Administering the Cisco Video Management and Storage System Module

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This chapter contains the following information for administering the Cisco Video Management and Storage System application:

Note

- The tables in these sections list only common router commands and network module commands.
  - To view a complete list of the available commands, enter **?** at the prompt

    Example: `Router(config-if)# ?`
  - To view a complete list of command keyword options, enter **?** at the end of the command

    Example: `Router# service-module integrated-service-engine ?`
- The commands are grouped in the tables by the configuration mode in which they are available. If the same command is available in more than one mode, it can act differently in each mode.

Shutting Down and Starting Up the Cisco Video Management and Storage System Application

To start up or shut down the network module or the Cisco Video Management and Storage System application that runs on the module, use the **shutdown** and **startup** commands as needed from Table 1.

Note

- Some shutdown commands can potentially disrupt service. If command output for such a command displays a confirmation prompt, confirm by pressing **Enter** or cancel by typing **n** and pressing **Enter**. Alternatively, prevent the prompt from displaying by using the **no-confirm** keyword.
- Some commands shut down the module or application and then immediately restart it.

Table 1 Common Shutdown and Startup Commands

Configuration Mode	Command	Purpose
`Router#`	**service-module integrated-service-engine** *slot*/**0 reload**	Shuts down the module operating system gracefully, and then restarts it from the boot loader.
`Router#`	**service-module integrated-service-engine** *slot*/**0 reset**	Resets the hardware on a module. Use only to recover from shutdown or a failed state. **Caution** Use this command with caution. It does *not* provide an orderly software shutdown, and it can affect file operations that are in progress.
`Router#`	**service-module integrated-service-engine** *slot*/**0 session**	Accesses the specified network module and opens a module configuration session.
`Router#`	**service-module integrated-service-engine** *slot*/**0 shutdown**	Shuts down the module operating system gracefully. Use this command sequence when removing or replacing a hot-swappable module during online insertion and removal (OIR).
`Router#`	**service-module integrated-service-engine** *slot*/**0 status**	Displays configuration and status information for the module hardware and software.
`Router(config)#` `Router(config-if)#`	**interface** *slot*/**0** **shutdown**	Shuts down the network module gracefully.
`cvmss-module boothelper>`	**boot**	Starts the boot helper or application.
`cvmss-module(config)`	**event poll-interval** *seconds*	Sets the HTTP trigger event polling interval in seconds.

Table 1 Common Shutdown and Startup Commands (continued)

Configuration Mode	Command	Purpose
`cvmss-module(offline)>`	**reload**	Performs a graceful halt and reboot of the module operating system.
`cvmss-module>`	**reload**	Shuts down the module gracefully, and then reboots the module from the boot loader.
`cvmss-module>`	**shutdown**	Shuts down the module application gracefully, and then shuts down the module.

Backing Up and Restoring Configurations on the Cisco Video Management and Storage System Application

To back up or restore configuration settings or to manage previous backups, use commands listed in Table 2.

Note The backup server can be configured using either the configuration mode or the offline mode.

Table 2 Common Backup and Restore Commands

Configuration Mode	Command	Purpose
`cvmss-module(config)>`	**backup revisions**	Specifies the number of previous backups to keep on the server. A value of zero removes all previous backups and saves only the current backup.
`cvmss-module(config)>`	**backup server**	Configures an external FTP backup server for storage.
`cvmss-module(offline)>`	**backup category** {**all** | **configuration** | **data** | **VSMS** | **VSOM**}	Performs a backup of the configuration files to a backup server. **VSMS** backs up the Video Surveillance Management System data files. **VSOM** backs up the Video Surveillance Operations Management data files.
`cvmss-module(offline)>`	**backup revisions**	Specifies the number of previous backups to keep on the server. A value of zero removes all previous backups and saves only the current backup.
`cvmss-module(offline)>`	**backup server**	Configures an external FTP backup server for storage.

Table 2 Common Backup and Restore Commands (continued)

Configuration Mode	Command	Purpose
`cvmss-module(offline)>`	**restore**	Restores the system to its factory default configuration or to the specified backup.
`cvmss-module>`	**show backup**	Displays information about previous backups and about the configured backup server.

Verifying System Status

To verify the status of an installation, upgrade, or downgrade, or to troubleshoot problems, use verification and troubleshooting commands as needed from Table 3.

Note Among keyword options for many **show** commands is the provision to display diagnostic output on your screen or to "pipe" it to a file or a URL (that is, to read the output from one command and write it to the file or URL).

Table 3 Common Verification and Troubleshooting Commands

Configuration Mode	Command	Purpose
`Router#`	**ping**	Pings a specified IP address to check network connectivity (does not accept a hostname as destination).
`Router#`	**show arp**	Displays the current Address Resolution Protocol (ARP) table.
`Router#`	**show clock**	Displays the current date and time.
`Router#`	**show configuration**	Displays the current configuration as entered by means of the **configure** command.
`Router#`	**show controllers integrated-service-engine**	Displays interface debug information.
`Router#`	**show diag**	Displays standard Cisco IOS diagnostics information, including information about the Cisco Video Management and Storage System module.
`Router#`	**show hardware**	Displays information about network module and host router hardware.
`Router#`	**show hosts**	Displays the default domain name, style of name lookup, list of name-server hosts, and cached list of hostnames and addresses.
`Router#`	**show interfaces**	Displays information about all hardware interfaces, including network and disk.

Table 3 Common Verification and Troubleshooting Commands (continued)

Configuration Mode	Command	Purpose
Router#	**show interfaces integrated-service-engine**	Displays information about the module side of the router-module interface.
Router#	**show ntp status**	Displays information about Network Time Protocol (NTP).
Router#	**show processes**	Displays a list of the application processes that are running.
Router#	**show running-config**	Displays the configuration commands that are in effect.
Router#	**show startup-config**	Displays the startup configuration.
Router#	**show tech-support**	Displays general information about the host router that is useful to Cisco technical support for problem diagnostics.
Router#	**show version**	Displays information about the router software or network module hardware.
Router#	**test scp ping**	Pings the network module to check network connectivity.
cvmss-module>	**ping**	Pings a specified IP address to check network connectivity (does not accept a hostname as destination).
cvmss-module>	**show arp**	Displays the current Address Resolution Protocol (ARP) table.
cvmss-module	**show event poll-interval**	Displays the current event polling interval.
cvmss-module>	**show clock**	Displays the current date and time.
cvmss-module>	**show config**	Displays the current boot loader configuration as entered by the **configure** command.
cvmss-module>	**show hosts**	Displays the default IP domain name, lookup style, name servers, and host table.
cvmss-module>	**show interfaces**	Displays information about the network-module interfaces.
cvmss-module>	**show ntp status**	Displays information about Network Time Protocol (NTP).
cvmss-module>	**show processes**	Displays a list of the application processes that are running.
cvmss-module>	**show running-config**	Displays the configuration commands that are in effect.
cvmss-module>	**show snmp**	Displays the SNMP statistics are stored in system counters.

Table 3 Common Verification and Troubleshooting Commands (continued)

Configuration Mode	Command	Purpose
cvmss-module>	**show software directory download**	Displays the contents of the downgrade or download directory on the download FTP file server.
cvmss-module>	**show software download server**	Displays the name and IP address of the configured download FTP file server.
cvmss-module>	**show software licenses**	Displays license information for installed packages.
cvmss-module>	**show software packages**	Displays version information for installed packages.
cvmss-module>	**show software versions**	Displays version information for installed software.
cvmss-module>	**show startup-config**	Displays the startup configuration.
cvmss-module>	**show tech-support**	Displays general information about the network module that is useful for problem diagnosis to Cisco technical support.
cvmss-module>	**show trace**	Displays the contents of the trace buffer.
cvmss-module>	**show version**	Displays information about the hardware and devices.
cvmss-module>	**show video-surveillance**	Displays video surveillance configurations, logs, reports, and tasks.
cvmss-module>	**software remove**	Removes downloaded files (all files, downloaded package and payloads, or stored downgrade files created during an upgrade).

Diagnostics and Logging Options

To configure logging options for Cisco Video Management and Storage System, use logging commands from Table 4.

Note Among the keyword options for many **log** and **trace** commands is the provision to display diagnostic output on your screen or to save it to a file or a URL.

Table 4 Common Logging Commands

Configuration Mode	Command	Purpose
`cvmss-module>`	**log console monitor**	Configures error logging by means of console logging (logged messages are displayed on the console).
`cvmss-module(config)>`	**log console**	Configures error logging by means of console logging (logged messages are displayed on the console).
`cvmss-module(config)>`	**log server**	Configures error logging by means of a system-log (syslog) server (syslog is an industry-standard protocol for capturing log information for devices on a network).

Diagnostics are of two types:

- System log (syslog)—Syslog is an industry-standard protocol for capturing the following events:
  - Fatal exceptions that cause an application or system crash, during which normal error-handling paths are typically nonfunctional
  - Application run-time errors that cause unusual conditions and configuration changes

  The syslog file size is fixed at 10 MB. Syslog configurations survive a power failure.
- Traces—Trace logs capture events related to the progress of a request through the system.

  Trace logs survive a CPU reset; trace configurations survive a power failure. Log and display these configurations with the **trace** commands.

To generate and display syslog and trace diagnostics, use trace commands from Table 5.

Table 5 Common Trace Commands

Configuration Mode	Command	Purpose
`cvmss-module>`	**clear trace**	Clears logged trace events for specified modules.
`cvmss-module>`	**log trace**	Logs configured traces to the network module (can be done locally or remotely).
`cvmss-module>`	**no trace**	Disables tracing for specified modules, entities, or activities.
`cvmss-module>`	**show errors**	Displays error statistics by module, entity, or activity.
`cvmss-module>`	**show trace**	Displays trace settings.
`cvmss-module>`	**show trace buffer**	Displays the contents of the trace buffer.
`cvmss-module>`	**show trace store**	Displays the contents of the stored trace messages.
`cvmss-module>`	**trace**	Enables tracing (that is, generates error reports) for specified modules, entities, or activities.

SNMP Commands

Table 6 lists and describes the **snmp-server** SNMP command-line interface commands.

Table 6 SNMP Commands

Configuration Mode	Command	Purpose
`cvmss-module(config)#`	**snmp-server community** *community-string* [**RO** | **RW**] **no snmp-server community** *community-string* [**RO** | **RW**] Example: `cvmss-module(config)# snmp-server community cisco-snmp RO`	Enables the SNMP agent with the configured case sensitive community string. The password and the mode of access can be set to read-only or read-write. Up to five community strings that can be set for each read-only or read-write category. *community-string*—case sensitive character string with a maximum length of 15 characters. RO—Read-Only access mode. RW—Read-Write access mode. Use the **no** form of this command to remove the configuration associated with the community string. **Note** Even after all community string configurations are removed, you can still have read-only access of MIB variables using the *default* community strings. The default read-only community string is *broadware-snmp*.
`cvmss-module(config)#`	**snmp-server contact** *contact-name* **no snmp-server contact** *contact-name* Example: `cvmss-module(config)# snmp-server contact "John Doe"`	Sets or clears the contact name. *contact-name*—character string with a maximum length of 31 characters. Use the **no** form of this command to clear the contact name.

Table 6 SNMP Commands (continued)

Configuration Mode	Command	Purpose
`cvmss-module(config)#`	**snmp-server enable traps** **no snmp-server enable traps** Example: `cvmss-module(config)# snmp-server enable traps`	Enables SNMP traps to be sent to the SNMP trap destination. **Note** This command is effective only for certain types of notifications. Not all types of notifications are controlled by this command. The notifications generated as a result of archive creation or deletion are not configured by this CLI, but are configured in the Video Surveillance Management Console web page with the "SNMP Trap Destination" link. Also, this CLI does not control the traps generated from exceeding the system resource thresholds. The only form of notifications enabled (or disabled) by this CLI are the traps generated from syslog messages with severity level greater than or equal to that of warning level. Use the **no** form of this command to disable trap notifications to be sent to the trap destination.
`cvmss-module(config)#`	**snmp-server host** *ip-address community-string* **no snmp-server host** *ip-address community-string* Example: `cvmss-module(config)# snmp-server host 1.100.10.219 cisco-snmp`	Configures the IP address of the host that is to receive the trap notifications. The community string must also be specified. Up to a maximum of 5 hosts that can be configured. **Note** The **snmp-server enable traps** command must be executed for the hosts to receive the trap notifications. *ip-address*—IP address (IPv4 only is supported) in dotted decimal notation of the host that is to receive the trap notifications. *community-string*—character string with a maximum length of 15 characters. Use the **no** form of this command to clear the host configuration.

Table 6 SNMP Commands (continued)

Configuration Mode	Command	Purpose
`cvmss-module(config)#`	**snmp-server location** *location-name* **no snmp-server location** *location-name* Example: `cvmss-module(config)# snmp-server contact "San Jose"`	Sets or clears the location name. *location-name*—character string with a maximum length of 31 characters. Use the **no** form of this command to clear the location name.
`cvmss-module(config)#`	**snmp-server monitor disk** *percentage* **no snmp-server monitor disk** *percentage* Example: `cvmss-module(config)# snmp-server monitor disk 20`	Sets the threshold for monitoring the disk usage for all the disks, including local, NFS, and iSCSI devices. *percentage*—Integer variable in the range of 1 to 30 that represents the percentage of free space within each disk partition. If the free disk space percentage falls below this threshold, the system will generate a trap. Use the **no** form of this command to disable disk monitoring.
`cvmss-module(config)#`	**snmp-server monitor cpu** *percentage* **no snmp-server monitor cpu** *percentage* Example: `cvmss-module(config)# snmp-server monitor cpu 10`	Sets the threshold for monitoring the CPU utilization. *percentage*—Number in the range of 0 to 20 that represents the percentage of idle CPU time. This number includes *wait* states. Use the **no** form of this command to disable CPU monitoring
`cvmss-module(config)#`	**snmp-server monitor swap** *percentage* **no snmp-server monitor swap** *percentage* Example: `cvmss-module(config)# snmp-server monitor swap 25`	Sets the threshold for monitoring the utilization of swap space. *percentage*—Number from 1 to 50 that represents the percentage of available free swap space. Use the **no** form for this command to disable swap space monitoring.

Table 6 SNMP Commands (continued)

Configuration Mode	Command	Purpose
cvmss-module>	**show snmp configuration**	Displays the configuration of all SNMP commands. It also lists all the resource monitoring threshold configurations.

	Example:
	`cvmss-module> show snmp configuration`
	`Contact: 1234`
	`Location: SAN JOSE`
	`Community 1 RO: test1`
	`Community 2 RO: test2`
	`Community 3 RO: test3`
	`Community 4 RO: test4`
	`Community 5 RO: test5`
	`Traps: disabled`
	`Host Community 1: 1.100.10.219 cisco-snmp`
	`Host Community 2: 1.100.10.218 cisco-snmp`
	`Host Community 3: 1.100.10.217 cisco-snmp`
	`Host Community 4: 1.100.10.216 cisco-snmp`
	`Host Community 5: 1.100.10.215 cisco-snmp`
	`monitor disk limit: 8`
	`monitor memory limit: 10`
	`monitor cpu limit: 15`
	`cvmss-module>`	

Adding a DNS Server (Optional)

Cisco Video Management and Storage System uses a cache-only domain name system (DNS) server that listens on port 53 for both User Datagram Protocol (UDP) and TCP packets. A typical use for such a server is to enable the application to continue operation in a branch office when the WAN is down and the server is on the other side of the WAN in an enterprise or service-provider data center.

The DNS server cache policy is to automatically revalidate a cached entry when its time to live (TTL) expires, and to discard an entry only when the parent DNS server is accessible and no longer contains the name. This differs from most DNS caches, which simply discard an entry when the TTL expires.

Note

- Step 1 and Step 2 open the host router CLI and access the network module. The remaining steps configure the module and return to the host router CLI.
- Open, close, and clear a module session as described in the "Opening and Closing a Network Module Session" section on page 12.

SUMMARY STEPS

From the Host-Router CLI

1. **service-module integrated-service-engine** *slot*/**0 session**

From the Service-Module Interface

2. **configure terminal**
3. **hostname** *hostname*

4. **ip domain-name** *domain*
5. **ip name-server** <*ip-address*> [<*ip-address*> …]
6. **exit**
7. **show hosts**
8. **write**
9. **Control-Shift-6 x**

From the Host-Router CLI

10. **service-module integrated-service-engine** *slot*/**0 session clear**

DETAILED STEPS

	Command or Action	Purpose
	From the Host-Router CLI	
Step 1	**service-module integrated-service-engine** *slot*/**0 session** **Example:** `Router# service-module integrated-service-engine 2/0 session`	Opens a Cisco Video Management and Storage System module session.
	From the Service-Module Interface	
Step 2	**configure terminal** **Example:** `cvmss-module> configure terminal`	Enters global configuration mode on the module.
Step 3	**hostname** *hostname* **Example:** `cvmss-module(config)> hostname hostname1`	Specifies the name of the Cisco Video Management and Storage System module that appear in the prompt.
Step 4	**ip domain-name** *domain* **Example:** `cvmss-module(config)> ip domain-name domain1.com`	Defines a default domain name for use in completing unqualified hostnames (names without a dotted-decimal domain name).
Step 5	**ip name-server** *ip-address* [<*ip-address*> …] **Example:** `cvmss-module(config)> ip name-server 10.0.0.0`	Specifies the IP address for one or more DNS servers. The argument is as follows: *ip-address*—Server IP address
Step 6	**exit** **Example:** `cvmss-module(config)> exit`	Exits global configuration mode on the module.

	Command or Action	Purpose
Step 7	**show hosts** **Example:** `cvmss-module> show hosts`	Displays the default domain name, style of name lookup, list of name-server hosts, and cached list of hostnames and addresses.
Step 8	**write** **Example:** `cvmss-module> write`	Saves the new running configuration of the module.
Step 9	Press **Control-Shift-6 x**.	Closes the module session.
	From the Host-Router CLI	
Step 10	**service-module integrated-service-engine** *slot*/**0 session clear** **Example:** `Router# service-module integrated-service-engine 1/0 session clear`	Clears the module session for the specified module. When prompted to confirm this command, press **Enter**.

Additional References

The following sections provide references related to the Cisco Video Management and Storage System application.

Related Documents

Related Topic	Document Title
Cisco Video Management and Storage System and the Cisco Video Surveillance Solution	• *Release Notes for the Cisco Video Management and Storage System* • *Connecting Cisco Video Management and Storage System Enhanced Network Modules to the Network* • *Cisco Video Management and Storage System Installation and Upgrade Guide* • *Connecting Cisco Integrated Storage System Enhanced Network Modules to the Network* • *Cisco Integrated Storage System Installation and Upgrade Guide* • *Cisco Integrated Storage System CLI Administrator Guide* • *Connecting Cisco Analog Video Gateway Network Modules to the Network* • *Cisco Analog Video Gateway Installation and Upgrade Guide* • *Cisco Analog Video Gateway CLI Administrator Guide* • *Cisco Analog Video Gateway XML API Guide* • *Open Source License Notice*
Cisco IOS software	*Cisco IOS Software*
Network modules	*Installing Cisco Network Modules in Cisco Access Routers*
Technical documentation, including feedback and assistance	*What's New in Cisco Product Documentation* (including monthly listings of new and revised documents)

Technical Assistance

Description	Link
For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at: Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.	http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html
Cisco Feature Navigator website	http://www.cisco.com/go/cfn Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. An account on Cisco.com is not required.
Cisco Software Center website	http://www.cisco.com/public/sw-center/