

show queueing interface

To display queueing information, use the **show queueing interface** command.

```
show queueing interface {{interface interface-number} | {null interface-number} | {vlan
vlan-id}}
```

Syntax Description		
<i>interface</i>		Interface type; possible valid values are ethernet , fastethernet , gigabitethernet , tengigabitethernet , pos , atm , and ge-wan .
<i>interface-number</i>		Module and port number; see the “Usage Guidelines” section for valid values.
null <i>interface-number</i>		Specifies the null interface; the valid value is 0 .
vlan <i>vlan-id</i>		Specifies the VLAN ID; 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)E	This command was changed to include the ge-wan , atm , and pos keywords.
	12.1(11b)EX	The command was changed to support extended-range VLANs.
	12.1(13)E	This command was changed to include extended trust information in the output.

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.

The **show queueing interface** command does not display absolute values programmed into the hardware. You can use the **show qm-sp port-data** command to verify values programmed in hardware.

Examples

This example shows how to display queueing information:

```
Router# show queueing interface fastethernet 5/1
Interface FastEthernet5/1 queueing strategy: Weighted Round-Robin
Port QoS is enabled
Port is untrusted
Extend trust state: trusted
Default COS is 0
Transmit queues [type = 2q2t]:
  Queue Id      Scheduling  Num of thresholds
  -----
      1          WRR low           2
      2          WRR high           2

WRR bandwidth ratios: 100[queue 1] 255[queue 2]
queue-limit ratios:   70[queue 1] 30[queue 2]

queue tail-drop-thresholds
-----
1      80[1] 100[2]
2      80[1] 100[2]

queue thresh cos-map
-----
1      1      0 1
1      2      2 3

Router#
```

show redundancy

To display RF information, use the **show redundancy** command.

show redundancy { clients | counters | history | states | switchover }

Syntax Description		
	clients	Displays the redundancy facility client information.
	counters	Displays the redundancy facility counter information.
	history	Displays a log of past status and related information for the redundancy facility.
	states	Displays the redundancy facility state information.
	switchover	Displays the switchover counts, the uptime since active, and the total system uptime.

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. This command was changed to add the switchover option.

Examples This example shows how to display information about the RF client:

```
Router# show redundancy clients
clientID = 0      clientSeq = 0      RF_INTERNAL_MSG
clientID = 25     clientSeq = 130   CHKPT RF
clientID = 5026   clientSeq = 130   CHKPT RF
clientID = 5029   clientSeq = 135   Redundancy Mode RF
clientID = 5006   clientSeq = 170   RFS client
clientID = 6      clientSeq = 180   Const OIR Client
clientID = 7      clientSeq = 190   PF Client
clientID = 5008   clientSeq = 190   PF Client
clientID = 28     clientSeq = 330   Const Startup Config
clientID = 29     clientSeq = 340   Const IDPROM Client
clientID = 65000 clientSeq = 65000 RF_LAST_CLIENT
Router#
```

The output displays the following information:

- clientID displays the client's ID number.
- clientSeq displays the client's notification sequence number.
- Current RF state.

This example shows how to display information about the redundancy facility counter:

```
Router# show redundancy counters
Redundancy Facility OMs
    comm link up = 0
    comm link down down = 0

    invalid client tx = 0
    null tx by client = 0
    tx failures = 0
    tx msg length invalid = 0

    client not rxing msgs = 0
    rx peer msg routing errors = 0
    null peer msg rx = 0
    errored peer msg rx = 0

    buffers tx = 0
    tx buffers unavailable = 0
    buffers rx = 0
    buffer release errors = 0

    duplicate client registers = 0
    failed to register client = 0
    Invalid client syncs = 0
Router#
```

This example shows how to display information about the RF history:

```
Router# show redundancy history
00:00:00 client added: RF_INTERNAL_MSG(0) seq=0
00:00:00 client added: RF_LAST_CLIENT(65000) seq=65000
00:00:02 client added: Const Startup Config Sync Clie(28) seq=330
00:00:02 client added: CHKPT RF(25) seq=130
00:00:02 client added: PF Client(7) seq=190
00:00:02 client added: Const OIR Client(6) seq=180
00:00:02 client added: Const IDPROM Client(29) seq=340
00:00:02 *my state = INITIALIZATION(2) *peer state = DISABLED(1)
00:00:02 RF_PROG_INITIALIZATION(100) RF_INTERNAL_MSG(0) op=0 rc=11
00:00:02 RF_PROG_INITIALIZATION(100) CHKPT RF(25) op=0 rc=11
00:00:02 RF_PROG_INITIALIZATION(100) Const OIR Client(6) op=0 rc=11
00:00:02 RF_PROG_INITIALIZATION(100) PF Client(7) op=0 rc=11
.
.
.
```

This example shows how to display information about the RF state:

```
Router# show redundancy states
my state = 13 -ACTIVE
peer state = 1 -DISABLED
Mode = Simplex
Unit = Primary
Unit ID = 1

Redundancy Mode (Operational) = Route Processor Redundancy
Redundancy Mode (Configured) = Route Processor Redundancy
Split Mode = Disabled
Manual Swact = Disabled Reason: Simplex mode
Communications = Down Reason: Simplex mode
```

```
client count = 11
client_notification_TMR = 30000 milliseconds
  keep_alive TMR = 4000 milliseconds
  keep_alive count = 0
  keep_alive threshold = 7
  RF debug mask = 0x0
```

Router#

This example shows how to display the switchover counts, the uptime since active, and the total system uptime:

```
Router# show redundancy switchover
Switchovers this system has experienced      : 1
Uptime since this supervisor switched to active : 1 minute
Total system uptime from reload              : 2 hours, 47 minutes
```

Router#

Related Commands

[mode](#)
[redundancy](#)
[redundancy force-switchover](#)

show rom-monitor

To display the ROMMON status, use the **show rom-monitor** command.

```
show rom-monitor {slot num} {sp | rp}
```

Syntax Description	slot num	Slot number of the ROMMON of which status is to be displayed.
	sp	Displays the ROMMON status of the switch processor.
	rp	Displays the ROMMON status of the route processor.

Defaults This command has no default settings.

Command Modes EXEC

Command History	Release	Modification
	12.1(3a)E1	Support for this command was introduced on the Catalyst 6500 series switches.

Usage Guidelines When you enter the **show rom-monitor** command, the output displays the following:

- Region region1 and region2—This displays the status of the ROMMON image and the order of preference that region1 or region2 images should be booted from. The ROMMON image status values are as follows:
 - First run—Indicates that a check of the new image is being run.
 - Invalid—Indicates that the new image has been checked and the upgrade process has started.
 - Approved—Indicates that the ROMMON field upgrade process has completed.
- Currently running—This field displays the currently running image and the region.

The **sp** or **rp** keyword is required only if a supervisor engine is installed in the specified slot.

Examples This example shows how to display ROMMON information:

```
Router# show rom-monitor slot 1 sp
  Region F1:APPROVED
  Region F2:FIRST_RUN, preferred
  Currently running ROMMON from F1 region
Router#
```

Related Commands [upgrade rom-monitor](#)

show rpc

To display RPC information, use the **show rpc** command.

show rpc { applications | counters | status }

Syntax Description		
	applications	Displays RPC application information.
	counters	Displays RPC counters.
	status	Displays RPC status.

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 RPC applications:

```
Router# show rpc applications
ID Dest Callback Application
 1 0011 <remote> rpc-master
 2 0011 <remote> cygnus-oir
 3 0021 60201708 rpc-slave-33
 4 0021 6022A514 idprom-MP
 5 0021 60204420 msfc-oir
 6 0011 <remote> Nipcon-SP
 7 0011 <remote> sw_vlan_sp
 8 0011 <remote> stp_switch_api
 9 0011 <remote> pagp_rpc
10 0011 <remote> span_switch_rpc
11 0011 <remote> pf_rp_rpc
13 0011 <remote> mapping_sp
14 0011 <remote> logger-sp
17 0011 <remote> c6k_power_sp
18 0011 <remote> c6k_sp_environmental
19 0011 <remote> pagp_switch_rpc
20 0011 <remote> pm-cp
21 0021 602675B0 Nipcon-RP
22 0021 602283B0 pm-mp
23 0021 601F2538 sw_vlan_rp
24 0021 601F77D0 span_switch_sp_rpc
25 0021 601F7950 idbman_fec
```

■ show rpc

```

26 0021 601F7F30 logger-rp
27 0021 601F80D8 pagp_switch_l3_split
28 0021 601F81C0 pagp_switch_sp2mp
29 0021 6026F190 c6k_rp_environmental
Router#

```

This example shows how to display RPC counter information:

```

Router# show rpc counters
  ID Dest Rcv-req  Xmt-req  Q size  Application
  -- ---  ---  ---  ---  ---  ---
  1 0011 0          26       0       rpc-master
  2 0011 0        6221     0       cygnus-oir
  4 0021 15         0        0       idprom-MP
  5 0021 6222       0        0       msfc-oir
  7 0011 0        2024     0       sw_vlan_sp
  8 0011 0         3        0       stp_switch_api
  9 0011 0        188      0       pagp_rpc
 11 0011 0         4        0       pf_rp_rpc
 13 0011 0         2        0       mapping_sp
 14 0011 0         3        0       logger-sp
 17 0011 0         2        0       c6k_power_sp
 18 0011 0         66       0       c6k_sp_environmental
 19 0011 0        109     0       pagp_switch_rpc
 20 0011 0         33       0       pm-cp
 22 0021 126       0        0       pm-mp
 23 0021 5          0        0       sw_vlan_rp
 24 0021 14        0        0       span_switch_sp_rpc
 25 0021 22        0        0       idbman_fec
 26 0021 8         0        0       logger-rp
 27 0021 3         0        0       pagp_switch_l3_split
 28 0021 3         0        0       pagp_switch_sp2mp
Router#

```

show running-config

To display module or Layer 2 VLAN status and configuration, use the **show running-config** command.

```
show running-config [{module number} | {vlan vlan-id}]
```

Syntax Description	Parameter	Description
	module <i>number</i>	(Optional) Specifies the module number.
	vlan <i>vlan-id</i>	(Optional) Specifies the VLAN information to display; 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)E	This command was changed to include autonegotiation information.
	12.1(11b)EX	This command was changed to support the vlan <i>vlan-id</i> option and extended-range VLANs.

Usage Guidelines In some cases, you might see a difference in the duplex mode displayed between the **show interfaces** command and the **show running-config** command. In this case, the duplex mode displayed in the **show interfaces** command is the actual duplex mode that the interface is running. The **show interfaces** command shows the operating mode for an interface, while the **show running-config** command shows the configured mode for an interface.

The **show running-config** command output for an interface might display a duplex mode configuration but no configuration for the speed. This output indicates that the interface speed is configured to be auto and that the duplex mode shown becomes the operational setting once the speed is configured to something other than auto. With this configuration, it is possible that the operating duplex mode for that interface does not match the duplex mode shown with the **show running-config** 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 the module and status configuration for all modules:

```
Router# show running-config
Building configuration...

Current configuration:
!
version 12.0
service timestamps debug datetime localtime
service timestamps log datetime localtime
no service password-encryption
!
hostname Router
!
boot buffersize 126968
boot system flash slot0:halley
boot bootldr bootflash:c6msfc-boot-mz.120-6.5T.XE1.0.83.bin
enable password lab
!
clock timezone Pacific -8
clock summer-time Daylight recurring
redundancy
  main-cpu
    auto-sync standard
!
ip subnet-zero
!
ip multicast-routing
ip dvmrp route-limit 20000
ip cef
mls flow ip destination
mls flow ipx destination
cns event-service server
!
spanning-tree portfast bpdu-guard
spanning-tree uplinkfast
spanning-tree vlan 200 forward-time 21
port-channel load-balance sdip
!
!
!
interface Port-channel2
  no ip address
  switchport
  switchport access vlan 10
  switchport mode access
!
interface GigabitEthernet1/1
  no ip address
  no ip directed-broadcast
  sync-restart-delay 600

shutdown
!
.
.
.
```

Related Commands

queue-list (refer to the *Cisco IOS Release 12.1 Command Reference*)

show scp

To display SCP information, use the **show scp** command.

```
show scp {accounting | counters | {linecards [details]} | {{mcast [group group-id] | inst}} |
{process id} | status}
```

Syntax Description	
accounting	Displays SCP accounting information.
counters	Displays SCP counter information.
linecards	Displays the OSM WAN modules in the chassis.
details	(Optional) Displays detailed OSM WAN module information.
mcast	Displays SCP multicast information.
group <i>group-id</i>	(Optional) Displays the information for a specific group and group ID; valid values are from 1 to 127.
inst	(Optional) Displays information for an instance.
process id	Displays information for a specific process and process ID.
status	Displays local SCP server 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.

Examples This example shows how to display the process name and the number of messages that are received and transmitted:

```
Router# show scp process
PID Process           Msgs      Msgs      NMP Tx Q   Msgs      Bufs  Rx Q  Rx Q
                   Sent      Resent    in Overflow Rcvd    Held  Size  Oflow
-----
0  Kernel and Idle    2         0         0         0         0     0    0
1  Flash MIB Updat   0         0         0         0         0     0    0
2  SynDiags          1410      0         0         1410      0     4    0
3  SynConfig         2         0         0         3481603   0     64   0
4  Statuspoll       3481589   0         0         0         0     2    0
5  SL_TASK           0         0         0         0         0     24   0
.
.
.
```

■ show slot0:

show slot0:

To display information about the slot0: file system, use the **show slot0:** command.

show slot0: [**all** | **chips** | **filesys**]

Syntax Description	all	(Optional) Displays all Flash information including the output from the show slot0: chips and show slot0: filesys commands.
	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 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 a summary of image information:

```
Router> show slot0:
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1  .. image   6375DBB7  A4F144    6 10678468 Nov 09 1999 10:50:42 halley

5705404 bytes available (10678596 bytes used)
Router>
```

This example shows how to display Flash chip information:

```
Router> show slot0: chips

***** Intel Series 2+ Status/Register Dump *****

ATTRIBUTE MEMORY REGISTERS:
  Config Option Reg (4000): 2
  Config Status Reg (4002): 0
  Card Status Reg (4100): 1
  Write Protect Reg (4104): 4
  Voltage Cntrl Reg (410C): 0
  Rdy/Busy Mode Reg (4140): 2

COMMON MEMORY REGISTERS: Bank 0
  Intelligent ID Code : 8989A0A0
  Compatible Status Reg: 8080
  Global Status Reg: B0B0
  Block Status Regs:
```

```

0 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
8 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
16 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
24 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0

```

```

COMMON MEMORY REGISTERS: Bank 1
Intelligent ID Code : 8989A0A0
Compatible Status Reg: 8080
Global      Status Reg: B0B0
Block Status Regs:
0 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
8 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
16 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
24 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0

```

```

COMMON MEMORY REGISTERS: Bank 2
Intelligent ID Code : 8989A0A0
Compatible Status Reg: 8080
Global      Status Reg: B0B0
Block Status Regs:
0 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
8 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
16 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
24 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0

```

```

COMMON MEMORY REGISTERS: Bank 3
Intelligent ID Code : 8989A0A0
Compatible Status Reg: 8080
Global      Status Reg: B0B0
Block Status Regs:
0 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
8 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
16 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0
24 : B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0 B0B0

```

```

COMMON MEMORY REGISTERS: Bank 4
Intelligent ID Code : FFFFFFFF
IID Not Intel -- assuming bank not populated

```

Router>

This example shows how to display file system information:

```
Router> show slot0: fileSYS
```

```

----- F I L E   S Y S T E M   S T A T U S -----
Device Number = 0
DEVICE INFO BLOCK: slot0
Magic Number      = 6887635   File System Vers = 10000   (1.0)
Length            = 1000000   Sector Size      = 20000
Programming Algorithm = 4     Erased State     = FFFFFFFF
File System Offset = 20000    Length = FA0000
MONLIB Offset     = 100      Length = F568
Bad Sector Map Offset = 1FFF0   Length = 10
Squeeze Log Offset = FC0000   Length = 20000
Squeeze Buffer Offset = FE0000   Length = 20000
Num Spare Sectors = 0
Spares:

```

```
show slot0:
```

```
STATUS INFO:
  Writable
  NO File Open for Write
  Complete Stats
  No Unrecovered Errors
  No Squeeze in progress
USAGE INFO:
  Bytes Used      = 9F365C  Bytes Available = 5AC9A4
  Bad Sectors    = 0        Spared Sectors  = 0
  OK Files       = 1        Bytes = 9F35DC
  Deleted Files  = 0        Bytes = 0
  Files w/Errors = 0        Bytes = 0
```

```
Router>
```

show spanning-tree

To display information about the spanning tree state, use the **show spanning-tree** command.

```
show spanning-tree [bridge-group | active | backbonefast | {bridge [id]} | detail |
inconsistentports | {interface interface interface-number} | root | summary [total] |
uplinkfast | {vlan vlan-id} | {port-channel number} | pathcost-method]
```

Syntax	Description
<i>bridge-group</i>	(Optional) Specifies the bridge group number; valid values are from 1 to 255.
active	(Optional) Displays spanning tree information on active interfaces only.
backbonefast	(Optional) Displays spanning tree BackboneFast status.
bridge [<i>id</i>]	(Optional) Displays bridge status and configuration information.
detail	(Optional) Displays detailed information.
inconsistentports	(Optional) Displays root inconsistency state.
interface <i>interface</i>	(Optional) Interface type and number; possible valid values for type are ethernet , fastethernet , gigabitethernet , tengigabitethernet , pos , atm , and ge-wan .
<i>interface-number</i>	(Optional) Module and port number; see the “Usage Guidelines” section for valid values.
root	(Optional) Displays root bridge status and configuration.
summary	(Optional) Specifies a summary of port states.
total	(Optional) Displays the total lines of the spanning tree state section.
uplinkfast	(Optional) Displays spanning tree UplinkFast status.
vlan <i>vlan-id</i>	(Optional) Specifies the VLAN ID; see the “Usage Guidelines” section for valid values.
port-channel <i>number</i>	(Optional) Specifies the channel interface; see the “Usage Guidelines” section for valid values.
pathcost-method	(Optional) Displays the default path cost calculation method used.

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(3a)E3	The number of valid values for port-channel changed; see the “Usage Guidelines” section for valid values.

Release	Modification
12.1(11b)E	This command was changed to include the ge-wan , atm , and pos keywords.
12.1(11b)EX	This command was changed to support extended-range VLANs and MST.
12.1(13)E	This command was changed by removing the wide option, replacing the brief option with detail , displaying the port priority as part of the port ID, removing the priority column, and supporting the long cost format.

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 num** 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.

When checking spanning tree active states and you have a large number of VLANs, you can enter the **show spanning-tree summary total** command to display the total number without having to scroll through the list of VLANs.

Examples

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

```
Router# show spanning-tree

VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    4097
            Address    0004.9b78.0800
            This bridge is the root
            Hello Time  2 sec    Max Age 20 sec    Forward Delay 15 sec

  Bridge ID  Priority    4097    (priority 4096 sys-id-ext 1)
            Address    0004.9b78.0800
            Hello Time  2 sec    Max Age 20 sec    Forward Delay 15 sec
            Aging Time 15

Interface          Port ID          Designated          Port ID
Name              Prio.Nbr         Cost Sts           Cost Bridge ID      Prio.Nbr
-----
Gi2/1              128.65           4 LIS              0 4097 0004.9b78.0800 128.65
Gi2/2              128.66           4 LIS              0 4097 0004.9b78.0800 128.66
Fa4/3              128.195          19 LIS             0 4097 0004.9b78.0800 128.195
Fa4/4              128.196          19 BLK             0 4097 0004.9b78.0800 128.195

Router#
```

Table 2-40 lists the output fields and definitions.

Table 2-40 show spanning-tree Command Output Fields

Field	Definition
Port ID Prio.Nbr	Port ID and priority number.
Cost	Port cost.
Sts	Displays status information.

This example shows how to display spanning tree information on active interfaces only:

```
Router# show spanning-tree active
UplinkFast is disabled
BackboneFast is disabled

VLAN1 is executing the ieee compatible Spanning Tree protocol
  Bridge Identifier has priority 32768, address 0050.3e8d.6401
  Configured hello time 2, max age 20, forward delay 15
  Current root has priority 16384, address 0060.704c.7000
  Root port is 265 (FastEthernet5/9), cost of root path is 38
  Topology change flag not set, detected flag not set
  Number of topology changes 0 last change occurred 18:13:54 ago
  Times: hold 1, topology change 24, notification 2
         hello 2, max age 14, forward delay 10
  Timers: hello 0, topology change 0, notification 0

Port 265 (FastEthernet5/9) of VLAN1 is forwarding
  Port path cost 19, Port priority 128, Port Identifier 129.9.
  Designated root has priority 16384, address 0060.704c.7000
  Designated bridge has priority 32768, address 00e0.4fac.b000
.
.
.
Router#
```

This example shows how to display spanning tree BackboneFast status:

```
Router# show spanning-tree backbonefast
BackboneFast is enabled

BackboneFast statistics
-----
Number of transition via backboneFast (all VLANs) : 0
Number of inferior BPDUs received (all VLANs)    : 0
Number of RLQ request PDUs received (all VLANs)  : 0
Number of RLQ response PDUs received (all VLANs) : 0
Number of RLQ request PDUs sent (all VLANs)      : 0
Number of RLQ response PDUs sent (all VLANs)     : 0
Router#
```

This example shows how to display spanning tree information for this bridge only:

```
Router# show spanning-tree bridge
VLAN1
  Bridge ID Priority    32768
           Address    0050.3e8d.6401
           Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
VLAN2
  Bridge ID Priority    32768
           Address    0050.3e8d.6402
           Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
```

```

VLAN3
  Bridge ID Priority    32768
           Address    0050.3e8d.6403
           Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
.
.
.
Router#

```

This example shows how to display detailed interface information:

```
Router# show spanning-tree detail
```

```

VLAN1 is executing the ieee compatible Spanning Tree protocol
Bridge Identifier has priority 4096, address 00d0.00b8.1401
Configured hello time 2, max age 20, forward delay 15
We are the root of the spanning tree
Topology change flag not set, detected flag not set
Number of topology changes 9 last change occurred 02:41:34 ago
from FastEthernet4/21
Times: hold 1, topology change 35, notification 2
hello 2, max age 20, forward delay 15
Timers: hello 1, topology change 0, notification 0, aging 300

Port 213 (FastEthernet4/21) of VLAN1 is forwarding
Port path cost 19, Port priority 128, Port Identifier 128.213.
Designated root has priority 4096, address 00d0.00b8.1401
Designated bridge has priority 4096, address 00d0.00b8.1401
Designated port id is 128.213, designated path cost 0
Timers: message age 0, forward delay 0, hold 0
Number of transitions to forwarding state: 1
BPDU: sent 4845, received 1

Port 214 (FastEthernet4/22) of VLAN1 is forwarding
Port path cost 19, Port priority 128, Port Identifier 128.214.
Designated root has priority 4096, address 00d0.00b8.1401
Designated bridge has priority 4096, address 00d0.00b8.1401
Designated port id is 128.214, designated path cost 0
Timers: message age 0, forward delay 0, hold 0
Number of transitions to forwarding state: 1
BPDU: sent 127545, received 5
Router#

```

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

```

Router# show spanning-tree interface fastethernet 5/9
Interface Fa0/10 (port 23) in Spanning tree 1 is ROOT-INCONSISTENT
Port path cost 100, Port priority 128
Designated root has priority 8192, address 0090.0c71.a400
Designated bridge has priority 32768, address 00e0.1e9f.8940
Designated port is 23, path cost 115
.
.
.

```

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

```

Router# show spanning-tree vlan 200
VLAN0200
Spanning tree enabled protocol ieee
Root ID Priority 32768
  Address 00d0.00b8.14c8
  This bridge is the root
  Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Bridge ID Priority 32768

```

```

    Address 00d0.00b8.14c8
    Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
    Aging Time 300
Interface Role Sts Cost Prio.Nbr Status
-----
Fa4/4 Desg FWD 200000 128.196 P2p
Fa4/5 Back BLK 200000 128.197 P2p
Router#

```

This example shows how to display spanning tree information for a specific bridge group:

```

Router# show spanning-tree 1
UplinkFast is disabled
BackboneFast is disabled

Bridge group 1 is executing the ieee compatible Spanning Tree protocol
Bridge Identifier has priority 32768, address 00d0.d39c.004d
Configured hello time 2, max age 20, forward delay 15
Current root has priority 32768, address 00d0.d39b.fddd
Root port is 7 (FastEthernet2/2), cost of root path is 19
Topology change flag set, detected flag not set
Number of topology changes 3 last change occurred 00:00:01 ago
    from FastEthernet2/2
Times: hold 1, topology change 35, notification 2
    hello 2, max age 20, forward delay 15
Timers: hello 0, topology change 0, notification 0 bridge aging time 15

Port 2 (Ethernet0/1/0) of Bridge group 1 is down

    Port path cost 100, Port priority 128
    Designated root has priority 32768, address 0050.0bab.1808
    Designated bridge has priority 32768, address 0050.0bab.1808
    Designated port is 2, path cost 0
    Timers: message age 0, forward delay 0, hold 0
    BPDU: sent 0, received 0

    Port 7 (FastEthernet2/2) of Bridge group 1 is forwarding
    Port path cost 19, Port priority 128, Port Identifier 128.7.
    Designated root has priority 32768, address 00d0.d39b.fddd
    Designated bridge has priority 32768, address 00d0.d39b.fddd
    Designated port id is 128.7, designated path cost 0
    Timers: message age 2, forward delay 0, hold 0
    Number of transitions to forwarding state: 1
    BPDU: sent 3, received 49
Router#

```

This example shows how to display a summary of port states:

```

Router# show spanning-tree summary
Root bridge for: Bridge group 1, VLAN0001, VLAN0004-VLAN1005
    VLAN1013-VLAN1499, VLAN2001-VLAN4094
EtherChannel misconfiguration guard is enabled
Extended system ID is enabled
Portfast is enabled by default
PortFast BPDU Guard is disabled by default
Portfast BPDU Filter is disabled by default
Loopguard is disabled by default
UplinkFast is disabled
BackboneFast is disabled
Pathcost method used is long
Name          Blocking Listening Learning Forwarding STP Active
-----
1 bridge      0          0          0          1          1
3584 vlans 3584 0 0 7168 10752

```

show spanning-tree

```

-----
                Blocking Listening Learning Forwarding STP Active
-----
Total                3584      0      0      7169      10753
Router#

```

This example shows how to display the total lines of the spanning tree state section:

```

Router# show spanning-tree summary total
Root bridge for: Bridge group 10, VLAN1, VLAN6, VLAN1000.
Extended system ID is enabled.
PortFast BPDU Guard is disabled
EtherChannel misconfiguration guard is enabled
UplinkFast is disabled
BackboneFast is disabled
Default pathcost method used is long

Name                Blocking Listening Learning Forwarding STP Active
-----
                105 VLANs 3433      0      0      105      3538

BackboneFast statistics
-----
Number of transition via backboneFast (all VLANs) :0
Number of inferior BPDUs received (all VLANs)   :0
Number of RLQ request PDUs received (all VLANs) :0
Number of RLQ response PDUs received (all VLANs) :0
Number of RLQ request PDUs sent (all VLANs)     :0
Number of RLQ response PDUs sent (all VLANs)    :0
Router#

```

This example shows how to determine if any ports are in root inconsistent state:

```

Router# show spanning-tree inconsistentports

Name                Interface                Inconsistency
-----
VLAN1                FastEthernet3/1          Root Inconsistent

Number of inconsistent ports (segments) in the system :1
Router#

```

Related Commands

- [spanning-tree backbonefast](#)
- [spanning-tree cost](#)
- [spanning-tree guard](#)
- [spanning-tree pathcost method](#)
- [spanning-tree portfast \(interface configuration mode\)](#)
- [spanning-tree portfast bpdupfilter default](#)
- [spanning-tree portfast bpduguard default](#)
- [spanning-tree port-priority](#)
- [spanning-tree uplinkfast](#)
- [spanning-tree vlan](#)

show spanning-tree mst

To display the information about the MST protocol, use the **show spanning-tree mst** command.

show spanning-tree mst [**configuration**]

show spanning-tree mst [*instance-id*] [**detail**]

show spanning-tree mst [*instance-id*] **interface** *interface* [**detail**]

Syntax Description	
configuration	(Optional) Displays information about the region configuration.
<i>instance-id</i>	(Optional) Instance identification number; valid values are from 0 to 15.
detail	(Optional) Displays detailed MST protocol information.
interface <i>interface</i>	(Optional) Interface type and number; possible valid values for type are ethernet , fastethernet , gigabitethernet , tengigabitethernet , pos , atm , ge-wan , port-channel , and vlan . See the “Usage Guidelines” section for valid number values.

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.

Usage Guidelines

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

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

Valid values for *instance-id* are from 0 to 15.

In the output display of the **show spanning-tree mst configuration** command, a warning message may display. This message appears if you do not map secondary VLANs to the same instance as the associated primary VLAN. The display includes a list of the secondary VLANs that are not mapped to the same instance as the associated primary VLAN. The warning message is as follows:

```
These secondary vlans are not mapped to the same instance as their primary:
-> 3
```

See the [show spanning-tree](#) command for output definitions.

Examples

This example shows how to display information about the region configuration:

```
Router> show spanning-tree mst configuration
Name          [leo]
Revision      2702
Instance      Vlans mapped
-----
0             1-9,11-19,21-29,31-39,41-4094
1             10,20,30,40
-----
```

This example shows how to display additional MST protocol values:

```
Router# show spanning-tree mst 3 detail
##### MST03 vlans mapped: 3,3000-3999
Bridge address 0002.172c.f400 priority 32771 (32768 sysid 3)
Root this switch for MST03

GigabitEthernet1/1 of MST03 is boundary forwarding
Port info port id 128.1 priority 128
cost 20000
Designated root address 0002.172c.f400 priority 32771
cost 0
Designated bridge address 0002.172c.f400 priority 32771 port
id 128.1
Timers: message expires in 0 sec, forward delay 0, forward transitions 1
Bpdus (MRecords) sent 4, received 0

FastEthernet4/1 of MST03 is designated forwarding
Port info port id 128.193 priority 128 cost
200000
Designated root address 0002.172c.f400 priority 32771
cost 0
Designated bridge address 0002.172c.f400 priority 32771 port id
128.193
Timers: message expires in 0 sec, forward delay 0, forward transitions 1
Bpdus (MRecords) sent 254, received 1

FastEthernet4/2 of MST03 is backup blocking
Port info port id 128.194 priority 128 cost
200000
Designated root address 0002.172c.f400 priority 32771
cost 0
Designated bridge address 0002.172c.f400 priority 32771 port id
128.193
Timers: message expires in 2 sec, forward delay 0, forward transitions 1
Bpdus (MRecords) sent 3, received 252
Router#
```

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

```
Router# show spanning-tree mst 0 interface fastEthernet 4/1 detail
Edge port: no (trunk) port guard : none
(default)
Link type: point-to-point (point-to-point) bpdu filter: disable
(default)
Boundary : internal bpdu guard : disable
(default)
FastEthernet4/1 of MST00 is designated forwarding
Vlans mapped to MST00 1-2,4-2999,4000-4094
Port info port id 128.193 priority 128 cost
200000
Designated root address 0050.3e66.d000 priority 8193
cost 20004
Designated ist master address 0002.172c.f400 priority 49152
cost 0
Designated bridge address 0002.172c.f400 priority 49152 port id
128.193
Timers: message expires in 0 sec, forward delay 0, forward transitions 1
Bpdus sent 492, received 3
Router#
```

Related Commands

- [spanning-tree mst](#)
- [spanning-tree mst forward-time](#)
- [spanning-tree mst hello-time](#)
- [spanning-tree mst max-hops](#)
- [spanning-tree mst root](#)

show standby delay

To display HSRP information about delay periods, use the **show standby delay** command.

show standby delay [*type number*]

Syntax Description	<i>type number</i> (Optional) Interface type and number for which output is displayed.
---------------------------	--

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

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

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

Examples This example shows the output from the **show standby delay** command:

```
Router# show standby delay

Interface           Minimum Reload
Ethernet0/3         1           5
Router#
```

Related Commands	standby delay minimum reload
-------------------------	--

show sup-bootflash

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

show sup-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 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.

Examples This example shows how to display a summary of bootflash information:

```
Router# show sup-bootflash
#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1 .. image EBC8FC4D A7487C 6 10700796 Nov 19 1999 07:07:37 halley
2 .. unknown C7EB077D EE2620 25 4644130 Nov 19 1999 07:50:44 cat6000-sup_
5-3-3-CSX.bin

645600 bytes available (15345184 bytes used)
Router#
```

This example shows how to display all bootflash information:

```
Router# show sup-bootflash all
#- ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name
1 .. image EBC8FC4D A7487C 6 10700796 Nov 19 1999 07:07:37 halley
2 .. unknown C7EB077D EE2620 25 4644130 Nov 19 1999 07:50:44 cat6000-sup_
5-3-3-CSX.bin

645600 bytes available (15345184 bytes used)

----- F I L E S Y S T E M S T A T U S -----
Device Number = 2
DEVICE INFO BLOCK: bootflash
Magic Number = 6887635 File System Vers = 10000 (1.0)
Length = 1000000 Sector Size = 40000
Programming Algorithm = 19 Erased State = FFFFFFFF
File System Offset = 40000 Length = F40000
MONLIB Offset = 100 Length = F568
```

```

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       = EA2620  Bytes Available = 9D9E0
  Bad Sectors     = 0        Spared Sectors = 0
  OK Files        = 2        Bytes = EA2520
  Deleted Files   = 0        Bytes = 0
  Files w/Errors  = 0        Bytes = 0

```

***** Intel SCS Status/Register Dump *****

```

COMMON MEMORY REGISTERS: Bank 0
  Intelligent ID Code : 890089
  Compatible Status Reg: 800080

```

```

DEVICE TYPE:
  Layout           : Paired x16 Mode
  Write Queue Size : 64
  Queued Erase Supported : No

```

Router#

This example shows how to display Flash chip information:

Router# **show sup-bootflash chips**

***** Intel SCS Status/Register Dump *****

```

COMMON MEMORY REGISTERS: Bank 0
  Intelligent ID Code : 890089
  Compatible Status Reg: 800080

```

```

DEVICE TYPE:
  Layout           : Paired x16 Mode
  Write Queue Size : 64
  Queued Erase Supported : No

```

Router#

This example shows how to display file system information:

Router# **show sup-bootflash fileys**

```

----- F I L E   S Y S T E M   S T A T U S -----
  Device Number = 2
DEVICE INFO BLOCK: bootflash
  Magic Number       = 6887635  File System Vers = 10000   (1.0)
  Length             = 1000000  Sector Size     = 40000
  Programming Algorithm = 19    Erased State    = FFFFFFFF
  File System Offset = 40000    Length = F40000
  MONLIB Offset      = 100      Length = F568
  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      = EA2620  Bytes Available = 9D9E0
  Bad Sectors    = 0        Spared Sectors  = 0
  OK Files       = 2        Bytes = EA2520
  Deleted Files  = 0        Bytes = 0
  Files w/Errors = 0        Bytes = 0
```

```
Router#
```

show tcam counts

To display TCAM statistical information, use the **show tcam counts** command.

show tcam counts [*module number*]

Syntax Description	module number (Optional) Specifies the module number; see the “Usage Guidelines” section for valid values.
---------------------------	---

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 The **module number** keyword and argument designate the module and port number. Valid values for *number* 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.

Examples This example shows how to display TCAM information:

```
Router# show tcam counts
          Used      Free      Percent Used
          ----      -
Labels:    2          510          0

ACL_TCAM
Masks:    2          4094          0
Entries:   9          32759         0

QOS_TCAM
Masks:    1          4095          0
Entries:   1          32767         0

      LOU:    0          64           0
      ANDOR:  0          16           0
Router#
```

Table 2-41 describes the possible fields in the **show tcam counts** command output.

Table 2-41 *show tcam counts Command Output Fields*

Field	Description
Labels Used	Number of labels used (maximum of 512).
Labels Free	Number of free labels remaining.
Labels Percent Used	Percentage of labels used.
Masks Used	Number of masks used (maximum of 4096).
Masks Free	Number of free labels remaining.
Masks Percent Used	Percentage of masks used.
Entries Used	Number of labels used (maximum of 32767).
Entries Free	Number of free labels remaining.
Entries Percent Used	Percentage of entries used.

show tcam interface

To display interface-based TCAM information, use the **show tcam interface** command.

```
show tcam interface { interface interface-number } | { null interface-number } | { vlan vlan-id } { { acl
  { in | out } } | { qos { type1 | type2 } } type [module number]
```

Syntax Description		
<i>interface</i>		Interface type; possible valid values are ethernet , fastethernet , gigabitethernet , tengigabitethernet , pos , atm , and ge-wan .
<i>interface-number</i>		Module and port number; see the “Usage Guidelines” section for valid values.
null <i>interface-number</i>		Specifies the null interface; the valid value is 0 .
vlan <i>vlan-id</i>		Specifies the VLAN; see the “Usage Guidelines” section for valid values.
acl in		Displays ACL-based incoming packets.
acl out		Displays ACL-based outgoing packets.
qos type1		Displays QoS-based Type 1 packets.
qos type2		Displays QoS-based Type 2 packets.
<i>type</i>		Specifies the protocol type to display; valid values are arp , ipv4 , ipv6 , mpls , and other .
module <i>number</i>		(Optional) Specifies the module number.

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.
	12.1(19)E	This command was changed to include information for per-bank TCAM utilization for the ACL/QoS TCAM.

Usage Guidelines The **ipv6** and **mpls** options are not supported.

Examples

This example shows how to display interface-based TCAM information:

```
Router# show tcam interface vlan 7 acl in ipv4
-----
DPort - Destination Port SPort - Source Port TCP-F - U -URG Pro - Protocol
I - Inverted LOU TOS - TOS Value - A -ACK rtr - Router
MRFM - M -MPLS Packet TN - T -Tcp Control - P -PSH COD - C -Bank Care Flag
- R -Recirc. Flag - N -Non-cachable - R -RST - I -OrdIndep. Flag
- F -Fragment Flag CAP - Capture Flag - S -SYN - D -Dynamic Flag
- M -More Fragments F-P - FlowMask-Prior. - F -FIN T - V(Value)/M(Mask)/R(Result)
X - XTAG (*) - Bank Priority
-----

Int-vlan-id: 7 label: 4 lookup_type: 0
protocol: IP packet-type: 0
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
|T| Indx| Dest Ip Addr | Source Ip Addr| DPort | SPort | TCP-F | Pro|MRFM|X|TOS|TN|COD|F-P|
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
V 18308 0.0.0.0 1.1.1.1 P=0 P=0 ----- 0 ---- 0 0 -- C-- 0-0
M 18314 0.0.0.0 255.255.255.255 0 0 0 ---- 0 0
R rslt: PERMIT_RESULT (*) rtr_rslt: PERMIT_RESULT (*)
V 18312 0.0.0.0 2.2.2.2 P=0 P=0 ----- 0 ---- 0 0 -- C-- 0-0
M 18314 0.0.0.0 255.255.255.255 0 0 0 ---- 0 0
R rslt: PERMIT_RESULT (*) rtr_rslt: PERMIT_RESULT (*)
V 18331 0.0.0.0 0.0.0.0 P=0 P=0 ----- 0 ---- 0 0 -- C-- 0-0
M 18332 0.0.0.0 0.0.0.0 0 0
> 0 ---- 0 0
R rslt: L3_DENY_RESULT (*) rtr_rslt: L3_DENY_RESULT (*)
V 18423 0.0.0.0 0.0.0.0 P=0 P=0 ----- 0 ---- 0 0 -- --- 0-0
M 18431 0.0.0.0 0.0.0.0 0 0
> 0 ---- 0 0
R rslt: L3_DENY_RESULT rtr_rslt: L3_DENY_RESULT
V 36837 0.0.0.0 0.0.0.0 P=0 P=0 ----- 0 ---- 0 0 -- --- 0-0
M 36845 0.0.0.0 0.0.0.0 0 0
> 0 ---- 0 0
R rslt: L3_DENY_RESULT (*) rtr_rslt: L3_DENY_RESULT (*)
```

Related Commands

[tcam priority](#)

show tech-support

To display information that is useful to Cisco TAC when reporting a problem, use the **show tech-support** command.

show tech-support [**cef** | **ipmulticast** | **isis** | **password** [**page**] | **platform** | **page** | **rsvp**]

Syntax Description	
cef	(Optional) Specifies CEF-related information.
ipmulticast	(Optional) Specifies IP multicast-related information.
isis	(Optional) Specifies CLNS- and ISIS-related information.
password	(Optional) Removes passwords and other security information in the output.
page	(Optional) Causes the output to display a page of information at a time.
platform	(Optional) Specifies platform-specific technical support information.
rsvp	(Optional) Specifies IP RSVP-related information.

Defaults

The defaults are as follows:

- Outputs are displayed without page breaks.
- Passwords and other security information are removed from the output.

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(19)E	This command was changed to include the platform option.

Usage Guidelines

Press the **Return** key to display the next line of output or press the **Space** bar to display the next page of information. If you do not enter the **page** keyword, the output scrolls (that is, it does not stop for page breaks).

If you do not enter the **password** keyword, passwords and other security-sensitive information in the output are replaced with the label “<removed>.”

The **show tech-support** commands are a compilation of several **show** commands and can be quite lengthy. For a sample display of the output of the **show tech-support** command, see the individual **show** command listed.

If you enter the **show tech-support** command without arguments, the output displays, but is not limited to, the equivalent of these **show** commands:

- **show version**
- **show running-config**
- **show stacks**
- **show interfaces**
- **show controllers**
- **show process memory**
- **show process cpu**
- **show buffers**
- **show logging**
- **show module**
- **show power**
- **show environment**
- **show interfaces switchport**
- **show interfaces trunk**
- **show vlan**
- **show mac-address-table**
- **show spanning-tree**

If you enter the **ipmulticast** keyword, the output displays, but is not limited to, these **show** commands:

- **show ip pim interface**
- **show ip pim interface count**
- **show ip pim neighbor**
- **show ip pim rp**
- **show ip igmp groups**
- **show ip igmp interface**
- **show ip mroute count**
- **show ip mroute**
- **show ip mcache**
- **show ip dvmrp route**

If you enter the **isis** keyword, the output displays the equivalent of the **show isis** commands.

If you enter the **rsvp** keyword, the output displays the equivalent of the **show ip rsvp** commands.

Examples

For a sample display of the **show tech-support** command output, see the commands listed in the “Usage Guidelines” section.

Related Commands

See the commands listed in the “Usage Guidelines” section.

show uddl

To display the administrative and operational UDLD status, use the **show uddl** command.

show uddl

show uddl *interface-id*

Syntax Description	<i>interface-id</i> Interface name.						
Defaults	This command has no default settings.						
Command Modes	EXEC						
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>12.1(2)E</td> <td>Support for this command was introduced on the Catalyst 6500 series switches.</td> </tr> <tr> <td>12.1(8a)E</td> <td>Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.</td> </tr> </tbody> </table>	Release	Modification	12.1(2)E	Support for this command was introduced on the Catalyst 6500 series switches.	12.1(8a)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.
Release	Modification						
12.1(2)E	Support for this command was introduced on the Catalyst 6500 series switches.						
12.1(8a)E	Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.						
Usage Guidelines	If you do not enter an <i>interface-id</i> value, the administrative and operational UDLD status for all interfaces are displayed.						

Examples

This example shows how to display the UDLD state for a single interface:

```
Router# show uddl GigabitEthernet2/2

Interface Gi2/2
---
Port enable administrative configuration setting: Follows device default
Port enable operational state: Enabled
Current bidirectional state: Bidirectional
Current operational state: Advertisement
Message interval: 60
Time out interval: 5
No multiple neighbors detected
  Entry 1
  ---
  Expiration time: 146
  Device ID: 1
  Current neighbor state: Bidirectional
```

```
Device name: 0050e2826000
Port ID: 2/1
Neighbor echo 1 device: SAD03160954
Neighbor echo 1 port: Gi1/1

Message interval: 5
CDP Device name: 066527791
Router#
```

Related Commands

uddl
uddl port

show version

To display the configuration of the system hardware, the software version, the names and sources of configuration files, and the boot images, use the **show version** command.

show version

Syntax Description This command has no arguments or keywords.

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(13)E	This command was changed to include the uptime since active information.

Examples The following is sample output from the **show version** command:

```
Router# show version
Cisco Internetwork Operating System Software
IOS (tm) c6sup2_rp Software (c6sup2_rp-JSV-M), Version 12.1(nightly.E020626) NIG
HTLY BUILD
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Wed 26-Jun-02 06:20 by
Image text-base: 0x40008BF0, data-base: 0x419BA000

ROM: System Bootstrap, Version 12.1(11r)E1, RELEASE SOFTWARE (fc1)

Router uptime is 2 weeks, 8 hours, 48 minutes
Time since Router switched to active is 1 minute
System returned to ROM by power-on (SP by power-on)
System image file is "sup-bootflash:c6sup22-jsv-mz"

cisco Catalyst 6000 (R7000) processor with 112640K/18432K bytes of memory.
Processor board ID SAD06210067
R7000 CPU at 300Mhz, Implementation 39, Rev 3.3, 256KB L2, 1024KB L3 Cache
Last reset from power-on
Bridging software.
X.25 software, Version 3.0.0.
```

```

SuperLAT software (copyright 1990 by Meridian Technology Corp) .
TN3270 Emulation software.
3 Virtual Ethernet/IEEE 802.3 interface(s)
48 FastEthernet/IEEE 802.3 interface(s)
381K bytes of non-volatile configuration memory.

16384K bytes of Flash internal SIMM (Sector size 512K) .
Configuration register is 0x2102

Router#

```

Table 2-42 describes the fields shown in these displays.

Table 2-42 *show version Field Descriptions*

Field	Description
IOS (tm) c6sup2_rp Software (c6sup2_rp-JSV-M), Version 12.1(nightly.E020626) NIG HTLY BUILD	Always specify the complete version number when reporting a possible software problem. In the example output, the version number is 12.1.
ROM: System Bootstrap, Version 12.1(11r)E1, RELEASE SOFTWARE (fc1)	Bootstrap version string.
BOOTFLASH: 7200 Software (C7200-BOOT-M), Version 11.1(472), RELEASE SOFTWARE	Boot version string.
Router uptime is	Amount of time the system has been up and running.
Time since Router switched to active	Amount of time since switchover occurred.
System restarted by	Also displayed is a log of how the system was last booted, both as a result of normal system startup and of system error. For example, information can be displayed to indicate a bus error that is generally the result of an attempt to access a nonexistent address, as follows: System restarted by bus error at PC 0xC4CA, address 0x210C00
System image file is	If the software was booted over the network, the Internet address of the boot host is shown. If the software was loaded from onboard ROM, this line reads “running default software.”

Table 2-42 show version Field Descriptions (continued)

Field	Description
cisco Catalyst 6000 (R7000) processor with 112640K/18432K bytes of memory.	Remaining output in each display shows the hardware configuration and any nonstandard software options.
Configuration register is	Configuration register contents displayed in hexadecimal notation.

The output of the **show version EXEC** command can also provide certain messages, such as bus error messages. If such error messages appear, report the complete text of this message to your technical support specialist.

show vlan

To display VLAN information, use the **show vlan** command.

```
show vlan [{brief | {id vlan-id} | {name name} [ifindex]} | ifindex]
```

Syntax Description	Parameter	Description
	brief	(Optional) Displays only a single line for each VLAN, naming the VLAN, status, and ports.
	id <i>vlan-id</i>	(Optional) Displays information about a single VLAN that is identified by a VLAN ID number; valid values are from 1 to 4094.
	name <i>name</i>	(Optional) Displays information about a single VLAN that is identified by VLAN name; valid values are an ASCII string from 1 to 32 characters.
	ifindex	(Optional) Displays the VLAN's ifIndex number.

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(8)ES	This command was changed to add the ifindex keyword.
	12.1(11b)EX	The command was changed to support extended-range VLANs.
	12.1(13)E	This command was changed to support RSPAN VLANs. In addition, you can enter a list of VLANs as well as a single VLAN.

Usage Guidelines Each Ethernet switch port and Ethernet repeater group belong to only one VLAN. Trunk ports can be on multiple VLANs.

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.

Separate VLANs ranges with a hyphen. Separate VLANs with a comma, with no spaces in between. For example, you can enter the following:

```
show vlan id 1-4,3,7,5-20
```

Examples

This example shows how to display the VLAN parameters for all VLANs within the administrative domain:

```
Router# show vlan
VLAN Name                Status    Ports
-----
1    default                active    Fa5/9
2    VLAN0002               active    Fa5/9
3    VLAN0003               active    Fa5/9
4    VLAN0004               active    Fa5/9
5    VLAN0005               active    Fa5/9
6    VLAN0006               active    Fa5/9
<...Output truncated...>

1004 fddinet-default      active    Fa5/9
1005 trbrf-default       active    Fa5/9

VLAN Type  SAID      MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
-----
1    enet    100001    1500  -     -     -     -     -     0     0
2    enet    100002    1500  -     -     -     -     -     0     0
3    enet    100003    1500  -     -     -     -     -     303   0
4    enet    100004    1500  -     -     -     -     -     304   0
5    enet    100005    1500  -     -     -     -     -     305   0
6    enet    100006    1500  -     -     -     -     -     0     0
10   enet    100010    1500  -     -     -     -     -     0     0
<...Output truncated...>

Remote SPAN VLANs
-----
2, 20

Primary Secondary Type          Ports
-----
Router#
```

This example shows how to display the VLAN name, status, and associated ports only:

```
Router# show vlan brief
VLAN Name                Status    Ports
-----
1    default                active    Fa5/9
2    VLAN0002               active    Fa5/9
3    VLAN0003               active    Fa5/9
4    VLAN0004               active    Fa5/9
5    VLAN0005               active    Fa5/9
10   VLAN0010               active    Fa5/9
.
.
.
999  VLAN0999               active    Fa5/9
1002 fddi-default           active    Fa5/9
1003 trcrf-default       active    Fa5/9
1004 fddinet-default      active    Fa5/9
1005 trbrf-default       active    Fa5/9
Router#
```

This example shows how to display the VLAN parameters for multiple VLANs:

```
Router# show vlan id 1-4,3,7,5-20
```

```

VLAN Name                Status    Ports
-----
 1    default                active    Fa5/7, Fa5/12
 2    VLAN0002              active
 3    VLAN0003              active
 4    VLAN0004              active
 5    VLAN0005              active
 6    VLAN0006              active
10    VLAN0010              active
20    VLAN0020              active

VLAN Type  SAID      MTU    Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
-----
 1    enet  100001   1500  -      -      -      -      -      0      0
 2    enet  100002   1500  -      -      -      -      -      0      0
 3    enet  100003   1500  -      -      -      -      -      303    0
 4    enet  100004   1500  -      -      -      -      -      304    0
 5    enet  100005   1500  -      -      -      -      -      305    0
 6    enet  100006   1500  -      -      -      -      -      0      0
10    enet  100010   1500  -      -      -      -      -      0      0
20    enet  100020   1500  -      -      -      -      -      0      0

Remote SPAN VLANs
-----

```

```

Primary Secondary Type          Ports
-----

```

```
Router#
```

This example shows how to display the ifIndex number for VLAN 3 only:

```
Router# show vlan id 10 ifindex
```

```

VLAN Ifindex
-----
 10    37
Router#
```

[Table 2-43](#) describes the fields in the **show vlan** command output.

Table 2-43 *show vlan Command Output Fields*

Field	Description
VLAN	VLAN number.
Name	Name, if configured, of the VLAN.
Status	Status of the VLAN (active or suspend).
Ports	Ports that belong to the VLAN.
Type	Media type of the VLAN.
SAID	Security association ID value for the VLAN.
MTU	Maximum transmission unit size for the VLAN.
Parent	Parent VLAN, if one exists.

Table 2-43 *show vlan Command Output Fields (continued)*

Field	Description
RingNo	Ring number for the VLAN, if applicable.
BrdgNo	Bridge number for the VLAN, if applicable.
Stp	Spanning Tree Protocol type used on the VLAN.
BrdgMode	Bridging mode for this VLAN—Possible values are SRB and SRT; the default is SRB.
AREHops	Maximum number of hops for All-Routes Explorer frames—Possible values are 1 through 13; the default is 7.
STEHops	Maximum number of hops for Spanning Tree Explorer frames—Possible values are 1 through 13; the default is 7.
Backup CRF	Status of whether the TrCRF is a backup path for traffic.
Ifindex	Number of the ifIndex.
Remote SPAN VLAN	RSPAN status.
Primary	Number of the primary VLAN.
Secondary	Number of the secondary VLAN.
Ports	Indicates the ports within a VLAN.
Type	Type of VLAN—Possible values are primary, isolated, community, nonoperation, or normal.

Related Commands

show vlan private-vlan
vlan (config-VLAN submode)
vtp

show vlan access-log

To display VACL logging information including configured logging properties, flow table contents, and statistics, use the **show vlan access-log** command.

show vlan access-log config

```
show vlan access-log flow protocol {{src-addr src-mask} | any | {host {hostname | host-ip}}}
                               {dst-addr dst-mask} | any | {host {hostname | host-ip}} [vlan vlan-id]
```

show vlan access-log statistics

Syntax Description	config	Description
	flow	Displays the contents of the VACL flow table.
	<i>protocol</i>	Protocol name or number; valid values are icmp , igmp , ip , tcp , udp , or numbers from 0 to 255 to designate a protocol.
	<i>src-addr src-mask</i>	Source address and mask.
	any	Displays information for any host.
	host hostname	Displays information for a host name.
	host host-ip	Displays information for an IP address.
	<i>dst-addr dst-mask</i>	Destination address and mask.
	vlan vlan-id	(Optional) Displays information for a specific VLAN; valid values are from 1 to 4094.
	statistics	Displays packet and message counts and other statistics.

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.
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.

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 command shows how to display the configured VACL logging properties:

```
Router# show vlan access-log config
VACL Logging Configuration:
    max log table size      :500
    log threshold           :4000
    rate limiter            :3000
Router#
```

This command shows how to display the VACL statistical information:

```
Router# show vlan access-log statistics
VACL Logging Statistics:
    total packets          :0
    logged                 :0
    dropped                :0
Dropped Packets Statistics:
    unsupported protocol   :0
    no packet buffer       :0
    hash queue full       :0
    flow table full       :0
Misc Information:
    VACL Logging LTL Index :0x7E02
    free packet buffers    :8192
    log messages sent     :0
    log table size        :0
Router#
```

Related Commands [vlan access-log](#)

show vlan access-map

To display the contents of a VLAN access map, use the **show vlan access-map** command.

show vlan access-map [*map-name*]

Syntax Description	<i>map-name</i> (Optional) VLAN access-map name.
---------------------------	--

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.
	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.

Examples	This command shows how to display the contents of a VLAN access-map:
-----------------	--

```
Router# show vlan access-map mordred
Vlan access-map "mordred" 1
    match: ip address 13
    action: forward capture
Router#
show vlan counters
```

Related Commands	action match vlan access-map
-------------------------	--

show vlan counters

To display software-cached counter values, use the **show vlan counters** command.

show vlan [id *vlanid*] counters

Syntax Description	id <i>vlanid</i> (Optional) VLAN ID; valid values are from 1 to 4094.
---------------------------	--

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	<p>The show vlan id counters command is not supported on SVIs.</p> <p>For Layer 2 and Layer 3 VLAN interfaces and router ports, Supervisor Engine 2 exports per-interface switching statistics and VLAN counter information to the MSFC2 approximately every 3 minutes.</p> <p>If you enter the show vlan counters command with no arguments, software-cached counter values for all VLANs are displayed.</p> <p>If your system is configured with a Supervisor Engine 1, valid values for <i>vlanid</i> are from 1 to 1005. If your system is configured with a Supervisor Engine 2, valid values for <i>vlanid</i> are from 1 to 4094. Extended-range VLANs are not supported on systems configured with a Supervisor Engine 1.</p>
-------------------------	---

Examples	This example shows how to display the software-cached counter values for a specific VLAN:
-----------------	---

```
Router > show vlan id 205 counters
VLAN vlanid 205
L2-Unicast-Pkts      10
L3-In-Unicast-Pkts   0
L3-Out-Unicast-Pkts  0
L2-NonUnicast-Pkts + L3-In-NonUnicast-Pkts  5
L3-Out-NonUnicast-Pkts  6
L2-Unicast-Octets    6
L3-In-Unicast-Octets 6
L3-Out-Unicast-Octets 6
L2-NonUnicast-Octets + L3-In-NonUnicast-Octets 6
L3-Out-NonUnicast-Octets 6
```

Related Commands	clear vlan counters
-------------------------	-------------------------------------

show vlan dot1q tag native

To display native VLAN tagging information, use the **show vlan dot1q tag native** command.

show vlan dot1q tag native

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.

Examples This example shows how to display native VLAN tagging information:

```
Router# show vlan dot1q tag native
dot1q native vlan tagging is enabled
Internal dot1q native vlan: 1015
```

```
Router#
```

Related Commands [vlan dot1q tag native](#)

show vlan filter

To display VLAN filter information, use the **show vlan filter** command.

```
show vlan filter [{access-map map-name} | {vlan vlan-id} | {interface interface
interface-number}]
```

Syntax Description	
access-map <i>map-name</i>	(Optional) Displays the VLANs that are filtered by the specified map.
vlan <i>vlan-id</i>	(Optional) Displays the filter for the specified VLAN; valid values are from 1 to 4094.
interface <i>interface</i>	(Optional) Specifies the interface type; valid values are pos , atm , or serial . See the “Usage Guidelines” section for additional information.
<i>interface-number</i>	Interface number; see the “Usage Guidelines” section for additional information.

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.
	12.1(11b)EX	The command was changed to support extended-range VLANs and WAN interfaces.
	12.1(13)E	Support for this command on the Catalyst 6500 series switches 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.

The **show vlan filter** *map-name* **interface** command accepts only ATM, POS, or serial interface types. If your system is not configured with any of these interface types, the **interface** *interface interface-number* option is not provided.

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 do not specify an option, all mappings are displayed. If you enter **access-map** *map_name*, all the VLANs and interfaces associated with the specified map are shown. If you enter **vlan** *vlan-id* or **interface** *interface interface-number*, its associated access-map, if existing, is shown.

In the output for VACLs on VLANs, the following applies:

- Configured on VLANs—User configured.
- Active on VLANs—VLAN list on which the VACL is active.

In the output for WAN interfaces, the following applies:

- Configured on interfaces—User configured.
- Active on Interfaces—Interfaces on which the VACL is active.

Examples

This example shows how to display mappings between the VACLs and the VLANs and the VACLs and the interfaces:

```
Router# show vlan filter
VLAN Map mordred:
  Configured on VLANs: 2,4-6
  Active on VLANs: 2,4-6
Router#
```

Related Commands

[vlan access-map](#)
[vlan filter](#)

show vlan internal usage

To display information about the internal VLAN allocation, use the **show vlan internal usage** command.

show vlan [*id vlan-id*] **internal usage**

Syntax Description	id <i>vlan-id</i> (Optional) Displays internal VLAN allocation information for the specified VLAN; valid values are from 1 to 4094.
---------------------------	--

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. This command has been changed to display OSM interfaces and subinterfaces in addition to the regular Ethernet interfaces.

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.

Entering the **show vlan internal usage** command in releases prior to Release 12.1(13)E displays the internal VLANs allocated to the OSM interfaces as L3-VLAN but does not display the associated subinterfaces. In Release 12.1(13)E and later releases, entering the **show vlan internal usage** command displays the OSM interfaces and subinterfaces in addition to the regular Ethernet interfaces.

To display the associated subinterfaces, enter the **show cwan vlan** command. The **show cwan vlan** command displays the mapping between the WAN subinterface and the internal VLANs in use.

Examples

This example shows how to display information about the current internal VLAN allocation:

```
Router# show vlan internal usage
```

```
VLAN Usage
-----
1025 -
1026 -
1027 -
1028 -
1029 Port-channel6
1030 GigabitEthernet1/2
1032 FastEthernet3/20
1033 FastEthernet3/21
1129 -
```

This example shows how to display information about the internal VLAN allocation for a specific VLAN:

```
Router# show vlan id 1030 internal usage
```

```
VLAN Usage
-----
1030 GigabitEthernet1/2
Router#
```

This example shows how to display information about the internal VLAN allocation for an OSM:

```
Router# show vlan internal usage
```

```
VLAN Usage
-----
1006 online diag vlan0
1007 online diag vlan1
1008 online diag vlan2
1009 online diag vlan3
1010 online diag vlan4
1011 online diag vlan5
1012 PM vlan process (trunk tagging)
1013 L3 multicast partial shortcuts
1014 L3 multicast routed port aggregation
1015 OSM-GE workaround VLAN
1016 OSM-GE workaround VLAN
1017 GE-WAN4/1
1018 GE-WAN3/1
1021 GE-WAN3/2
1022 GigabitEthernet3/1
Router#
```

show vlan mapping

To register a mapping of an 802.1Q VLAN to an ISL VLAN, use the **show vlan mapping** command

show vlan mapping

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(13)E	Support for this command was introduced on the Catalyst 6500 series switches.

Examples This example shows how to list the 802.1Q VLAN to an ISL VLAN mapping:

```
Router# show vlan mapping
802.1Q Trunk Remapped VLANs:
802.1Q VLAN ISL VLAN
-----
101          202
200          330
Router#
```

show vlan private-vlan

To display PVLAN information, use the **show vlan private-vlan** command.

show vlan private-vlan [type]

Syntax Description	type (Optional) Displays the PVLAN type (isolated, community, or primary).								
Defaults	This command has no default settings.								
Command Modes	EXEC								
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>12.1(8a)EX</td> <td>Support for this command was introduced on the Catalyst 6500 series switches.</td> </tr> <tr> <td>12.1(11b)EX</td> <td>This command was changed to support extended-range VLANs.</td> </tr> <tr> <td>12.1(13)E</td> <td>Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release.</td> </tr> </tbody> </table>	Release	Modification	12.1(8a)EX	Support for this command was introduced on the Catalyst 6500 series switches.	12.1(11b)EX	This 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.
Release	Modification								
12.1(8a)EX	Support for this command was introduced on the Catalyst 6500 series switches.								
12.1(11b)EX	This 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.								

Usage Guidelines In the **show vlan private-vlan type** command output display, “normal” displayed as a type indicates a regular VLAN that is configured in a PVLAN. A display of “normal” means that two VLANs have been associated before the type was set and that the PVLAN is not operational. This information is useful for debugging purposes.

Examples This example shows how to display information about all currently configured PVLANS:

```
Router# show vlan private-vlan
```

```

Primary Secondary Type          Ports
-----
2         301      community    Fa5/3, Fa5/25
2         302      community
          10       community
100      101      isolated
150      151      non-operational
          202      community
          303      community
401      402      non-operational
Router#
```

This example shows how to display information about all currently configured PVLAN types:

```
Router# show vlan private-vlan type
```

```
Vlan Type
-----
202 primary
303 community
304 community
305 community
306 community
307 community
308 normal
309 community
440 isolated
Router#
```

Table 2-44 describes the fields in the **show vlan private-vlan** command output.

Table 2-44 *show vlan private-vlan Command Output Fields*

Field	Description
Primary	Number of the primary VLAN.
Secondary	Number of the secondary VLAN.
Secondary-Type	Secondary VLAN type—Possible values are isolated or community.
Ports	Indicates the ports within a VLAN.
Type	Type of VLAN—Possible values are primary, isolated, community, nonoperation, or normal.

Related Commands

[private-vlan mapping](#)
[private-vlan](#)

show vlan remote-span

To display a list of RSPAN VLANs, use the **show vlan remote-span** command.

show vlan remote-span

Syntax Description This command has no arguments or keywords.

Defaults This command has no default settings.

Command Modes EXEC

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

Examples This example shows how to display a list of remote SPAN VLANs:

```
Router# show vlan remote-span
Remote SPAN VLANs
-----
2,20
```

Related Commands [remote-span](#)
[vlan \(config-VLAN submode\)](#)

show vlans

To display information about the Cisco IOS VLAN subinterfaces, use the **show vlans** command.

show vlans [*vlan*]

Syntax Description	<i>vlan</i> (Optional) VLAN ID number; valid values are from 1 to 4094.
---------------------------	---

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

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

Command History	Release	Modification
	12.1(8a)E	Support for this command was introduced on the Catalyst 6500 series switches.
	12.1(11b)EX	This command was changed to support extended-range VLANs.

Usage Guidelines	The EXEC mode show vlan command displays Layer 2 VLAN information. The privileged EXEC mode show vlans command displays information about the Layer 3 VLAN subinterface.
-------------------------	--

When entering the **show vlans** command, you cannot shorten the **vlans** keyword.

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

Examples	This example shows the output from the show vlans command:
-----------------	---

```
Router# show vlans
Virtual LAN ID: 122 (Inter Switch Link Encapsulation)
VLAN Trunk Interface: GE-WAN9/1.1
Protocols Configured: Address: Received: Transmitted:
IP 10.122.0.2 18 16
Virtual LAN ID: 123 (Inter Switch Link Encapsulation)
VLAN Trunk Interface: GE-WAN9/1.2
Protocols Configured: Address: Received: Transmitted:
IP 10.123.0.2 13 16
Virtual LAN ID: 124 (Inter Switch Link Encapsulation)
VLAN Trunk Interface: GE-WAN9/1.3
Protocols Configured: Address: Received: Transmitted:
IP 10.124.0.2 0 17
Virtual LAN ID: 133 (Inter Switch Link Encapsulation)
VLAN Trunk Interface: GE-WAN9/3.1
Protocols Configured: Address: Received: Transmitted:
IP 11.133.0.1 0 1
```

```

Virtual LAN ID: 134 (Inter Switch Link Encapsulation)
VLAN Trunk Interface: GE-WAN9/3.2
Protocols Configured: Address:          Received:      Transmitted:
                       IP              11.134.0.1      0              1
Router#

```

Table 2-45 describes the fields in the **show vlans** command output.

Table 2-45 show vlans Command Output Fields

Field	Description
Virtual LAN ID	Domain number of the VLAN.
VLAN Trunk Interface	Subinterface carrying the VLAN traffic.
Protocols Configured	Protocols configured on the VLAN.
Address	Network address.
Received	Number of packets received.
Transmitted	Number of packets transmitted.

show vtp

To display VTP statistics and domain information, use the **show vtp** command.

show vtp {counters | status}

Syntax Description	counters	Specifies VTP statistics information.
	status	Specifies VTP domain 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.

Examples This example shows how to display VTP statistics:

```
Router# show vtp counters
VTP statistics:
Summary advertisements received      : 1
Subset advertisements received      : 1
Request advertisements received     : 0
Summary advertisements transmitted  : 31
Subset advertisements transmitted   : 1
Request advertisements transmitted  : 0
Number of config revision errors    : 0
Number of config digest errors     : 0
Number of V1 summary errors        : 0

VTP pruning statistics:

Trunk          Join Transmitted Join Received  Summary advts received from
-----          -----          -----          -----
Fa5/9          1555          1564          0
Router#
```

This example shows how to display the VTP domain status:

```
Router# show vtp status
VTP Version          : 2
Configuration Revision : 250
Maximum VLANs supported locally : 1005
Number of existing VLANs : 33
VTP Operating Mode   : Server
```

```

VTP Domain Name           : Lab_Network
VTP Pruning Mode          : Enabled
VTP V2 Mode                : Enabled
VTP Traps Generation      : Disabled
MD5 digest                 : 0xE6 0xF8 0x3E 0xDD 0xA4 0xF5 0xC2 0x0E
Configuration last modified by 172.20.52.18 at 9-22-99 11:18:20
Local updater ID is 172.20.52.18 on interface V11 (lowest numbered VLAN interface found)
Router#

```

This example shows how to display only those lines in the **show vtp** output that contain the word **Summary**:

```

Router# show vtp counters | include Summary
Summary advertisements received      : 1
Summary advertisements transmitted : 32
Trunk                               Join Transmitted Join Received   Summary advts received from
Router#

```

Table 2-46 describes the fields in the **show vtp** command output.

Table 2-46 show vtp Command Output Fields

Field	Description
Summary advts received	Total number of summary advts received.
Subset advts received	Total number of subset advts received.
Request advts received	Total number of request advts received.
Summary advts transmitted	Total number of summary advts transmitted.
Subset advts transmitted	Total number of subset advts transmitted.
Request advts transmitted	Total number of request advts transmitted.
No of config revision errors	Number of config revision errors.
No of config digest errors	Number of config revision digest errors.
Trunk	Trunk port participating in VTP pruning.
Join Transmitted	Number of VTP-Pruning Joins transmitted.
Join Received	Number of VTP-Pruning Joins received.
Summary advts received from non-pruning-capable device	Number of Summary advts received from nonpruning-capable devices.
Number of existing VLANs	Total number of VLANs in the domain.
Configuration Revision	VTP revision number used to exchange VLAN information.
Maximum VLANs supported locally	Maximum number of VLANs allowed on the device.
Number of existing VLANs	Number of existing VLANs.
VTP Operating Mode	Status on whether VTP is enabled or disabled.

Table 2-46 show vtp Command Output Fields (continued)

Field	Description
VTP Domain Name	Name of the VTP domain.
VTP Pruning Mode	Status on whether VTP pruning is enabled or disabled.
VTP V2 Mode	Status of the VTP V2 mode as server, client, or transparent.
VTP Traps Generation	Status on whether VTP trap generation mode is enabled or disabled.
MD5 digest	Checksum values.

Related Commands [vtp](#)