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CHAPTER 5

Quality of Service Commands

This chapter describes the Cisco NX-OS quality of service commands available on Cisco Nexus 5000 Series switches.

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class-map

To create or modify a class map and enter the class-map configuration mode, use the **class-map** command. To remove a class map, use the **no** form of this command.

class-map *class-map-name*

no class-map *class-map-name*

Syntax Description	<i>class-map-name</i> Name assigned to the class map. The name class default is reserved.	
Command Default	None	
Command Modes	Global configuration.	
Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.
Usage Guidelines	You can define a class map for each class of traffic to be used in QoS policies.	
Examples	This example shows how to create or modify a class map:	
	<pre>switch(config)# class-map my_class1 switch(config-cmap)#</pre>	
Examples	This example shows how to remove a class map:	
	<pre>switch(config)# no class-map my_class1</pre>	
Related Commands	Command	Description
	policy-map	Creates or modifies a policy map.
	show class-map	Displays class maps.

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flowcontrol

To enable IEEE 802.3x link-level flow control for the selected interface, use the **flow-control** command.

flowcontrol [receive {on | off}] [transmit {on | off}]

Syntax Description	receive {on off}	(Optional) Sets flow control in the receive direction.
	transmit {on off}	(Optional) Sets flow control in the transmit direction.

Command Default	None
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Command Modes	Interface configuration mode
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Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.

Examples	This example shows how to enable flow control for traffic received on an interface:
----------	---

```
switch# configure terminal
switch(config)# interface ethernet 1/2
switch(config-if)# flowcontrol receive on
```

Related Commands	Command	Description
	priority-flow-control	Sets the PFC mode for the selected interface.

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match cos (class map type qos)

To define the class of traffic using the Class of Service (CoS) value in a type qos class map, use the **match cos** command. To remove the match on the CoS value, use the **no** form of this command.

match [**not**] **cos** *cos-list*

no match [**not**] **cos** *cos-list*

Syntax Description

not	(Optional) Negates the specified match result.
<i>cos-list</i>	Matches on the specified COS value or list of specified CoS values. Valid values are from 0 to 7.

Defaults

None

Command Modes

Class-map type qos configuration

Command History

Release	Modification
4.1(3)N1(1)	This command was introduced.

Usage Guidelines

To specify a list of values, use one of the following options:

- Specify a range of values separated by a dash
- Specify a noncontiguous list of values separated by commas



Note

Only class maps of type qos support the optional **not** keyword form of this command. Class maps of type queuing do not support the **not** keyword.

This command does not require a license.

Examples

This example shows how to match on the CoS value for a type qos class map:

```
switch(config)# class-map class_acl
switch(config-cmap-qos)# match cos 5-7
```

Related Commands

Command	Description
show class-map	Displays class maps.

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match access-group

To identify a specified access control list (ACL) group as a match criteria for a class map, use the **match access-group** command in the class map configuration mode. To remove ACL match criteria from a class map, use the **no** form of this command.

match access-group name *acl-name*

no match access-group name *acl-name*

Syntax Description

access-group Matches on the characteristics in the ACL name specified.
name *acl-name*

Defaults

None

Command Modes

Class-map type qos configuration

Command History

Release	Modification
4.1(3)N1(1)	This command was introduced.

Usage Guidelines



Note

The **permit** and **deny** ACL keywords do not affect the matching of packets.

This command does not require a license.

Examples

This example shows how to create a qos class map that matches characteristics of the ACL my_acl:

```
switch(config)# class-map class_acl
switch(config-cmap-qos)# match access-group name my_acl
```

Related Commands

Command	Description
show class-map	Displays class maps.

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match class-map

To match on the match commands in a specified class map, use the **match class-map** command in the class map configuration mode. To remove the match on the specified class map, use the **no** form of this command.

match [**not**] **class-map** *class-map-name*

no match [**not**] **class-map** *class-map-name*

Syntax Description	not	(Optional) Negates the specified match result.
	<i>class-map-name</i>	Matches on the match commands in the specified class-map name.

Defaults	None
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Command Modes	Class-map type qos configuration
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Command History	Release	Modification
	4.1(3)N1(1)	This command was introduced.

Usage Guidelines	This command does not require a license.
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Examples	This example shows how to match on the matches specified in class map named my_test:
-----------------	--

```
switch(config)# class-map my_test
switch(config-cmap-qos)# match class-name my_test
```

Related Commands	Command	Description
	show class-map	Displays class maps.

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match cos (class map type qos)

To define the class of traffic using the Class of Service (CoS) value in a type qos class map, use the **match cos** command. To remove the match on the CoS value, use the **no** form of this command.

match [**not**] **cos** *cos-list*

no match [**not**] **cos** *cos-list*

Syntax Description	<table> <tr> <td>not</td><td>(Optional) Negates the specified match result.</td></tr> <tr> <td><i>cos-list</i></td><td>Matches on the specified COS value or list of specified CoS values. Valid values are from 0 to 7.</td></tr> </table>	not	(Optional) Negates the specified match result.	<i>cos-list</i>	Matches on the specified COS value or list of specified CoS values. Valid values are from 0 to 7.
not	(Optional) Negates the specified match result.				
<i>cos-list</i>	Matches on the specified COS value or list of specified CoS values. Valid values are from 0 to 7.				
Defaults	None				
Command Modes	Class-map type qos configuration				
Command History	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>4.1(3)N1(1)</td><td>This command was introduced.</td></tr> </table>	Release	Modification	4.1(3)N1(1)	This command was introduced.
Release	Modification				
4.1(3)N1(1)	This command was introduced.				
Usage Guidelines	To specify a list of values, use one of the following options: - Specify a range of values separated by a dash - Specify a noncontiguous list of values separated by commas				
 Note	Only class maps of type qos support the optional not keyword form of this command. Class maps of type queuing do not support the not keyword. This command does not require a license.				
Examples	This example shows how to match on the CoS value for a type qos class map: <pre>switch(config)# class-map class_acl switch(config-cmap-qos)# match cos 5-7</pre>				
Related Commands	<table> <tr> <th>Command</th><th>Description</th></tr> <tr> <td>show class-map</td><td>Displays class maps.</td></tr> </table>	Command	Description	show class-map	Displays class maps.
Command	Description				
show class-map	Displays class maps.				

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match cos (class map type queuing)

To define the class of traffic in a type queuing class map, use the **match cos** command. To remove the **match** configuration, use the **no** form of these commands.

match cos *cos-list*

no match cos *cos-list*

Syntax Description	<i>cos-list</i> Matches on the specified COS value or list of specified CoS values. Valid values are from 0 to 7.	
Defaults	None	
Command Modes	Class-map type queuing configuration	
Command History	Release	Modification
	4.1(3)N1(1)	This command was introduced.
Usage Guidelines	To specify a list of values, use one of the following options: - Specify a range of values separated by a dash - Specify a noncontiguous list of values separated by commas	
 Note	Only class maps of type qos support the optional not keyword form of this command.	
	This command does not require a license.	
Examples	This example shows how to modify a type queuing class map to match on CoS: <pre>switch(config)# class-map type queuing match-any 8q2t-in-q4 switch(config-cmap-que)# match cos 3 switch(config-cmap-que)#</pre>	
Related Commands	Command	Description
	show class-map	Displays class maps.

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match dscp

To identify specific Differentiated Services code point (DSCP) values as a match criteria, use the **match dscp** command. To remove specified DSCP values as a match criteria, use the **no** form of this command.

match [**not**] **dscp** *dscp-list*

no match [**not**] **dscp** *dscp-list*

Syntax Description	not	(Optional) Negates the specified match result.
	<i>dscp-list</i>	Matches on the specified DSCP value or list of DSCP values. See Table 1 for a list of valid DSCP values.

Defaults	None
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Command Modes	Class-map type qos configuration
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Command History	Release	Modification
	4.1(3)N1(1)	This command was introduced.

Usage Guidelines	The standard DSCP values are shown in Table 1 .
	To specify a list of values, use one of the following options:

Table 1 **Standard DSCP Values**

	List of DSCP Values
af11	AF11 dscp (001010)—decimal value 10
af12	AF12 dscp (001100)—decimal value 12
af13	AF13 dscp (001110)—decimal value 14
af21	AF21 dscp (010010)—decimal value 18
af22	AF22 dscp (010100)—decimal value 20
af23	AF23 dscp (010110)—decimal value 22
af31	AF31 dscp (011010)—decimal value 26
af32	AF40 dscp (011100)—decimal value 28
af33	AF33 dscp (011110)—decimal value 30
af41	AF41 dscp (100010)—decimal value 34
af42	AF42 dscp (100100)—decimal value 36
af43	AF43 dscp (100110)—decimal value 38
cs1	CS1 (precedence 1) dscp (001000)—decimal value 8

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Table 1 **Standard DSCP Values (continued)**

	List of DSCP Values
cs2	CS2 (precedence 2) dscp (010000)—decimal value 16
cs3	CS3 (precedence 3) dscp (011000)—decimal value 24
cs4	CS4 (precedence 4) dscp (100000)—decimal value 32
cs5	CS5 (precedence 5) dscp (101000)—decimal value 40
cs6	CS6 (precedence 6) dscp (110000)—decimal value 48
cs7	CS7 (precedence 7) dscp (111000)—decimal value 56
default	Default dscp (000000)—decimal value 0
ef	EF dscp (101110)—decimal value 46

- Specify a range of values separated by a dash
- Specify a noncontiguous list of values separated by commas

This command does not require a license.

Examples

This example shows how to match on DSCP value af21:

```
switch(config)# class-map my_test
switch(config-cmap-qos)# match dscp af21
```

Related Commands

Command	Description
show class-map	Displays class maps.

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match ip rtp

To configure a class map to use the Real-Time Protocol (RTP) port as a match criteria, use the **match ip rtp** command. To remove the RTP port as a match criteria, use the **no** form of this command.

match [not] ip rtp *port-list*

no match [not] ip rtp *port-list*

Syntax Description	not	(Optional) Negates the specified match result.
	<i>port-list</i>	Matches on the specified UDP or list of UDP ports that are using RTP. Valid values range from 2000 to 65535.
Defaults	None	
Command Modes	Class-map type qos configuration	
Command History	Release	Modification
	4.1(3)N1(1)	This command was introduced.
Usage Guidelines	To specify a list of values, use one of the following options:	
	- Specify a range of values separated by a dash - Specify a noncontiguous list of values separated by commas	
	This command does not require a license.	
Examples	This example shows how to match on a port using RTP:	
	<pre>switch(config)# class-map my_test switch(config-cmap-qos)# match ip rtp 2300</pre>	
Related Commands	Command	Description
	show class-map	Displays class maps.

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match precedence

To configure a class map to use the precedence value in the Type of Service (TOS) byte field of the IP header as a match criteria, use the **match precedence** command. To remove the precedence values as a match criteria, use the **no** form of this command.

match [**not**] **precedence** *precedence-list*

no match [**not**] **precedence** *precedence-list*

Syntax Description

not	(Optional) Negates the specified match result.
<i>precedence-list</i>	Matches on the specified IP precedence value or list of IP precedence values specified in bytes. Valid values are shown in Table 2 .

Defaults

None

Command Modes

Class-map type qos configuration

Command History

Release	Modification
4.1(3)N1(1)	This command was introduced.

Usage Guidelines

See [Table 2](#) for a list of precedence values.

Table 2 **Precedence Values**

	List of Precedence Values
<0-7>	IP precedence value
critical	Critical precedence (5)
flash	Flash precedence (3)
flash-override	Flash override precedence (4)
immediate	Immediate precedence (2)
internet	Internetwork control precedence (6)
network	Network control precedence (7)
priority	Priority precedence (1)
routine	Routine precedence (0)

To specify a list of values, use one of the following options:

- Specify a range of values separated by a dash
- Specify a noncontiguous list of values separated by commas

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This command does not require a license.

Examples

This example shows how to match on an IP precedence value:

```
switch(config)# class-map my_test  
switch(config-cmap-qos)# match precedence 7
```

Related Commands

Command	Description
show class-map	Displays class maps.

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match protocol

To configure a class map to use a specific protocol as a match criterion, use the **match protocol** command. To remove the specified protocol as a match criteria, use the **no** form of this command.

match [**not**] **protocol** *protocol-name*

no match [**not**] **protocol** *protocol-name*

Syntax Description

not	(Optional) Negates the specified match result.
<i>protocol-name</i>	Matches on the specified protocol name. Valid values are shown in Table 3 .

Defaults

None

Command Modes

Class-map type qos configuration

Command History

Release	Modification
4.1(3)N1(1)	This command was introduced.

Usage Guidelines

The list of valid protocol names is shown in [Table 3](#).

Table 3 Protocol Names

Argument	Description
arp	Address Resolution Protocol (ARP)
bridging	Bridging
cdp	Cisco Discovery Protocol (CDP)
clns	Connectionless Network Service (CLNS)
clns_es	CLNS End Systems
clns_is	CLNS Intermediate System
dhcp	Dynamic Host Configuration (DHCP)
isis	Intermediate system to intermediate system (IS-IS)
ldp	Label Distribution Protocol (LDP)
netbios	NetBIOS Extended User Interface (NetBEUI)



Note

A maximum of eight different of the above protocols can be matched at one time.

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To specify more than one protocol, enter the command more than once with the desired protocol value each time.

This command does not require a license.

Examples

This example shows how to match on a specified protocol:

```
switch(config)# class-map my_test  
switch(config-cmap-qos)# match protocol ldp
```

Related Commands

Command	Description
show class-map	Displays class maps.

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policy-map type qos

To create or modify a policy map and enter the policy map type qos configuration mode, use the **policy-map type qos** command. To remove a policy map, use the **no** form of this command.

policy-map [**type qos**] [**match-first**] *qos-policy-map-name*

no policy-map [**type qos**] [**match-first**] *qos-policy-map-name*

Syntax Description

match-first	(Optional) Specifies that policies associated with the first class that matches the packet characteristics are executed. This is the default action if this option is not specified.
	Note Because this is the default action, you do not need to enter this variable; it is here to ensure compatibility with other systems.
<i>qos-policy-map-name</i>	Name assigned to a type qos policy map.

Defaults

The software enters the policy map type qos configuration mode if you enter the **policy-map** command without specifying a type.

Command Modes

Global configuration

Command History

Release	Modification
4.1(3)N1(1)	This command was introduced.

Usage Guidelines

Use the [service-policy](#) command to assign policy maps to interfaces. This command does not require a license.

Examples

This example shows how to create or modify a type qos policy map:

```
switch(config)# policy-map my_policy1
switch(config-pmap-qos)#
```

This example shows how to remove a type qos policy map:

```
switch(config)# no policy-map my_policy1
```

Related Commands

Command	Description
service-policy	Attaches a policy map to an interface.
show policy-map	Displays policy maps.

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priority-flow-control

To set the (priority-flow-control) PFC mode for the selected interface, use the **priority-flow-control** command.

priority-flow-control mode { auto | on }

Syntax Description

auto	Negotiates PFC capability.
on	Force-enables PFC.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples

This example shows how to force-enable PFC on an interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/2
switch(config-if)# priority-flow-control mode on
```

Related Commands

Command	Description
flowcontrol	Sets link-level flow control for the selected interface.

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service-policy

To attach a policy map to an interface, VLAN, or tunnel, use the **service-policy** command. To remove a service-policy from an interface, VLAN or tunnel, use the **no** form of this command.

service-policy [**type** {**qos** | **queuing**|**network-qos**}] [**input** | **output**] *policy-map-name*

no service-policy [**type** {**qos** | **queuing**|**network-qos**}] [**input** | **output**] *policy-map-name*

Syntax Description

type	(Optional) Specifies whether the policy map is of type qos or queuing.
qos	Specifies a policy map of type qos.
queuing	Specifies a policy map of type queuing.
input	Applies this policy map to packets coming into this interface.
output	Applies this policy map to packets going out of this interface.
<i>policy-map-name</i>	Name of the policy map to attach to this interface. Only one policy map can be attached to the input and one to the output of a given interface for each of the policy type qos and queuing.

Defaults

type default is qos.

No policies of type qos are active on an interface until the **service-policy** command is issued. The system-defined type queuing class maps are attached to each interface unless you specifically attach a different class map.

Command Modes

Interface configuration
VLAN configuration

Command History

Release	Modification
4.1(3)N1(1)	This command was introduced.

Usage Guidelines

No policies of type qos are active on an interface until you enter the **service-policy** command. The system-defined type queuing class maps are attached to each interface unless you specifically attach a different class map.

You can attach one ingress and one egress type qos policy map to port, port channel, tunnel, and VLANs. You can attach one ingress and one egress type queuing policy map to an interface of type port, port channel, tunnel, and VLAN.

Only one policy map can be attached to the input and one to the output of a given interface for each of the policy type qos and queuing.



Note

For more information on using service policies, see the Cisco Nexus 5000 Series Configuration Guide, Cisco NX-OS Release 4.1.

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This command does not require a license.

Examples

This example shows how to attach qos type policy maps to the ingress and egress packets of a VLAN:

```
switch(config)# vlan 1
switch(config-vlan)# service-policy input my_input_policy
switch(config-vlan)# service-policy output my_output_policy
switch(config-vlan)#
```

This example shows how to attach a queuing policy map to the ingress packets of a port interface:

```
switch(config)# interface ethernet 2/1
switch(config-if)# service-policy type queuing input my_input_q_policy
switch(config-if)#
```

This example shows how to remove a policy map from a VLAN:

```
switch(config)# vlan 1
switch(config-vlan)# no service-policy input my_input_policy
switch(config-vlan)#
```

Related Commands

Command	Description
show policy-map interface brief	Displays all interfaces and VLANs with attached service policies in a brief format.

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show class-map type qos

To display type qos class maps, use the **show class-map type qos** command.

show class-map type qos [*class-map-name* | *color-class-map-name*]

Syntax Description

<i>class-map-name</i>	Named class map. The name <i>class-default</i> is reserved.
<i>color-class-map-name</i>	System-defined color class map.

Defaults

Displays all type qos class maps if no class map name is specified.

Command Modes

Any command mode

Command History

Release	Modification
4.1(3)N1(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display all type qos class maps:

```
switch(config)# show class-map type qos
```

Related Commands

Command	Description
class-map	Creates or modifies a class map.

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show class-map type queuing

To display type queuing class maps, use the **show class-map type queuing** command.

show class-map type queuing [*class-map-name*]

Syntax Description	<i>class-map-name</i>	Named class map.
Defaults	Displays all type queuing class maps if no class map name is specified.	
Command Modes	Any command mode	
Command History	Release	Modification
	4.1(3)N1(1)	This command was introduced.
Usage Guidelines	This command does not require a license.	
Examples	This example shows how to display all type queuing class maps: <pre>switch(config)# show class-map type queuing</pre>	
Related Commands	Command	Description
	class-map	Creates or modifies a class map.

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show interface priority-flow-control

To display the priority flow control details for a specified interface, use the **show interface priority-flow-control** command.

show interface [*name*] **priority-flow-control**

Syntax Description	<i>name</i> (Optional) Name of the interface.
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Command Default	None
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Command Modes	Global configuration.
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Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.

Examples

This example shows how to display the priority flow control details for a specified interface:

```
switch(config)# show interface ethernet 1/1 priority-flow-control
```

```
-----
```

Port	Mode	Oper	RxPPP	TxPPP
Eth1/1	auto	off	0	0

```
-----
```

The interface specified is Ethernet 1/1, the PFC mode is set to negotiate PFC capability, the operation is off and packets transmitted is zero.

Related Commands	Command	Description
	priority-flow-control	Sets the PFC mode for the selected interface.

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show policy-map

To display policy maps, use the **show policy-map** command.

show policy-map [**type** {**qos** | **queuing**|**network-qos**}] [*policy-map-name*]

Syntax Description	type	(Optional) Specifies the component type to display.
	qos	Displays policy maps of type qos only.
	queuing	Displays policy maps of type queuing only.
	<i>policy-map-name</i>	(Optional) Displays a named policy map.

Defaults	None.
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Command Modes	Any command mode
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Command History	Release	Modification
	4.1(3)N1(1)	This command was introduced.

Usage Guidelines	When you enter the command show policy-map with no arguments or keywords, the system also displays the Control Plane Policing (CoPP) information. This command does not require a license.
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Examples	This example shows how to display a named policy map:
----------	--

```
switch(config)# show policy-map abc
switch(config)# show policy-map type queuing
```

Related Commands	Command	Description
	class-map	Creates or modifies a class map.

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show policy-map interface

To display the service policy maps configured on the the interfaces, use the **show policy-map interface** command.

show policy-map interface [**ethernet** {*slot/port*} | **port-channel** {*channel-number*}] [**input** | **output**] [**type** {**qos** | **queuing**}]

Syntax Description

ethernet	(Optional) Displays policy maps assigned to Ethernet interfaces.
<i>slot/port</i>	Displays policy maps assigned to specified interface.
port-channel	(Optional) Displays policy maps assigned to port channels.
<i>channel-number</i>	Displays policy maps assigned to specified port channel.
input	(Optional) Displays policy maps assigned to input traffic only.
output	(Optional) Displays policy maps assigned to output traffic only.
type	(Optional) Specifies the component type to display.
qos	Displays policy maps of type qos only.
queuing	Displays policy maps of type queuing only.

Defaults

None.

Command Modes

Any command mode

Command History

Release	Modification
4.1(3)N1(1)	This command was introduced.

Usage Guidelines

Statistics are on by default.
This command does not require a license.

Examples

This example shows how to display the service policies assigned to interfaces:

```
switch# show policy-map interface

Global statistics status :   disabled

Ethernet1/1

  Service-policy (qos) input:   default-in-policy
    policy statistics status:   disabled

  Class-map (qos):   class-default (match-any)
    Match: any
    set qos-group 0
```

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```
Service-policy (queuing) input:  default-in-policy
policy statistics status:  disabled
```

```
Class-map (queuing):  class-default (match-any)
  Match: qos-group 0
  bandwidth percent 100
```

```
Service-policy (queuing) output:  default-out-policy
policy statistics status:  disabled
```

```
--More--
<--output truncated-->
switch#
```

This example shows how to display policy maps assigned to a specified interface:

```
switch(config)# show policy-map interface ethernet 2/10
switch(config)# show policy-map interface ethernet 2/2 type qos
```

Related Commands

Command	Description
class-map	Creates or modifies a class map.

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show policy-map interface brief

To display policy maps applied to interfaces in a brief format, use the **show policy-map interface brief** command.

show policy-map interface brief

Syntax Description This command has no arguments or keywords.

Defaults None

Command Modes Any command mode

Command History	Release	Modification
	4.1(3)N1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to display assigned policy maps in a brief format:

```
switch(config)# show policy-map interface brief

Interface/VLAN [Status]:INP QOS      OUT QOS      INP QUE      OUT QUE
=====
port-channel15  [Active]:                               default-in-po default-out-p
port-channel20  [Active]:                               default-in-po default-out-p
port-channel30  [Active]:                               default-in-po default-out-p
port-channel37  [Active]:                               default-in-po default-out-p
port-channel50  [Active]:                               default-in-po default-out-p

Ethernet2/2     [Active]:                               default-in-po default-out-p
Ethernet2/3     [Active]:                               default-in-po default-out-p
=====
```

Related Commands	Command	Description
	show policy-map	Displays policy maps.

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show policy-map interface

To display the system policy configured on the system and per class statistics, use the **show policy-map interface** command.

show policy-map interface [*name*]

Syntax Description	<i>name</i> (Optional) Name of the interface.	
Command Default	None	
Command Modes	Global configuration.	
Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.
Usage Guidelines	This command provides per class statistics.	
Examples	This example shows the per class pause statistics displayed for a default system class: <pre>switch(config)# show policy-map interface ethernet 3/1</pre>	
Related Commands	Command	Description
	policy-map	Creates or modifies a policy map.
	show policy-map	Displays policy maps.

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show queuing interface

To display the queuing information of interfaces, use the show queuing interface command.

show queuing interface [**ethernet** *slot-chassis-no/port-slot-no/port-no*]

Syntax Description	ethernet	(Optional) Specifies that queuing information be displayed for an Ethernet interface or a Fabric Extender.
	<i>slot-chassis-no</i>	Slot number of the Ethernet interface or chassis ID of the Fabric Extender. The range is from 1 to 255.
	<i>port-slot-no</i>	Port number of the Ethernet interface or the remote slot ID of the Fabric Extender. The range is from 1 to 128.
	<i>port-no</i>	Port number of the Fabric Extender. The range is from 1 to 48.

Command Default Displays the queuing information for all interfaces.

Command Modes EXEC mode

Command History	Release	Modification
	4.1(3)N1(1)	This command was introduced.

Examples This example shows how to display the queuing information of a specified interface:

```
switch# show queuing interface ethernet 1/4
```

```
Interface Ethernet1/4 TX Queuing
qos-group sched-type oper-bandwidth
  0      WRR          50
  1      WRR          50
  5      priority     0

Interface Ethernet1/4 RX Queuing
qos-group 0:
  q-size: 102400, MTU: 1538
  drop-type: drop, xon: 0, xoff: 640
  Statistics:
    Pkts received over the port          : 1
    Ucast pkts sent to the cross-bar     : 0
    Mcast pkts sent to the cross-bar     : 1
    Ucast pkts received from the cross-bar : 1577841
    Pkts sent to the port                 : 1577841
    Pkts discarded on ingress             : 0
    Per-priority-pause status            : Rx (Inactive), Tx (Inactive)

qos-group 1:
  q-size: 76800, MTU: 2240
  drop-type: no-drop, xon: 128, xoff: 240
  Statistics:
```

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```

Pkts received over the port          : 0
Ucast pkts sent to the cross-bar     : 0
Mcast pkts sent to the cross-bar     : 0
Ucast pkts received from the cross-bar : 0
Pkts sent to the port                : 0
Pkts discarded on ingress             : 0
Per-priority-pause status            : Rx (Inactive), Tx (Inactive)

qos-group 5:
  q-size: 122880, MTU: 1538
  drop-type: drop, xon: 0, xoff: 768
  Statistics:
    Pkts received over the port          : 0
    Ucast pkts sent to the cross-bar     : 0
    Mcast pkts sent to the cross-bar     : 0
    Ucast pkts received from the cross-bar : 0
    Pkts sent to the port                : 1
    Pkts discarded on ingress             : 0
    Per-priority-pause status            : Rx (Inactive), Tx (Inactive)

switch#
```

Table 5-4 describes the significant fields shown in the display.

Table 5-4 *show queuing interface Field Descriptions*

Field	Description
Ethernet ...	Ethernet interface information.
qoS-group	Information about QoS groups configured on the switch.
sched-type	Type of schedule.
WRR	Weighted round robin(WRR). Queue eight for scheduling.
Priority	Priority of the queue.
q-size	Queue size.
drop-type	Queue drop type can be either drop or no-drop.
MTU	Maximum transmit unit (MTU) for the queue.
Xon	Transmission on at this threshold.
Xoff	Transmission off at this threshold.

Related Commands

Command	Description
show fex	Displays all configured Fabric Extender chassis connected to the switch.

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system jumbomtu

To define the upper bound of any MTU in the system, use the **system jumbomtu** command.

system jumbomtu [value]

Syntax Description	<i>value</i>	The jumbomtu value. The range is 2240-9216.
Command Default	9216 bytes	
Command Modes	Global configuration	
Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.
Examples	This example shows how to define the upper bound of any MTU in the system: <pre>switch(config)# system jumbomtu 9216</pre>	
Related Commands	Command	Description
	show interface	Displays the jumbo MTU frames sent and received on the specified interface.

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system qos

To configure system policy, use the **system qos** command.

system qos

Syntax Description

None

Command Default

None

Command Modes

Global configuration

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples

This example shows how to configure a system qos:

```
switch# configure terminal  
switch(config)# system qos
```

Related Commands

Command	Description
service- policy	Associates the system class policy-map to the service policy for the system

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untagged cos

Ethernet frames received with no CoS value are given a CoS value of 0. To override this value for the selected interface, use the **untagged cos** command.

untagged cos *cos-value*

Syntax Description

<i>cos-value</i>	Specifies a Class of Service (CoS) value for untagged frames. Values can range from 1 to 7.
------------------	---

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
4.0(1a)N1(1)	This command was introduced.

Usage Guidelines

No license required for the command.

Examples

This example shows how to set the CoS value to 4 for untagged frames received on an interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/2
switch(config-if)# untagged cos 4
```

Related Commands

Command	Description
match cos	Sets the CoS value to match for the selected class.