

# show ip cef epoch

To display the epoch information for the adjacency table and all FIB tables, use the **show ip cef epoch** command.

## show ip cef epoch

**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(8a)EX	Support for this command was introduced on the Catalyst 6500 series switches.

**Usage Guidelines** These **show** commands also display the epoch information for the following:

- **show ip cef summary**—Displays the table epoch for a specific FIB table.
- **show ip cef detail**—Displays the epoch value for each entry of a specific FIB table.
- **show adjacency summary**—Displays the adjacency table epoch.
- **show adjacency detail**—Displays the epoch value for each entry of the adjacency table.

**Examples** This example shows how to display epoch information:

```
Router# show ip cef epoch
CEF epoch information:

Table:Default-table
  Table epoch:2 (164 entries at this epoch)

Adjacency table
  Table epoch:1 (33 entries at this epoch)
```

This example shows the output after you clear the epoch table and increment the epoch number:

```
Router# show ip cef epoch
CEF epoch information:

Table:Default-table
  Table epoch:2 (164 entries at this epoch)

Adjacency table
  Table epoch:1 (33 entries at this epoch)
```

**show ip cef epoch**

```
Router# clear ip cef epoch full
Router# show ip cef epoch
CEF epoch information:

Table:Default-table
  Table epoch:3 (164 entries at this epoch)

Adjacency table
  Table epoch:2 (33 entries at this epoch)
Router#
```

**Related Commands**    [clear ip cef epoch full](#)

# show ip cef inconsistency

To display the CEF IP prefix inconsistencies, use the **show ip cef inconsistency** command.

```
show ip cef [vrf vrf-name] inconsistency [records [detail]]
```

Syntax Description	
<b>vrf</b> <i>vrf-name</i>	(Optional) Specifies a VRF instance.
<b>records</b>	(Optional) Displays all recorded inconsistencies.
<b>detail</b>	(Optional) Displays the detailed information for each CEF table entry.

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

**Command Modes** EXEC

Command History	Release	Modification
	12.1(8a)EX	Support for this command was introduced on the Catalyst 6500 series switches.

**Usage Guidelines** This command displays recorded CEF inconsistency records found by the lc-detect, scan-rp, scan-rib, and scan-lc detection mechanisms.

You can configure the CEF consistency detection mechanisms using the **ip cef table consistency-check** command.

**Examples** This example shows how to display recorded CEF inconsistency records:

```
Router# show ip cef inconsistency
Table consistency checkers (settle time 65s)
  lc-detect:running
    0/0/0 queries sent/ignored/received
  scan-lc:running [100 prefixes checked every 60s]
    0/0/0 queries sent/ignored/received
  scan-rp:running [100 prefixes checked every 60s]
    0/0/0 queries sent/ignored/received
  scan-rib:running [1000 prefixes checked every 60s]
    0/0/0 queries sent/ignored/received
Inconsistencies:0 confirmed, 0/16 recorded
```

Table 2-33 describes the significant fields shown in the display.

**Table 2-33** *show ip cef inconsistency* Field Descriptions

Field	Description
settle time	Time after a recorded inconsistency is confirmed.
lc-detect running	Consistency checker lc-detect is running.
0/0/0 queries	Number of queries sent, ignored, and received.
Inconsistencies:	Number of inconsistencies confirmed and recorded. The maximum number of inconsistency records to be recorded is 16.

**Related Commands** [clear ip cef inconsistency](#)

# show ip cef summary

To display a summary of the IP CEF table information, use the **show ip cef summary** command.

**show ip cef summary**

**Syntax Description** This command has no keywords and arguments.

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

**Command Modes** EXEC

Command History	Release	Modification
	12.1(8a)EX	Support for this command was introduced on the Catalyst 6500 series switches.

**Examples** This example shows how to display a summary of the IP CEF table information:

```
Router# show ip cef summary
IP Distributed CEF with switching (Table Version 25), flags=0x0
 21 routes, 0 reresolve, 0 unresolved (0 old, 0 new), peak 1
 21 leaves, 16 nodes, 19496 bytes, 36 inserts, 15 invalidations
 0 load sharing elements, 0 bytes, 0 references
universal per-destination load sharing algorithm, id 5163EC15
 3(0) CEF resets, 0 revisions of existing leaves
Resolution Timer: Exponential (currently 1s, peak 1s)
 0 in-place/0 aborted modifications
refcounts: 4377 leaf, 4352 node

Table epoch: 0 (21 entries at this epoch)

Adjacency Table has 9 adjacencies
Router#
```

# show ip cef vlan

To display information about the IP CEF VLAN interface status, the configuration, and the prefixes for a specific interface, use the **show ip cef vlan** command.

**show ip cef vlan *vlan-id* [detail]**

Syntax Description	
<i>vlan-id</i>	VLAN number; valid values are from 1 to 4094.
<b>detail</b>	(Optional) Displays the detailed information.

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

**Command Modes** EXEC

Command History	Release	Modification
	12.1(5c)EX	Support for this command was introduced on the Supervisor Engine 2.
	12.1(8a)E	Support for this command on the Supervisor Engine 2 was extended to the 12.1 E release.

**Usage Guidelines** 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.

**Examples** This example shows how to display the prefixes for a specific VLAN:

```
Router> show ip cef vlan 1003
Prefix          Next Hop          Interface
0.0.0.0/0       172.20.52.1      FastEthernet3/3
0.0.0.0/32      receive
10.7.0.0/16     172.20.52.1      FastEthernet3/3
10.16.18.0/23   172.20.52.1      FastEthernet3/3
Router>
```

This example shows how to display detailed IP CEF information for a specific VLAN:

```
Router> show ip cef vlan 1003 detail
IP Distributed CEF with switching (Table Version 2364), flags=0x0
 1383 routes, 0 reresolve, 0 unresolved (0 old, 0 new)
 1383 leaves, 201 nodes, 380532 bytes, 2372 inserts, 989 invalidations
 0 load sharing elements, 0 bytes, 0 references
 universal per-destination load sharing algorithm, id 9B6C9823
 3 CEF resets, 0 revisions of existing leaves
 refcunts: 54276 leaf, 51712 node

Adjacency Table has 5 adjacencies
Router>
```

# show ip igmp interface

To display information about the IP IGMP interface status and configuration, use the **show ip igmp interface** command.

```
show ip igmp interface [{interface [interface-number]} | {null interface-number} |
                        {vlan vlan-id}]
```

Syntax Description		
<i>interface</i>	(Optional) Interface type; possible valid values are <b>ethernet</b> , <b>fastethernet</b> , <b>gigabitethernet</b> , <b>tengigabitethernet</b> , <b>pos</b> , <b>atm</b> , and <b>ge-wan</b> .	
<i>interface-number</i>	(Optional) Module and port number; see the “Usage Guidelines” section for valid values.	
<b>null</b> <i>interface-number</i>	Specifies the null interface; the valid value is <b>0</b> .	
<b>vlan</b> <i>vlan-id</i>	Specifies the VLAN; valid values are from 1 to 4094.	

**Defaults** If you do not specify a VLAN, information for VLAN 1 is shown.

**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(5c)EX	This command was changed to include IGMP querier status information.
	12.1(11b)E	This command was changed to include the <b>ge-wan</b> , <b>atm</b> , and <b>pos</b> keywords.
	12.1(11b)EX	The command was changed to support extended-range VLANs.

**Usage Guidelines** 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.

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.

If you omit the optional arguments, the **show ip igmp interface** command displays information about all interfaces.

**show ip igmp interface****Examples**

This example shows how to display IGMP information for VLAN 1:

```
Router# show ip igmp interface vlan 5
Vlan5 is up, line protocol is up
Internet address is 100.45.3.1/24
IGMP is enabled on interface
Multicast routing is disabled on interface
Multicast TTL threshold is 0
No multicast groups joined
IGMP snooping is globally enabled
IGMP snooping is enabled on this interface
IGMP snooping fast-leave is disabled on this interface
IGMP snooping querier is disabled on this interface
Router#
```

**Related Commands**

[clear ip igmp group](#)  
[show ip igmp snooping mrouter](#)

# show ip igmp snooping mrouter

To display information on dynamically learned and manually configured multicast router interfaces, use the **show ip igmp snooping mrouter** command.

```
show ip igmp snooping mrouter [{vlan vlan-id}]
```

## Syntax Description

**vlan *vlan-id*** (Optional) Specifies a VLAN; valid values are from 1 to 4094.

## 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(11b)EX	The command was changed to support extended-range VLANs.

## Usage Guidelines

You can also use the [show mac-address-table](#) command to display entries in the MAC address table for a VLAN that has IGMP snooping enabled.

You can display IGMP snooping information for VLAN interfaces by entering the **show ip igmp interface vlan *vlan-num*** command.

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.

## Examples

This example shows how to display snooping information for a specific VLAN:

```
Router# show ip igmp snooping mrouter interface 1
vlan          ports
-----+-----
  1           Gi1/1,Gi2/1,Fa3/48,Router
Router#
```

## Related Commands

[ip igmp snooping mrouter](#)  
[show ip igmp interface](#)  
[show mac-address-table](#)

# show ip mroute

To display information about the IP multicast routing table, use the **show ip mroute** command.

```
show ip mroute [{interface interface-number} | {null interface-number} | {port-channel number}
| {vlan vlan-id} | {{host-name | host-address} [source]} | {active [kbps |
{interface-type num}]} | {count | pruned | static | summary}]
```

Syntax Description	
<i>interface</i>	(Optional) Interface type; possible valid values are <b>ethernet</b> , <b>fastethernet</b> , <b>gigabitethernet</b> , <b>tengigabitethernet</b> , <b>pos</b> , <b>atm</b> , and <b>ge-wan</b> .
<i>interface-number</i>	(Optional) Module and port number; see the “Usage Guidelines” section for valid values.
<b>null</b> <i>interface-number</i>	Specifies the null interface; the valid value is <b>0</b> .
<b>port-channel</b> <i>number</i>	Specifies the channel interface; see the “Usage Guidelines” section for valid values.
<b>vlan</b> <i>vlan-id</i>	Specifies the VLAN; see the “Usage Guidelines” section for valid values.
<i>host-name</i>   <i>host-address</i>	(Optional) Name or IP address as defined in the DNS hosts table.
<i>source</i>	(Optional) IP address or name of a multicast source.
<b>active</b>	(Optional) Displays the rate that active sources are sending to multicast groups.
<i>kbps</i>	(Optional) Minimum rate at which active sources are sending to multicast groups; active sources sending at this rate or greater will be displayed. Valid values are from 1 to 4294967295 kbps.
<b>count</b>	(Optional) Displays the route and packet count information.
<b>pruned</b>	(Optional) Displays the pruned routes.
<b>static</b>	(Optional) Displays the static multicast routes.
<b>summary</b>	(Optional) Displays a one-line, abbreviated summary of each entry in the IP multicast routing table.

**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(5c)EX	This command was changed to include the <b>pruned</b> and <b>static</b> keywords and the <i>{host-name   host-address} [source]</i> arguments.
	12.1(11b)E	This command was changed to include the <b>ge-wan</b> , <b>atm</b> , and <b>pos</b> keywords.

Release	Modification
12.1(11b)EX	The command was changed to support extended-range VLANs.
12.1(13)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release. Valid values for <b>port-channel number</b> was increased to 282.

### Usage Guidelines

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.

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.

If you omit all optional arguments and keywords, the **show ip mroute** command displays all entries in the IP multicast routing table.

The **show ip mroute active kbps** command displays all sources sending at a rate greater than or equal to *kbps*.

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 multicast routing table is populated by creating source, group (S,G) entries from star, group (\*,G) entries. The star refers to all source addresses, the “S” refers to a single source address, and the “G” is the destination multicast group address. In creating (S,G) entries, the software uses the best path to that destination group found in the unicast routing table (that is, through RPF).

### Examples

This example shows how to display all entries in the IP multicast routing table:

```
Router# show ip mroute

IP Multicast Routing Table
Flags:D - Dense, S - Sparse, s - SSM Group, C - Connected, L - Local,
      P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
      J - Join SPT, M - MSDP created entry, X - Proxy Join Timer Running
      A - Advertised via MSDP, U - URD, I - Received Source Specific Host
      Report
Outgoing interface flags:H - Hardware switched
Timers:Uptime/Expires
Interface state:Interface, Next-Hop or VCD, State/Mode

(*, 230.13.13.1), 00:16:41/00:00:00, RP 10.15.1.20, flags:SJC
  Incoming interface:GigabitEthernet4/8, RPF nbr 10.15.1.20
  Outgoing interface list:

GigabitEthernet4/9, Forward/Sparse-Dense, 00:16:41/00:00:00, H

(*, 230.13.13.2), 00:16:41/00:00:00, RP 10.15.1.20, flags:SJC

Incoming interface:GigabitEthernet4/8, RPF nbr 10.15.1.20, RPF-MFD
Outgoing interface list:
```

```

GigabitEthernet4/9, Forward/Sparse-Dense, 00:16:41/00:00:00, H
(10.20.1.15, 230.13.13.1), 00:14:31/00:01:40, flags:CJT
Incoming interface:GigabitEthernet4/8, RPF nbr 10.15.1.20, RPF-MFD
Outgoing interface list:
GigabitEthernet4/9, Forward/Sparse-Dense, 00:14:31/00:00:00, H
(132.206.72.28, 224.2.136.89), 00:14:31/00:01:40, flags:CJT
Incoming interface:GigabitEthernet4/8, RPF nbr 10.15.1.20, RPF-MFD

Outgoing interface list:Null
Router#

```

This example shows how to display the rate that active sources are sending to multicast groups and to display only active sources sending at greater than the default rate:

```

Router# show ip mroute active

Active IP Multicast Sources - sending >= 4 kbps

Group: 224.2.127.254, (sdr.cisco.com)
Source: 146.137.28.69 (mbone.ipd.anl.gov)
Rate: 1 pps/4 kbps(1sec), 4 kbps(last 1 secs), 4 kbps(life avg)

Group: 224.2.201.241, ACM 97
Source: 130.129.52.160 (webcast3-e1.acm97.interop.net)
Rate: 9 pps/93 kbps(1sec), 145 kbps(last 20 secs), 85 kbps(life avg)

Group: 224.2.207.215, ACM 97
Source: 130.129.52.160 (webcast3-e1.acm97.interop.net)
Rate: 3 pps/31 kbps(1sec), 63 kbps(last 19 secs), 65 kbps(life avg)
Router#

```

This example shows how to display information about the route and packet count:

```

Router# show ip mroute count
IP Multicast Statistics
56 routes using 28552 bytes of memory
13 groups, 3.30 average sources per group
Forwarding Counts:Pkt Count/Pkts per second/Avg Pkt Size/Kilobits per second

Other counts:Total/RPF failed/Other drops(OIF-null, rate-limit etc)

Group:224.2.136.89, Source count:1, Group pkt count:29051
Source:132.206.72.28/32, Forwarding:29051/-278/1186/0, Other:85724/8/56665
Router#

```

This example shows how to display summary information:

```

Router# show ip mroute summary
IP Multicast Routing Table
Flags: D - Dense, S - Sparse, s - SSM Group, C - Connected, L - Local,
P - Pruned, R - RP-bit set, F - Register flag, T - SPT-bit set,
J - Join SPT, M - MSDP created entry, X - Proxy Join Timer Running
A - Advertised via MSDP, U - URD, I - Received Source Specific Host
Report

Outgoing interface flags: H - Hardware switched
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode
Router#

```

Table 2-34 explains the fields shown in the displays.

**Table 2-34 show ip mroute Field Descriptions**

Field	Description
Flags:	Information about the entry.
D - Dense	Entry is operating in dense mode.
S - Sparse	Entry is operating in sparse mode.
s - SSM Group	Entry is a member of an SSM group.
C - Connected	Member of the multicast group is present on the directly connected interface.
L - Local	Router itself is a member of the multicast group.
P - Pruned	Route has been pruned. This information is retained in case a downstream member wants to join the source.
R - Rp-bit set	Status of whether the (S,G) entry is pointing toward the RP. This is typically a prune state along the shared tree for a particular source.
F - Register flag	Status of whether the software is registering for a multicast source.
T - SPT-bit set	Status of whether the packets have been received on the shortest path source tree.
J - Join SPT	<p>For (*, G) entries, indicates that the rate of traffic flowing down the shared tree is exceeding the SPT-Threshold set for the group. (The default SPT-Threshold setting is 0 kbps.) When the J - Join SPT flag is set, the next (S,G) packet received down the shared tree triggers an (S,G) join in the direction of the source causing the router to join the source tree.</p> <p>For (S,G) entries, indicates that the entry was created because the SPT-Threshold for the group was exceeded. When the J - Join SPT flag is set for (S,G) entries, the router monitors the traffic rate on the source tree and attempts to switch back to the shared tree for this source if the traffic rate on the source tree falls below the group's SPT-Threshold for more than one minute.</p> <p>The router measures the traffic rate on the shared tree and compares the measured rate to the group's SPT-Threshold once every second. If the traffic rate exceeds the SPT-Threshold, the J - Join SPT flag is set on the (*, G) entry until the next measurement of the traffic rate. The flag is cleared when the next packet arrives on the shared tree and a new measurement interval is started.</p> <p>If the default SPT-Threshold value of 0 Kbps is used for the group, the J - Join SPT flag is always set on (*, G) entries and is never cleared. When the default SPT-Threshold value is used, the router immediately switches to the shortest-path tree when traffic from a new source is received.</p>
Outgoing interface flags:	Information about the outgoing entry.
H - Hardware switched	Entry is hardware switched.
Timers:	Uptime/Expires.

**Table 2-34 show ip mroute Field Descriptions (continued)**

Field	Description
Interface state:	Interface, Next-Hop or VCD, State/Mode.
(* , 224.0.255.1) (198.92.37.100/32, 224.0.255.1)	Entry in the IP multicast routing table. The entry consists of the IP address of the source router followed by the IP address of the multicast group. An asterisk (*) in place of the source router indicates all sources. Entries in the first format are referred to as (*,G) or “star comma G” entries. Entries in the second format are referred to as (S,G) or “S comma G” entries. (*,G) entries are used to build (S,G) entries.
uptime	How long in hours, minutes, and seconds that the entry has been in the IP multicast routing table.
expires	How long in hours, minutes, and seconds until the entry is removed from the IP multicast routing table on the outgoing interface.
RP	Address of the RP router. For routers and access servers operating in sparse mode, this address is always 0.0.0.0.
flags:	Information about the entry.
Incoming interface:	Expected interface for a multicast packet from the source. If the packet is not received on this interface, it is discarded.
RPF neighbor	IP address of the upstream router to the source. “Tunneling” indicates that this router is sending data to the RP encapsulated in Register packets. The hexadecimal number in parentheses indicates to which RP it is registering. Each bit indicates a different RP if multiple RPs per group are used.
Dvmrp or Mroute	Status of whether the RPF information is obtained from the DVMRP routing table or the static mroutes configuration.
Outgoing interface list:	Interfaces through which packets are forwarded. When the <b>ip pim nbma-mode</b> command is enabled on the interface, the IP address of the PIM neighbor is also displayed.
Ethernet0	Name and number of the outgoing interface.
Next hop or VCD	Next hop specifies the downstream neighbor’s IP address. VCD specifies the virtual circuit descriptor number. VCD0 means that the group is using the static-map virtual circuit.
Forward/Dense	Status of whether the packets are forwarded on the interface if there are no restrictions due to access lists or the TTL threshold. Following the slash (/), mode in which the interface is operating (dense or sparse).
Forward/Sparse	Sparse mode interface is in forward mode.
time/time (uptime/expiration time)	Per interface, how long in hours, minutes, and seconds the entry has been in the IP multicast routing table. Following the slash (/), how long in hours, minutes, and seconds until the entry is removed from the IP multicast routing table.

**Related Commands****ip multicast-routing** (see Cisco IOS documentation)**ip pim** (see Cisco IOS documentation)

# show ip rpf events

To display the triggered RPF statistics, use the **show ip rpf events** command.

## show ip rpf events

**Syntax Description** This command has no keywords or arguments.

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

**Command Modes** EXEC

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

**Examples** This example shows how to display the triggered RPF statistics:

```
Router# show ip rpf events
Last 15 triggered multicast RPF check events
RPF backoff delay: 500 msec
RPF maximum delay: 5 sec
DATE/TIME BACKOFF PROTOCOL EVENT RPF CHANGES
Jan 1 00:00:55.643 500 msec EIGRP Route UP 0
Jan 1 00:00:07.283 1000 sec Connected Route UP 0
Jan 1 00:00:06.283 500 msec Connected Route UP 0
Router#
```

**Related Commands** [ip multicast rpf backoff](#)  
[ip multicast rpf interval](#)

# show ip wccp

To display WCCP statistics use the **show ip wccp** command.

```
show ip wccp [{service-number | web-cache} [detail | view]]
```

Syntax Description	
<i>service-number</i>	(Optional) Identification number of the cache engine service group being controlled by a router; valid values are from 0 to 99.
<b>web-cache</b>	(Optional) Directs the router to display statistics for the web-cache service.
<b>detail</b>	(Optional) Displays information for the router and all cache engines in the currently configured cluster.
<b>view</b>	(Optional) Displays which other members of a particular service group have or have not been detected.

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

**Command Modes** EXEC

Command History	Release	Modification
	12.1(2)E	Support for this command was introduced on the Catalyst 6500 series switches.

**Usage Guidelines** Use the **show ip wccp service-number** command to provide the “Total Packets Redirected” count. The “Total Packets Redirected” count is the number of flows, or sessions, that are redirected.

Use the **show ip wccp service-number detail** command to provide the “Packets Redirected” count. The “Packets Redirected” count is the number of flows, or sessions, that are redirected.

Use the **show ip wccp web-cache detail** command to provide an indication of how many flows, rather than packets, are using Layer 2 redirection.

For cache-engine clusters using Cisco cache engines, the reverse proxy *service-number* is indicated by a value of 99.

Use the **clear ip wccp** command to reset the counter for the “Packets Redirected” information.

For additional information on the IP WCCP commands, refer to the “Configuring Web Cache Services Using WCCP” section in the *Cisco IOS Configuration Fundamentals Configuration Guide*.

**Examples** This example shows how to display the connected cache engine using Layer 2 redirection:

```
Router# show ip wccp web-cache detail
WCCP Cache-Engine information:
  IP Address:          10.11.1.1
  Protocol Version:    2.0
  State:               Usable
  Redirection:         L2
```

```

Initial Hash Info:  FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
                   FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
Assigned Hash Info: FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
                   FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
Hash Allotment:    256 (100.00%)
Packets Redirected: 10273
Connect Time:     17:05:44

```

Table 2-35 describes the fields that are shown in the example.

**Table 2-35 show ip wccp web-cache detail Command Output Fields**

Field	Description
WCCP Cache-Engine information	Header for the area that contains fields for the IP address and version of WCCP that is associated with the router that is connected to the cache engine in the service group.
IP Address	IP address of the router that is connected to the cache engine in the service group.
Protocol Version	Version of WCCP that is used by the router in the service group.
WCCP Cache-Engine information	Fields for information on cache engines.
IP Address	IP address of the cache engine in the service group.
Protocol Version	Version of WCCP that is used by the cache engine in the service group.
State	Status of whether the cache engine is operating properly and can be contacted by a router and other cache engines in the service group.
Initial Hash Info	Initial state of the hash-bucket assignment.
Assigned Hash Info	Current state of the hash-bucket assignment.
Hash Allotment	Percentage of buckets that is assigned to the current cache engine. Both a value and a percent figure are displayed.
Packets Redirected	Number of flows that have been redirected to the cache engine.
Connect Time	Amount of time that it takes for the cache engine to connect to the router.

#### Related Commands

**clear ip wccp** (refer to the *Cisco IOS Release 12.1 Command Reference*)

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

**ip wccp redirect exclude in**

**ip wccp web-cache accelerated**

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

# show ipc

To display IPC information, use the **show ipc** command.

**show ipc { nodes | ports [open] | queue | status }**

Syntax Description	nodes	Displays the participating nodes.
	ports	Displays the local IPC ports.
	open	(Optional) Displays the open ports only.
	queue	Displays the contents of the IPC retransmission queue.
	status	Displays the status of the local IPC server.

**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 participating nodes:

```
Router# show ipc nodes
There are 66 nodes in this IPC realm.
  ID      Type      Name                Last Sent  Last Heard
 2210000 Local    Card33              0         0
 2000000 ICC       Card0               0         0
 2010000 ICC       Card1               0         0
 2020000 ICC       Card2               0         0
 2040000 ICC       Card4               0         0

<... output truncated ...>

 23E0000 ICC       Card62              0         0
 23F0000 ICC       Card63              0         0
   10000 ICC       IPC Master          270      17070
Router#
```

This example shows how to display local IPC ports:

```
Router# show ipc ports
There are 6 ports defined.

Port ID      Type      Name
 2210000.1   unicast   Card33:Zone
```

```

2210000.2    unicast    Card33:Echo
2210000.3    unicast    Card33:Control
2210000.4    unicast    Remote TTY Server Port
  10000.3    unicast    IPC Master:Control
2210000.5    unknown    Card33:Request
      port_index = 0  seat_id = 0x10000  last sent = 0  last heard = 1158
      port_index = 1  seat_id = 0x10000  last sent = 0  last heard = 0
Router#

```

This example shows how to display open IPC ports:

```

Router# show ipc ports open
There are 4 ports defined.

```

```

Port ID      Type      Name
 10000.7     unicast   Unknown
      port_index = 0  last sent = 2  last heard = 0

 10000.8     unicast   Unknown
      port_index = 0  last sent = 0  last heard = 0

 10000.9     unicast   Unknown
      port_index = 0  last sent = 17753 last heard = 0
      port_index = 1  last sent = 0  last heard = 0
Router#

```

This example shows how to display the contents of the IPC retransmission queue:

```

Router# show ipc queue
There are 0 IPC messages waiting for acknowledgement in the transmit queue.
There are 0 IPC messages waiting for a response.
There are 0 IPC messages waiting for additional fragments.
There are 2 messages currently in use by the system.
Router#

```

This example shows how to display the status of the local IPC server:

```

Router# show ipc status
IPC System Status:

```

```

This processor is a slave server.

```

```

1000 IPC message headers in cache
377053 messages in, 293133 out, 210699 delivered to local port,
83655 acknowledgements received, 83870 sent,
0 NACKS received, 0 sent,
0 messages dropped on input, 0 messages dropped on output
0 no local port, 0 destination unknown, 0 no transport
0 missing callback or queue, 0 duplicate ACKs, 0 retries,
0 message timeouts.
0 ipc_output failures, 0 mtu failures,
0 msg alloc failed, 0 emer msg alloc failed, 0 no origs for RPC replies
0 pak alloc failed, 0 memd alloc failed
0 no hwq, 0 failed opens, 0 hardware errors
No regular dropping of IPC output packets for test purposes
Router#

```

# show l2protocol-tunnel

To display the protocols that are tunneled on an interface or on all interfaces, use the **show l2protocol-tunnel** command.

```
show l2protocol-tunnel [{interface interface mod/port} | {vlan vlan-id} | summary]
```

Syntax Description	Parameter	Description
	<b>interface</b> <i>interface</i>	(Optional) Specifies the interface type to display; possible valid values are <b>ethernet</b> , <b>fastethernet</b> , <b>gigabitethernet</b> , <b>tengigabitethernet</b> , <b>pos</b> , <b>atm</b> , and <b>ge-wan</b> .
	<i>mod/port</i>	Module and port number.
	<b>vlan</b> <i>vlan-id</i>	(Optional) Specifies the VLAN to display; valid values are from 1 to 4094.
	<b>summary</b>	(Optional) Displays a summary of a tunneled port.

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

**Command Modes** 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. The output for this command was changed and the <b>vlan</b> <i>vlan-id</i> option was added.

**Usage Guidelines** 802.1Q tunneling is not supported on systems configured with a Supervisor Engine 1. 802.1Q tunneling is supported on systems configured with the following modules, but is not supported on the modules themselves:

- WS-X6548-GE-TX
- WS-X6548V-GE-TX
- WS-X6548-GE-TX
- WS-X6148-GE-TX
- WS-X6148V-GE-TX

The **show l2protocol-tunnel** command displays only ports that have protocol tunneling enabled.

The **show l2protocol-tunnel summary** command displays ports that have protocol tunneling enabled, regardless of whether the port is down or currently configured as a trunk.

**Examples**

This example shows how to display the protocols tunneled on all interfaces:

```
Router# show l2protocol-tunnel
COS for Encapsulated Packets: 5
Port    Protocol Shutdown    Drop    Encapsulation Decapsulation    Drop
        Threshold Threshold Counter    Counter    Counter
-----
Fa3/38  cdp      ----    3000    5          0          0
        stp      ----    3000    2653       0          0
        ---    ----    ----    ----    ----    ----
Router#
```

This example shows how to display a summary of protocol tunnel ports:

```
Router# show l2protocol-tunnel summary
COS for Encapsulated Packets: 5
Port    Protocol    Shutdown    Drop    Status
        Threshold    Threshold
        (cdp/stp/vtp) (cdp/stp/vtp)
-----
Fa3/38  cdp stp --- ----/----/---- 3000/3000/3000
Router>
```

**Related Commands**

[l2protocol-tunnel](#)  
[l2protocol-tunnel drop-threshold](#)  
[l2protocol-tunnel shutdown-threshold](#)

# show l3-mgr

To display Layer 3 manager information, use the **show l3-mgr** command.

## show l3-mgr status

```
show l3-mgr {interface {{interface interface-number} | {null interface-number} |
              {port-channel number} | {vlan vlan-id} | status}}
```

### Syntax Description

<b>status</b>	Displays the global information.
<b>interface</b>	Displays the interface detailed Layer 3 manager information.
<i>interface</i>	Interface type; possible valid values are <b>ethernet</b> , <b>fastethernet</b> , <b>gigabitethernet</b> , <b>tengigabitethernet</b> , <b>pos</b> , <b>atm</b> , and <b>ge-wan</b> .
<i>interface-number</i>	Module and port number; see the “Usage Guidelines” section for valid values.
<b>null</b> <i>interface-number</i>	Specifies the null interface; the valid value is <b>0</b> .
<b>port-channel</b> <i>number</i>	Specifies the channel interface; valid values are a maximum of 64 values ranging from 1 to 282.
<b>vlan</b> <i>vlan-id</i>	Specifies the VLAN; valid values are from 1 to 4094.
<b>status</b>	Specifies the Layer 3 manager status 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 <b>port-channel</b> changed; see the “Usage Guidelines” section for valid values.
12.1(11b)E	This command was changed to include the <b>ge-wan</b> , <b>atm</b> , and <b>pos</b> keywords.
12.1(11b)EX	The command was changed to support extended-range VLANs.

### Usage Guidelines

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.

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.

## Examples

This example shows how to display Layer 3 manager status information:

```
Router# show l3-mgr status
l3_mgr_state:          2
l3_mgr_req_q.count:    0
l3_mgr_req_q.head:     0
l3_mgr_req_q.tail:     0
l3_mgr_max_queue_count: 1060
l3_mgr_shrunk_count:   0
l3_mgr_req_q.ip_inv_count: 303
l3_mgr_req_q.ipx_inv_count: 0
l3_mgr_outpak_count:   18871
l3_mgr_inpak_count:    18871

l3_mgr_max_pending_pak: 4
l3_mgr_pending_pak_count: 0

nde enable statue:    0
current nde addr:     0.0.0.0

Router#
```

This example shows how to display Layer 3 manager information for a specific interface:

```
Router# show l3-mgr interface fastethernet 5/40
vlan:          0
ip_enabled:    1
ipx_enabled:   1
bg_state:      0 0 0 0
hsrp_enabled:  0
hsrp_mac:      0000.0000.0000
state:         0
up:            0
Router#
```

# show lacp

To display LACP information, use the **show lacp** command.

```
show lacp [channel-group] {counters | internal [detail] | neighbors [detail] | sys-id}
```

Syntax Description	
<i>channel-group</i>	(Optional) Number of the channel group; valid values are from 1 to 282.
<b>counters</b>	Displays the LACP statistical information.
<b>internal</b>	Displays LACP internal information.
<b>detail</b>	(Optional) Displays detailed information.
<b>neighbors</b>	Displays the neighbor information.
<b>sys-id</b>	Displays the LACP system identification.

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

**Command Modes** 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.
	12.1(19)E	This command was changed to include the following information: <ul style="list-style-type: none"> <li>• The <b>show lacp neighbor</b> command output includes a summary of the LACP state.</li> <li>• The <b>show lacp neighbors detail</b> command output includes a bit-by-bit decode of the LACP Port State Flags.</li> <li>• The <b>show lacp internal detail</b> command output includes LACP internal information for the local (Actor) system and a decode of the LACP Port State Flags.</li> </ul>

**Usage Guidelines** This command is not supported on systems configured with a Supervisor Engine 1.

If you do not specify a *channel-group*, all channel groups are displayed.

You can enter the optional *channel-group* to specify a channel group for all keywords, except the **sys-id** keyword.

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.

The **show lacp counters** command output displays the following information:

- The LACPDUs Sent and Recv columns display the LACPDUs sent and received on each specific interface.
- The LACPDUs Pkts and Err columns display the marker protocol packets.

## Examples

This example shows how to display LACP statistical information for a specific channel group:

```
Router# show lacp 1 counters
          LACPDU      Marker      LACPDU
Port      Sent   Recv      Sent   Recv      Pkts  Err
-----
Channel group: 1
Fa4/1      8      15         0     0         3     0
Fa4/2     14      18         0     0         3     0
Fa4/3     14      18         0     0         0     0
Fa4/4     13      18         0     0         0     0
```

This example shows how to display internal information for the interfaces belonging to a specific channel:

```
Router# show lacp 1 internal
Flags:  S - Device sends PDUs at slow rate.  F - Device sends PDUs at fast rate.
        A - Device is in Active mode.         P - Device is in Passive mode.

Channel group 1
Port      Flags   State   LACPDU      LACP Port   Admin  Oper   Port   Port
          state  interval  priority    key         key    key    number state
Fa4/1    saC     bndl    30s         32768       100    100    0xc1  0x75
Fa4/2    saC     bndl    30s         32768       100    100    0xc2  0x75
Fa4/3    saC     bndl    30s         32768       100    100    0xc3  0x75
Fa4/4    saC     bndl    30s         32768       100    100    0xc4  0x75
Router#
```

Table 2-36 lists the output field definitions.

**Table 2-36 show lacp internal Command Output Fields**

Field	Description
State	State of the specific port at the current moment is displayed; allowed values are as follows: <ul style="list-style-type: none"> <li>• <i>bndl</i>—Port is attached to an aggregator and bundled with other ports.</li> <li>• <i>susp</i>—Port is in a suspended state; it is not attached to any aggregator.</li> <li>• <i>indep</i>—Port is in an independent state (not bundled but able to switch data traffic. In this case, LACP is not running on the partner port).</li> <li>• <i>hot-sby</i>—Port is in a Hot-standby state.</li> <li>• <i>down</i>—Port is down.</li> </ul>
LACPDU Interval	Interval setting.
LACP Port Priority	Port priority setting.
Admin Key	Administrative key.
Oper Key	Operator key.
Port Number	Port number.
Port State	State variables for the port encoded as individual bits within a single octet with the following meaning [1]: <ul style="list-style-type: none"> <li>• <b>bit0</b>: <i>LACP_Activity</i></li> <li>• <b>bit1</b>: <i>LACP_Timeout</i></li> <li>• <b>bit2</b>: <i>Aggregation</i></li> <li>• <b>bit3</b>: <i>Synchronization</i></li> <li>• <b>bit4</b>: <i>Collecting</i></li> <li>• <b>bit5</b>: <i>Distributing</i></li> <li>• <b>bit6</b>: <i>Defaulted</i></li> <li>• <b>bit7</b>: <i>Expired</i></li> </ul>

This example shows how to display LACP neighbors information for a specific port channel:

```
Router# show lacp 1 neighbor
Flags: S - Device sends PDUs at slow rate. F - Device sends PDUs at fast rate.
      A - Device is in Active mode.          P - Device is in Passive mode.

Channel group 1 neighbors
Port      Partner                               Partner      Age      Flags
         System ID                       Port Number
Fa4/1     8000,00b0.c23e.d84e                   0x81         29s     P
Fa4/2     8000,00b0.c23e.d84e                   0x82         0s      P
Fa4/3     8000,00b0.c23e.d84e                   0x83         0s      P
Fa4/4     8000,00b0.c23e.d84e                   0x84         0s      P

         Port      Admin   Oper    Port
         Priority  Key     Key     State
Fa4/1     32768    200    200    0x81
```

```
Fa4/2    32768      200      200      0x81
Fa4/3    32768      200      200      0x81
Fa4/4    32768      200      200      0x81
Router#
```

In the case where no PDUs have been received, the default administrative information is displayed in braces.

This example shows how to display the LACP system identification:

```
Router> show lacp sys-id
8000,AC-12-34-56-78-90
```

The system identification is made up of the system priority and the system MAC address. The first two bytes are the system priority, and the last six bytes are the globally administered individual MAC address associated to the system.

#### Related Commands

[clear lacp counters](#)  
[lacp port-priority](#)  
[lacp system-priority](#)

# show mac-address-table

To display information about the MAC address table, use the **show mac-address-table** command.

**show mac-address-table**

**show mac-address-table** {**address** *mac-addr*} [**all** | {**interface** *interface interface-number*} | {**module** *num*} | {**vlan** *vlan-id*}]

**show mac-address-table aging-time** [**vlan** *vlan-id*]

**show mac-address-table count** [**vlan** *vlan-id*]

**show mac-address-table dynamic** [{**address** *mac-addr*} | {**interface** *interface interface-number*} | {**module** *num*} | {**vlan** *vlan-id*}]

**show mac-address-table** {**interface** *interface interface-number*}

**show mac-address-table** {**module** *num*}

**show mac-address-table multicast** [**count** | {**igmp-snooping** [**count**]} | {**user** [**count**]} | {**vlan** *vlan-id*}]

**show mac-address-table static** [{**address** *mac-addr*} | **detail** | {**interface** *interface interface-number*} | {**vlan** *vlan-id*} | {**module** *num*}]

**show mac-address-table vlan** *vlan-id* [**module** *num*]

## Syntax Description

<b>address</b> <i>mac-addr</i>	Displays information about the MAC address table for a specific MAC address; see the “Usage Guidelines” section for format guidelines.
<b>all</b>	(Optional) Displays every instance of the specified MAC address in the forwarding table.
<b>interface</b> <i>interface</i>	(Optional) Displays information about a specific interface type; possible valid values are <b>ethernet</b> , <b>fastethernet</b> , <b>gigabitethernet</b> , <b>tengigabitethernet</b> , <b>pos</b> , <b>atm</b> , and <b>ge-wan</b> .
<i>interface-number</i>	(Optional) Module and port number; see the “Usage Guidelines” section for valid values.
<b>module</b> <i>num</i>	(Optional) Displays information about the MAC address table for a specific DFC module.
<b>vlan</b> <i>vlan-id</i>	(Optional) Displays information for a specific VLAN only; valid values are from 1 to 4094.
<b>aging-time</b>	Displays information about the MAC address aging time.
<b>count</b>	Displays the number of entries currently in the MAC address table.

<b>dynamic</b>	Displays information about the dynamic MAC address table entries only.
<b>multicast</b>	Displays information about the multicast MAC address table entries only.
<b>igmp-snooping</b>	Displays addresses learned by IGMP snooping.
<b>user</b>	Displays manually-entered (static) addresses.
<b>static</b>	Displays information about the static MAC address table entries only.

**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 <b>igmp-snooping</b> and <b>user</b> keywords were added.
12.1(11b)E	This command was changed to include the <b>ge-wan</b> , <b>atm</b> , and <b>pos</b> keywords.
12.1(11b)EX	The command was changed to support extended-range VLANs.
12.1(13)E	The output was changed to include the Learn field.
12.1(19)E	The command was changed to unicast flood protection information.

**Usage Guidelines**

The *mac-addr* is a 48-bit MAC address and the valid format is H.H.H.

The **all** keyword is supported on systems configured with a Supervisor Engine 2 but not on systems configured with a Supervisor Engine 1.

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 *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.

If you enter a valid Ethernet multicast address, but without IETF OUI, a message is displayed informing you that it is not an IETF multicast address. The multicast MAC address is entered using this format, 0100.5eXX.XXXX.

The **module num** keyword and argument is not supported on systems configured with a Supervisor Engine 1 and is only supported on DFC modules. The **module num** option designates the module number.

Valid values for *mac-group-address* are from 1 to 9.

The **count** keyword displays the number of multicast entries.

The **show mac-address-table protocol {assigned | ip | ipx | other}** syntax is supported on systems configured with a Supervisor Engine 1 but not on systems configured with a Supervisor Engine 2.

The keyword definitions for the *protocol* argument are as follows:

- **assigned** specifies assigned protocol entries.
- **ip** specifies IP protocol.
- **ipx** specifies IPX protocols.
- **other** specifies other protocol entries.

**Note**

In systems configured with a Supervisor Engine 1, the Protocol field is displayed. In systems configured with a Supervisor Engine 2, the Protocol field is replaced by the Learn field. The Learn field indicates whether or not the hardware is allowed to update the “ports” field of an entry if or when the MAC address is seen on another port. This field applies to static entries.

**Examples**

This example shows how to display MAC address table information for a specific MAC address (the system is configured with a Supervisor Engine 1):

```
Router# show mac-address-table address 0050.3e8d.6400
vlan  mac address      type  protocol qos  ports
-----+-----+-----+-----+-----+-----
 200  0050.3e8d.6400  static  assigned  --  Router
*100  0050.3e8d.6400  static  assigned  --  Router
   5  0050.3e8d.6400  static  assigned  --  Router
   4  0050.3e8d.6400  static    ipx  --  Router
   1  0050.3e8d.6400  static    ipx  --  Router
   1  0050.3e8d.6400  static  assigned  --  Router
   4  0050.3e8d.6400  static  assigned  --  Router
   5  0050.3e8d.6400  static    ipx  --  Router
*100  0050.3e8d.6400  static    ipx  --  Router
 200  0050.3e8d.6400  static    ipx  --  Router
*100  0050.3e8d.6400  static   other  --  Router
 200  0050.3e8d.6400  static   other  --  Router
   5  0050.3e8d.6400  static   other  --  Router
   4  0050.3e8d.6400  static    ip  --  Router
   1  0050.3e8d.6400  static    ip  --  Router
   1  0050.3e8d.6400  static   other  --  Router
   4  0050.3e8d.6400  static   other  --  Router
   5  0050.3e8d.6400  static    ip  --  Router
 200  0050.3e8d.6400  static    ip  --  Router
*100  0050.3e8d.6400  static    ip  --  Router
Router#
```

**Note**

In a distributed EARL switch, the asterisk indicates a MAC address learned on a port associated with this EARL.

This example shows how to display MAC address table information for a specific MAC address (the system is configured with a Supervisor Engine 2):

```
Router# show mac-address-table address 001.6441.60ca
Codes: * - primary entry
```

```

      vlan  mac address      type   learn qos      ports
-----+-----+-----+-----+-----
Supervisor:
* --- 0001.6441.60ca   static No   -- Router

Router#

```

This example shows how to display currently configured aging time for all VLANs:

```

Router# show mac-address-table aging-time
Vlan   Aging Time
----   -
*100   300
200    1000

Router#

```

This example shows how to display the entry count for a specific slot:

```

Router# show mac-address-table count slot 1
MAC Entries on slot 1 :
Dynamic Address Count:           4
Static Address (User-defined) Count: 25
Total MAC Addresses In Use:      29
Total MAC Addresses Available:   131072

Router#

```

This example shows how to display all dynamic MAC address entries:

```

Router# show mac-address-table dynamic
      vlan  mac address      type   learn qos      ports
-----+-----+-----+-----+-----
200  0010.0d40.37ff   dynamic  yes -- 5/8
   1  0060.704c.73ff   dynamic  yes -- 5/9

Router#

```

This example shows how to display information about the MAC address table for a specific interface:

```

Router# show mac-address-table interface fastethernet 5/7
Codes: * - primary entry

      vlan  mac address      type   learn qos      ports
-----+-----+-----+-----+-----
*100 0000.0000.0101  dynamic  yes -- Gi1/1

Router#

```



#### Note

A leading asterisk indicates entries whose MAC address was learned from a packet coming from an outside device to a specific module.

This example shows how to display information about the multicast MAC address table for a specific VLAN (this system is configured with a Supervisor Engine 1):

```

Router# show mac-address-table multicast vlan 100
vlan  mac address      type   protocol qos      ports
-----+-----+-----+-----+-----
100  0100.5e00.0001  static          ip -- Fa5/9,Switch

Router#

```

This example shows how to display MAC address table entries that have a specific protocol type (in this case, assigned):

```

Router# show mac-address-table protocol assigned

```

### show mac-address-table

```

vlan  mac address      type  protocol  qos  ports
-----+-----+-----+-----+-----+-----
200  0050.3e8d.6400  static  assigned  --  Router
100  0050.3e8d.6400  static  assigned  --  Router
5    0050.3e8d.6400  static  assigned  --  Router
4092 0000.0000.0000  dynamic  assigned  --  Router
1    0050.3e8d.6400  static  assigned  --  Router
4    0050.3e8d.6400  static  assigned  --  Router
4092 0050.f0ac.3058  static  assigned  --  Router
4092 0050.f0ac.3059  dynamic  assigned  --  Router
1    0010.7b3b.0978  dynamic  assigned  --  Fa5/9
Router#

```

This example shows how to display all the static MAC address entries (this system is configured with a Supervisor Engine 2):

```

Router# show mac-address-table static
Codes: * - primary entry

```

```

vlan  mac address      type  learn qos  ports
-----+-----+-----+-----+-----+-----
* --- 0001.6441.60ca  static No   --  Router

```

```
Router#
```

This example shows how to display information about the MAC address table for a specific VLAN:

```

Router# show mac-address-table vlan 100
vlan  mac address      type  protocol  qos  ports
-----+-----+-----+-----+-----+-----
100  0050.3e8d.6400  static  assigned  --  Router
100  0050.7312.0cff  dynamic      ip  --  Fa5/9
100  0080.1c93.8040  dynamic      ip  --  Fa5/9
100  0050.3e8d.6400  static      ipx --  Router
100  0050.3e8d.6400  static      other -- Router
100  0100.0cdd.dddd  static      other -- Fa5/9,Router,Switch
100  00d0.5870.a4ff  dynamic      ip  --  Fa5/9
100  00e0.4fac.b400  dynamic      ip  --  Fa5/9
100  0100.5e00.0001  static      ip  --  Fa5/9,Switch
100  0050.3e8d.6400  static      ip  --  Router
Router#

```

This example shows how to display unicast flood protection information:

```

Router # show mac-address-table unicast-flood
Unicast Flood Protection status: enabled

```

```
Configuration:
```

```

vlan  Kfps      action  timeout
-----+-----+-----+-----
100   3           filter  5

```

```
Mac filters:
```

```

No.  vlan  source mac addr.      installed on      time left (mm:ss)
-----+-----+-----+-----+-----+-----

```

```
Router#
```

### Related Commands

[mac-address-table aging-time](#)  
[mac-address-table static](#)  
[mac-address-table unicast-flood](#)

# show mls asic

To display the ASIC version, use the **show mls asic** command.

**show mls asic**

---

**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 ASIC versions:

```
Router# show mls asic
  Cafe version: 2
  Centauri version: 1
  Perseus version: 0/0
  Titan version: 1
Router#
```

■ show mls asic