



## S Commands

---

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with S.

# san-port-channel persistent

To convert an autocreated SAN port channel to a persistent SAN port channel, use the **san-port-channel persistent** command.

**san-port-channel** *port-channel-id* **persistent**

Syntax Description	<i>port-channel-id</i>	Port channel ID. The range is from 1 to 128.
	<b>persistent</b>	Converts the autocreated SAN port channel to a persistent SAN port channel

**Command Default** None

**Command Modes** EXEC mode

Command History	Release	Modification
	5.0(2)N1(1)	This command was introduced.

**Usage Guidelines** This command is not reversible. A user-created channel group cannot be converted to an autocreated channel group. When the **san-port-channel persistent** command is applied to an autocreated channel group, the channel group number does not change and the properties of the member ports change to those of a user-created channel group. The channel mode remains active.

**Examples** This example shows how to change the properties of an autocreated channel group to a persistent channel group:

```
switch# san-port-channel 10 persistent
```

Related Commands	Command	Description
	<b>san-port-channel protocol</b>	Enables the SAN port channel protocol.
	<b>show interface port-channel</b>	Displays SAN port channel interface information.
	<b>show port-channel</b>	Displays SAN port channel information.

# scsi-target

To configure SCSI target discovery, use the **scsi-target** command. To remove SCSI target discovery, use the **no** form of this command.

```
scsi-target { auto-poll [vsan vsan-id] | discovery | ns-poll [vsan vsan-id] | on-demand [vsan vsan-id] }
```

```
no scsi-target { auto-poll [vsan vsan-id] | discovery | ns-poll [vsan vsan-id] | on-demand [vsan vsan-id] }
```

Syntax Description		
<b>auto-poll</b>		Configures SCSI target auto-polling globally or per VSAN.
<b>vsan</b> <i>vsan-id</i>		(Optional) Specifies a VSAN ID. The range is from 1 to 4093.
<b>discovery</b>		Configures SCSI target discovery.
<b>ns-poll</b>		Configures SCSI target name-server polling globally or per VSAN.
<b>on-demand</b>		Configures SCSI targets on-demand globally or per VSAN.

**Command Default** SCSI target discovery for each option is enabled.

**Command Modes** Global configuration mode

Command History	Release	Modification
	5.0(2)N1(1)	This command was introduced.

**Usage Guidelines** Automatic global SCSI target discovery is on by default. Discovery can also be triggered for specific VSANs using on-demand, name server polling, or auto-polling options. All options are on by default. Use the **no scsi-target discovery** command to turn off all discovery options. You can also turn off specific options by using the **no** form of this command.

**Examples** This example shows how to configure a SCSI target auto-polling discovery for VSAN 1:

```
switch(config)# scsi-target auto-poll vsan 1
```

This example shows how to remove the SCSI target auto-polling discovery for VSAN 1:

```
switch(config)# no scsi-target auto-poll vsan 1
```

This example shows how to configure a SCSI target discovery:

```
switch(config)# scsi-target discovery
```

This example shows how to configure a SCSI target ns-polling discovery for VSAN 1:

```
switch(config)# scsi-target ns-poll vsan 1
```

This example shows how to remove a SCSI target ns-polling discovery for VSAN 1:

```
switch(config)# no scsi-target ns-poll vsan 1
```

This example shows how to configure a SCSI target on-demand discovery for VSAN 1:

```
switch(config)# scsi-target on-demand vsan 1
```

This example shows how to remove a SCSI target on-demand discovery for VSAN 1:

```
switch(config)# no scsi-target on-demand vsan 1
```

#### Related Commands

Command	Description
<b>discover scsi-target</b>	Discovers SCSI targets on local storage to the switch or remote storage across the fabric.
<b>show scsi-target</b>	Displays information about existing SCSI target configurations.

# shutdown

To change the virtual Fibre Channel interface or SAN port channel interface state to administrative down, use the **shutdown** command. To enable an interface, use the **no** form of this command.

**shutdown [force]**

**no shutdown**

Syntax Description	force	(Optional) Specifies that the interface state be forcefully changed to administrative down.
--------------------	-------	---

Command Default	Enabled
-----------------	---------

Command Modes	Virtual Fibre Channel interface configuration mode SAN port channel configuration mode
---------------	---

Command History	Release	Modification
	5.0(2)N1(1)	This command was introduced.
	5.0(2)N1(1)	The <b>shutdown</b> command was separated from the <b>interface vfc</b> command.
	5.1(3)N1(1)	The <b>shutdown</b> keyword was separated from the <b>interface san-port-channel</b> command.
	<b>Note</b>	On a Cisco Nexus 5500 Series that runs a Cisco NX-OS release prior to 5.1(3)N1(1), this command was a keyword of the <b>interface san-port-channel</b> command.

Usage Guidelines	Use the <b>no shutdown</b> command to enable the interface.
------------------	---

**Examples** This example shows how to disable virtual Fibre Channel interface 3:

```
switch# configure terminal
switch(config)# interface vfc 3
switch(config-if)# shutdown
switch(config-if)#
```

This example shows how to enable virtual Fibre Channel interface 3:

```
switch# configure terminal
switch(config)# interface vfc 3
switch(config-if)# no shutdown
switch(config-if)#
```

This example shows how to forcefully bring a SAN port channel interface to the administratively down state:

```
switch# configure terminal
```

```
switch(config)# interface san-port-channel 3  
switch(config-if)# shutdown force  
switch(config-if)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>interface san-port-channel</b>	Configures a SAN port channel interface.
<b>interface vfc</b>	Configures a virtual Fibre Channel interface.
<b>show interface vfc</b>	Displays the specified VFC interface, attributes, and status.
<b>show interface vfc</b>	Displays the specified VFC interface, attributes, and status.

# shutdown lan (FCoE)

To shut down the Ethernet traffic on a Fibre Channel over Ethernet (FCoE) link, use the **shutdown lan** command. To restore Ethernet traffic, use the **no** form of this command.

**shutdown lan**

**no shutdown lan**

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

**Command Default** Not shut down.

**Command Modes** Interface configuration mode

Command History	Release	Modification
	5.0(2)N1(1)	This command was introduced.

**Usage Guidelines** Use this command to shut down Ethernet traffic on the interface. If the interface is part of an FCoE VLAN, the shutdown has no impact on the FCoE traffic.

**Examples** This example shows how to shut down an Ethernet interface on an FCoE link:

```
switch(config)# interface ethernet 2/1
switch(config-if)# shutdown lan
switch(config-if)#
```

This example shows how to restore traffic on an interface after you have shut down, or disabled, the interface:

```
switch(config)# interface ethernet 2/1
switch(config-if)# no shutdown lan
switch(config-if)#
```

Related Commands	Command	Description
	fcoe	Configures FCoE parameters.

## switchport (Fibre Channel)

To configure a switch port parameter on a Fibre Channel, use the **switchport** command. To discard the configuration, use the **no** form of this command.

```
switchport
  {fcrxbbcredit {number [mode E | F] | default} |
  mode {F | NP | SD} |
  speed {1000 | 2000 | 4000 | 8000 | auto [max 2000]} |
  trunk {allowed vsan {[add] vsan-id | all} | mode {auto | off | on}} }

no switchport {fcrxbbcredit | mode | speed | trunk {allowed vsan [[add] vsan-id | all] | mode}}
```

Syntax Description		
<b>fcrxbbcredit</b>		Configures receive BB_credit for the port.
<i>number</i>		Receive BB_credit. The range is from 1 to 240.
<b>mode</b>		Configures receive BB_credit for the specific port mode.
<b>E</b>		Configures receive BB_credit for E or TE port mode.
<b>F</b>		Configures receive BB_credit for F port mode.
<b>default</b>		Configures default receive BB_credits depending on the port mode and capabilities.
<b>mode</b>		Configures the port mode.
<b>F</b>		Configures F port mode.
<b>NP</b>		Configures N port proxy mode. NP mode is valid only when the switch is operating in N-Port Virtualizer (NPV) mode.
<b>SD</b>		Configures SD port mode.
<b>speed</b>		Configures the port speed.
<b>1000</b>		Configures the 1000-Mbps speed.
<b>2000</b>		Configures the 2000-Mbps speed.
<b>4000</b>		Configures the 4000-Mbps speed.
<b>8000</b>		Configures the 8000-Mbps speed.
<b>auto</b>		Configures autosense speed.
<b>max 2000</b>		(Optional) Configures 2 Gbps as the maximum bandwidth reserved in auto mode for 24-port and 48-port 4-Gbps switching module interfaces.
<b>trunk</b>		Configures trunking parameters on the interface.
<b>allowed</b>		Specifies the allowed list for interface(s).
<b>vsan</b>		Configures the VSAN range.
<b>add</b>		(Optional) Adds the VSAN ID to the allowed VSAN list.
<i>vsan-id</i>		VSAN ID. The range is from 1 to 4093.
<b>all</b>		Adds all the VSANs to the allowed VSAN list.
<b>mode</b>		Configures the trunking mode.
<b>auto</b>		Configures automatic trunking mode.
<b>off</b>		Disables the trunking mode.
<b>on</b>		Enables the trunking mode.

**Command Default**

The EISL encapsulation is disabled.  
 The default receive data buffer size is 2112 bytes.  
 The port mode is auto.  
 The speed is auto.  
 The maximum auto speed is 2000.  
 The trunk mode is on.

**Command Modes**

Interface configuration mode

**Command History**

Release	Modification
5.0(2)N1(1)	This command was introduced.

**Usage Guidelines****Caution**

After configuring an interface using the **switchport fcrxbbcredit** command, the interface automatically flaps for the configuration changes to be applied immediately. Hence, we recommend that you plan for such configurations only during a scheduled maintenance window to minimize the effect of such configurations on the production environment.

You can specify a range of interfaces by entering a command with the following example format:

```
interface fc 1/1 - 5, fc 2/5 - 7
```

The port speed on an interface determines the amount of shared resources available to the ports in the port group. Port group resources are reserved even though the bandwidth is not used. For example, if an interface is configured for autosensing (**auto**), then 4 Gbps of bandwidth is reserved even though the maximum operating speed is 2 Gbps. For the same interface, if autosensing with a maximum speed of 2 Gbps (**auto max 2000**) is configured, then only 2 Gbps of bandwidth is reserved and the unused 2 Gbps is shared with the other interface in the port group.

When configuring port modes, observe the following guidelines:

- Auto port mode and E port mode cannot be configured in shared rate mode.
- Shared to dedicated ports should be configured in this order: speed, port mode, credit.
- Dedicated to shared ports should be configured in this order: credit, port mode, speed.

**Examples**

This example shows how to configure the switch port parameters for a Fibre Channel interface:

```
switch(config)# interface fc 2/3
switch(config-if)# switchport description techdocsSample
switch(config-if)# switchport mode E
switch(config-if)# switchport trunk mode auto
switch(config-if)# switchport trunk allowed vsan all
switch(config-if)# switchport trunk allowed vsan 3
switch(config-if)# switchport trunk allowed vsan add 2
switch(config-if)# switchport fcrxbbcredit 20
```

This example shows how to configure the mode of a virtual Fibre Channel interface:

```
switch(config)# interface vfc 2
```

```
switch(config-if)# switchport mode F
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>ferxbbcredit extended enable</b>	Enables extended BB_credits on the switch.
<b>show interface</b>	Displays an interface configuration for a specified interface.

## switchport (SAN PortChannel)

To configure switch port parameters on a SAN port channel interface, use the **switchport** command. To discard the configuration, use the **no** form of this command.

```
switchport {description line | mode {NP | auto} | speed {1000 | 2000 | 4000 | 8000 | auto} | trunk
{allowed vsan {vsan-id | add vsan-id | all} | mode {auto | on | off}}}
```

```
no switchport {description | mode | speed | trunk {allowed vsan [vsan-id | add vsan-id | all] |
mode}}
```

Syntax	Description
<b>description</b> <i>line</i>	Specifies a description for the interface. The description can be a maximum of 80 alphanumeric characters.
<b>mode</b>	Configures receive BB_credit for the specific port mode.
<b>NP</b>	Configures the SAN port channel interface as an N-Port Virtualizer (NPV) port.
<b>auto</b>	Configures autosense mode.
<b>speed</b>	Configures the port speed.
<b>1000</b>	Configures the 1000-Mbps speed.
<b>2000</b>	Configures the 2000-Mbps speed.
<b>4000</b>	Configures the 4000-Mbps speed.
<b>8000</b>	Configures the 8000-Mbps speed.
<b>auto</b>	Configures the autonegotiation speed.
<b>trunk</b>	Configures trunking parameters on the interface.
<b>allowed</b>	Specifies the allowed list for interface(s).
<b>vsan</b>	Configures the VSAN range.
<i>vsan-id</i>	VSAN ID. The range is from 1 to 4093.
<b>add</b>	Adds the VSAN ID to the allowed VSAN list.
<b>all</b>	Adds all the VSANs to the allowed VSAN list.
<b>mode</b>	Configures the trunking mode.
<b>on</b>	Enables the trunking mode.
<b>off</b>	Disables the trunking mode.

**Command Default** Disabled

**Command Modes** SAN port channel configuration mode

**Command History**

Release	Modification
5.0(2)N1(1)	This command was introduced.
5.1(3)N1(1)	The E port was dropped from this release. Support for the N-Port Virtualizer (NPV) port and 8000-Mbps port speed was added. The <b>switchport</b> keyword was separated from the <b>interface san-port-channel</b> command and documented as a separate command. <b>Note</b> On a Cisco Nexus 5500 Series that runs a Cisco NX-OS release prior to 5.1(3)N1(1), this command was a keyword of the <b>interface san-port-channel</b> command.

**Usage Guidelines**

This command does not require a license.

**Examples**

This example shows how to configure switch port parameters for a SAN port channel interface:

```
switch# configure terminal
switch(config)# interface san-port-channel 3
switch(config-if)# switchport description SAN Port Channel 3 Configuration
switch(config-if)# switchport speed 2000
switch(config-if)# switchport mode NP
switch(config-if)#
```

This example shows how to remove the switch port configuration for a SAN port channel interface:

```
switch# configure terminal
switch(config)# interface san-port-channel 3
switch(config-if)# no switchport description
switch(config-if)# no switchport speed
switch(config-if)#
```

**Related Commands**

Command	Description
<b>show interface</b>	Displays an interface configuration for a specified interface.
<b>shutdown</b>	Disables and enables an interface.
<b>channel mode active (SAN PortChannel)</b>	Configures a SAN port channel interface as an active port channel port.

# switchport (virtual Fibre Channel interface)

To configure a switch port parameter on a virtual Fibre Channel interface, use the **switchport** command. To discard the configuration, use the **no** form of this command.

**switchport mode {E | F | NP}**

**no switchport mode**

## Syntax Description

<b>switchport mode</b>	Specifies the mode of the virtual Fibre Channel interface.
<b>E</b>	Configures the virtual Fibre Channel interface as a virtual E (VE) port.
<b>F</b>	Configures the virtual Fibre Channel interface as an F port. This is the default mode.
<b>NP</b>	Configures the virtual Fibre Channel interface as an N-Port Virtualizer (NPV) port.

## Command Default

F port mode

## Command Modes

Virtual Fibre Channel interface configuration mode

## Command History

Release	Modification
5.0(2)N1(1)	This command was introduced.
5.0(2)N1(1)	The <b>bind</b> , <b>description</b> , <b>shutdown</b> , and <b>switchport</b> commands were separated from the <b>interface vfc</b> command.
5.0(2)N2(1)	Support for virtual E (VE) port was added.
5.0(3)N3(1)	Support for N-Port Virtualizer (NPV) port was added.

## Usage Guidelines

The Ethernet or EtherChannel interface that you bind to the virtual Fibre Channel interface must be a trunk port.

You can bind an F port to a member of a virtual port channel (vPC) if it is the only member of the vPC on the local switch. Because of limitations in the hardware, you cannot bind multiple virtual Fibre Channel interfaces to multiple members of the vPC. You can, however, bind an F port to non-vPC EtherChannels.

By default, a VE port is enabled for trunk mode. A VE port cannot be bound to a MAC address.

VE-capable ports allow the discovery and instantiation of virtual links between Cisco Nexus 5500 Series switches and SAN switches, which enables multi-hop FCoE on the switch.

## Examples

This example shows how to configure an F port on virtual Fibre Channel interface 3:

```
switch(config)# interface ethernet 1/1
switch(config-if)# switchport mode trunk
```

## switchport (virtual Fibre Channel interface)

```
switch(config-if)# exit
switch(config)# interface vfc 3
switch(config-if)# bind interface ethernet 1/1
switch(config-if)# switchport mode F
switch(config-if)#
```

This example shows how to configure a VE port on virtual Fibre Channel interface 3:

```
switch(config)# interface ethernet 1/1
switch(config-if)# switchport mode trunk
switch(config-if)# exit
switch(config)# interface vfc 3
switch(config-if)# bind interface ethernet 1/1
switch(config-if)# switchport mode E
switch(config-if)#
```

### Related Commands

Command	Description
<b>interface vfc</b>	Configures a virtual Fibre Channel interface.
<b>show interface vfc brief</b>	Displays the specified VFC interface, including its attributes and status.
<b>shutdown</b>	Disables and enables an interface.
<b>switchport mode trunk</b>	Configures an Ethernet interface as a trunk port.

# switchport mode trunk

To configure an Ethernet interface as a trunk port, use the **switchport mode trunk** command. To remove the configuration, use the **no** form of this command.

**switchport mode trunk**

**no switchport mode trunk**

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

**Command Default** None

**Command Modes** Interface configuration mode

Command History	Release	Modification
	5.0(2)N1(1)	This command was introduced.
	5.0(2)N1(1)	Switchport trunk mode is on by default for virtual Fibre Channel interfaces.

**Usage Guidelines** The Ethernet interface must be configured as a trunk port to allow both Fibre Channel and Ethernet traffic on the same interface.



**Note**

On Cisco NX-OS 5.0(2)N1(1), the switchport trunk mode is on by default for virtual Fibre Channel interfaces and cannot be configured.

**Examples** This example shows how to enable the trunk mode for interface Ethernet 2/1:

```
switch(config)# interface ethernet 2/1
switch(config-if)# switchport mode trunk
switch(config-if)#
```

Related Commands	Command	Description
	<b>show interface switchport</b>	Displays information on all interfaces configured as switch ports.

# switchport ignore bit-errors

To prevent the detection of bit error threshold events from disabling the interface on Fibre Channel interfaces, use the **switchport ignore bit-errors** command. To revert to the default, use the **no** form of this command.

**switchport ignore bit-errors**

**no switchport ignore bit-errors**

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

**Command Default** None

**Command Modes** Interface configuration mode

Command History	Release	Modification
	5.0(2)N1(1)	This command was introduced.

**Usage Guidelines** The bit error rate threshold is used by the switch to detect an increased error rate before performance degradation seriously affects traffic.

Bit errors can occur for the following reasons:

- Faulty or bad cable
- Faulty or bad SFP
- SFP is specified to operate at 1 Gbps but is used at 2 Gbps
- Short haul cable is used for long haul or long haul cable is used for short haul
- Momentary sync loss
- Loose cable connection at one or both ends
- Improper SFP connection at one or both ends

A bit error rate threshold is detected when 15 error bursts occur in a 5-minute period. By default, the switch disables the interface when the threshold is reached. You can enter a **shutdown/no shutdown** command sequence to reenable the interface.

Regardless of the setting of the **switchport ignore bit-errors** command, the switch generates a syslog message when bit error threshold events are detected.

**Examples** This example shows how to prevent the detection of bit error events from disabling the interface:

```
switch(config)# interface fc2/1
switch(config-if)# switchport ignore bit-errors
```

This example shows how to allow the detection of bit error events from disabling the interface:

```
switch(config)# interface fc2/1
switch(config-if)# no switchport ignore bit-errors
```

---

**Related Commands**

Command	Description
<b>show interface</b>	Displays interface information.

---

# system default switchport

To configure port attributes for Fibre Channel interfaces, use the **system default switchport** command. To disable port attributes, use the **no** form of this command.

```
system default switchport {shutdown | trunk mode {auto | off | on}}
```

```
no system default switchport {shutdown | trunk mode {auto | off | on}}
```

## Syntax Description

<b>shutdown</b>	Disables or enables switch ports by default.
<b>trunk</b>	Configures the trunking parameters as a default.
<b>mode</b>	Configures the trunking mode.
<b>auto</b>	Enables autosense trunking.
<b>off</b>	Disables trunking.
<b>on</b>	Enables trunking.

## Command Default

Enabled

## Command Modes

Global configuration mode

## Command History

Release	Modification
5.0(2)N1(1)	This command was introduced.

## Usage Guidelines

Attributes configured using this command are applied globally to all future switch port configurations, even if you do not individually specify them at that time.

This command changes the configuration of the following ports to administrative mode F:

- All ports that are down.
- All F ports that are up, whose operational mode is F, and whose administrative mode is not F.

This command does not affect non-F ports that are up; however, if non-F ports are down, this command changes the administrative mode of those ports.

## Examples

This example shows how to configure a port shutdown:

```
switch(config)# system default switchport shutdown
```

This example shows how to configure the trunk mode:

```
switch(config)# system default switchport trunk mode auto
```

Related Commands	Command	Description
	<b>show system default switchport</b>	Displays default values for switch port attributes.
	<b>show interface brief</b>	Displays Fibre Channel port modes.

# system default zone default-zone permit

To configure default values for a zone, use the **system default zone default-zone permit** command. To revert to the defaults, use the **no** form of this command.

**system default zone default-zone permit**

**no system default zone default-zone permit**

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

**Command Default** No default values for zones.

**Command Modes** Global configuration mode

Command History	Release	Modification
	5.0(2)N1(1)	This command was introduced.

**Usage Guidelines** This command defines the default values for the default zone for all Virtual SANs (VSANs). The default values are used when you initially create a VSAN and it becomes active. If you do not want to use the default values, use the **zone default-zone permit vsan** command to define the operational values for the default zone.

The **system default zone default-zone permit** command should only be used with VSANs that have not yet been created; it has no effect on existing VSANs.

Because VSAN 1 is the default VSAN and is always present, this command has no effect on it.

**Examples** This example shows how to set the default zone to use the default values:

```
switch(config)# system default zone default-zone permit
```

This example shows how to restore the default setting:

```
switch(config)# no system default zone default-zone permit
```

Related Commands	Command	Description
	<b>zone default-zone permit vsan</b>	Defines whether a default zone (nodes not assigned a created zone) permits or denies access to all in the default zone.
	<b>show system default zone</b>	Displays default values for the default zone.

# system default zone distribute full

To configure default values for distribution to a zone set, use the **system default zone distribute full** command. To revert to the defaults, use the **no** form of this command.

**system default zone distribute full**

**no system default zone distribute full**

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

**Command Default** Distribution to active zone sets only.

**Command Modes** Global configuration mode

Command History	Release	Modification
	5.0(2)N1(1)	This command was introduced.

**Usage Guidelines** This command distributes the default values for the default zone to all Virtual SANs (VSANs). The default values are used when you initially create a VSAN and it becomes active. If you do not want to use the default values, use the **zoneset distribute full vsan** command to distribute the operational values for the default zone.

The **system default zone distribute full** command should only be used with VSANs that have not yet been created; it has no effect on existing VSANs.

Because VSAN 1 is the default VSAN and is always present, this command has no effect on it.

**Examples** This example shows how to distribute the default values to the full zone set:

```
switch(config)# system default zone distribute full
```

This example shows how to distribute the default values to the active zone set only:

```
switch(config)# no system default zone distribute full
```

Related Commands	Command	Description
	<b>zoneset distribute full vsan</b>	Distributes the operational values for the default zone to all zone sets.
	<b>show system default zone</b>	Displays default values for the default zone.

