Administering the Cisco Integrated Storage System Module

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This chapter contains the following information for administering the Cisco Integrated Storage System module application:

Note

- The tables in these sections list only common router commands and network module commands.
  - To view a complete list of the available configuration 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 Integrated Storage System Application

To start up or shut down the network module or the Cisco Integrated 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.
`iss-module boothelper>`	**boot**	Starts the boot helper or application.
`iss-module(offline)>`	**reload**	Performs a graceful halt and reboot of the module operating system.

Table 1 Common Shutdown and Startup Commands (continued)

Configuration Mode	Command	Purpose
`iss-module>`	**reload**	Shuts down the module gracefully, and then reboots the module from the boot loader.
`iss-module>`	**shutdown**	Shuts down the module application gracefully, and then shuts down the module (see caution under "Network Module Prerequisites" section on page 4)

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 2.

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 2 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 Integrated 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.

Table 2 Common Verification and Troubleshooting Commands (continued)

Configuration Mode	Command	Purpose
Router#	**show interfaces**	Displays information about all hardware interfaces, including network and disk.
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.
iss-module>	**ping**	Pings a specified IP address to check network connectivity (does not accept a hostname as destination).
iss-module>	**show arp**	Displays the current Address Resolution Protocol (ARP) table.
iss-module>	**show clock**	Displays the current date and time.
iss-module>	**show configuration**	Displays the current boot loader configuration as entered by the **configure** command.
iss-module>	**show interfaces**	Displays information about the network-module interfaces.
iss-module>	**show ntp status**	Displays information about Network Time Protocol (NTP).
iss-module>	**show processes**	Displays a list of the application processes that are running.
iss-module>	**show running-config**	Displays the configuration commands that are in effect.
iss-module>	**show software directory download**	Displays the contents of the downgrade or download directory on the download FTP file server.
iss-module>	**show software download server**	Displays the name and IP address of the configured download FTP file server.

Table 2 Common Verification and Troubleshooting Commands (continued)

Configuration Mode	Command	Purpose
`iss-module>`	**show software licenses**	Displays license information for installed packages.
`iss-module>`	**show software packages**	Displays version information for installed packages.
`iss-module>`	**show software versions**	Displays version information for installed software.
`iss-module>`	**show startup-config**	Displays the startup configuration.
`iss-module>`	**show tech-support**	Displays general information about the network module that is useful for problem diagnosis to Cisco technical support.
`iss-module>`	**show version**	Displays information about the hardware and devices.
`iss-module>`	**software remove**	Removes downloaded files (all files, downloaded package and payloads, or stored downgrade files created during an upgrade).

Diagnostics and Logging Options

Cisco Integrated Storage System 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.

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.

Use the **show errors** command to display error statistics by module, entity, or activity.

SNMP Commands

Table 3 lists and describes the **snmp-server** SNMP command-line interface commands.

Table 3 SNMP Commands

Configuration Mode	Command	Purpose
`iss-module(config)#`	**snmp-server community** *community-string* [**RO** | **RW**] **no snmp-server community** *community-string* [**RO** | **RW**] Example: `iss-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 *cisco-snmp*.
`iss-module(config)#`	**snmp-server contact** *contact-name* **no snmp-server contact** *contact-name* Example: `iss-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 3 SNMP Commands (continued)

Configuration Mode	Command	Purpose
`iss-module(config)#`	**snmp-server enable traps** **no snmp-server enable traps** Example: `iss-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. 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.
`iss-module(config)#`	**snmp-server host** *ip-address community-string* **no snmp-server host** *ip-address community-string* Example: `iss-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.
`iss-module(config)#`	**snmp-server location** *location-name* **no snmp-server location** *location-name* Example: `iss-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.

Table 3 SNMP Commands (continued)

Configuration Mode	Command	Purpose
`iss-module(config)#`	**snmp-server monitor disk** *percentage* **no snmp-server monitor disk** *percentage* Example: `iss-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.
`iss-module(config)#`	**snmp-server monitor cpu** *percentage* **no snmp-server monitor cpu** *percentage* Example: `iss-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
`iss-module(config)#`	**snmp-server monitor swap** *percentage* **no snmp-server monitor swap** *percentage* Example: `iss-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.
`iss-module>`	**show snmp configuration**	Displays the configuration of all SNMP commands. It also lists all the resource monitoring threshold configurations.

	Example:
	`iss-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`
	`iss-module>`	

Additional References

The following sections provide references related to the Cisco Integrated Storage System application.

Related Documents

Related Topic	Document Title
Cisco Integrated Storage System and the Cisco Video Surveillance Solution	• *Release Notes for the Cisco Video Management and Storage System* • *Connecting Cisco Integrated Storage System Enhanced Network Modules to the Network* • *Cisco Integrated Storage System Installation and Upgrade Guide* • *Connecting Cisco Video Management and Storage System Enhanced Network Modules to the Network* • *Cisco Video Management and Storage System Installation and Upgrade Guide* • *Cisco Video Management and 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/