

Interface Configuration Mode Commands

Interface configuration mode allows you to configure an interface in the CSS. To access interface configuration mode, use the **interface** command from global, circuit, IP, and keepalive configuration modes. The prompt changes to (config-if [interface_name]). You can also use this command in interface mode to access another interface. For information about commands available in this mode, see the following commands.

interface *interface_name*

Syntax Description	<i>interface_name</i>
	The CSS interface that you want to configure. For a CSS 11501, CSS 11050, or CSS 11150, enter the interface name in <i>interface-port</i> format (for example, e2). For a CSS 11503, CSS 11506, or CSS 11800, enter the interface name in <i>slot/port</i> format (for example, 3/1). To see a list of valid interfaces for this CSS, enter: interface ?

(config-if) admin-shutdown

To shut down the current interface, use the **admin-shutdown** command. Use the **no** form of this command to restart the interface.

admin-shutdown
no admin-shutdown

Usage Guidelines
To shut down all interfaces in the CSS, use the admin-shutdown command in SuperUser mode.

Related Commands
admin-shutdown show interface

(config-if) bridge

To configure bridge parameters, use the **bridge** command. The options for this interface mode command are:

- **bridge pathcost...**, sets the bridge interface path cost
- **bridge port-fast**, enables Port Fast forwarding for a non-trunked 11500 series CSS interface (port)
- **bridge priority...**, sets the bridge port priority
- **bridge state...**, enables or disables the bridge interface
- **bridge vlan...**, sets the bridge interface virtual LAN number

For more information on these options and associated variables, see the following commands.



Note

Before you can configure trunking and multiple VLANs on an Ethernet interface, the **(config-if) bridge** command options must be at their default states. Then you can turn on trunking through the **(config-if) trunk** command, and assign the VLAN and access VLAN mode through the **(config-if) vlan** command.

Related Commands (config) interface

bridge pathcost

To set the bridge interface path cost, use the **bridge pathcost** command. Use the **no** form of this command to restore the default path cost which the CSS sets automatically based on the port speed.

```
bridge pathcost cost
no bridge pathcost
```

Syntax Description	<i>cost</i>	The contribution of the port to the path cost of paths towards the spanning tree root. Enter an integer from 1 to 65535. The CSS sets the default pathcost automatically based on the port speed.
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Command Modes	Interface
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bridge port-fast

To enable Port Fast forwarding for a non-trunked 11500 series CSS port, use the **bridge port-fast** command. By default, Port Fast forwarding is disabled.

```
bridge port-fast [enable|disable]
```

Syntax Description	enable	Enables Port Fast forwarding
	disable	Disables Port Fast forwarding (default)

Command Modes	Interface configuration mode
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Usage Guidelines	You cannot configure Port Fast on a trunked port.
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Port Fast forwarding mode skips spanning-tree intermediate states (such as listening and learning) when a port moves from blocking to forwarding state, thereby providing access to the network without delay.

Related Commands

show bridge
(config-if) bridge bpduguard

bridge priority

To set the bridge priority for the port, use the **bridge priority** command. Use the **no** form of this command to restore the default priority of 128.

bridge priority *priority*
no bridge priority

Syntax Description

<i>priority</i>	The value of the bridge priority for the port. Enter an integer from 0 to 255. The default is 128.
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Command Modes

Interface

bridge state

To enable or disable the bridge interface, use the **bridge state** command.

bridge state [**disable**|**enable**]

Syntax Description

disable	Disables the bridge interface. This is the default state.
enable	Enables the bridge interface.

Command Modes

Interface

bridge vlan

To set the bridge interface virtual LAN identifier, use the **bridge vlan** command. Use the **no** form of this command to restore the default virtual LAN identifier of 1.

bridge vlan *number*
no bridge vlan

Syntax Description	<i>number</i>	The virtual LAN identifier to associate with this port. Enter an integer from 1 to 4094. The default is 1.
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Command Modes	Interface
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Usage Guidelines	<p>The following list defines the maximum number of VLANs supported by the specific CSS models:</p> <ul style="list-style-type: none"> • CSS 11501 and CSS 11503 - A maximum of 256 VLANs • CSS 11506 - A maximum of 512 VLANs • CSS 11050 and CSS 11150 - A maximum of 16 VLANs • CSS 11800 - A maximum of 128 VLANs
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(config-if) description

To specify the description for the interface, use the **description** command. Use the **no** form of this command to delete the interface description.

description *“text_string”*
no description

Syntax Description*text_string*

The description for the interface. Enter a quoted text string with a maximum length of 255 characters.

Related Commands

show running-config interface

(config-if) fcb-lowwater

To configure the low-water mark of flow control blocks (FCBs) on the interface, use the **fcb-lowwater** command. The low-water mark is the percentage of the total number of FCBs available. If the number of FCBs available on a port goes below the low-water mark, then aggressive flow recovery occurs.

Use the **no** form of this command to reset the percentage of available FCBs to its default of 25.

fcb-lowwater *percentage*
no fcb-lowwater

Syntax Description*percentage*

The percentage of the total number of available FCBs. Enter a number from 1 to 100. The default is 25.

(config-if) **isc-port-one**

To enable Inter-Switch Communications (ISC) on the first port between two 11500 series CSSs in an ASR configuration, use the **isc-port-one** command. Use the **no** form of the command to disable ISC on the first port.

isc-port-one
no isc-port-one

Usage Guidelines

ISC allows 11500 series CSS peers to exchange flow state information in an ASR configuration. If the master CSS fails, the backup CSS already has the flow state information necessary to continue the current flows without interruption. Using ISC, CSSs exchange state information:

- For existing flows at boot up time and at VIP redundancy failover
- For new flows in real time (after the CSS receives a SYN/ACK from the server)

You can configure a maximum of two ISC ports on a CSS. Multiple ports must reside on the same module in the CSS 11503 or CSS 11506 or on the same CSS 11501. Also, the ports must be of the same type (Gigabit Ethernet or Fast Ethernet) in both CSSs. The CSS 11501 does not support redundant GE Inter-Switch Communications links for ASR because the switch includes only a single GBIC port.

If you configure any ISC ports on an SCM, you can have only one SCM installed in the CSS 11506. Be sure that the ISC ports are not configured in any VLANs. If necessary, remove the designated ports from all VLANs before configuring ISC. Ensure that you connect the ISC ports between the two CSSs directly.

(config-if) isc-port-two

To enable Inter-Switch Communications (ISC) on a second port between two 11500 series CSSs in an ASR configuration, use the **isc-port-two** command. ISC allows two redundant CSSs to exchange flow state information. If a failover occurs, the backup CSS has enough flow state information to continue current flows without interruption. Use the **no** form of the command to disable ISC on the second port.

isc-port-two
no isc-port-two

Usage Guidelines

For the CSS 11503 or CSS 11506, the second port must be on the same module as the first port. Also, the ports must be of the same type (Gigabit Ethernet or Fast Ethernet) in both CSSs. The CSS 11501 does not support redundant GE Inter-Switch Communications links for ASR because the switch includes only a single GBIC port.

If you configure any ISC ports on an SCM, you can have only one SCM installed in the CSS 11506. Be sure that the ISC ports are not configured in any VLANs. If necessary, remove the designated ports from all VLANs before configuring ISC. Ensure that you connect the ISC ports between the two CSSs directly.

(config-if) max-idle

To set the maximum idle time for the interface, use the **max-idle** command. Use the **no** form of this command to reset the idle time for this interface to its default value of 0.

max-idle *seconds*
no max-idle

Syntax Description

<i>seconds</i>	The idle time in seconds. Enter a number from 15 to 65535. The default is 0, which disables the idle timer.
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Usage Guidelines

Use the **max-idle** as a troubleshooting tool to verify an interface's ability to receive traffic. If the interface does not receive traffic within the maximum time configured, the CSS reinitializes it automatically.

Set the idle time to a value greater than the interval over which the interface is not receiving traffic. For example, if the interface receives traffic every 90 seconds, set the idle time to a value greater than 90 seconds. If you set the idle time to less than 90 seconds in this situation, the CSS would continuously reinitialize the interface before the interface was able to receive traffic.

(config-if) no

To negate a command or set it to its default, use the **no** command. For information on general **no** commands you can use in this mode, see the general **no** command. The following options are available in interface mode:

Syntax Description

no acl <i>index</i>	Deletes an ACL
no admin-shutdown <i>layer</i>	Restarts the layer
no bridge pathcost	Restores the default path cost which the CSS sets automatically based on the port speed
no bridge priority	Restores the default priority of 128
no bridge vlan	Restores the default virtual LAN number of 1
no description	Clears the description for the interface
no fcb-lowwater	Resets the percentage of available FCBs to its default of 25
no isc-port-one	Disables ISC on the first port in the CSS
no isc-port-two	Disables ISC on the second port in the CSS
no keepalive <i>name</i>	Deletes an existing keepalive
no max-idle	Resets the maximum idle time for this interface to the default of 0 (disabled)
no owner <i>existing_owner_name</i>	Deletes an existing owner

no redundancy-phy <i>interface_name</i>	Deletes an interface from the physical link configuration list
no trunk	Disables trunking on the Ethernet interface and removes all associated VLANs
no vlan <i>number</i>	Deletes the VLAN from a trunked Ethernet interface

(config-if) phy

To configure the speed or flow control (pause) method and duplex for a CSS Fast Ethernet or Gigabit Ethernet interface (port), use the **phy** command.

```
phy [auto-negotiate [enable|disable]]10Mbits-[FD|HD]
    |100Mbits-[FD|HD]|1Gbits-FD-[asym|no pause|sym|sym-asym]]
```

Syntax Description

auto-negotiate	Resets the Fast Ethernet or Gigabit Ethernet port to automatically negotiate speed or pause method, and duplex (default).
enable disable	For the CSS 11500 series only, disables or enables the Gigabit Ethernet interface auto-negotiation. By default, auto-negotiation is enabled for all Gigabit Ethernet ports. Auto-negotiation remains enabled when a pause mode command is entered in order for the Gigabit Ethernet interface ports to act upon the link partner's flow control capability. If it is necessary to disable auto-negotiation for the Gigabit Ethernet port when using a pause mode, use the phy auto-negotiate disable command.
10Mbits-FD	Sets the Fast Ethernet port to 10 Mbps and full-duplex.
10Mbits-HD	Sets the Fast Ethernet port to 10 Mbps and half-duplex.
100Mbits-FD	Sets the Fast Ethernet port to 100 Mbps and full-duplex.
100Mbits-HD	Sets the Fast Ethernet port to 100 Mbps and half-duplex.
1Gbits-FD-asym	Sets the Gigabit Ethernet port to full duplex mode with asymmetric pause toward the link partner.

1Gbits-FD-no pause	Sets the Gigabit Ethernet port to full duplex mode with no pause.
1Gbits-FD-sym	Sets the Gigabit Ethernet port to full duplex mode with symmetric pause.
1Gbits-FD-sym-asym	Sets the Gigabit Ethernet port to full duplex mode with asymmetric and symmetric pause toward the local device.

Usage Guidelines

By default, the CSS Fast Ethernet and Gigabit Ethernet interfaces are configured to auto-negotiate, which enables the CSS ports to automatically detect the network line speed (Fast Ethernet only) and duplex of incoming signals, and to synchronize those parameters during data transfer. Auto-negotiation enables the CSS and the other devices on the link to achieve the maximum common level of operation.

For the Fast Ethernet ports, when older equipment cannot transmit the duplex and speed with its signals, you can manually configure the speed (10 Mbps, 100 Mbps) and duplex (half or full duplex) of the CSS port to match the transmitting equipment.

For the Gigabit Ethernet ports, if the link does not come up (perhaps due to traffic congestion), you may need to force the CSS and its link partner into a specific mode. The CSS allows you to manually select a full duplex and flow control (pause frame) mode. Flow control allows the CSS to control traffic during congestion by notifying the other port to stop transmitting until the congestion clears. When the other device receives the pause frame, it temporarily stops transmitting data packets. When the CSS detects local congestion and becomes overwhelmed with data, the Gigabit Ethernet ports transmit a pause frame. Both the CSS Gigabit Ethernet and its link partner must be configured with the same pause method (asymmetric, symmetric, or both). By default, all Gigabit Ethernet ports are configured to full duplex mode with symmetric pause (pause frames transmitted and received by the CSS).

(config-if) redundancy-phy

To add the interface to the physical link configuration list, use the **redundancy-phy** command. If any physical link in the configuration list goes down, the CSS fails over to the backup CSS. Use the **no** form of this command to delete the interface from the physical link configuration list.

redundancy-phy
no redundancy-phy

Usage Guidelines

You cannot use the **redundancy-phy** command if you used the (config) **ip redundancy master** command to configure the master CSS. Before you can use the **redundancy-phy** command, you must enter the (config) **no ip redundancy master** command.

You can configure a maximum number of 32 interfaces in the physical link configuration list.

The physical link configuration information is saved to the running configuration.



Note

When you use the **redundancy-phy** command and both CSSs are connected to a Layer 2 switch, be sure to monitor physical link failure only on the critical physical links and not on the redundant link between the two CSSs. This will avoid the detection of a physical link down and possible thrashing when one of the CSSs is rebooting or transitioning between master and backup states.

Related Commands

show redundancy
(config) **no ip redundancy master**

(config-if) trunk

To enable VLAN trunking for an Ethernet interface, use the **trunk** command. After you enable trunking, you can add a VLAN to the interface and enter VLAN mode to configure it. Use the **no** form of this command to disable trunking on the interface and remove its associated VLANs.

trunk
no trunk

Usage Guidelines

If you configured non-default values for the bridge VLAN, pathcost, state, and a pathcost for the interface, the CSS prompts that you cannot use the **trunk** command. Use the **no** form of the **(config-if) bridge** command to set the bridge default attributes before executing the **trunk** command.

Related Commands

show trunk
(config-if) vlan

(config-if) vlan

To add a VLAN on a trunked Ethernet interface and access VLAN mode to configure it, use the **vlan** command. For more information on VLAN mode and its commands, see “[VLAN Configuration Mode Commands](#)”. Use the **no** form of this command to delete the VLAN from the interface.

vlan *number*
no vlan *number*

Syntax Description

<i>number</i>	The virtual LAN identifier to associate with the interface. Enter an integer from 1 to 4094. The default is 1.
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Usage Guidelines

Before you can use the **vlan** command, you must enable trunking through the **(config-if) trunk** command. You can add multiple VLANs to a trunked interface. The following list defines the maximum number of VLANs supported by the specific CSS models:

- CSS 11501 and CSS 11503 - A maximum of 256 VLANs
- CSS 11506 - A maximum of 512 VLANs
- CSS 11050 and CSS 11150 - A maximum of 16 VLANs
- CSS 11800 - A maximum of 128 VLANs

Command Modes

Interface

VLAN Configuration Mode Commands

VLAN configuration mode allows you to configure VLANs on a trunked Ethernet interface in the CSS. The following list defines the maximum number of VLANs supported by the specific CSS models:

- CSS 11501 and CSS 11503 - A maximum of 256 VLANs
- CSS 11506 - A maximum of 512 VLANs
- CSS 11050 and CSS 11150 - A maximum of 16 VLANs
- CSS 11800 - A maximum of 128 VLANs

To access VLAN configuration mode, use the **vlan** command from the interface configuration mode. The prompt changes to (config-if-vlan [number]). You can also use this command in VLAN mode to access a circuit, service, interface, or another VLAN. For information about commands available in this mode, see the following commands.

```
(config-if [interface_name]) # vlan number
```

Syntax Description	<i>number</i>	The virtual LAN identifier to associate with this port. Enter an integer from 1 to 4094.
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(config-if-vlan) bridge

To configure spanning-tree parameters for the VLAN on the interface, use the **bridge** command. The options for this VLAN mode command are:

- **bridge pathcost...**, sets the spanning-tree port path cost
- **bridge priority...**, sets the spanning-tree port priority
- **bridge state...**, enables or disables the spanning-tree port

For more information on these options and associated variables, see the following commands.

Related Commands	(config) interface
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bridge pathcost

To set the spanning-tree port path cost for the VLAN on the trunked interface, use the **bridge pathcost** command. Use the **no** form of this command to restore the default path cost which the CSS sets automatically based on the port speed.

bridge pathcost *cost*
no bridge pathcost

Syntax Description	<i>cost</i>	The contribution of the port to the path cost of paths toward the spanning-tree root. Enter an integer from 1 to 65535. The CSS sets the default pathcost automatically based on the port speed.
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Command Modes	Interface-vlan
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bridge priority

To set the spanning-tree port priority for the VLAN on the trunked interface, use the **bridge priority** command. Use the **no** form of this command to restore the default priority of 128.

bridge priority *priority*
no bridge priority

Syntax Description	<i>priority</i>	The value of the spanning-tree port priority. Enter an integer from 0 to 255. The default is 128.
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Command Modes	Interface-vlan
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bridge state

To enable or disable the spanning-tree port on the VLAN on the trunked interface, use the **bridge state** command.

bridge state [disable|enable]

Syntax Description	disable	enable
	Disables the spanning-tree port on the VLAN.	Enables the spanning-tree port on the VLAN. This is the default state.

Command Modes Interface-vlan

(config-if-vlan) default-vlan

To define the VLAN as the default VLAN, use the **default-vlan** command. The default VLAN receives and processes all inbound untagged frames on the interface. The VLAN also transmits all outbound frames as untagged. Use the **no** form of this command to unassign the VLAN as the default VLAN.

default-vlan
no default-vlan

Usage Guidelines You can define only one VLAN on each interface as the default VLAN. Before you can assign another VLAN as the default VLAN, use the **no default-vlan** command to unassign the current default VLAN.

If no VLAN on the interface is the default VLAN, the interface discards all untagged frames.

Command Modes Interface-vlan

(config-if-vlan) no

To negate a command or set it to its default, use the **no** command. For information on general **no** commands you can use in this mode, see the general **no** command. The following options are available in VLAN mode:

Syntax	Description
no bridge pathcost	Restores the default path cost which the CSS sets automatically based on the port speed
no bridge priority	Restores the default priority of 128
no default-vlan	Unassigns the VLAN as the default VLAN