



# Using the Command-Line Interface

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## Information About the CLI Prompt

After you have successfully accessed the system, the CLI prompt displays in the terminal window of your console port or remote workstation, as follows:

```
switch#
```

You can change this switch prompt to another name or leave it as it is.

```
switch# configure  
switch(config)# hostname vsg100  
vsg100(config)# exit  
vsg100#
```

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

## Information About Command Modes

The CLI is divided into command modes that define the actions available to the user. Command modes are “nested” and are accessed in sequence. When you first log in, you are placed in CLI EXEC mode.

As you navigate from EXEC mode to global configuration mode, a larger set of commands is available to you. To transition to global configuration mode, enter the following command:

```
config t
```

The following table shows how command access builds from user EXEC to global configuration mode.

**Table 1: Accessing the Global Configuration Mode**

Command Mode	Prompt	Description
EXEC	vsg#	<ul style="list-style-type: none"> <li>• Connect to remote devices.</li> <li>• Temporarily change terminal line settings.</li> <li>• Perform basic tests.</li> <li>• List system information (show).</li> </ul>
Global configuration	vsg(config)#	Includes access to EXEC commands. <ul style="list-style-type: none"> <li>• Connect to remote devices.</li> <li>• Temporarily change terminal line settings.</li> <li>• Perform basic tests.</li> <li>• List system information (show).</li> </ul>

All commands in EXEC command mode are accessible from the global configuration command mode. For example, the **show** commands are available from any command mode.

## EXEC Command Mode

When you first log in, you are placed into 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 widest range of commands, including those commands used to make configuration changes that are saved by the device and can be stored and applied when the device is rebooted.

Commands entered in global configuration mode update the running configuration file as soon as they are entered but must also be saved into the startup configuration file by using the following command:

```
copy running-config startup-config
```

In global configuration mode, you can access protocol-specific, platform-specific, and feature-specific configuration modes.

## Exiting a Configuration Mode

To exit from any configuration mode, use one of the following commands:

Command	Purpose	Example
<b>exit</b>	Exits from the current configuration command mode and returns to the previous configuration command mode.	<code>vsg(config-rule)# <b>exit</b></code> <code>vsg(config)#</code>
<b>end</b>	Exits from the configuration command mode and returns to EXEC mode.	<code>vsg(config)# <b>end</b></code> <code>vsg#</code>
Ctrl-Z	Exits the current configuration command mode and returns to EXEC mode.  <b>Caution</b> If you press 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 <b>exit</b> or <b>end</b> command.	<code>vsg(config)# <b>^z</b></code> <code>vsg#</code>

## Command Mode Summary

**Table 2: Command Mode Summary**

Mode	Access Method	Prompt	Exit Method
EXEC	From the login prompt, enter your username and password.	VSG#	To exit to the login prompt, use the <b>exit</b> command.
Global configuration	From EXEC mode, enter the <b>configure</b> command.	VSG(config)#	To exit to EXEC mode, use the <b>end</b> or <b>exit</b> command or press Ctrl-Z.
Zone configuration	From global configuration mode, enter the <b>zonezone-name</b> command.	VSG(config-zone)#	To exit to global configuration mode, use the <b>exit</b> command. To exit to EXEC mode, use the <b>end</b> command or press Ctrl-Z.
data0 interface configuration	From global configuration mode, enter the <b>interface data0</b> command.	VSG(config-if)#	To exit to global configuration mode, use the <b>exit</b> command. To exit to EXEC mode, use the <b>end</b> command or press Ctrl-Z.

## Saving CLI Configuration Changes

### Running Configuration

The running configuration is the configuration that is currently running on the device. It includes configuration changes from commands entered since the last time the device was restarted. If the device is restarted, the running configuration is replaced with a copy of the startup configuration. Any changes that were made to the running configuration but were not copied to the startup configuration are discarded.

### Startup Configuration

The startup configuration is the configuration that is saved and that will be used by the device when you restart it. When you make configuration changes to the device, they are automatically saved in the running configuration. If you want configuration changes saved permanently, you must copy them to the startup configuration so that they are preserved when the device is rebooted or restarted.

## Copying the Running Configuration to the Startup Configuration

To copy changes you have made to the running configuration into the startup configuration so that they are saved persistently through reboots and restarts, use the following command:

```
vsg(config)#copy running-config startup-config
```

## Special Characters

The following table lists the characters that have special meaning in text strings and should be used only in regular expressions or other special contexts.

**Table 3: Special Characters**

Character	Description
	Vertical bar
<>	Less than or greater than

## Keystroke Shortcuts

The following lists command key combinations that can be used in both EXEC and configuration modes.

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.

Key(s)	Description
Ctrl-K	Deletes all characters from the cursor to the end of the command line.
Ctrl-L	Redisplays the current command line.
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.
Ctrl-U	Deletes all characters from the cursor to the beginning of the command line.
Ctrl-W	Deletes the word to the left of the cursor.
Ctrl-X, H	Lists history. 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.
UP arrow key	Displays the previous command in the command history.
Down arrow key	Displays the next command in the command history.
Right arrow key and Left arrow key	Moves your cursor through the command history directionally to locate a command string.
?	Displays a list of available commands.

Key(s)	Description
Tab	<p>Completes the word for you after you enter the first characters of the word and then press the Tab key. All options that match are presented.</p> <p>Used to complete:</p> <ul style="list-style-type: none"> <li>• Command names</li> <li>• Scheme names in the file system</li> <li>• Server names in the file system</li> <li>• File names in the file system</li> </ul> <p>This example shows how to use the tab keystroke:</p> <pre>vsg(config)# xm&lt;Tab&gt; vsg(config)# xml &lt;Tab&gt; vsg(config)# xml server</pre> <p>This example shows how to use the tab keystroke:</p> <pre>vsg(config)# ns&lt;Tab&gt; nsc-policy-agent vns-binding vsg(config)# security-pr&lt;Tab&gt; vsg(config)# security-profile</pre>

## Abbreviating Commands

You can abbreviate commands and keywords by entering the first few characters of a command. The abbreviation must include enough 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.

The following table lists examples of command abbreviations.

**Table 4: Examples of Command Abbreviations**

Command	Abbreviation
configure	conf
copy running-config startup-config	copy run start
show running-config	sho run

## Using the no Form of a Command

Almost every configuration command has a no form that can be used to disable a feature or function. For example, to remove a VLAN, use the no vlan command. To reenable it, use the vlan command form.

For example, if you use the boot command in global configuration mode, you can then use the no boot command to undo the results:

```
vsg(config)# boot system bootflash: svsl.bin
vsg(config)# no boot system bootflash: svsl.bin
```

## Using Help

The CLI provides the following help features.

**Table 5: CLI Help Features**

Feature	Description
?	Type the question mark (?) to list the valid input options.
^	The CLI prints the caret (^) symbol below a line of syntax to point to an input error in the command string, keyword, or argument.
UP arrow key	Use the UP arrow to have the CLI display the previous command you entered so that you can correct an error.

## Syntax Error Isolation and Context-Sensitive Help

The following table describes the commands for syntax error isolation and context-sensitive help.

Command	Purpose
<b>show interface ?</b>	Displays the optional parameters used with the <b>show interface</b> command in EXEC mode.
<b>show interface module ?</b>	Displays an invalid command error message and points (^) to the syntax error.
<b>Ctrl-P</b> or the Up Arrow	Displays the previous command you entered so that you can correct the error.
<b>show interface data ?</b>	Displays the syntax for showing a data interface (data0).



Command	Purpose
<b>show interface data0</b>	Displays the data interface (data0).

This example shows how to use syntax error isolation and context-sensitive help.

```
vsg# show interface ?
<CR>
>          Redirect it to a file
>>        Redirect it to a file in append mode
brief      Show brief info of interface
capabilities Show interface capabilities information
data       data interface
counters   Show interface counters
description Show interface description
mac-address Show interface MAC address
mgmt       Management interface
snmp-ifindex Show snmp ifindex list
status     Show interface line status
switchport Show interface switchport information
transceiver Show interface transceiver information
trunk      Show interface trunk information
|          Pipe command output to filter
vsg#
vsg# show interface module ?
          ^
Invalid command (interface name) at '^' marker.
?
vsg#
vsg# <Ctrl-P>
vsg# show interface data
vsg# show interface data ?
    <0-0> Control interface number
vsg#
vsg# show interface data0
data0 is up
  Hardware: Ethernet, address: 0050.5691.53b6 (bia
0050.5691.53b6)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA
full-duplex, 1000 Mb/s
Auto-Negotiation is turned on
1 minute input rate 1920 bits/sec, 0 packets/sec
1 minute output rate 24 bits/sec, 0 packets/sec
Rx
  91082 input packets 0 unicast packets 2935 multicast
packets
  88147 broadcast packets 20642956 bytes
Tx
  21968 output packets 0 unicast packets 21968 multicast
packets
  0 broadcast packets 5228289 bytes
vsg#
```

