Content Switching Module Commands

This chapter contains an alphabetical listing of the commands necessary to configure the CSM. These commands are unique to server load-balancing (SLB) and Layer 3 switching.

configure a static ARP entry:

When you enter the CAPP UDP submode, the following commands are available:

- **default**—Sets a command to its default.
- **exit**—Saves changes and exits from the subcommand mode; see the "agent (DFP submode)" command section.
- **no**—Negates a command or sets the specified command to its defaults.
- **options**—Sets optional parameters for a specified IP address. see the "options (CAPP UDP submode)" command section.
- **port**—Configures the CAPP port. Range is from 1 to 65535. Default is 5002, see the "port (CAPP UDP submode)" command section.
- **secure**—Enables encryption, see the "secure (CAPP UDP submode)" command section.

clear module csm

Usage Guidelines

When a connection is closed, a reset (RST) is sent to both the client and the server. Counters reset all the CSM statistics information, except for the **show mod csm X tech-support** counters, which are reset any time that you run the **show** command. The **linecard-configuration** command forces a soft-reset of the CSM, which erases all existing connections and run-time information. The CSM then reloads its configuration from Cisco IOS. This process takes about 3 seconds.

The **ft active** command is used to force the active CSM to the failover state. Fault tolerance preempt must not be enabled.

dfp

To enter the Dynamic Feedback Protocol (DFP) submode, and then configure DFP, use the **dfp** command. To remove the DFP configuration, use the **no** form of this command.

dfp [**password** *password* [*timeout*]]

no dfp [**password** *password*]

Syntax Description

password	(Optional) Specifies a password for MD5 authentication.
password	(Optional) Password value for MD5 authentication. This password must be the same on all DFP manager devices. The password can contain 1–64 characters. Valid characters are: a–z, A–Z, 0–9, @, #, $.
timeout	(Optional) Delay period, in seconds, during which both the old password and the new password are accepted; the range is from 0 to 65535.

Defaults

Timeout value is 180 seconds.

Command Modes

Module CSM configuration submode

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

The timeout option allows you to change the password without stopping messages between the DFP agent and its manager.

During a timeout, the agent sends packets with the old password (or null, if there is no old password), and receives packets with either the old or new password. After a timeout expires, the agent sends and receives packets with only the new password; received packets that use the old password are discarded.

If you are changing the password for an entire load-balanced environment, set a longer timeout. The extended timeout allows enough time for you to update the password on all agents and servers before the timeout expires. The embedded timeout also prevents mismatches between agents and servers that have the new password and agents and servers that have the old password.

Examples

This example shows how to initiate DFP agent configuration mode, configure DFP, set the password to flounder, and configure a 60-second timeout:

```
Cat6k-2(config-module-csm)# dfp password flounder 60
Cat6k-2(config-slb-dfp)#
```

Related Commands

show module csm dfp

agent (DFP submode)

To configure the DFP agent to which the CSM is going to communicate, use the **agent** command in the SLB DFP submode. To remove the agent configuration, use the **no** form of this command.

agent *ip-address port* [*keepalive-timeout* [*retry-count* [*retry-interval*]]]

no agent *ip-address port*

Syntax Description

ip-address	IP address of the DFP agent.
port	Port number of the DFP agent.
keepalive-timeout	(Optional) Time period in seconds between keepalive messages; the range is from 1 to 65535.
retry-count	(Optional) Number of consecutive connection attempts or invalid DFP reports received before tearing down the connections and marking the agent as failed; the range is from 0 to 65535.
retry-interval	(Optional) Interval between retries; the range is from 1 to 65535.

Defaults

Keepalive timeout is 0 (no keepalive message).

Retry count is 0 seconds (0 seconds allows infinite retries).

Retry interval is 180 seconds.

Command Modes

SLB DFP configuration submode

Command History

Release	Modification
1.1(1)	This command was introduced.

Examples

This example shows how to initiate the DFP agent, configure a 350-second timeout, and configure the number of retries to 270:

```
Cat6k-2(config-slb-dfp)# agent 111.101.90.10 2 350 270
```

Related Commands

dfp
manager (DFP submode)
show module csm dfp

manager (DFP submode)

To set the port where an external DFP can connect to the CSM, use the **manager** command in SLB DFP submode. To remove the manager configuration, use the **no** form of this command.

manager *port*

no manager

Syntax Description

port	Port number.

Defaults

This command has no default settings.

Command Modes

SLB DFP configuration submode

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

This command enables the CSM to listen to DFP connections from an external DFP manager.

Examples

This example shows how to set the DFP manager port:

```
Cat6k-2(config-slb-dfp)# manager 4
```

Related Commands

agent (DFP submode)
dfp
show module csm dfp

exit

To log out of the system or to leave a subcommand mode, use the **exit** command.

exit

Syntax Description

This command has no arguments or keywords.

Defaults

This command has no default settings.

Command Modes

Command mode

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

To leave a subcommand mode, use the **exit** command. The **exit** command saves any changes before leaving the submode.

Examples

This example shows how to log out of the CSM:

```
Cat6k-2(config-module-csm)# exit
Cat6k-2(config)#
```

ft group

To enter the fault tolerant submode, and then configure fault tolerance on the CSM, use the **ft group** command. To remove the fault-tolerant configuration, use the **no** form of this command.

ft group *group-id* **vlan** *vlan number*

no ft group

Syntax Description

group-id	ID of the fault-tolerant group. Both CSMs must have the same group ID. Range is from 1 to 254.
vlan *vlan number*	Specifies the VLAN over which heartbeat messages are sent by VLAN number. Both CSMs must have the same VLAN ID. The range is from 2 to 4095.

Defaults

This command has no default settings.

Command Modes

Module CSM configuration submode

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

A fault-tolerant group is comprised of two Catalyst 6500 series switches each containing a CSM configured for fault-tolerant operation. Each fault-tolerant group appears to network devices as a single device. A network may have more than one fault-tolerant group.

When you enter the fault tolerance group submode, the following commands are available:

- **default**—Sets a command to its default.
- **exit**—Saves changes and exits from the subcommand mode; see the "agent (DFP submode)" command section.
- **failover**—Saves changes and exits from the subcommand mode; see the "failover (fault tolerant submode)" command section.
- **heartbeat-time**—Saves changes and exits from the subcommand mode; see the "heartbeat-time (fault tolerant submode)" command section.
- **no**—Negates a command or sets the specified command to its defaults.
- **preempt**—Sets optional parameters for a specified IP address. See the "preempt (fault tolerant submode)" command section.
- **priority**—Configures the CAPP port. Range is from 1 to 65535; default is 5002. See the "priority (fault tolerant submode)" command section.

Examples

This example shows how to configure a fault-tolerant group named 123 on VLAN 5 and set the failover time to 3 seconds:

```
Cat6k-2(config-module-csm)# ft group 123 vlan 5
Cat6k-2(config-slb-ft)# failover 3
```

Related Commands

failover (fault tolerant submode)
heartbeat-time (fault tolerant submode)
preempt (fault tolerant submode)
priority (fault tolerant submode)
show module csm ft

failover (fault tolerant submode)

To set the time for a standby CSM to wait before becoming an active CSM, use the **failover** command in the SLB fault-tolerant configuration submode. To remove the failover configuration, use the **no** form of this command.

failover *failover-time*

no failover

Syntax Description

failover-time	Amount of time the CSM must wait after the last heartbeat message is received before assuming the other CSM is not operating; the range is from 1 to 65535.

Defaults

Failover time is 3 seconds.

Command Modes

SLB fault-tolerant configuration submode

Command History

Release	Modification
1.1(1)	This command was introduced.

Examples

This example shows how to set a failover period of 6 seconds:

```
Cat6k-2(config-slb-ft)# failover 6
```

Related Commands

ft group
show module csm ft

heartbeat-time (fault tolerant submode)

To set the time interval between heartbeat messages that are transmitted by the CSM, use the **heartbeat-time** command in the SLB fault-tolerant configuration submode. To restore the default heartbeat interval, use the **no** form of this command.

heartbeat-time *heartbeat-time*

no heartbeat-time

Syntax Description

heartbeat-time	Time interval between heartbeat transmissions in seconds; the range is from 1 to 65535.

Defaults

Heartbeat-time is 1 second.

Command Modes

SLB fault-tolerant configuration submode

Command History

Release	Modification
1.1(1)	This command was introduced.

Examples

This example shows how to set the heartbeat time to 2 seconds:

```
Cat6k-2(config-slb-ft)# heartbeat-time 2
```

Related Commands

ft group
show module csm ft

preempt (fault tolerant submode)

To allow a higher priority CSM to take control of a fault-tolerant group when it comes online, use the **preempt** command in the SLB fault-tolerant configuration submode. To restore the preempt default value, use the **no** form of this command.

preempt

no preempt

Syntax Description

This command has no arguments or keywords.

Defaults

The default value is that preempt is disabled.

Command Modes

Privileged

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

When you enable preempt, the higher priority CSM preempts the other CSM in the fault-tolerant group when the higher priority CSM comes online. When you enable no preempt, the current primary CSM remains the primary CSM when the next CSM comes online.

Note You must set both members of the fault-tolerant CSM pair to preempt for this feature to work.

Examples

This example shows how to set the fault-tolerance mode to preempt:

```
Cat6k-2(config-slb-ft)# preempt
```

Related Commands

ft group
priority (fault tolerant submode)
show module csm ft

priority (fault tolerant submode)

To set the priority of the CSM, use the priority command in the SLB fault-tolerant configuration submode. To restore the priority default value, use the **no** form of this command.

priority *value*

no priority

Syntax Description

value	Priority of a CSM; the range is from 1 to 254.

Defaults

Value is 10.

Command Modes

SLB fault-tolerant configuration submode

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

The CSM with the largest priority value is the primary CSM in the fault-tolerant pair when the modules are both operating.

Examples

This example shows how to set the priority value to 12:

```
Cat6k-2(config-slb-ft)# priority 12
```

Related Commands

ft group
preempt (fault tolerant submode)
show module csm ft

ip slb mode

To operate as a CSM load-balancing device instead of a Cisco IOS server load balancing (SLB) device, use the **ip slb mode** command to configure the switch. To remove the **mode** configuration, use the **no** form of this command.

ip slb mode {**csm** | **rp**}

no ip slb mode

Syntax Description

csm	Keyword to select the CSM load-balancing mode that allows you to configure a single CSM only and prohibits the use of Cisco IOS SLB on the Catalyst 6500 series switch.
rp	Keyword to select the route processor Cisco IOS SLB mode and enable module CSM commands for configuring multiple CSMs.

Defaults

Route processor mode

Command Modes

Global configuration

Command History

Release	Modification
1.1(1)	This command was introduced.
2.1(1)	This command now enables **module csm** commands for the **rp** mode.

Usage Guidelines

We recommend that you use the **rp** mode for all configurations. The **rp** mode allows you to configure both the switch and the CSM or other modules without changing modes.

Note You need to reboot the switch to change the mode.

This command allows you to change from the Cisco IOS SLB mode to the CSM load-balancing mode.

Note Specifying the **no ip slb mode** command is the same as specifying the **rp** mode.

Note In **csm** mode, all **ip slb** commands apply to a CSM module; Cisco IOS SLB is not available. In **rp** mode (the default), **ip slb** commands apply to Cisco IOS SLB. The **module csm** commands are available to configure multiple CSMs.

Examples

This example shows how to configure the CSM load-balancing mode:

```
Cat6k-2(config)# ip slb mode csm
```

Related Commands

module csm
show ip slb mode

map cookie

To create a cookie map, and then enter the cookie map configuration submode for specifying cookie match rules, use the **map cookie** command. To remove the cookie maps from the configuration, use the **no** form of this command.

map *cookie-map-name* **cookie**

no map *cookie-map-name*

Syntax Description

cookie-map-name	Cookie map instance; the character string is limited to 15 characters.
cookie	Enters the cookie map submode.

Defaults

This command has no default settings.

Command Modes

Module CSM configuration submode

Command History

Release	Modification
1.1(1)	This command was introduced.

Examples

This example shows how to create a cookie map:

```
Cat6k-2(config-module-csm)# map upnready cookie
```

Related Commands

cookie-map (policy submode)
match protocol http cookie (cookie map submode)
show module csm map