

wrr-queue cos-map

To map CoS values to drop thresholds for a queue, use the **wrr-queue cos-map** command. To return to the default settings, use the **no** form of this command.

```
wrr-queue cos-map queue-id threshold-id cos-1 ... cos-n
```

```
no wrr-queue cos-map
```

Syntax Description

<i>queue-id</i>	Queue number; the valid value is 1.
<i>threshold-id</i>	Threshold ID; valid values are from 1 to 4.
<i>cos-1 ... cos-n</i>	CoS value; valid values are from 0 to 7.

Command Default

The defaults are as follows:

- Receive queue 1/drop threshold 1 and transmit queue 1/drop threshold 1: CoS 0 and 1.
- Receive queue 1/drop threshold 2 and transmit queue 1/drop threshold 2: CoS 2 and 3.
- Receive queue 2/drop threshold 3 and transmit queue 2/drop threshold 1: CoS 4 and 6.
- Receive queue 2/drop threshold 4 and transmit queue 2/drop threshold 2: CoS 7.
- On 1p1q4t, 1p2q2t, and 1p3q1t interfaces, CoS 5 is mapped to the strict-priority queues.

Command Modes

Interface configuration (config-if)

Command History

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

Usage Guidelines

Enter up to eight CoS values to map to the threshold.
The threshold for 1p3q1t is always 1.

Examples

This example shows how to map the CoS values 0 and 1 to standard transmit queue 1/threshold 1:

```
Router(config-if)# wrr-queue cos-map 1 1 0 1
Router(config-if)#
```

Related Commands

show queueing interface	Displays queueing information.
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wrr-queue dscp-map

To map the hardware DSCP values to the drop threshold values for a queue, use the **wrr-queue dscp-map** command. To return to the default settings, use the **no** form of this command.

```
wrr-queue dscp-map queue-id threshold-id dscp-1 ... dscp-n
```

```
no wrr-queue dscp-map queue-id
```

Syntax Description		
	<i>queue-id</i>	Queue number; valid values are from 1 to 8.
	<i>threshold-id</i>	Threshold ID; valid values are from 1 to 4.
	<i>dscp-1</i> ... <i>dscp-n</i>	DSCP value; valid values are from 0 to 7.

Command Default CoS mode

Command Modes Interface configuration (config-if)

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

Usage Guidelines



Note

To enter the **wrr-queue dscp-map** command, the interface must be in DSCP-queuing mode. Use the **mls qos queue-mode mode-dscp** command to set the mode to DSCP.

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

When mapping DSCP values, follow these guidelines:

- You can enter up to eight DSCP values that map to a queue and threshold.
- You can enter multiple commands to map additional DSCP values to the queue and threshold.
- You must enter a separate command for each queue and threshold.

Examples

This example shows how to map the hardware DSCP values to the drop threshold values for a queue:

```
Router(config-if)# wrr-queue dscp-map 8 1 0 1 2 3
Router(config-if)#
```

Related Commands [show queueing interface](#) Displays queueing information.

wrr-queue queue-limit

To set the transmit-queue size ratio on an interface, use the **wrr-queue queue-limit** command. To return to the default settings, use the **no** form of this command.

```
wrr-queue queue-limit {queue1-weight [queue2-weight] queue3-weight}
```

```
no wrr-queue queue-limit
```

```
wrr-queue queue-limit {queue1-weight [queue2-weight] queue3-weight}
```

```
no wrr-queue queue-limit
```

Syntax Description		
<i>queue1-weight</i>	Ratio of the low-priority queue weight; valid values are from 1 and 100 percent.	
<i>queue2-weight</i>	(Optional) Ratio of the medium-priority queue weight; valid values are from 1 and 100 percent.	
<i>queue3-weight</i>	Ratio of the high-priority queue weight; see the “Usage Guidelines” section for valid values.	

Command Default

The defaults are as follows:

- 90 percent for low priority
- 10 percent for high priority

Command Modes

Interface configuration (config-if)

Command History

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

Usage Guidelines

Valid high-priority weight values are from 1 to 100 percent, except on 1p2q1t egress LAN ports, where valid values for the high-priority queue are from 5 to 100 percent.

On LAN ports that have an egress strict priority queue, PFC QoS sets the egress strict-priority queue size equal to the high-priority queue size.

Estimate the mix of low priority-to-high priority traffic on your network (for example, estimate 80 percent to low-priority traffic and 20 percent to high-priority traffic). Use the estimated percentages as queue weights.

Due to the granularity of programming the hardware, the values that are set in the hardware are close approximations of the provided values. For example, if you specify 0 percent, the actual value that is programmed is not necessarily 0.

Examples

This example shows how to configure the transmit-queue size ratio:

```
Router (config-if)# wrr-queue queue-limit 75 25
Router(config-if)#
```

Related Commands

Command	Description
show queueing interface	Displays queueing information.
wrr-queue	Allocates the bandwidth between the standard transmit queues.

wrr-queue random-detect

To enable WRED or specify the minimum and maximum WRED threshold for the specified queues on 1p2q2t and 1p3q1t interfaces, use the **wrr-queue random-detect** command. To return to the default settings, use the **no** form of this command.

```
wrr-queue random-detect queue-id
```

```
wrr-queue random-detect {max-threshold | min-threshold} queue-id threshold-percent-1 ...  
threshold-percent-n
```

```
no wrr-queue random-detect queue-id
```

```
no wrr-queue random-detect {max-threshold | min-threshold} queue-id
```

Syntax Description

<i>queue-id</i>	Queue number; valid values are 1, 2, or 3.
max-threshold	Specifies the maximum WRED-drop threshold.
min-threshold	Specifies the minimum WRED-drop threshold.
<i>threshold-percent-1</i> <i>threshold-percent-n</i>	Threshold weights; valid values are from 1 to 100 percent.

Command Default

The default is that WRED is disabled. When WRED is enabled, the defaults are as follows:

- The maximum threshold is (low) 40 percent and (high) 100 percent.
- The minimum thresholds are both set to zero.

Command Modes

Interface configuration (config-if)

Command History

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

Usage Guidelines

1p2q1t and 1p3q1t interfaces have WRED-drop thresholds in their standard transmit queues. You can configure 1p3q1t transmit queues to use a WRED-drop threshold or a tail-drop threshold.

To enable WRED-drop thresholds on 1p2p1t interfaces, enter the **wrr-queue random-detect** *queue-id* command. Use the **no** form of this command to disable WRED.

To enable WRED-drop thresholds on 1p3q1t interfaces, enter the **wrr-queue random-detect** *queue-id* command. To return to the tail-drop threshold, enter the **no wrr-queue random-detect** *queue-id* command.

The *queue-id* is 1 for the standard low-priority queue, 2 is for the standard high-priority queue, and 3 is for strict priority.

The threshold in the strict-priority queue is not configurable.

Each queue on a 1p2q2t interface has two thresholds; 1p3q1t interfaces have one threshold.

Each threshold has a low and a high WRED value.

WRED values are a percentage of the queue capacity.

For additional information on configuring WRED thresholds, refer to the QoS chapter in the *Catalyst Supervisor Engine 32 PISA Cisco IOS Software Configuration Guide—Release 12.2ZY*.

Examples

This example shows how to configure the low-priority transmit-queue high-WRED drop thresholds:

```
Router (config-if)# wrr-queue random-detect max-threshold 1 60 100
Router (config-if)#
```

Related Commands

Command	Description
show queueing interface	Displays queueing information.
wrr-queue queue-limit	Sets the transmit-queue size ratio on an interface.

wrr-queue shape

To configure the SRR maximum queue bandwidth with percentages or weights, use the **wrr-queue shape** command. To return to the default settings, use the **no** form of this command.

```
wrr-queue shape { percent low-priority-queue-percentage
  [intermediate-priority-queue-percentage] high-priority-queue-percentage }
```

```
wrr-queue shape { low-priority-queue-weight [intermediate-priority-queue-weight]
  high-priority-queue-weight }
```

```
no wrr-queue shape
```

Syntax Description		
percent <i>low-priority-queue-percentage</i>		Specifies the minimum SRR percentage; valid values are from 1 to 100.
<i>intermediate-priority-queue-percentage</i>		(Optional) Intermediate SRR percentage; valid values are from 1 to 100.
<i>high-priority-queue-percentage</i>		Maximum SRR percentage; valid values are from 1 to 100.
<i>low-priority-queue-weight</i>		Minimum SRR weight; valid values are from 1 to 255.
<i>intermediate-priority-queue-weight</i>		(Optional) Intermediate SRR weight; valid values are from 1 to 255.
<i>high-priority-queue-weight</i>		Maximum SRR weight; valid values are from 1 to 255.

Command Default

The defaults are as follows:

- 1p3q8t—22:33:45
- 1p7q4t—100:150:200:0:0:0:0

Command Modes

Interface configuration (config-if)

Command History

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

Usage Guidelines

SRR allows a queue to use only the allocated bandwidth.

This command is supported on SFP 1p3q8t ports and on 1p7q4t ports only.

You can configure up to seven queue weights.

Enter the **shape** keyword to configure SRR. If you use SRR, you cannot use the strict priority queue. To configure SRR, you must remap any CoS or DSCP values that are mapped to a strict-priority queue to a standard queue.

The higher the percentage or weight that is assigned to a queue, the more transmit bandwidth is allocated to it. If you enter weights, the ratio of the weights divides the total bandwidth of the queue. For example, for three queues on a Gigabit Ethernet port, weights of 25:25:50 provide this division:

- Queue 1—250 Mbps
- Queue 2—250 Mbps
- Queue 3—500 Mbps

Percentages should add up to 100. You must enter percentages for all the standard transmit queues on the port.

The valid values for weight range are from 1 to 255. You must enter weights for all the standard transmit queues on the port.

Examples

This example shows how to allocate a three-to-one bandwidth ratio:

```
Router(config-if)# wrr-queue shape 3 1
Router(config-if)#
```

Related Commands

Command	Description
show queueing interface	Displays queueing information.
wrr-queue	Allocates the bandwidth between the DWRR or WRR standard transmit queues.

wrr-queue threshold

To configure the drop-threshold percentages for the standard receive and transmit queues on 1q4t and 2q2t interfaces, use the **wrr-queue threshold** command. To return to the default settings, use the **no** form of this command.

```
wrr-queue threshold queue-id threshold-percent-1 ... threshold-percent-n
```

```
no wrr-queue threshold queue-id
```

Syntax Description

<i>queue-id</i>	Queue number; valid values are 1 and 2.
<i>threshold-percent-1</i>	Number of weights for queues 1 and 2; valid values are from 1 to 100 percent.
<i>threshold-percent-n</i>	100 percent.

Command Default

When you enable QoS, the default values are as follows:

- **100** percent for threshold 1
- **60** percent for threshold 2

Command Modes

Interface configuration (config-if)

Command History

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

Usage Guidelines

Use the transmit queue and threshold numbers.

The *queue-id* is 1 for the standard low-priority queue and 2 for the standard high-priority queue.

Always set threshold 2 to 100 percent.

Receive-queue drop thresholds are supported only on Gigabit Ethernet interfaces that are configured to trust CoS.

Examples

This example shows how to configure receive queue 1/threshold 1 and transmit queue 1/threshold 1:

```
Router(config-if)# wrr-queue threshold 1 60 100
Router(config-if)#
```

Related Commands

Command	Description
show queueing interface	Displays queueing information.
wrr-queue queue-limit	Sets the transmit-queue size ratio on an interface.

■ wrr-queue threshold