



Overview of the Cisco ISE CLI

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User Accounts in the Cisco ISE CLI

Here are two types of Cisco ISE CLI user accounts:

- **admin (administrator)**—an administrator user account that creates and manages other user accounts as well as configures functions in the Cisco ISE CLI.
- **operator (user)**—a user account with limited privileges and access to the Cisco ISE server.

When you power up Cisco ISE appliances for the first time, you are prompted to run the **setup** utility to configure them. During this setup process, an admin account is created. After you enter the initial configuration information, the appliances automatically reboot and prompt 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 Cisco ISE CLI for the first time.

To create additional admin and operator user accounts and access the Cisco ISE CLI using SSH, you enter the **username** command in configuration mode (see the [username, page A-152](#)).

You can tell which mode you are in by looking at the prompt. Logging in to the Cisco ISE node places you in the admin (EXEC) mode or the Operator (user) mode, which always requires a username and password for authentication. A pound sign (#) appears at the end of the prompt for an admin account and a right angle bracket (>) appears at the end of the prompt for an Operator account, regardless of the submode.

Table 1-1 *Cisco ISE CLI User Account Command Privileges*

Command	Command Mode	User Account	
		Admin	Operator
application	EXEC	*	—
backup	EXEC	*	—
backup-logs	EXEC	*	—
cdp run	Configuration,	*	—

Table 1-1 *Cisco ISE CLI User Account Command Privileges (continued)*

Command	Command Mode	User Account	
		Admin	Operator
clock	EXEC, Configuration	*	—
conn-limit	Configuration	*	—
configure terminal	EXEC	*	—
copy	EXEC	*	—
crypto	EXEC	*	—
debug	EXEC	*	—
delete	EXEC	*	—
dir	EXEC	*	—
end	Configuration	*	—
exit	EXEC	*	*
forceout	EXEC	*	—
halt	EXEC	*	—
hostname	Configuration	*	—
icmp	Configuration	*	—
interface	Configuration	*	—
ip default-gateway	Configuration	*	—
ip domain-name	Configuration	*	—
ip host	Configuration	*	—
ip name-server	Configuration	*	—
ip route	Configuration	*	—
kron	Configuration	*	—
logging	Configuration	*	—
max-ssh-sessions	Configuration	*	—
mkdir	EXEC	*	—
nslookup	EXEC	*	*
ntp	Configuration	*	—
ntp server	Configuration	*	—
password	EXEC	*	—
password policy	Configuration	*	—
patch	EXEC	*	—
patch install	EXEC	*	—
patch remove	EXEC	*	—
pep (Inline Posture node)	EXEC	*	—
ping	EXEC	*	—
ping6	EXEC	*	*

Table 1-1 Cisco ISE CLI User Account Command Privileges (continued)

Command	Command Mode	User Account	
		Admin	Operator
reload	EXEC	*	—
rate-limit	Configuration	*	—
repository	Configuration	*	—
restore	EXEC	*	—
rmdir	EXEC	*	—
service	Configuration	*	—
show application	EXEC	*	—
show backup	EXEC	*	—
show cdp	EXEC	*	*
show clock	EXEC	*	*
show cpu	EXEC	*	*
show disks	EXEC	*	*
show icmp_status	EXEC	*	*
show interface	EXEC	*	*
show inventory	EXEC	*	*
show ip route	EXEC	*	—
show logging	EXEC	*	—
show logins	EXEC	*	*
show memory	EXEC	*	*
show ntp	EXEC	*	*
show pep	EXEC	*	*
show ports	EXEC	*	*
show process	EXEC	*	*
show repository	EXEC	*	—
show restore	EXEC	*	—
show running-config	EXEC	*	—
show startup-config	EXEC	*	—
show tech-support	EXEC	*	—
show terminal	EXEC	*	*
show timezone	EXEC	*	*
show timezones	EXEC	*	—
show udi	EXEC	*	*
show uptime	EXEC	*	*
show users	EXEC	*	—
show version	EXEC	*	*

Table 1-1 Cisco ISE CLI User Account Command Privileges (continued)

Command	Command Mode	User Account	
		Admin	Operator
snmp-server	Configuration	*	—
ssh	EXEC	*	*
tech	EXEC	*	
telnet	EXEC	*	*
terminal	EXEC	*	*
traceroute	EXEC	*	*
undebug	EXEC	*	—
username	Configuration	*	—
write	EXEC	*	—

Command Modes in the Cisco ISE CLI

The Cisco ISE CLI supports the following command modes:

- EXEC—Use commands in EXEC mode to perform system-level configuration and generate operational logs. See [EXEC Commands, page 1-7](#), and [Table 1-7](#).
- Configuration—Use commands in configuration mode to perform configuration tasks in Cisco ISE and generate operational logs. See [Configuration Commands, page 1-11](#) and [Table 1-6](#).

Understanding Command Modes

This section describes the Cisco ISE command modes in detail. The primary modes of operation are:

- [EXEC Mode, page 1-4](#)
- [Configuration Mode, page 1-5](#)
- [Configuration Submodes, page 1-6](#)

EXEC Mode

When you start a session in the Cisco ISE CLI, you begin in EXEC mode. From the EXEC mode, you can enter in to the configuration mode. Most of the EXEC commands (one-time commands), such as **show** commands, display the current configuration status. The EXEC mode prompt consists of the device name or hostname before a pound sign (#), as shown:

```
ise/admin# (EXEC mode)
```



Note

Throughout this guide in the examples, we use *ise* for the hostname and *admin* for the user account.

You can always tell when you are in EXEC mode or configuration mode by looking at the prompt.

- In EXEC mode, a pound sign (#) appears after the Cisco ISE server hostname and your username.

For example:

```
ise/admin#
```

- In configuration mode, the 'config' keyword and a pound sign (#) appear after the hostname of the Cisco ISE server and your username.

For example:

```
ise/admin# config
Enter configuration commands, one per line. End with CNTL/Z.
ise/admin(config)# (configuration mode)
```

If you are familiar with UNIX, you can equate EXEC mode to root access. It is also similar to the administrator level in Windows NT and the supervisor in NetWare. In EXEC mode, you have permission to access everything in the Cisco ISE server, including configuration commands. However, you cannot enter configuration commands directly. Before you can change the actual configuration of the Cisco ISE server, you must enter configuration mode by running the **configure** or **configure terminal (conf t)** command. Enter this command only when in EXEC mode.

For example:

```
ise/admin# configure terminal
Enter configuration commands, one per line. End with CNTL-Z.
ise(config)# (configuration mode)
```

The configuration mode has several submodes; each has its own prompt. To enter these submodes, you must first enter configuration mode by entering the **configure terminal** command.

To exit configuration mode, enter the **end**, **exit**, or **Ctrl-z** command. To exit EXEC mode, enter the **exit** command. To exit both Configuration and EXEC modes, enter this sequence of commands:

```
ise/admin(config)# exit
ise/admin# exit
```

To obtain a listing of commands in EXEC mode, enter a question mark (?):

```
ise/admin# ?
```

Configuration Mode

Use configuration mode to make changes to the existing configuration. When you save the configuration, these commands remain across Cisco ISE server reboots, but only if you run either of these commands:

- **copy running-config startup-config**
- **write memory**

To enter configuration mode, run the **configure** or **configure terminal (conf t)** command in EXEC mode. When in configuration mode, the Cisco ISE expects configuration commands.

For example:

```
ise/admin# configure
Enter configuration commands, one per line. End with CNTL-Z.
ise/admin(config)# (configuration mode)
```

From this level, you can enter commands directly into the Cisco ISE configuration. To obtain a listing of commands in this mode, enter a question mark (?):

```
ise/admin(config)# ?
```

The configuration mode has several configuration submodes. Each of these submodes places you deeper in the prompt hierarchy. When you enter **exit**, the Cisco ISE backs you out one level and returns you to the previous level. When you enter **exit** again, the Cisco ISE backs you out to the EXEC level.

**Note**

In configuration mode, you can alternatively enter **Ctrl-z** instead of the **end** or **exit** command.

Configuration Submodes

In the configuration submodes, you can enter commands for specific configurations. For example:

```
ise/admin# configure terminal
ise/admin(config)# interface GigabitEthernet 0
ise/admin(config-GigabitEthernet)#
```

To obtain a list of commands in this mode, enter a question mark (?):

```
ise/admin(config-GigabitEthernet)# ?
```

Use the **exit** or **end** command to exit this prompt and return to the configuration prompt.

Table 1-2 lists the commands in the interface GigabitEthernet 0 configuration submode. Other configuration submodes exist including those specific to the **kron**, **repository**, and **password policy** commands.

Table 1-2 Command Options in the Interface GigabitEthernet 0 Configuration Submode

Command	Comment
<pre>ise/admin(config)# interface GigabitEthernet 0 ise/admin(config-GigabitEthernet)# ? Configure ethernet interface: do EXEC command end Exit from configure mode exit Exit from this submode ip Configure IP features ipv6 Configure IPv6 features no Negate a command or set its defaults shutdown Shutdown the interface ise/admin(config-GigabitEthernet)#</pre>	<p>Enter the command that you want to configure for the interface. This example uses the interface GigabitEthernet command.</p> <p>Enter ? to display what you must enter next on the command line. This example shows the available interface GigabitEthernet configuration submode commands.</p>
<pre>ise/admin(config-GigabitEthernet)# ip ? address Configure IP address ise/admin(config-GigabitEthernet)# ip</pre>	<p>Enter the command that you want to configure for the interface. This example uses the ip command.</p> <p>Enter ? to display what you must enter next on the command line. This example shows the available ip configuration submode commands.</p>

Table 1-2 *Command Options in the Interface GigabitEthernet 0 Configuration Submode*

Command	Comment
<pre>ise/admin(config-GigabitEthernet)# ip address ? <A.B.C.D> IPv4 address ise/admin(config-GigabitEthernet) ip address</pre>	<p>Enter the command that you want to configure for the interface. This example uses the ip address command.</p> <p>Enter ? to display what you must enter next on the command line. In this example, you must enter an IPv4 address.</p> <p>A carriage return <cr> does not appear; therefore, you must enter additional arguments to complete the command.</p>
<pre>ise/admin(config-GigabitEthernet)# ip address 172.16.0.1 ? <A.B.C.D> Network mask ise/admin(config-GigabitEthernet)# ip address 172.16.0.1</pre>	<p>Enter the keyword or argument that you want to use. This example uses the 172.16.0.1 IP address.</p> <p>Enter ? to display what you must enter next on the command line. In this example, you must enter a network mask.</p> <p>A carriage return <cr> does not display; therefore, you must enter additional arguments to complete the command.</p>
<pre>ise/admin(config-GigabitEthernet)# ip address 172.16.0.1 255.255.255.224 ? <cr> Carriage Return ise/admin(config-GigabitEthernet)# ip address 172.16.0.1 255.255.255.224</pre>	<p>Enter the network mask. This example uses the 255.255.255.224 IP address.</p> <p>Enter ? to display what you must enter next on the command line. In this example, you can press Enter.</p> <p>A carriage return <cr> displays; you can press Enter to complete the command.</p>

EXEC Commands

EXEC commands are primarily system-level configuration commands.

- [Table 1-3](#) describes the EXEC commands
- [Table 1-4](#) describes the **show** commands in EXEC mode

For detailed information on EXEC and configuration command modes, see [Navigating CLI Commands, page 2-5](#).

Table 1-3 *EXEC Commands*

Command	Description
application configure	Configures a specific application.
application install	Installs a specific application bundle.
application remove	Removes a specific application.
application reset-config	Resets the Cisco ISE configuration to factory defaults.
application reset-passwd	Resets the application password for a specific user (admin) in the application.

Table 1-3 EXEC Commands (continued)

Command	Description
application start	Starts or enables a specific application.
application stop	Stops or disables a specific application.
application upgrade	Upgrades a specific application bundle.
backup	Performs a backup and places the backup in a repository.
backup-logs	Performs a backup of all logs in the Cisco ISE server to a remote location.
clock	Sets the system clock in the Cisco ISE server.
configure	Enters configuration mode.
copy	Copies any file from a source to a destination.
crypto key	performs crypto key operations.
debug	Displays any errors or events for various commands executed. For example, displays backup and restore, configuration, copy, resource locking, file transfer, and user management debugging information.
delete	Deletes a file in the Cisco ISE server.
dir	Lists the files in the Cisco ISE server.
exit	Disconnects the encrypted session with a remote system. Exits from the current command mode to the previous command mode.
forceout	Forces the logout of all sessions of a specific Cisco ISE server system user.
halt	Disables or shuts down the Cisco ISE server.
help	Describes the help utility and how to use it in the Cisco ISE server.
mkdir	Creates a new directory.
nslookup	Queries the IPv4 address or hostname of a remote system.
password	Updates the CLI password.
patch	Installs system or application patch.
pep	Configures the Inline Posture node.
ping	Determines the IPv4 network connectivity to a remote system.
ping6	Determines the IPv6 network connectivity to a remote system.
reload	Reboots the Cisco ISE server.
restore	Restores a previous backup.
rmdir	Removes an existing directory.
show	Provides information about the Cisco ISE server.
ssh	Starts an encrypted session with a remote system.
tech	Lists Cisco Technical Assistance Center (TAC) commands.
telnet	Establishes a Telnet connection to a remote system.
terminal length	Sets terminal line parameters.
terminal session-timeout	Sets the inactivity timeout for all terminal sessions.

Table 1-3 EXEC Commands (continued)

Command	Description
terminal session-welcome	Sets the welcome message on the system for all terminal sessions.
terminal terminal-type	Specifies the type of terminal connected to the current line of the current session.
traceroute	Traces the route of a remote IP address.
undebug	Disables the output of errors or events of the debug command for various command executed. For example, disables the output of backup and restore, configuration, copy, resource locking, file transfer, and user management debugging information.
write	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 Cisco ISE settings.

The commands in [Table 1-4](#) require the **show** command to be followed by a keyword. Some **show** commands require an argument or a variable after the keyword to function.

Table 1-4 Show Commands

Command	Description
show application (requires keyword)	Displays information about the installed Cisco ISE application. For example, status information or version information of the installed Cisco ISE application.
show backup (requires keyword)	Displays information about Cisco ISE backup.
show banner	Shows login banners.
show cdp (requires keyword)	Displays information about the enabled Cisco Discovery Protocol interfaces.
show clock	Displays the day, date, time, time zone, and year of the system clock.
show cpu	Displays CPU information.
show crypto	Displays crypto information.
show disks	Displays file-system information of the disks.
show icmp-status	Displays the Internet Control Message Protocol (ICMP) echo response configuration information.
show interface	Displays statistics for all interfaces configured in the Cisco ISE server.
show inventory	Displays information about the hardware inventory, including the Cisco ISE appliance model and serial number.
show ip route	Displays information in the IP routing table for a Cisco ISE server.
show logging (requires keyword)	Displays the Cisco ISE server logging information.

Table 1-4 **Show Commands (continued)**

Command	Description
show logins (requires keyword)	Displays the login history of the Cisco ISE server.
show memory	Displays memory usage by all running processes.
show ntp	Displays the status of the Network Time Protocol (NTP) servers.
show pep	Displays the Inline Posture node information.
show ports	Displays all processes listening on the active ports.
show process	Displays information about the active processes of the Cisco ISE server.
show repository (requires keyword)	Displays the file contents of a specific repository.
show restore (requires keyword)	Displays the restore history in Cisco ISE.
show running-config	Displays the contents of the configuration file that currently runs in Cisco ISE.
show startup-config	Displays the contents of the startup configuration in Cisco ISE.
show tech-support	Displays system and configuration information that you can provide to the TAC when you report a problem.
show terminal	Displays information about the terminal configuration parameter settings for the current terminal line.
show timezone	Displays the current time zone in the Cisco ISE.
show timezones	Displays all time zones available for use in the Cisco ISE.
show udi	Displays information about the unique device identifier (UDI) of the Cisco ISE.
show uptime	Displays how long the system you are logged in to has been up and running.
show users	Displays information about the system users.
show version	Displays information about the currently loaded software version, along with hardware and device information.

Configuration Commands

Configuration commands are used to configure Cisco ISE. To access configuration mode, run the **configure** command in EXEC mode. Some of the configuration commands require that you enter the applicable configuration submode to complete the configuration.

For more information on configuration mode and submode commands, see [Navigating CLI Commands, page 2-5](#)

Table 1-5 Configuration Commands

Command	Description
cdp holdtime	Specifies the amount of time the receiving device should hold a Cisco Discovery Protocol packet from the Cisco ISE server before discarding it.
cdp run	Enables Cisco Discovery Protocol.
cdp timer	Specifies how often the Cisco ISE server sends Cisco Discovery Protocol updates.
clock timezone	Sets the time zone for display purposes.
conn-limit	Configures the TCP connection limit from the source IP.
do	Executes an EXEC-level command from configuration mode or any configuration submode. Note To initiate, the do command precedes the EXEC command.
end	Returns to EXEC mode.
exit	Exits configuration mode.
hostname	Sets the hostname of the system.
icmp echo	Configures the ICMP echo requests.
interface	Configures an interface type and enters interface configuration mode.
ipv6 address autoconfig	Enables IPv6 stateless autoconfiguration in the interface configuration mode.
ipv6 address dhcp	Enables IPv6 address DHCP in the interface configuration mode.
ip address	Sets the IP address and netmask for the Ethernet interface. Note This is an interface configuration command.
ip default-gateway	Defines or sets a default gateway with an IP address.
ip domain-name	Defines a default domain name that a Cisco ISE server uses to complete hostnames.
ip host	Configures host aliases and FQDN string to IP address mapping.
ip name-server	Sets the Domain Name System (DNS) servers for use during a DNS query.
ip route	Configures an IP route for an IP address.
kron occurrence	Schedules one or more Command Scheduler commands to run at a specific date and time or at a recurring time.
kron policy-list	Specifies a name for a Command Scheduler policy.
logging loglevel	Configures the log level for the logging command.

Table 1-5 Configuration Commands (continued)

Command	Description
max-ssh-sessions	Configures the number of concurrent SSH sessions.
no	Disables or removes the function associated with a command.
ntp	Synchronizes the software clock through the NTP server for the system.
ntp authenticate	Enables authentication of all time sources.
ntp authentication-key	Adds Message Digest 5 (MD5)-type authentication keys for trusted time sources.
ntp server	Specifies an NTP server to use.
ntp trusted-key	Specifies the key numbers for trusted time sources.
password-policy	Enables and configures the password policy.
rate-limit	Configures the TCP/UDP/ICMP packet-rate limit from the source IP.
repository	Enters the repository submode.
service	Specifies the type of service to manage.
snmp-server community	Sets up the community access string to permit access to the Simple Network Management Protocol (SNMP).
snmp-server contact	Configures the SNMP contact the Management Information Base (MIB) value on the system.
snmp-server host	Sends SNMP traps to a remote system.
snmp-server location	Configures the SNMP location MIB value on the system.
username	Adds a user to the system with a password and a privilege level.

CLI Audit

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

Table 1-6 Configuration Mode Commands for Operational Logs

Command	Description
clock	Configures timezone.
hostname	Configures the hostname of the system.
interface	Configures an interface type and enters the interface configuration mode.
ip address	Sets the IP address and netmask for the Ethernet interface.
ip name-server	Sets the DNS servers to be used during a DNS query.
ip default -gateway	Defines or sets a default gateway with an IP address.
kron	Configures Command Scheduler.
logging	Configures system logging.
ntp	Specifies NTP configuration.

Table 1-6 Configuration Mode Commands for Operational Logs (continued)

Command	Description
ntp server	Allows synchronization of the software clock by the NTP server for the system.
repository	Configures repository
service sshd	Specifies the service to be managed.
snmp-server	Configures SNMP server.
username	User creation

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

Table 1-7 EXEC Mode Commands for Operational Logs

Command	Description
application	Application install and administration.
backup	Performs a backup (Cisco ISE and Cisco ADE OS) and places the backup in a repository.
backup-logs	Backs up system and application logs.
copy	Copy commands.
delete	Deletes a file.
forceout	Forces the logout of all sessions of a specific Cisco ISE server system user.
halt	Shuts down the system.
mkdir	Creates a new directory.
patch	Installs system or application patch.
reload	Reboots the system.
restore	Restores the system.

