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# Configure Quality of Service (QoS) on a Wireless Access Point

## Objective

Quality of Service (QoS) allows you to prioritize traffic for different applications, users, or data flows. It can also be used to guarantee performance to a specified level, thus, affecting the QoS of the client. QoS is generally affected by the following factors: jitter, latency, and packet loss.

This article will guide you on how to configure QoS on your wireless access point.

## Applicable Devices

- WAP100 Series
- WAP300 Series
- WAP500 Series

## Software Version

- 1.0.6.2 - WAP121, WAP321

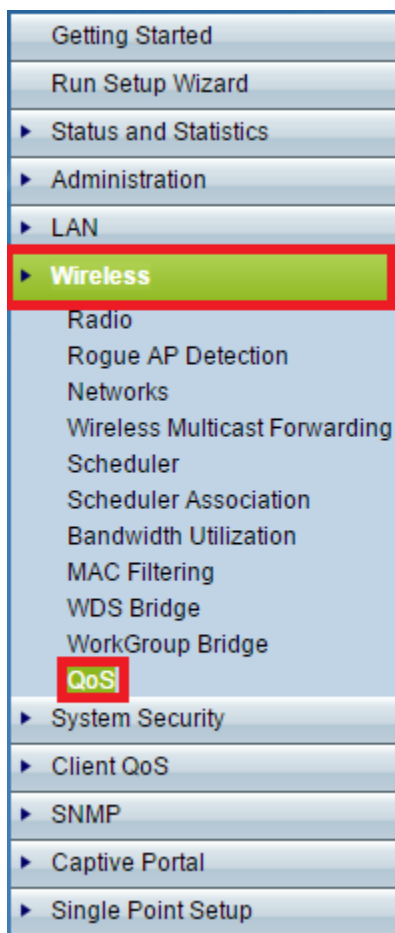
- 1.0.1.4 - WAP131, WAP351
- 1.2.0.2 - WAP371, WAP551, WAP561

## Configure QoS

Step 1. Log in to the web-based utility of the wireless access point.

Step 2. Click **Wireless > QoS**.

**Note:** For WAP351 and WAP131, go to **Wireless > Quality of Service**.



Step 3. (Optional) Choose the appropriate Radio option in the Radio area.

**Note:** The Radio area is available on the WAP131, WAP351, WAP371, WAP551, and WAP561.

**QoS**

Select the radio interface first, and then enter the configuration parameters.

Radio:  Radio 1 (2.4 GHz)  Radio 2 (5 GHz)

EDCA(Enhanced Distributed Channel Access)Template: Custom ▼

WAP EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	Maximum Burst
Data 0 (Voice)	1	3 ▼	7 ▼	1.5
Data 1 (Video)	1	7 ▼	15 ▼	3.0
Data 2 (Best Effort)	3	15 ▼	63 ▼	0
Data 3 (Background)	7	15 ▼	1023 ▼	0

Step 4. Choose the appropriate option from the EDCA(Enhanced Distributed Channel Access)Template drop-down list.

**QoS**

Select the radio interface first, and then enter the configuration parameters.

Radio:  Radio 1 (2.4 GHz)  Radio 2 (5 GHz)

EDCA(Enhanced Distributed Channel Access)Template: **Custom** ▼

WAP EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	Maximum Burst
Data 0 (Voice)	1	3 ▼	7 ▼	1.5
Data 1 (Video)	1	7 ▼	15 ▼	3.0
Data 2 (Best Effort)	3	15 ▼	63 ▼	0
Data 3 (Background)	7	15 ▼	1023 ▼	0

- WFA Defaults — This feature sets the Wi-Fi Alliance (WFA) defaults for the WAP device and the EDCA station that are best for general and mixed traffic.
- Optimized for Voice — This feature sets the best values for the WAP device and the EDCA station that are best for voice traffic.
- Custom — This option allows you to specify settings based on your preference.

**Note:** If you choose **Custom** from the drop-down list, proceed to [Step 5](#). If not, proceed to [Step 6](#).

Step 5. Configure parameters in the WAP EDCA area.

## QoS

Select the radio interface first, and then enter the configuration parameters.

Radio:  Radio 1 (2.4 GHz)  Radio 2 (5 GHz)

EDCA(Enhanced Distributed Channel Access)Template:

WAP EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	Maximum Burst
Data 0 (Voice)	<input type="text" value="1"/>	<input type="text" value="3"/>	<input type="text" value="7"/>	<input type="text" value="1.5"/>
Data 1 (Video)	<input type="text" value="1"/>	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="3.0"/>
Data 2 (Best Effort)	<input type="text" value="3"/>	<input type="text" value="15"/>	<input type="text" value="63"/>	<input type="text" value="0"/>
Data 3 (Background)	<input type="text" value="7"/>	<input type="text" value="15"/>	<input type="text" value="1023"/>	<input type="text" value="0"/>

- Data 0 (Voice) — High Priority queue, Minimum Delay. Time-sensitive data like VoIP and Streaming media are automatically sent to this queue.
- Data 1 (Video) — High Priority queue, Medium Delay. Time-sensitive data like Video data are automatically sent to this queue.
- Data 2 (Best Effort) — Medium Priority queue, medium throughput, and delay. Most traditional IP data is sent to this queue.
- Data 3 (Background) — Lowest priority queue, high throughput. Bulk data that requires maximum throughput and is not time-sensitive is sent to this queue. (FTP data, for example).
- Arbitration Inter-Frame Space — A wait time for data frames. The wait time is measured in slots. Valid values for AIFS are 1 through 255.

- **Minimum Contention Window** — An input to the algorithm that determines the initial random backoff wait time (window) for retry of a transmission.
  - This value is the upper limit (in milliseconds) of a range from which the initial random backoff wait time is determined.
  - The first random number generated is a number between 0 and the number specified here.
  - If the first random backoff wait time expires before the data frame is sent, a retry counter is incremented and the random backoff value (window) is doubled. Doubling continues until the size of the random backoff value reaches the number defined in the Maximum Contention Window.
  - Valid values are 1, 3, 7, 15, 31, 63, 127, 255, 511, or 1024. This value must be lower than the value for the Maximum Contention Window.
- **Maximum Contention Window** — The upper limit (in milliseconds) for the doubling of the random backoff value. This doubling continues until either the data frame is sent or the Maximum Contention Window size is reached.
  - After the Maximum Contention Window size is reached, retries continue until a maximum number of retries allowed is reached.
  - Valid values are 1, 3, 7, 15, 31, 63, 127, 255, 511, or 1024. This value must be higher than the value for the Minimum Contention Window.
- **Maximum Burst (WAP Only)** — A WAP EDCA parameter that applies only to traffic flowing from the WAP to the client station. This value specifies (in milliseconds) the maximum burst length allowed for packet bursts on the wireless network. A packet burst is a collection of multiple frames transmitted without header information. The decreased overhead results in higher throughput and better performance. Valid values are 0.0 through 999.

Step 6: Click **Save**.

Wi-Fi Multimedia (WMM):  Enable

Station EDCA				
Queue	Arbitration Inter-Frame Space	Minimum Contention Window	Maximum Contention Window	TXOP Limit
Data 0 (Voice)	<input type="text" value="2"/>	<input type="text" value="3"/> ▼	<input type="text" value="7"/> ▼	<input type="text" value="47"/>
Data 1 (Video)	<input type="text" value="2"/>	<input type="text" value="7"/> ▼	<input type="text" value="15"/> ▼	<input type="text" value="94"/>
Data 2 (Best Effort)	<input type="text" value="3"/>	<input type="text" value="15"/> ▼	<input type="text" value="1023"/> ▼	<input type="text" value="0"/>
Data 3 (Background)	<input type="text" value="7"/>	<input type="text" value="15"/> ▼	<input type="text" value="1023"/> ▼	<input type="text" value="0"/>

No Acknowledgement:  Enable

Unscheduled Automatic Power Save Delivery:  Enable

**Save**

You should now have successfully configured QoS on your wireless access point.