



# Overview of the Command-Line Interface

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This chapter provides an overview of how to access the command-line interface (CLI), the different command modes, and the commands that are available in each mode.

You can configure and monitor the through the web interface. You can also use the CLI to perform the configuration and monitoring tasks described in this guide.

- [Accessing the Command Environment, on page 2](#)
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# Accessing the Command Environment

You can access the CLI through a secure shell (SSH) client or the console port using one of the following machines:

- Windows PC running Windows 7, 8, and 10.
- Apple Computer running Mac OS X 10.4 or later
- PC running Linux

# User Accounts and Modes in CLI

The below mentioned types of accounts are available on the CLI:

- Admin (administrator)
- Network Admin
- Security Admin
- User

When you power on the appliance for the first time, you are prompted to run the setup utility to configure the appliances. During this setup process, an administrator user account, also known as an Admin account, is created. After you enter the initial configuration information, the appliance automatically reboots and prompts you to enter the username and the password that you specified for the Admin account. You must use this Admin account to log in to the CLI for the first time.

An Admin can create and manage user accounts (which have limited privileges and access to the server). An Admin account also provides the functionality that is needed to use the CLI.

To create more users (with admin, security-admin, network-admin, and user privileges) with SSH access to the CLI, you must enter the **username** command in configuration mode (see [Command Modes in the CLI](#)).



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**Note** A user with an admin role can be assigned for user admin role alone and not with any other user role type mentioned above, once the installation is completed.

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Logging in to the server places you in user mode or admin (EXEC) mode, which always requires a username and password for authentication.

You can tell which mode you are in by looking at the prompt. A right angle bracket (>) appears at the end of user mode prompt; a pound sign (#) appears at the end of admin mode prompt, regardless of the submode.

# Command Modes in the CLI

This section describes the command modes supported in .

## EXEC Commands

EXEC commands primarily include system-level commands such as **show** and **reload** (for example, application installation, application start and stop, copy files and installations, restore backups, and display information).

- [Table 1: Summary of EXEC Commands](#) describes the EXEC commands
- [Table 2: Summary of show Commands](#) describes the show commands in EXEC mode

For detailed information on EXEC commands, see [Understanding Command Modes, page 2-5](#).

## EXEC or System-Level Commands

[Table 1: Summary of EXEC Commands](#) describes EXEC mode commands.

*Table 1: Summary of EXEC Commands*

	Description
<b>application install</b>	Installs a specific application bundle.
<b>application start</b>	Starts or enables a specific application.
<b>application stop</b>	Stops or disables a specific application.
<b>application upgrade</b>	Upgrades a specific application bundle.
<b>backup</b>	Performs a backup and places the backup in a repository.
<b>backup-logs</b>	Performs a backup of all of the logs on the to a remote location.
<b>banner</b>	Sets messages while logging in to CLI (pre-login).
<b>clock</b>	Sets the system clock on the server.
<b>configure</b>	Enters configuration mode.
<b>copy</b>	Copies any file from a source to a destination.
<b>debug</b>	Displays any errors or events for various command situations; for example, backup and restore, configuration, copy, resource locking, file transfer, and user management.
<b>delete</b>	Deletes a file in the server.
<b>dir</b>	Lists the files in the server.

	<b>Description</b>
<b>exit</b>	Disconnects the encrypted session with a remote system. Exits from the current command mode to the previous command mode.
<b>forceout</b>	Forces the logout of all of the sessions of a specific server system user.
<b>halt</b>	Disables or shuts down the server.
<b>lms</b>	Migrates data from LMS server to PI server.
<b>mkdir</b>	Creates a new directory.
<b>ncs</b>	NCS-related commands used to start, stop and back up the server.
<b>nslookup</b>	Queries the IPv4 address or hostname of a remote system.
<b>ocsp</b>	Enables certificate-based authentication for web clients using OCSP responders.
<b>patch</b>	Installs System or Application patch.
<b>ping</b>	Determines the IPv4 network connectivity to a remote system.
<b>ping6</b>	Determines the IPv6 network connectivity to a remote system.
<b>reload</b>	Reboots the server.
<b>restore</b>	Restores a previous backup.
<b>rmdir</b>	Removes an existing directory.
<b>rsakey</b>	Displays a configured RSA key or sets a new RSA public key for user authentication.
<b>show</b>	Provides information about the server.
<b>ssh</b>	Starts an encrypted session with a remote system.
<b>tech</b>	Provides Cisco Technical Assistance Center (TAC) commands.
<b>telnet</b>	Establishes a Telnet connection to a remote system.
<b>terminal length</b>	Sets terminal line parameters.
<b>terminal session-timeout</b>	Sets the inactivity timeout for all terminal sessions.

	Description
<b>terminal session-welcome</b>	Sets the welcome message on the system for all terminal sessions.
<b>terminal terminal-type</b>	Specifies the type of terminal connected to the current line of the current session.
<b>tracert</b>	Traces the route of a remote IP address.
<b>undebug</b>	Disables the output (display of errors or events) of the <b>debug</b> command for various command situations; for example, backup and restore, configuration, copy, resource locking, file transfer, and user management.
<b>write</b>	Erases the startup configuration that forces to run the setup utility and prompt the network configuration, copies the running configuration to the startup configuration, and displays the running configuration on the console.

## show Commands

The **show** commands are used to display the settings and are among the most useful commands. See [Table 2: Summary of show Commands](#) for a summary of the **show** commands. The **show** commands must be followed by a keyword; for example, **show application status**. Some **show** commands require an argument or variable after the keyword to function; for example, **show application version**.

*Table 2: Summary of show Commands*

	Description
<b>application (requires keyword)</b>	Displays information about the installed application; for example, status information or version information.
<b>backup (requires keyword)</b>	Displays information about the backup.
<b>banner (requires keyword)</b>	Sets up messages when logging in to CLI.
<b>cdp (requires keyword)</b>	Displays information about the enabled Cisco Discovery Protocol interfaces.
<b>clock</b>	Displays the day, date, time, time zone, and year of the system clock.
<b>cpu</b>	Displays CPU information.
<b>disks</b>	Displays file-system information of the disks.
<b>icmp-status</b>	Displays the Internet Control Message Protocol (ICMP) echo response configuration information.
<b>interface</b>	Displays statistics for all of the interfaces configured on the .

	Description
<b>inventory</b>	Displays information about the hardware inventory, including the appliance model and serial number.
<b>ip route</b>	Displays s ip route details of the application.
<b>logging (requires keyword)</b>	Displays the server logging information.
<b>logins (requires keyword)</b>	Displays the login history of the server.
<b>memory</b>	Displays memory usage by all running processes.
<b>ntp</b>	Displays the status of the Network Time Protocol (NTP) servers.
<b>ports</b>	Displays all of the processes listening on the active ports.
<b>process</b>	Displays information about the active processes of the server.
<b>repository (requires keyword)</b>	Displays the file contents of a specific repository.
<b>restore (requires keyword)</b>	Displays the restore history in the .
<b>running-config</b>	Displays the contents of the configuration file that currently runs in the .
<b>startup-config</b>	Displays the contents of the startup configuration in the .
<b>tech-support</b>	Displays system and configuration information that you can provide to the TAC when you report a problem.
<b>terminal</b>	Displays information about the terminal configuration parameter settings for the current terminal line.
<b>timezone</b>	Displays the current time zone in the .
<b>timezones</b>	Displays all of the time zones available for use in the .
<b>udi</b>	Displays information about the unique device identifier (UDI) of the .
<b>uptime</b>	Displays how long the system you are logged in to has been up and running.
<b>users</b>	Displays information about the system users.
<b>version</b>	Displays information about the currently loaded software version, along with hardware and device information.

## Configuration Commands

Configuration commands include **interface** and **repository**. To access configuration mode, run the **configure** command in EXEC mode.

Some of the configuration commands require that you enter the configuration submode to complete the configuration.

[Table 3: Summary of Configuration Commands](#) describes the configuration commands.

**Table 3: Summary of Configuration Commands**

	Description
<b>aaa authentication</b>	Logs in to Prime Infrastructure server remotely.
<b>backup-staging-url</b>	Specifies a Network File System (NFS) temporary space or staging area for the remote directory for backup and restore operations.
<b>cdp holdtime</b>	Specifies the amount of time the receiving device should hold a Cisco Discovery Protocol packet from the server before discarding it.
<b>cdp run</b>	Enables Cisco Discovery Protocol.
<b>cdp timer</b>	Specifies how often the server sends Cisco Discovery Protocol updates.
<b>clock timezone</b>	Sets the time zone for display purposes.
<b>do</b>	Executes an EXEC-level command from configuration mode or any configuration submode.  <b>Note</b> To initiate, the <b>do</b> command precedes the EXEC command.
<b>end</b>	Returns to EXEC mode.
<b>exit</b>	Exits configuration mode.
<b>hostname</b>	Sets the hostname of the system.
<b>icmp echo</b>	Configures the ICMP echo requests.
<b>interface</b>	Configures an interface type and enters interface configuration mode.
<b>ipv6 address autoconfig</b>	Enables IPv6 stateless autoconfiguration in interface configuration mode.
<b>ipv6 address dhcp</b>	Enables IPv6 address DHCP in interface configuration mode.



	Description
<b>ip address</b>	Sets the IP address and netmask for the Ethernet interface.  <b>Note</b> This is an interface configuration command.
<b>ip default-gateway</b>	Defines or sets a default gateway with an IP address.
<b>ip domain-name</b>	Defines a default domain name that a server uses to complete hostnames.
<b>ip dnssec</b>	Enables DNS Security Extensions for use during a DNS query.
<b>ip name-server</b>	Sets the Domain Name System (DNS) servers for use during a DNS query.
<b>kron occurrence</b>	Schedule one or more Command Scheduler commands to run at a specific date and time or a recurring level.
<b>kron policy-list</b>	Specifies a name for a Command Scheduler policy.
<b>logging</b>	Enables the system to forward logs to a remote system.
<b>logging loglevel</b>	Configures the log level for the <b>logging</b> command.
<b>no</b>	Disables or removes the function associated with the command.
<b>ntp</b>	Synchronizes the software clock through the NTP server for the system.
<b>password-policy</b>	Enables and configures the password policy.
<b>repository</b>	Enters repository submode.
<b>service</b>	Specifies the type of service to manage.
<b>snmp-server community</b>	Sets up the community access string to permit access to the Simple Network Management Protocol (SNMP).
<b>snmp-server contact</b>	Configures the SNMP contact the Management Information Base (MIB) value on the system.
<b>snmp-server host</b>	Sends SNMP traps to a remote system.
<b>snmp-server location</b>	Configures the SNMP location MIB value on the system.
<b>username</b>	Adds a user to the system with a password and a privilege level.

For detailed information on configuration mode and submode commands, see [Understanding Command Modes, page 2-5](#).

# CLI Audit

You must have administrator access to execute the configuration commands. Whenever an administrator logs in to configuration mode and executes a command that causes configurational changes in the server, the information related to those changes is logged in the operational logs.

[Table 4: Configuration Mode Commands for the Operation Log](#) describes configuration mode commands that generate operational logs.

**Table 4: Configuration Mode Commands for the Operation Log**

	Description
<b>clock</b>	Sets the system clock on the server.
<b>ip name-server</b>	Sets the DNS servers for use during a DNS query.
<b>hostname</b>	Sets the hostname of the system.
<b>ip address</b>	Sets the IP address and netmask for the Ethernet interface.
<b>ntp server</b>	Allows synchronization of the software clock by the NTP server for the system.

In addition to configuration mode commands, some commands in EXEC mode generate operational logs.

[Table 5: EXEC Mode Commands for the Operation Log](#) describes EXEC mode commands that generate operational logs.

**Table 5: EXEC Mode Commands for the Operation Log**

	Description
<b>backup</b>	Performs a backup and places the backup in a repository.
<b>restore</b>	Restores from backup the file contents of a specific repository.
<b>backup-logs</b>	Backs up system logs.

