Command Descriptions

This chapter is a command-by-command description of the Cisco CLI commands for the Catalyst 2820 series and Catalyst 1900 series switches.
address-violation

Use the `address-violation` global configuration command to specify the action for a port address violation. Use the `no address-violation` command to set the switch to its default value (suspend). An address violation occurs when a secured port receives a source address that has been assigned to another secured port or when a port tries to learn an address that exceeds its address table size limit.

```plaintext
address-violation {suspend | disable | ignore}
no address-violation
```

**Syntax Description**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>suspend</code></td>
<td>Suspend port on address violation. A suspended port is temporarily disabled until a certain number of frames with the proper address is received.</td>
</tr>
<tr>
<td><code>disable</code></td>
<td>Disable port on address violation.</td>
</tr>
<tr>
<td><code>ignore</code></td>
<td>Ignore address violation.</td>
</tr>
</tbody>
</table>

**Default**
The port is suspended on address violation.

**Command Mode**
Global configuration

**Example**
This command causes the switch to disable the port on address violation.

```plaintext
hostname(config)# address-violation disable
```

**Related Commands**
- `port (secure)`
- `show (port system)`
autobaud

Use the **autobaud** line-configuration command to enable remote baud-rate matching. Use the **no autobaud** command to disable remote baud-rate matching.

**autobaud**

**no autobaud**

Syntax Description

This command has no arguments or keywords.

Default

Remote baud-rate matching is enabled.

Command Mode

Line configuration

Example

This example shows how to enable remote baud-rate matching.

```
hostname(config-line)# autobaud
```

Related Commands

databits
line (console)
modem (dialin)
parity
speed
stopbits
terminal
back-pressure

Use the `back-pressure` global configuration command to enable back pressure. Use the `no back-pressure` command to disable back pressure.

```
back-pressure
no back-pressure
```

Syntax Description
This command has no arguments or keywords.

Default
Back pressure is disabled.

Command Mode
Global configuration

Usage Guidelines
When the `back-pressure` command is enabled, the switch forces a collision when there is no buffer to receive frames. This collision causes the transmitter to retransmit dropped frames immediately, increasing performance. The command is valid only for a 10BaseT port operating in half-duplex mode.

Example
This example shows how to enable back pressure.

```
hostname(config)# back-pressure
```

Related Commands
`configure`
`duplex`
`show (interfaces)`
`show (port system)`
**bridge**

Use the `bridge` global configuration command to configure the parameters of a bridge group. Use the `no bridge` command to reset the bridge group parameters to its default values.

```
bridge bridge-group
no bridge bridge-group
```

**Syntax Description**

- `bridge-group` Number from 1 to 4.

**Default**

The default is 15 seconds.

**Command Mode**

Global configuration

**Usage Guidelines**

This command is available only when bridge groups are enabled.

**Example**

The following example shows how to select a bridge group for configuration.

```
hostname(config)# bridge
```

**Related Commands**

- `bridge (hello-time)`
- `bridge (max-age)`
- `bridge (priority)`
- `bridge-group (allow-overlap)`
- `bridge-group (enable)`
- `show (bridge-group)`
- `show (spantree bridge-group)`
- `spantree (bridge-group)`
bridge (forwarding-time)

Use the `bridge forwarding-time` global configuration command to set the Spanning-Tree Protocol (STP) forward-delay time for a particular bridge group. Use the `no bridge forwarding-time` command to reset the forward-delay time to its default value.

```plaintext
bridge bridge-group forwarding-time time
no bridge bridge-group forwarding-time
```

**Syntax Description**

- `bridge-group` Number from 1 to 4.
- `time` Number from 4 to 30 (seconds).

**Default**
The default is 15 seconds.

**Command Mode**
Global configuration

**Usage Guidelines**
This command is available only when bridge groups are enabled.

**Example**
The following example shows how to set the forward-delay time to 10 seconds for bridge-group 1.

```plaintext
hostname(config)# bridge 1 forwarding-time 10
```

**Related Commands**
- `bridge (hello-time)`
- `bridge (max-age)`
- `bridge (priority)`
- `bridge-group (allow-overlap)`
- `bridge-group (enable)`
- `show (bridge-group)`
- `show (spantree bridge-group)`
- `spantree (bridge-group)`
bridge-group

Use the `bridge-group` interface configuration command to modify the assignments of ports to bridge groups. Use the `no bridge-group` command to remove ports from a bridge group.

```
bridge-group bridge-group
no bridge-group bridge-group
```

Syntax Description

`bridge-group` Number from 1 to 4.

Default

All ports are assigned to bridge group 1.

Command Mode

Interface configuration

Usage Guidelines

This command is available only when bridge groups are enabled.

If bridge groups can overlap, the `bridge-group` command adds a port to the bridge group specified by the `bridge-group` argument. If bridge groups cannot overlap, the port is moved from its current bridge group to the specified bridge group.

Example

The following example shows how to assign the port ethernet 0/1 to bridge group 2:

```
hostname(config)# interface eth 0/1
hostname(config-if)# bridge-group 2
```

Related Commands

- `bridge (forwarding-time)`
- `bridge (hello-time)`
- `bridge (max-age)`
- `bridge (priority)`
- `bridge-group (allow-overlap)`
- `bridge-group (enable)`
- `show (bridge-group)`
- `show (spantree bridge-group)`
bridge-group (allow-overlap)

Use the bridge-group allow-overlap global configuration command to allow ports to belong to multiple bridge groups. Use the no bridge-group allow-overlap command to prevent ports from belonging to multiple bridge groups.

bridge-group allow-overlap
no bridge-group allow-overlap

Syntax Description
This command has no additional arguments or keywords.

Default
Ports are prevented from belonging to multiple bridge groups.

Command Mode
Global configuration

Usage Guidelines
This command is available only when bridge groups are enabled.
You cannot disable overlapping bridge groups when ports belong to multiple bridge groups.

Example
The following example shows how to permit ports to become members of multiple bridge groups.

hostname(config)# bridge-group allow-overlap

Related Commands
bridge (forwarding-time)
bridge (hello-time)
bridge (max-age)
bridge (priority)
bridge-group
bridge-group (enable)
show (bridge-group)
show (spantree bridge-group)
spantree (bridge-group)
bridge-group (enable)

Use the bridge-group enable global configuration command to enable port grouping using bridge groups. Use the no bridge-group enable command to use virtual LANs (VLANs) as the port grouping method.

bridge-group enable
no bridge-group enable

Syntax Description
This command has no additional arguments or keywords.

Default
Bridge groups are disabled.

Command Mode
Global configuration

Usage Guidelines
When you use the bridge-group enable command or the no bridge-group enable command, the switch resets.

When bridge groups are disabled, the command bridge-group enable is the only available bridge-group command. Also, the following switch-feature commands are not available when bridge groups are enabled:

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<thead>
<tr>
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<th>show (vlan-membership)</th>
<th>trunk-vlan</th>
</tr>
</thead>
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<td>ip (mgmt-vlan)</td>
<td>show (vlan-membership server)</td>
<td>uplink-fast</td>
</tr>
<tr>
<td>pagg-port-priority</td>
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</tr>
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<td>port-channel (mode)</td>
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<td>port-channel (preserve-order)</td>
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<td>port-channel template-port</td>
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<td>show (spantree-option)</td>
<td>spantree-template (hello-time)</td>
<td>vlan-membership (server)</td>
</tr>
<tr>
<td>show (spantree-template)</td>
<td>spantree-template (max-age)</td>
<td>vlan-membership (server retry)</td>
</tr>
<tr>
<td>show (trunk)</td>
<td>spantree-template (priority)</td>
<td>vtp</td>
</tr>
<tr>
<td>show (uplink-fast)</td>
<td>spantree-template (vlan)</td>
<td>vtp trunk pruning-disable</td>
</tr>
<tr>
<td>show (vlan)</td>
<td>trunk</td>
<td></td>
</tr>
</tbody>
</table>

Example
The following example shows how to enable bridge groups:

hostname(config)# bridge-group enable
bridge-group (enable)

Related Commands
bridge (forwarding-time)
bridge (hello-time)
bridge (max-age)
bridge (priority)
bridge-group
bridge-group (allow-overlap)
show (bridge-group)
show (spantree bridge-group)
spantree (bridge-group)
**bridge (hello-time)**

Use the `bridge hello-time` global configuration command to configure the hello time in Spanning-Tree Protocol (STP) for a bridge group. Use the `no bridge hello-time` command to use the default value.

```
bridge bridge-group hello-time time
no bridge bridge-group hello-time
```

**Syntax Description**

- `bridge-group` Number from 1 to 4.
- `time` Number from 1 to 10 (seconds).

**Default**

The `time` argument default is 2 seconds.

**Command Mode**

Global configuration

**Usage Guidelines**

This command is available only when bridge groups are enabled.

**Example**

The following example shows how to configure the hello time for STP to 3 seconds for bridge group 2.

```
hostname(config)# bridge 2 hello-time 3
```

**Related Commands**

- `bridge (forwarding-time)`
- `bridge (max-age)`
- `bridge (priority)`
- `bridge-group`
- `bridge-group (allow-overlap)`
- `bridge-group (enable)`
- `show (bridge-group)`
- `show (spantree bridge-group)`
- `spantree (bridge-group)`
bridge (max-age)

Use the bridge max-age global configuration command to configure the maximum age time in Spanning-Tree Protocol (STP) for a bridge group. Use the no bridge max-age command to set the argument to its default value.

```
bridge bridge-group max-age time
no bridge bridge-group max-age
```

Syntax Description

- `bridge-group` Number from 1 to 4.
- `time` Number from 6 to 40 (seconds).

Default

The `time` argument default is 20 seconds.

Command Mode

Global configuration

Usage Guidelines

This command is available only when bridge groups are enabled.

Example

The following example shows how to set the max-age time for STP to 22 seconds for bridge group 1.

```
hostname(config)# bridge 1 max-age 22
```

Related Commands

- bridge (forwarding-time)
- bridge (hello-time)
- bridge (priority)
- bridge-group
- bridge-group (allow-overlap)
- bridge-group (enable)
- show (bridge-group)
- show (spantree bridge-group)
- spantree (bridge-group)
bridge (priority)

Use the `bridge priority` global configuration command to configure the Spanning-Tree Protocol (STP) bridge priority for a bridge group. Use the `no bridge priority` command to reset the bridge priority to its default value.

```plaintext
bridge bridge-group priority priority
no bridge bridge-group priority priority
```

Syntax Description

**Tips**
Number from 1 to 4.

**priority**
Number from 1 to 65,535.

Default
The priority default is 32,768.

Command Mode
Global configuration

Usage Guidelines
This command is available only when bridge groups are enabled.

Example
The following example shows how to configure STP bridge priority to 33,000 for bridge group 1.

```plaintext
hostname(config)# bridge 1 priority 33000
```

Related Commands
- `bridge (forwarding-time)`
- `bridge (hello-time)`
- `bridge (max-age)`
- `bridge-group`
- `bridge-group (allow-overlap)`
- `bridge-group (enable)`
- `bridge-group`
- `show (spantree bridge-group)`
- `spantree (bridge-group)`
cdp (enable)

Use the `cdp enable` interface configuration command to enable Cisco Discovery Protocol (CDP) on a switched port interface. Use the `no cdp enable` command to disable CDP on an interface.

```
cdp enable
no cdp enable
```

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

**Default**
CDP is enabled on all interfaces.

**Command Mode**
Interface configuration

**Usage Guidelines**
The `cdp enable` command is not available on repeater ports.

**Example**
The following example shows how to disable CDP on interface fa 0/27.

```
hostname(config)# interface fastethernet 0/27
hostname(config-if)# no cdp enable
```

**Related Commands**
cdp (holdtime)
cdp (timer)
show (cdp interface)
show (cdp neighbors)
cdp (holdtime)

Use the `cdp holdtime` global configuration command to set the Cisco Discovery Protocol (CDP) hold time. Use the `no cdp holdtime` command to use its default value.

```
  cdp holdtime holdtime
no cdp holdtime
```

**Syntax Description**

`holdtime` Number of seconds receiver keeps packet (5 to 255).

**Default**

180 seconds

**Command Mode**

Global configuration

**Example**

This example shows how to set the CDP holdtime to 15 seconds.

```
hostname(config)# cdp holdtime 15
```

**Related Commands**

- `cdp (enable)`
- `cdp (timer)`
- `show (cdp interface)`
- `show (cdp neighbors)`
Use the `cdp timer` global configuration command to specify the rate at which Cisco Discovery Protocol (CDP) packets are sent. Use the `no cdp timer` command to reset the CDP rate to its default value.

```
  cdp timer timer
  no cdp timer
```

**Syntax Description**

- `timer`: Number between 5 and 900 (seconds).

**Default**

60 seconds

**Command Mode**

Global configuration

**Example**

This example shows how to set the CDP packet rate to once in 5 seconds.

```
hostname(config)# cdp timer 5
```

**Related Commands**

- `cdp (enable)`
- `cdp (holdtime)`
- `show (cdp interface)`
- `show (cdp neighbors)`
Use the `cgmp` global configuration command to enable Cisco Group Management Protocol (CGMP) functionality. Use the `no cgmp` command to disable CGMP.

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

### Default
CGMP is disabled.

### Command Mode
Global configuration

### Example
This example shows how to disable CGMP.

```
hostname(config)# no cgmp
```

### Related Commands
- `cgmp (hold-time)`
- `cgmp (remove)`
- `show (cgmp)`
cgmp (hold-time)

Use the `cgmp hold-time` global configuration command to set the Cisco Group Management Protocol (CGMP) hold time. Use the `no cgmp hold-time` command to the default hold time.

```
  cgmp hold-time hold_time
  no cgmp hold-time
```

**Syntax Description**

`hold_time` Number between 5 and 900 (seconds).

**Defaults**

Default hold time is 300 seconds.
CGMP hold time is disabled.

**Command Mode**

Global configuration

**Example**

This example shows how to set the CGMP hold time to 40 seconds.

```
hostname(config)# cgmp hold-time 40
```

This example shows how to disable CGMP hold time.

```
hostname(config)# no cgmp hold-time
```

**Related Commands**

cgmp
cgmp (remove)
show (cgmp)
cgmp (remove)

Use the `cgmp remove` global configuration command to remove an address that has been added to an interface due to Cisco Group Management Protocol (CGMP) activity.

`cgmp remove mac-address`

Syntax Description

`mac-address`  MAC address.

Default

None

Command Mode

Global configuration

Example

This example shows how to remove the address 0100.5e00.0203 from the interface.

```
hostname(config)# cgmp remove 0100.5e00.0203
```

Related Commands

`cgmp`
`cdp (holdtime)`
`show (cgmp)`
clear (counters)

Use the clear counters privileged Exec command to clear interface counters for a switched port interface.

```
clear counters [type module|port]
```

**Syntax Description**

- **type**  
  Interface type: ethernet, fastethernet, fddi, atm, or port-channel.

- **module**  
  Module interface number:
  - 0 for fixed
  - 1 or A for module A
  - 2 or B for module B

- **port**  
  Port interface number ranging from 1 to 28:
  - 1 to 25 Ethernet (fixed)
  - 26, 27 Fast Ethernet (fixed)
  - 28 Port channel

**Command Mode**

Privileged Exec

**Usage Guidelines**

If you don’t specify type module|port, the switch will clear the counters for all interfaces.

**Example**

This example shows how to clear counters for the Ethernet port 1.

```
hostname# clear counters ethernet 0/1
```

**Related Commands**

- interface
- show (interfaces)
clear (mac-address-table)

Use the `clear mac-address-table` privileged Exec command to remove a specified address (or set of addresses) from the MAC address table.

```
clear mac-address-table [dynamic | restricted static | permanent] [address mac-address] [interface type module/port]
```

**Syntax Description**

- **dynamic**
  Clears only dynamic addresses.

- **restricted static**
  Clears only restricted static addresses.

- **permanent**
  Clears only permanent addresses.

- **address**
  Clears only a specified address.

- **mac-address**
  Target MAC address.

- **interface**
  Clears all addresses for an interface.

- **type**
  Interface type: ethernet, fastethernet, fddi, line and atm, or port-channel.

- **module**
  The module interface number.

  - 0 for fixed
  - 1 or A for module A
  - 2 or B for module B

- **port**
  Port interface number ranging from 1 to 28:

  - 1 to 25 Ethernet (fixed)
  - 26, 27 Fast Ethernet (fixed)
  - 28 Port-channel

**Default**

The dynamic addresses are cleared.

**Command Mode**

Privileged Exec

**Usage Guidelines**

If `clear mac-address-table` is invoked with no options, all dynamic addresses are removed. If you specify an address but do not specify an interface, the address is deleted from all interfaces. If you specify an interface but do not specify an address, all addresses on the specified interface are removed.

If a targeted address is not present in the MAC forwarding table, the following error message appears:

```
MAC address not found
```
Example
This example shows how to clear all dynamic addresses in the MAC forwarding table.

    hostname# clear mac-address-table

This command clears the permanent address 0040.C80A.2F07 on the interface eth 0/1.

    hostname# clear mac-address-table permanent address 0040.C80A.2F07 interface ether 0/1

Related Commands
mac-address-table (permanent)
mac-address-table (restricted static)
show (mac-address-table)
show (mac-address-table security)
clear (uplink-fast statistics)

Use the **clear uplink-fast statistics** privileged Exec command to clear all Uplink Fast counter statistics to zero.

**clear uplink-fast statistics**

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

**Command Mode**
Privileged Exec

**Usage Guidelines**
This command is not functional when bridge groups are enabled.

**Example**
This example shows how to clear all Uplink Fast counters to zero:

```
hostname# clear uplink-fast statistics
```

**Related Commands**
uplink-fast
show (uplink-fast)
show (uplink-fast statistics)
**clear (vtp statistics)**

Use the `clear vtp statistics` privileged Exec command to clear all VTP statistics counters.

**clear vtp statistics**

**Syntax Description**

This command has no additional arguments or keywords.

**Command Mode**

Privileged Exec

**Usage Guidelines**

This command is not functional when bridge groups are enabled.

**Example**

This example shows how to clear all counters of VTP statistics.

```
hostname# clear vtp statistics
```

**Related Commands**

- `show (vtp)`
- `show (vtp statistics)`
- `vtp`
- `vtp trunk pruning-disable`
configure

Use the `configure` privileged Exec command to enter the global configuration mode from the default terminal. Use the terminal keyword to specify a specific terminal.

`configure [terminal terminal]`

Syntax Description

`terminal` Name of target terminal.

Command Mode

Privileged Exec

Example

This example shows how to enter global configuration mode from your current terminal.

```
hostname# configure
hostname(config)#
```

This example shows how to enter global configuration mode from terminal t.

```
hostname# configure t
```

Related Commands

`end`
`exit`
copy (nvram tftp)

Use the copy nvram tftp privileged Exec command to upload the running nondefault configuration to a TFTP server host and destination file dst_file.

```
copy nvram tftp://host/dst_file
```

**Syntax Description**

*host/dst_file*  
Target host and destination file where host is an IP address or a hostname.

**Command Mode**

Privileged Exec

**Usage Guidelines**

Error messages appear in the following situations:

- The host is unreachable (using existing time-out implementation).
- The host aborts the TFTP session.
- The host specified cannot be resolved through DNS.

If other download or upload operations (firmware, configuration, web pages) are in progress, the following error message appears:

```
Other downloads or uploads in progress. Please wait until existing download or upload is completed.
```

**Example**

This example shows how to upload the NVRAM configuration to the host *spaniel* with TFTP using destination file *matilda.cfg*.

```
hostname# copy nvram tftp://spaniel/matilda.cfg
```

Configuration upload is successfully completed

If the upload fails, the following message displays:

```
Error: Configuration upload operation failed
```

**Related Commands**

- copy (tftp)
- show (running-config)
- show (version)
**copy (tftp)**

Use the **copy tftp** privileged Exec command to download a configuration or operation code file from the TFTP server.

```
copy tftp://host/src_file {opcode [type module] | nvram}
```

**Syntax Description**

- **//host/src_file**: Host and source file where host is an IP address or hostname. Source filename can be up to 80 characters.
- **opcode**: Download new operation code.
- **type**: Interface type. The valid values are fddi and atm.
- **module**: Interface number: 1 or A for module A, and 2 or B for module B.
- **nvram**: Download a configuration file into NVRAM.

**Command Mode**

Privileged Exec

**Usage Guidelines**

You must specify **type** and **module** if the download is for a module.

Downloaded configuration files are executed immediately. Any error during execution appears on the console screen if the console is connected to the switch. The switch attempts to execute all commands irrespective of failures.

When downloading an operation code file, the entire system (including other CLI sessions) is inactive for about 30 seconds after the file is retrieved.

Error messages appear in the following situations:

- The operation code file is not in the correct format.
- The host is unreachable (using existing time-out implementation).
- The host aborts the TFTP session.
- The host specified cannot be resolved through DNS.
- The module specified does not have firmware or a configuration that can be downloaded.

If other download or upload operations (firmware, configuration, web pages) are in progress, the following message appears:

```
Other downloads or uploads in progress. Please wait until existing download or upload is completed.
```

**Examples**

This example shows how to download new system operational code `op.bin` from host `spaniel`.

```
hostname# copy tftp://spaniel/op.bin opcode
```
This example shows how to download new FDDI operational code `fddi.bin` from host `spaniel` to the FDDI module in slot A.

```
hostname# copy tftp://spaniel/fddi.bin opcode fddi A
TFTP successfully downloaded operational code
```

This example shows how to download a configuration file `matilda.cfg` from host `spaniel`.

```
hostname# copy tftp://spaniel/matilda.cfg nvram
TFTP successfully downloaded configuration file
```

If the download fails, the following message displays:

```
Error: TFTP failed to download the configuration file
```

**Related Commands**

- `copy (nvram tftp)`
- `show (running-config)`
- `show (version)`
**copy (xmodem)**

Use the **copy xmodem** privileged Exec command to download an operation code or firmware file using the XMODEM protocol.

**copy xmodem:** `src_file opcode [type module]`

**Syntax Description**

- `src_file`: Firmware filename.
- `opcode`: Download new operation code.
- `type`: Interface type. Valid values are fddi and atm.
- `module`: Interface number: 1 or A for module 1, 2 or B for module 2.

**Default**

If you specify `type` and `module`, the file copies the code or file to the specified module. When `type` and `module` are not specified, the file copies them to the switch firmware.

**Command Mode**

Privileged Exec

**Usage Guidelines**

You cannot enter any new information or commands until the download is completed. After downloading operation code file, the entire system (including other CLI sessions) is inactive for about 30 seconds.

**Example**

This example shows how to download the operational code file.

```
hostname# copy xmodem:op_code.bin opcode
```

This shows how to download new FDDI operational code `fddi.bin` to module slot A.

```
hostname# copy xmodem:fddi.bin opcode fddi A
```

**Related Commands**

- `copy (tftp)`
- `copy (xmodem)`
- `show (running-config)`
- `show (version)`
Use the **databits** line-configuration command to set the data bits per character for a port. Use the **no databits** command to set the number of data bits to its default value.

**Syntax Description**

- **7 or 8**
  - Number of data bits per character.

**Default**

8 data bits per character.

**Command Mode**

Line configuration

**Example**

This example shows how to set the number of data bits per character to 7.

```
hostname(config-line)# databits 7
```

**Related Commands**

- autobaud
- line (console)
- modem (dialin)
- parity
- show (line)
- speed
- stopbits
- terminal
**delete (nvram)**

Use the `delete nvram` privileged Exec command to reset the system or module configuration to factory defaults.

```
delete nvram [type module]
```

**Syntax Description**

- **type**: Interface type. Valid values are fddi and atm.
- **module**: Module interface number: 1 or A for module A, and 2 or B for module B.

**Default**

The system or module is reset to factory defaults.

**Command Mode**

Privileged Exec

**Usage Guidelines**

**Note** If you reset the switch using the `delete nvram` command, you reset both the system and the module. However, resetting the switch to factory defaults does not reset module arguments stored in the module NVRAM.

**Examples**

This example shows how to reset system configuration to factory defaults.

```
hostname(config)# delete nvram
```

This command resets the switch with factory defaults. All parameters will revert to their default factory settings. All static system and dynamic addresses will be removed.

Reset system with factory defaults, [y]es or [n]o?

Press Y or N to proceed.

This example shows how to reset the ATM module in slot A to factory defaults.

```
hostname(config)# delete nvram atm 1
```

This command resets the module and restores all settings to factory defaults. The module is deinstalled until it successfully completes its self tests.

Reset module with factory defaults, [Y]es or [N]o?

Press Y or N to proceed.
Related Commands

- copy (tftp)
- reload
**delete (vtp)**

Use the `delete vtp` privileged Exec command to set the system VLAN trunk protocol (VTP) configuration back to factory defaults.

```
delete vtp
```

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

**Command Mode**
Privileged Exec

**Usage Guidelines**
Resetting the system VTP configuration also resets the system. This command first prompts the user to confirm:

```
This command resets the switch VTP arguments to factory defaults. All other arguments will be unchanged.
Reset system VTP arguments to factory defaults, [y]es or [n]o?
```

Press Y or N to proceed.

**Example**
This example shows how to reset system VTP configuration to factory defaults.

```
hostname# delete vtp
```

**Related Commands**
clear (vtp statistics)
show (vtp)
show (vtp statistics)
vtp
vtp trunk pruning-disable
description

Use the **description** interface configuration command to describe or name an interface. Use the **no description** command to remove a description from an interface.

```
description name-string
no description
```

**Syntax Description**

*name-string*  A text description between 1 and 80 alphanumeric characters.

**Default**

This command has no default value.

**Command Mode**

Interface configuration

**Usage Guidelines**

To use the **description** command, you must first identify the interface you want while working from global configuration mode. Enter the **interface** command with an interface identifier to enter interface configuration mode, where you can then enter a description.

If you want to enter a description with spaces between characters, you must enclose the string in quotation marks (see “Paul’s machine” example, below)

**Example**

This example shows how to give the name *Hal* to Ethernet port 1.

```
hostname(config)# interface ether 0/1
hostname(config-if)# description Hal
```

This example shows how to give the name *Paul’s machine* to ATM module 1.

```
hostname(config)# interface atm A
hostname(config-if)# description “Paul’s machine”
```

This example shows how to give the description *server1* to port 1 on ATM module 1.

```
hostname(config)# interface atm A
hostname(config-if)# description server1
```

**Related Commands**

- interface
- show (cdp interface)
- show (interfaces)
disable

Use the **disable** privileged Exec command to exit the privileged access level and enter user levels.

**disable**

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

**Command Mode**
Privileged Exec

**Example**
This example shows how to exit the privileged Exec mode and change to user Exec mode.

```
hostname# disable
```

**Related Command**
```
enable
configure
```
Use the `duplex` interface configuration command to enable duplex mode for an interface.

```
duplex { auto | full | full-flow-control | half }
```

**Syntax Description**

- `auto`     Auto-negotiation of duplex mode.
- `full`     Full-duplex mode.
- `full-flow-control`     Force full-duplex mode with flow control.
- `half`     Half-duplex mode.

**Defaults**

For 100-Mbps TX ports: `duplex auto`.
For all other ports that support half- and full-duplex: `duplex half`.

**Command Mode**

Interface configuration

**Usage Guidelines**

Use the `auto` argument only for fixed Fast Ethernet TX ports. In auto-negotiation mode, the switch attempts to negotiate full-duplex connectivity with the connecting device. If negotiation is successful, the port operates in full-duplex mode. If the connecting device is unable to operate in full-duplex, the port operates in half-duplex. This process is repeated whenever there is a change in link status.

**Example**

This example shows how to set the port to full-duplex mode.

```
hostname(config-if)# duplex full
```

**Related Commands**

- `interface`
- `show (interfaces)`
- `back-pressure`
Use the `ecc` global configuration command to allow frames to be discarded early when a port becomes congested, which limits the number of frames queued on a port. Use the `no ecc` command to disable congestion control.

```
ecc {10M | A | B} {adaptive | moderate-aggressive | aggressive}
no ecc {10M | A | B}
```

**Syntax Description**

- **10M**
  Congestion control for 10-Mbps ports.

- **A**
  Congestion control for port A. For single Fast Ethernet fixed and modular ports only.

- **B**
  Congestion control for port B. For single Fast Ethernet fixed and modular ports only.

- **adaptive**
  Adaptive congestion control.

- **moderate-aggressive**
  Moderately aggressive congestion control.

- **aggressive**
  Aggressive congestion control.

**Default**
Enhanced congestion control is disabled.

**Command Mode**
Global configuration

**Examples**
This example shows how to set enhanced congestion control for the 10-Mbps Ethernet ports to `adaptive`.

```
hostname(config)# ecc 10m adaptive
```

This example shows how to set enhanced congestion control for Fast Ethernet port A to `aggressive`.

```
hostname(config)# ecc A aggressive
```

**Related Command**
`show (port system)`
enable

Use the **enable** privileged Exec command to enter privileged Exec mode.

```
enable [access-level]
```

**Syntax Description**

`access-level` Either 1 (user Exec level) or 15 (privileged Exec level).

**Default**

The access-level default for initial login is 1. The default access level after login is 15.

**Command Mode**

Privileged Exec

**Usage Guidelines**

If a password is configured, you are prompted for the password:

```
Password:
```

You are allowed three attempts to provide the correct password. The same prompt is repeated until you enter the correct password or you exceed the maximum number of attempts. If the password fails after the maximum attempts, the following error message appears:

```
Bad password.
```

**Example**

This example shows you how to move from user Exec mode access to the privileged Exec mode access.

```
hostname> enable
hostname#
```

**Related Command**

disable
enable (password)

Use the `enable password` global configuration command to set the password for an access level. Use the `no enable password` command to clear the password.

```
enable password level password
no enable password level level
```

Syntax Description

<table>
<thead>
<tr>
<th><code>level</code></th>
<th>Level for which the password applies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>User Exec privileges.</td>
</tr>
<tr>
<td>15</td>
<td>Privileged Exec privileges.</td>
</tr>
</tbody>
</table>

| `password` | A string of between 4 and 12 alphanumeric characters (not case sensitive). |

Default

No passwords are set. Privilege level defaults to level 15.

Command Mode

Global configuration

Usage Guidelines

Use the level 1 or level 15 password to log into the CLI. The level 15 password can also be used to log into `menu` and `enable` commands.

If you enter a password that is shorter than 4 characters or longer than 8 characters, the following message appears:

```
Password must be between 4 and 8 characters long.
```

Examples

Both of these examples show how to set the privileged Exec password to `willow`.

```
hostname(config)# enable password willow
hostname(config)# enable password level 15 willow
```

This example shows how to set the user Exec password to `minnow`.

```
hostname(config)# enable password level 1 minnow
```
enable (use-tacacs)

Use the `enable use-tacacs` global configuration command to use the Cisco Terminal Access Controller Access Control System (TACACS+) for authentication of enable passwords used to change the user privilege. Use the `no enable use-tacacs` command to turn off authentication for enable passwords.

```
enable use-tacacs
no enable use-tacacs
```

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

**Default**
Disabled.

**Command Mode**
Global configuration

**Usage Guidelines**
If you do not use TACACS+ to authenticate enable passwords, local authentication has control.

**Example**
This example shows how to use TACACS+ for authentication of enable passwords.

```
hostname(config)# enable use-tacacs
```

**Related Commands**
- `login (tacacs)`
- `show (tacacs)`
- `tacacs-server (attempts)`
- `tacacs-server (directed-request)`
- `tacacs-server (host)`
- `tacacs-server (key)`
- `tacacs-server (last-resort)`
- `tacacs-server (timeout)`
end

Use the **end** command from interface-configuration mode (config-if) and line-configuration mode (config-line) to exit the current mode and enter global configuration mode. Use the **end** command from global configuration mode to exit it and enter privileged Exec mode. Use the **end** command from privileged Exec mode to exit the system and terminate the console/telnet session.

**end**

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

**Default**
None

**Command Mode**
All configuration modes.

**Example**
This example shows how to exit the global configuration mode and enter privileged Exec mode.

```
hostname(config)# end
hostname#
```

**Related Commands**
exit
configure
interface
line (console)
exit

Use the exit configuration command to exit the system or current configuration mode.

```
exit
```

Syntax Description
This command has no arguments or keywords.

Command Mode
All configuration modes.

Usage Guidelines
If the current mode is privileged or user Exec, this command exits the system and terminates the console/telnet session. If the current mode is global configuration, this command sets the mode to privileged Exec. If the current mode is other than global configuration, this command sets the mode to global configuration.

Example
This example shows how to exit from global configuration mode and enter privileged Exec mode:

```
hostname(config)# exit
hostname#
```

This example shows how to exit from interface configuration mode and enter global configuration mode:

```
hostname(config-if)# exit
hostname(config)#
```

Related Commands
configure
end
interface
line (console)
fddi (authorization)

Use the **fddi authorization** FDDI interface configuration command to enable authorization checking for the station management (SMT) entity. Use the **no fddi authorization** command to disable authorization checking.

**fddi authorization**

**no fddi authorization**

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

**Default**
FDDI authorization is disabled.

**Command Mode**
FDDI interface configuration

**Usage Guidelines**
When authorization string checking is enabled, the FDDI module uses the current authorization string to verify SMT requests from remote stations. This command is only valid within FDDI module interface-configuration mode.

**Example**
This example shows how to enable authorization string checking.

    hostname(config-if)# fddi authorization

This example shows how to disable authorization string checking.

    hostname(config-if)# no fddi authorization

**Related Commands**
interface
show (interfaces)
Use the `fddi auth-string` interface configuration command to assign a new authorization string value used in the verification of station management (SMT) requests. Use the `no fddi auth-string` command to clear the existing authorization string.

```
fddi auth-string string
no fddi auth-string
```

**Syntax Description**

`string` A string of 4 to 80 alphanumeric characters entered in multiples of 4 characters.

**Default**

No FDDI authorization string is set.

**Command Mode**

Interface configuration

**Usage Guidelines**

This command is only valid within FDDI module interface-configuration mode.

**Note** You must enter an authorization string with a number of characters (including punctuation and numbers) that is divisible by 4.

**Example**

This example shows how to assign the authorization string value `check_it` (8 characters).

```
hostname(config-if)# fddi auth-string check_it
```

**Related Commands**

- `interface`
- `show (interfaces)`
fddi (notify-timer)

Use the fddi notify-timer interface configuration command to assign a new timer value for the Neighbor Notification Protocol. Use the no fddi notify-timer command to set the timer value to module defaults.

**fddi notify-timer seconds**

**no fddi notify-timer**

Syntax Description

*seconds*  
A number between 2 and 30 seconds.

Default

30 seconds.

Command Mode

Interface configuration.

Usage Guidelines

This command is only valid within FDDI module interface-configuration mode.

Example

This example shows how to set the notify timer to 15 seconds.

```
hostname(config-if)# fddi notify-timer 15
```

Related Commands

*interface*

*show (interfaces)*
Use the `fddi novell-snap-translation` interface configuration command to define how to translate Novell Subnetwork Access Protocol (SNAP) FDDI frames from FDDI ring to Ethernet. Use the `no fddi novell-snap-translation` command to set the translate value to module defaults.

`fddi novell-snap-translation { automatic | ethernet-8023 | ethernet-snap | ethernet-II | drop }`

`no fddi novell-snap-translation`

**Syntax Description**

- `automatic`  

- `drop`  
  Translate frames using Drop protocol.

- `ethernet-8023`  
  Translate frames using Ethernet 802.3 protocol.

- `ethernet-II`  
  Translate frames using Ethernet II protocol.

- `ethernet-snap`  
  Translate frames using Ethernet SNAP.

**Default**

Automatic packet recognition is enabled.

**Command Mode**

Interface configuration

**Usage Guidelines**

This command is only valid within FDDI module interface-configuration mode.

**Example**

This example shows how to enable automatic packet recognition and translation for IPX networks of FDDI modules.

```
hostname(config-if)# fddi novell-snap-translation automatic
```

**Related Commands**

- `interface`
- `show (interfaces)`
- `fddi (unmatched-snap-translation)`
**fddi (unmatched-snap-translation)**

Use the `fddi unmatched-snap-translation` interface configuration command to select which FDDI-to-Ethernet translation protocol to use for packets whose destinations cannot be determined from the Novell Subnetwork Access Protocol (SNAP) translation table.

```
fddi unmatched-snap-translation { all | ethernet-8023 | ethernet-snap | ethernet-II | drop }
no fddi unmatched-snap-translation
```

**Syntax Description**

- **all**: Ethernet 802.3, Ethernet SNAP, and Ethernet II are all used.
- **drop**: Translate frames using Drop protocol.
- **ethernet-8023**: Translate frames using Ethernet 802.3 protocol.
- **ethernet-II**: Translate frames using Ethernet SNAP.
- **ethernet-snap**: Translate frames using Ethernet II protocol.

**Default**

All translation protocols are enabled.

**Command Mode**

Interface configuration

**Usage Guidelines**

This command is valid only when you select `automatic` as the SNAP translation format and you enter the command within FDDI module interface-configuration mode.

**Example**

This example shows how to select FDDI-to-Ethernet 802.3 translation for FDDI packets with unmatched destination addresses.

```
hostname(config-if)# fddi unmatched-snap-translation ether802.3
```

**Related Commands**

- `interface`
- `show (interfaces)`
- `fddi (novell-snap-translation)`
hostname

Use the `hostname` global configuration command to set the system name. Use the `no hostname` command to clear the name.

`hostname name`
`no hostname`

Syntax Description

`name` System name between 1 and 255 alphanumeric characters.

Default

There is no default for this command.

Command Mode

Global configuration

Example

This example shows how to set the system name to the string Zorro.

```
2820(config)# hostname Zorro
Zorro(config)#
```

Related Command

`show (snmp hostname)`
interface

Use the `interface` global configuration command to choose an interface type and to enter interface configuration mode.

`interface type module/port`

**Syntax Description**

- **type**: Interface type: ethernet, fastethernet, fddi, atm, and port-channel.
- **module**: Module interface number:
  - 0 for fixed
  - 1 or A for module A
  - 2 or B for module B
- **port**: Port interface number ranging from 1 to 27:
  - 1 to 25 Ethernet (fixed)
  - 26, 27 Fast Ethernet (fixed)
  - 1 to 4 Fast Ethernet (4-port Fast Ethernet repeater module)
  - 1 to 8 Fast Ethernet (8-port Fast Ethernet repeater module)

**Default**

No default interface.

**Command Mode**

Global configuration

**Example**

This example shows how to enable configuration on Ethernet port 1.

```bash
hostname(config)# interface ethernet 0/1
```

This example shows how to enable configuration on ATM module 1.

```bash
hostname(config)# interface atm 1
```

**Related Commands**

- `end`
- `exit`
- `show (interfaces)`
ip (address)

Use the `ip address` global configuration command to configure the IP address and subnet mask. Use the `no ip address` command to set the IP address and subnet mask to default values.

```
ip address ipaddress mask
no ip address
```

**Syntax Description**

- `ipaddress`  
  IP address.
- `mask`  
  Subnet mask.

**Default**

IP address and subnet mask both have the value 0.0.0.0.

**Command Mode**

Global configuration

**Example**

This example shows how to set the device IP address to 172.20.128.126 and the subnet mask to 255.255.255.0 on the specified interface.

```
hostname(config)# ip address 172.20.128.126 255.255.255.0
```

**Related Commands**

- `ip (default-gateway)`
- `ip (domain-name)`
- `ip (http port)`
- `ip (http server)`
- `ip (mgmt-vlan)`
- `ip (name-server)`
- `show (ip)`
ip (default-gateway)

Use the ip default-gateway global configuration command to configure the default gateway. Use the no ip default-gateway command to delete a configured default gateway and set the gateway address to the default value.

**ip default-gateway ip-address**
**no ip default-gateway**

**Syntax Description**

*ip-address*  
Gateway IP address.

**Default**

Gateway address has the value 0.0.0.0.

**Command Mode**

Global configuration

**Example**

This example shows how to set the default gateway address to 172.20.128.126.

```
hostname(config)# ip default-gateway 172.20.128.126
```

**Related Commands**

*ip (address)*
*ip (domain-name)*
*ip (http port)*
*ip (http server)*
*ip (mgmt-vlan)*
*ip (name-server)*
*show (ip)*
ip (domain-name)

Use the `ip domain-name` global configuration command to configure a domain name. Use the `no ip domain-name` command to clear any configured domain name.

```plaintext
ip domain-name domain-name
no ip domain-name
```

**Syntax Description**

domain-name  A string between 1 and 63 characters that specifies the domain name.

**Default**

No domain name is configured.

**Command Mode**

Global configuration

**Example**

This example shows how to configure the domain name of the switch to `your_company.com`.

```plaintext
hostname(config)# ip domain-name your_company.com
```

**Related Commands**

- `ip (address)`
- `ip (default-gateway)`
- `ip (http port)`
- `ip (http server)`
- `ip (mgmt-vlan)`
- `ip (name-server)`
- `show (ip)`
Use the `ip http port` global configuration command to select a Transmission Control Protocol (TCP) port on which the Hypertext Transfer Protocol (HTTP) server accepts connections. Use the `no ip http port` command to select the default TCP port.

**ip http port**

**no ip http port**

**Syntax Description**

`port-number` TCP port number between 0 and 65535.

**Default**

TCP port 80.

**Command Mode**

Global configuration

**Example**

This example shows how to set the server to listen on TCP port 8080 for HTTP connections. With this (nondefault) setting, you must instruct your browser to connect to port 8080 rather than 80.

```
hostname(config)# ip http port 8080
```

**Related Commands**

- `ip (address)`
- `ip (default-gateway)`
- `ip (domain-name)`
- `ip (http server)`
- `ip (mgmt-vlan)`
- `ip (name-server)`
- `show (ip)`
ip (http server)

Use the `ip http server` global configuration command to enable Hypertext Transfer Protocol (HTTP) server functions. Use the `no ip http server` command to disable HTTP server functions.

```
ip http server
no ip http server
```

Syntax Description
This command has no additional arguments or keywords.

Default
HTTP server functions are enabled.

Command Mode
Global configuration

Example
This example shows how to disable HTTP server functions.
```
hostname(config)# no ip http server
```

Related Command
ip (address)
ip (default-gateway)
ip (http port)
ip (http port)
ip (mgmt-vlan)
ip (name-server)
show (ip)
ip (mgmt-vlan)

Use the `ip mgmt-vlan` global configuration command to configure a particular VLAN to be the management VLAN (the VLAN from which IP packets are accepted and processed). Use the `no ip mgmt-vlan` command to set the default value as the management VLAN.

```
ip mgmt-vlan vlan-number
no ip mgmt-vlan
```

**Syntax Description**

`vlan-number` VLAN number between 1 and 1005.

**Default**

VLAN 1 is the management VLAN.

**Command Mode**

Global configuration

**Usage Guidelines**

This command is only available when VLANs are enabled. IP traffic is received and processed only from the management VLAN.

**Example**

This example shows how to set VLAN 2 to be the management VLAN.

```
hostname(config)# ip mgmt-vlan 2
```

**Related Commands**

- `ip (address)`
- `ip (default-gateway)`
- `ip (domain-name)`
- `ip (http port)`
- `ip (http server)`
- `ip (name-server)`
- `show (ip)`
ip (name-server)

Use the `ip name-server` global configuration command to configure a name server. Use the `no ip name-server` command to clear any configured name server.

```
ip name-server name-server
no ip name-server name-server
```

Syntax Description

`name-server` VLAN number between 1 and 1005.

Default

No name server address is configured.

Command Mode

Global configuration

Usage Guidelines

A maximum of two name servers can be configured. If both name servers are configured, one of them must be cleared using the `no` form of the command before it is replaced with another name server. If two name servers are already configured and the user tries to configure a third, an error message appears.

Example

This example shows how to configure 172.20.128.126 to be the name server of the switch.

```
hostname(config)# ip name-server 172.20.128.126
```

Related Commands

`ip (address)`
`ip (default-gateway)`
`ip (domain-name)`
`ip (http port)`
`ip (http server)`
`ip (mgmt-vlan)`
`show (ip)`
**line (console)**

Use the **line console** global configuration command to change to line-configuration mode.

**line console**

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

**Command Mode**
Global configuration

**Example**
This example shows how to change the command mode from global configuration to line configuration.

```
hostname(config)# line console
hostname(config-line)#
```

**Related Commands**
- **end**
- **exit**
**login (tacacs)**

Use the `login tacacs` global configuration command to enable the Cisco Terminal Access Controller Access Control System (TACACS+) for authenticating user logins. If login TACACS+ is enabled, the switch uses TACACS+ to authenticate all user logins through a console, Telnet, or Web interface. Use the `no login tacacs` command to disable TACACS+ authentication.

```
login tacacs
no login tacacs
```

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

**Default**
Disabled

**Command Mode**
Global configuration

**Example**
This command shows how to enable TACACS+ for login authentication.

```
hostname(config)# login tacacs
```

**Related Commands**
- `enable (use-tacacs)`
- `show (tacacs)`
- `tacacs-server (attempts)`
- `tacacs-server (directed-request)`
- `tacacs-server (host)`
- `tacacs-server (key)`
- `tacacs-server (last-resort)`
- `tacacs-server (timeout)`
mac-address-table (permanent)

Use the **mac-address-table permanent** global configuration command to associate a permanent unicast or multicast MAC address with a particular switched port interface (specified by *type* and *module/port*). Use the **no mac-address-table permanent** command to delete a permanent MAC address.

**mac-address-table permanent** mac-address type module/port

**no mac-address-table permanent** mac-address type module/port

**Syntax Description**

- **mac-address**  MAC unicast address.
- **type**  Interface type: ethernet, fastethernet, fddi, line and atm, or port-channel.
- **module**  Module interface number:
  - 0 for fixed
  - 1 or A for module A
  - 2 or B for module B
- **port**  Port interface number ranging from 1 to 28:
  - 1 to 25 Ethernet (fixed)
  - 26, 27 Fast Ethernet (fixed)
  - 28 Port-channel

**Default**

No permanent addresses are assigned.

**Command Mode**

Global configuration

**Usage Guidelines**

Use the arguments *module/port* for switched ports and modules only. When deleting an address using the **no mac-address-table permanent** command, specify the interface on which the address resides.

If you delete an address that is not present in the address table, the following error message appears:

```
% Error: MAC address not found
```

**Example**

This example shows how to specify that packets with the multicast destination address 0140.C80A.2F07 should be forwarded on the interface fastethernet 0/27.

```
hostname(config)# mac-address-table permanent 0140.C80A.2F07 fastethernet 0/27
```
mac-address-table (permanent)

Related Commands

- clear (mac-address-table)
- mac-address-table (restricted static)
- show (mac-address-table)
mac-address-table (restricted static)

Use the `mac-address-table restricted static` global configuration command to associate a restricted static address with a particular switched port interface (specified as `type module/port`). Use the `no mac-address-table restricted static` command to delete a restricted static address.

**Syntax Description**

- **mac-address**: MAC address.
- **type**: Interface type: ethernet, fastethernet, fddi, line and atm, and port-channel.
- **module**: Module interface number:
  - 0 for fixed
  - 1 or A for module 1
  - 2 or B for module 2
- **port**: Port interface number ranging from 1 to 28:
  - 1 to 25 Ethernet (fixed)
  - 26, 27 Fast Ethernet (fixed)
  - 28 Port-channel
- **src-if-list**: List of acceptable interfaces separated by spaces.

**Default**
No addresses are assigned.

**Command Mode**
Global configuration

**Usage Guidelines**
Use the arguments `module/port` for switched ports and modules only. Traffic to a restricted static address is only accepted from the interfaces specified in `src-if-list`.

**Example**
This example shows how a packet with MAC address of 0040.C80A.2F07 comes in on either interface ethernet 0/1 or ethernet 0/2 and is forwarded to the interface fastethernet 0/27.

```
hostname(config)# mac-address-table restricted static 0040.C80A.2F07 fastethernet 0/27
ethernet 0/1 ethernet 0/2
```

**Related Commands**
- clear (mac-address-table)
- mac-address-table (permanent)
- show (mac-address-table)
Use the menu privileged Exec command to access the main menu console.

Syntax Description
This command has no arguments or keywords.

Command Mode
Privileged Exec

Example
This example shows how to display the main menu console.

```
2820# menu

Catalyst 2820 - Main Menu
[C] Console Settings
[S] System
[N] Network Management
[P] Port Configuration
[A] Port Addressing
[D] Port Statistics Detail
[M] Monitoring
[V] Virtual LAN
[R] Multicast Registration
[F] Firmware
[I] RS-232 Interface
[U] Usage Summaries
[H] Help
[K] Command Line

[X] Exit Management Console

Enter Selection:
```

Related Commands
None
modem (dialin)

Use the `modem dialin` line configuration command to enable auto-answer dial-in on a port. Use the `no modem dialin` command to disable dial-in.

```
modem dialin
no modem dialin
```

Syntax Description
This command has no additional arguments or keywords.

Default
No modem dial-in is enabled.

Command Mode
Line configuration

Example
This example shows how to enable auto-answer dial-in.

```
hostname(config-line)# modem dialin
```

Related Commands
- autobaud
- databits
- line (console)
- modem (init-string)
- parity
- stopbits
- terminal
modem (init-string)

Use the `modem init-string` line-configuration command to enable initialization string dial-in on a port. Use the `no modem init-string` command to disable initialization string dial-in.

```plaintext
modem init-string
no modem init-string
```

Syntax Description
This command has no additional arguments or keywords.

Default
No initialization string is enabled.

Command Mode
Line configuration

Example
This example shows how to disable initialization string dial-in.

```plaintext
hostname(config-line)# no modem init-string
```

Related Commands
- autobaud
- databits
- line (console)
- modem (dialin)
- parity
- stopbits
- terminal
monitor-port

Use the monitor-port global configuration command to enable port monitoring. Use the no monitor-port command to disable monitoring.

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

**Default**
No ports are monitored.

**Command Mode**
Global configuration

**Usage Guidelines**
Before you enable port monitoring, ensure that your capture list has one or more ports listed and a monitor port assigned. To add ports to the capture list, use the monitor-port monitored command. To assign a monitor port, use the monitor-port port command.

**Example**
This example shows how to enable port monitoring.

    hostname(config)# monitor-port

**Related Commands**
monitor-port (port)
show (port monitor)
**monitor-port (monitored)**

Use the `monitor-port monitored` global configuration command to add ports to the monitoring capture list. Use the `no monitor-port monitored` command to delete ports from the list.

```
monitor-port monitored module/port
no monitor-port monitored [module/port]
```

**Syntax Description**

- **module**
  - Interface number from 0 to 2.
- **port**
  - Port interface number ranging from 1 to 27:
    - 1 to 25 Ethernet (fixed)
    - 26, 27 Fast Ethernet (fixed)

**Default**

No ports are monitored.

**Command Mode**

Global configuration

**Usage Guidelines**

Use the arguments `module/port` for switched ports and modules only. If you do not specify the list of ports to add or delete in the `no` command form, all ports are deleted. If the `module/port` argument is not specified, the command applies to all ports.

**Example**

This example shows how to add port 26 to the capture list.

```
hostname(config)# monitor-port monitored 0/26
```

This example shows how to delete port 2 from the capture list.

```
hostname(config)# no monitor-port monitored 0/2
```

This example shows how to delete all ports from the capture list.

```
hostname(config)# no monitor-port monitored
```

**Related Commands**

- `monitor-port`
- `monitor-port (port)`
**monitor-port (port)**

Use the `monitor-port port` global configuration command to specify the port to which monitored frames are sent. Use the `no monitor-port port` command to clear the monitor port and disable monitoring.

```
monitor-port port module/port
no monitor-port port
```

**Syntax Description**

- `module` Interface number between 0 and 2.
- `port` Port interface number ranging from 1 to 27:
  1 to 25 Ethernet (fixed)
  26, 27 Fast Ethernet (fixed)

**Default**
No ports are monitored.

**Command Mode**
Global configuration

**Usage Guidelines**
Use the arguments `module/port` for switched ports and modules only. One or more ports must be listed in the port capture list for frame monitoring to occur.

**Example**
This example shows how to set port 0/1 to receive monitored frames.

```
hostname(config)# monitor-port port 0/1
```

**Related Commands**
- `monitor-port`
- `monitor-port (monitored)`
multicast-store-and-forward

Use the `multicast-store-and-forward` global configuration command to set multicast traffic forwarding to store-and-forward mode. Use the `no multicast-store-and-forward` command to set multicast traffic forwarding to the method specified by the `switching-mode` command.

**Syntax Description**

This command has no arguments or keywords.

**Default**

Multicast forwarding is disabled.

**Command Mode**

Global configuration

**Example**

This example shows how to set the multicast traffic forwarding to store-and-forward.

```
hostname(config)# multicast-store-and-forward
```

This example shows how to set the multicast traffic forwarding to the method specified by the `switching-mode` command.

```
hostname(config)# no multicast-store-and-forward
```

**Related Command**

`switching-mode`
network-port

Use the **network-port** global configuration command to set a network port. Use the **no network-port** command to clear a network port.

**network-port module/port**

**no network-port**

**Syntax Description**

- **module** Module number from 0 to 2.
- **port** Port number from 1 to 27.

**Default**

A network port does not exist.

**Command Mode**

Global configuration

**Usage Guidelines**

Use the arguments **module/port** for switched ports and modules only. When you configure a port as a network port, the following restrictions apply:

- It does not learn addresses.
- It is the only destination for unknown address packets.

**Example**

The following example shows how to set port 0/2 as a network port.

```
hostname(config)# network-port 0/2
```

**Related Command**

- **show (port system)**
pagp-port-priority

Use the `pagp-port-priority` interface configuration command to specify the Port Aggregation Protocol (PAgP) hot-standby priority for a single Fast Ethernet port.

```
pagp-port-priority priority
```

**Syntax Description**

`priority` Number from 0 to 255.

**Default**

The default priority is 128.

**Command Mode**

Interface configuration

**Usage Guidelines**

This command has the following restrictions:

- It is valid only at the physical port interface level and applicable only to a single-switched, Fast Ethernet port.
- It is not functional when bridge groups are enabled.

**Example**

The following example shows how to set the PAgP priority for Fast Ethernet port A to 100:

```
hostname(config)# interface fastethernet 0/26
hostname(config-if)# pagp-port-priority 100
```

**Related Commands**

- `port-channel (mode)`
- `show (interfaces)`
- `port-channel (preserve-order)`
- `port-channel template-port`
**parity**

Use the **parity** line-configuration command to set the parity of the port. Use the **no parity** command to disable parity for the port.

```
parity {none | odd | even | mark | space}
no parity
```

**Syntax Description**

- **none**  
  No parity.
- **odd**  
  Odd parity.
- **even**  
  Even parity.
- **mark**  
  Mark parity.
- **space**  
  Space parity.

**Default**

The default is no parity.

**Command Mode**

Line configuration

**Example**

The following example shows how to set the parity of an Ethernet port to odd:

```
hostname(config-line)# parity odd
```

**Related Commands**

- autobaud
- databits
- line (console)
- modem (dialin)
- show (line)
- stopbits
- terminal
Use the **ping** user Exec command to send an ICMP echo message (ping) to the specified IP address or host name.

```plaintext
ping {ip-address | hostname}
```

### Syntax Description

- **ip-address**
  - Host IP address.
- **hostname**
  - Host name.

### Default

This command has no default value.

### Command Mode

User Exec

### Usage Guidelines

If you specify a host name rather than an IP address, the configured name server (which is configured using the **ip name server** command) resolves the host name to the IP address.

### Example

The following example shows how to ping the host named *penguins*:

```plaintext
> ping penguins
```

```
Translating "penguins"...domain server (171.68.10.70) [OK]
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 171.69.71.25, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/6 ms
```

### Related Commands

- **ip** *(address)*
- **ip** *(default-gateway)*
- **ip** *(domain-name)*
- **ip** *(mgmt-vlan)*
- **ip** *(name-server)*
- **port-channel** *(mode)*
- **port-channel** *(preserve-order)*
- **port-channel template-port**
- **show** *(interfaces)*
- **show** *(ip)*
**port (block)**

Use the `port block` interface configuration command to block the flooding of unknown multicast or unicast packets. Use the `no port block` command to enable the flooding of unknown multicast or unicast packets.

```plaintext
port block {multicast | unicast}
no port block {multicast | unicast}
```

**Syntax Description**

- **multicast**: Unknown multicast addresses.
- **unicast**: Unknown unicast addresses.

**Default**

Flooding is enabled.

**Command Mode**

Interface configuration

**Examples**

The following example shows how to block the flooding of unknown multicast addresses:

```plaintext
hostname(config-if)# port block multicast
```

The following example shows how to allow the flooding of unknown unicast addresses:

```plaintext
hostname(config-if)# no port block unicast
```

**Related Commands**

- `interface`
- `show (interfaces)`
- `show (port block)`
**port-channel (mode)**

Use the **port-channel mode** global configuration command to select the way in which two Fast Ethernet ports aggregate using Port Aggregation Protocol (PAgP) to form a Fast EtherChannel link. Use the **no port-channel mode** command to disable Fast EtherChannel links.

```plaintext
port-channel mode [on | auto | desirable | off]
no port-channel mode
```

**Syntax Description**

- **on**: Forces the port to aggregate without negotiation.
- **auto**: Port responds to PAgP packets it receives but does not initiate PAgP packet negotiation.
- **desirable**: Port initiates negotiations with other ports by sending PAgP packets.
- **off**: Prevents the port from aggregating without negotiation.

**Default**
The port is prevented from aggregating without negotiation (**off**).

**Command Mode**
Global configuration

**Usage Guidelines**
When a Fast EtherChannel link is formed, the **port-channel** interface is enabled. The port channel remains enabled until both ports lose the link. In the case of port-channel **auto** or **desirable** mode, when a port-channel member port detects a partner port that is misconfigured, disabled, or is not bidirectional, the port-channel member port goes down.

Both the auto and desirable modes allow ports to negotiate with connected ports to determine if they can form a channel based on criteria such as trunking state, VLAN numbers, and so on.

This command is not functional when bridge groups are enabled.

**Example**
The following example shows how to create a Fast EtherChannel when the PAgP status of connecting devices is uncertain:

```plaintext
hostname(config)# port-channel mode desirable
```

The following example shows how to create a channel interface and enable a Fast EtherChannel with PAgP disabled.

```plaintext
hostname(config)# port-channel mode on
```
Related Commands

- pagp-port-priority
- port-channel (preserve-order)
- port-channel template-port
- show (interfaces)
port-channel (preserve-order)

Use the **port-channel preserve-order** global configuration command to preserve the frame transmission order on the channel interface. Use the **no port-channel preserve-order** command to allow frame transmission misordering on the channel interface.

**port-channel preserve-order**
**no port-channel preserve-order**

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

**Default**
The default is no frame ordering.

**Command Mode**
Global configuration

**Usage Guidelines**
The **no port-channel preserve-order** command allows frame transmission misordering for maximum load balancing.

This command is not functional when bridge groups are enabled.

**Example**
The following example shows how to preserve frame transmission order on the channel interface:

```
hostname(config)# port-channel preserve-order
```

**Related Commands**
port-channel (mode)
show (interfaces)
port-channel template-port

Use the **port-channel template-port** global configuration command to specify a Fast Ethernet port after which other grouped member ports are modeled.

```
port-channel template-port template-port
```

**Syntax Description**

`template-port`  
For Catalyst 2820 switches, fast ethernet 1 or fast ethernet 2;  
For Catalyst 1900 switches, fast ethernet 0/26 or fast ethernet 0/27.

**Defaults**

Fast Ethernet port 1 for the Catalyst 2820 series switches.  
Fast Ethernet port 0/26 for the Catalyst 1900 series switches.

**Command Mode**

Global configuration

**Usage Guidelines**

The configuration parameters for which the specified Fast Ethernet port serves as a model or template are as follows:

- DISL trunk state.
- For a nontrunk port: VLAN number, spanning-tree path cost, and spanning-tree port priority.
- For a trunk port: VLAN allow list and VTP pruning-eligible list, spanning-tree two-option path costs and their assignments of VLANs, and spanning-tree two-option port priorities and their assignments of VLANs.

The configuration parameters remain the same for all member ports after aggregation. After the group is created, any change to the parameters of any member port or port channel applies to all other ports in the group.

This command is available only when bridge groups are enabled.

**Example**

The following example shows how to specify Fast Ethernet port 27 as the template port for member ports configuration:

```
hostname(config)# port-channel template-port fastethernet 0/27
```

**Related Commands**

- `port-channel (mode)`
- `show (interfaces)`
Use the `port secure` interface configuration command to enable addressing security. Use the `no port secure` command to disable addressing security or set the maximum number of addresses allowed on the interface to the default value.

```
port secure [max-mac-count count]
no port secure [max-mac-count]
```

**Syntax Description**

- `max-mac-count`: Maximum number of addresses allowed on port.
- `count`: Number from 1 to 132.

**Default**

The default is 132.

**Command Mode**

Interface configuration

**Example**

The following example shows how to set the maximum MAC address count to 100.

```
hostname(config-if)# port secure max-mac-count 100
```

The following example shows how to disable port security.

```
hostname(config-if)# no port secure
```

The following example shows how to set the MAC address count maximum to the default 132.

```
hostname(config-if)# no port secure max-mac-count
```

**Related Commands**

- `interface`
- `port (block)`
- `show (interfaces)`
- `show (mac-address-table security)`
reload

Use the `reload` privileged Exec command to reset the switch or module.

`reload [type module]`

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>type</strong></td>
</tr>
<tr>
<td><strong>module</strong></td>
</tr>
<tr>
<td>1 or A for module 1</td>
</tr>
<tr>
<td>2 or B for module 2</td>
</tr>
</tbody>
</table>

**Default**
The entire switch or module is reset (rather than a specific type).

**Command Mode**
Privileged Exec

**Usage Guidelines**
After you enter this command, the system displays the following message:

```
Reset system, [Y]es or [N]o ?
```

Press **Y** or **N** as desired.
After the reset, the switch or module retains all configured system parameters and static addresses and removes all dynamic addresses.

**Example**
The following example shows how to reset the entire switch:

```
hostname# reload
```

The following example shows how to reset the FDDI module in slot A.

```
hostname# reload fddi A
```

**Related Command**
`delete (nvram)`
Use the **rip** global configuration command to enable the automatic discovery of IP gateways by running the Routing Information Protocol (RIP) listener. Use the **no rip** command to disable the RIP listener.

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

**Default**
The RIP listener is enabled.

**Command Mode**
Global configuration

**Example**
The following example shows how to disable the RIP listener:

```
hostname(config)# no rip
```

**Related Command**
**ip (default-gateway)**
service (config)

Use the service config global configuration command to enable automatic download of the switch configuration file from a Trivial File Transfer Protocol (TFTP) host during power up. Use the no service config command to disable auto configuration of the switch.

service config
no service config

Syntax Description
This command has no additional arguments or keywords.

Default
Auto configuration is disabled.

Command Mode
Global configuration

Usage Guidelines

Note  If your switch is set up for auto configuration through Dynamic Host Configuration Protocol (DHCP), the DHCP auto configuration overrides the no service config command.

Example
The following example shows how to enable auto configuration:

    hostname(config)# service config

Related Command
show (running-config)
Use the **session** user Exec command to open a session to an ATM module with an independent operating system.

**session** *{number}*

**Syntax Description**

**number**  
Module slot number:  
A or 1 for slot A  
B or 2 for slot B

**Default**

This command has no default value.

**Command Mode**

User Exec

**Example**

The following example shows how to open a session to the ATM module installed in slot B of the switch:

```
switch> session B
```

**Related Commands**

None
show (bridge-group)

Use the show bridge-group privileged Exec command to display the current bridge group configuration and port membership.

```
show bridge-group
```

Syntax Description
This command has no additional arguments or keywords.

Default
This command has no default value.

Command Mode
Privileged Exec

Usage Guidelines
This command is available only when bridge groups are enabled.

Example
The following example shows how to display the current bridge-group configuration and port membership:

```
hostname# show bridge-group

Allow overlapping bridge-groups: Disabled
Bridge Group    Member Ports
--------------------------------------
1                 2, 4, 5, 9-20
2                 21-25
3                 1, 3, 6, 7, 8
4                 A, B
```

Related Commands
- bridge (forwarding-time)
- bridge (hello-time)
- bridge (max-age)
- bridge (priority)
- bridge-group
- bridge-group (allow-overlap)
- bridge-group (enable)
- show (spantree bridge-group)
- spantree (bridge-group)
show (cdp interface)

Use the show **cdp interface** user Exec command to display CDP status and configuration information for a switched port or module.

**show cdp interface [type module/port]**

**Syntax Description**

- **type**  Interface type. Valid values are ethernet, fastethernet, fddi, line and atm, and port-channel.
- **module**  Module interface number:
  - 0 for fixed
  - 1 or A for module A
  - 2 or B for module B
- **port**  Port number:
  - 1 to 25 Ethernet interface number (fixed)
  - 26, 27 Fast Ethernet interface number (fixed)

**Default**

This command has no default value.

**Command Mode**

User Exec

**Usage Guidelines**

If you do not specify the **type** and **module/port** options, CDP configuration on all interfaces is displayed.
Example
The following example shows how to display the CDP configuration on all interfaces.

```
> show cdp interface

Ethernet 0/1 : Cdp enabled
Ethernet 0/2 : Cdp enabled
Ethernet 0/3 : Cdp enabled
Ethernet 0/4 : Cdp enabled
Ethernet 0/5 : Cdp enabled
Ethernet 0/6 : Cdp enabled
Ethernet 0/7 : Cdp enabled
Ethernet 0/8 : Cdp enabled
Ethernet 0/9 : Cdp enabled
Ethernet 0/10 : Cdp enabled
Ethernet 0/11 : Cdp enabled
Ethernet 0/12 : Cdp enabled
Ethernet 0/13 : Cdp enabled
Ethernet 0/14 : Cdp enabled
Ethernet 0/15 : Cdp enabled
Ethernet 0/16 : Cdp enabled
Ethernet 0/17 : Cdp enabled
Ethernet 0/18 : Cdp enabled
Ethernet 0/19 : Cdp enabled
Ethernet 0/20 : Cdp enabled
Ethernet 0/21 : Cdp enabled
Ethernet 0/22 : Cdp enabled
Ethernet 0/23 : Cdp enabled
Ethernet 0/24 : Cdp enabled
Ethernet 0/25 : Cdp enabled
FastEthernet 0/26 : Cdp enabled
FastEthernet 0/27 : Cdp enabled
```

Related Commands
- `cdp (enable)`
- `cgmp (hold-time)`
- `cdp (timer)`
- `show (bridge-group)`
- `show (cdp neighbors)`
show (cdp neighbors)

Use the `show cdp neighbors` user Exec command to display information on network neighbors the switch discovers using Cisco Discovery Protocol (CDP).

`show cdp neighbors [type module/port] [detail]`

Syntax Description

type
Interface type. Valid values are ethernet, fastethernet, fddi, line and atm, and port-channel.

module
Module interface number:
0 for fixed
1 or A for module 1
2 or B for module 2

port
Port number:
1 to 25 Ethernet interface number (fixed)
26, 27 Fast Ethernet interface number (fixed)

detail
List details about network neighbors including device ID, entry address, platform, capabilities, remote interface, and local interface.

Default
This command has no default value.

Command Mode
User Exec

Usage Guidelines
If you do not specify an option, the switch displays discovered neighbors from all interfaces. If you specify the `type` and `module/port` of an interface, the discovered neighbors from that interface appears.
Example

The following example shows how to display all discovered switch neighbors using CDP.

```
hostname# show cdp neighbors
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
S - Switch, H - Host, I - IGMP, r - Repeater

<table>
<thead>
<tr>
<th>Device ID</th>
<th>Local Interface</th>
<th>Holdtime</th>
<th>Capability</th>
<th>Platform</th>
<th>Port ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molehill_Alphe2.cis</td>
<td>Eth 0/7</td>
<td>140</td>
<td>H r</td>
<td>261</td>
<td>Eth 0</td>
</tr>
<tr>
<td>boba-malibu.cisco.co</td>
<td>Eth 0/7</td>
<td>163</td>
<td>Malibu MAL</td>
<td>2511</td>
<td>Eth 0</td>
</tr>
<tr>
<td>scotte-pb.cisco.com</td>
<td>Eth 0/7</td>
<td>152</td>
<td>Cisco WS-C</td>
<td>2511</td>
<td>Eth 0</td>
</tr>
<tr>
<td>malibu-cons.cisco.co</td>
<td>Eth 0/7</td>
<td>152</td>
<td>Fas 0/2</td>
<td>2511</td>
<td>Eth 0</td>
</tr>
<tr>
<td>rheaton-daytona.cisc</td>
<td>Eth 0/7</td>
<td>136</td>
<td>Malibu MAL</td>
<td>2511</td>
<td>Eth 0</td>
</tr>
<tr>
<td>scotte-daytona.cisco.co</td>
<td>Eth 0/7</td>
<td>149</td>
<td>Cisco WS-C</td>
<td>2511</td>
<td>Eth 0</td>
</tr>
<tr>
<td>pheller-malibu.cisco.co</td>
<td>Eth 0/2</td>
<td>149</td>
<td>Malibu MAL</td>
<td>2511</td>
<td>Eth 0</td>
</tr>
<tr>
<td>tacoma-alpha-2.00E01</td>
<td>Eth 0/7</td>
<td>11</td>
<td>T r</td>
<td>316</td>
<td>R</td>
</tr>
<tr>
<td>rheaton-2500.cisco.c</td>
<td>Eth 0/7</td>
<td>131</td>
<td>Malibu MAL</td>
<td>2511</td>
<td>Eth 0</td>
</tr>
<tr>
<td>boba-daytona.cisco.c</td>
<td>Eth 0/7</td>
<td>169</td>
<td>Malibu MAL</td>
<td>2511</td>
<td>Eth 0</td>
</tr>
<tr>
<td>tacoma-alpha-2.00E01</td>
<td>Eth 0/7</td>
<td>6</td>
<td>T r</td>
<td>316</td>
<td>R</td>
</tr>
<tr>
<td>tacoma-alpha-2.00E01</td>
<td>Eth 0/7</td>
<td>0</td>
<td>T r</td>
<td>316</td>
<td>R</td>
</tr>
<tr>
<td>tacoma-alpha-2.00E01</td>
<td>Eth 0/7</td>
<td>1</td>
<td>T r</td>
<td>316</td>
<td>R</td>
</tr>
</tbody>
</table>

The following example shows how to display discovered switch neighbors for Ethernet port 9 in detail.

```
hostname# show cdp neighbors ethernet 0/9 detail
```

```
Device ID : 00C01D810DF3
Entry Address : 0.0.0.0
Platform : cisco 1900
Capabilities : Trans Bridge Switch
Remote Interface : 3
Local Interface : Ethernet 0/9
```

Related Commands

cdp (enable)
cdp (holdtime)
cdp (timer)
show (bridge-group)
show (cdp interface)
show (cgmp)

Use the show cgmp privileged Exec command to display information gathered from Cisco Group Management Protocol (CGMP).

```
show cgmp
```

Syntax Description
This command has no additional arguments or keywords.

Default
This command has no default value.

Command Mode
Privileged Exec

Example
The following example shows how to display all information gathered from CGMP:

```
hostname# show cgmp

VLAN  MAC address  Interface(s)
-----  -----------  ------------
 1     0100.5E7F.0001  Eth0/5, fa0/26, fa0/27
 1     0100.5E01.0101  Eth0/12, fa0/26, fa0/27
 2     0100.5E01.0101  Eth0/3, fa0/26
 2     0100.5E7F.0001  Eth0/1, fa0/26
```

The VLAN column of this display does not appear in bridge-group mode.

Related Commands
cgmp
cgmp (hold-time)
cgmp (remove)
show (cgmp)
show (history)

Use the `show history` user Exec command to display the Exec commands used in this session.

```plaintext
display history
```

Syntax Description
This command has no additional arguments or keywords.

**Default**
This command has no default value.

**Command Mode**
User Exec

**Usage Guidelines**
The display does not include configuration commands.

**Example**
The following example shows how to display the Exec commands used in the current session:

```plaintext
> show history
ena
end
disab
show hi
```

**Related Command**
`show (running-config)`
show (interfaces)

Use the `show interfaces` privileged Exec command to display statistics and status for all or specified interfaces.

```
show interfaces [type module/port] [basic | secondary]
```

**Syntax Description**

- **type**
  - Interface type:
  - `ethernet` Displays statistics and status for Ethernet interfaces.
  - `fastethernet` Displays statistics and status for Fast Ethernet interfaces.
  - `fddi` Displays statistics and status for FDDI interfaces.
  - `atm` Displays statistics and status for ATM interfaces.
  - `port-channel` Displays statistics and status for port-channel interfaces.

- **module**
  - Module interface number:
  - 0 for fixed
  - 1 or A for module A
  - 2 or B for module B

- **port**
  - Port number:
  - 1 to 25 Ethernet interface number (fixed)
  - 26, 27 Fast Ethernet interface number (fixed)

- **basic**
  - Basic FDDI settings.

- **secondary**
  - Secondary FDDI settings.

**Default**

If you do not specify a `type` or a `module/port`, statistics and status for all interfaces appear. Use the `basic` and `secondary` arguments only with FDDI ports.

**Command Mode**

Privileged Exec

**Usage Guidelines**

The output to this command varies depending on the network for which an interface has been configured.
Examples

The following example shows how to display statistics and status for all interfaces:

```
hostname# show interfaces
```

The following example shows how to display statistics and status for Ethernet port 1.

```
hostname# show interfaces ethernet 0/1
```

Ethernet 0/1 is Suspended-no-linkbeat
Hardware is Built-in 10Base-T
Address is 00E0.1EA2.FBC1
MTU 1500 bytes, BW 10000 Kbits
802.1d STP State: Blocking Forward Transitions: 2
Port monitoring: Disabled
Unknown unicast flooding: Disabled
Unregistered multicast flooding: Disabled
Description: ests
Duplex setting: Full duplex
Back pressure: Disabled

<table>
<thead>
<tr>
<th>Receive Statistics</th>
<th>Transmit Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total good frames 0</td>
<td>Total frames 0</td>
</tr>
<tr>
<td>Total octets 0</td>
<td>Total octets 0</td>
</tr>
<tr>
<td>Broadcast/multicast frames 0</td>
<td>Broadcast/multicast frames 0</td>
</tr>
<tr>
<td>Broadcast/multicast octets 0</td>
<td>Broadcast/multicast octets 0</td>
</tr>
<tr>
<td>Good frames forwarded 0</td>
<td>Deferrals 0</td>
</tr>
<tr>
<td>Frames filtered 0</td>
<td>Single collisions 0</td>
</tr>
<tr>
<td>Run frames 0</td>
<td>Multiple collisions 0</td>
</tr>
<tr>
<td>No buffer discards 0</td>
<td>Excessive collisions 0</td>
</tr>
<tr>
<td>FCS errors 0</td>
<td>Late collisions 0</td>
</tr>
<tr>
<td>Alignment errors 0</td>
<td>Excessive deferrals 0</td>
</tr>
<tr>
<td>Giant frames 0</td>
<td>Jabber errors 0</td>
</tr>
<tr>
<td>Address violations 0</td>
<td>Other transmit errors 0</td>
</tr>
</tbody>
</table>

Errors:

- FCS errors 0
- Alignment errors 0
- Giant frames 0
- Address violations 0

The following example shows how to display statistics and status for Fast Ethernet port A.

```
hostname# show interfaces fastethernet 0/26
```

The following is a sample display for a single-port 100BaseTX in trunk mode. Trunk-related information does not display if the interface is not in trunk mode.

FastEthernet0/26 is enabled
Hardware is built-in 100BaseTX
Address is 0053.4500.0201
MTU 1500 bytes, BW 100000 Kbit
802.1d STP State: Forwarding, Forward Transitions: 1
Broadcast forwarding: Blocked due broadcast storm
Description: port-A
Duplex/Flow Control setting: full duplex with flow control
Auto-negotiation status: auto-negotiate
Enhanced congestion control: disabled

<table>
<thead>
<tr>
<th>Receive Statistics</th>
<th>Transmit Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total good frames 48588</td>
<td>Total frames 35638</td>
</tr>
<tr>
<td>Total octets 4663880</td>
<td>Total octets 2696516</td>
</tr>
<tr>
<td>Broadcast/multicast frames 37004</td>
<td>Broadcast/multicast frames 33261</td>
</tr>
<tr>
<td>Broadcast/multicast octets 3256467</td>
<td>Broadcast/multicast octets 2183516</td>
</tr>
<tr>
<td>Good frames forwarded 48567</td>
<td>Deferrals 0</td>
</tr>
<tr>
<td>Frames filtered 21</td>
<td>Single collisions 0</td>
</tr>
</tbody>
</table>
show (interfaces)

Runt frames                         0  Multiple collisions                 0
No buffer discards                  0  Excessive collisions
                                      0  Queue full discards                 0
Errors:                                Errors:
  FCS errors                        0    Late collisions                   0
  Alignment errors                  0    Excessive deferrals               0
  Giant frames                      0    Jabber errors                     0
  Address violations                0    Other transmit errors             0

The following example shows how to display statistics and status for FDDI module 1:

hostname# show interfaces fddi 1

fddi 1 is suspended-ring-down
Hardware is FDDI Module (Fiber DAS Model), Version 00
Module Description: Dual Attach Station, Ring status: Not operational
Address is 0053.4500.0201
MTU 4352 bytes, BW 100000 Kbit
802.1d STP State: N/A, Forward Transitions: 0
Broadcast storm control: blocked
Description:
Novell SNAP frame translation: Automatic
Unmatched SNAP frame destination: All
Receive Statistics                     Transmit Statistics
-------------------------------------  -------------------------------------
Good FDDI frames                    0  Good FDDI frames                  256
Good FDDI octets                    0  Good FDDI octets                19716
No buffer discards                  0  No buffer discards                  0
IP frames fragmented                0  Ring down discards                  0
Frames filtered                     0  Queue full discards                 0
Good frames forwarded               0  Errors:
  FCS Error                         0  Invalid data length               0
  Invalid data length               0  Error flag set                    0
  Error flag set                    0  Bad IP header                     0
  Bad IP header                     0  Other receive errors              0
  Other receive errors              0  Address violations                0

The following example shows how to display basic FDDI settings for FDDI module 1:

hostname# show interfaces fddi 1 basic

------------------------ MAC and SMT Information --------------------------
SMT version              2    Upstream neighbor     00-00-F8-00-00-00
MIB version              1    Station address       00-00-00-C0-1D-F4-76-65
Number of MACs           1    Downstream neighbor   00-00-00-00-00-00-00
Non master ports         2    Optical bypass        Not present
ECM state               In    Attachment state      Isolated
------Port Information------ ----A Port------    ------B Port------
Connection policy (rejects)  None               None
Neighbor type             None               None
Current path              Isolated            Isolated
Available paths           Primary+Secondary Primary+Secondary
PMD class                Multimode           Multimode
PCM state                Connect             Connect
Link error alarm activated False             False
Link confidence test failures 0              0
Link confidence test failures 0              0
Aggregate link error count 0                0

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show (interfaces)

The following example shows how to display secondary FDDI settings for FDDI module 2:

```
hostname# show interfaces fddi 2 secondary
```

Notification timer value: 30 second(s)
Use authorization string: Disabled
Authorization string:

```
--------MAC and SMT Information--------
Remote disconnect flag                      False
Station path status                          Separated
Requested token rotation time                164986880 ns
Negotiated token rotation time               164986880 ns
Old upstream neighbor                        00-00-F8-00-00-00
Old downstream neighbor                      00-00-F8-00-00-00
MAC's downstream port type                   None
Frame error flag                             False
Frame processing functions                   fs_repeating
MAC's available paths                        Primary+Secondary
```

The following example shows how to display status information on ATM module 1:

```
hostname# show interfaces atm 1
```

Atm 1 is suspended-ATM-LANE-down
Hardware is ATM 155 UTP, Version 02
Module Description: Category 5 UTP
Address is 0053.4500.0201
ATM Network Status: Not operational
802.1d STP State: N/A, Forward Transitions: 0
Broadcast storm control: blocked
Description/name of port:

```
Receive Statistics                                    Transmit Statistics
-------------------------------------------  -------------------------------------------
Good AAL5 frames                                     0  Good AAL5 frames                     0
Good ATM cells                                       0  Good ATM cells                      0
Broadcast/multicast frames                           0  Broadcast/multicast frames           0
Good frames forwarded                                0  Queue full discards                 0
Frames filtered                                      0                                   
Runt frames                                          0                                   
No buffer discards                                   0                                   
Other discards                                       0                                   
Errors:
  CRC errors                                         0
  Cell HEC errors                                    0
  Giant frames                                        0
  Address violations                                0
```
The following example shows how to display statistics and status for a port channel. The statistics for each port are the sum of all packets that went through all member ports in the channel.

```
hostname# show interfaces port-channel

PortChannel is Enabled
802.1d STP State: Forwarding  Forward Transitions: 1
Port-channel mode: auto, preserve-order: Disabled
Port parameters template port: A
Active port: A

<table>
<thead>
<tr>
<th>Port Member</th>
<th>Priority Cap.</th>
<th>Partner Device-id</th>
<th>Partner Port-id</th>
<th>Partner Priority Cap.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Yes</td>
<td>128</td>
<td>00-E0-1E-7E-C2-C0 A</td>
<td>128</td>
</tr>
<tr>
<td>B</td>
<td>Yes</td>
<td>128</td>
<td>00-E0-1E-7E-C2-C0 B</td>
<td>128</td>
</tr>
</tbody>
</table>

Receive Statistics
---------------------
Total good frames 139
Total octets 13038
Broadcast/multicast frames 138
Broadcast/multicast octets 12936
Good frames forwarded 138
Frames filtered 1
Runt frames 0
No buffer discards 0

Transmit Statistics
---------------------
Total frames 1789
Total octets 142757
Broadcast/multicast frames 1763
Broadcast/multicast octets 140191
Deferrals 0
Single collisions 0
Multiple collisions 0
Excessive collisions 0
Queue full discards 0
Excessive deferrals 0
Jabber errors 0
Other transmit errors 0

Errors:
FCS errors 0
Alignment errors 0
Giant frames 0
Address violations 0

Related Commands
back-pressure
description
duplex
fddi (authorization)
fddi (auth-string)
fddi (novell-snap-translation)
fddi (unmatched-snap-translation)
interface