

rcv-queue cos-map

To map CoS values to the standard receive-queue drop thresholds, use the **rcv-queue cos-map** command. Use the **no** form of this command to remove the mapping.

```
rcv-queue cos-map queue-id threshold-id cos-1 ... cos-n
```

```
no rcv-queue cos-map queue-id threshold-id
```

Syntax Description

<i>queue-id</i>	Queue ID; the valid value is 1 .
<i>threshold-id</i>	Threshold ID; valid values are from 1 to 4.
<i>cos-1 ... cos-n</i>	CoS values; valid values are from 0 to 7.

Defaults

The defaults are as follows:

queue	threshold	cos-map	queue	threshold	cos-map
With QoS Disabled			With QoS Enabled		
1	1	0,1,2,3,4,5,6,7	1	1	0,1
1	2		1	2	2,3
1	3		1	3	4
1	4		1	4	6,7
2	1	5	2	1	5

Command Modes

Interface configuration

Command History

Release	Modification
12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
12.1(19)E1	This command was changed to support the 1q2t ingress LAN interface.

Usage Guidelines

The *cos-n* value is defined by the module and port type. When you enter the *cos-n* value, note that the higher values indicate higher priorities.

This command is effective on trusted ports only.

Always set threshold 2 on a 1q2t ingress LAN port to 100 percent.

Examples

This example shows how to map the CoS values 0 and 1 to threshold 1 in the standard receive queue:

```
Router (config-if)# rcv-queue cos-map 1 1 0 1  
cos-map configured on: Gi1/1 Gi1/2  
Router(config-if)#
```

Related Commands

[show queueing interface](#)

rcv-queue queue-limit

To set the size ratio between the strict-priority and standard receive queues, use the **rcv-queue queue-limit** command. Use the **no** form of this command to return to the default settings.

```
rcv-queue queue-limit {q-limit-1} {q-limit-2}
```

```
no rcv-queue queue-limit
```

Syntax Description		
	<i>q-limit-1</i>	Standard queue weight; valid values are from 1 and 100 percent.
	<i>q-limit-2</i>	Strict-priority queue weight; see the “Usage Guidelines” section for valid values.

Defaults

The defaults are as follows:

- **80** percent for low priority
- **20** percent for strict priority

Command Modes

Interface configuration

Command History

Release	Modification
12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
12.1(8a)EX	The acceptable minimum value of the strict-priority queue weight changed.

Usage Guidelines

Valid strict-priority weight values are from 1 to 100 percent, except on 1p1q8t ingress LAN ports, where valid values for the strict-priority queue are from 3 to 100 percent.

The **rcv-queue queue-limit** command configures ports on a per-ASIC basis.

Estimate the mix of strict-priority-to-standard traffic on your network (for example, 80-percent standard traffic and 20-percent strict-priority traffic) and use the estimated percentages as queue weights.

Examples

This example shows how to set the receive-queue size ratio for Gigabit Ethernet interface 1/2:

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# interface gigabitethernet 1/2
Router(config-if)# rcv-queue queue-limit 75 15
Router(config-if)# end
Router#
```

Related Commands

[show queueing interface](#)

rcv-queue random-detect

To specify the minimum and maximum threshold for the specified receive queues on 1q4t, 1p1q4t, and 1p1q0t interfaces, use the **rcv-queue random-detect** command. Use the **no** form of this command to return to the default settings.

```
rcv-queue random-detect { max-threshold | min-threshold } queue-id threshold-percent-1 ...
threshold-percent-n
```

```
no rcv-queue random-detect { max-threshold | min-threshold } queue-id
```

Syntax Description

max-threshold	Specifies the maximum threshold.
min-threshold	Specifies the minimum threshold.
<i>queue-id</i>	Queue ID; the valid value is 1 .
<i>threshold-percent-1</i> <i>threshold-percent-n</i>	Threshold weights; valid values are from 1 to 100 percent.

Defaults

If you disable QoS, the default is that all thresholds are set to 100 percent.

If you enable QoS, the following default thresholds apply:

- 1q4t ingress LAN interfaces have this default drop-threshold configuration:
 - Using receive-queue drop threshold 1, the Catalyst 6500 series switch drops incoming frames with CoS 0 or 1 when the receive-queue buffer is 50 percent or more full.
 - Using receive-queue drop threshold 2, the Catalyst 6500 series switch drops incoming frames with CoS 2 or 3 when the receive-queue buffer is 60 percent or more full.
 - Using receive-queue drop threshold 3, the Catalyst 6500 series switch drops incoming frames with CoS 4 or 5 when the receive-queue buffer is 80 percent or more full.
 - Using receive-queue drop threshold 4, the Catalyst 6500 series switch drops incoming frames with CoS 6 or 7 when the receive-queue buffer is 100 percent full.
- 1p1q4t ingress LAN interfaces have this default drop-threshold configuration:
 - Frames with CoS 0, 1, 2, 3, 4, 6, or 7 go to the standard receive queue.
 - Using standard receive-queue drop threshold 1, the Catalyst 6500 series switch drops incoming frames with CoS 0 or 1 when the receive-queue buffer is 50 percent or more full.
 - Using standard receive-queue drop threshold 2, the Catalyst 6500 series switch drops incoming frames with CoS 2 or 3 when the receive-queue buffer is 60 percent or more full.
 - Using standard receive-queue drop threshold 3, the Catalyst 6500 series switch drops incoming frames with CoS 4 when the receive-queue buffer is 80 percent or more full.
 - Using standard receive-queue drop threshold 4, the Catalyst 6500 series switch drops incoming frames with CoS 6 or 7 when the receive-queue buffer is 100 percent full.
 - Frames with CoS 5 go to the strict-priority receive queue (queue 2), where the Catalyst 6500 series switch drops incoming frames only when the strict-priority receive-queue buffer is 100 percent full.

- 1p1q0t ingress LAN interfaces have this default drop-threshold configuration:
 - Frames with CoS 0, 1, 2, 3, 4, 6, or 7 go to the standard receive queue. The Catalyst 6500 series switch drops incoming frames when the receive-queue buffer is 100 percent full.
 - Frames with CoS 5 go to the strict-priority receive queue (queue 2), where the Catalyst 6500 series switch drops incoming frames only when the strict-priority receive-queue buffer is 100 percent full.

Command Modes Interface configuration

Command History	Release	Modification
	12.1(8a)EX	Support for this command was introduced on the Supervisor Engine 2.

Usage Guidelines

The 1q4t interface indicates one standard queue with four thresholds. The 1p1q4t interface indicates one strict-priority queue and one standard queue with four thresholds. The 1p1q0t interface indicates one strict-priority queue and one standard queue with no configurable threshold (effectively, a tail-drop threshold at 100 percent).

The threshold in the strict-priority queue is not configurable.

Each threshold has a low and a high threshold value.

The threshold values are a percentage of the receive-queue capacity.

For additional information on configuring receive-queue thresholds, refer to the QoS chapter in the *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide*.

Examples This example shows how to configure the low-priority receive-queue thresholds:

```
Router (config-if)# rcv-queue random-detect max-threshold 1 60 100
Router (config-if)#
```

Related Commands [show queueing interface](#)

rcv-queue threshold

To configure drop-threshold percentages for the standard receive queues on 1p1q4t and 1p1q0t interfaces, use the **rcv-queue threshold** command. Use the **no** form of this command to return thresholds to the default settings.

rcv-queue threshold *queue-id threshold-percent-1 ... threshold-percent-n*

no rcv-queue threshold

Syntax Description

<i>queue-id</i>	Queue ID; the valid value is 1 .
<i>threshold-percent-1 ... threshold-percent-n</i>	Threshold ID; valid values are from 1 to 100 percent.

Defaults

The defaults for the 1p1q4t and 1p1q0t configurations are as follows:

- QoS assigns all traffic with CoS 5 to the strict-priority queue.
- QoS assigns all other traffic to the standard queue.

The default for the 1q4t and 1q2t configurations is that QoS assigns all traffic to the standard queue.

If you enable QoS, the following default thresholds apply:

- 1p1q4t interfaces have this default drop-threshold configuration:
 - Frames with CoS 0, 1, 2, 3, 4, 6, or 7 go to the standard receive queue.
 - Using standard receive-queue drop threshold 1, the Catalyst 6500 series switch drops incoming frames with CoS 0 or 1 when the receive-queue buffer is 50 percent or more full.
 - Using standard receive-queue drop threshold 2, the Catalyst 6500 series switch drops incoming frames with CoS 2 or 3 when the receive-queue buffer is 60 percent or more full.
 - Using standard receive-queue drop threshold 3, the Catalyst 6500 series switch drops incoming frames with CoS 4 when the receive-queue buffer is 80 percent or more full.
 - Using standard receive-queue drop threshold 4, the Catalyst 6500 series switch drops incoming frames with CoS 6 or 7 when the receive-queue buffer is 100 percent full.
 - Frames with CoS 5 go to the strict-priority receive queue (queue 2), where the Catalyst 6500 series switch drops incoming frames only when the strict-priority receive-queue buffer is 100 percent full.
- 1p1q0t interfaces have this default drop-threshold configuration:
 - Frames with CoS 0, 1, 2, 3, 4, 6, or 7 go to the standard receive queue. The Catalyst 6500 series switch drops incoming frames when the receive-queue buffer is 100 percent full.
 - Frames with CoS 5 go to the strict-priority receive queue (queue 2), where the Catalyst 6500 series switch drops incoming frames only when the strict-priority receive-queue buffer is 100 percent full.

- 1q2t interfaces have this default drop-threshold configuration:
 - Frames with CoS 0, 1, 2, 3, 4, 5, 6, or 7 go to the standard receive queue.
 - Using standard receive-queue drop threshold 1, the Catalyst 6500 series switch drops incoming frames with CoS 0, 1, 2, 3, or 4 when the receive-queue buffer is 80 percent or more full.
 - Using standard receive-queue drop threshold 2, the Catalyst 6500 series switch drops incoming frames with CoS 5, 6, or 7 when the receive-queue buffer is 100 percent or more full.

**Note**

The 100-percent threshold may be actually changed by the module to 98 percent to allow BPDU traffic to proceed. The BPDU threshold is factory set at 100 percent.

Command Modes

Interface configuration

Command History

Release	Modification
12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
12.1(5c)EX	This command was changed to support the 1p1q0t interface.
12.1(19)E1	This command was changed to support the 1q2t ingress LAN interface.

Usage Guidelines

The *queue-id* value is always **1**.

A value of **10** indicates a threshold when the buffer is 10 percent full.

Always set threshold 4 to 100 percent.

Always set threshold 2 on a 1q2t ingress LAN port to 100 percent.

Receive thresholds take effect only on ports whose trust state is **trust cos**.

Configure the 1q4t receive-queue tail-drop threshold percentages with the [wrr-queue threshold](#) command.

Examples

This example shows how to configure the receive-queue drop thresholds for Gigabit Ethernet interface 1/1:

```
Router(config-if)# rcv-queue threshold 1 60 75 85 100
Router(config-if)#
```

Related Commands

[show queueing interface](#)
[wrr-queue threshold](#)

redundancy

To enter redundancy configuration mode, use the **redundancy** command. From this mode, you can enter the main CPU submode to manually synchronize the configurations that are used by the two supervisor engines.

redundancy

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Modes Global configuration

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Usage Guidelines After you are in redundancy mode, you can enter the main CPU submode. From this mode, you can use the **auto-sync** command to use all of the redundancy commands applicable to the main CPU.

Examples This example shows how to enter redundancy mode:

```
Router (config)# redundancy
Router(config-r)#
```

This example shows how to enter the main CPU submode:

```
Router (config)# redundancy
Router (config-r)# main-cpu
Router (config-r-mc)#
```

Related Commands [auto-sync](#)

redundancy force-switchover

To force a switchover from the active to the standby supervisor engine, use the **redundancy force-switchover** command.

redundancy force-switchover

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Modes Privileged EXEC

Command History	Release	Modification
	12.1(11b)EX	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(13)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Usage Guidelines Before using this command, refer to the “Performing a Fast Software Upgrade (FSU)” section of the *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide* for additional information.

The **redundancy force-switchover** command conducts a manual switchover to the redundant supervisor engine. The redundant supervisor engine becomes the new active supervisor engine running the new Cisco IOS image. The modules are reset and the module software is downloaded from the new active supervisor engine.

The active and redundant supervisor engines do not reset on an RPR+ switchover.

The old active supervisor engine reboots with the new image and becomes the redundant supervisor engine.

Examples This example shows how to switch over manually from the active to the standby supervisor engine:

```
Router# redundancy force-switchover
Router#
```

Related Commands

- [mode](#)
- [redundancy](#)
- [show redundancy](#)

reload

To reload the entire Catalyst 6500 series switch, use the **reload** command.

reload [*text* | **in** [*hh:mm*] [*text*] | **at** *hh:mm* [*month day* | *day month*] [*text*] | **cancel**]

Syntax Description	
<i>text</i>	(Optional) Reason for the reload; the string can be from 1 to 255 characters.
in [<i>hh:mm</i>]	(Optional) Delays a Catalyst 6500 series switch reload for a specific amount of time.
at <i>hh:mm</i>	(Optional) Schedules a Catalyst 6500 series switch reload to take place at the specified time (using a 24-hour clock).
<i>month</i>	(Optional) Name of the month; any number of characters in a unique string.
<i>day</i>	(Optional) Number of the day; valid values are from 1 to 31.
cancel	(Optional) Cancels a scheduled reload.

Defaults

This command has no default settings.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
12.1(11b)EX	This command was changed from reloading the supervisor engine only to reloading the entire Catalyst 6500 series switch.

Usage Guidelines

The **reload** command halts the system. If the system is set to restart on error, it reboots itself. Use the **reload** command after configuration information is entered into a file and saved to the startup configuration.

When you schedule a reload to occur at a later time (using the **in** keyword), it must take place within approximately 24 days.

When specifying the reload time (using the **at** keyword), if you specify the month and day, the reload takes place at the specified time and date. If you do not specify the month and day, the reload takes place at the specified time on the current day (if the specified time is later than the current time), or on the next day (if the specified time is earlier than the current time). Specifying 00:00 schedules the reload for midnight. The reload must take place within approximately 24 days.

If you modify your configuration file, the system prompts you to save the configuration. During a save operation, the system asks you if you want to proceed with the save if the CONFIG_FILE environment variable points to a startup configuration file that no longer exists. If you say “yes” in this situation, the system goes to **setup** mode upon reload.

You can use the **at** keyword if the system clock has been set on the MSM (either through NTP, the hardware calendar, or manually). The time is relative to the configured time zone on the MSM. To schedule reloads across several MSMs to occur simultaneously, you must synchronize the time on each MSM with NTP.

To display information about a scheduled reload, use the **show reload** command.

Examples

This example shows how to reload the Catalyst 6500 series switch immediately:

```
Router# reload
Router#
```

This example shows how to reload the Catalyst 6500 series switch in 10 minutes:

```
Router# reload in 10
Router# Reload scheduled for 11:57:08 PDT Fri Apr 21 1996 (in 10 minutes)
Proceed with reload? [confirm]
Router#
```

This example shows how to reload the Catalyst 6500 series switch at 1:00 p.m. today:

```
Router# reload at 13:00
Router# Reload scheduled for 13:00:00 PDT Fri Apr 21 1996 (in 1 hour and 2 minutes)
Proceed with reload? [confirm]
Router#
```

This example shows how to reload the Catalyst 6500 series switch on April 20 at 2:00 a.m.:

```
Router# reload at 02:00 apr 20
Router# Reload scheduled for 02:00:00 PDT Sat Apr 20 1996 (in 38 hours and 9 minutes)
Proceed with reload? [confirm]
Router#
```

This example shows how to cancel a pending reload:

```
Router# reload cancel
%Reload cancelled.
Router#
```

Related Commands

copy system:running-config nvram:startup-config (refer to the *Cisco IOS Release 12.1 Command Reference*)

show reload (refer to the *Cisco IOS Release 12.1 Command Reference*)

remote command

To execute a Catalyst 6500 series switch command directly on the switch console or a specified module without having to log into the Catalyst 6500 series switch first, use the **remote command** command.

remote command { **module** *mod* } | **switch** } *command*

Syntax Description	
module <i>mod</i>	Specifies the module; see the “Usage Guidelines” section for valid values.
switch	Specifies the switch console.
<i>command</i>	Command to be executed.

Defaults This command has no default settings.

Command Modes Privileged EXEC

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
	12.1(5c)EX	The switch and module <i>num</i> keywords and arguments were added to support DFC-equipped modules.

Usage Guidelines The **module** *num* keyword and argument designate the module and port number. Valid values depend on the chassis and module used. For example, if you have a 48-port 10/100BASE-T Ethernet module installed in a 13-slot chassis, valid values for the module number are from 2 to 13 and valid values for the port number are from 1 to 48.

When you execute the **remote command switch** command, the prompt changes to Switch-sp#.

This command is supported on DFC-equipped modules and the supervisor engine only.

This command does not support command completion, but you can use shortened forms of the command (for example, entering **sh** for **show**).

Examples

This example shows how to execute the Catalyst 6500 series switch command from the route processor:

```
Router# remote command switch show calendar
Switch-sp#
09:52:50 UTC Mon Nov 12 2001
Router#
```

Related Commands [remote login](#)

remote login

To access the Catalyst 6500 series switch console or a specific module, use the **remote login** command.

remote login {**module** *num* | **switch**}

Syntax Description	Parameter	Description
	module <i>num</i>	Specifies the module to access; see the “Usage Guidelines” section for valid values.
	switch	Accesses the Catalyst 6500 series switch console.

Defaults This command has no default settings.

Command Modes Privileged EXEC

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
	12.1(5c)EX	The switch and module <i>num</i> keywords and argument were added.

Usage Guidelines



Caution

When you enter the **attach** or **remote login** command to access another console from your switch, if you enter global or interface configuration mode commands, the switch might reset.

The **module** *num* keyword and argument designate the module number. Valid values depend on the chassis used. For example, if you have a 13-slot chassis, valid values are from 1 to 13.

This command is supported on DFC-equipped modules and the supervisor engine only.

When you execute the **remote login module** *num* command, the prompt changes to Router-dfcx# or Switch-sp#, depending on the type of module to which you are connecting.

The **remote login module** *num* command is identical to the **attach** command.

There are two ways to end the session:

- You can enter the **exit** command as follows:

```
Switch-sp# exit
```

```
[Connection to Switch closed by foreign host]
Router#
```

- You can press **Ctrl-C** three times as follows:

```
Switch-sp# ^C
Switch-sp# ^C
Switch-sp# ^C
Terminate remote login session? [confirm] y
[Connection to Switch closed by local host]
Router#
```

Examples

This example shows how to perform a remote login to a specific module:

```
Router# remote login module 1
Trying Switch ...
Entering CONSOLE for Switch
Type "^C^C^C" to end this session
```

```
Switch-sp#
```

This example shows how to perform a remote login to the Catalyst 6500 series switch console:

```
Router# remote login switch
Trying Switch ...
Entering CONSOLE for Switch
Type "^C^C^C" to end this session
Switch-sp#
```

Related Commands

[attach](#)

remote-span

To configure a VLAN as an RSPAN VLAN, use the **remote-span** command. Use the **no** form of this command to remove the RSPAN designation.

remote-span

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Modes config-VLAN

Command History	Release	Modification
	12.1(13)E	Support for this command was introduced on the Catalyst 6500 series switches.

Usage Guidelines This command is not supported in the VLAN database mode.

You can enter the **show vlan remote-span** command to display the RSPAN VLANs in the Catalyst 6500 series switch.

Examples This example shows how to configure a VLAN as an RSPAN VLAN:

```
Router(config-vlan)# remote-span
Router(config-vlan)
```

This example shows how to remove the RSPAN designation:

```
Router(config-vlan)# no remote-span
Router(config-vlan)
```

Related Commands [show vlan remote-span](#)

reset

To leave the proposed new VLAN database, remain in VLAN configuration mode, and reset the proposed new database so that it is identical to the current VLAN database, use the **reset** command.

reset

Syntax Description This command has no keywords or arguments.

Defaults This command has no default settings.

Command Modes VLAN configuration

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Examples This example shows how to cause the proposed new VLAN database to be abandoned and reset to the current VLAN database:

```
Router(vlan)# reset
RESET completed.
Router(vlan)#
```

retry

To define the amount of time that must elapse before a connection is attempted to a failed server, use the **retry** command. Use the **no** form of this command to change the connection reassignment threshold and client threshold to the default settings.

retry *retry-value*

no retry

Syntax Description	<i>retry-value</i>	Amount of time, in seconds, that must elapse after the detection of a server failure before a new connection is attempted to the server; valid values are from 1 to 3600.
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Defaults	<i>retry-value</i> is 60.
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Command Modes	Real server configuration submode
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Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Examples This example shows how to define the retry timer:

```
Router(config-if)# retry 145
Router(config-if)#
```

This example shows how to revert to the default settings:

```
Router(config-if)# no retry
Router(config-if)#
```

Related Commands	faildetect numconns (refer to the <i>Cisco IOS Release 12.1 Command Reference</i>) inservice (refer to the <i>Cisco IOS Release 12.1 Command Reference</i>) maxconns (real server configuration submode)
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revision

To set the MST configuration revision number, use the **revision** command. Use the **no** form of this command to return to the default settings.

revision *version*

no revision

Syntax Description	<i>version</i>	Configuration revision number; valid values are from 0 to 65535.
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Defaults	<i>version</i> is 0 .	
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Command Modes	MST configuration submenu	
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Command History	Release	Modification
	12.1(11b)EX	Support for this command was introduced on the Catalyst 6500 series switches.
12.1(13)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.	

Usage Guidelines	Two Catalyst 6500 series switches that have the same configuration but different configuration revision numbers are considered to be part of two different regions.
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Caution

Be careful when using the **revision** command to set the MST configuration revision number because a mistake would put the switch in a different region.

Examples	This example shows how to set the configuration revision number:
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```
Router(config-mst)# revision 5
Router(config-mst)#
```

Related Commands	<p>instance name show show spanning-tree spanning-tree mst configuration</p>
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rmon alarm

To set an alarm on any MIB object, use the **rmon alarm** command. Use the **no** form of this command to disable the alarm.

rmon alarm *number variable interval* {**delta** | **absolute**} **rising-threshold** *value* [*event-number*]
falling-threshold *value* [*event-number*] [**owner** *string*]

no rmon alarm *number*

Syntax Description		
<i>number</i>	Alarm number that is identical to the alarmIndex in the alarmTable in the RMON MIB; valid values are from 1 to 65535.	
<i>variable</i>	MIB object to monitor; this value translates into the alarmVariable used in the alarmTable of the RMON MIB.	
<i>interval</i>	Time in seconds that the alarm monitors the MIB variable. This value is identical to the alarmInterval used in the alarmTable of the RMON MIB; valid values are from 1 to 4294967295.	
delta	Specifies the change between MIB variables; this value affects the alarmSampleType in the alarmTable of the RMON MIB.	
absolute	Specifies each MIB variable directly; this value affects the alarmSampleType in the alarmTable of the RMON MIB.	
rising-threshold <i>value</i>	Specifies the value at which the alarm is triggered; valid values are from -2147483648 to 2147483647.	
<i>event-number</i>	(Optional) Event number to trigger when the rising or falling threshold exceeds its limit. This value is identical to the alarmRisingEventIndex or the alarmFallingEventIndex in the alarmTable of the RMON MIB; valid values are from 1 to 65535.	
falling-threshold <i>value</i>	Specifies the value at which the alarm is reset; valid values are from -2147483648 to 2147483647.	
owner <i>string</i>	(Optional) Specifies the owner for the alarm; this value is identical to the alarmOwner in the alarmTable of the RMON MIB.	

Defaults No alarms are configured.

Command Modes Global configuration

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Usage Guidelines

You must specify the MIB object as a dotted decimal value after the entry sequence (for example, `ifEntry.10.1`). You cannot specify the variable name and the instance (for example, `ifInOctets.1`) or the entire dotted decimal notation. The variable must be of the form `entry integer.instance`.

To disable the RMON alarms, you must use the **no** form of the command on each configured alarm. For example, enter the **no rmon alarm 1** command, where the 1 identifies which alarm is to be removed.

Refer to RFC 1757 for more information about the RMON alarm group.

Examples

This example shows how to configure an RMON alarm using the **rmon alarm** command:

```
Router(config)# rmon alarm 10 ifEntry.20.1 20 delta rising-threshold 15 1
falling-threshold 0
owner jjohnson
```

This example shows how to configure an RMON alarm number 10. The alarm monitors the MIB variable `ifEntry.20.1` once every 20 seconds until the alarm is disabled and checks the change in the variable's rise or fall. If the `ifEntry.20.1` value shows a MIB counter increase of 15 or more, such as from 100000 to 100015, the alarm is triggered. The alarm in turn triggers event number 1, which is configured with the **rmon event** command. Possible events include a log entry or SNMP trap. If the `ifEntry.20.1` value changes by 0 (falling-threshold 0), the alarm is reset and can be triggered again.

Related Commands

rmon (refer to the *Cisco IOS Release 12.1 Command Reference*)

rmon event

show rmon (refer to the *Cisco IOS Release 12.1 Command Reference*)

rmon event

To add or remove an event in the RMON event table that is associated with an RMON event number, use the **rmon event** command. Use the **no** form of this command to disable RMON on the interface.

rmon event *number* [**log**] [**trap** *community*] [**description** *string*] [**owner** *string*]

no rmon event *number*

Syntax Description		
<i>number</i>	Assigned event number that is identical to the eventIndex in the eventTable in the RMON MIB; valid values are from 1 to 65535.	
log	(Optional) Generates an RMON log entry when the event is triggered and sets the eventType in the RMON MIB to log or log-and-trap.	
trap <i>community</i>	(Optional) Specifies the SNMP community string that is used for this trap.	
description <i>string</i>	(Optional) Specifies a description of the event that is identical to the event description in the eventTable of the RMON MIB.	
owner <i>string</i>	(Optional) Specifies the owner of this event that is identical to the eventOwner in the eventTable of the RMON MIB.	

Defaults No alarms are configured.

Command Modes Global configuration

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Usage Guidelines Refer to RFC 1757 for more information about the RMON MIB.

Use the **trap** *community* option to configure the setting of the eventType in the RMON MIB for this row as either snmp-trap or log-and-trap. This value is identical to the eventCommunityValue in the eventTable in the RMON MIB.

Examples

This example shows how to enable the **rmon event** command:

```
Router(config)# rmon event 1 log trap eventtrap description "High ifOutErrors" owner  
sdurham
```

This example configuration creates RMON event number 1, which is defined as High ifOutErrors, and generates a log entry when the event is triggered by an alarm. The user sdurham owns the row that is created in the event table by this command. This configuration also generates an SNMP trap when the event is triggered.

Related Commands

rmon (refer to the *Cisco IOS Release 12.1 Command Reference*)

rmon alarm

show rmon (refer to the *Cisco IOS Release 12.1 Command Reference*)

scheduler allocate

To guarantee CPU time for process tasks, use the **scheduler allocate** command. Use the **no** form of this command to return to the default settings.

scheduler allocate *interrupt-time process-time*

no scheduler allocate

Syntax	Description
<i>interrupt-time</i>	Integer (in microseconds) that limits the maximum number of microseconds to spend on fast switching within any one network interrupt context; valid values are from 400 to 60000 microseconds.
<i>process-time</i>	Integer (in microseconds) that guarantees the minimum number of microseconds to spend at the process level when network interrupts are disabled; valid values are from 100 to 4000.

Defaults

The defaults are as follows:

- *interrupt-time* is **4000** microseconds
- *process-time* is **800** microseconds

Command Modes

Global configuration

Command History

Release	Modification
12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
12.1(13)E10	This command was changed as follows: <ul style="list-style-type: none"> • The <i>process-time</i> default setting was changed from 200 microseconds to 800 microseconds. • The no scheduler allocate action was changed to return to the default settings.
12.1(20)E	The changes noted in Release 12.1(13)E10 do not apply to Releases 12.1(14)E, 12.1(19)E1, and 12.1(19)E1. In these releases, the following apply: <ul style="list-style-type: none"> • The <i>process-time</i> default setting is 200 microseconds. • The no scheduler allocate command disables interrupt throttling.

Usage Guidelines**Caution**

We recommend that you do not change the default values.

Entering the **scheduler allocate** command without arguments is the same as entering the **no scheduler allocate** or the **default scheduler allocate** command.

Examples

This example shows how to make 20 percent of the CPU available for process tasks:

```
Router-config# scheduler allocate 2000 500
Router-config#
```

service counters max age

To set the statistics retrieval time, use the **service counters max age** command. Use the **no** form of this command to return to the default settings.

service counters max age *seconds*

Syntax Description	<i>seconds</i>	Specifies the maximum age of the statistics retrieved from the CLI or SNMP; valid values are from 1 to 60 seconds.
---------------------------	----------------	--

Defaults	5 seconds
-----------------	-----------

Command Modes	Global configuration
----------------------	----------------------

Command History	Release	Modification
	12.1(23)E	Support for this command was introduced on the Catalyst 6500 series switches.

Usage Guidelines



Note

If you decrease the statistics retrieval interval from the default setting (5 seconds), congestion may form in situations where frequent SNMP (SMNP bulk) retrievals occur.

Examples

This example shows how to set the statistics retrieval interval:

```
Router(config)# service counters max age 10
Router(config)#
```

This example shows how to return to the default settings:

```
Router(config)# no service counters max age
Router(config)#
```

service-policy input

To attach a policy map to an interface, use the **service-policy input** command. Use the **no** form of this command to remove a policy map from an interface.

service-policy input *policy-map name*

no service-policy input *policy-map name*

Syntax Description	<i>policy-map name</i> Name of a previously configured policy map.
---------------------------	--

Defaults	No policy map is attached.
-----------------	----------------------------

Command Modes	Interface configuration
----------------------	-------------------------

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.	

Usage Guidelines	Although the CLI allows you to configure PFC-based QoS on the WAN ports on the OC-12 ATM OSMs and on the WAN ports on the channelized OSMs, PFC-based QoS is not supported on the WAN ports on these OSMs.
-------------------------	--

The Catalyst 6500 series switches do not support the **output service-policy** keyword on Ethernet interfaces.

PFC QoS does not support the **output service-policy** keyword.

Examples	This example shows how to attach a policy map to a Fast Ethernet interface:
-----------------	---

```
Router(config)# interface fastethernet 5/20
Router(config-if)# service-policy input pmap1
Router(config-if)#
```

Related Commands	class-map policy-map
-------------------------	---

session slot

To open a session with a module (for example, the MSM, NAM, or ATM), use the **session slot** command. This command allows you to use the module-specific CLI.

```
session slot mod {processor processor-id}
```

Syntax Description	<i>mod</i>	Slot number.
	processor <i>processor-id</i>	Processor ID.

Defaults This command has no default settings.

Command Modes EXEC

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Usage Guidelines To end the session, enter the **quit** command.

Examples This example shows how to open a session with an MSM (module 4):

```
Router# session slot 4 processor 2
Router#
```

set ip dscp

To mark a packet by setting the IP DSCP in the ToS byte, use the **set ip dscp** command. Use the **no** form of this command to remove a previously set IP DSCP.

set ip dscp *ip-dscp-value*

no set ip dscp *ip-dscp-value*

Syntax Description	<i>ip-dscp-value</i>	IP DSCP value; valid values are from 0 to 63. See the “Usage Guidelines” section for additional information.
---------------------------	----------------------	--

Defaults	This command has no default settings.
-----------------	---------------------------------------

Command Modes	QoS policy-map configuration
----------------------	------------------------------

Command History	Release	Modification
	12.1(12c)E1	Support for this command was introduced on the Catalyst 6500 series switches.

Usage Guidelines

You can enter reserved keywords **EF** (expedited forwarding), **AF11** (assured forwarding class AF11), and **AF12** (assured forwarding class AF12) instead of numeric values for *ip-dscp-value*.

After the IP DSCP bit is set, other QoS services can then operate on the bit settings.

You cannot mark a packet by the IP precedence using the **set ip precedence (policy-map)** command and then mark the same packet with an IP DSCP value using the **set ip dscp** command.

The network gives priority (or some type of expedited handling) to marked traffic. Typically, you set IP precedence at the edge of the network (or administrative domain); data is queued based on the precedence. WFQ can speed up handling for high-precedence traffic at congestion points. WRED ensures that high-precedence traffic has lower loss rates than other traffic during traffic congestion.

The **set ip precedence (policy-map)** command is applied when you create a service policy in QoS policy-map configuration mode. This service policy is not attached to an interface or to an ATM virtual circuit. See the **service-policy input** command for information on attaching a service policy to an interface.

When configuring policy map class actions, note the following:

- For hardware-switched traffic, PFC QoS does not support the **bandwidth**, **priority**, **queue-limit**, or **random-detect** policy map class commands. You can configure these commands because they can be used for software-switched traffic.
- With Release 12.1(12c)E1 and later releases, PFC QoS does not support the **set mpls** or **set qos-group** policy map class commands. With earlier releases, PFC QoS does not support any **set** policy map class commands.

- With Release 12.1(12c)E1 and later releases, PFC QoS supports the **set ip dscp** and **set ip precedence** policy map class commands (see the “Configuring Policy Map Class Marking” section in the *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide*).
- With Release 12.1(12c)E1 and later releases, you cannot do all three of the following in a policy map class:
 - Mark traffic with the **set ip dscp** or **set ip precedence (policy-map)** commands
 - Configure the trust state
 - Configure policing

In a policy map class, you can either mark traffic with the **set ip dscp** or **set ip precedence (policy-map)** commands or do one or both of the following:

- Configure the trust state
- Configure policing

Examples

This example shows how to set the IP DSCP ToS byte to 8 in the policy map called policy1:

```
Router(config)# policy-map policy1
Router(config-pmap)# class class1
Router(config-pmap-c)# set ip dscp 8
```

All packets that satisfy the match criteria of class1 are marked with the IP DSCP value of 8. How packets marked with the IP DSCP value of 8 are treated is determined by the network configuration.

This example shows that after you configure the settings shown for voice packets at the edge, all intermediate routers are then configured to provide low latency treatment to the voice packets:

```
Router(config)# class-map voice
Router(config-cmap)# match ip dscp ef
Router(config)# policy qos-policy
Router(config-pmap)# class voice
Router(config-pmap-c)# priority 24
```

Related Commands

[policy-map](#)
[service-policy input](#)
[show policy-map](#)
[show policy-map interface](#)

set ip precedence (policy-map)

To set the precedence value in the IP header, use the **set ip precedence** command. Use the **no** form of this command to leave the precedence value at the current setting.

set ip precedence *ip-precedence-value*

no set ip precedence

Syntax Description	<i>ip-precedence-value</i> Precedence bit value in the IP header; valid values are from 0 to 7; see Table 2-21 for a list of value definitions.
---------------------------	---

Defaults	This command is disabled by default.
-----------------	--------------------------------------

Command Modes	QoS policy-map configuration
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Command History	<table border="1"> <thead> <tr> <th style="border-top: 1px solid black; border-bottom: 1px solid black;">Release</th> <th style="border-top: 1px solid black; border-bottom: 1px solid black;">Modification</th> </tr> </thead> <tbody> <tr> <td style="border-bottom: 1px solid black;">12.1(12c)E1</td> <td style="border-bottom: 1px solid black;">Support for this command was introduced on the Catalyst 6500 series switches.</td> </tr> </tbody> </table>	Release	Modification	12.1(12c)E1	Support for this command was introduced on the Catalyst 6500 series switches.
Release	Modification				
12.1(12c)E1	Support for this command was introduced on the Catalyst 6500 series switches.				

Usage Guidelines	Table 2-21 lists the value definitions for precedence values in the IP header. They are listed from least to most important.
-------------------------	--

Table 2-21 Value Definitions for IP Precedence

Values	Definitions
0	routine
1	priority
2	immediate
3	flash
4	flash-override
5	critical
6	internet
7	network

After the IP precedence bits are set, other QoS services, such as WFQ and WRED, operate on the bit settings.

The network priorities (or some type of expedited handling) mark traffic through the application of WFQ or WRED at points downstream in the network. Typically, you set IP precedence at the edge of the network (or administrative domain); data is queued based on the precedence. WFQ can speed up handling for certain precedence traffic at congestion points. WRED can ensure that certain precedence traffic has lower loss rates than other traffic during traffic congestion.

The **set ip precedence** command is applied when you create a service policy in QoS policy-map configuration mode. This service policy is not attached to an interface or to an ATM virtual circuit. See the **service-policy input** command for information on attaching a service policy to an interface.

Examples

This example shows how to set the IP precedence to 5 for packets that satisfy the match criteria of the class map called class1:

```
Router(config)# policy-map policy1
Router(config-pmap)# class class1
Router(config-pmap-c)# set ip precedence 5
```

All packets that satisfy the match criteria of class1 are marked with the IP precedence value of **5**. How packets marked with the IP precedence value of **5** are treated is determined by the network configuration.

Related Commands

policy-map
service-policy input
show policy-map
show policy-map interface

show

To verify the MST configuration, use the **show** command.

show [current | pending]

Syntax Description	current	(Optional) Displays the current configuration as it is used to run MST.
	pending	(Optional) Displays the edited configuration that will replace the current configuration.

Defaults This command has no default settings.

Command Modes MST configuration submode

Command History	Release	Modification
	12.1(11b)EX	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(13)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Usage Guidelines The display output from the **show pending** command is the edited configuration that will replace the current configuration if you enter the **exit** command to exit MST configuration mode.

Entering the **show** command with no arguments displays the pending configurations.

Examples This example shows how to display the edited configuration:

```
Router(config-mst)# show pending
Pending MST configuration
Name      [zorglub]
Version   31415
Instance  Vlans Mapped
-----
0         4001-4096
2         1010, 1020, 1030, 1040, 1050, 1060, 1070, 1080, 1090, 1100, 1110
          1120
3         1-1009, 1011-1019, 1021-1029, 1031-1039, 1041-1049, 1051-1059
          1061-1069, 1071-1079, 1081-1089, 1091-1099, 1101-1109, 1111-1119
          1121-4000
-----
Router(config-mst)#
```

This example shows how to display the current configuration:

```
Router(config-mst)# show current
Current MST configuration
Name []
Revision 0
Instance Vlans mapped
-----
0 1-4094
-----
```

Related Commands

[instance name](#)
[revision](#)
[show spanning-tree mst](#)
[spanning-tree mst configuration](#)

show adjacency

To display information about the hardware Layer 3-switching adjacency table, use the **show adjacency** command.

```
show adjacency [{interface interface-number} | {null interface-number} | {port-channel number}
| {vlan vlan-id} | detail | internal | summary]
```

Syntax Description		
<i>interface</i>	(Optional) Interface type; possible valid values are ethernet , fastethernet , gigabitethernet , tengigabitethernet , pos , ge-wan , and atm .	
<i>interface-number</i>	(Optional) Module and port number; see the “Usage Guidelines” section for valid values.	
null <i>interface-number</i>	(Optional) Specifies the null interface; the valid value is 0 .	
port-channel <i>number</i>	(Optional) Specifies the channel interface; valid values are a maximum of 64 values ranging from 1 to 256.	
vlan <i>vlan-id</i>	(Optional) Specifies the VLAN; valid values are from 1 to 4094.	
detail	(Optional) Displays the protocol detail and timer information.	
internal	(Optional) Displays the internal data structure information.	
summary	(Optional) Displays a summary of CEF adjacency information.	

Defaults This command has no default settings.

Command Modes EXEC

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
	12.1(3a)E3	The number of valid values for port-channel <i>number</i> changed; see the “Usage Guidelines” section for valid values.
	12.1(5c)EX	This command was modified to include Layer 3 information.
	12.1(11b)E	This command was changed to include the pos , atm , and ge-wan keywords.

Usage Guidelines Hardware Layer 3 switching adjacency statistics are updated every 60 seconds.

The *interface-number* argument designates the module and port number. Valid values for *interface-number* depend on the specified interface type and the chassis and module used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module installed in a 13-slot chassis, valid values for the module number are from 2 to 13 and valid values for the port number are from 1 to 48.

The number of valid values for **port-channel number** depends on the software release. For releases prior to Release 12.1(3a)E3, valid values are from 1 to 256; for Releases 12.1(3a)E3, 12.1(3a)E4, and 12.1(4)E1, valid values are from 1 to 64. Release 12.1(5c)EX and later support a maximum of 64 values ranging from 1 to 256. Release 12.1(13)E and later support a maximum of 64 values ranging from 1 to 282; values 257 to 282 are supported on the CSM and FWSM only.

If your system is configured with a Supervisor Engine 1, valid values for *vlan-id* are from 1 to 1005. If your system is configured with a Supervisor Engine 2, valid values for *vlan-id* are from 1 to 4094. Extended-range VLANs are not supported on systems configured with a Supervisor Engine 1.

The information contained in the **show adjacency** commands includes the following:

- Protocol interface.
- Type of routing protocol configured on the interface.
- Interface address.
- Method of adjacency that was learned.
- MAC address of the adjacent router.
- Time left before the adjacency rolls out of the adjacency table. After it rolls out, a packet must use the same next hop to the destination.

Examples

This example shows how to display adjacency information:

```
Router# show adjacency
Protocol Interface          Address
IP       FastEthernet2/3     172.20.52.1(3045)
IP       FastEthernet2/3     172.20.52.22(11)
Router#
```

This example shows how to display a summary of adjacency information:

```
Router# show adjacency summary
Adjacency Table has 2 adjacencies
  Interface          Adjacency Count
  FastEthernet2/3    2
Router#
```

This example shows how to display protocol detail and timer information:

```
Router# show adjacency detail
Protocol Interface          Address
IP       FastEthernet2/3     172.20.52.1(3045)
                                0 packets, 0 bytes
                                000000000FF920000380000000000000
                                00000000000000000000000000000000
                                00605C865B2800D0BB0F980B0800
                                ARP          03:58:12
IP       FastEthernet2/3     172.20.52.22(11)
                                0 packets, 0 bytes
                                000000000FF920000380000000000000
                                00000000000000000000000000000000
                                00801C93804000D0BB0F980B0800
                                ARP          03:58:06
Router#
```

show adjacency

This example shows how to display adjacency information for a specific interface:

```
Router# show adjacency fastethernet 2/3
Protocol Interface Address
IP FastEthernet2/3 172.20.52.1 (3045)
IP FastEthernet2/3 172.20.52.22 (11)
Router#
```

Related Commands

[debug adjacency](#)
[show mls cef adjacency](#)

show arp

To display the ARP table, use the **show arp** command.

show arp

Syntax Description This command has no keywords or arguments.

Defaults This command has no default settings.

Command Modes EXEC

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Examples This example shows how to display the ARP table:

```
Router# show arp
Protocol Address           Age (min)  Hardware Addr  Type   Interface
Internet 172.20.52.11          4          0090.2156.d800  ARPA   Vlan2
Internet 172.20.52.1          58          0060.5c86.5b28  ARPA   Vlan2
Internet 172.20.52.22         129         0080.1c93.8040  ARPA   Vlan2
Router#
```

show asic-version

To display the ASIC version for a specific module, use the **show asic-version** command.

show asic-version slot *number*

Syntax Description	<i>number</i>	Module number.
--------------------	---------------	----------------

Defaults	This command has no default settings.
----------	---------------------------------------

Command Modes	EXEC
---------------	------

Command History	Release	Modification
	12.1(13)E	Support for this command was introduced on the Catalyst 6500 series switches.

Usage Guidelines	In the show asic-version command output, the ASIC types are as follows:
------------------	--

- Lyra—Layer 2 forwarding engine
- Medusa—Crossbar and bus fabric interface
- Polaris—Layer 3 CEF engine
- Pinnacle—4-port Gigabit Ethernet interface
- Titan—Packet rewrite and replication engine
- Vela—Constellation bus interface

Examples	This example shows how to display the ASIC type and version for a specific module:
----------	--

```
Router# show asic-version slot 1
Module in slot 1 has 3 type(s) of ASICs
      ASIC Name      Count      Version
      PINNACLE       1          (2.0)
      MEDUSA         1          (2.0)
      TITAN          1          (0.1)
Router#
```

show bootflash:

To display information about the bootflash: file system, use the **show bootflash:** command.

show bootflash: [all | chips | filesys]

Syntax Description	all	(Optional) Displays all possible Flash information.
	chips	(Optional) Displays information about the Flash chip.
	filesys	(Optional) Displays information about the file system.

Defaults This command has no default settings.

Command Modes User EXEC

Command History	Release	Modification
	12.0(7)XE	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(1)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.

Examples This example shows how to display information about the file system status:

```
Router# show bootflash: filesys

----- F I L E   S Y S T E M   S T A T U S -----
  Device Number = 0
DEVICE INFO BLOCK: bootflash
  Magic Number      = 6887635   File System Vers = 10000   (1.0)
  Length            = 1000000   Sector Size      = 40000
  Programming Algorithm = 39     Erased State     = FFFFFFFF
  File System Offset = 40000     Length           = F40000
  MONLIB Offset     = 100        Length           = C628
  Bad Sector Map Offset = 3FFF8   Length           = 8
  Squeeze Log Offset = F80000    Length           = 40000
  Squeeze Buffer Offset = FC0000  Length           = 40000
  Num Spare Sectors = 0
  Spares:
STATUS INFO:
  Writable
  NO File Open for Write
  Complete Stats
  No Unrecovered Errors
  No Squeeze in progress
```

■ show bootflash:

```

USAGE INFO:
  Bytes Used      = 917CE8  Bytes Available = 628318
  Bad Sectors     = 0        Spared Sectors  = 0
  OK Files        = 2        Bytes = 917BE8
  Deleted Files   = 0        Bytes = 0
  Files w/Errors  = 0        Bytes = 0
Router#

```

This example shows how to display image information:

```

Router# show bootflash:
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1  .. image    8C5A393A 237E3C  14 2063804 Aug 23 1999 16:18:45 c6msfc-boot-mz
2  .. image    D86EE0AD 957CE8   9 7470636 Sep 20 1999 13:48:49 rp.halley
Router#

```

This example shows how to display all bootflash information:

```

Router# show bootflash: all
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1  .. image    8C5A393A 237E3C  14 2063804 Aug 23 1999 16:18:45 c6msfc-boot-
mz
2  .. image    D86EE0AD 957CE8   9 7470636 Sep 20 1999 13:48:49 rp.halley

6456088 bytes available (9534696 bytes used)

```

```

----- F I L E   S Y S T E M   S T A T U S -----
  Device Number = 0
DEVICE INFO BLOCK: bootflash
  Magic Number      = 6887635   File System Vers = 10000   (1.0)
  Length            = 1000000   Sector Size      = 40000
  Programming Algorithm = 39     Erased State     = FFFFFFFF
  File System Offset = 40000    Length = F40000
  MONLIB Offset     = 100      Length = C628
  Bad Sector Map Offset = 3FFF8   Length = 8
  Squeeze Log Offset = F80000   Length = 40000
  Squeeze Buffer Offset = FC0000  Length = 40000
  Num Spare Sectors = 0
  Spares:
STATUS INFO:
  Writable
  NO File Open for Write
  Complete Stats
  No Unrecovered Errors
  No Squeeze in progress
USAGE INFO:
  Bytes Used      = 917CE8  Bytes Available = 628318
  Bad Sectors     = 0        Spared Sectors  = 0
  OK Files        = 2        Bytes = 917BE8
  Deleted Files   = 0        Bytes = 0
  Files w/Errors  = 0        Bytes = 0
Router#

```