APPENDIX A

Cisco NCS Command Reference

This appendix contains necessary information on disk space management for all types of Cisco Prime Network Control System (NCS) deployments and an alphabetical listing of the commands specific to the Cisco NCS. The commands comprise the following modes:

- EXEC
  - System-level
  - Show
- Configuration
  - configuration submode

  Use EXEC mode system-level **config** or **configure** command to access configuration mode.

Each of the commands in this appendix is followed by a brief description of its use, command syntax, usage guidelines, and one or more examples. Throughout this appendix, the Cisco NCS server uses the name *ncs* in place of the Cisco NCS server's hostname.

Note If an error occurs in any command usage, use the **debug** command to determine the cause of the error.

Disk Space Management in Cisco NCS

This section provides information on disk space in the Cisco NCS appliances for all types of deployments. Each of the Cisco NCS appliances has different amount of disk space, and managing that disk space is important to enable you to use the Cisco NCS efficiently.

Before proceeding to use the Cisco NCS CLI commands, familiarize yourself with disk space management in the Cisco NCS appliances. You can deploy the Cisco NCS on appliances with small, medium and large form factors and VMware. Table A-1 provides information on Cisco NCS appliances on all the form factors and the available disk space that you need to manage the Cisco NCS.

Table A-1 Cisco NCS Appliances Configuration

Appliance Form Factor	Cisco NCS Appliances	Hard Disk Configuration
Small	-	2 x 250GB SATA HDD.
Medium	-	2 x 300 GB SAS RAID HDD.

Table A-1 Cisco NCS Appliances Configuration

Appliance Form Factor	Cisco NCS Appliances	Hard Disk Configuration
Large	-	4 x 300 GB SAS RAID HDD.
VMware	NCS-DEMO-10 (to run a Demo/Evaluation)	30GB
	L-NCS-1.0-K9 (to run the PxP production image)	60GB
	L-NCS-1.0-K9 (to run M&T production image)	200GB

Table A-2 lists the disk space that you may use on the /var partition that has a total of 6 GB of disk space. You may use 308 MB of the 6 GB of disk space for the operating system and the Cisco ADE OS 2.0 log files. You can then use the remaining 5.7 GB of disk space for a medium and large type deployment.

Table A-2 Disk Space on /var Partition

Process	Files	Small	Medium and Large	VMware	VMware	VMware
Linux OS	System	-	258MB	-	-	-
Cisco ADE OS 2.0	/var/log/ade/ADE.log	-	50MB	-	-	-

All the files that you create in the Cisco NCS reside in the /opt partition. You must manage the disk space for the files that you create in the /opt partition so that the files increase in size within the limits that do not have an impact on other files and services in the system.

Table A-3 lists the disk space that you may use on the /opt partition that has a total of 410 GB of disk space. You may use 161 GB of disk space and the remaining of 249 GB for a medium and large type deployment. The remaining 249 GB of disk space can be better utilized for the database growth after you consider the disk space required for backup, restore, and replication.

Table A-3 Disk Space on /opt Partition

Process	Files	Small	Medium and Large	VMware	VMware	VMware
CSCOcpm	Application product files (includes Oracle, Tomcat, and TimesTen)		7.5 GB			
PxP Database	/opt/oracle/base/oradata/cpm10/cpm01.dbf		31 GB			
MnT Database	opt/oracle/base/oradata/cpm10/mnt01.dbf		120 GB			
TimesTen User Cache Database	opt/oracle/base/product/11.2.0/dbhome_1/dbs/datfttuser.dbf		100 GB			

Table A-3 Disk Space on /opt Partition (continued)

Process	Files	Small	Medium and Large	VMware	VMware	VMware
Oracle RDBMS System	Redo Logs (redo01.log, redo02.log and redo03.log) Built-in databases: temp01.dbf example01.dbf system01.dbf undotbs01.dbf sysaux01.dbf users01.dbf control01.ctl		50 MB 30 MB 104 MB 770 MB 160 MB 580 MB 5 MB 9 MB			
Monit	/opt/CSCOcpm/logs/monit.log		55 MB			
CPM PSC Log	/opt/CSCOcpm/logs/cpm-psc.log*.*		200 MB			
CPM PrRT Log	/opt/CSCOcpm/logs/cpm-psc.log*.*		200 MB			
CPM Profiler Log	/opt/CSCOcpm/profiler/logs/profiler.log*		200 MB			
MnT Collector Log	/opt/CSCOcpm/logs/mnt-collector.out		20 MB			
MnT Decap Log	/opt/CSCOcpm/logs/mnt-decap.out		100 MB			
CPM Client Provisioning agent binaries	/opt/CSCOcpm/provisioning		100 MB			
Tomcat	/opt/CSCOcpm/appsrv/apache-tomcat-6.0.18/logs/*		100 MB			
PrRT Audit Logger	/opt/CSCOcpm/logs/prrt.log					
CPM Database Backup and Restore Tasks						
CPM Replication Streams Queues and Staging Areas						
MnT Historical Data						

For detailed information on logging into the Cisco NCS, refer to the *Cisco Prime Network Control System Configuration Guide, Release 1.0.*

This appendix contains the following sections:

EXEC Commands

This section lists each EXEC command and each command page includes a brief description of its use, command syntax, any command defaults, command modes, usage guidelines, and an example of the command and any related commands.

Table A-4 lists the EXEC commands described in this section.

Table A-4 List of EXEC Commands

• application install	• ncs migrate	• show (see show Commands)
• application remove	• ncs password ftpuser	• ssh
• application reset-config	• ncs password root password	• tech dumptcp
• application start	• ncs key genkey	• telnet
• application stop	• ncs key importcacert	• terminal length
• application upgrade	• ncs key importkey	• terminal session-timeout
• backup	• ncs key listcacerts	• terminal session-welcome
• backup-logs	• ncs key deletecacert	• terminal terminal-type
• clock	• ncs key importsignedcert	• traceroute
• configure	• ncs db sql	• undebug
• copy	• ncs db reinitdb	• write
• debug	• nslookup	
• delete	• patch install	
• dir	• patch remove	
• exit	• ping	
• forceout	• ping6	
• halt	• reload	
• mkdir	• restore	
• ncs start	• rmdir	
• ncs stop	• root	
• ncs status	• root_enable	

application install

Note You are not allowed to run the **application install** command from the CLI under normal operations because the Cisco NCS application is preinstalled with a Cisco IOS image on all supported appliances and VMware.

To install a specific application other than the Cisco NCS, use the **application install** command in EXEC mode. To remove this function, use the **application remove** command.

application install *application-bundle remote-repository-name*

Syntax Description

application-bundle	Application bundle filename. Up to 255 alphanumeric characters.
remote-repository-name	Remote repository name. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Installs the specified application bundle on the appliance. The application bundle file is pulled from the specified repository.

If you enter the **application install** or **application remove** command when another installation or removal operation of an application is in progress, you will see the following warning message:

```
An existing application install, remove, or upgrade is in progress.  Try again shortly.
```

Examples

Example 1

```
ncs/admin# application install ncs-appbundle-1.0.2.054.i386.tar.gz myrepository
Do you want to save the current configuration ? (yes/no) [yes] ? y
Please enter yes or no
Do you want to save the current configuration ? (yes/no) [yes] ? yes
Generating configuration...
Saved the running configuration to startup successfully
Initiating Application installation...
Extracting NCS database content...
Starting NCS database processes...
Restarting NCS database processes...
Creating NCS M&T session directory...
Performing NCS database priming...

Application successfully installed
```

Example 2

```
ncs/admin# application install ncs-appbundle-1.0.2.054.i386.tar.gz myrepository
Do you want to save the current configuration ? (yes/no) [yes] ? no
Initiating Application installation...
Extracting NCS database content...
```

```
Starting NCS database processes...
Restarting NCSdatabase processes...
Creating NCS M&T session directory...
Performing NCS database priming...

Application successfully installed
```

Related Commands

Command	Description
application remove	Removes or uninstalls an application.
application start	Starts or enables an application.
application stop	Stops or disables an application.
application upgrade	Upgrades an application bundle.
show application	Shows application information for the installed application packages on the system.

application remove

Note You are not allowed to run the **application remove** command from the CLI to remove the Cisco NCS application unless you are explicitly instructed to do so for an upgrade.

To remove a specific application other than the Cisco NCS, use the **application remove** command in EXEC mode. To remove this function, use the **no** form of this command.

application remove *application-name*

no application remove *application-name*

Syntax Description

application-name	Application name. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Removes or uninstalls an application.

Examples

```
ncs/admin# application remove ncs
Continue with application removal? [y/n] y

Application successfully uninstalled
ncs/admin#
```

Related Commands

Command	Description
application install	Installs an application bundle.
application start	Starts or enables an application.
application stop	Stops or disables an application.
application upgrade	Upgrades an application bundle.
show application	Shows application information for the installed application packages on the system.

application reset-config

Note This command is not currently supported by the NCS.

To reset an application configuration to factory defaults, use the **application reset-config** command in EXEC mode.

application reset-config *application-name*

Syntax Description

application-name	Name of the application to reset its configuration to factory defaults. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

You can use the **application reset-config** command to reset the Cisco NCS configuration to factory defaults without reimaging the Cisco NCS appliance or VMware.

Examples

Example 1

```
ncs/admin# application reset-config ncs
Initialize your identity policy database to factory defaults? (y/n): y
Reinitializing local policy database to factory default state...
Stopping NCS Monitoring & Troubleshooting Log Processor...
Stopping NCS Monitoring & Troubleshooting Log Collector...
Stopping NCS Monitoring & Troubleshooting Alert Process...
Stopping NCS Application Server...
Stopping NCS Monitoring & Troubleshooting Session Database...
Stopping NCS Database processes...
Extracting NCS database content...
Starting NCS database processes...
Restarting NCS database processes...
Creating NCS M&T session directory...
Performing NCS database priming...
```

```
Application successfully reset configuration
```

Example 2

```
ncs/admin# application reset-config ncs
Initialize your identity policy database to factory defaults? (y/n): n
Existing policy database will be retained.

Application successfully reset configuration
ncs/admin#
```

application start

To enable a specific application, use the **application start** command in EXEC mode. To remove this function, use the **no** form of this command.

application start *application-name*

Syntax Description

application-name	Name of the predefined application that you want to enable. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Enables an application.

You cannot use this command to start the Cisco NCS application. If you use this command to start the application, you can see that the Cisco NCS is already running.

Examples

```
ncs/admin# application start NCS

NCS Database processes is already running, PID: 7585
NCS M&T Session Database is already running, PID: 7851
NCS Application Server process is already running, PID: 7935
NCS M&T Log Collector is already running, PID: 7955
NCS M&T Log Processor is already running, PID: 8005
NCS M&T Alert Processor is already running, PID: 8046

ncs/admin#
```

Related Commands

Command	Description
application install	Installs an application bundle.
application remove	Removes or uninstalls an application.
application stop	Stops or disables an application.
application upgrade	Upgrades an application bundle.
show application	Shows application information for the installed application packages on the system.

application stop

To disable a specific application, use the **application stop** command in EXEC mode. To remove this function, use the **no** form of this command.

application stop *application-name*

Syntax Description

application-name	Name of the predefined application that you want to disable. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Disables an application.

Examples

```
ncs/admin# application stop NCS

Stopping NCS Monitoring & Troubleshooting Log Processor...
Stopping NCS Monitoring & Troubleshooting Log Collector...
Stopping NCS Monitoring & Troubleshooting Alert Process...
Stopping NCS Application Server...
Stopping NCS Monitoring & Troubleshooting Session Database...
Stopping NCS Database processes...

ncs/admin#
```

Related Commands

Command	Description
application install	Installs an application bundle.
application remove	Removes or uninstalls an application.
application start	Starts or enables an application.

Command	Description
application upgrade	Upgrades an application bundle.
show application	Shows application information for the installed application packages on the system.

application upgrade

To upgrade a specific application bundle, use the **application upgrade** command in EXEC mode. To remove this function, use the **application remove** command.

application upgrade *application-bundle remote-repository-name*

Syntax Description

application-bundle	Application name. Up to 255 alphanumeric characters. **Note** Enter the application name as 'NCS' in upper case.
remote-repository-name	Remote repository name. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Upgrades an application bundle, and preserves any application configuration data.

If you enter the **application upgrade** command when another application upgrade operation is in progress, you will see the following warning message:

```
An existing application install, remove, or upgrade is in progress. Try again shortly.
```

Caution Do not enter the **backup** or **restore** commands when the upgrade is in progress. This action might cause the database to be corrupted.

Examples

Example 1

```
ncs/admin# application upgrade NCS-appbundle-1.0.2.054.i386.tar.gz myremoterepository
Do you want to save the current configuration ? (yes/no) [yes] ? yes
Generating configuration...
Saved the running configuration to startup successfully
Initiating Application Upgrade...
ncs/admin#
```

Example 2

```
ncs/admin# application upgrade NCS-appbundle-1.0.2.054.i386.tar.gz myremoterepository
Do you want to save the current configuration ? (yes/no) [yes] ? no
```

```
Initiating Application Upgrade...
ncs/admin#
```

Related Commands

Command	Description
application install	Installs an application bundle.
application remove	Removes or uninstalls an application.
application start	Starts or enables an application.
application stop	Stops or disables an application.
show application	Shows application information for the installed application packages on the system.

backup

To perform a backup (including the Cisco NCS and Cisco ADE OS data) and place the backup in a repository, use the **backup** command in EXEC mode. To perform a backup of only the Cisco NCS application data without the Cisco ADE OS data, use the **application** command.

backup *backup-name* **repository** *repository-name* **application** *application-name*

Syntax Description

backup-name	Name of backup file. Up to 100 alphanumeric characters.
repository-name	Location where the files should be backed up to. Up to 80 alphanumeric characters.
application-name	Application name. Up to 255 alphanumeric characters. **Note** Enter the application name as 'NCS' in upper case.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Performs a backup of the Cisco NCS and Cisco ADE OS data and places the backup in a repository.

To perform a backup of only the Cisco NCS application data without the Cisco ADE OS data, use the **application** command.

Examples

Example 1

```
ncs/admin# backup mybackup repository myrepository
% Creating backup with timestamped filename: mybackup-100805-1222.tar.gpg
ncs/admin#
```

Example 2

```
ncs/admin# backup mybackup repository myrepository application NCS
% Creating backup with timestamped filename: mybackup-100805-1240.tar.gpg
ncs/admin#
```

Related Commands

Command	Description
backup-logs	Backs up system logs.
delete	Deletes a file from the Cisco NCS server.
dir	Lists a file from the Cisco NCS server.
reload	Reboots the system.
repository	Enters the repository submode for configuration of backups.
restore	Restores from backup the file contents of a specific repository.
show backup history	Displays the backup history of the system.
show repository	Displays the available backup files located on a specific repository.

backup-logs

To back up system logs, use the **backup-logs** command in EXEC mode. To remove this function, use the **no** form of this command.

backup-logs *backup-name* **repository** *repository-name*

Syntax Description

backup-name	Name of one or more files to back up. Up to 100 alphanumeric characters.
repository-name	Location where files should be backed up to. Up to 80 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Backs up system logs.

Examples

```
ncs/admin# backup-logs mybackup repository myrepository
% Creating log backup with timestamped filename: mybackup-100805-1754.tar.gz
ncs/admin#
```

Related Commands

Command	Description
backup	Performs a backup (Cisco NCS and Cisco ADE OS) and places the backup in a repository.
restore	Restores from backup the file contents of a specific repository.
repository	Enters the repository submode for configuration of backups.
show backup history	Shows the backup history of the system.
show repository	Shows the available backup files located on a specific repository.

clock

To set the system clock, use the **clock** command in EXEC mode. To remove this function, use the **no** form of this command.

clock set [*month day hh:min:ss yyyy*]

Syntax Description

month	Current month of the year by name. Up to three alphabetic characters. For example, Jan for January.
day	Current day (by date) of the month. Value = 0 to 31. Up to two numbers.
hh:mm:ss	Current time in hours (24-hour format), minutes, and seconds.
yyyy	Current year (no abbreviation).

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Sets the system clock. You must restart the Cisco NCS server after you reset the clock for the change to take effect.

Examples

```
ncs/admin# clock set May 5 18:07:20 2010
ncs/admin# show clock
Thu May 5 18:07:26 UTC 2010
ncs/admin#
```

Related Commands

Command	Description
show clock	Displays the time and date set on the system software clock.

configure

To enter configuration mode, use the **configure** command in EXEC mode. If the **replace** option is used with this command, copies a remote configuration to the system which overwrites the existing configuration.

configure terminal

Syntax Description

terminal	Executes configuration commands from the terminal.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Use this command to enter configuration mode. Note that commands in this mode write to the running configuration file as soon as you enter them (press **Enter**).

To exit configuration mode and return to EXEC mode, enter **end**, **exit**, or **Ctrl-z**.

To view the changes that you have made to the configuration, use the **show running-config** command in EXEC mode.

Examples

Example 1

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

Example 2

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

Related Commands

Command	Description
show running-config	Displays the contents of the currently running configuration file or the configuration.
show startup-config	Displays the contents of the startup configuration file or the configuration.

copy

To copy any file from a source to a destination, use the **copy** command in EXEC mode. The **copy** command in the Cisco NCS copies a configuration (running or startup).

Running Configuration

The Cisco NCS active configuration stores itself in the Cisco NCS RAM. Every configuration command you enter resides in the running configuration. If you reboot your Cisco NCS server, you lose the running configuration. If you make changes that you want to save, you must copy the running configuration to a safe location, such as a network server, or save it as the Cisco NCS server startup configuration.

Startup Configuration

You cannot edit a startup configuration directly. All commands that you enter store themselves in the running configuration, which you can copy into the startup configuration.

In other words, when you boot a Cisco NCS server, the startup configuration becomes the initial running configuration. As you modify the configuration, the two diverge: the startup configuration remains the same; the running configuration reflects the changes that you have made. If you want to make your changes permanent, you must copy the running configuration to the startup configuration.

The following command lines show some of the **copy** command scenarios available:

copy running-config startup-config—Copies the running configuration to the startup configuration.

copy run start—Replaces the startup configuration with the running configuration.

Note If you do not save the running configuration, you will lose all your configuration changes during the next reboot of the Cisco NCS server. When you are satisfied that the current configuration is correct, copy your configuration to the startup configuration with the **copy run start** command.

copy startup-config running-config—Copies the startup configuration to the running configuration.

copy start run—Merges the startup configuration on top of the running configuration.

copy [*protocol***://***hostname***/***location*] **startup-config**—Copies but does not merge a remote file to the startup configuration.

copy [*protocol***://***hostname***/***location*] **running-config**—Copies and merges a remote file to the running configuration.

copy startup-config [*protocol***://***hostname***/***location*]—Copies the startup configuration to a remote system.

copy running-config [*protocol***://***hostname***/***location*]—Copies the running configuration to a remote system.

copy logs [*protocol***://***hostname***/***location*]—Copies log files from the system to another location.

Note The **copy** command is supported only for the local disk and not for a repository.

Syntax Description

running-config	Represents the current running configuration file.
startup-config	Represents the configuration file used during initialization (startup).
protocol	See Table A-5 for protocol keyword options.

hostname	Hostname of destination.
location	Location of destination.
logs	The system log files.
all	Copies all Cisco NCS log files from the system to another location. All logs are packaged as ncslogs.tar.gz and transferred to the specified directory on the remote host.
filename	Allows you to copy a single Cisco NCS log file and transfer it to the specified directory on the remote host, with its original name.
log_filename	Name of the Cisco NCS log file, as displayed by the **show logs** command (up to 255 characters).
mgmt	Copies the Cisco NCS management debug logs and Tomcat logs from the system, bundles them as mgmtlogs.tar.gz, and transfers them to the specified directory on the remote host.
runtime	Copies the Cisco NCS runtime debug logs from the system, bundles them as runtimelogs.tar.gz, and transfers them to the specified directory on the remote host.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

The fundamental function of the **copy** command allows you to copy a file (such as a system image or configuration file) from one location to another location. The source and destination for the file specified uses the Cisco NCS file system, through which you can specify any supported local or remote file location. The file system being used (a local memory source or a remote system) dictates the syntax used in the command.

You can enter on the command line all the necessary source and destination information and the username and password to use; or, you can enter the **copy** command and have the server prompt you for any missing information. You can enter upto a maximum of 2048 characters of source and destination URL information on the command line.

Timesaver

Aliases reduce the amount of typing that you need to do. For example, type **copy run start** (the abbreviated form of the **copy running-config startup-config** command).

The entire copying process might take several minutes and differs from protocol to protocol and from network to network.

Use the filename relative to the directory for file transfers.

Possible error is standard FTP error message.

Table A-5 Protocol Prefix Keywords

Keyword	Source of Destination
ftp	Source or destination URL for FTP network server. The syntax for this alias: **ftp:**[[//location]/directory]/filename
sftp	Source or destination URL for an SFTP network server. The syntax for this alias: **sftp:**[[//location]/directory]/filename
tftp	Source or destination URL for a TFTP network server. The syntax for this alias: **tftp:**[[//location]/directory]/filename

Examples

Example 1

```
ncs/admin# copy run start
Generating configuration...
ncs/admin#
```

Example 2

```
ncs/admin# copy running-config startup-config
Generating configuration...
ncs/admin#
```

Example 3

```
ncs/admin# copy start run
ncs/admin#
```

Example 4

```
ncs/admin# copy startup-config running-config
ncs/admin#
```

Example 5

```
ncs/admin# copy logs disk:/
 Collecting logs...
ncs/admin#
```

Example 6

```
ncs/admin# copy disk:/mydesktop-100805-1910.tar.gz ftp://myftpserver/mydir
Username:
Password:
ncs/admin#
```

Related Commands

Command	Description
application install	Starts or stops a Cisco NCS instance.
backup	Performs a backup (Cisco NCS and Cisco ADE OS) and places the backup in a repository.
delete	Deletes a file from the Cisco NCS server.
dir	Lists a file from the Cisco NCS server.
reload	Reboots the system.

Command	Description
restore	Restores from backup the file contents of a specific repository.
show application	Shows application status and version information.
show version	Displays information about the software version of the system.

debug

To display errors or events for command situations, use the **debug** command in EXEC mode.

debug {**all** | **application** | **backup-restore** | **cdp** | **config** | **icmp** | **copy** | **locks** | **logging** | **snmp** | **system** | **transfer** | **user** | **utils**}

Syntax Description

all	Enables all debugging.
application	Application files. • *all*—Enables all application debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *install*—Enables application install debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *operation*—Enables application operation debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *uninstall*—Enables application uninstall debug output. Set level between 0 and 7, with 0 being severe and 7 being all.
backup-restore	Backs up and restores files. • *all*—Enables all debug output for backup-restore. Set level between 0 and 7, with 0 being severe and 7 being all. • *backup*—Enables backup debug output for backup-restore. Set level between 0 and 7, with 0 being severe and 7 being all. • *backup-logs*—Enables backup-logs debug output for backup-restore. Set level between 0 and 7, with 0 being severe and 7 being all. • *history*—Enables history debug output for backup-restore. Set level between 0 and 7, with 0 being severe and 7 being all. • *restore*—Enables restore debug output for backup-restore. Set level between 0 and 7, with 0 being severe and 7 being all.
cdp	Cisco Discovery Protocol configuration files. • *all*—Enables all Cisco Discovery Protocol configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *config*—Enables configuration debug output for Cisco Discovery Protocol. Set level between 0 and 7, with 0 being severe and 7 being all. • *infra*—Enables infrastructure debug output for Cisco Discovery Protocol. Set level between 0 and 7, with 0 being severe and 7 being all.

config	Configuration files. • *all*—Enables all configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *backup*—Enables backup configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *clock*—Enables clock configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *infra*—Enables configuration infrastructure debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *kron*—Enables command scheduler configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *network*—Enables network configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *repository*—Enables repository configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *service*—Enables service configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all.
icmp	Internet Control Message Protocol (ICMP) echo response configuration. *all*—Enable all debug output for ICMP echo response configuration. Set level between 0 and 7, with 0 being severe and 7 being all.
copy	Copy commands. Set level between 0 and 7, with 0 being severe and 7 being all.
locks	Resource locking. • *all*—Enables all resource locking debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *file*—Enables file locking debug output. Set level between 0 and 7, with 0 being severe and 7 being all.
logging	Logging configuration files. *all*—Enables all logging configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all.
snmp	SNMP configuration files. *all*—Enables all SNMP configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all.
system	System files. • *all*—Enables all system files debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *id*—Enables system ID debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *info*—Enables system info debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *init*—Enables system init debug output. Set level between 0 and 7, with 0 being severe and 7 being all.
transfer	File transfer. Set level between 0 and 7, with 0 being severe and 7 being all.

user	User management. • *all*—Enables all user management debug output. Set level between 0 and 7, with 0 being severe and 7 being all. • *password-policy*—Enables user management debug output for password-policy. Set level between 0 and 7, with 0 being severe and 7 being all.
utils	Utilities configuration files. *all*—Enables all utilities configuration debug output. Set level between 0 and 7, with 0 being severe and 7 being all.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Use the **debug** command to identify various failures within the Cisco NCS server; for example, setup failures or configuration failures.

Examples

```
ncs/admin# debug all
ncs/admin# mkdir disk:/1
ncs/admin# 6 [15347]: utils: vsh_root_stubs.c[2742] [admin]: mkdir operation success

ncs/admin# rmdir disk:/1
6 [15351]: utils: vsh_root_stubs.c[2601] [admin]: Invoked Remove Directory disk:/1 command
6 [15351]: utils: vsh_root_stubs.c[2663] [admin]: Remove Directory operation success
ncs/admin#

ncs/admin# undebug all
ncs/admin#
```

Related Commands

Command	Description
undebug	Disables the output (display of errors or events) of the **debug** command for various command situations.

delete

To delete a file from the Cisco NCS server, use the **delete** command in EXEC mode. To remove this function, use the **no** form of this command.

delete *filename* [*disk:/path*]

Syntax Description

filename	Filename. Up to 80 alphanumeric characters.
disk:/path	Location.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

If you attempt to delete the configuration file or image, the system prompts you to confirm the deletion. Also, if you attempt to delete the last valid system image, the system prompts you to confirm the deletion.

Examples

```
ncs/admin# delete disk:/hs_err_pid19962.log
ncs/admin#
```

Related Commands

Command	Description
dir	Lists all the files on the Cisco NCS server.

dir

To list a file from the Cisco NCS server, use the **dir** command in EXEC mode. To remove this function, use the **no** form of this command.

dir [*word*] [**recursive**]

Syntax Description

word	Directory name. Up to 80 alphanumeric characters. Requires **disk:/** preceding the directory name.
recursive	Lists a local directory or filename recursively.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

None.

Examples

Example 1

```
ncs/admin# dir

Directory of disk:/

    2034113 Aug 05 2010 19:58:39  ADElogs.tar.gz
       4096 Jun 10 2010 02:34:03  activemq-data/
       4096 Aug 04 2010 23:14:53  logs/
      16384 Jun 09 2010 02:59:34  lost+found/
    2996022 Aug 05 2010 19:11:16  mybackup-100805-1910.tar.gz
       4096 Aug 04 2010 23:15:20  target/
       4096 Aug 05 2010 12:25:55  temp/

           Usage for disk: filesystem
                 8076189696 bytes total used
                 6371618816 bytes free
                15234142208 bytes available
ncs/admin#
```

Example 2

```
ncs/admin# dir disk:/logs

0 Aug 05 2010 11:53:52  usermgmt.log

           Usage for disk: filesystem
                 8076189696 bytes total used
                 6371618816 bytes free
                15234142208 bytes available
ncs/admin#
```

Example 3

```
ncs/admin# dir recursive

Directory of disk:/

    2034113 Aug 05 2010 19:58:39  ADElogs.tar.gz
    2996022 Aug 05 2010 19:11:16  mybackup-100805-1910.tar.gz
       4096 Aug 04 2010 23:14:53  logs/
       4096 Aug 05 2010 12:25:55  temp/
       4096 Jun 10 2010 02:34:03  activemq-data/
       4096 Aug 04 2010 23:15:20  target/
      16384 Jun 09 2010 02:59:34  lost+found/

Directory of disk:/logs

          0 Aug 05 2010 11:53:52  usermgmt.log

Directory of disk:/temp

        281 Aug 05 2010 19:12:45  RoleBundles.xml
       6631 Aug 05 2010 19:12:34  PipDetails.xml
         69 Aug 05 2010 19:12:45  GroupRoles.xml
        231 Aug 05 2010 19:12:34  ApplicationGroupTypes.xml
     544145 Aug 05 2010 19:12:35  ResourceTypes.xml
      45231 Aug 05 2010 19:12:45  UserTypes.xml
        715 Aug 05 2010 19:12:34  ApplicationGroups.xml
        261 Aug 05 2010 19:12:34  ApplicationTypes.xml
       1010 Aug 05 2010 19:12:34  Pdps.xml
    1043657 Aug 05 2010 19:12:44  Groups.xml
     281003 Aug 05 2010 19:12:38  Resources.xml
         69 Aug 05 2010 19:12:45  GroupUsers.xml
```

```
       2662 Aug 05 2010 19:12:44  RoleTypes.xml
         79 Aug 05 2010 19:12:34  UserStores.xml
       4032 Aug 05 2010 19:12:38  GroupTypes.xml
       1043 Aug 05 2010 19:12:34  Organization.xml
      58377 Aug 05 2010 19:12:46  UserRoles.xml
        300 Aug 05 2010 19:12:45  Contexts.xml
        958 Aug 05 2010 19:12:34  Applications.xml
      28010 Aug 05 2010 19:12:45  Roles.xml
     122761 Aug 05 2010 19:12:45  Users.xml

Directory of disk:/activemq-data

       4096 Jun 10 2010 02:34:03  localhost/

Directory of disk:/activemq-data/localhost

          0 Jun 10 2010 02:34:03  lock
       4096 Jun 10 2010 02:34:03  journal/
       4096 Jun 10 2010 02:34:03  kr-store/
       4096 Jun 10 2010 02:34:03  tmp_storage/

Directory of disk:/activemq-data/localhost/journal

   33030144 Aug 06 2010 03:40:26  data-1
       2088 Aug 06 2010 03:40:26  data-control

Directory of disk:/activemq-data/localhost/kr-store

       4096 Aug 06 2010 03:40:27  data/
       4096 Aug 06 2010 03:40:26  state/

Directory of disk:/activemq-data/localhost/kr-store/data

        102 Aug 06 2010 03:40:27  index-container-roots
          0 Aug 06 2010 03:40:27  lock

Directory of disk:/activemq-data/localhost/kr-store/state

       3073 Aug 06 2010 03:40:26  hash-index-store-state_state
         51 Jul 20 2010 21:33:33  index-transactions-state
        204 Aug 06 2010 03:40:26  index-store-state
        306 Jun 10 2010 02:34:03  index-kaha
        290 Jun 10 2010 02:34:03  data-kaha-1
      71673 Aug 06 2010 03:40:26  data-store-state-1
          0 Jun 10 2010 02:34:03  lock

Directory of disk:/activemq-data/localhost/tmp_storage

No files in directory

Directory of disk:/target

       4096 Aug 04 2010 23:15:20  logs/

Directory of disk:/target/logs

          0 Aug 04 2010 23:15:20  ProfilerPDP.log
       2208 Aug 05 2010 11:54:26  ProfilerSensor.log

Directory of disk:/lost+found

No files in directory

           Usage for disk: filesystem
```

```
                 8076189696 bytes total used
                 6371618816 bytes free
                15234142208 bytes available

ncs/admin#
```

Related Commands	Command	Description
	delete	Deletes a file from the Cisco NCS server.

exit

To close an active terminal session by logging out of the Cisco NCS server or to move up one mode level from configuration mode, use the **exit** command in EXEC mode.

exit

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Usage Guidelines Use the **exit** command in EXEC mode to exit an active session (log out of the Cisco NCS server) or to move up from configuration mode.

Examples

```
ncs/admin# exit
```

Related Commands	Command	Description
	end	Exits configuration mode.
	exit	Exits configuration mode or EXEC mode.
	Ctrl-z	Exits configuration mode.

forceout

To force users out of an active terminal session by logging them out of the Cisco NCS server, use the **forceout** command in EXEC mode.

forceout *username*

Syntax Description

username	The name of the user. Up to 31 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Use the **forceout** command in EXEC mode to force a user from an active session.

Examples

```
ncs/admin# forceout user1
ncs/admin#
```

halt

To shut down and power off the system, use the **halt** command in EXEC mode.

halt

Syntax Description

No arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Before you enter the **halt** command, ensure that the Cisco NCS is not performing any backup, restore, installation, upgrade, or remove operation. If you enter the **halt** command while the Cisco NCS is performing any of these operations, you will get one of the following warning messages:

```
WARNING: A backup or restore is currently in progress! Continue with halt?

WARNING: An install/upgrade/remove is currently in progress! Continue with halt?
```

If you get any of these warnings, enter **Yes** to halt the operation, or enter **NO** to cancel the halt.

If no processes are running when you use the **halt** command or if you enter **Yes** in response to the warning message displayed, the Cisco NCS asks you to respond to the following option:

```
Do you want to save the current configuration ?
```

Enter **YES** to save the existing Cisco NCS configuration. The Cisco NCS displays the following message:

```
Saved the running configuration to startup successfully
```

Examples

```
ncs/admin# halt
ncs/admin#
```

Related Commands

Command	Description
reload	Reboots the system.

mkdir

To create a new directory on the Cisco NCS server, use the **mkdir** command in EXEC mode.

mkdir *directory-name* [*disk:/path*]

Syntax Description

directory-name	The name of the directory to create. Up to 80 alphanumeric characters.
disk:/path	Use *disk:/path* with the directory name.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Use *disk:/path* with the directory name; otherwise, an error appears that indicates that the *disk:/path* must be included.

Examples

```
ncs/admin# mkdir disk:/test
ncs/admin# dir

Directory of disk:/

       4096 May 06 2010 13:34:49  activemq-data/
       4096 May 06 2010 13:40:59  logs/
      16384 Mar 01 2010 16:07:27  lost+found/
       4096 May 06 2010 13:42:53  target/
       4096 May 07 2010 12:26:04  test/

           Usage for disk: filesystem
                  181067776 bytes total used
                19084521472 bytes free
                20314165248 bytes available
ncs/admin#
```

Related Commands

Command	Description
dir	Displays a list of files on the NCS server.
rmdir	Removes an existing directory.

ncs start

To start the NCS server, use the **ncs start** command. To see the messages in the console, use the **ncs start verbose** command.

ncs start [verbose]

Syntax Description

verbose	Displays the detailed messages during the start process.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

This example shows how to start the NCS server:

```
> ncs start verbose
Starting Network Control System...

Starting Health Monitor
Starting Health Monitor as a primary
Checking for Port 8082 availability... OK
Starting Health Montior Web Server...
Health Monitor Web Server Started.
Starting Health Monitor Server...
Health Monitor Server Started.
Starting Service Name: Reporting
Starting dependency service: NMS Server
Starting dependency service: Matlab
Starting remoting: Matlab Server
Checking for Port 20555 availability... OK
Remoting Service Matlab Server application root: /opt/CSCOncs
Starting Remoting Service Web Server Matlab Server...
Remoting Service Web Server Matlab Server Started.
Starting Remoting Service Matlab Server...
Remoting 'Matlab Server' started successfully.
Starting dependency service: Ftp
Starting remoting: Ftp Server
Checking for Port 20558 availability... OK
Starting up FTP server
Started FTP
FTP Server started
Remoting Service Ftp Server application root: /opt/CSCOncs
Starting Remoting Service Web Server Ftp Server...
Remoting Service Web Server Ftp Server Started.
Starting Remoting Service Ftp Server...
```

```
Remoting 'Ftp Server' started successfully.
Starting dependency service: Tftp
Starting remoting: Tftp Server
Checking for Port 20559 availability... OK
Starting up TFTP server...
TFTP Server started.
Remoting Service Tftp Server application root: /opt/CSCOncs
Starting Remoting Service Web Server Tftp Server...
Remoting Service Web Server Tftp Server Started.
Starting Remoting Service Tftp Server...
Remoting 'Tftp Server' started successfully.
Starting NMS Server
Checking for running servers.
  Checking if DECAP is running.
  00:00 DECAP is not running.
00:00 Check complete. No servers running.
  00:10 DECAP setup complete.
Starting Server ...
Reporting started successfully

Starting Service Name: Ftp
Ftp is already running.

Starting Service Name: Database
00:40 Server started.
00:40 DONE
Done
Database is already running.

Starting Service Name: Tftp
Tftp is already running.

Starting Service Name: Matlab
Matlab is already running.

Starting Service Name: NMS Server
NMS Server is already running.

Network Control System started successfully.
```

Related Commands

Command	Description
ncs stop	Stops the NCS server.
ncs status	Displays the current status of the NCS server.

ncs stop

To stop the NCS server, use the **ncs stop** command. To see the detailed messages, use the **ncs stop verbose** command.

ncs stop [verbose]

Syntax Description

verbose	Displays the detailed messages during the stop process.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

This example shows how to stop the NCS server:

```
> ncs stop verbose
Stopping Network Control System...
Stopping Network Control System server
Stopping Service Name: Reporting
Stopping Reporting
Reporting successfully shutdown.
Stopping Service Name: Ftp
Stopping NMS Server
Stopping Reporting Server(XMP) ..DONE
NMS Server successfully shutdown.

Stopping remoting: Ftp Server
Stopping FTP server...
Stopped FTP server.
Stopping Remoting Web Server Ftp Server...
Remoting Web Server Ftp Server stopped.
Remoting 'Ftp Server' stopped successfully.
Stopping Service Name: Database
Shutting down database server ...
Stopping XMP ....DONE

Stopping Service Name: Tftp
Stopping remoting: Tftp Server
Stopping TFTP server...
Stopped TFTP server.
Stopping Remoting Web Server Tftp Server...
Remoting Web Server Tftp Server stopped.
Remoting 'Tftp Server' stopped successfully.
Stopping Service Name: Matlab
Stopping remoting: Matlab Server
Stopping Remoting Web Server Matlab Server...
Remoting Web Server Matlab Server stopped.
Warning: latest version of matlab app-defaults file not found.
Contact your system administrator to have this file installed.
Remoting 'Matlab Server' stopped successfully.


Stopping Service Name: NMS Server
NMS Server is not running.
Stopping Tomcat...
Tomcat Stopped.

Network Control System successfully shutdown.
```

Related Commands

Command	Description
ncs start	Starts the NCS server.
ncs status	Displays the current status of the NCS server.

ncs status

To display the NCS server status, use the **ncs status** command.

ncs status

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

This example shows how to display the status of NCS server:

```
> ncs status
Health Monitor Server is running.
Reporting is running.
Ftp Server is Success
Database server is running
Tftp Server is Success
Matlab Server is Success
NMS Server is running.
```

Related Commands

Command	Description
ncs start	Starts the NCS server.
ncs stop	Stops the NCS server.

ncs migrate

To migrate the WCS data to NCS server database, use the **ncs migrate** command.

ncs migrate wcs-data *filename* **repository** *repositoryname*

Syntax Description

wcs-data	
filename	Archieved WCS data file. Filename can contains up to 512 alphanumeric characters.
repository	
repositoryname	The repository name configured in the NCS where the archived WCS data file is hosted.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Examples

This example shows how to migrate WCS archieved files to NCS server:

```
> ncs migrate wcs-data wcs.zip repository wcs-ftp-repo
```

Note

- Use '**ncs stop**' command to stop the NCS server.
- The DB and NCS server may need to be restarted multiple times.
- Execute the '**show repository repositoryname**' command and confirm whether the repository server is reachable and wcs data zip file is existing in the repository server.
- SFTP/FTP/Local as repository is supported in this release. NFS as repository is a not tested feature.

Related Commands

Command	Description
ncs start	Starts the NCS server.
ncs stop	Stops the NCS server.
ncs status	Displays the current status of the NCS server.

ncs password ftpuser

To change the FTP username and password, use the **ncs password ftpuser** *username* **password** *password* command.

ncs passwod ftpuser *username* **password** *password*

Syntax Description

username	The ftpuser name
password	The modified password. The password cannot contain 'cisco' or 'ocsic', or any variant obtained by changing the capitalization of letters therein or by substituting '1', 'l', or '!' for i, '0' for 'o', or '$' for 's'.

Defaults

The default FTP username is ftp-user.

Command Modes

EXEC Mode.

Examples

This example shows how to change the FTP username and password:

```
> ncs password ftpuser
```

Related Commands

Command	Description
ncs start	Starts the NCS sever.
ncs stop	Stops the NCS server.
ncs status	Displays the current status of NCS server.
ncs migrate	Migrates the old WCS data to NCS.
ncs password root password	Changes the root password.

ncs password root password

To change the root password, use the **ncs password root password** command.

ncs passwod root password *password*

Syntax Description

password	modified password. The password cannot contain 'cisco' or 'ocsic', or any variant obtained by changing the capitalization of letters therein or by substituting '1', 'l', or '!' for i, '0' for 'o', or '$' for 's'.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Examples

This example shows how to migrate WCS archieved files to NCS server:

```
> ncs password root password Private123
Loading USER - root
Validating new password..
Resetting password ..
Resetting password  COMPLETED.
EXECUTION STATUS : Success
```

Related Commands

Command	Description
ncs start	Start NCS sever.
ncs stop	Stops NCS server.
ncs status	Displays the current status of NCS server.
ncs migrate	Migrates the old WCS data to NCS.
ncs password ftpuser	Changes the FTP username and password.

ncs key genkey

To generate a new RSA key and self-signed certificate, use the **ncs key genkey** command.

ncs key genkey -newdn -csr *csrfilename* **repository** *repositoryname*

Syntax Description

-newdn	Generates a new RSA key and self-signed cert with domain information.
-csr	Generates new CSR certificate file.
repository	Repository command.
csrfilename	CSR filename.
repositoryname	Location where the files should be backed up to. Up to 80 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Examples

This example shows how to generate new rsa key and certificate files in NCS server:

```
>ncs key genkey -newdn -csr csrfile.cert repository wcs-sftp-repo
Generating RSA key
INFO: no staging url defined, using local space.        rval:2
```

Related Commands

Command	Description
ncs key importcacert	Applies a CA certificate to trust store in NCS.
ncs key listcacerts	Lists all the CA certificates exist in NCS trust store.
ncs key deletecacert	Deletes a CA certificates exist in NCS trust store.
ncs key importsignedcert	Applies a RSA key and signed certificate to NCS.
ncs key importkey	Applies a RSA key and certificate to NCS.

Note After entering this command, enter the **ncs stop** and **ncs start** command to restart the NCS server to make changes into effect.

ncs key importcacert

To apply a CA certificate to a trust store in NCS, use the **ncs key importcacert** command.

ncs key importcacert *aliasname ca-cert-filename* **repository** *repositoryname*

Syntax Description

aliasname	A short name given for this CA certificate.
ca-cert-filename	CA certificate file name.
repositoryname	The repository name configured in the NCS where the ca-cert-filename is hosted.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Examples

This example shows how to apply the CA certificate file to a trust store in NCS server:

```
> ncs key importcacert alias1 cacertfile repository wcs-sftp-repo
```

Note After applying this command, enter **ncs stop** and **ncs start** command to restart the NCS server to make changes into effect.

Related Commands

Command	Description
ncs key genkey	Generates a new RSA key and self-signed certificate.
ncs key listcacerts	Lists all the CA certificates exist in NCS trust store.
ncs key deletecacert	Deletes a CA certificates exist in NCS trust store.
ncs key importsignedcert	Applies a RSA key and signed certificate to NCS.
ncs key importkey	Applies a RSA key and certificate to NCS.

ncs key importkey

To apply an RSA key and signed certificate to NCS, use the **ncs key importkey** command.

ncs key importkey *key-filename cert-filename* **repository** *repositoryname*

Syntax Description

key-filename	RSA private key file name.
cert-filename	Certificate file name.
repositoryname	The repository name configured in the NCS where the key-file and cert-file is hosted.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Examples

This example shows how to apply the new RSA key and certificate files to the NCS server.

```
> ncs key importkey keyfile certfile repository wcs-sftp-repo
```

Note After applying this command, enter **ncs stop** and **ncs start** command to restart the NCS server to make changes into effect.

Related Commands

Command	Description
ncs key genkey	Generates a new RSA key and self-signed certificate.
ncs key listcacerts	Lists all the CA certificates exist in NCS trust store.
ncs key deletecacert	Deletes a CA certificates exist in NCS trust store.

Command	Description
ncs key importsignedcert	Applies a RSA key and signed certificate to NCS.
ncs key importcacert	Applies a CA certificate to trust store in NCS.

ncs key listcacerts

To list all the CA certificates that exist in the NCS trust store, use the **ncs key listcacerts** command.

ncs key listcacerts

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Examples

This example shows how to list all the CA certificates exist in NCS trust store:

```
> ncs key listcacerts

Certificate utnuserfirsthardwareca from CN=UTN-USERFirst-Hardware,
OU=http://www.example.com, O=The USERTRUST Network, L=Salt Lake City, ST=UT, C=US
Certificate gtecybertrust5ca from CN=GTE CyberTrust Root 5, OU="GTE CyberTrust Solutions,
Inc.", O=GTE Corporation, C=US
Certificate equifaxsecureebusinessca1 from CN=Equifax Secure eBusiness CA-1, O=Equifax
Secure Inc., C=US
Certificate thawtepersonalfreemailca from EMAILADDRESS=email@example.com, CN=Thawte
Personal Freemail CA, OU=Certification Services Division, O=Thawte Consulting, L=Cape
Town, ST=Western Cape, C=ZA
Certificate addtrustclass1ca from CN=AddTrust Class 1 CA Root, OU=AddTrust TTP Network,
O=AddTrust AB, C=SE
Certificate aolrootca1 from CN=America Online Root Certification Authority 1, O=America
Online Inc., C=US
Certificate geotrustuniversalca from CN=GeoTrust Universal CA, O=GeoTrust Inc., C=US
Certificate digicertglobalrootca from CN=DigiCert Global Root CA, OU=www.example.com,
O=DigiCert Inc, C=US
Certificate certumtrustednetworkca from CN=Certum Trusted Network CA, OU=Certum
Certification Authority, O=Unizeto Technologies S.A., C=PL
Certificate swisssignsilverg2ca from CN=SwissSign Silver CA - G2, O=SwissSign AG, C=CH
```

Related Commands

Command	Description
ncs key genkey	Generates a new RSA key and self-signed certificate.
ncs key importkey	Applies a RSA key and signed certificate to NCS.
ncs key deletecacert	Deletes a CA certificates exist in NCS trust store.
ncs key importsignedcert	Applies an RSA key and signed certificate to NCS.
ncs key importcacert	Applies a CA certificate to trust store in NCS.

ncs key deletecacert

To delete CA certificates that exist in the NCS trust store, use the **ncs key deletecacert** command.

ncs key deletecacert *aliasname*

Syntax Description

aliasname	The short or alias name of the CA certificate which needs to be deleted from NCS trust store.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Examples

This example shows how to delete CA certificates exist in NCS trust store:

```
> ncs key deletecacert certumtrustednetworkca
  Deleting certificate from trust store
```

Related Commands

Command	Description
ncs key genkey	Generates a new RSA key and self-signed certificate.
ncs key importkey	Applies an RSA key and signed certificate to NCS.
ncs key listcacerts	Lists all CA certificates that exist in NCS trust store.
ncs key importsignedcert	Applies an RSA key and signed certificate to NCS.
ncs key importcacert	Applies a CA certificate to trust store in NCS.

ncs key importsignedcert

To apply an RSA key and signed certificate to NCS, use the **ncs key importsignedcert** command.

ncs key importsignedcert *signed-cert-filename* **repository** *repositoryname*

Syntax Description

signed-cert-filename	Signed certificate filename.
repositoryname	The repository name configured in the NCS where the key-file and cert-file is hosted.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Examples

This example shows how to apply signed certificate files to the NCS server:

```
> ncs key importsingedcert signed-certfile repository wcs-sftp-repo
```

Note After applying this command, enter **ncs stop** and **ncs start** command to restart the NCS server to make changes into effect.

Related Commands

Command	Description
ncs key genkey	Generates a new RSA key and self-signed certificate.
ncs key importkey	Applies an RSA key and signed certificate to NCS.
ncs key deletecacert	Deletes a CA certificates exist in NCS trust store.
ncs key listcacerts	Lists all CA certificates that exist in NCS trust store.
ncs key importcacert	Applies a CA certificate to trust store in NCS.

ncs db sql

To run the SQL query from the NCS terminal, use the **ncs db sql** command in EXEC mode.

ncs db sql *query_string*

Syntax Description

query_string	Enter the sql query string enclosed in double quotes.

Defaults No default behavior or values.

Command Modes EXEC mode

Usage Guidelines The NCS database server should be in running state to successfully execute this command.

Examples This example shows how to run a DB sql query on the NCS server:

```
ncs/admin# ncs db sql "select count(*) from clientcount"
            COUNT(*)
--------------------
                  75
ncs/admin#
```

ncs db reinitdb

To reinitialize the NCS database, use the **ncs db reinitdb** command in EXEC mode. This command removes all data present in the database.

ncs db reinitdb

Syntax Description This command has no arguments or keywords.

Defaults No default values.

Command Modes EXEC mode

Usage Guidelines You can use this command if the NCS database becomes unstable or unusable, or if you want to remove the old data and start with a clean database.

Examples This example shows how to run a DB sql query on the NCS server:

```
admin# ncs db reinitdb
-All data will be lost. Do you wish to continue? (y/n)
y
-Creating a new, empty database. This may take 10 to 20 minutes
-Database re-initialization completed
admin#
```

nslookup

To look up the hostname of a remote system on the Cisco NCS server, use the **nslookup** command in EXEC mode.

nslookup *word*

Syntax Description

word	IPv4 address or hostname of a remote system. Up to 64 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

Example 1

```
ncs/admin# nslookup 209.165.200.225
Trying "209.165.200.225.in-addr.arpa"
Received 127 bytes from 171.70.168.183#53 in 1 ms
Trying "209.165.200.225.in-addr.arpa"
Host 209.165.200.225.in-addr.arpa. not found: 3(NXDOMAIN)
Received 127 bytes from 171.70.168.183#53 in 1 ms

ncs/admin#
```

Example 2

```
ncs/admin# nslookup 209.165.200.225
Trying "225.200.165.209.in-addr.arpa"
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 65283
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 0

;; QUESTION SECTION:
;225.200.165.209.in-addr.arpa.  IN      PTR

;; ANSWER SECTION:
225.200.165.209.in-addr.arpa. 86400 IN  PTR     209-165-200-225.got.net.

;; AUTHORITY SECTION:
200.165.209.in-addr.arpa. 86400 IN      NS      ns1.got.net.
200.165.209.in-addr.arpa. 86400 IN      NS      ns2.got.net.

Received 119 bytes from 171.70.168.183#53 in 28 ms

ncs/admin#
```

patch install

The **patch install** command installs a patch bundle of the application only on a specific node where you run the **patch install** command from the CLI.

Note In a Cisco NCS distributed deployment environment, install the patch bundle of the application from the primary Policy Administration Point (PAP) node in the Cisco NCS Administration user interface so that the patch bundle automatically gets installed on all the secondary nodes.

To install a patch bundle of the application, use the **patch** command in EXEC mode.

patch install *patch-bundle* **repository**

Syntax Description

patch-bundle	The patch bundle file name. Up to 255 alphanumeric characters.
repository	Repository name. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC mode.

Usage Guidelines

Installs a specific patch bundle of the application.

If you attempt to install a patch that is an older version of the existing patch, then you receive the following error message:

```
% Patch to be installed is an older version than currently installed version.
```

Examples

Example 1

```
ncs/admin# patch install ncs-appbundle-1.0.2.054-3.i386.tar.gz myrepository
Do you want to save the current configuration ? (yes/no) [yes] ? yes
Generating configuration...
Saved the running configuration to startup successfully
Initiating Application Patch installation...

Patch successfully installed
ncs/admin#
```

Example 2

```
ncs/admin# patch install ncs-appbundle-1.0.2.054-3.i386.tar.gz myrepository
Do you want to save the current configuration ? (yes/no) [yes] ? no
Initiating Application Patch installation...

Patch successfully installed
ncs/admin#
```

Example 3

```
ncs/admin# patch install ncs-appbundle-1.0.2.054-2.i386.tar.gz disk
Do you want to save the current configuration ? (yes/no) [yes] ? yes
Generating configuration...
Saved the running configuration to startup successfully
Initiating Application Patch installation...
% Patch to be installed is an older version than currently installed version.
ncs/admin#
```

Related Commands

Command	Description
patch remove	Removes a specific patch bundle version of the application.
show version	Displays information about the currently loaded software version, along with hardware and device information.

patch remove

Note In a Cisco NCS distributed deployment environment, remove the patch bundle of the application from the primary Policy Administration Point (PAP) node in the Cisco NCS Administration user interface so that the patch bundle automatically gets uninstalled from all the secondary nodes.

To remove a specific patch bundle version of the application, use the **patch remove** command in EXEC mode.

patch remove *word word*

Syntax Description

word	The name of the application for which the patch is to be removed. Up to 255 alphanumeric characters.
word	The patch version number to be removed. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Removes a specific patch bundle of the application.

If you attempt to remove a patch that is not installed, then you receive the following error message:

```
% Patch is not installed
```

Examples

Example 1

```
ncs/admin# patch remove ncs 3
Continue with application patch uninstall? [y/n] y

Application patch successfully uninstalled
ncs/admin#
```

Example 2

```
ncs/admin# patch remove ncs 3
```

```
Continue with application patch uninstall? [y/n] y

% Patch is not installed
ncs/admin#
```

Related Commands

Command	Description
patch install	Installs a specific patch bundle of the application.
show version	Displays information about the currently loaded software version, along with hardware and device information.

ping

To diagnose the basic IPv4 network connectivity to a remote system, use the **ping** command in EXEC mode.

ping {*ip-address* | *hostname*} [**df** *df*] [**packetsize** *packetsize*] [**pingcount** *pingcount*]

Syntax Description

ip-address	IP address of the system to ping. Up to 32 alphanumeric characters.
hostname	Hostname of the system to ping. Up to 32 alphanumeric characters.
df	Specification for packet fragmentation.
df	Specify the value as **1** to prohibit packet fragmentation, or **2** to fragment the packets locally, or **3** to not set df.
packetsize	Size of the ping packet.
packetsize	Specify the size of the ping packet; the value can be between 0 and 65507.
pingcount	Number of ping echo requests.
pingcount	Specify the number of ping echo requests; the value can be between 1 and 10.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

The **ping** command sends an echo request packet to an address, then awaits a reply. The ping output can help you evaluate path-to-host reliability, delays over the path, and whether you can reach a host.

Examples

```
ncs/admin# ping 172.16.0.1 df 2 packetsize 10 pingcount 2
PING 172.16.0.1 (172.16.0.1) 10(38) bytes of data.
18 bytes from 172.16.0.1: icmp_seq=0 ttl=40 time=306 ms
18 bytes from 172.16.0.1: icmp_seq=1 ttl=40 time=300 ms

--- 172.16.0.1 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 300.302/303.557/306.812/3.255 ms, pipe 2
```

```
ncs/admin#
```

Related Commands

Command	Description
ping6	Ping a remote IPv6 address.

ping6

Similar to the IPv4 **ping** command**,** use the IPv6 **ping6** command in EXEC mode.

ping6 {*ip-address* | *hostname*} [**GigabitEthernet** *0-3*][**packetsize** *packetsize*] [**pingcount** *pingcount*]

Syntax Description

ip-address	IP address of the system to ping. Up to 64 alphanumeric characters.
hostname	Hostname of the system to ping. Up to 64 alphanumeric characters.
GigabitEthernet	Selects the ethernet interface.
packetsize	Size of the ping packet.
packetsize	Specifies the size of the ping packet; the value can be between 0 and 65507.
pingcount	Number of ping echo requests.
pingcount	Specifies the number of ping echo requests; the value can be between 1 and 10.

Command Default

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

The IPv6 **ping6** command sends an echo request packet to an address, then awaits a reply. The ping output can help you evaluate path-to-host reliability, delays over the path, and whether you can reach a host.

The IPv6 **ping6** command is similar to the existing IPv4 ping command that does not support the IPv4 ping fragmentation (df in IPv4) options, but allows an optional specification of an interface. The interface option is primarily useful for pinning with link-local addresses that are interface-specific. The packetsize and pingcount options work identically the same as they do with the IPv4 command.

Examples

Example 1

```
ncs/admin# ping6 3ffe:302:11:2:20c:29ff:feaf:da05
PING 3ffe:302:11:2:20c:29ff:feaf:da05(3ffe:302:11:2:20c:29ff:feaf:da05) from
3ffe:302:11:2:20c:29ff:feaf:da05 eth0: 56 data bytes
64 bytes from 3ffe:302:11:2:20c:29ff:feaf:da05: icmp_seq=0 ttl=64 time=0.599 ms
64 bytes from 3ffe:302:11:2:20c:29ff:feaf:da05: icmp_seq=1 ttl=64 time=0.150 ms
64 bytes from 3ffe:302:11:2:20c:29ff:feaf:da05: icmp_seq=2 ttl=64 time=0.070 ms
64 bytes from 3ffe:302:11:2:20c:29ff:feaf:da05: icmp_seq=3 ttl=64 time=0.065 ms
```

```
--- 3ffe:302:11:2:20c:29ff:feaf:da05 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3118ms
rtt min/avg/max/mdev = 0.065/0.221/0.599/0.220 ms, pipe 2

ncs/admin#
```

Example 2

```
ncs/admin# ping6 3ffe:302:11:2:20c:29ff:feaf:da05 GigabitEthernet 0 packetsize 10
pingcount 2
PING 3ffe:302:11:2:20c:29ff:feaf:da05(3ffe:302:11:2:20c:29ff:feaf:da05) from
3ffe:302:11:2:20c:29ff:feaf:da05 eth0: 10 data bytes
18 bytes from 3ffe:302:11:2:20c:29ff:feaf:da05: icmp_seq=0 ttl=64 time=0.073 ms
18 bytes from 3ffe:302:11:2:20c:29ff:feaf:da05: icmp_seq=1 ttl=64 time=0.073 ms

--- 3ffe:302:11:2:20c:29ff:feaf:da05 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1040ms
rtt min/avg/max/mdev = 0.073/0.073/0.073/0.000 ms, pipe 2

ncs/admin#
```

Related Commands

Command	Description
ping	Pings a remote IP address.

reload

To reload the Cisco NCS operating system, use the **reload** command in EXEC mode.

reload

Syntax Description

No arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

The **reload** command reboots the system. Use the **reload** command after you enter configuration information into a file and save the running-configuration to the persistent startup-configuration on the CLI and save any settings in the web Administration user interface session.

Before you enter the **reload** command, ensure that the Cisco NCS is not performing any backup, restore, installation, upgrade, or remove operation. If the Cisco NCS performs any of these operations and you enter the **reload** command, you will notice any of the following warning messages:

```
WARNING: A backup or restore is currently in progress! Continue with reload?

WARNING: An install/upgrade/remove is currently in progress! Continue with reload?
```

If you get any of these warnings, enter YES to halt the operation, or enter NO to cancel the halt.

If no processes are running when you use the **reload** command or you enter YES in response to the warning message displayed, the Cisco NCS asks you to respond to the following option:

```
Do you want to save the current configuration ?
```

Enter YES to save the existing Cisco NCS configuration. The Cisco NCS displays the following message:

```
Saved the running configuration to startup successfully
```

Examples

```
ncs/admin# reload
Do you want to save the current configuration ? (yes/no) [yes] ? yes
Generating configuration...
Saved the running configuration to startup successfully
Continue with reboot? [y/n] y

Broadcast message from root (pts/0) (Fri Aug  7 13:26:46 2010):

The system is going down for reboot NOW!

ncs/admin#
```

Related Commands

Command	Description
halt	Disables the system.

restore

To perform a restore of a previous backup, use the **restore** command in EXEC mode. A restore operation restores data related to the Cisco NCS as well as the Cisco ADE OS. To perform a restore of a previous backup of the application data of the Cisco NCS only, add the **application** command to the **restore** command in EXEC mode. To remove this function, use the **no** form of this command.

Use the following command to restore data related to the Cisco NCS application and Cisco ADE OS:

restore *filename* **repository** *repository-name*

Use the following command to restore data related only to the NCS application:

restore *filename* **repository** *repository-name* **application** *application*

Syntax Description

filename	Name of the backed-up file that resides in the repository. Up to 120 alphanumeric characters. **Note** You must add the .tar.gpg extension after the filename (for example, myfile.tar.gpg).
repository	The repository keyword.
repository-name	Name of the repository you want to restore from backup.

application	The application keyword.
application name	The name of the application data to be restored. Up to 255 alphanumeric characters. **Note** Enter the application name as 'NCS' in upper case.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

When you use these two commands in the Cisco NCS, the Cisco NCS server restarts automatically.

Examples

```
ncs/admin# restore mybackup-100818-1502.tar.gpg repository myrepository
Restore may require a reboot to successfully complete. Continue? (yes/no) [yes] ? yes
Stopping NCS Monitoring & Troubleshooting Log Processor...
Stopping NCS Monitoring & Troubleshooting Log Collector...
Stopping NCS Monitoring & Troubleshooting Alert Process...
Stopping NCS Monitoring & Troubleshooting Session Database...
Stopping NCS Application Server...
Stopping NCS Database processes...
Starting NCS Database processes...
Starting NCS Application Server...
Starting NCS Monitoring & Troubleshooting Session Database...
Starting NCS Monitoring & Troubleshooting Log Collector...
Starting NCS Monitoring & Troubleshooting Log Processor...
Starting NCS Monitoring & Troubleshooting Alert Process...
Note: NCS Processes are initializing. Use 'show application status NCS'
      CLI to verify all processes are in running state.

Broadcast message from root (pts/0) (Wed Aug 18 15:34:58 2010):

The system is going down for reboot NOW!
ncs/admin# Last login: Wed Aug 18 14:00:27 2010 from 10.77.137.60
ncs/admin# show application status NCS

NCS Database listener is running, PID: 3024
NCS Database is running, number of processes: 34
NCS Application Server is still initializing.
NCS M&T Session Database is running, PID: 2793
NCS M&T Log Collector is running, PID: 3336
NCS M&T Log Processor is running, PID: 3379
NCS M&T Alert Process is running, PID: 3442

ncs/admin#
```

Related Commands

Command	Description
backup	Performs a backup (Cisco NCS and Cisco ADE OS) and places the backup in a repository.
backup-logs	Backs up system logs.
repository	Enters the repository submode for configuration of backups.
show repository	Displays the available backup files located on a specific repository.
show backup history	Displays the backup history of the system.

rmdir

To remove an existing directory, use the **rmdir** command in EXEC mode.

rmdir *word*

Syntax Description

word	Directory name. Up to 80 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

```
ncs/admin# mkdir disk:/test
ncs/admin# dir

Directory of disk:/

       4096 May 06 2010 13:34:49  activemq-data/
       4096 May 06 2010 13:40:59  logs/
      16384 Mar 01 2010 16:07:27  lost+found/
       4096 May 06 2010 13:42:53  target/
       4096 May 07 2010 12:26:04  test/

           Usage for disk: filesystem
                  181067776 bytes total used
                19084521472 bytes free
                20314165248 bytes available
ncs/admin#

ncs/admin# rmdir disk:/test
ncs/admin# dir

Directory of disk:/

       4096 May 06 2010 13:34:49  activemq-data/
       4096 May 06 2010 13:40:59  logs/
      16384 Mar 01 2010 16:07:27  lost+found/
       4096 May 06 2010 13:42:53  target/

           Usage for disk: filesystem
                  181063680 bytes total used
```

```
                19084525568 bytes free
                20314165248 bytes available
ncs/admin#
```

Related Commands

Command	Description
dir	Displays a list of files on the Cisco NCS server.
mkdir	Creates a new directory.

root

To execute the root shell, use the **root** command in EXEC mode.

root

Note For developer use only, not for end users.

Note This command and the root_enable command can only be used on the NCS locally hard-wired console port via Telnet. If you try to access this port over a LAN via SSH or Telnet, the commands are disallowed and the following message appears:

```
% Error : root patch only available on a console port.
```

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Requires installation of the root_enable application or patch. The root command prompts for the password used with root_enable and puts you in a bash shell with root privileges.

There are no defaults for the password.

If the password is already set, the root_enable command generates the following error message:

```
% Error : root patch password already set
```

If the password is not set, the root command generates the following error message:

```
% Error : root patch password not set.
```

Examples

The following example illustrates the use of the root command:

```
ncs/admin# root
% Error : root patch password not set
```

Related Commands

Command	Description
root_enable	Activates the **root** command.

root_enable

To activate the **root** command, use the **root_enable** command in the EXEC mode.

root_enable

Note For developer use only, not for end users.

Note This command and the **root_enable** command can only be used on the NCS locally hard-wired console port via Telnet. If you try to access this port over a LAN via SSH or Telnet, the commands are disallowed and the following message appears:

```
% Error : root patch only available on a console port.
```

Syntax Description

This command has no arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Requires installation of the root_enable application or patch. The **root** command prompts for the password used with root_enable and puts you in a bash shell with root privileges.

There are no defaults for the password.

If the password is already set, the **root_enable** command generates the following error message:

```
% Error : root patch password already set
```

If the password is not set, the **root** command generates the following error message:

```
% Error : root patch password not set
```

Examples

The following example illustrates the use of the **root_enable** command:

```
ncs/admin# root_enable
% Error : root patch password already set
```

Related Commands

Command	Description
root_enable	Executes the root shell.

show

To show the running system information, use the **show** command in EXEC mode. The **show** commands are used to display the Cisco NCS settings and are among the most useful commands.

The commands in Table A-6 require the **show** command to 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**.

For detailed information on all the Cisco NCS **show** commands, see show Commands, page A-61.

show *keyword*

Syntax Description

Table A-6 provides a summary of the **show** commands.

Table A-6 Summary of show Commands

Command[1]	Description
application (requires keyword)[2]	Displays information about the installed application; for example, status or version.
backup (requires keyword)	Displays information about the backup.
cdp (requires keyword)	Displays information about the enabled Cisco Discovery Protocol interfaces.
clock	Displays the day, date, time, time zone, and year of the system clock.
cpu	Displays CPU information.
disks	Displays file-system information of the disks.
interface	Displays statistics for all the interfaces configured on the Cisco ADE OS.
logging (requires keyword)	Displays system logging information.
logins (requires keyword)	Displays login history.
memory	Displays memory usage by all running processes.
ntp	Displays the status of the Network Time Protocol (NTP).
ports	Displays all the processes listening on the active ports.
process	Displays information about the active processes of the Cisco NCS server.
repository (requires keyword)	Displays the file contents of a specific repository.
restore (requires keyword)	Displays restore history on the Cisco NCS server.

Table A-6 Summary of show Commands (continued)

Command[1]	Description
running-config	Displays the contents of the currently running configuration file on the Cisco NCS server.
startup-config	Displays the contents of the startup configuration on the Cisco NCS server.
tech-support	Displays system and configuration information that you can provide to the TAC when you report a problem.
terminal	Displays information about the terminal configuration parameter settings for the current terminal line.
timezone	Displays the time zone of the Cisco NCS server.
timezones	Displays all the time zones available for use on the Cisco NCS server.
udi	Displays information about the unique device identifier (UDI) of the Cisco NCS.
uptime	Displays how long the system you are logged in to has been up and running.
users	Displays information for currently logged in users.
version	Displays information about the installed application version.

1. The commands in this table require that the **show** command precedes a keyword; for example, **show application**.
2. Some **show** commands require an argument or variable after the keyword to function; for example, **show application version**. This **show** command displays the version of the application installed on the system (see show application, page A-61).

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

All **show** commands require at least one keyword to function.

Examples

```
ncs/admin# show application
<name>          <Description>
ncs            Cisco Network Control System
ncs/admin#
```

ssh

To start an encrypted session with a remote system, use the **ssh** command in EXEC mode.

Note An Admin or Operator (user) can use this command (see Table 1-1).

ssh [*ip-address* | *hostname*] *username* **port** [*number*] **version [1 | 2] delete hostkey** *word*

Syntax Description

ip-address	IP address of the remote system. Up to 64 alphanumeric characters.
hostname	Hostname of the remote system. Up to 64 alphanumeric characters.
username	Username of the user logging in through SSH.
port [*number*]	(Optional) Indicates the port number of the remote host. From 0 to 65,535. Default 22.
version [1 | 2]	(Optional) Indicates the version number. Default 2.
delete hostkey	Deletes the SSH fingerprint of a specific host.
word	IPv4 address or hostname of a remote system. Up to 64 alphanumeric characters.

Defaults

Disabled.

Command Modes

EXEC (Admin or Operator)

Usage Guidelines

The **ssh** command enables a system to make a secure, encrypted connection to another remote system or server. This connection provides functionality similar to that of an outbound Telnet connection except that the connection is encrypted. With authentication and encryption, the SSH client allows for secure communication over an insecure network.

Examples

Example 1

```
ncs/admin# ssh ncs1 admin
admin@ncs1's password:
Last login: Wed Jul 11 05:53:20 2008 from ncs.cisco.com

ncs1/admin#
```

Example 2

```
ncs/admin# ssh delete host ncs
ncs/admin#
```

tech dumptcp

To dump a Transmission Control Protocol (TCP) package to the console, use the **tech dumptcp** command in EXEC mode.

tech dumptcp *gigabit-ethernet*

Syntax Description

gigabit-ethernet	Gigabit Ethernet interface number 0 to 1.

Defaults

Disabled.

Command Modes EXEC

Examples

```
ncs/admin# tech dumptcp 0
140816:141088(272) ack 1921 win 14144
08:26:12.034630 IP NCS.cisco.com.ssh > dhcp-64-102-82-153.cisco.com.2221: P
141088:141248(160) ack 1921 win 14144
08:26:12.034635 IP dhcp-64-102-82-153.cisco.com.2221 > NCS.cisco.com.ssh: . ack 139632 win
64656
08:26:12.034677 IP NCS.cisco.com.ssh > dhcp-64-102-82-153.cisco.com.2221: P
141248:141520(272) ack 1921 win 14144
08:26:12.034713 IP NCS.cisco.com.ssh > dhcp-64-102-82-153.cisco.com.2221: P
141520:141680(160) ack 1921 win 14144
08:26:12.034754 IP NCS.cisco.com.ssh > dhcp-64-102-82-153.cisco.com.2221: P
141680:141952(272) ack 1921 win 14144
08:26:12.034756 IP dhcp-64-102-82-153.cisco.com.2221 > NCS.cisco.com.ssh: . ack 140064 win
65520
08:26:12.034796 IP NCS.cisco.com.ssh > dhcp-64-102-82-153.cisco.com.2221: P
141952:142112(160) ack 1921 win 14144
1000 packets captured
1000 packets received by filter
0 packets dropped by kernel
ncs/admin#
```

telnet

To log in to a host that supports Telnet, use the **telnet** command in operator (user) or EXEC mode.

telnet [*ip-address* | *hostname*] **port** *number*

Syntax Description

ip-address	IP address of the remote system. Up to 64 alphanumeric characters.
hostname	Hostname of the remote system. Up to 64 alphanumeric characters.
port *number*	(Optional) Indicates the port number of the remote host. From 0 to 65,535.

Defaults No default behavior or values.

Command Modes Operator

EXEC

Examples

```
ncs/admin# telnet 172.16.0.11 port 23
ncs.cisco.com login: admin
password:
Last login: Mon Jul  2 08:45:24 on ttyS0
ncs/admin#
```

terminal length

To set the number of lines on the current terminal screen for the current session, use the **terminal length** command in EXEC mode.

terminal length *integer*

Syntax Description

integer	Number of lines on the screen. Contains between 0 to 511 lines, inclusive. A value of zero (0) disables pausing between screens of output.

Defaults

24 lines

Command Modes

EXEC

Usage Guidelines

The system uses the length value to determine when to pause during multiple-screen output.

Examples

```
ncs/admin# terminal length 0
ncs/admin#
```

terminal session-timeout

To set the inactivity timeout for all sessions, use the **terminal session-timeout** command in EXEC mode.

terminal session-timeout *minutes*

Syntax Description

minutes	Sets the number of minutes for the inactivity timeout. From 0 to 525,600. Zero (0) disables the timeout.

Defaults

30 minutes

Command Modes

EXEC

Usage Guidelines

Setting the **terminal session-timeout** command to zero (0) results in no timeout being set.

Examples

```
ncs/admin# terminal session-timeout 40
```

```
ncs/admin#
```

Related Commands	Command	Description
	terminal session-welcome	Sets a welcome message on the system for all users who log in to the system.

terminal session-welcome

To set a welcome message on the system for all users who log in to the system, use the **terminal session-welcome** command in EXEC mode.

terminal session-welcome *string*

Syntax Description		
	string	Welcome message. Up to 2,048 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

Specify a message using up to 2,048 characters.

Examples

```
ncs/admin# terminal session-welcome Welcome
ncs/admin#
```

Related Commands	Command	Description
	terminal session-timeout	Sets the inactivity timeout for all sessions.

terminal terminal-type

To specify the type of terminal connected to the current line for the current session, use the **terminal terminal-type** command in EXEC mode.

terminal terminal-type *type*

Syntax Description

type	Defines the terminal name and type, and permits terminal negotiation by hosts that provide that type of service. Up to 80 alphanumeric characters.

Defaults VT100

Command Modes EXEC

Usage Guidelines Indicate the terminal type if it is different from the default of VT100.

Examples

```
ncs/admin# terminal terminal-type vt220
ncs/admin#
```

traceroute

To discover the routes that packets take when traveling to their destination address, use the **traceroute** command in EXEC mode.

traceroute [*ip-address* | *hostname*]

Syntax Description

ip-address	IP address of the remote system. Up to 32 alphanumeric characters.
hostname	Hostname of the remote system. Up to 32 alphanumeric characters.

Defaults No default behavior or values.

Command Modes EXEC

Examples

```
ncs/admin# traceroute 172.16.0.11
traceroute to 172.16.0.11 (172.16.0.11), 30 hops max, 38 byte packets
 1  172.16.0.11 0.067 ms  0.036 ms  0.032 ms

ncs/admin#
```

undebug

To disable debugging functions, use the **undebug** command in EXEC mode.

undebug {**all** | **application** | **backup-restore** | **cdp** | **config** | **copy** | **icmp** | **locks** | **logging** | **snmp** | **system** | **transfer** | **user** | **utils**}

Syntax Description

all	Disables all debugging.
application	Application files. • *all*—Disables all application debug output. • *install*—Disables application install debug output. • *operation*—Disables application operation debug output. • *uninstall*—Disables application uninstall debug output.
backup-restore	Backs up and restores files. • *all*—Disables all debug output for backup-restore. • *backup*—Disables backup debug output for backup-restore. • *backup-logs*—Disables backup-logs debug output for backup-restore. • *history*—Disables history debug output for backup-restore. • *restore*—Disables restore debug output for backup-restore.
cdp	Cisco Discovery Protocol configuration files. • *all*—Disables all Cisco Discovery Protocol configuration debug output. • *config*—Disables configuration debug output for Cisco Discovery Protocol. • *infra*—Disables infrastructure debug output for Cisco Discovery Protocol.
config	Configuration files. • *all*—Disables all configuration debug output. • *backup*—Disables backup configuration debug output. • *clock*—Disables clock configuration debug output. • *infra*—Disables configuration infrastructure debug output. • *kron*—Disables command scheduler configuration debug output. • *network*—Disables network configuration debug output. • *repository*—Disables repository configuration debug output. • *service*—Disables service configuration debug output.
copy	Copy commands.
icmp	ICMP echo response configuration. *all*—Disable all debug output for ICMP echo response configuration. Set level between 0 and 7, with 0 being severe and 7 being all.
locks	Resource locking. • *all*—Disables all resource locking debug output. • *file*—Disables file locking debug output.
logging	Logging configuration files. *all*—Disables all debug output for logging configuration.

snmp	SNMP configuration files. *all*—Disables all debug output for SNMP configuration.
system	System files. • *all*—Disables all system files debug output. • *id*—Disables system ID debug output. • *info*—Disables system info debug output. • *init*—Disables system init debug output.
transfer	File transfer.
user	User management. • *all*—Disables all user management debug output. • *password-policy*—Disables user management debug output for password-policy.
utils	Utilities configuration files. *all*—Disables all utilities configuration debug output.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

None.

Examples

```
ncs/admin# undebug all
ncs/admin#
```

Related Commands

Command	Description
debug	Displays errors or events for command situations.

write

To copy, display, or erase Cisco NCS server configurations, use the **write** command with the appropriate argument in EXEC mode.

write {**erase** | **memory** | **terminal**}

Syntax Description

erase	Erases the startup configuration.
memory	Copies the running configuration to the startup configuration.
terminal	Copies the running configuration to console.

Defaults No default behavior or values.

Command Modes EXEC

Examples

Example 1

```
ncs/admin# write memory
Generating configuration...
ncs/admin#
```

Example 2

```
ncs/admin# write terminal

Generating configuration...
!
hostname ncs
!
ip domain-name cisco.com
!
interface GigabitEthernet 0
  ip address 10.201.2.121 255.255.255.0
  ipv6 address autoconfig
!
interface GigabitEthernet 1
  shutdown
!
interface GigabitEthernet 2
  shutdown
!
interface GigabitEthernet 3
  shutdown
!
ip name-server 171.68.226.120
!
ip default-gateway 10.201.2.1
!
clock timezone UTC
!
ntp server clock.cisco.com
!
username admin password hash $1$6yQQaFXM$UBgbp7ggD1bG3kpExywwZ0 role admin
!
service sshd
!
repository myrepository
  url disk:
  user admin password hash 2b50ca94445f240f491e077b5f49fa0375942f38
!
password-policy
  lower-case-required
  upper-case-required
  digit-required
  no-username
  disable-cisco-passwords
  min-password-length 6
!
logging localhost
logging loglevel 6
!
```

```
cdp timer 60
cdp holdtime 180
cdp run GigabitEthernet 0
!
icmp echo on
!

ncs/admin#
```

show Commands

This section lists each **show** command , each command includes a brief description of its use, any comman defaults, command modes, command syntax, usage guidelines, and an example of the command and any related commands.

Table A-7 lists the show EXEC commands described in this section.

Table A-7 List of EXEC show Commands

• show application	• show logins	• show tech-support
• show backup history	• show memory	• show terminal
• show cdp	• show ntp	• show timezone
• show clock	• show ports	• show timezones
• show cpu	• show process	• show udi
• show disks	• show repository	• show uptime
• show icmp-status	• show restore	• show users
• show interface	• show running-config	• show version
• show inventory	• show startup-config	
• show logging		

show application

To show application information of the installed application packages on the system, use the **show application** command in EXEC mode.

show application [**status** | **version** [*app_name*]]

Syntax Description

show application	The command to display the Cisco NCS application information.
status	Displays the status of the installed application.
version	Displays the application version for an installed application—the Cisco NCS.
app_name	Name of the installed application.

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. |—Output modifier variables (see Table A-8). • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables (see Table A-8).

Table A-8 Output Modifier Variables for Count or Last

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. |—Output modifier variables. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

Example 1

```
ncs/admin# show application
<name>          <Description>
ncs             Cisco Network Control System
ncs/admin#
```

Example 2

```
ncs/admin# show application version NCS

Cisco Network Control System
```

```
-------------------------------------------
Version      : 1.0.2.051
Build Date   : Mon Aug  2 00:34:25 2010
Install Date : Thu Aug  5 17:48:49 2010

ncs/admin#
```

Example 3

```
ncs/admin# show application status NCS

NCS Database listener is running, PID: 21096
NCS Database is running, number of processes: 27
NCS Application Server is running, PID: 21432
NCS M&T Session Database is running, PID: 21365
NCS M&T Log Collector is running, PID: 21468
NCS M&T Log Processor is running, PID: 21494
NCS M&T Alert Process is running, PID: 21524

ncs/admin#
```

Related Commands

Command	Description
application install	Installs an application bundle.
application remove	Removes or uninstalls an application.
application start	Starts or enables an application.
application stop	Stops or disables an application.
application upgrade	Upgrades an application bundle.

show backup history

To display the backup history of the system, use the **show backup history** command in EXEC mode.

show backup history

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Usage Guidelines None.

Examples

Example 1

```
ncs/admin# show backup history
```

```
Wed Aug 18 12:55:21 UTC 2010: backup logs logs-0718.tar.gz to repository fileserver007:
success
Wed Aug 18 12:55:53 UTC 2010: backup full-0718.tar.gpg to repository fileserver007:
success
ncs/admin#
```

Example 2

```
ncs/admin# show backup history
backup history is empty
ncs/admin#
```

Related Commands

Command	Description
backup	Performs a backup (Cisco NCS and Cisco ADE OS) and places the backup in a repository.
restore	Restores from backup the file contents of a specific repository.
repository	Enters the repository submode for configuration of backups.
show repository	Displays the available backup files located on a specific repository.

show cdp

To display information about the enabled Cisco Discovery Protocol interfaces, use the **show cdp** command in EXEC mode.

show cdp {**all** | **neighbors**}

Syntax Description

all	Shows all the enabled Cisco Discovery Protocol interfaces.
neighbors	Shows the Cisco Discovery Protocol neighbors.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

Example 1

```
ncs/admin# show cdp all
CDP protocol is enabled ...
        broadcasting interval is every 60 seconds.
        time-to-live of cdp packets is 180 seconds.

        CDP is enabled on port GigabitEthernet0.
ncs/admin#
```

Example 2

```
ncs/admin# show cdp neighbors
CDP Neighbor : 000c297840e5
```

```
        Local Interface    : GigabitEthernet0
        Device Type        : L-NCS-1.0-50
        Port               : eth0
        Address            : 172.23.90.114

CDP Neighbor : isexp-esw5
        Local Interface    : GigabitEthernet0
        Device Type        : cisco WS-C3560E-24TD
        Port               : GigabitEthernet0/5
        Address            : 172.23.90.45

CDP Neighbor : 000c29e29926
        Local Interface    : GigabitEthernet0
        Device Type        : L-NCS-1.0-50
        Port               : eth0
        Address            : 172.23.90.115

CDP Neighbor : 000c290fba98
        Local Interface    : GigabitEthernet0
        Device Type        : L-NCS-1.0-50
        Port               : eth0
        Address            : 172.23.90.111

ncs/admin#
```

Related Commands

Command	Description
cdp holdtime	Specifies the length of time that the receiving device should hold a Cisco Discovery Protocol packet from your router before discarding it.
cdp run	Enables the Cisco Discovery Protocol.
cdp timer	Specifies how often the Cisco NCS server sends Cisco Discovery Protocol updates.

show clock

To display the day, month, date, time, time zone, and year of the system software clock, use the **show clock** command in EXEC mode.

show clock

Syntax Description No arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Examples

```
ncs/admin# show clock
Fri Aug  6 10:46:39 UTC 2010
ncs/admin#
```

Note The **show clock** output in the previous example includes Coordinated Universal Time (UTC) or Greenwich Mean Time (GMT), Great Britain, or Zulu time (see Tables A-16, A-17, and A-18 on pages A-84 and A-85 for sample time zones).

Related Commands

Command	Description
clock	Sets the system clock for display purposes.

show cpu

To display CPU information, use the **show cpu** command in EXEC mode.

show cpu [*statistics*] [|] [|]

Syntax Description

statistics	Displays CPU statistics.
|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. |—Output modifier variables (see Table A-9). • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables (see Table A-9).

Table A-9 Output Modifier Variables for Count or Last

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. |—Output modifier variables. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

Example 1

```
ncs/admin# show cpu

processor : 0
model     : Intel(R) Xeon(R) CPU           E5320  @ 1.86GHz
speed(MHz): 1861.914
cache size: 4096 KB

ncs/admin#
```

Example 2

```
ncs/admin# show cpu statistics
user time:              265175
kernel time:            166835
idle time:             5356204
i/o wait time:          162676
irq time:                 4055

ncs/admin#
```

Related Commands

Command	Description
show disks	Displays the system information of all disks.
show memory	Displays the amount of system memory that each system process uses.

show disks

To display the disks file-system information, use the **show disks** command in EXEC mode.

show disks [|] [|]

Syntax Description

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. |—Output modifier variables (see Table A-10). • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables (see Table A-10).

Table A-10 Output Modifier Variables for Count or Last

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. |—Output modifier variables. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines Only platforms that have a disk file system support the **show disks** command.

Examples

```
ncs/admin# show disks

temp. space 2% used (17828 of 988116)
disk: 3% used (143280 of 5944440)

Internal filesystems:
  all internal filesystems have sufficient free space

ncs/admin#
```

Related Commands

Command	Description
show cpu	Displays CPU information.
show memory	Displays the amount of system memory that each system process uses.

show icmp-status

To display the Internet Control Message Protocol echo response configuration information, use the **show icmp_status** command in EXEC mode.

show icmp_status {**>** *file* | |}

Syntax Description

>	Output direction.
file	Name of file to redirect standard output (stdout).
|	Output modifier commands: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word count. – |—Output modifier commands (see Table A-11). • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • last—Display last few lines of output. Add number after the word last. Up to 80 lines to display. Default 10. – |—Output modifier commands (see Table A-11).

Table A-11 Output Modifier Variables for Count or Last

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. |—Output modifier variables. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

Example 1

```
ncs/admin# show icmp_status
icmp echo response is turned on
ncs/admin#
```

Example 2

```
ncs/admin# show icmp_status
icmp echo response is turned off
ncs/admin#
```

Related Commands

Command	Description
icmp echo	Configures the Internet Control Message Protocol (ICMP) echo requests.

show interface

To display the usability status of interfaces configured for IP, use the **show interface** command in EXEC mode.

show interface [*GigabitEthernet*] |

Syntax Description

GigabitEthernet	Shows the Gigabit Ethernet interface. Either 0 or 1.
|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the interface. Add number after the word *count*. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

None.

In the **show interface GigabitEthernet 0** output, you can find that the interface has three IPv6 addresses. The first internet address (starting with 3ffe) is the result of using stateless autoconfiguration. For this to work, you need to have IPv6 route advertisement enabled on that subnet. The next address (starting with fe80) is a link local address that does not have any scope outside the host. You always see a link local address regardless of the IPv6 autoconfiguration or DHCPv6 configuration. The last address (starting with 2001) is the result obtained from an IPv6 DHCP server.

Examples

Example 1

```
ncs/admin# show interface
eth0      Link encap:Ethernet  HWaddr 00:0C:29:6A:88:C4
          inet addr:172.23.90.113  Bcast:172.23.90.255  Mask:255.255.255.0
          inet6 addr: fe80::20c:29ff:fe6a:88c4/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:48536 errors:0 dropped:0 overruns:0 frame:0
          TX packets:14152 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:6507290 (6.2 MiB)  TX bytes:12443568 (11.8 MiB)
          Interrupt:59 Base address:0x2000

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:1195025 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1195025 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:649425800 (619.3 MiB)  TX bytes:649425800 (619.3 MiB)

sit0      Link encap:IPv6-in-IPv4
          NOARP  MTU:1480  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
```

```
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:0 (0.0 b)  TX bytes:0 (0.0 b)

ncs/admin#
```

Example 2

```
ncs/admin# show interface GigabitEthernet 0
eth0      Link encap:Ethernet  HWaddr 00:0C:29:AF:DA:05
          inet addr:172.23.90.116  Bcast:172.23.90.255  Mask:255.255.255.0
          inet6 addr: 3ffe:302:11:2:20c:29ff:feaf:da05/64 Scope:Global
          inet6 addr: fe80::20c:29ff:feaf:da05/64 Scope:Link
          inet6 addr: 2001:558:ff10:870:8000:29ff:fe36:200/64 Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:77848 errors:0 dropped:0 overruns:0 frame:0
          TX packets:23131 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:10699801 (10.2 MiB)  TX bytes:3448374 (3.2 MiB)
          Interrupt:59 Base address:0x2000
```

Related Commands

Command	Description
interface	Configures an interface type and enters the interface configuration submode.
ipv6 address autoconfig	Enables IPv6 stateless autoconfiguration on an interface.
ipv6 address dhcp	Enables IPv6 address DHCP on an interface.

show inventory

To display information about the hardware inventory, including the Cisco NCS appliance model and serial number, use the **show inventory** command in EXEC mode.

show inventory |

Syntax Description

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the interface. Add number after the word *count*. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10.

Defaults

No default behavior or values.

Command Modes EXEC

Examples

```
ncs/admin# show inventory

NAME: "L-NCS-1.0-50 chassis", DESCR: "L-NCS-1.0-50 chassis"
PID: L-NCS-1.0-50 , VID: V01 , SN: H8JESGOFHGG
Total RAM Memory: 1035164 kB
CPU Core Count: 1
CPU 0: Model Info: Intel(R) Xeon(R) CPU           E5320  @ 1.86GHz
Hard Disk Count(*): 1
Disk 0: Device Name: /dev/sda
Disk 0: Capacity: 64.40 GB
Disk 0: Geometry: 255 heads 63 sectors/track 7832 cylinders
NIC Count: 1
NIC 0: Device Name: eth0
NIC 0: HW Address: 00:0C:29:6A:88:C4
NIC 0: Driver Descr: eth0: registered as PCnet/PCI II 79C970A

(*) Hard Disk Count may be Logical.

ncs/admin#
```

show logging

To display the state of system logging (syslog) and the contents of the standard system logging buffer, use the **show logging** command in EXEC mode.

show logging {**application** [*application-name*]} {**internal**} {**system**} |

Syntax Description

application	Displays application logs.
application-name	Application name. Up to 255 alphanumeric characters. – *tail*—Tail system syslog messages. – *count*—Tail last count messages. From 0 to 4,294,967,295. |—Output modifier variables (see below).
internal	Displays the syslogs configuration.
system	Displays the system syslogs.
|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the interface. Add number after the word *count*. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10.

Defaults No default behavior or values.

Command Modes EXEC

Usage Guidelines This command displays the state of syslog error and event logging, including host addresses, and for which, logging destinations (console, monitor, buffer, or host) logging is enabled.

Examples

Example 1

```
ncs/admin# show logging system
ADEOS Platform log:
-----------------

Aug  5 10:44:32 localhost debugd[1943]: [16618]: config:network: main.c[252] [setup]:
Setup is complete
Aug  5 10:45:02 localhost debugd[1943]: [17291]: application:install cars_install.c[242]
[setup]: Install initiated with bundle - ncs.tar.gz,
repo - SystemDefaultPkgRepos
Aug  5 10:45:02 localhost debugd[1943]: [17291]: application:install cars_install.c[256]
[setup]: Stage area - /storeddata/Installing/.1281030
302
Aug  5 10:45:02 localhost debugd[1943]: [17291]: application:install cars_install.c[260]
[setup]: Getting bundle to local machine
Aug  5 10:45:03 localhost debugd[1943]: [17291]: transfer: cars_xfer.c[58] [setup]: local
copy in of ncs.tar.gz requested
Aug  5 10:45:46 localhost debugd[1943]: [17291]: application:install cars_install.c[269]
[setup]: Got bundle at - /storeddata/Installing/.1281
030302/ncs.tar.gz
Aug  5 10:45:46 localhost debugd[1943]: [17291]: application:install cars_install.c[279]
[setup]: Unbundling package ncs.tar.gz
Aug  5 10:47:06 localhost debugd[1943]: [17291]: application:install cars_install.c[291]
[setup]: Unbundling done. Verifying input parameters.
..
Aug  5 10:47:06 localhost debugd[1943]: [17291]: application:install cars_install.c[313]
[setup]: Manifest file is at - /storeddata/Installing
/.1281030302/manifest.xml
Aug  5 10:47:07 localhost debugd[1943]: [17291]: application:install cars_install.c[323]
[setup]: Manifest file appname - ncs
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install cars_install.c[386]
[setup]: Manifest file pkgtype - CARS
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install cars_install.c[398]
[setup]: Verify dependency list -
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install cars_install.c[410]
[setup]: Verify app license -
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install cars_install.c[420]
[setup]: Verify app RPM's
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install cars_install.c[428]
[setup]: No of RPM's - 9
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install cars_install.c[439]
[setup]: Disk - 50
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[325]
[setup]: Disk requested = 51200 KB
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[345]
[setup]: More disk found Free = 40550400, req_disk = 51200
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install cars_install.c[450]
[setup]: Mem requested by app - 100
```

```
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[369]
[setup]: Mem requested = 102400
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[384]
[setup]: Found MemFree = MemFree:         13028 kB
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[390]
[setup]: Found MemFree value = 13028
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[393]
[setup]: Found Inactive = Inactive:       948148 kB
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[399]
[setup]: Found Inactive MemFree value = 948148
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[409]
[setup]: Sufficient mem found
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install ci_util.c[415]
[setup]: Done checking memory...
Aug  5 10:47:09 localhost debugd[1943]: [17291]: application:install cars_install.c[461]
[setup]: Verifying RPM's...
--More--
(press Spacebar to continue)

ncs/admin#
```

Example 2

```
ncs/admin# show logging internal

log server:          localhost
Global loglevel:     6
Status:              Enabled
ncs/admin#
```

Example 3

```
ncs/admin# show logging internal

log server:          localhost
Global loglevel:     6
Status:              Disabled
ncs/admin#
```

show logins

To display the state of system logins, use the **show logins** command in EXEC mode.

show logins cli

Syntax Description		
	cli	Lists the **cli** login history.

Defaults No default behavior or values.

Command Modes EXEC

Usage Guidelines Requires the **cli** keyword; otherwise, an error occurs.

Examples

```
ncs/admin# show logins cli
admin    pts/0        10.77.137.60     Fri Aug  6 09:45   still logged in
admin    pts/0        10.77.137.60     Fri Aug  6 08:56 - 09:30  (00:33)
admin    pts/0        10.77.137.60     Fri Aug  6 07:17 - 08:43  (01:26)
reboot   system boot  2.6.18-164.el5PA Thu Aug  5 18:17          (17:49)
admin    tty1                          Thu Aug  5 18:15 - down   (00:00)
reboot   system boot  2.6.18-164.el5PA Thu Aug  5 18:09          (00:06)
setup    tty1                          Thu Aug  5 17:43 - 18:07  (00:24)
reboot   system boot  2.6.18-164.el5PA Thu Aug  5 16:05          (02:02)

wtmp begins Thu Aug  5 16:05:36 2010

ncs/admin#
```

show memory

To display the memory usage of all the running processes, use the **show memory** command in EXEC mode.

show memory

Syntax Description No arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Examples

```
ncs/admin# show memory
total memory:    1035164 kB
free memory:       27128 kB
cached:           358888 kB
swap-cached:      142164 kB

ncs/admin#
```

show ntp

To show the status of the NTP associations, use the **show ntp** command in EXEC mode.

show ntp

Syntax Description No arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Examples

Example:1

```
ncs/admin# show ntp
Primary NTP   : cd-ncs-ntp.cisco.com

synchronised to NTP server (10.56.60.29) at stratum 3
   time correct to within 99 ms
   polling server every 1024 s

     remote           refid      st t when poll reach   delay   offset  jitter
==============================================================================
 127.127.1.0     .LOCL.          10 l   36   64  377    0.000    0.000   0.001
*10.56.60.29     64.103.34.15     2 u  906 1024  377  270.657    3.831  14.345


Warning: Output results may conflict during periods of changing synchronization.
ncs/admin#
```

Example:2

```
ncs/admin# show ntp
% no NTP servers configured
ncs/admin#
```

Related Commands

Command	Description
ntp server	Allows synchronization of the software clock by the NTP server for the system.

show ports

To display information about all the processes listening on active ports, use the **show ports** command in EXEC mode.

show ports [|] [|]

Syntax Description

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the interface. Add number after the word *count*. |—Output modifier variables (see Table A-12). • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables (see Table A-12).

Table A-12 Output Modifier Variables for Count or Last

|	Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. |—Output modifier variables. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10. |—Output modifier variables.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

When you run the **show ports** command, the port must have an associated active session.

Examples

```
ncs/admin# show ports
Process : timestensubd (21372)
     tcp: 127.0.0.1:11298
Process : timestenorad (21609)
     tcp: 127.0.0.1:51715
     udp: ::1:28314, ::1:59055, ::1:45113, ::1:49082, ::1:64737, ::1:62570, ::1:19577,
::1:29821
Process : ttcserver (21382)
```

```
     tcp: 127.0.0.1:16612, 0.0.0.0:53385
Process : timestenrepd (21579)
     tcp: 127.0.0.1:62504, 0.0.0.0:18047
     udp: ::1:51436
Process : timestend (21365)
     tcp: 0.0.0.0:53384
Process : rpc.statd (2387)
     tcp: 0.0.0.0:873
     udp: 0.0.0.0:867, 0.0.0.0:870
Process : timestensubd (21373)
     tcp: 127.0.0.1:43407
Process : portmap (2350)
     tcp: 0.0.0.0:111
     udp: 0.0.0.0:111
Process : Decap_main (21468)
     tcp: 0.0.0.0:2000
     udp: 0.0.0.0:9993
Process : timestensubd (21369)
     tcp: 127.0.0.1:37648
Process : timestensubd (21374)
     tcp: 127.0.0.1:64211
Process : sshd (2734)
     tcp: 172.23.90.113:22
Process : java (21432)
     tcp: 127.0.0.1:8888, :::2080, :::2020, ::ffff:127.0.0.1:8005, :::8009, :::8905,
:::8010, :::2090, :::1099, :::9999, :::61616, :::8080, ::
:80, :::60628, :::8443, :::443
     udp: 0.0.0.0:1812, 0.0.0.0:1813, 0.0.0.0:1700, 0.0.0.0:10414, 0.0.0.0:3799,
0.0.0.0:1645, 0.0.0.0:1646, :::8905, :::8906
Process : monit (21531)
     tcp: 127.0.0.1:2812
Process : java (21524)
     tcp: :::62627
Process : java (21494)
     tcp: ::ffff:127.0.0.1:20515
     udp: 0.0.0.0:20514
Process : tnslsnr (21096)
     tcp: :::1521
Process : ora_d000_ncs1 (21222)
     tcp: :::26456
     udp: ::1:63198
Process : ntpd (2715)
    udp: 172.23.90.113:123, 127.0.0.1:123, 0.0.0.0:123, ::1:123, fe80::20c:29ff:fe6a:123,
:::123
Process : ora_pmon_ncs1 (21190)
     udp: ::1:51994
Process : ora_mmon_ncs1 (21218)
     udp: :::38941
Process : ora_s000_ncs1 (21224)
     udp: ::1:49864

ncs/admin#
```

show process

To display information about active processes, use the **show process** command in the EXEC mode.

show process |

Syntax Description

|	(Optional) Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the interface. Add number after the word *count*. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10.

Defaults

No default behavior or values.

Command Modes

EXEC

Usage Guidelines

None.

Examples

See Table A-13 for process field descriptions.

```
ncs/admin# show process
USER       PID     TIME TT       COMMAND
root         1 00:00:02 ?        init
root         2 00:00:00 ?        migration/0
root         3 00:00:00 ?        ksoftirqd/0
root         4 00:00:00 ?        watchdog/0
root         5 00:00:00 ?        events/0
root         6 00:00:00 ?        khelper
root         7 00:00:00 ?        kthread
root        10 00:00:01 ?        kblockd/0
root        11 00:00:00 ?        kacpid
root       170 00:00:00 ?        cqueue/0
root       173 00:00:00 ?        khubd
root       175 00:00:00 ?        kseriod
root       239 00:00:32 ?        kswapd0
root       240 00:00:00 ?        aio/0
root       458 00:00:00 ?        kpsmoused
root       488 00:00:00 ?        mpt_poll_0
root       489 00:00:00 ?        scsi_eh_0
root       492 00:00:00 ?        ata/0
root       493 00:00:00 ?        ata_aux
root       500 00:00:00 ?        kstriped
root       509 00:00:07 ?        kjournald
```

```
root       536 00:00:00 ?        kauditd
root       569 00:00:00 ?        udevd
root      1663 00:00:00 ?        kmpathd/0
root      1664 00:00:00 ?        kmpath_handlerd
root      1691 00:00:00 ?        kjournald
root      1693 00:00:00 ?        kjournald
root      1695 00:00:00 ?        kjournald
root      1697 00:00:00 ?        kjournald
root      2284 00:00:00 ?        auditd
root      2286 00:00:00 ?        audispd
root      2318 00:00:10 ?        debugd
rpc       2350 00:00:00 ?        portmap
root      2381 00:00:00 ?        rpciod/0
--More--
ncs/admin#
```

Table A-13 Show Process Field Descriptions

Field	Description
USER	Logged-in user.
PID	Process ID.
TIME	The time the command was last used.
TT	Terminal that controls the process.
COMMAND	Type of process or command used.

show repository

To display the file contents of the repository, use the **show repository** command in EXEC mode.

show repository *repository-name*

Syntax Description

repository-name	Name of the repository whose contents you want to view. Up to 30 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

```
ncs/admin# show repository myrepository
back1.tar.gpg
back2.tar.gpg
ncs/admin#
```

Related Commands

Command	Description
backup	Performs a backup (Cisco NCS and Cisco ADE OS) and places the backup in a repository.
restore	Restores from backup the file contents of a specific repository.
repository	Enters the repository submode for configuration of backups.
show backup history	Displays the backup history of the system.

show restore

To display the restore history, use the **show restore** command in EXEC mode.

show restore {**history**}

Syntax Description

history	Displays the restore history.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

Example 1

```
ncs/admin# show restore history

ncs/admin#
```

Example 2

```
ncs/admin# show restore history
restore history is empty
ncs/admin#
```

Related Commands

Command	Description
backup	Performs a backup (Cisco NCS and Cisco ADE OS) and places the backup in a repository.
restore	Restores from backup the file contents of a specific repository.
repository	Enters the repository submode for configuration of backups.
show backup history	Displays the backup history of the system.

show running-config

To display the contents of the currently running configuration file or the configuration, use the **show running-config** command in EXEC mode.

show running-config

Syntax Description

No arguments or keywords.

Defaults

The **show running-config** command displays all of the configuration information.

Command Modes

EXEC

Examples

```
ncs/admin# show running-config
Generating configuration...
!
hostname ncs
!
ip domain-name cisco.com
!
interface GigabitEthernet 0
  ip address 172.23.90.113 255.255.255.0
  ipv6 address autoconfig
!
ip name-server 171.70.168.183
!
ip default-gateway 172.23.90.1
!
clock timezone UTC
!
ntp server time.nist.gov
!
username admin password hash $1$JbbHvKVG$xMZ/XL4tH15Knf.FfcZZr. role admin
!
service sshd
!
password-policy
  lower-case-required
  upper-case-required
  digit-required
  no-username
  disable-cisco-passwords
  min-password-length 6
!
logging localhost
logging loglevel 6
!
cdp timer 60
cdp holdtime 180
cdp run GigabitEthernet 0
!
icmp echo on
!
```

```
ncs/admin#
```

Related Commands

Command	Description
configure	Enters configuration mode.
show startup-config	Displays the contents of the startup configuration file or the configuration.

show startup-config

To display the contents of the startup configuration file or the configuration, use the **show startup-config** command in EXEC mode.

show startup-config

Syntax Description

No arguments or keywords.

Defaults

The **show startup-config** command displays all of the startup configuration information.

Command Modes

EXEC

Examples

```
ncs/admin# show startup-config
!
hostname ncs
!
ip domain-name cisco.com
!
interface GigabitEthernet 0
  ip address 172.23.90.113 255.255.255.0
  ipv6 address autoconfig
!
ip name-server 171.70.168.183
!
ip default-gateway 172.23.90.1
!
clock timezone UTC
!
ntp server time.nist.gov
!
username admin password hash $1$JbbHvKVG$xMZ/XL4tH15Knf.FfcZZr. role admin
!
service sshd
!
password-policy
  lower-case-required
  upper-case-required
  digit-required
  no-username
  disable-cisco-passwords
```

```
  min-password-length 6
!
logging localhost
logging loglevel 6
!
cdp timer 60
cdp holdtime 180
cdp run GigabitEthernet 0
!
icmp echo on
!
ncs/admin#
```

Related Commands

Command	Description
configure	Enters configuration mode.
show running-config	Displays the contents of the currently running configuration file or the configuration.

show tech-support

To display technical support information, including email, use the **show tech-support** command in EXEC mode.

show tech-support file [*word*]

Syntax Description

file	Save any technical support data as a file in the local disk.
word	Filename to save. Up to 80 alphanumeric characters.

Defaults

Passwords and other security information do not appear in the output.

Command Modes

EXEC

Usage Guidelines

The **show tech-support** command is useful for collecting a large amount of information about your Cisco NCS server for troubleshooting purposes. You can then provide output to technical support representatives when reporting a problem.

Examples

```
ncs/admin# show tech-support
################################################
Application Deployment Engine(ADE) - 2.0.0.568
Technical Support Debug Info follows...
################################################


**************************************
Checking dmidecode Serial Number(s)
```

```
****************************************
  None
 VMware-56 4d 14 cb 54 3d 44 5d-49 ee c4 ad a5 6a 88 c4

****************************************
Displaying System Uptime...
****************************************
 12:54:34 up 18:37,  1 user,  load average: 0.14, 0.13, 0.12

****************************************
Display Memory Usage(KB)
****************************************
             total       used       free     shared    buffers     cached
Mem:       1035164    1006180      28984          0      10784     345464
-/+ buffers/cache:     649932     385232
Swap:      2040244     572700    1467544

****************************************
Displaying Processes(ax --forest)...
****************************************
  PID TTY      STAT   TIME COMMAND
    1 ?        Ss     0:02 init [3]
    2 ?        S<     0:00 [migration/0]
    3 ?        SN     0:00 [ksoftirqd/0]
    4 ?        S<     0:00 [watchdog/0]
    5 ?        S<     0:00 [events/0]
--More--
(press Spacebar to continue)

ncs/admin#
```

Related Commands

Command	Description
show interface	Displays the usability status of the interfaces.
show process	Displays information about active processes.
show running-config	Displays the contents of the current running configuration.

show terminal

To obtain information about the terminal configuration parameter settings, use the **show terminal** command in EXEC mode.

show terminal

Syntax Description

No arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

```
ncs/admin# show terminal
TTY: /dev/pts/0 Type: "vt100"
Length: 27 lines, Width: 80 columns
Session Timeout: 30 minutes
ncs/admin#
```

Table A-14 describes the fields of the **show terminal** output.

Table A-14 Show Terminal Field Descriptions

Field	Description
TTY: /dev/pts/0	Displays standard output to type of terminal.
Type: “vt100“	Type of current terminal used.
Length: 24 lines	Length of the terminal display.
Width: 80 columns	Width of the terminal display, in character columns.
Session Timeout: 30 minutes	Length of time, in minutes, for a session, after which the connection closes.

show timezone

To display the time zone set on the system, use the **show timezone** command in EXEC mode.

show timezone

Syntax Description

No arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

```
ncs/admin# show timezone
UTC
ncs/admin#
```

Related Commands

Command	Description
clock timezone	Sets the time zone on the system.
show timezones	Displays the time zones available on the system.

show timezones

To obtain a list of time zones from which you can select, use the **show timezones** command in EXEC mode.

show timezones

Syntax Description No arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Usage Guidelines See clock timezone, page A-95, for examples of the time zones available for the NCS server.

Examples

```
ncs/admin# show timezones
Africa/Blantyre
Africa/Dar_es_Salaam
Africa/Dakar
Africa/Asmara
Africa/Timbuktu
Africa/Maputo
Africa/Accra
Africa/Kigali
Africa/Tunis
Africa/Nouakchott
Africa/Ouagadougou
Africa/Windhoek
Africa/Douala
Africa/Johannesburg
Africa/Luanda
Africa/Lagos
Africa/Djibouti
Africa/Khartoum
Africa/Monrovia
Africa/Bujumbura
Africa/Porto-Novo
Africa/Malabo
Africa/Ceuta
Africa/Banjul
Africa/Cairo
Africa/Mogadishu
Africa/Brazzaville
Africa/Kampala
Africa/Sao_Tome
Africa/Algiers
Africa/Addis_Ababa
Africa/Ndjamena
Africa/Gaborone
Africa/Bamako
Africa/Freetown
--More--
(press Spacebar to continue)

ncs/admin#
```

Related Commands

Command	Description
show timezone	Displays the time zone set on the system.
clock timezone	Sets the time zone on the system.

show udi

To display information about the UDI of the Cisco ISE 3315 appliance, use the **show udi** command in EXEC mode.

show udi

Syntax Description

No arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

Example 1

```
ncs/admin# show udi
SPID: L-NCS-1.0-50
VPID: V01
Serial: LAB12345678

ncs/admin#
```

The following output appears when you run the **show udi** command on VMware servers.

Example 2

```
ncs/admin# show udi
SPID: L-NCS-1.0-50
VPID: V01
Serial: 5C79C84ML9H

ncs/admin#
```

show uptime

To display the length of time that you have been logged in to the Cisco NCS server, use the **show uptime** command in EXEC mode.

show uptime |

Syntax Description

|	(Optional) Output modifier variables: • *begin*—Matched pattern. Up to 80 alphanumeric characters. • *count*—Count the number of lines in the output. Add number after the word *count*. • *end*—End with line that matches. Up to 80 alphanumeric characters. • *exclude*—Exclude lines that match. Up to 80 alphanumeric characters. • *include*—Include lines that match. Up to 80 alphanumeric characters. • *last*—Display last few lines of output. Add number after the word *last*. Up to 80 lines to display. Default 10.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

```
ncs/admin# show uptime
3 day(s), 18:55:02
ncs/admin#
```

show users

To display the list of users logged in to the Cisco NCS server, use the **show users** command in EXEC mode.

show users

Syntax Description

No arguments or keywords.

Defaults

No default behavior or values.

Command Modes

EXEC

Examples

```
ncs/admin# show users
USERNAME         ROLE   HOST                    TTY      LOGIN DATETIME

admin            Admin  10.77.137.60            pts/0    Fri Aug  6 09:45:47 2010

ncs/admin#
```

show version

To display information about the software version of the system, use the **show version** command in EXEC mode.

show version

Syntax Description No arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Usage Guidelines This command displays version information about the Cisco ADE-OS software running on the Cisco NCS server, and displays the Cisco NCS version.

Examples

```
ncs/admin# show version
Cisco Application Deployment Engine OS Release: 2.0
ADE-OS Build Version: 2.0.0.568
ADE-OS System Architecture: i386

Copyright (c) 2005-2010 by Cisco Systems, Inc.
All rights reserved.
Hostname: pmbudev-vm3


Version information of installed applications
---------------------------------------------

Cisco Prime Network Control System
----------------------------------------------
Version      : 1.0.2.051
Vendor      : Wireless Networking Business Unit
ncs/admin#
```

Configuration Commands

This section list each configuration command. Each command includes a brief description of its use, command syntax, any command defaults and modes, usage guidelines, and an example of the command and any related commands.

Configuration commands include **interface** and **repository**.

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

To access configuration mode, you must use the **configure** command in EXEC mode.

Table A-15 lists the configuration commands described in this section.

Table A-15 List of Configuration Commands

• backup-staging-url	• ip name-server
• cdp holdtime	• ip route
• cdp run	• kron occurrence
• cdp timer	• kron policy-list
• clock timezone	• logging
• do	• ntp server
• end	• password-policy
• exit	• repository
• hostname	• service
• icmp echo	• shutdown
• interface	• snmp-server community
• ipv6 address autoconfig	• snmp-server contact
• ipv6 address dhcp	• snmp-server host
• ip address	• snmp-server location
• ip default-gateway	• username
• ip domain-name	

backup-staging-url

To allow you to configure a Network File System (NFS) location that the backup and restore operations will use as a staging area to package and unpackage backup files, use the **backup-staging-url** command in configuration mode.

backup-staging-url *word*

Syntax Description

word	NFS URL for staging area. Up to 2048 alphanumeric characters. Use **nfs://***server***:***path*[1].

1. Server is the server name and path refers to /subdir/subsubdir. Remember that a colon (:) is required after the server.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

The URL is NFS only. The format of the command is **backup-staging-url nfs://***server:path*.

Warning **Ensure that you secure your NFS server in such a way that the directory can be accessed only by the IP address of the Cisco NCS server.**

Examples

```
ncs/admin(config)# backup-staging-url nfs://loc-filer02a:/vol/local1/private1/jdoe
ncs/admin(config)#
```

cdp holdtime

To specify the amount of time for which the receiving device should hold a Cisco Discovery Protocol packet from the Cisco NCS server before discarding it, use the **cdp holdtime** command in configuration mode. To revert to the default setting, use the **no** form of this command.

cdp holdtime *seconds*

Syntax Description

seconds	Specifies the hold time, in seconds. Value from 10 to 255 seconds.

Defaults

180 seconds

Command Modes

Configuration

Usage Guidelines

Cisco Discovery Protocol packets transmit with a time to live, or hold time, value. The receiving device will discard the Cisco Discovery Protocol information in the Cisco Discovery Protocol packet after the hold time has elapsed.

The **cdp holdtime** command takes only one argument; otherwise, an error occurs.

Examples

```
ncs/admin(config)# cdp holdtime 60
ncs/admin(config)#
```

Related Commands

Command	Description
cdp timer	Specifies how often the Cisco NCS server sends Cisco Discovery Protocol updates.
cdp run	Enables the Cisco Discovery Protocol.

cdp run

To enable the Cisco Discovery Protocol, use the **cdp run** command in configuration mode. To disable the Cisco Discovery Protocol, use the **no** form of this command.

cdp run [*GigabitEthernet*]

Syntax Description		
	GigabitEthernet	Specifies the GigabitEthernet interface on which to enable the Cisco Discovery Protocol.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

The command has one optional argument, which is an interface name. Without an optional interface name, the command enables the Cisco Discovery Protocol on all interfaces.

Note The default for this command is on interfaces that are already up and running. When you are bringing up an interface, stop the Cisco Discovery Protocol first; then, start the Cisco Discovery Protocol again.

Examples

```
ncs/admin(config)# cdp run GigabitEthernet 0
ncs/admin(config)#
```

Related Commands

Command	Description
cdp holdtime	Specifies the length of time that the receiving device should hold a Cisco Discovery Protocol packet from the Cisco NCS server before discarding it.
cdp timer	Specifies how often the Cisco NCS server sends Cisco Discovery Protocol updates.

cdp timer

To specify how often the Cisco NCS server sends Cisco Discovery Protocol updates, use the **cdp timer** command in configuration mode. To revert to the default setting, use the **no** form of this command.

cdp timer *seconds*

Syntax Description		
	seconds	Specifies how often, in seconds, the Cisco NCS server sends Cisco Discovery Protocol updates. Value from 5 to 254 seconds.

Defaults

60 seconds

Command Modes Configuration

Usage Guidelines Cisco Discovery Protocol packets transmit with a time to live, or hold time, value. The receiving device will discard the Cisco Discovery Protocol information in the Cisco Discovery Protocol packet after the hold time has elapsed.

The **cdp timer** command takes only one argument; otherwise, an error occurs.

Examples

```
ncs/admin(config)# cdp timer 60
ncs/admin(config)#
```

Related Commands

Command	Description
cdp holdtime	Specifies the amount of time that the receiving device should hold a Cisco Discovery Protocol packet from the Cisco NCS server before discarding it.
cdp run	Enables the Cisco Discovery Protocol.

clock timezone

To set the time zone, use the **clock timezone** command in configuration mode. To disable this function, use the **no** form of this command.

clock timezone *timezone*

Syntax Description

timezone	Name of the time zone visible when in standard time. Up to 64 alphanumeric characters.

Defaults UTC

Command Modes Configuration

Usage Guidelines The system internally keeps time in UTC. If you do not know your specific time zone, you can enter the region, country, and city (see Tables A-16, A-17, and A-18 for sample time zones to enter on your system).

Table A-16 Common Time Zones

Acronym or name	Time Zone Name
Europe	
GMT, GMT0, GMT-0, GMT+0, UTC, Greenwich, Universal, Zulu	Greenwich Mean Time, as UTC
GB	British
GB-Eire, Eire	Irish
WET	Western Europe Time, as UTC
CET	Central Europe Time, as UTC + 1 hour
EET	Eastern Europe Time, as UTC + 2 hours
United States and Canada	
EST, EST5EDT	Eastern Standard Time, as UTC -5 hours
CST, CST6CDT	Central Standard Time, as UTC -6 hours
MST, MST7MDT	Mountain Standard Time, as UTC -7 hours
PST, PST8PDT	Pacific Standard Time, as UTC -8 hours
HST	Hawaiian Standard Time, as UTC -10 hours

Table A-17 Australia Time Zones

Australia[1]			
ACT[2]	Adelaide	Brisbane	Broken_Hill
Canberra	Currie	Darwin	Hobart
Lord_Howe	Lindeman	LHI[3]	Melbourne
North	NSW[4]	Perth	Queensland
South	Sydney	Tasmania	Victoria
West	Yancowinna		

1. Enter the country and city together with a forward slash (/) between them; for example, Australia/Currie.
2. ACT = Australian Capital Territory
3. LHI = Lord Howe Island
4. NSW = New South Wales

Table A-18 Asia Time Zones

Asia[1]			
Aden[2]	Almaty	Amman	Anadyr
Aqtau	Aqtobe	Ashgabat	Ashkhabad
Baghdad	Bahrain	Baku	Bangkok
Beirut	Bishkek	Brunei	Calcutta

Table A-18 Asia Time Zones (continued)

Asia[1]			
Choibalsan	Chongqing	Columbo	Damascus
Dhakar	Dili	Dubai	Dushanbe
Gaza	Harbin	Hong_Kong	Hovd
Irkutsk	Istanbul	Jakarta	Jayapura
Jerusalem	Kabul	Kamchatka	Karachi
Kashgar	Katmandu	Kuala_Lumpur	Kuching
Kuwait	Krasnoyarsk		

1. The Asia time zone includes cities from East Asia, Southern Southeast Asia, West Asia, and Central Asia.
2. Enter the region and city or country together separated by a forward slash (/); for example, Asia/Aden.

Note Several more time zones are available to you. On your Cisco NCS server, enter the **show timezones** command. A list of all the time zones available in the Cisco NCS server appears. Choose the most appropriate one for your time zone.

Examples

```
ncs/admin(config)# clock timezone EST
ncs/admin(config)# exit
ncs/admin# show timezone
EST
ncs/admin#
```

Related Commands

Command	Description
show timezones	Displays a list of available time zones on the system.
show timezone	Displays the current time zone set on the system.

do

To execute an EXEC-level command from configuration mode or any configuration submode, use the **do** command in any configuration mode.

do *arguments*

Syntax Description

arguments	The EXEC command to execute (see Table A-19).

Table A-19 Command Options for the Do Command

Command	Description
application install	Installs a specific application.
application remove	Removes a specific application.
application start	Starts or enables a specific application
application stop	Stops or disables a specific application.
application upgrade	Upgrades a specific application.
backup	Performs a backup (Cisco NCS and Cisco ADE OS) and places the backup in a repository.
backup-logs	Performs a backup of all the logs on the Cisco NCS server to a remote location.
clock	Sets the system clock on the Cisco NCS server.
configure	Enters configuration mode.
copy	Copies any file from a source to a destination.
debug	Displays any errors or events for various command situations; for example, backup and restore, configuration, copy, resource locking, file transfer, and user management.
delete	Deletes a file on the Cisco NCS server.
dir	Lists files on the Cisco NCS server.
forceout	Forces the logout of all the sessions of a specific Cisco NCS node user.
halt	Disables or shuts down the Cisco NCS server.
help	Describes the help utility and how to use it on the Cisco NCS server.
mkdir	Creates a new directory.
nslookup	Queries the IPv4 address or hostname of a remote system.
patch	Install System or Application patch.
pep	Configures the Inline PEP node.
ping	Determines the IPv4 network activity on a remote system.
ping6	Determines the IPv6 network activity on a IPv6 remote system.
reload	Reboots the Cisco NCS server.
restore	Performs a restore and retrieves the backup out of a repository.
rmdir	Removes an existing directory.
show	Provides information about the Cisco NCS server.
ssh	Starts an encrypted session with a remote system.
tech	Provides 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.
terminal session-welcome	Sets the welcome message on the system for all terminal sessions.

Table A-19 Command Options for the Do Command (continued)

Command	Description
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 (display of errors or events) of the **debug** command for various command situations; for example, backup and restore, configuration, copy, resource locking, file transfer, and user management.
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, displays the running configuration on the console.

Command Default

No default behavior or values.

Command Modes

Configuration or any configuration submode

Usage Guidelines

Use this command to execute EXEC commands (such as **show**, **clear**, and **debug** commands) while configuring your server. After the EXEC command executes, the system will return to configuration mode you were using.

Examples

```
ncs/admin(config)# do show run
Generating configuration...
!
hostname ncs
!
ip domain-name cisco.com
!
interface GigabitEthernet 0
  ip address 172.23.90.113 255.255.255.0
  ipv6 address autoconfig
!
ip name-server 171.70.168.183
!
ip default-gateway 172.23.90.1
!
clock timezone EST
!
ntp server time.nist.gov
!
username admin password hash $1$JbbHvKVG$xMZ/XL4tH15Knf.FfcZZr. role admin
!
service sshd
!
backup-staging-url nfs://loc-filer02a:/vol/local1/private1/jdoe
!
password-policy
  lower-case-required
  upper-case-required
  digit-required
```

```
  no-username
  disable-cisco-passwords
  min-password-length 6
!
logging localhost
logging loglevel 6
!
--More--

ncs/admin(config)#
```

end

To end the current configuration session and return to EXEC mode, use the **end** command in configuration mode.

end

Syntax Description

No arguments or keywords.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

This command brings you back to EXEC mode regardless of what configuration mode or submode you are in.

Use this command when you finish configuring the system and you want to return to EXEC mode to perform verification steps.

Examples

```
ncs/admin(config)# end
ncs/admin#
```

Related Commands

Command	Description
exit	Exits configuration mode.
exit (EXEC)	Closes the active terminal session by logging out of the Cisco NCS server.

exit

To exit any configuration mode to the next-highest mode in the CLI mode hierarchy, use the **exit** command in configuration mode.

exit

Syntax Description No arguments or keywords.

Defaults No default behavior or values.

Command Modes Configuration

Usage Guidelines The **exit** command is used in the Cisco NCS server to exit the current command mode to the next highest command mode in the CLI mode hierarchy.

For example, use the **exit** command in configuration mode to return to EXEC mode. Use the **exit** command in the configuration submodes to return to configuration mode. At the highest level, EXEC mode, the **exit** command exits the EXEC mode and disconnects from the Cisco NCS server (see exit, page A-24, for a description of the **exit** (EXEC) command).

Examples

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

Related Commands

Command	Description
end	Exits configuration mode.
exit (EXEC)	Closes the active terminal session by logging out of the Cisco NCS server.

hostname

To set the hostname of the system, use the **hostname** command in configuration mode. To delete the hostname from the system, use the **no** form of this command, which resets the system to localhost.

hostname *word*

Syntax Description

hostname	The command to configure the hostname.
word	Name of the host. Contains at least 2 to 64 alphanumeric characters and an underscore (_). The hostname must begin with a character that is not a space.

Defaults No default behavior or values.

Command Modes Configuration

Usage Guidelines A single instance type of command, **hostname** only occurs once in the configuration of the system. The hostname must contain one argument; otherwise, an error occurs.

Examples

```
ncs/admin(config)# hostname ncs-1
Changing the hostname or IP may result in undesired side effects,
such as installed application(s) being restarted.
Are you sure you want to proceed? [y/n] y
Stopping NCS Monitoring & Troubleshooting Log Processor...
Stopping NCS Monitoring & Troubleshooting Log Collector...
Stopping NCS Monitoring & Troubleshooting Alert Process...
Stopping NCS Application Server...
Stopping NCS Monitoring & Troubleshooting Session Database...
Stopping NCS Database processes...
Starting NCS Database processes...
Starting NCS Monitoring & Troubleshooting Session Database...
Starting NCS Application Server...
Starting NCS Monitoring & Troubleshooting Log Collector...
Starting NCS Monitoring & Troubleshooting Log Processor...
Starting NCS Monitoring & Troubleshooting Alert Process...
Note: NCS Processes are initializing. Use 'show application status ncs'
      CLI to verify all processes are in running state.

ncs-1/admin(config)#

ncs-1/admin# show application status ncs

NCS Database listener is running, PID: 11142
NCS Database is running, number of processes: 29
NCS Application Server is still initializing.
NCS M&T Session Database is running, PID: 11410
NCS M&T Log Collector is running, PID: 11532
NCS M&T Log Processor is running, PID: 11555
NCS M&T Alert Process is running, PID: 11623

ncs-1/admin#
```

icmp echo

To configure the Internet Control Message Protocol (ICMP) echo responses, use the **icmp echo** command in configuration mode.

icmp echo {*off* | *on*}

Syntax Description

off	Disables ICMP echo response
on	Enables ICMP echo response.

Defaults The system behaves as if the ICMP echo response is on (enabled).

Command Modes Configuration

Examples

```
ncs/admin(config)# icmp echo off
ncs/admin(config)#
```

Related Commands

Command	Description
show icmp-status	Display ICMP echo response configuration information.

interface

To configure an interface type and enter the interface configuration mode, use the **interface** command in configuration mode.

Note VMware virtual machine may have a number of interfaces available that depends on how many network interfaces (NIC) are added to the virtual machine.

interface GigabitEthernet [*0* | *1*| *2* | *3*]

Syntax Description

GigabitEthernet	Configures the Gigabit Ethernet interface.
0 - 3	Number of the Gigabit Ethernet port to configure.

Note After you enter the Gigabit Ethernet port number in the **interface** command, you enter the config-GigabitEthernet configuration submode (see the following Syntax Description).

do	EXEC command. Allows you to perform any EXEC commands in this mode (see do, page A-97).
end	Exits the config-GigabitEthernet submode and returns you to EXEC mode.
exit	Exits the config-GigabitEthernet configuration submode.
ip	Sets the IP address and netmask for the Ethernet interface (see ip address, page A-107).
ipv6	Configures IPv6 autoconfiguration address and IPv6 address from DHCPv6 server. (see ipv6 address autoconfig, page A-104 and ipv6 address dhcp, page A-106).
no	Negates the command in this mode. Two keywords are available: • ip—Sets the IP address and netmask for the interface. • shutdown—Shuts down the interface.
shutdown	Shuts down the interface (see shutdown, page A-119).

Defaults

No default behavior or values.

Command Modes Configuration

Usage Guidelines You can use the **interface** command to configure subinterfaces to support various requirements.

Examples

```
ncs/admin(config)# interface GigabitEthernet 0
ncs/admin(config-GigabitEthernet)#
```

Related Commands

Command	Description
show interface	Displays information about the system interfaces.
ip address (interface configuration mode)	Sets the IP address and netmask for the interface.
shutdown (interface configuration mode)	Shuts down the interface (see shutdown, page A-119).

ipv6 address autoconfig

To enable IPv6 stateless autoconfiguration, use the **interface GigabitEthernet 0** command in configuration mode. This command does not have a **no** form.

IPv6 address autoconfiguration is enabled by default in Linux. Cisco ADE 2.0 shows the IPv6 address autoconfiguration in the running configuration for any interface that is enabled.

interface GigabitEthernet *0*

Syntax Description

interface	The command to configure an interface.
GigabitEthernet	Configures the Gigabit Ethernet interface.
<0 - 3>	Number of the Gigabit Ethernet port to configure.

Defaults No default behavior or values.

Command Modes Configuration

Usage Guidelines IPv6 stateless autoconfiguration has the security downfall of having predictable IP addresses. This downfall is resolved with privacy extensions. You can verify that the privacy extensions feature is enabled using the **show** command.

Example 1

```
ncs/admin# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
ncs/admin(config)# interface GigabitEthernet 0
ncs/admin(config)# (config-GigabitEthernet)# ipv6 address autoconfig
```

```
ncs/admin(config)# (config-GigabitEthernet)# end
ncs/admin#
```

When IPv6 autoconfiguration is enabled, the running configuration shows the interface settings similar to the following:

```
!
interface GigabitEthernet 0
  ip address 172.23.90.116 255.255.255.0
  ipv6 address autoconfig
!
```

You can use the **show interface GigabitEthernet 0** command to display the interface settings. In example 2, you can see that the interface has three IPv6 addresses. The first address (starting with 3ffe) is obtained using the stateless autoconfiguration. For the stateless autoconfiguration to work, you must have IPv6 route advertisement enabled on that subnet. The next address (starting with fe80) is a link-local address that does not have any scope outside the host. You will always see a link local address regardless of the IPv6 autoconfiguration or DHCPv6 configuration. The last address (starting with 2001) is obtained from a IPv6 DHCP server.

Example 2

```
ncs/admin# show interface GigabitEthernet 0
eth0      Link encap:Ethernet  HWaddr 00:0C:29:AF:DA:05
          inet addr:172.23.90.116  Bcast:172.23.90.255  Mask:255.255.255.0
          inet6 addr: 3ffe:302:11:2:20c:29ff:feaf:da05/64 Scope:Global
          inet6 addr: fe80::20c:29ff:feaf:da05/64 Scope:Link
          inet6 addr: 2001:558:ff10:870:8000:29ff:fe36:200/64 Scope:Global
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:77848 errors:0 dropped:0 overruns:0 frame:0
          TX packets:23131 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:10699801 (10.2 MiB)  TX bytes:3448374 (3.2 MiB)
          Interrupt:59 Base address:0x2000

ncs/admin#
```

The following RFC provides the IPv6 stateless autoconfiguration privacy extensions:

http://www.ietf.org/rfc/rfc3041.txt

To verify that the privacy extensions feature is enabled, you can use the **show interface GigabitEthernet 0** command. You can see two autoconfiguration addresses: one address is without the privacy extensions, and the other is with the privacy extensions.

In the example 3 below, the MAC is 3ffe:302:11:2:20c:29ff:feaf:da05/64 and the non-RFC3041 address contains the MAC, and the privacy-extension address is 302:11:2:9d65:e608:59a9:d4b9/64.

The output appears similar to the following:

Example 3

```
ncs/admin# show interface GigabitEthernet 0
eth0      Link encap:Ethernet  HWaddr 00:0C:29:AF:DA:05
          inet addr:172.23.90.116  Bcast:172.23.90.255  Mask:255.255.255.0
          inet6 addr: 3ffe:302:11:2:9d65:e608:59a9:d4b9/64 Scope:Global
          inet6 addr: 3ffe:302:11:2:20c:29ff:feaf:da05/64 Scope:Global
          inet6 addr: fe80::20c:29ff:feaf:da05/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:60606 errors:0 dropped:0 overruns:0 frame:0
          TX packets:2771 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:9430102 (8.9 MiB)  TX bytes:466204 (455.2 KiB)
```

```
          Interrupt:59 Base address:0x2000

ncs/admin#
```

Related Commands

Command	Description
show interface	Displays information about the system interfaces.
ip address (interface configuration mode)	Sets the IP address and netmask for the interface.
shutdown (interface configuration mode)	Shuts down the interface (see shutdown, page A-119).
ipv6 address dhcp	Enables IPv6 address DHCP on an interface.
show running-config	Displays the contents of the currently running configuration file or the configuration.

ipv6 address dhcp

To enable IPv6 address DHCP, use the **interface GigabitEthernet 0** command in configuration mode. This command does not have a **no** form.

interface GigabitEthernet *0*

Syntax Description

interface	The command to configure an interface.
GigabitEthernet	Configures the Gigabit Ethernet interface.
0	Gigabit Ethernet port number to be configured.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

None.

Examples

```
ncs/admin# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
ncs/admin(config)# interface GigabitEthernet 0
ncs/admin(config-GigabitEthernet)# ipv6 address dhcp
ncs/admin(config-GigabitEthernet)# end
ncs/admin#
```

When IPv6 DHCPv6 is enabled, the running configuration shows the interface settings similar to the following:

```
!
interface GigabitEthernet 0
```

```
  ip address 172.23.90.116 255.255.255.0
  ipv6 address dhcp
!
```

Note The IPv6 stateless autoconfiguration and IPv6 address DHCP are not mutually exclusive. It is possible to have both IPv6 stateless autoconfiguration and IPv6 address DHCP on the same interface. You can use the **show interface** to display what IPv6 addresses are in use for a particular interface.

When both the IPv6 stateless autoconfiguration and IPv6 address DHCP are enabled, the running configuration shows the interface settings similar to the following:

```
!
interface GigabitEthernet 0
  ip address 172.23.90.116 255.255.255.0
  ipv6 address dhcp
!
```

Related Commands

Command	Description
show interface	Displays information about the system interfaces.
ip address (interface configuration mode)	Sets the IP address and netmask for the interface.
shutdown (interface configuration mode)	Shuts down the interface (see shutdown, page A-119).
ipv6 address autoconfig	Enables IPv6 stateless autoconfiguration on an interface.
show running-config	Displays the contents of the currently running configuration file or the configuration.

ip address

To set the IP address and netmask for the Ethernet interface, use the **ip address** command in interface configuration mode. To remove an IP address or disable IP processing, use the **no** form of this command.

ip address *ip-address netmask*

Note You can configure the same IP address on multiple interfaces. You might want to do this to limit the configuration steps that are needed to switch from using one interface to another.

Syntax Description

ip-address	IPv4 version IP address.
netmask	Mask of the associated IP subnet.

Defaults Enabled.

Command Modes Interface configuration

Usage Guidelines Requires exactly one address and one netmask; otherwise, an error occurs.

Examples

```
ncs/admin(config)# interface GigabitEthernet 1
ncs/admin(config-GigabitEthernet)# ip address 209.165.200.227 255.255.255.224
Changing the hostname or IP may result in undesired side effects,
such as installed application(s) being restarted.
........
To verify that NCS processes are running, use the
'show application status ncs' command.
ncs/admin(config-GigabitEthernet)#
```

Related Commands

Command	Description
shutdown (interface configuration mode)	Disables an interface (see shutdown, page A-119).
ip default-gateway	Sets the IP address of the default gateway of an interface.
show interface	Displays information about the system IP interfaces.
interface	Configures an interface type and enters the interface mode.

ip default-gateway

To define or set a default gateway with an IP address, use the **ip default-gateway** command in configuration mode. To disable this function, use the **no** form of this command.

ip default-gateway *ip-address*

Syntax Description

ip-address	IP address of the default gateway.

Defaults Disabled.

Command Modes Configuration

Usage Guidelines If you enter more than one argument or no arguments at all, an error occurs.

Examples

```
ncs/admin(config)# ip default-gateway 209.165.202.129
ncs/admin(config)#
```

Related Commands

Command	Description
ip address (interface configuration mode)	Sets the IP address and netmask for the Ethernet interface.

ip domain-name

To define a default domain name that the Cisco NCS server uses to complete hostnames, use the **ip domain-name** command in configuration mode. To disable this function, use the **no** form of this command.

ip domain-name *word*

Syntax Description

word	Default domain name used to complete the hostnames. Contains at least 2 to 64 alphanumeric characters.

Defaults

Enabled.

Command Modes

Configuration

Usage Guidelines

If you enter more or fewer arguments, an error occurs.

Examples

```
ncs/admin(config)# ip domain-name cisco.com
ncs/admin(config)#
```

Related Commands

Command	Description
ip name-server	Sets the DNS servers for use during a DNS query.

ip name-server

To set the Domain Name Server (DNS) servers for use during a DNS query, use the **ip name-server** command in configuration mode. You can configure one to three DNS servers. To disable this function, use the **no** form of this command.

Note Using the **no** form of this command removes all the name servers from the configuration. Using the **no** form of this command and one of the IP names removes only that IP name server.

ip name-server *ip-address* [*ip-address**]

Syntax Description

ip name-server	The command to configure IP addresses of name server(s) to use.
ip-address	Address of a name server.
*ip-address**	(Optional) IP addresses of additional name servers. **Note** You can configure a maximum of three name servers.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

The first name server that is added with the **ip name-server** command occupies the first position and the system uses that server first to resolve the IP addresses.

You can add name servers to the system one at a time or all at once, until you reach the maximum (3). If you already configured the system with three name servers, you must remove at least one server to add additional name servers.

To place a name server in the first position so that the subsystem uses it first, you must remove all name servers with the **no** form of this command before you proceed.

Examples

```
ncs/admin(config)# ip name-server 209.165.201.1


To verify that NCS processes are running, use the
'show application status ncs' command.
ncs/admin(config)#
```

You can choose not to restart the Cisco NCS server; nevertheless, the changes will take effect.

Related Commands

Command	Description
ip domain-name	Defines a default domain name that the server uses to complete hostnames.

ip route

To configure the static routes, use the **ip route** command in configuration mode. To remove static routes, use the **no** form of this command.

Static routes are manually configured, which makes them inflexible (they cannot dynamically adapt to network topology changes), but extremely stable. Static routes optimize bandwidth utilization, because no routing updates need to be sent to maintain them. They also make it easy to enforce routing policy.

ip route *prefix mask* **gateway** *ip-address*

no ip route *prefix mask*

Syntax Description

prefix	IP route prefix for the destination.
mask	Prefix mask for the destination.
ip-address	IP address of the next hop that can be used to reach that network.

Defaults

No default behavior or values.

Command Modes

Configuration.

Examples

```
ncs/admin(config)# ip route 192.168.0.0 255.255.0.0 gateway 172.23.90.2
ncs/admin(config)#
```

kron occurrence

To schedule one or more Command Scheduler commands to run at a specific date and time or a recurring level, use the **kron occurrence** command in configuration mode. To delete this schedule, use the **no** form of this command.

kron {**occurrence**} *occurrence-name*

Syntax Description

occurrence	Schedules Command Scheduler commands.
occurrence-name	Name of the occurrence. Up to 80 alphanumeric characters. (See the following note and Syntax Description.)

Note After you enter the *occurrence-name* in the **kron occurrence** command, you enter the config-occurrence configuration submode (see the following syntax description).

at	Identifies that the occurrence is to run at a specified calendar date and time. Usage: at [*hh:mm*] [*day-of-week* | *day-of-month* | *month day-of-month*].
do	EXEC command. Allows you to perform any EXEC commands in this mode (see do, page A-97).
end	Exits the kron-occurrence configuration submode and returns you to EXEC mode.
exit	Exits the kron-occurrence configuration mode.

no	Negates the command in this mode. Three keywords are available: • at—Usage: at [*hh:mm*] [*day-of-week* | *day-of-month* | *month day-of-month*]. • policy-list—Specifies a policy list to be run by the occurrence. Up to 80 alphanumeric characters. • recurring—Execution of the policy lists should be repeated.
policy-list	Specifies a Command Scheduler policy list to be run by the occurrence.
recurring	Identifies that the occurrences run on a recurring basis.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

Use the **kron occurrence** and **policy-list** commands to schedule one or more policy lists to run at the same time or interval.

Use the **kron policy-list** command in conjunction with the **cli** command to create a Command Scheduler policy that contains the EXEC CLI commands to be scheduled to run on the Cisco NCS server at a specified time. See kron policy-list, page A-113.

Examples

Note When you run the **kron** command, backup bundles are created with a unique name (by adding a time stamp) to ensure that the files do not overwrite each other.

Example 1: Weekly Backup

```
ncs/admin(config)# kron occurrence WeeklyBackup
ncs/admin(config-Occurrence)# at 14:35 Monday
ncs/admin(config-Occurrence)# policy-list SchedBackupPolicy
ncs/admin(config-Occurrence)# recurring
ncs/admin(config-Occurrence)# exit
ncs/admin(config)#
```

Example 2: Daily Backup

```
ncs/admin(config)# kron occurrence DailyBackup
ncs/admin(config-Occurrence)# at 02:00
ncs/admin(config-Occurrence)# exit
ncs/admin(config)#
```

Related Commands

Command	Description
kron policy-list	Specifies a name for a Command Scheduler policy.

kron policy-list

To specify a name for a Command Scheduler policy and enter the kron-Policy List configuration submode, use the **kron policy-list** command in configuration mode. To delete a Command Scheduler policy, use the **no** form of this command.

kron {**policy-list**} *list-name*

Syntax Description

policy-list	Specifies a name for Command Scheduler policies.
list-name	Name of the policy list. Up to 80 alphanumeric characters.

Note After you enter the *list-name* in the **kron policy-list** command, you enter the config-Policy List configuration submode (see the following Syntax Description).

cli	Command to be executed by the scheduler. Up to 80 alphanumeric characters.
do	EXEC command. Allows you to perform any EXEC commands in this mode (see do, page A-97).
end	Exits from the config-policy list configuration submode and returns you to EXEC mode.
exit	Exits this submode.
no	Negates the command in this mode. One keyword is available: • cli—Command to be executed by the scheduler.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

Use the **kron policy-list** command in conjunction with the **cli** command to create a Command Scheduler policy that contains the EXEC CLI commands to be scheduled to run on the NCS server at a specified time. Use the **kron occurrence** and **policy list** commands to schedule one or more policy lists to run at the same time or interval. See ip route, page A-110.

Examples

```
ncs/admin(config)# kron policy-list SchedBackupMonday
ncs/admin(config-Policy List)# cli backup SchedBackupMonday repository SchedBackupRepo
ncs/admin(config-Policy List)# exit
ncs/admin(config)#
```

Related Commands

Command	Description
ip route	Specifies schedule parameters for a Command Scheduler occurrence and enters the config-Occurrence configuration mode.

logging

To enable the system to forward logs to a remote system or to configure the log level, use the **logging** command in configuration mode. To disable this function, use the **no** form of this command.

logging {*ip-address* | *hostname*} {**loglevel** *level*}

Syntax Description

ip-address	IP address of remote system to which you forward logs. Up to 32 alphanumeric characters.
hostname	Hostname of remote system to which you forward logs. Up to 32 alphanumeric characters.
loglevel	The command to configure the log level for the **logging** command.
level	Number of the desired priority level at which you set the log messages. Priority levels are (enter the number for the keyword): • 0-emerg—Emergencies: System unusable. • 1-alert—Alerts: Immediate action needed. • 2-crit—Critical: Critical conditions. • 3-err—Error: Error conditions. • 4-warn—Warning: Warning conditions. • 5-notif—Notifications: Normal but significant conditions. • 6-inform—(Default) Informational messages. • 7-debug—Debugging messages.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

This command requires an IP address or hostname or the **loglevel** keyword; an error occurs if you enter two or more of these arguments.

Examples

Example 1

```
ncs/admin(config)# logging 209.165.200.225
ncs/admin(config)#
```

Example 2

```
ncs/admin(config)# logging loglevel 0
ncs/admin(config)#
```

Related Commands

Command	Description
show logging	Displays list of logs for the system.

ntp server

To allow for software clock synchronization by the NTP server for the system, use the **ntp server** command in configuration mode. Allows up to three servers. To disable this capability, use the **no** form of this command.

ntp server {*ip-address* | *hostname*} [*ip-address* | *hostname*] [*ip-address* | *hostname*]

Syntax Description

ip-address | *hostname*	IP address or hostname of the server providing the clock synchronization. Arguments are limited to 255 alphanumeric characters.

Defaults

No servers are configured by default.

Command Modes

Configuration

Usage Guidelines

Use this command if you want to allow the system to synchronize with a specified server.

To terminate NTP service on a device, you must enter the **no ntp** command without keywords or arguments. For example, if you previously entered the **ntp server** command and you now want to remove not only the server synchronization capability, but all NTP functions from the device, use the **no ntp** command without any keywords. This command ensures that all NTP functions are disabled and that the NTP service also terminates.

Note This command gives conflicting information during the sync process. The sync process can take up to 20 minutes to complete.

Examples

```
ncs/admin(config)# ntp server ncs ncs1 ncs2
ncs/admin(config)#

ncs/admin# show ntp
Primary NTP   : ncs
Secondary NTP : ncs1
Tertiary NTP : ncs2

synchronised to local net at stratum 11
   time correct to within 11 ms
```

```
   polling server every 1024 s

     remote           refid      st t when poll reach   delay   offset  jitter
==============================================================================
*127.127.1.0     .LOCL.          10 l   22   64  377    0.000    0.000   0.001
 172.23.90.113   .INIT.          16 u    - 1024    0    0.000    0.000   0.000
 172.23.90.114   .INIT.          16 u    - 1024    0    0.000    0.000   0.000
 172.23.90.115   .INIT.          16 u    - 1024    0    0.000    0.000   0.000


Warning: Output results may conflict during periods of changing synchronization.
ncs admin#
```

Related Commands

Command	Description
show ntp	Displays the status information about the NTP associations.

password-policy

To enable or configure the passwords on the system, use the **password-policy** command in configuration mode. To disable this function, use the **no** form of this command.

password-policy *option*

Note The **password-policy** command requires a policy option (see Syntax Description). You must enter the **password-expiration-enabled** command before the other password-expiration commands.

Syntax Description

option	Different command options.

Note After you enter the **password-policy** command, you can enter the config-password-policy configuration submode.

digit-required	Requires a digit in the password.
disable-repeat-characters	Disables the ability of the password to contain more than four identical characters.
disable-cisco-password	Disables the ability to use the word Cisco or any combination as the password.
do	Exec command.
end	Exit from configure mode.
exit	Exit from this submode.
lower-case-required	Requires a lowercase letter in the password.
min-password-length	Specifies a minimum number of characters for a valid password. Integer length from 0 to 4,294,967,295.
no	Negate a command or set its defaults.

no-previous-password	Prevents users from reusing a part of their previous password.
no-username	Prohibits users from reusing their username as a part of a password.
password-expiration-days	Number of days until a password expires. Integer length from 0 to 80.
password-expiration-enabled	Enables password expiration. **Note** You must enter the **password-expiration-enabled** command before the other password-expiration commands.
password-expiration-warning	Number of days before expiration that warnings of impending expiration begin. Integer length from 0 to 4,294,967,295.
password-lock-enabled	Locks a password after several failures.
password-lock-retry-count	Number of failed attempts before password locks. Integer length from 0 to 4,294,967,295.
upper-case-required	Requires an uppercase letter in the password.
special-required	Requires a special character in the password.

Defaults

No default behavior or values.

Command Modes

Configuration

Examples

```
ncs/admin(config)# password-policy
ncs/admin(config-password-policy)# password-expiration-days 30
ncs/admin(config-password-policy)# exit
ncs/admin(config)#
```

repository

To enter the repository submode for configuration of backups, use the **repository** command in configuration mode.

repository *repository-name*

Syntax Description

repository-name	Name of repository. Up to 80 alphanumeric characters.

Note After you enter the name of the repository in the **repository** command, you enter the config-Repository configuration submode (see the syntax description).

do	EXEC command. Allows you to perform any of the EXEC commands in this mode (see do, page A-97).
end	Exits the config-Repository submode and returns you to EXEC mode.
exit	Exits this mode.

no	Negates the command in this mode. Two keywords are available: • url—Repository URL. • user—Repository username and password for access.
url	URL of the repository. Up to 80 alphanumeric characters (see Table A-20).
user	Configure the username and password for access. Up to 30 alphanumeric characters.

Table A-20 URL Keywords

Keyword	Source of Destination
word	Enter the repository URL, including server and path info. Up to 80 alphanumeric characters.
cdrom:	Local CD-ROM drive (read only).
disk:	Local storage. You can run the **show repository** *repository_name* to view all the files in the local repository. **Note** All local repositories are created on the /localdisk partition. When you specify disk:/ in the repository URL, the system creates directories in a path that is relative to /localdisk. For example, if you entered **disk:/backup,** the directory is created at /localdisk/backup.
ftp:	Source or destination URL for an FTP network server. Use url ftp://*server*/*path*[1].
nfs:	Source or destination URL for an NFS network server. Use url nfs://*server*:*path*[1].
sftp:	Source or destination URL for an SFTP network server. Use url sftp://*server*/*path*[1].
tftp:	Source or destination URL for a TFTP network server. Use url tftp://*server*/*path*[1]. **Note** You cannot use a TFTP repository for performing a Cisco NCS upgrade.

1. *Server* is the server name and *path* refers to /subdir/subsubdir. Remember that a colon (:) is required after the server for an NFS network server.

Defaults

No default behavior or values.

Command Modes

Configuration

Examples

Example 1

```
ncs/admin# configure terminal
ncs/admin(config)# repository myrepository
ncs/admin(config-Repository)# url sftp://example.test.com/repository/system1
ncs/admin(config-Repository)# user luke password example
ncs/admin(config-Repository)# exit
ncs/admin(config)# exit
```

```
ncs/admin#
```

Example 2

```
ncs/admin# configure terminal
ncs/admin(config)# repository myrepository
ncs/admin(config-Repository)# url disk:/
ncs/admin(config-Repository)# user luke password plain example
ncs/admin(config-Repository)# exit
ncs/admin(config)# exit
ncs/admin#
```

Related Commands

Command	Description
backup	Performs a backup (Cisco NCS and Cisco ADE OS) and places the backup in a repository.
restore	Performs a restore and takes the backup out of a repository.
show backup history	Displays the backup history of the system.
show repository	Displays the available backup files located on a specific repository.

service

To specify a service to manage, use the **service** command in configuration mode. To disable this function, use the **no** form of this command.

service *sshd*

Syntax Description

service	The command to specify a service to be managed.
sshd	Secure Shell Daemon. The daemon program for SSH.

Defaults

No default behavior or values.

Command Modes

Configuration

Examples

```
ncs/admin(config)# service sshd
ncs/admin(config)#
```

shutdown

To shut down an interface, use the **shutdown** command in the interface configuration mode. To disable this function, use the **no** form of this command.

Syntax Description

No arguments or keywords.

Defaults No default behavior or values.

Command Modes Interface configuration

Usage Guidelines When you shut down an interface using this command, you lose connectivity to the Cisco ISE-3315 appliance through that interface (even though the appliance is still powered on). However, if you have configured the second interface on the appliance with a different IP and have not shut down that interface, you can access the appliance through that second interface.

To shut down an interface, you can also modify the ifcfg-eth[0,1] file, which is located at */etc/sysconfig/network-scripts,* using the ONBOOT parameter:

- Disable an interface: set ONBOOT="no"
- Enable an interface: set ONBOOT="yes"

You can also use the **no shutdown** command to enable an interface.

Examples

```
ncs/admin(config)# interface GigabitEthernet 0
ncs/admin(config-GigabitEthernet)# shutdown
```

Related Commands

Command	Description
interface	Configures an interface type and enters interface mode.
ip address (interface configuration mode)	Sets the IP address and netmask for the Ethernet interface.
show interface	Displays information about the system IP interfaces.
ip default-gateway	Sets the IP address of the default gateway of an interface.

snmp-server community

To set up the community access string to permit access to the Simple Network Management Protocol (SNMP), use the **snmp-server community** command in configuration mode. To disable this function, use the **no** form of this command.

snmp-server community *word* **ro**

Syntax Description

word	Accessing string that functions much like a password and allows access to SNMP. No blank spaces allowed. Up to 255 alphanumeric characters.
ro	Specifies read-only access.

Defaults No default behavior or values.

Command Modes Configuration

Usage Guidelines The **snmp-server community** command requires a community string and the **ro** argument; otherwise, an error occurs.

Examples

```
ncs/admin(config)# snmp-server community new ro
ncs/admin(config)#
```

Related Commands

Command	Description
snmp-server host	Sends traps to a remote system.
snmp-server location	Configures the SNMP location MIB value on the system.
snmp-server contact	Configures the SNMP contact MIB value on the system.

snmp-server contact

To configure the SNMP contact Management Information Base (MIB) value on the system, use the **snmp-server contact** command in configuration mode. To remove the system contact information, use the **no** form of this command.

snmp-server contact *word*

Syntax Description

word	String that describes the system contact information of the node. Up to 255 alphanumeric characters.

Defaults No default behavior or values.

Command Modes Configuration

Usage Guidelines None.

Examples

```
ncs/admin(config)# snmp-server contact Luke
ncs/admin(config)#
```

Related Commands

Command	Description
snmp-server host	Sends traps to a remote system.

Command	Description
snmp-server community	Sets up the community access string to permit access to the SNMP.
snmp-server location	Configures the SNMP location MIB value on the system.

snmp-server host

To send SNMP traps to a remote user, use the **snmp-server host** command in configuration mode. To remove trap forwarding, use the **no** form of this command.

snmp-server host {*ip-address* | *hostname*} **version** {*1* | *2c*} *community*

Syntax Description

ip-address	IP address of the SNMP notification host. Up to 32 alphanumeric characters.
hostname	Name of the SNMP notification host. Up to 32 alphanumeric characters.
version {1 | 2c}	(Optional) Version of the SNMP used to send the traps. Default = 1. If you use the version keyword, specify one of the following keywords: • 1—SNMPv1. • 2c—SNMPv2C.
community	Password-like community string that is sent with the notification operation.

Defaults

Disabled.

Command Modes

Configuration

Usage Guidelines

The command takes arguments as listed; otherwise, an error occurs.

Examples

```
ncs/admin(config)# snmp-server community new ro
ncs/admin(config)# snmp-server host 209.165.202.129 version 1 password
ncs/admin(config)#
```

Related Commands

Command	Description
snmp-server community	Sets up the community access string to permit access to SNMP.
snmp-server location	Configures the SNMP location MIB value on the system.
snmp-server contact	Configures the SNMP contact MIB value on the system.

snmp-server location

To configure the SNMP location MIB value on the system, use the **snmp-server location** command in configuration mode. To remove the system location information, use the **no** form of this command.

snmp-server location *word*

Syntax Description

word	String that describes the physical location information of the system. Up to 255 alphanumeric characters.

Defaults

No default behavior or values.

Command Modes

Configuration

Usage Guidelines

We recommend that you use underscores (_) or hyphens (-) between the terms within the *word* string. If you use spaces between terms within the *word* string, you must enclose the string in quotation marks (“).

Examples

Example 1

```
ncs/admin(config)# snmp-server location Building_3/Room_214
ncs/admin(config)#
```

Example 2

```
ncs/admin(config)# snmp-server location “Building 3/Room 214”
ncs/admin(config)#
```

Related Commands

Command	Description
snmp-server host	Sends traps to a remote system.
snmp-server community	Sets up the community access string to permit access to SNMP.
snmp-server contact	Configures the SNMP location MIB value on the system.

username

To add a user who can access the Cisco ISE-3315 using SSH, use the **username** command in configuration mode. If the user already exists, the password, the privilege level, or both change with this command. To delete the user from the system, use the **no** form of this command.

username *username* **password** {**hash** | **plain**} *password* **role** {**admin** | **user**] [**disabled** [**email** *email-address*]] [**email** *email-address*]

For an existing user, use the following command option:

username *username* **password role** {**admin** | **user**} *password*

Syntax Description

username	You should enter only one word which can include hyphen (-), underscore (_) and period (.). **Note** Only alphanumeric characters are allowed at an initial setup.
password	The command to use specify password and user role.
password	Password character length up to 40 alphanumeric characters. You must specify the password for all new users.
hash | plain	Type of password. Up to 34 alphanumeric characters.
role admin | user	Sets the privilege level for the user.
disabled	Disables the user according to the user's email address.
email *email-address*	The user's email address. For example, *user1@example.com*.

Defaults

The initial user during setup.

Command Modes

Configuration

Usage Guidelines

The **username** command requires that the username and password keywords precede the hash | plain and the admin | user options.

Examples

Example 1

```
ncs/admin(config)# username admin password hash ###### role admin
ncs/admin(config)#
```

Example 2

```
ncs/admin(config)# username admin password plain Secr3tp@swd role admin
ncs/admin(config)#
```

Example 3

```
ncs/admin(config)# username admin password plain Secr3tp@swd role admin email
admin123@example.com
ncs/admin(config)#
```

Related Commands

Command	Description
password-policy	Enables and configures the password policy.
show users	Displays a list of users and their privilege level. It also displays a list of logged-in users.