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**

- `interface interface-number` - Interface type; possible valid values are `ethernet`, `fastethernet`, `gigabitethernet`, `tengigabitethernet`, `pos`, `atm`, and `ge-wan`.
- `interface-number` - Module and port number; see the "Usage Guidelines" section for valid values.
- `null interface-number` - Specifies the null interface; the valid value is 0.
- `vlan vlan-id` - Specifies the VLAN ID; valid values are from 1 to 4094.

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**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 that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is installed in a 13-slot chassis, valid values for the module number are from 1 to 13 and valid values for the port number are from 1 to 48.

The `show queueing interface` command does not display the absolute values that are programmed in the hardware. Enter the `show qm-sp port-data` command to verify the values that are programmed in the 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}
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clients</td>
<td>Displays information about the RF client.</td>
</tr>
<tr>
<td>counters</td>
<td>Displays information about the RF counter.</td>
</tr>
<tr>
<td>history</td>
<td>Displays a log of past status for the RF.</td>
</tr>
<tr>
<td>states</td>
<td>Displays information about the RF state.</td>
</tr>
<tr>
<td>switchover</td>
<td>Displays the switchover counts, the uptime since active, and the total system uptime.</td>
</tr>
</tbody>
</table>

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**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
```

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 RF counters:

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

Router#

If you enter the `show redundancy states` command with SSO configured, the Redundancy Mode (Operational) and the Redundancy Mode (Configured) fields display Stateful Switchover.

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

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>mode</code></td>
<td>Sets the redundancy mode.</td>
</tr>
<tr>
<td><code>redundancy</code></td>
<td>Enters redundancy configuration mode.</td>
</tr>
<tr>
<td><code>redundancy force-switchover</code></td>
<td>Forces a switchover from the active to the standby supervisor engine.</td>
</tr>
</tbody>
</table>
show rom-monitor

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

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

### Syntax Description

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>slot num</code></td>
<td>Specifies the slot number of the ROMMON to be displayed.</td>
</tr>
<tr>
<td><code>sp</code></td>
<td>Displays the ROMMON status of the switch processor.</td>
</tr>
<tr>
<td><code>rp</code></td>
<td>Displays the ROMMON status of the route processor.</td>
</tr>
</tbody>
</table>

### Command Default

This command has no default settings.

### Command Modes

EXEC (>)

### Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

### Usage Guidelines

When you enter the `show rom-monitor` command, the output displays the following:

- Region region1 and region2—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
```

### Related Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>upgrade rom-monitor</code></td>
<td>Sets the execution preference on a ROMMON.</td>
</tr>
</tbody>
</table>
show rpc

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

```
show rpc {applications | counters | status}
```

**Syntax Description**

- `applications` Displays information about the RPC application.
- `counters` Displays the RPC counters.
- `status` Displays the RPC status.

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**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
12 0011 <remote> mapping_sp
13 0011 <remote> logger-sp
14 0011 <remote> c6k_power_sp
15 0011 <remote> c6k_sp_environmental
16 0011 <remote> pagp_switch_rpc
17 0011 <remote> pm-cp
18 0021 602675B0 Nipcon-RP
19 0021 602283B0 pm-mp
20 0021 601F77D0 sw_vlan_rp
21 0021 601F7950 idbman_fec
22 0021 601F7F30 logger-rp
23 0021 601F80D8 pagp_switch_l3_split
24 0021 601F81C0 pagp_switch_sp2mp
25 0021 6026F190 c6k_rp_environmental
Router#
```
This example shows how to display information about the RPC counters:

```
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 the status and configuration of the module, Layer 2 VLAN, or interface, use the show running-config command.

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

**Syntax Description**
- `interface interface` (Optional) Specifies the interface type; possible valid values are ethernet, fastethernet, gigabitethernet, tengigabitethernet, pos, atm, and ge-wan.
- `module number` (Optional) Specifies the module number.
- `vlan vlan-id` (Optional) Specifies the VLAN information to display; valid values are from 1 to 4094.

**Command Default**
This command has no default settings.

**Command Modes**
EXEC (>

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**
In some cases, you might see a difference in the duplex mode that is displayed between the show interfaces command and the show running-config command. In this case, the duplex mode that is 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 the duplex mode but no configuration for the speed. This output indicates that the interface speed is configured as 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 that is shown with the show running-config command.

**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
!
!
shutdown
!
!

show scp

To display SCP information, use the show scp command.

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

**Syntax Description**

- **accounting** Displays information about the SCP accounting.
- **counters** Displays information about the SCP counter.
- **mcast** Displays information about the SCP multicast.
- **group group-id** (Optional) Displays information for a specific group and group ID; valid values are from 1 to 127.
- **inst** (Optional) Displays information for an instance.
- **process id** (Optional) Displays all the processes that have registered an SAP with SCP.
- **status** Displays information about the local SCP server status.

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Examples**

This example shows how to display all the processes that have registered an SAP with SCP:

```
Router# show scp process
Sap Pid Name
=== === ====
0 180 CWAN-RP SCP Input Process
18 42 itasca
20 3 Exec
21 3 Exec
22 180 CWAN-RP SCP Input Process
Total number of SAP registered = 5
Router#
```
**show snmp mib ifmib ifindex**

To display the SNMP interface index identification numbers (ifIndex values) for all the system interfaces or the specified system interface, use the `show snmp mib ifmib ifindex` command.

```
show snmp mib ifmib ifindex [interface interface-number][:subinterface][.subinterface][port]
```

**Syntax Description**

- **interface** (Optional) Interface type; possible valid values for type are **ethernet**, **fastethernet**, **gigabitethernet**, **tengigabitethernet**, **pos**, **atm**, and **ge-wan**.
- **interface-number** Module and port number; see the “Usage Guidelines” section for valid values.
- **subinterface** (Optional) Subinterface number; the valid value is 0.
- **.subinterface** (Optional) Subinterface number; valid values are from 0 to 4294967295.
- **port** (Optional) Interface number.

**Command Default**

The ifIndex values for all the interfaces are displayed.

**Command Modes**

EXEC (>)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

The `show snmp mib ifmib ifindex` command allows you to display SNMP interface index identification numbers (ifIndex values) that are assigned to interfaces and subinterfaces using the CLI. This command allows you to view these values without using a Network Management Station.

If a specific interface is not specified using the optional `interface-type`, `slot`, `port-adapters`, and `port` arguments, the `ifDescr` and `ifIndex` pairs of all interfaces and subinterfaces present on the system are shown.

Use the `show snmp mib ifmib ifindex ?` command to determine the options available on your system. Typical `interface-types` values include **async**, **dialer**, **ethernet**, **fastEthernet**, and **serial**.

**Examples**

This example shows how to display the ifIndex for a specific interface:

```
Router# show snmp mib ifmib ifIndex Ethernet2/0
Ethernet2/0:  Ifindex = 2
```

This example shows how to display the ifIndex for all interfaces:

```
Router# show snmp mib ifmib ifindex
ATM1/0:  Ifindex = 1
ATM1/0-aaal5 layer: Ifindex = 12
ATM1/0-atm layer: Ifindex = 10
ATM1/0-aaal5 layer: Ifindex = 13
ATM1/0-0-atm subif: Ifindex = 11
```
ATM1/0.9-aal5 layer: Ifindex = 32
ATM1/0.9-atm subif: Ifindex = 31
ATM1/0.99-aal5 layer: Ifindex = 36
ATM1/0.99-atm subif: Ifindex = 35
Ethernet2/0: Ifindex = 2
Ethernet2/1: Ifindex = 3
Ethernet2/2: Ifindex = 4
Ethernet2/3: Ifindex = 5
Null0: Ifindex = 14
Serial3/0: Ifindex = 6
Serial3/1: Ifindex = 7
Serial3/2: Ifindex = 8
Serial3/3: Ifindex = 9

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>snmp ifindex persist</strong></td>
<td>Enables ifIndex values in the Interfaces MIB (IF-MIB) that persist across reboots (ifIndex persistence) only on a specific interface.</td>
</tr>
<tr>
<td><strong>snmp-server ifindex persist</strong></td>
<td>Enables ifIndex values globally so that they will remain constant across reboots for use by SNMP.</td>
</tr>
</tbody>
</table>
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]
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>bridge-group</th>
<th>(Optional) Bridge-group number; valid values are from 1 to 255.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>active</td>
<td>(Optional) Displays information about the spanning tree on active interfaces only.</td>
</tr>
<tr>
<td></td>
<td>backbonefast</td>
<td>(Optional) Displays information about the spanning-tree BackboneFast status.</td>
</tr>
<tr>
<td></td>
<td>bridge</td>
<td>(Optional) Displays information about the bridge status and configuration.</td>
</tr>
<tr>
<td></td>
<td>id</td>
<td>(Optional) Displays the bridge identifier.</td>
</tr>
<tr>
<td></td>
<td>detail</td>
<td>(Optional) Displays detailed information about the spanning-tree state.</td>
</tr>
<tr>
<td></td>
<td>inconsistentports</td>
<td>(Optional) Displays information about the root-inconsistency state.</td>
</tr>
<tr>
<td></td>
<td>interface interface</td>
<td>(Optional) Displays the interface type and number; possible valid values for type are <code>ethernet</code>, <code>fastethernet</code>, <code>gigabitethernet</code>, <code>tengigabitethernet</code>, <code>pos</code>, <code>atm</code>, and <code>ge-wan</code>.</td>
</tr>
<tr>
<td></td>
<td>interface-number</td>
<td>(Optional) Module and port number; see the “Usage Guidelines” section for valid values.</td>
</tr>
<tr>
<td></td>
<td>root</td>
<td>(Optional) Displays the status and configuration of the root bridge.</td>
</tr>
<tr>
<td></td>
<td>summary</td>
<td>(Optional) Displays a summary of port states.</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td>(Optional) Displays the total lines of the spanning-tree state section.</td>
</tr>
<tr>
<td></td>
<td>uplinkfast</td>
<td>(Optional) Displays the status of the spanning-tree UplinkFast.</td>
</tr>
<tr>
<td></td>
<td>vlan vlan-id</td>
<td>(Optional) Specifies the VLAN ID; valid values are from 1 to 4094.</td>
</tr>
<tr>
<td></td>
<td>port-channel number</td>
<td>(Optional) Specifies the channel interface; valid values are a maximum of 64 values ranging from 1 to 282.</td>
</tr>
<tr>
<td></td>
<td>pathcost-method</td>
<td>(Optional) Displays the default path-cost calculation method that is used.</td>
</tr>
</tbody>
</table>

**Command Default**

This command has no default settings.

**Command Modes**

Privileged EXEC (#)

**Command History**

```
Release       Modification
------------   ------------------
12.2(18)ZY     Support for this command was introduced.
```

**Usage Guidelines**

The `pos`, `atm`, and `ge-wan` keywords are supported on Catalyst 6500 series switches that are configured with a Supervisor Engine 2 only.

The `port-channel number` values from 257 to 282 are supported on the CSM and the FWSM only.
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 that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is installed in a 13-slot chassis, valid values for the module number are from 2 to 13 and valid values for the port number are from 1 to 48.

When checking spanning tree-active states and you have a large number of VLANs, you can enter the `show spanning-tree summary total` command. You can display the total number of VLANs 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 2-85 describes the fields that are shown in the example.

<table>
<thead>
<tr>
<th>Field</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port ID Prio.Nbr</td>
<td>Port ID and priority number.</td>
</tr>
<tr>
<td>Cost</td>
<td>Port cost.</td>
</tr>
<tr>
<td>Sts</td>
<td>Status information.</td>
</tr>
</tbody>
</table>

This example shows how to display information about the spanning tree 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
```
show spanning-tree

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
.
.
Router#

This example shows how to display the status of spanning-tree BackboneFast:

Router# show spanning-tree backbonefast
BackboneFast is enabled
BackboneFast statistics
-----------------------
Number of transition via backboneFast (all VLANs) : 0
Number of inferior BPDU s 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 information about the spanning tree 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
.
.
Router#

This example shows how to display detailed information about the interface:

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
Timers: 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
Router#
This example shows how to display information about the spanning tree 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

This example shows how to display information about the spanning tree 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

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Blocking</th>
<th>Listening</th>
<th>Learning</th>
<th>Forwarding</th>
<th>STP Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bridge</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3584 vlans</td>
<td>0 0 7168</td>
<td>10752</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>3584</td>
<td>0 0 7169</td>
<td>10753</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Blocking</th>
<th>Listening</th>
<th>Learning</th>
<th>Forwarding</th>
<th>STP Active</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLAN105</td>
<td>3433</td>
<td>0</td>
<td>0</td>
<td>105</td>
<td>3538</td>
</tr>
</tbody>
</table>

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 information about the spanning tree 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#

*Table 2-86* describes the fields that are shown in the example.

**Table 2-86**  **show spanning-tree vlan Command Output Fields**

<table>
<thead>
<tr>
<th>Field</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role</td>
<td>Current 802.1w role; valid values are Boun (boundary), Desg (designated), Root, Altn (alternate), and Back (backup).</td>
</tr>
<tr>
<td>Sts</td>
<td>Spanning-tree states; valid values are BKN* (broken), BLK (blocking), DWN (down), LTN (listening), LBK (loopback), LRN (learning), and FWD (forwarding).</td>
</tr>
<tr>
<td>Cost</td>
<td>Port cost.</td>
</tr>
</tbody>
</table>
This example shows how to determine if any ports are in the 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
```

### Related Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>spanning-tree backbonefast</td>
<td>Enables BackboneFast on all Ethernet VLANs.</td>
</tr>
<tr>
<td>spanning-tree cost</td>
<td>Sets the path cost of the interface for STP calculations.</td>
</tr>
<tr>
<td>spanning-tree guard</td>
<td>Enables or disables the guard mode.</td>
</tr>
<tr>
<td>spanning-tree pathcost method</td>
<td>Sets the default path-cost calculation method.</td>
</tr>
<tr>
<td>spanning-tree portfast (interface configuration mode)</td>
<td>Enables PortFast mode.</td>
</tr>
<tr>
<td>spanning-tree portfast bpdufilter default</td>
<td>Enables BPDU filtering by default on all PortFast ports.</td>
</tr>
<tr>
<td>spanning-tree portfast bpduguard default</td>
<td>Enables BPDU guard by default on all PortFast ports.</td>
</tr>
<tr>
<td>spanning-tree port-priority</td>
<td>Sets an interface priority when two bridges vie for position as the root bridge.</td>
</tr>
<tr>
<td>spanning-tree uplinkfast</td>
<td>Enables UplinkFast.</td>
</tr>
<tr>
<td>spanning-tree vlan</td>
<td>Configures STP on a per-VLAN basis.</td>
</tr>
</tbody>
</table>
show spanning-tree mst

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

```
show spanning-tree mst [configuration [digest]]
show spanning-tree mst [instance-id] [detail]
show spanning-tree mst [instance-id] interface interface [detail]
```

### Syntax Description

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>configuration</td>
<td>(Optional) Displays information about the region configuration.</td>
</tr>
<tr>
<td>digest</td>
<td>(Optional) Displays information about the MD5 digest included in the current MSTCI.</td>
</tr>
<tr>
<td>instance-id</td>
<td>(Optional) Instance identification number; valid values are from 0 to 4094.</td>
</tr>
<tr>
<td>detail</td>
<td>(Optional) Displays detailed information about the MST protocol.</td>
</tr>
<tr>
<td>interface</td>
<td>(Optional) Displays the 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.</td>
</tr>
</tbody>
</table>

### Command Default

This command has no default settings.

### Command Modes

EXEC (>

### Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

### Usage Guidelines

The valid values for `interface` depend on the specified interface type and the chassis and module that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is 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` are a maximum of 64 values ranging from 1 to 282. The `port-channel number` values from 257 to 282 are supported on the CSM and the FWSM only.

The number of valid values for `vlan` are from 1 to 4094.

Valid values for `instance-id` are from 0 to 4094.
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

In the output display of the `show spanning-tree mst configuration digest` command, if the output applies to both standard and prestandard bridges at the same time on a per-port basis, two different digests are displayed.

If you configure a port to transmit prestandard BPDUs only, the prestandard flag displays in the `show spanning-tree` commands. The variations of the prestandard flag are as follows:

- Pre-STD (or prestandard in long format)—This flag displays if the port is configured to transmit prestandard BPDUs and if a prestandard neighbor bridge has been detected on this interface.
- Pre-STD-Cf (or prestandard (config) in long format)—This flag displays if the port is configured to transmit prestandard BPDUs but a prestandard BPDU has not been received on the port, the autodetection mechanism has failed, or a misconfiguration, if there is no prestandard neighbor, has occurred.
- Pre-STD-Rx (or prestandard (rcvd) in long format)—This flag displays when a prestandard BPDU has been received on the port but it has not been configured to send prestandard BPDUs. The port will send prestandard BPDUs, but we recommend that you change the port configuration so that the interaction with the prestandard neighbor does not rely only on the autodetection mechanism.

If the configuration is not prestandard compliant (for example, a single MST instance has an ID that is greater than or equal to 16), the prestandard digest is not computed and the following output is displayed:

```
Router# show spanning-tree mst configuration digest
Name  [region1]
Revision 2  Instances configured 3
Digest  0x3C60DBF24B03EBF09C5922F456D18A03
Pre-std Digest N/A, configuration not pre-standard compatible
Router#
```

MST BPDUs include an MST configuration identifier (MSTCI) that consists of the region name, region revision, and an MD5 digest of the VLAN-to-instance mapping of the MST configuration.

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
##### MSTO3 vlans mapped: 3,3000-3999
Bridge address 0002.172c.f400 priority 32771 (32768 sysid 3)
Root this switch for MSTO3
```
show spanning-tree mst

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 20000
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 20000
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

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 20000
Designated root address 0050.3e66.d000 priority 8193 cost 2004
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

This example shows how to display the MD5 digest included in the current MSTCI:

Router# show spanning-tree mst configuration digest
Name [mst-config]
Revision 10 Instances configured 25
Digest 0x40D5ECA178C657835C83BBCB16723192
Pre-std Digest 0x27BF112A75B72781ED928D9EC5BB4251
Router#
This example displays the new master role for all MST instances at the boundary of the region on the port that is a CIST root port:

Router# **show spanning-tree mst interface fastethernet4/9**

FastEthernet4/9 of MST00 is root forwarding
Edge port: no (default)            port guard : none (default)
Link type: point-to-point (auto)   bpdu filter: disable (default)
Boundary : boundary (RSTP)        bpdu guard : disable (default)
Bpdus sent 3428, received 6771

<table>
<thead>
<tr>
<th>Instance</th>
<th>Role</th>
<th>Ste Cost</th>
<th>Prio.Nbr</th>
<th>Vlans mapped</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Root</td>
<td>200000</td>
<td>128.201</td>
<td>2-7,10,12-99,101-999,2001-3999,4001-4094</td>
</tr>
<tr>
<td>8</td>
<td>Mstr</td>
<td>200000</td>
<td>128.201</td>
<td>8,4000</td>
</tr>
<tr>
<td>9</td>
<td>Mstr</td>
<td>200000</td>
<td>128.201</td>
<td>1,9,100</td>
</tr>
<tr>
<td>11</td>
<td>Mstr</td>
<td>200000</td>
<td>128.201</td>
<td>11,1000-2000</td>
</tr>
</tbody>
</table>

Router#

### Related Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>spanning-tree mst</td>
<td>Sets the path cost and port-priority parameters for any MST instance.</td>
</tr>
<tr>
<td>spanning-tree mst</td>
<td>Sets the forward-delay timer for all the instances on the Catalyst 6500 series switch.</td>
</tr>
<tr>
<td>forward-time</td>
<td></td>
</tr>
<tr>
<td>spanning-tree mst</td>
<td>Sets the hello-time delay timer for all the instances on the Catalyst 6500 series switch.</td>
</tr>
<tr>
<td>hello-time</td>
<td></td>
</tr>
<tr>
<td>spanning-tree mst</td>
<td>Specifies the number of possible hops in the region before a BPDU is discarded.</td>
</tr>
<tr>
<td>max-hops</td>
<td></td>
</tr>
<tr>
<td>spanning-tree mst root</td>
<td>Designates the primary and secondary root, sets the bridge priority, and sets the timer value for an instance.</td>
</tr>
</tbody>
</table>
show standby delay

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

```
show standby delay [type number]
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>type number</th>
<th>(Optional) Interface type and number for which output is displayed.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Command Default</th>
<th>This command has no default settings.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Command Modes</th>
<th>Privileged EXEC (#)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Command History</th>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Examples</th>
<th>This example shows how to display information about the delay periods:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Router#  show standby delay</td>
</tr>
<tr>
<td></td>
<td>Interface                  Minimum Reload</td>
</tr>
<tr>
<td></td>
<td>Ethernet0/3                1     5</td>
</tr>
<tr>
<td></td>
<td>Router#</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>standby delay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>minimum reload</td>
<td>Configures the delay period before the initialization of HSRP groups.</td>
</tr>
</tbody>
</table>
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.

### Command Default

This command has no default settings.

### Command Modes

Privileged EXEC (#)

### Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

### 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 = 3FF8  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 information about the flash chip:

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 information about the file system:

Router# show sup-bootflash filesys

-------- FILE SYSTEM STATUS --------
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
show sup-bootflash

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 system jumbomtu

To display the global MTU setting, use the show system jumbomtu command.

```
show system jumbomtu
```

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

**Command Default**
This command has no default settings.

**Command Modes**
Privileged EXEC (#)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Examples**
This example shows how to display the global MTU setting:

```
Router# show system jumbomtu
Global Ethernet MTU is 1550 bytes.
Router#
```

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>system jumbomtu</td>
<td>Sets the maximum size of the Layer 2 and Layer 3 packets.</td>
</tr>
</tbody>
</table>
show tcam counts

To display the TCAM statistics, use the `show tcam counts` command.

```
show tcam counts [module number]
```

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>module</code></td>
<td>(Optional) Specifies the module number; see the “Usage Guidelines” section for valid values.</td>
</tr>
<tr>
<td><code>number</code></td>
<td></td>
</tr>
</tbody>
</table>

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

The `module number` keyword and argument designate the module and port number. Valid values for `number` depend on the chassis and module that are used. For example, if you have a 48-port 10/100BASE-T Ethernet module that is 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 the TCAM statistics:

```
Router# show tcam counts

Used        Free        Percent Used       Reserved
----        ----        ------------       --------
Labels:      8         504            1
ACL_TCAM     --------
  Masks:      6        4090            0                     0
  Entries:    37       32731            0                     0
QOS_TCAM     --------
  Masks:      3        4093            0                     0
  Entries:    20       32748            0                     0
  LOU:        0         128            0                     0
  ANDOR:      0          16            0                     0
  ORAND:      0          16            0                     0
  ADJ:        1         2047            0
Router#     
```
Table 2-87 describes the fields that are shown in the example.

**Table 2-87  show tcam counts Command Output Fields**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labels Used</td>
<td>Number of labels that are used (maximum of 512).</td>
</tr>
<tr>
<td>Labels Free</td>
<td>Number of free labels remaining.</td>
</tr>
<tr>
<td>Labels Percent Used</td>
<td>Percentage of labels that are used.</td>
</tr>
<tr>
<td>Masks Used</td>
<td>Number of masks that are used (maximum of 4096).</td>
</tr>
<tr>
<td>Masks Free</td>
<td>Number of free labels remaining.</td>
</tr>
<tr>
<td>Masks Percent Used</td>
<td>Percentage of masks that are used.</td>
</tr>
<tr>
<td>Entries Used</td>
<td>Number of labels that are used (maximum of 32767).</td>
</tr>
<tr>
<td>Entries Free</td>
<td>Number of free labels that are remaining.</td>
</tr>
<tr>
<td>Entries Percent Used</td>
<td>Percentage of entries that are used.</td>
</tr>
</tbody>
</table>
show tcam interface

To display information about the interface-based TCAM, 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 [detail | module number]
```

**Syntax Description**

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

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

Use the `clear mls acl counters` command to clear the TCAM ACL match counters.
This example shows how to display interface-based TCAM information:

Router# `show tcam interface vlan 7 acl in ip`
deny ip any any
permit ip 20.20.0.0 0.0.255.255 22.22.0.0 0.0.255.255
redirect ip 20.21.0.0 0.0.255.255 22.23.0.0 0.0.255.255
permit tcp 24.24.0.0 0.0.255.255 30.30.0.0 0.0.255.255
  Fragments (1 match)
permit tcp 25.25.0.0 0.0.255.255 31.31.0.0 0.0.255.255
  fragments
permit tcp 25.25.0.0 0.0.255.255 range 30000 30020 31.31.0.0
  0.0.255.255 range 10000 10010 (102 matches)
permit tcp 24.24.0.0 0.0.255.255 eq 9000 30.30.0.0 0.0.255.255
eq telnet
deny ip any any
deny ip any any
Router#

This example shows how to display detailed TCAM information:

Router# `show tcam interface fa5/2 acl in ip detail`

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Interface: 1018</td>
<td>label: 1</td>
<td>lookup_type: 0</td>
<td>protocol: IP</td>
<td>packet-type: 0</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>V 18396</td>
<td>0.0.0.0</td>
<td>0.0.0.0</td>
<td>P=0</td>
<td>P=0</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0 ---- 0</td>
<td>0 -- --- 0-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M 18404</td>
<td>0.0.0.0</td>
<td>0.0.0.0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
show tcam interface

```
0 ---- 0 0
R rslt: L3_DENY_RESULT rtr_rslt: L3_DENY_RESULT

V 36828 0.0.0.0 0.0.0.0 P=0 P=0 -----
0 ---- 0 0 -- --- 0-0
M 36836 0.0.0.0 0.0.0.0 0 0
0 ---- 0 0
R rslt: L3_DENY_RESULT (*) rtr_rslt: L3_DENY_RESULT (*)
```

Router#

### Related Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clear mls acl counters</td>
<td>Clears the MLS ACL counters.</td>
</tr>
</tbody>
</table>
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 [vrf instance-number] | isis | password [page] | platform | page | rsvp]
```

### Syntax Description

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cef</td>
<td>(Optional) Displays CEF-related TAC information.</td>
</tr>
<tr>
<td>ipmulticast</td>
<td>(Optional) Displays IP multicast-related TAC information.</td>
</tr>
<tr>
<td>vrf</td>
<td>(Optional) Specifies an VRF instance number.</td>
</tr>
<tr>
<td>instance-number</td>
<td></td>
</tr>
<tr>
<td>isis</td>
<td>(Optional) Displays CLNS- and ISIS-related TAC information.</td>
</tr>
<tr>
<td>password</td>
<td>(Optional) Removes passwords and other security information in the output.</td>
</tr>
<tr>
<td>page</td>
<td>(Optional) Causes the output to display a page of information at a time.</td>
</tr>
<tr>
<td>platform</td>
<td>(Optional) Displays platform-specific TAC information.</td>
</tr>
<tr>
<td>rsvp</td>
<td>(Optional) Displays IP RSVP-related TAC information.</td>
</tr>
</tbody>
</table>

### Command Default

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

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

### Usage Guidelines

To interrupt and terminate the `show tech-support` output, simultaneously press and release the `CTRL`, `ALT`, and 6 keys.

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 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 `ip multicast` keyword, the output displays, but is not limited to, these `show` commands:

- show ip pim interface
- show ip pim interface count
- show ip pim interface df
- show ip pim mdt
- show ip pim mdt bgp
- show ip pim neighbor
- show ip pim rp
- show ip pim rp metric
- show ip igmp groups
- show ip igmp interface
- show mls ip multicast rp-mapping gm-cache
- show ip mroute count
- show ip mroute
- show ip mcache
- show ip dvmrp route
- show mmls msc rpdf-cache
- show mmls gc process
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 that are listed in the “Usage Guidelines” section.
show top counters interface report

To display TopN reports and information, use the `show top counters interface report` command.

```
show top counters interface report [number]
```

**Syntax Description**

`number` (Optional) Number of the report to be displayed; valid values are from 1 to 5.

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

This command is supported on Fast Ethernet, Gigabit Ethernet, and 10-Gigabit Ethernet ports only.

When you enter a TopN request, a round of polling is performed, the counters for all the applicable ports in the Catalyst 6500 series switch are read, and the information is saved. The TopN process then sleeps for the specified interval. After wakeup, another round of polling is performed and the counter information from the ports is read. The difference between the two sets of data is stored. The ports are then sorted, the ports choose from one of the seven types of statistics information, and a TopN report is generated.

The port statistics will not be displayed in the following cases:

- If a port is not present during the first poll.
- If a port is not present during the second poll.
- If a port’s speed or duplex changes during the polling interval.
- If a port’s type changes from Layer 2 to Layer 3 or Layer 3 to Layer 2 during the polling interval.

For the report display format, due to the 80 characters per line limitation, only 10 spaces are reserved for the `Tx/Rx-okts`, `Tx/Rx-bcst`, and `Tx/Rx-mcst` columns. When these columns are larger than 10 digits, the display wraps around to the next line.

**Note**

When you start the TopN processes from a Telnet session and the Telnet session is terminated before the TopN processes are completed, all the background TopN processes continue and generate the TopN reports, but the foreground TopN processes are terminated once the Telnet session is terminated.

When the TopN report is being generated against a large number of ports (for example, 13 slot x 96 ports/slot) in a very short interval (10 seconds), the actual interval time between the first and second polling may be longer than the specified interval time because polling takes time.
Chapter 2  Cisco IOS Commands for the Catalyst 6500 Series Switches with the Supervisor Engine 32 PISA

**Examples**

This example shows how to display TopN reports and information:

```
Router# show top counters interface report
Id | Start Time | Int N | Sort-By | Status | Owner
--- |-----------|------|---------|--------|------
1  | 08:18:25 UTC Tue Nov 23 2004 | 76 | util | done | console
2  | 08:19:54 UTC Tue Nov 23 2004 | 76 | util | done | console
3  | 08:21:34 UTC Tue Nov 23 2004 | 76 | util | done | console
4  | 08:26:50 UTC Tue Nov 23 2004 | 90 | util | done | bambam onvty0 (9.10.69.13)
```

Router#

This example shows how to display TopN reports and information for a specific report:

```
Router# show top counters interface report 1
Started By   : console
Start Time   : 08:18:25 UTC Tue Nov 23 2004
End Time     : 08:19:42 UTC Tue Nov 23 2004
Port Type    : All
Sort By      : util
Interval     : 76 seconds
Port Width   | Util Bandwidth | Util (Tx + Rx) | Packets (Tx + Rx) | Broadcast (Tx + Rx) | Multicast (Tx + Rx) | In-err | Buf-ovflw
-------------|----------------|----------------|-------------------|---------------------|---------------------|-------|----------
Fa2/5        | 100            | 50             | 726047564         | 11344488            | 1                   | 0     | 0
Fa2/48       | 100            | 35             | 508260697         | 7937789             | 0                   | 0     | 0
Fa2/46       | 100            | 25             | 508260697         | 7937789             | 0                   | 0     | 0
Fa2/47       | 100            | 22             | 338528899         | 4762539             | 0                   | 43    | 0
Fa2/6        | 100            | 15             | 217815835         | 3403372             | 0                   | 39    | 21
Fa2/44       | 100            | 10             | 145146009         | 2267900             | 0                   | 43    | 0
G1/15        | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/14        | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/13        | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/12        | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/11        | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/10        | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/9         | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/8         | 1000           | 0              | 776               | 2                   | 0                   | 2     | 0
G1/7         | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/6         | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/5         | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/4         | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
G1/3         | 1000           | 0              | 776               | 2                   | 0                   | 2     | 0
G1/2         | 1000           | 0              | 0                 | 0                   | 0                   | 0     | 0
```

Router#

This example shows the display if you request a TopN report that is still in pending status:

```
Router# show top counters interface report 4
Id   Start time     | Int N | Sort-by | Status | Owner (type/machine/user)
---   ---------------|------|---------|--------|--------------------
4    1/24/2004,11:34:26 | 30   | 20      | In-Errors | pending Console//
```

Router#

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clear top counters</td>
<td>Clears the TopN reports.</td>
</tr>
<tr>
<td>interface report</td>
<td></td>
</tr>
<tr>
<td>collect top counters</td>
<td>Lists the TopN processes and</td>
</tr>
<tr>
<td>interface</td>
<td>specific TopN reports.</td>
</tr>
</tbody>
</table>
show udld

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

```
show udld [interface-id | neighbors]
```

**Syntax Description**
- `interface-id` (Optional) Interface name.
- `neighbors` (Optional) Displays neighbor information only.

**Command Default**
This command has no default settings.

**Command Modes**
EXEC (>)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**
If you do not enter an `interface-id` value, the administrative and operational UDLD status for all interfaces is displayed.

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

```
Router# show udld 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#
```

This example shows how to display neighbor information only:
Router# **show udld neighbors**

<table>
<thead>
<tr>
<th>Port</th>
<th>Device Name</th>
<th>Device ID</th>
<th>Port-ID</th>
<th>OperState</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gi3/1</td>
<td>SAL0734K5R2</td>
<td>1</td>
<td>Gi4/1</td>
<td>Bidirectional</td>
</tr>
<tr>
<td>Gi4/1</td>
<td>SAL0734K5R2</td>
<td>1</td>
<td>Gi3/1</td>
<td>Bidirectional</td>
</tr>
</tbody>
</table>

Related Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>udld</strong></td>
<td>Enables aggressive or normal mode in UDLD and sets the configurable message time.</td>
</tr>
<tr>
<td><strong>udld port</strong></td>
<td>Enables UDLD on the interface or enables UDLD in aggressive mode on the interface.</td>
</tr>
</tbody>
</table>
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.

Command Default

This command has no default settings.

Command Modes

EXEC (>)

Command History

```
Release Modification
12.2(18)ZY Support for this command was introduced.
```

Examples

This example shows how to display the configuration of the system hardware, the software version, the names and sources of configuration files, and the boot images:

```
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 2-88 describes the fields that are shown in the example.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IOS (tm) c6sup2_rp Software (c6sup2_rp-JSV-M), Version 12.1(nightly.E020626) NIGHTLY BUILD</td>
<td>Version number. Always specify the complete version number when reporting a possible software problem. In the example output, the version number is 12.1.</td>
</tr>
<tr>
<td>ROM: System Bootstrap, Version 12.1(11r)E1, RELEASE SOFTWARE (fc1)</td>
<td>Bootstrap version string.</td>
</tr>
<tr>
<td>Router uptime is</td>
<td>Amount of time that the system has been up and running.</td>
</tr>
<tr>
<td>Time since Router switched to active</td>
<td>Amount of time since switchover occurred.</td>
</tr>
<tr>
<td>System restarted by</td>
<td>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 typically the result of an attempt to access a nonexistent address, as follows: System restarted by bus error at PC 0xC4CA, address 0x210C0C0</td>
</tr>
<tr>
<td>System image file is</td>
<td>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.”</td>
</tr>
<tr>
<td>cisco Catalyst 6000 (R7000) processor with 112640K/18432K bytes of memory.</td>
<td>Remaining output in each display that shows the hardware configuration and any nonstandard software options.</td>
</tr>
<tr>
<td>Configuration register is</td>
<td>Configuration register contents that are displayed in hexadecimal notation.</td>
</tr>
</tbody>
</table>

The output of the `show version` EXEC command can 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

- **brief** (Optional) Displays only a single line for each VLAN, naming the VLAN, status, and ports.
- **id vlan-id** (Optional) Displays information about a single VLAN that is identified by a VLAN ID number; valid values are from 1 to 4094.
- **name name** (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.

### Command Default

This command has no default settings.

### Command Modes

**EXEC (>)**

### Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

### Usage Guidelines

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

If you shut down a VLAN using the **state suspend** or the **state active** command, these values appear in the Status field:

- **suspended**—VLAN is suspended.
- **active**—VLAN is active.

If you shut down a VLAN using the **shutdown** command, these values appear in the Status field:

- **act/lshut**—VLAN status is active but shut down locally.
- **sus/lshut**—VLAN status is suspended but shut down locally.

If a VLAN is shut down internally, these values appear in the Status field:

- **act/ishut**—VLAN status is active but shut down internally.
- **sus/ishut**—VLAN status is suspended but shut down internally.

If a VLAN is shut down locally and internally, the value that is displayed in the Status field is act/ishut or sus/ishut. If a VLAN is shut down locally only, the value that is displayed in the Status field is act/lshut or sus/lshut.

Separate VLAN ranges with a hyphen, and separate VLANs with a comma and no spaces in between.

For example, you can enter the following:

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

This example shows the output for a VLAN (VLAN0002) that is active but shut down internally:

```
Router# show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa5/9
2    VLAN0002                         act/ishut Fa5/9
<...Output truncated...>
```

This example shows the output for a VLAN (VLAN0002) that is active but shut down locally:

```
Router# show vlan
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa5/9
2    VLAN0002                         act/lshut Fa5/9
<...Output truncated...>
```

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
10   enet 100001                      active    Fa5/9
10   enet 100002                      active    Fa5/9
10   enet 100003                      active    Fa5/9
10   enet 100004                      active    Fa5/9
10   enet 100005                      active    Fa5/9
10   enet 100006                      active    Fa5/9
10   enet 100010                      active    Fa5/9
<...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                         act/lshut Fa5/9
4    VLAN0004                         act/lshut Fa5/9
```
This example shows how to display the VLAN parameters for multiple VLANs:

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

<table>
<thead>
<tr>
<th>VLAN</th>
<th>Name</th>
<th>Status</th>
<th>Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>default</td>
<td>active</td>
<td>Fa5/7, Fa5/12</td>
</tr>
<tr>
<td>2</td>
<td>VLAN0002</td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>VLAN0003</td>
<td>act/lshut</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>VLAN0004</td>
<td>act/lshut</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>VLAN0005</td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>VLAN0006</td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>VLAN0010</td>
<td>active</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>VLAN0020</td>
<td>active</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VLAN</th>
<th>Type</th>
<th>SAID</th>
<th>MTU</th>
<th>Parent</th>
<th>RingNo</th>
<th>BridgeNo</th>
<th>Stp</th>
<th>BrdgMode</th>
<th>Trans1</th>
<th>Trans2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>enet</td>
<td>100001</td>
<td>1500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>enet</td>
<td>100002</td>
<td>1500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>enet</td>
<td>100003</td>
<td>1500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>303</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>enet</td>
<td>100004</td>
<td>1500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>304</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>enet</td>
<td>100005</td>
<td>1500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>305</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>enet</td>
<td>100006</td>
<td>1500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>enet</td>
<td>100010</td>
<td>1500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>enet</td>
<td>100020</td>
<td>1500</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Remote SPAN VLANs

Primary Secondary Type Ports

```
Router#
```

This example shows how to display the ifIndex number for VLAN 10 only:

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

<table>
<thead>
<tr>
<th>VLAN</th>
<th>Ifindex</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>37</td>
</tr>
</tbody>
</table>

Router#
Table 2-89 describes the fields that are shown in the example.

**Table 2-89**  *show vlan Command Output Fields*

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLAN</td>
<td>VLAN number.</td>
</tr>
<tr>
<td>Name</td>
<td>Name, if configured, of the VLAN.</td>
</tr>
<tr>
<td>Status</td>
<td>Status of the VLAN (active or suspend, act/lshut or sus/lshut, or act/ishut or sus/ishut).</td>
</tr>
<tr>
<td>Ports</td>
<td>Ports that belong to the VLAN.</td>
</tr>
<tr>
<td>Type</td>
<td>Media type of the VLAN.</td>
</tr>
<tr>
<td>SAID</td>
<td>Security association ID value for the VLAN.</td>
</tr>
<tr>
<td>MTU</td>
<td>Maximum transmission unit size for the VLAN.</td>
</tr>
<tr>
<td>Parent</td>
<td>Parent VLAN, if one exists.</td>
</tr>
<tr>
<td>RingNo</td>
<td>Ring number for the VLAN, if applicable.</td>
</tr>
<tr>
<td>BrdgNo</td>
<td>Bridge number for the VLAN, if applicable.</td>
</tr>
<tr>
<td>Stp</td>
<td>Spanning Tree Protocol type that is used on the VLAN.</td>
</tr>
<tr>
<td>BrdgMode</td>
<td>Bridging mode for this VLAN—possible values are SRB and SRT; the default is SRB.</td>
</tr>
<tr>
<td>AREHops</td>
<td>Maximum number of hops for All-Routes Explorer frames—possible values are 1 through 13; the default is 7.</td>
</tr>
<tr>
<td>STEHops</td>
<td>Maximum number of hops for Spanning Tree Explorer frames—possible values are 1 through 13; the default is 7.</td>
</tr>
<tr>
<td>Backup CRF</td>
<td>Status of whether the TrCRF is a backup path for traffic.</td>
</tr>
<tr>
<td>Ifindex</td>
<td>Number of the ifIndex.</td>
</tr>
<tr>
<td>Remote SPAN VLAN</td>
<td>RSPAN status.</td>
</tr>
<tr>
<td>Primary</td>
<td>Number of the primary VLAN.</td>
</tr>
<tr>
<td>Secondary</td>
<td>Number of the secondary VLAN.</td>
</tr>
<tr>
<td>Ports</td>
<td>Indicates the ports within a VLAN.</td>
</tr>
<tr>
<td>Type</td>
<td>Type of VLAN—Possible values are primary, isolated, community, nonoperation, or normal.</td>
</tr>
</tbody>
</table>

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show vlan private-vlan</td>
<td>Displays PVLAN information.</td>
</tr>
<tr>
<td>vlan (config-VLAN submode)</td>
<td>Configures a specific VLAN.</td>
</tr>
<tr>
<td>vtp</td>
<td>Configures the global VTP state.</td>
</tr>
</tbody>
</table>
show vlan access-log

To display information about the VACL logging including the 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**
  - Displays the configured VACL-logging properties.

- **flow**
  - Displays the contents of the VACL-flow table.

- **protocol**
  - Protocol name or number; valid values are `icmp`, `igmp`, `ip`, `tcp`, `udp`, or numbers from 0 to 255 to designate a protocol.

- **src-addr src-mask**
  - Source address and mask.

- **any**
  - Displays information for any host.

- **host hostname**
  - Displays information for a hostname.

- **host host-ip**
  - Displays information for an IP address.

- **dst-addr dst-mask**
  - 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.

### Command Default

This command has no default settings.

### Command Modes

Privileged EXEC (#)

### Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

### 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 example shows how to display the VACL statistics:

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#

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vlan access-log</td>
<td>Configures the VACLlogging properties, including the log-table size, redirect-packet rate, and logging threshold.</td>
</tr>
</tbody>
</table>
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**

- `map-name` (Optional) VLAN access-map name.

**Command Default**

This command has no default settings.

**Command Modes**

Privileged EXEC (#)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>action</code></td>
<td>Sets the packet action clause.</td>
</tr>
<tr>
<td><code>match</code></td>
<td>Specifies the match clause by selecting one or more ACLs for a VLAN access-map sequence.</td>
</tr>
<tr>
<td><code>vlan access-map</code></td>
<td>Creates a VLAN access map or enters VLAN access-map command mode.</td>
</tr>
</tbody>
</table>
show vlan counters

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

```
show vlan [id vlanid] counters
```

**Syntax Description**

- `id vlanid`: (Optional) Displays the software-cached counter values for a specific VLAN; valid values are from 1 to 4094.

**Command Default**

This command has no default settings.

**Command Modes**

- Privileged EXEC (#)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

The `show vlan id counters` command is not supported on SVIs.

For Layer 2 and Layer 3 VLAN interfaces and router ports, per-interface switching statistics and VLAN-counter information to the PISA are exported approximately every 3 minutes.

If you enter the `show vlan counters` command with no arguments, the software-cached counter values for all VLANs are displayed.

**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**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>clear vlan counters</code></td>
<td>Clears the software-cached counter values to zero for a specified VLAN or all existing VLANs.</td>
</tr>
</tbody>
</table>
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.

**Command Default**
This command has no default settings.

**Command Modes**
Privileged EXEC (#)

**Command History**
```
<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>
```

**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**
```
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>vlan dot1q tag native</code></td>
<td>Enables 802.1Q tagging for all VLANs in a trunk.</td>
</tr>
</tbody>
</table>
```
show vlan filter

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

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

**Syntax Description**

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

**Command Default**

This command has no default settings.

**Command Modes**

Privileged EXEC (#)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

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` keyword and arguments are 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 that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is 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 optional keyword and argument, all mappings are displayed. If you enter `access-map map_name`, all the VLANs and interfaces that are 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
**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**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vlan access-map</td>
<td>Creates a VLAN access map or enters VLAN access-map command mode.</td>
</tr>
<tr>
<td>vlan filter</td>
<td>Applies a VLAN access map.</td>
</tr>
</tbody>
</table>
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**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>id vlan-id</td>
<td>(Optional) Displays information about the internal VLAN allocation for the specified VLAN; valid values are from 1 to 4094.</td>
</tr>
</tbody>
</table>

**Command Default**

This command has no default settings.

**Command Default**

Privileged EXEC (#)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

In some cases, the output displays the following:

```
workaround vlan
```

A workaround VLAN is used to enable the PFC-based policing on the PWAN1 main interface. Without the workaround VLAN, the packets hit the PFC policer twice for PWAN1 because the same VLAN is used when packets traverse the local bus before and after PXF processing.

**Usage Guidelines**

Entering the `show vlan internal usage` command displays the Ethernet interfaces.

**Examples**

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

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

VLAN Usage

----------
1030 GigabitEthernet1/2
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.

Command Default
This command has no default settings.

Command Modes
Privileged EXEC (#)

Command History
<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

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

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

Related Commands
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>show interfaces vlan mapping</code></td>
<td>Displays the status of a VLAN mapping on a port.</td>
</tr>
<tr>
<td><code>switchport vlan mapping enable</code></td>
<td>Enables VLAN mapping per switch port.</td>
</tr>
</tbody>
</table>
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).

**Command Default**
- This command has no default settings.

**Command Modes**
- EXEC (`>`)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**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      303       community
100     101       isolated
150     151       non-operational
 202     303       community
 303     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
```
Table 2-90 describes the fields that are shown in the example.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>Number of the primary VLAN.</td>
</tr>
<tr>
<td>Secondary</td>
<td>Number of the secondary VLAN.</td>
</tr>
<tr>
<td>Secondary-Type</td>
<td>Secondary VLAN type—Possible values are isolated or community.</td>
</tr>
<tr>
<td>Ports</td>
<td>Indicates the ports within a VLAN.</td>
</tr>
<tr>
<td>Type</td>
<td>Type of VLAN—Possible values are primary, isolated, community, nonoperation, or normal.</td>
</tr>
</tbody>
</table>

Related Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>private-vlan mapping</code></td>
<td>Creates a mapping between the primary and the secondary VLANs so that both VLANs share the same primary VLAN SVI.</td>
</tr>
<tr>
<td><code>private-vlan</code></td>
<td>Configures PVLANs and the association between a PVLAN and a secondary VLAN.</td>
</tr>
</tbody>
</table>
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.

Command Default
This command has no default settings.

Command Modes
EXEC (>

Command History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>remote-span</td>
<td>Configures a VLAN as an RSPAN VLAN.</td>
</tr>
<tr>
<td>vlan (config-VLAN submode)</td>
<td>Configures a specific VLAN.</td>
</tr>
</tbody>
</table>
show vlans

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

```
show vlans [vlan]
```

**Syntax Description**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>vlan</td>
<td>(Optional) VLAN ID number; valid values are from 1 to 4094.</td>
</tr>
</tbody>
</table>

**Command Default**

This command has no default settings.

**Command Modes**

Privileged EXEC (#)

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Usage Guidelines**

The EXEC `show vlan` command displays information about the Layer 2 VLAN. The privileged EXEC `show vlans` command displays information about the VLAN subinterface in Layer 3.

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

**Examples**

This example shows how to display information about the Cisco IOS VLAN subinterfaces:

```
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 2-91 describes the fields that are shown in the example.

**Table 2-91 show vlans Command Output Fields**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtual LAN ID</td>
<td>Domain number of the VLAN.</td>
</tr>
<tr>
<td>VLAN Trunk Interface</td>
<td>Subinterface carrying the VLAN traffic.</td>
</tr>
<tr>
<td>Protocols Configured</td>
<td>Protocols that are configured on the VLAN.</td>
</tr>
<tr>
<td>Address</td>
<td>Network address.</td>
</tr>
<tr>
<td>Received</td>
<td>Number of packets that are received.</td>
</tr>
<tr>
<td>Transmitted</td>
<td>Number of packets that are transmitted.</td>
</tr>
</tbody>
</table>
show vlan virtual-port

To display the number of logical virtual ports required, use the `show vlan virtual-port` command.

```
show vlan virtual-port [slot num]
```

**Syntax Description**

| slot num | (Optional) Specifies the slot number of which status is to be displayed. |

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>

**Command History**

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2(18)ZY</td>
<td>Support for this command was introduced.</td>
</tr>
</tbody>
</table>

**Examples**

This example shows how to display the number of logical virtual ports that are required for a specific slot:

```
Router# show vlan virtual-port slot 3
Slot 3
Port       Virtual-ports
-------------------------
Fa3/1          1
Fa3/2          1
Fa3/3          1
Fa3/4          1
Fa3/5          1
Fa3/6          1
Fa3/7          1
Fa3/8          1
Fa3/11         1
Fa3/12         1
Fa3/13         1
Fa3/14         1
Fa3/15         1
Fa3/16         1
Fa3/17         1
Fa3/18         1
Fa3/19         1
Fa3/20         1
Fa3/21         1
Fa3/22         1
Fa3/23         1
Fa3/24         1
Fa3/25         1
Fa3/26         1
Fa3/27         1
Fa3/28         1
Fa3/29         1
Fa3/30         1
Fa3/31         1
Fa3/32         1
Fa3/33         4
Fa3/34         4
Fa3/35         4
Fa3/36         4
Fa3/37         4
Fa3/38         4
Fa3/39         4
Fa3/40         4
Total virtual ports: 82
Router#
```
This example shows how to display the number of logical virtual ports that are required for all slots:

```
Router# show vlan virtual-port
Slot 1
------
Total slot virtual ports 1
Slot 3
------
Total slot virtual ports 82
Slot 4
------
Total slot virtual ports 4
Total chassis virtual ports 87
Router#
```
**show vtp**

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

```plaintext
    show vtp {counters | status}
```

**Syntax Description**

- `counters` Displays information about the VTP statistics.
- `status` Displays information about the VTP domain status.

**Command Default**

This command has no default settings.

**Command Modes**

EXEC (>)

**Command History**

- **Release** 12.2(18)ZY Support for this command was introduced.

**Usage Guidelines**

In the output of the `show vtp status` command, the last modified time is of the modifier itself, for example, the time displayed in the line “Configuration last modified by 7.0.22.11 at 5-5-06 05:51:49”, is the time that the modifier (7.0.22.11) last modified the VLAN configuration.

**Examples**

This example shows how to display the VTP statistics:

```plaintext
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
    non-pruning-capable device
    --------------- ---------------- ---------------------------------------------
    Fa5/9               1555             1564             0

Router#
```

This example shows how to display the status of the VTP domain:

```plaintext
Router# show vtp status
VTP Version : 2
Configuration Revision : 250
Maximum VLANs supported locally : 1005
```
show vtp

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 Vl1 (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 2-92 describes the fields that are shown in the example.

Table 2-92   show vtp Command Output Fields

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

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>vtp</code></td>
<td>Configures the global VTP state.</td>
</tr>
</tbody>
</table>

### show vtp Command Output Fields (continued)

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTP Domain Name</td>
<td>Name of the VTP domain.</td>
</tr>
<tr>
<td>VTP Pruning Mode</td>
<td>Status on whether VTP pruning is enabled or disabled.</td>
</tr>
<tr>
<td>VTP V2 Mode</td>
<td>Status of the VTP V2 mode as server, client, or transparent.</td>
</tr>
<tr>
<td>VTP Traps Generation</td>
<td>Status on whether VTP-trap generation mode is enabled or disabled.</td>
</tr>
<tr>
<td>MD5 digest</td>
<td>Checksum values.</td>
</tr>
</tbody>
</table>