string that starts with `con`, and `$sole` matches any string that ends with `sole`.



Note

The `^` symbol can also be used to indicate the logical function “not” when used in a bracketed range. For example, the expression `[^abcd]` indicates a range that matches any single letter, as long as it is not the letters `a`, `b`, `c`, or `d`.

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Searching and Filtering show Command Output

Often, the output from **show** commands can be lengthy and cumbersome. The Cisco NX-OS software provides the means to search and filter the output so that you can easily locate information. The searching and filtering options follow a pipe character (|) at the end of the **show** command. You can display the options using the using the CLI context-sensitive help facility:

```
switch# show running-config | ?
  egrep      Egrep
  grep       Grep
  head       Stream Editor
  last       Display last lines
  less       Stream Editor
  no-more    Turn-off pagination for command output
  sed        Stream Editor
  wc         Count words, lines, characters
  begin      Begin with the line that matches
  count      Count number of lines
  exclude    Exclude lines that match
  include    Include lines that match
```

Filtering and Searching Keywords

The Cisco NX-OS CLI provides a set of keywords that you can use with the **show** commands to search and filter the command output (see [Table 3-10](#)).

Table 3-10 Filtering and Searching Keywords

Keyword Syntax	Description	Example
begin <i>string</i>	Starts displaying at the line that contains text that matches the search string. The search string is case sensitive.	show version begin Hardware
count	Displays the number of lines in the command output.	show running-config count
exclude <i>string</i>	Displays all lines that do not include the search string. The search string is case sensitive.	show interface brief exclude down
head [-n <i>lines</i>]	In Cisco NX-OS Release 4.0(2) and earlier releases, displays the beginning of the output for the number of lines specified. The default number of lines is 10.	show logging logfile head -n 50
head [<i>lines</i> <i>lines</i>]	In Cisco NX-OS Release 4.0(3) and later releases, displays the beginning of the output for the number of lines specified. The default number of lines is 10.	show logging logfile head lines 50
include <i>string</i>	Displays all lines that include the search string. The search string is case sensitive.	show interface brief include up
last [<i>lines</i>]	Displays the end of the output for the number of lines specified. The default number of lines is 10.	show logging logfile last lines 50

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Table 3-10 *Filtering and Searching Keywords (continued)*

Keyword Syntax	Description	Example
no-more	Displays all the output without stopping at the end of the screen with the —More— prompt.	show interface brief no-more
wc {-c -l -w}	In Cisco NX-OS Release 4.0(2) and earlier releases, displays counts of characters, lines, or words.	show file testoutput wc -c
wc {bytes lines words}	In Cisco NX-OS Release 4.0(3) and later releases, displays counts of characters, lines, or words.	show file testoutput wc bytes

grep and egrep Utilities

You can use the Global Regular Expression Print (grep) and Extended grep (egrep) command-line utilities to filter the **show** command output as follows:

```
{grep | egrep} [-A lines] [-B lines] [-c] [-i] [-n] [-v] [-w] [-x] expression
```

Table 3-11 describes the grep and egrep parameters.

Table 3-11 *grep and egrep Parameters in Cisco NX-OS 4.0(2) and Earlier Releases*

Parameter	Description
-A lines	Specifies the number of lines to display after a matched line. The default is 0. The range is from 1 to 999.
-B lines	Specifies the number of lines to display before a matched line. The default is 0. The range is from 1 to 999.
-c	Displays only the total count of matched lines.
-i	Specifies to ignore the case difference in matched lines.
-n	Specifies to display the line number before each matched line.
-v	Displays lines that do not match the expression.
-w	Displays only lines that match a complete word.
-x	Displays only lines that match a complete line.
<i>expression</i>	Specifies a regular expression for searching the output.

Table 3-12 *grep and egrep Parameters in Cisco NX-OS 4.0(3) and Later Releases*

Parameter	Description
count	Displays only the total count of matched lines.
ignore-case	Specifies to ignore the case difference in matched lines.
invert-match	Displays lines that do not match the expression.
line-exp	Displays only lines that match a complete line.
line-number	Specifies to display the line number before each matched line.

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Table 3-12 *grep and egrep Parameters in Cisco NX-OS 4.0(3) and Later Releases (continued)*

Parameter	Description
<i>next lines</i>	Specifies the number of lines to display after a matched line. The default is 0. The range is from 1 to 999.
<i>prev lines</i>	Specifies the number of lines to display before a matched line. The default is 0. The range is from 1 to 999.
word-exp	Displays only lines that match a complete word.
<i>expression</i>	Specifies a regular expression for searching the output.

less Utility

You can use the `less` utility to display the contents of the `show` command output one screen at a time. You can enter `less` commands at the `:` prompt. To display all `less` commands you can use, enter `h` at the `:` prompt.

sed Utility

You can use the Stream Editor (`sed`) utility to filter and manipulate the `show` command output as follows:

sed command

The *command* argument contains `sed` utility commands.

Searching and Filtering from the --More-- Prompt

You can search and filter output from `--More--` prompts. To search and filter the `show` command output from a `--More--` prompt, use the commands described in [Table 3-13](#).

Table 3-13 *--More-- Prompt Commands*

Commands	Description
<i>[lines]<space></i>	Displays output lines for either the specified number of lines or the current screen size.
<i>[lines]z</i>	Displays output lines for either the specified number of lines or the current screen size. If you use the <i>lines</i> argument, that value becomes the new default screen size.
<i>[lines]<return></i>	Displays output lines for either the specified number of lines or the current default number of lines. The initial default is 1 line. If you use the optional <i>lines</i> argument, that value becomes the new default number of lines to display for this command.
<i>[lines]d</i> or <i>[lines]Ctrl+shift+D</i>	Scrolls through output lines for either the specified number of lines or the current default number of lines. The initial default is 11 lines. If you use the optional <i>lines</i> argument, that value becomes the new default number of lines to display for this command.
q or Q or Ctrl-C	Exits the <code>--More--</code> prompt.

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Table 3-13 --More-- Prompt Commands (continued)

Commands	Description
[lines]s	Skips forward in the output for either the specified number of lines or the current default number of lines and displays a screen of lines. The default is 1 line.
[lines]f	Skips forward in the output for either the specified number of screens or the current default number of screens and displays a screen of lines. The default is 1 screen.
=	Displays the current line number.
[count]/expression	Skips to the line that matches the regular expression and displays a screen of output lines. Use the optional <i>count</i> argument to search for lines with multiple occurrences of the expression. This command sets the current regular expression that you can use in other commands.
[count]n	Skips to the next line that matches the current regular expression and displays a screen of output lines. Use the optional <i>count</i> argument to skip past matches.
{! : !} shell-cmd	Executes the command specified in the <i>shell-cmd</i> argument in a subshell.
.	Repeats the previous command.

BIOS Loader> Prompt

When the supervisor modules power up, a specialized BIOS image automatically loads and tries to locate a valid kickstart image for booting the system. If a valid kickstart image is not found, the following BIOS loader prompt displays:

```
loader>
```

For information on how to load the Cisco NX-OS software from the loader> prompt, see the *Cisco Nexus 7000 Series NX-OS Troubleshooting Guide, Release 4.0*.

Examples Using the CLI

This section includes the following topics:

- [Defining Command Aliases, page 3-23](#)
- [Using CLI Session Variables, page 3-24](#)
- [Using the System-Defined Timestamp Variable, page 3-24](#)
- [Running a Command Script, page 3-25](#)

Defining Command Aliases

This example shows how to define command aliases:

```
cli alias name ethint interface ethernet
cli alias name shintbr show interface brief
cli alias name shintupbr shintbr | include up | include ethernet
```

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This example shows how to use a command alias:

```
switch# configure terminal
switch(config)# ethint 2/3
switch(config-if)#
```

Using CLI Session Variables

You can reference a variable using the syntax `$(variable-name)`.

This example shows how to reference a user-defined CLI session variable:

```
switch# show interface $(testinterface)
Ethernet2/1 is down (Administratively down)
  Hardware is 10/100/1000 Ethernet, address is 0000.0000.0000 (bia 0019.076c.4da
c)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  auto-duplex, auto-speed
  Beacon is turned off
  Auto-Negotiation is turned on
  Input flow-control is off, output flow-control is off
  Auto-mdix is turned on
  Switchport monitor is off
  Last clearing of "show interface" counters never
  5 minute input rate 0 bytes/sec, 0 packets/sec
  5 minute output rate 0 bytes/sec, 0 packets/sec
  L3 in Switched:
    ucast: 0 pkts, 0 bytes - mcast: 0 pkts, 0 bytes
  L3 out Switched:
    ucast: 0 pkts, 0 bytes - mcast: 0 pkts, 0 bytes
  Rx
    0 input packets 0 unicast packets 0 multicast packets
    0 broadcast packets 0 jumbo packets 0 storm suppression packets
    0 bytes
  Tx
    0 output packets 0 multicast packets
    0 broadcast packets 0 jumbo packets
    0 bytes
    0 input error 0 short frame 0 watchdog
    0 no buffer 0 runt 0 CRC 0 ecc
    0 overrun 0 underrun 0 ignored 0 bad etype drop
    0 bad proto drop 0 if down drop 0 input with dribble
    0 input discard
    0 output error 0 collision 0 deferred
    0 late collision 0 lost carrier 0 no carrier
    0 babble
    0 Rx pause 0 Tx pause 0 reset
```

Using the System-Defined Timestamp Variable

This example uses `$(TIMESTAMP)` when redirecting `show` command output to a file.

```
switch# show running-config > rcfg.$(TIMESTAMP)
Preparing to copy...done
switch# dir
12667      May 01 12:27:59 2008  rcfg.2008-05-01-12.27.59
```

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```
Usage for bootflash://sup-local
8192 bytes used
20963328 bytes free
20971520 bytes total
```

Running a Command Script

This example displays the CLI commands specified in the script file:

```
switch# show file testfile
configure terminal
interface ethernet 2/1
no shutdown
end
show interface ethernet 2/1
```

This example displays the **run-script** command execution output:

```
switch# run-script testfile
`configure terminal`
`interface ethernet 2/1`
`no shutdown`
`end`
`show interface ethernet 2/1 `
Ethernet2/1 is down (Link not connected)
  Hardware is 10/100/1000 Ethernet, address is 0019.076c.4dac (bia 0019.076c.4dac)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  Port mode is trunk
  auto-duplex, auto-speed
  Beacon is turned off
  Auto-Negotiation is turned on
  Input flow-control is off, output flow-control is off
  Auto-mdix is turned on
  Switchport monitor is off
  Last clearing of "show interface" counters 1d26.2uh
  5 minute input rate 0 bytes/sec, 0 packets/sec
  5 minute output rate 0 bytes/sec, 0 packets/sec
Rx
  0 input packets 0 unicast packets 0 multicast packets
  0 broadcast packets 0 jumbo packets 0 storm suppression packets
  0 bytes
Tx
  0 output packets 0 multicast packets
  0 broadcast packets 0 jumbo packets
  0 bytes
  0 input error 0 short frame 0 watchdog
  0 no buffer 0 runt 0 CRC 0 ecc
  0 overrun 0 underrun 0 ignored 0 bad etype drop
  0 bad proto drop 0 if down drop 0 input with dribble
  0 input discard
  0 output error 0 collision 0 deferred
  0 late collision 0 lost carrier 0 no carrier
  0 babble
  0 Rx pause 0 Tx pause 0 reset
```

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Additional References

For additional information related to implementing Feature-1, see the following sections:

- [Related Documents, page 3-26](#)

Related Documents

Related Topic	Document Title
Licensing	<i>Cisco Nexus 7000 Series NX-OS Licensing Guide, Release 4.0</i>
Command reference	<i>Cisco Nexus 7000 Series NX-OS Fundamentals Command Reference, Release 4.0</i>