# wrr-queue cos-map

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

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

**no wrr-queue cos-map**

## Syntax Description

| | |
|---|---|
| *queue-id* | Queue number; the valid values are from 1 to 2. |
| *threshold-id* | Threshold ID; valid values are from 1 to 2. |
| *cos-1 ... cos-n* | CoS value; valid values are from 0 to 7. |

## Defaults

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

## Command History

| Release | Modification |
|---|---|
| 12.0(7)XE | Support for this command was introduced on the Catalyst 6500 series switches. |
| 12.1(1)E | Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release. |
| 12.1(5c)EX | This command was changed to support the 1p1q0t and 1p3q1t interfaces. |

## 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)#
```

# wrr-queue queue-limit

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

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

**no wrr-queue queue-limit**

## Syntax Description

| | |
|---|---|
| *queue1-weight* | Ratio of the low-priority queue weight; valid values are from 1 and 100 percent. |
| *queue2-weight* | (Optional) Ratio of the medium-priority queue weight; valid values are from 1 and 100 percent. |
| *queue3-weight* | Ratio of the high-priority queue weight; see the "Usage Guidelines" section for valid values. |

## Defaults

The defaults are as follows:

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

## Command Modes

Interface configuration

## Command History

| Release | Modification |
|---|---|
| 12.0(7)XE | Support for this command was introduced on the Catalyst 6500 series switches. |
| 12.1(1)E | Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release. |
| 12.1(5c)EX | This command was changed to support the 1p1q0t and 1p3q1t interfaces. |
| 12.1(8a)EX | The acceptable minimum value of the high-priority queue was changed. |

## 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 1p2q2t interfaces, QoS sets the 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, 80 percent low-priority traffic and 20 percent high-priority traffic). Use the estimated percentages as queue weights.

Due to the granularity of programming the hardware, the values set in hardware are close approximations of the values provided. For example, even if you specify 0 percent, the actual value programmed depends on the module type and is not necessarily 0. Whatever weights you choose, make sure that the resulting byte values that are programmed (see the **show queueing interface** command) are at least equal to the MTU size.

## 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

**show queueing interface**
**wrr-queue bandwidth**

# 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. Use the **no** form of this command to return to the default settings.

**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

| | |
|---|---|
| *queue-id* | 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. |
| *threshold-percent-1 threshold-percent-n* | Threshold weights; valid values are from 1 to 100 percent. |

## Defaults

The default is 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 mode

## Command History

| Release | Modification |
|---|---|
| 12.1(5c)EX | Support for this command was introduced on the Supervisor Engine 2. |
| 12.1(8a)E | Support for this command on the Supervisor Engine 2 was extended to the 12.1 E release. |

## Usage Guidelines

1p2q1t and 1p3q1t interfaces have WRED-drop thresholds in their standard transmit queues. You can configure 1p3q1t tranmsit 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 threshold 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 6500 Series Switch Cisco IOS Software Configuration Guide*.

## 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

**show queueing interface**
**wrr-queue queue-limit**

# wrr-queue threshold

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

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

**no wrr-queue threshold** *queue-id*

## Syntax Description

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

## Defaults

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

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

## Command Modes

Interface configuration

## Command History

| Release | Modification |
|---|---|
| 12.0(7)XE | Support for this command was introduced on the Catalyst 6500 series switches. |
| 12.1(1)E | Support for this command on the Catalyst 6500 series switches was extended to the 12.1 E release. |

## 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 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

**show queueing interface**
**wrr-queue queue-limit**