Configuration of Cisco CBS250, CBS350, and C1200 switches for use with Cisco video collaboration devices

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Section 1 | General switch requirements

Cisco recommends the use of CBS350, CBS250, and C1200 switch series because of the following features, which are important for stability and performance with video collaboration devices:

- Fanless (to avoid noise on microphones)

- Quality of Service (QoS)

- VLAN support

- Possibility to disable 802.3 Energy Efficiency Ethernet (EEE)

- PoE budget for the required equipment.

|	Measured power consumption	PoE class
Cisco Microphone Pro	5 W	Class 2 (7 W)
Cisco Room Navigator	8 W	Class 0 (15.4 W)

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Section 2 | Getting started

1. Connect switch to one of the device's available internal network ports (any network port like Navigator, Camera or those marked as PoE).

2. Power the Cisco device.

3. Connect computer to switch via Ethernet.

4. Wait until the switch has an IP address.

5. Log in to the switch. (Laptop connected to switch via Ethernet)

   After a minute the switch should have IP 169.254.1.31 or 32.

   Log into the device from a web browser.

   Default username and password is *cisco*.

6. Enter *Advanced* mode.

Figure 1: Navigate to the drop-down menu in the top right corner.
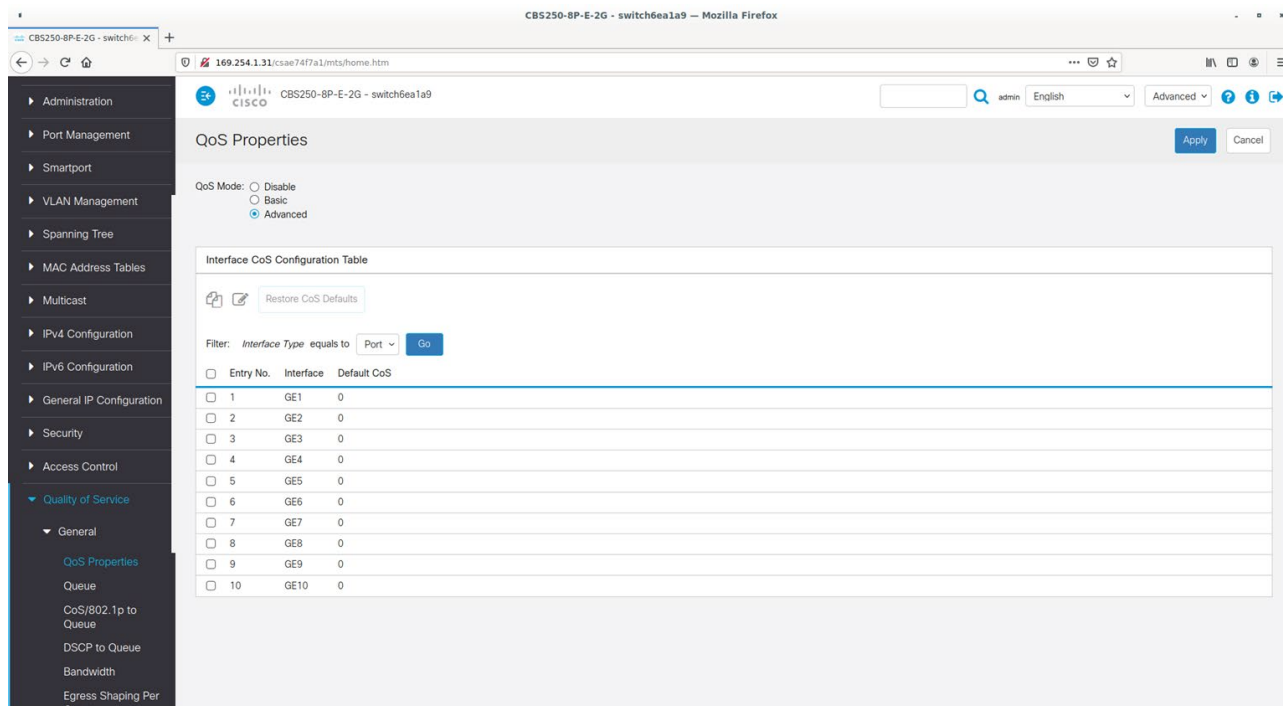
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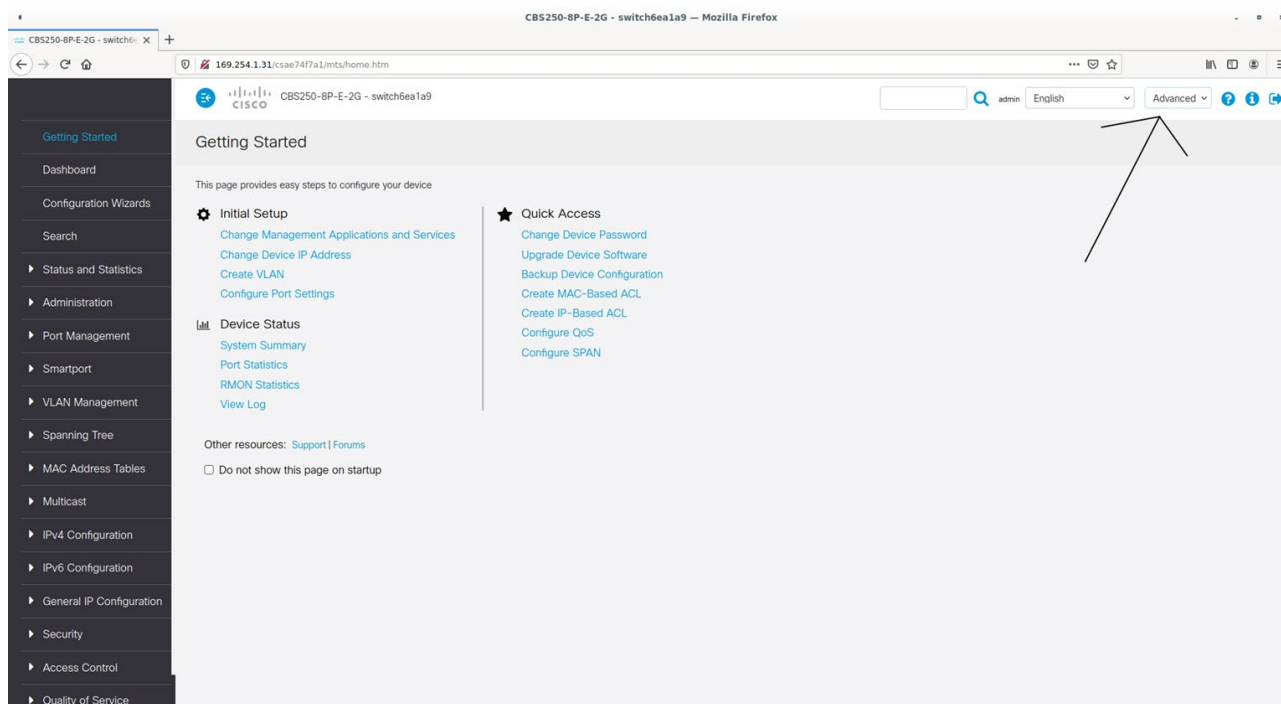
Section 3 | Disable Energy Efficient Ethernet

Navigate to *Port management > Green Ethernet > Properties* and set *802.3 Energy Efficient Ethernet (EEE)* to:
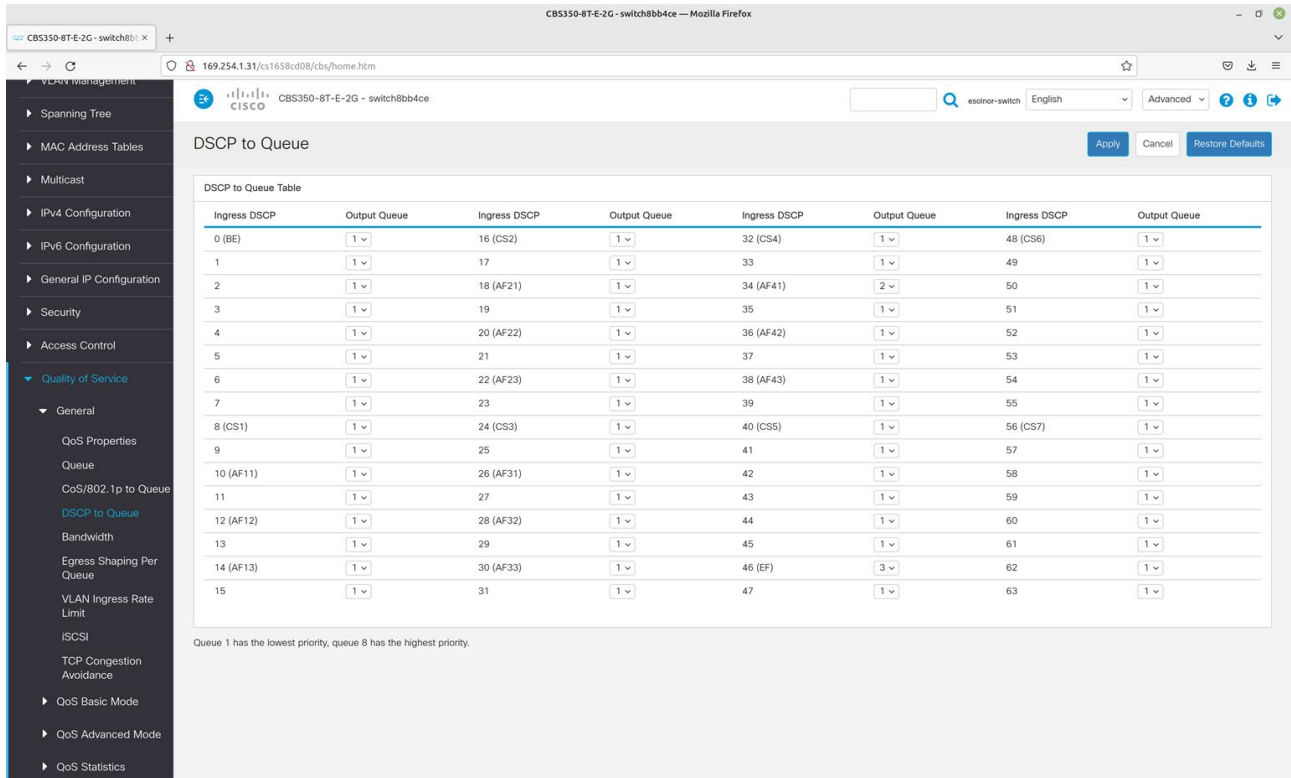**Not Enabled**
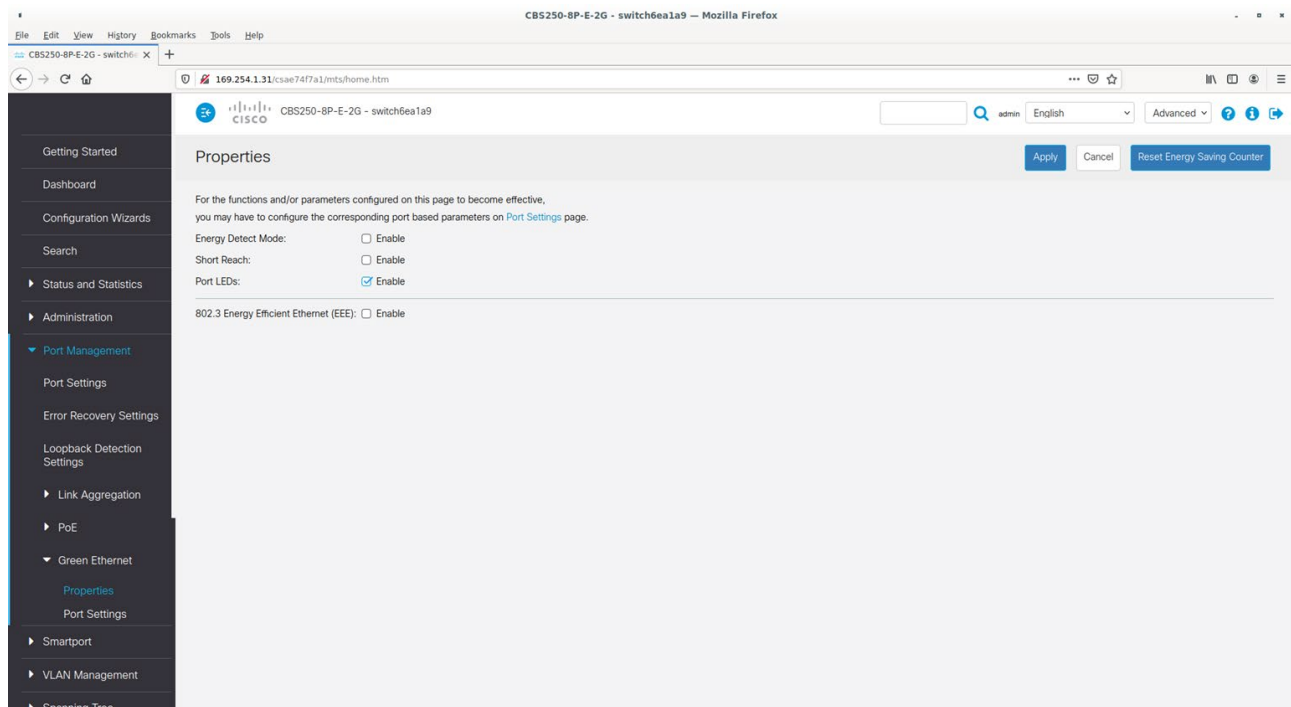
Section 4 | Set Quality of Service parameters

1. Navigate to *Quality of service > General > QoS Properties* and set *QoS mode* to: **Advanced**
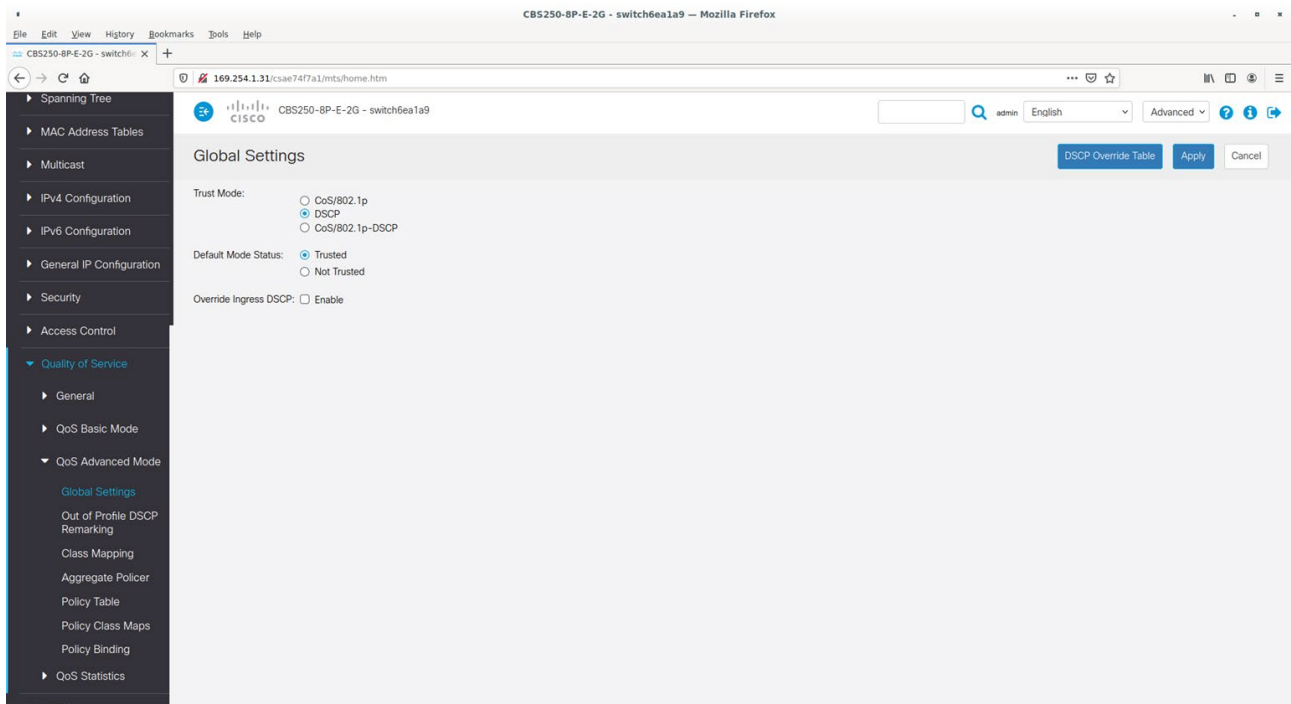

2. Navigate to *Quality of Service > General > DSCP to Queue* and configure *DSCP* to Queue Table:

Ingress DSCP	Output queue value	Description
46 (EF)	3	Time critical clock synchronization events. Must always be the highest priority.
34 (AF41)	2	Media Packets
All other	1	Everything else in the lowest priority queue

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DSCP to Queue

Apply　Cancel　Restore Defaults

DSCP to Queue Table

Ingress DSCP	Output Queue	Ingress DSCP	Output Queue	Ingress DSCP	Output Queue	Ingress DSCP	Output Queue
0 (BE)	1 ˅	16 (CS2)	1 ˅	32 (CS4)	1 ˅	48 (CS6)	1 ˅
1	1 ˅	17	1 ˅	33	1 ˅	49	1 ˅
2	1 ˅	18 (AF21)	1 ˅	34 (AF41)	2 ˅	50	1 ˅
3	1 ˅	19	1 ˅	35	1 ˅	51	1 ˅
4	1 ˅	20 (AF22)	1 ˅	36 (AF42)	1 ˅	52	1 ˅
5	1 ˅	21	1 ˅	37	1 ˅	53	1 ˅
6	1 ˅	22 (AF23)	1 ˅	38 (AF43)	1 ˅	54	1 ˅
7	1 ˅	23	1 ˅	39	1 ˅	55	1 ˅
8 (CS1)	1 ˅	24 (CS3)	1 ˅	40 (CS5)	1 ˅	56 (CS7)	1 ˅
9	1 ˅	25	1 ˅	41	1 ˅	57	1 ˅
10 (AF11)	1 ˅	26 (AF31)	1 ˅	42	1 ˅	58	1 ˅
11	1 ˅	27	1 ˅	43	1 ˅	59	1 ˅
12 (AF12)	1 ˅	28 (AF32)	1 ˅	44	1 ˅	60	1 ˅
13	1 ˅	29	1 ˅	45	1 ˅	61	1 ˅
14 (AF13)	1 ˅	30 (AF33)	1 ˅	46 (EF)	3 ˅	62	1 ˅
15	1 ˅	31	1 ˅	47	1 ˅	63	1 ˅

Queue 1 has the lowest priority, queue 8 has the highest priority.

3. Navigate to *Quality of Service > QoS Advanced Mode > Global Settings* and configure *Trusted mode*.

   Set *Trusted Mode* to: **DSCP**

   Set Default Mode Status to: **Trusted**

   Set *Override Ingress DSCP* to: **Not Enabled**

Global Settings

DSCP Override Table　Apply　Cancel

Trust Mode:
○ CoS/802.1p
◉ DSCP
○ CoS/802.1p-DSCP

Default Mode Status: ◉ Trusted
○ Not Trusted

Override Ingress DSCP: ☐ Enable

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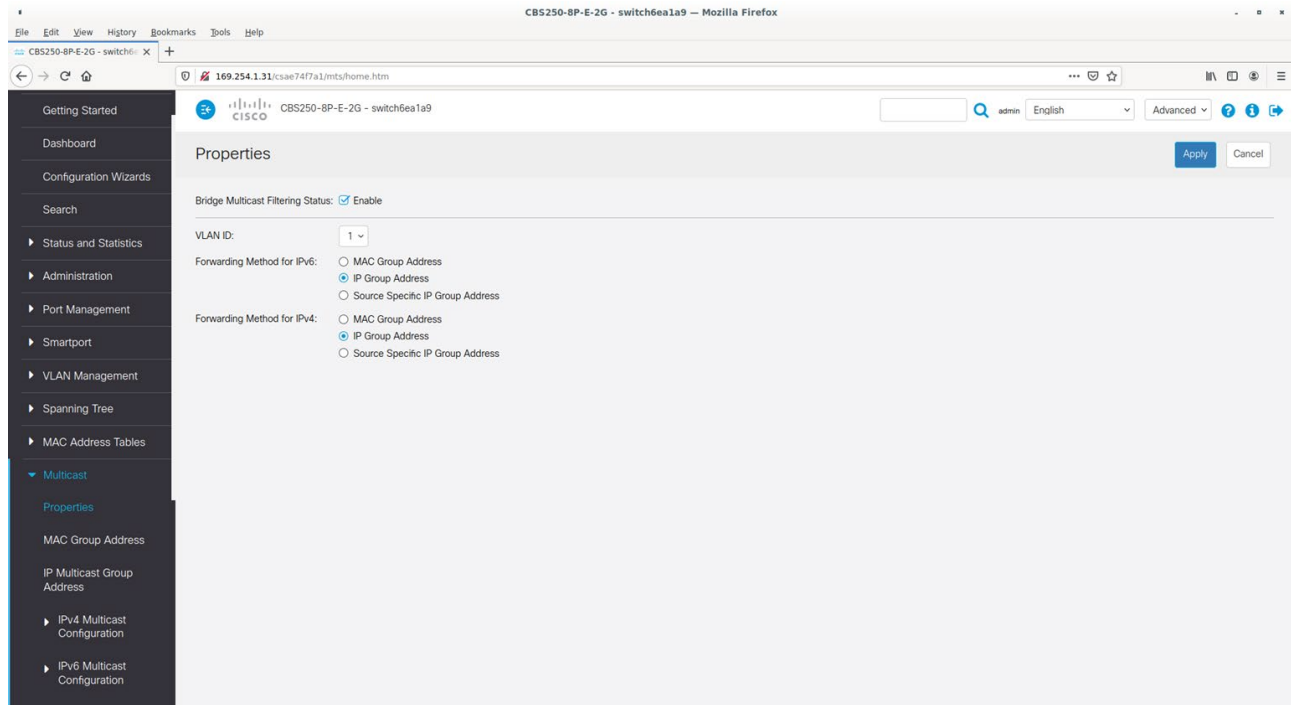
Section 5 | Set multicast VLAN settings

1. Navigate to *Multicast* > *Properties* and enable *Bridge Multicast Filtering Status*.

   For *VLAN ID*: **1**

   Set *Bridge Multicast Filtering Status* to: **Enable**

   Set Forwarding Method for IPv6 to: **IP Group Address**

   Set *Forwarding Method for IPv4* to: **IP Group Address**

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2. Navigate to *Multicast > IPv4 Multicast Configuration > IGMP Snooping* and enable *IGMP Snooping* settings.

    Set *IGMP Snooping Status* to: **Enable**

    Set *IGMP Querier Status* to: **Enable**
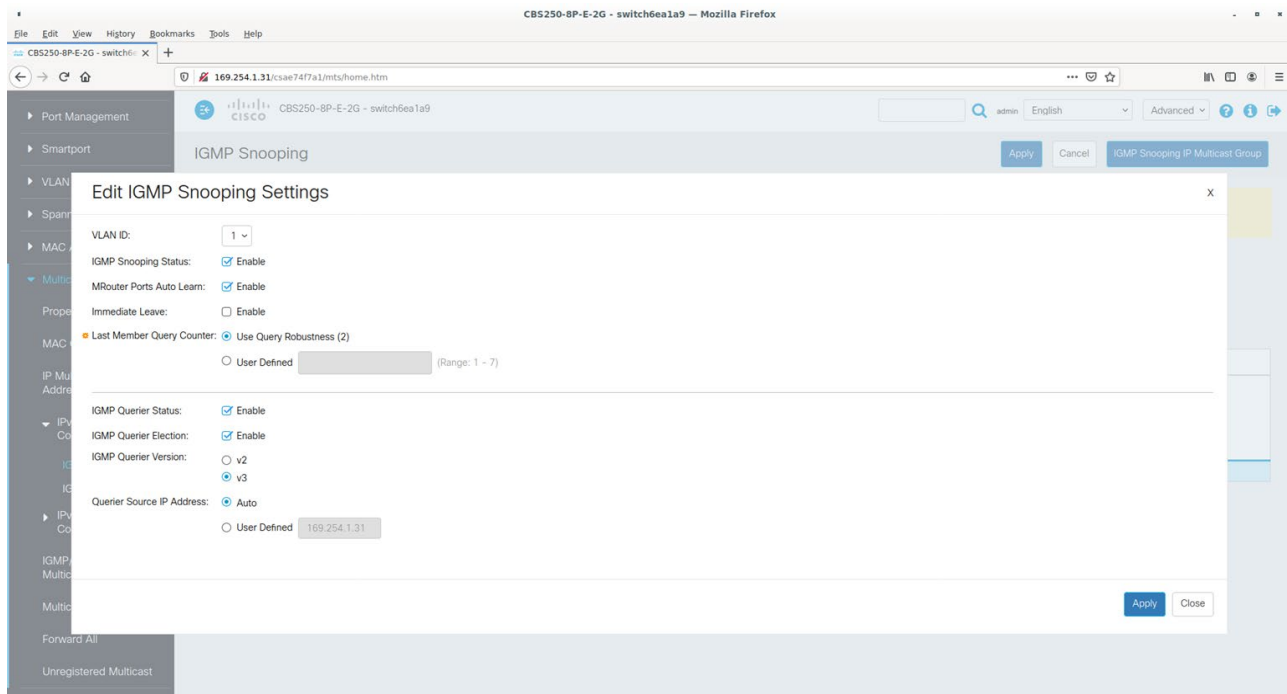
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3. Navigate to *Edit VLAN 1*.

   Set *IGMP Snooping Status* to: **Enable**

   Set *IGMP Querier Status* to: **Enable**

   Set *IGMP Querier Version* to: **v3**

   Set *IGMP Querier Source IP Address* to: **Auto**

Section 6 | Save settings and connect microphones

1. Save *Settings* using the red save symbol.

2. Connect microphones.

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