Configuration of Cisco C1200 Switches for use with Cisco Video Collaboration Devices

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webex by CISCO

Section 1 | General switch requirements

Cisco recommends the use of C1200 switch series* because of the features detailed below. These features are important for stability and performance with video collaboration devices:

- Fanless. When placing the switch inside the meeting room, possibly in close proximity to the meeting participants or microphones, a fanless switch will minimize noise disturbance.
- Quality of Service (QoS). Correct Quality-of-Service settings for Audio- and Video-over-IP standards used for Cisco microphones and cameras minimizes the chance of loss or delay of audio and video packets.
- Possibility to Disable 802.3 Energy Efficiency Ethernet (EEE). Energy Efficient Ethernet works by turning off ports and holding packets back, to use the ports as little as possible. This is not compatible with audio- and video-over-IP networks since it creates too much jitter, especially for the PTP packets. EEE should therefore be turned off.
- IGMP snooping. The switch should support IGMP snooping. This enables multicast audio packets to only be transmitted to devices which require it. This minimizes unnecessary load on the ethernet port of the connected peripherals
- PoE budget for the required equipment. The connected devices must not exceed the maximum available power limits for the switch. For example, C1200-8FP-2G supports up to 30W per port and a total of 120W for PoE.

	Power Consumption	PoE Class
Cisco Table Microphone Pro	5 W	Class 2 (7 W)
Cisco Ceiling Microphone Pro	5 W	Class 2 (7 W)
Cisco Room Navigator	8 W	Class 0 (15.4 W)
Cisco Room Vision PTZ	29 W	Class 4 (30 W)

*Use no more than one C1200 switch to extend a local network.

Section 2 | Getting started

1. Power on the switch, connect to it, and log in to the web-based interface as explained here:

   https://www.cisco.com/c/en/us/td/docs/switches/campus-lan-switches-access/Catalyst-1200-and-1300-Switches/Admin-Guide/catalyst-1200-admin-guide/get-to-know-your-switch.html#ID-00000275

2. Enter *Advanced* mode:

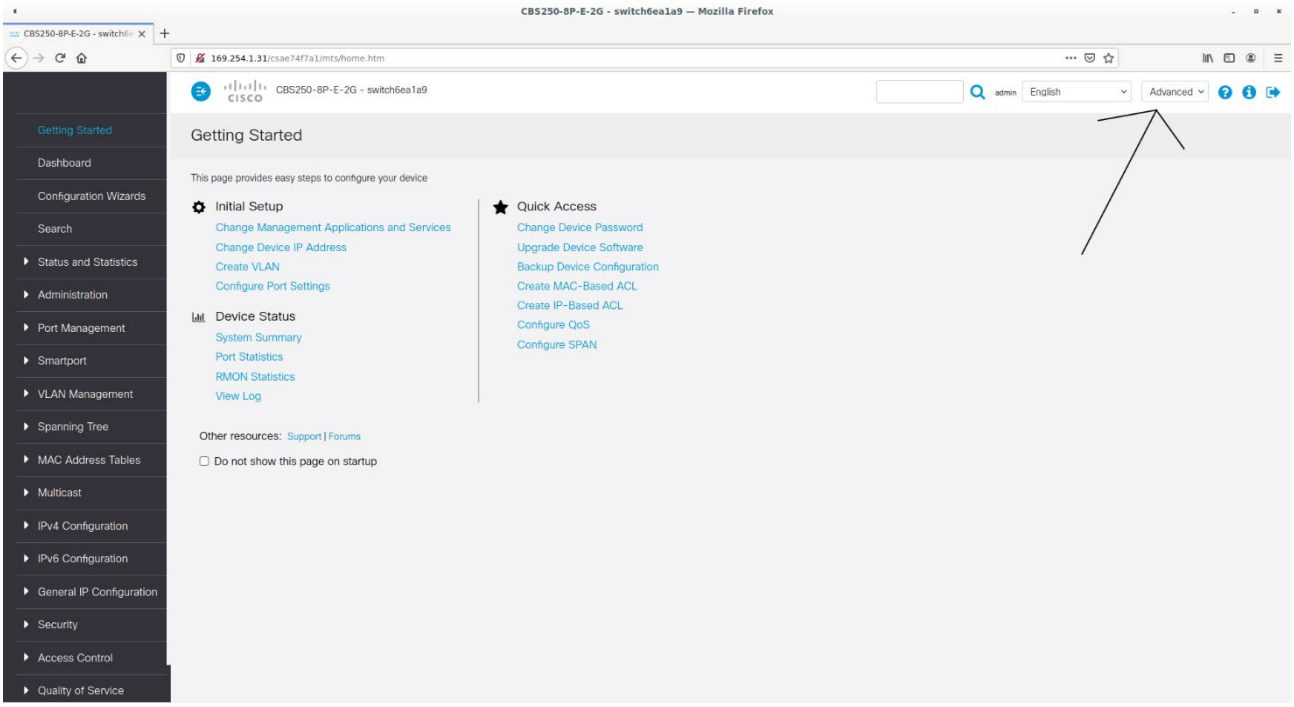
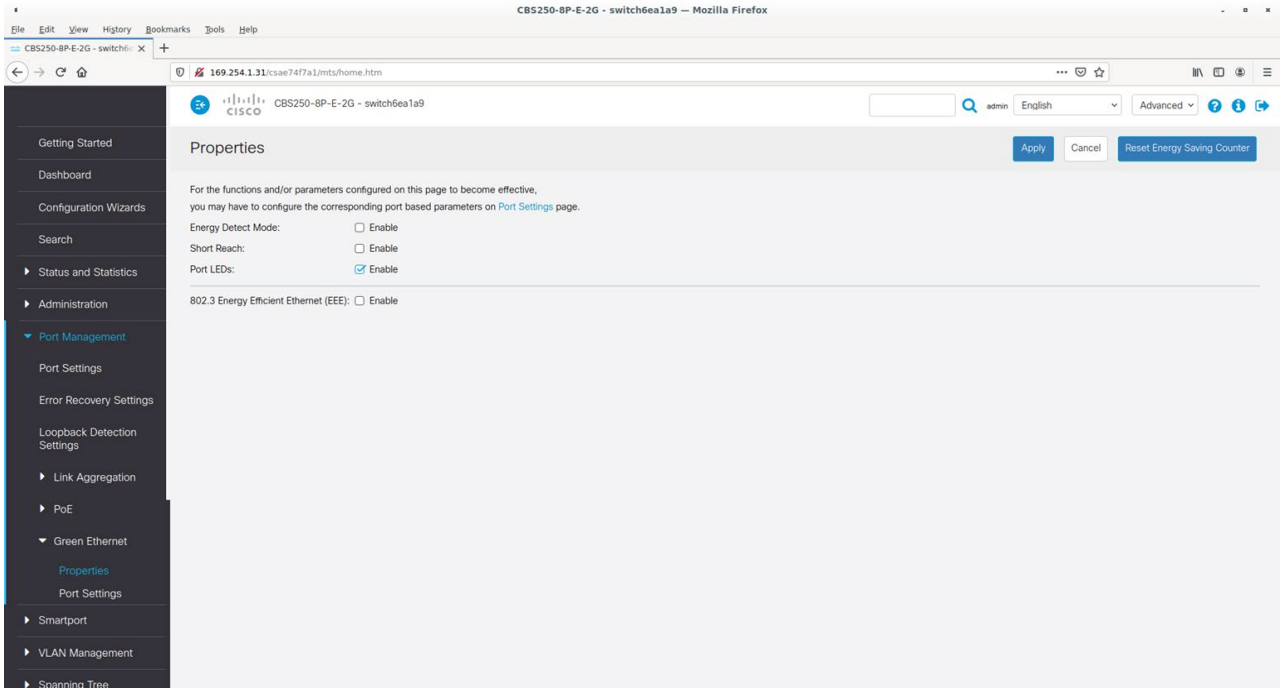


Figure 1: Select *Advanced* from the drop-down menu in the top right corner

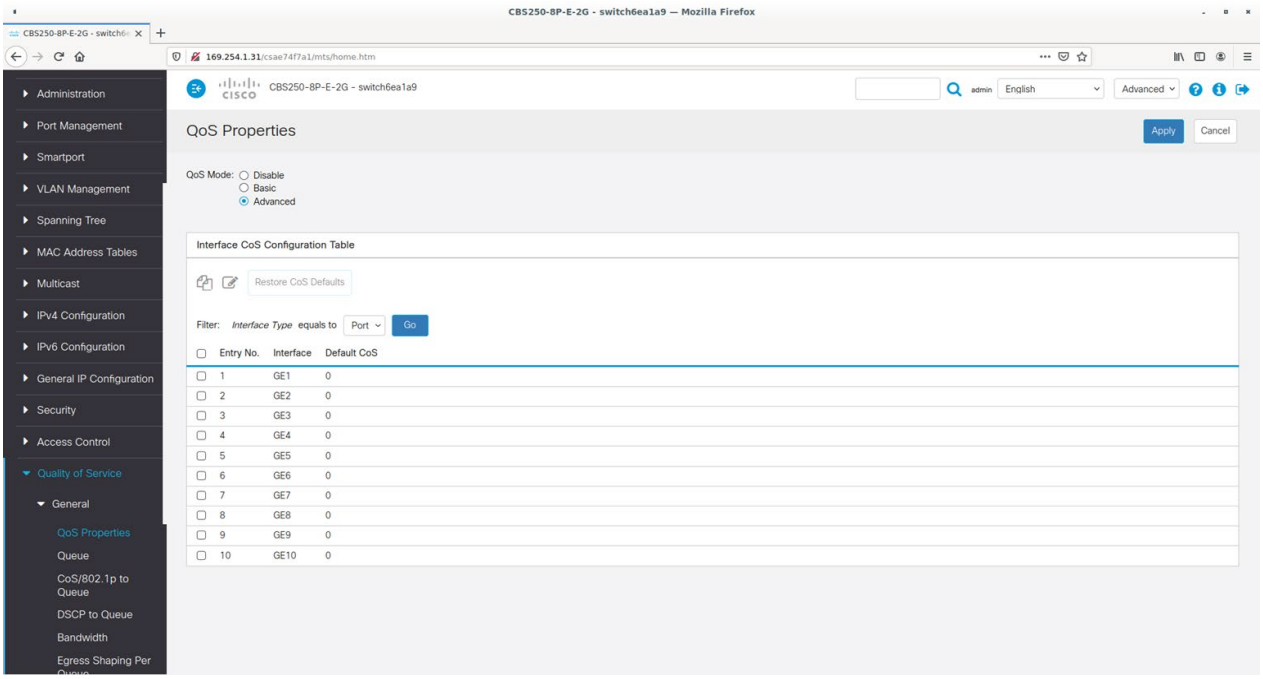
Section 3 | Disable Energy Efficient Ethernet

1. Go to *Port management* > *Green Ethernet* > *Properties* and set *802.3 Energy Efficient Ethernet (EEE)* to **Not Enabled.** Then click **Apply.**



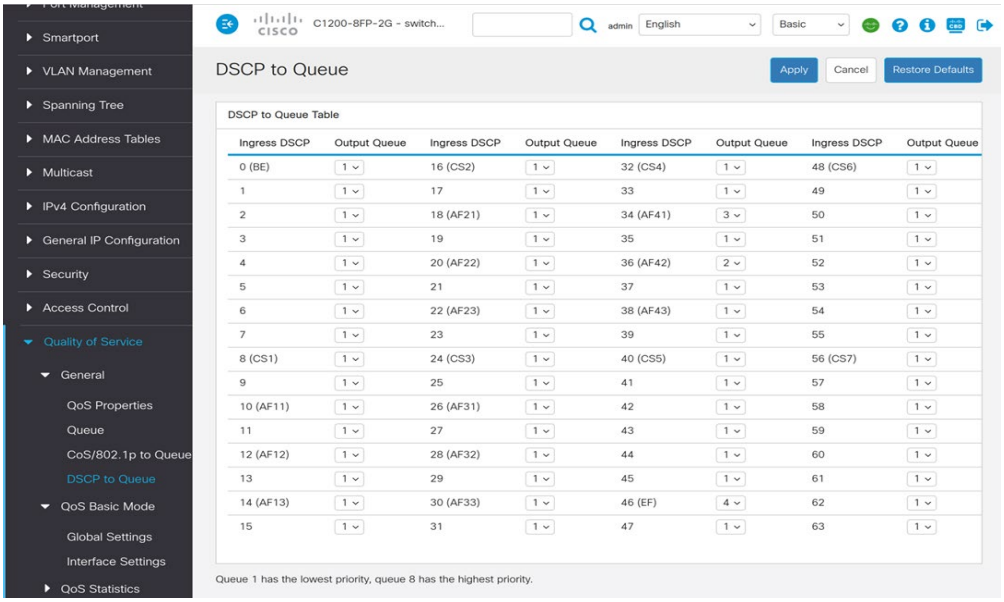
Section 4 | Set Quality of Service parameters

1. Go to *Quality of service* > *General* > *QoS Properties* and set *QoS mode* to: **Advanced.** Then click **Apply.**



2. Go to *Quality of Service > General > DSCP to Queue* and configure the *DSCP to Queue Table* like this:

Ingress DSCP	Output Queue value	Description
46 (EF)	4	Time critical clock synchronization events. Must always be the highest priority.
34 (AF41)	3	Media Packets (audio)
36(AF42)	2	Media Packets (video)
All other	1	Everything else in the lowest priority queue

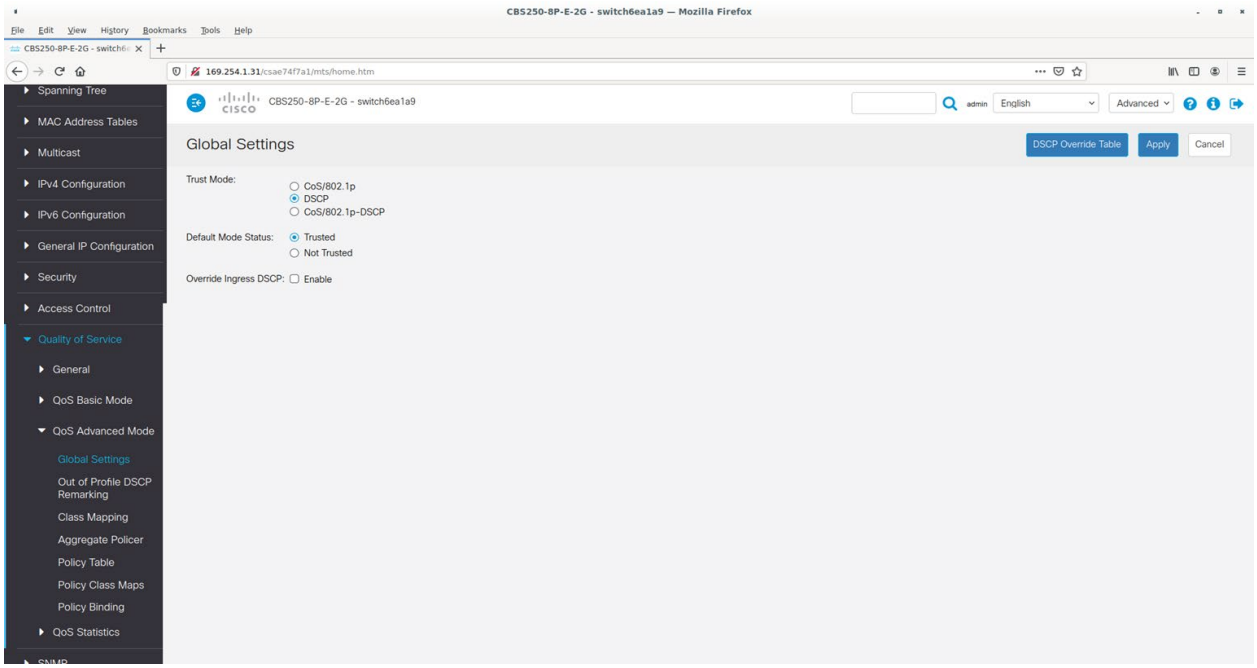


3. Go to *Quality of Service > QoS Advanced Mode > Global Settings* and configure **Trusted mode**. Then click **Apply**.

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

   Set Default Mode Status to: **Trusted**

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



Section 5 | Set Multicast VLAN settings

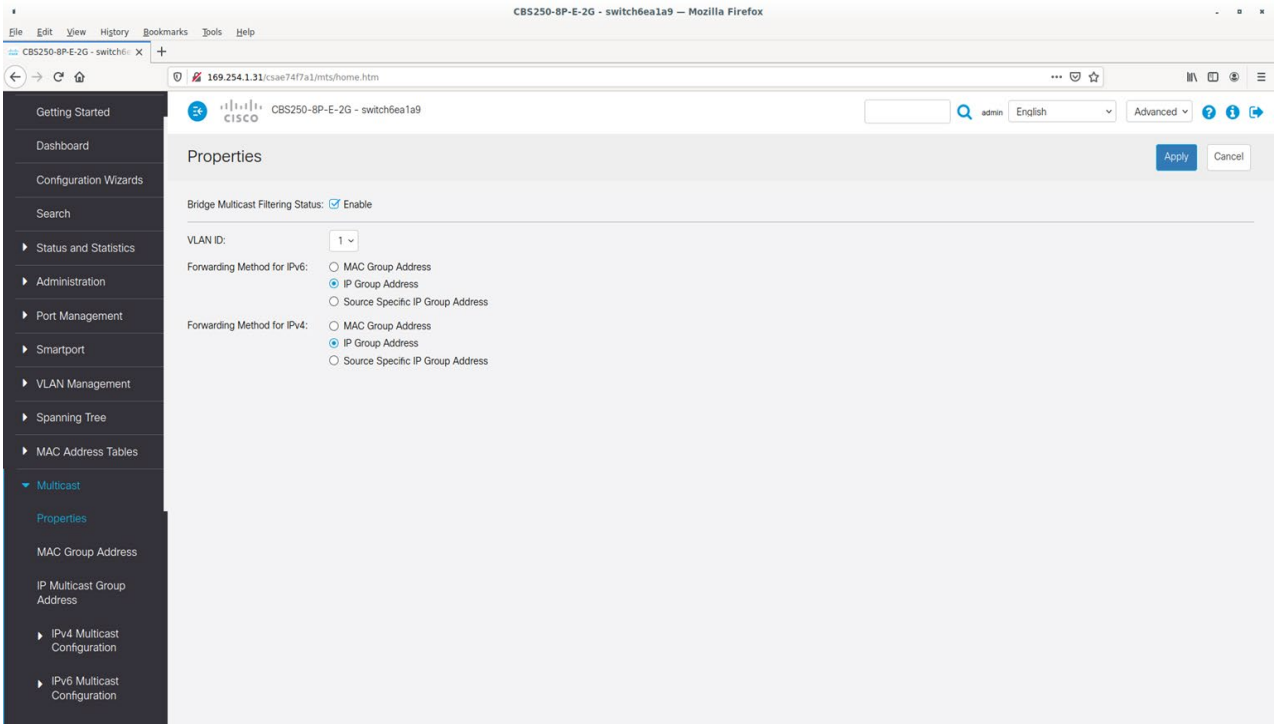
1. Go to *Multicast > Properties* and enable *Bridge Multicast Filtering Status*. Then click **Apply**.

   For *VLAN ID*: **1**

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

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

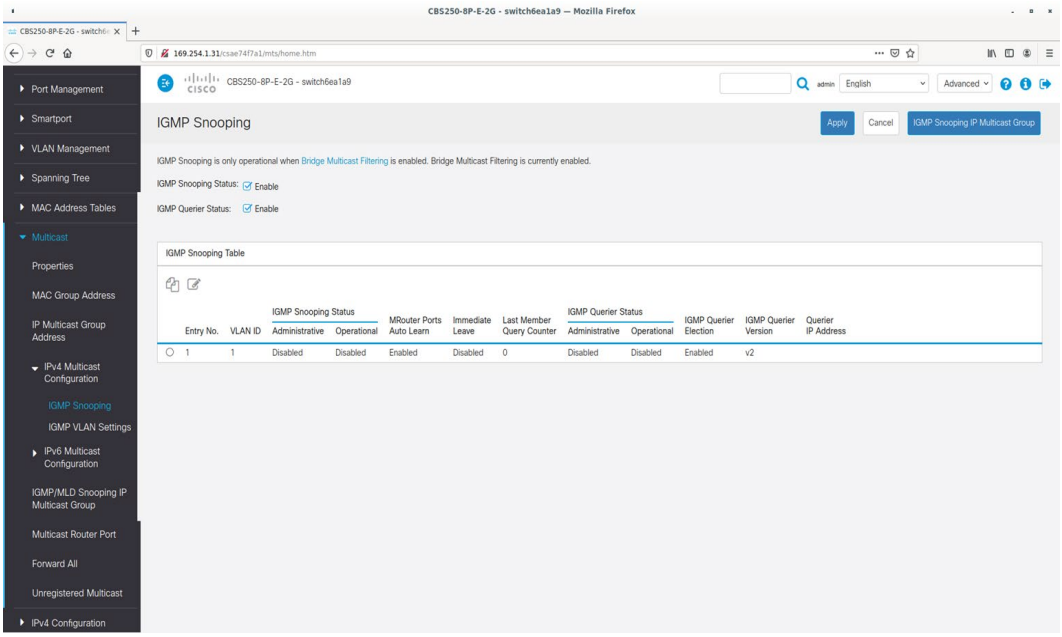
   Set *Forwarding Method for IPv4* to: **IP Group Address**



2. Go to *Multicast > IPv4 Multicast Configuration > IGMP Snooping* and enable *IGMP Snooping Status* settings. Then click **Apply**.

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

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



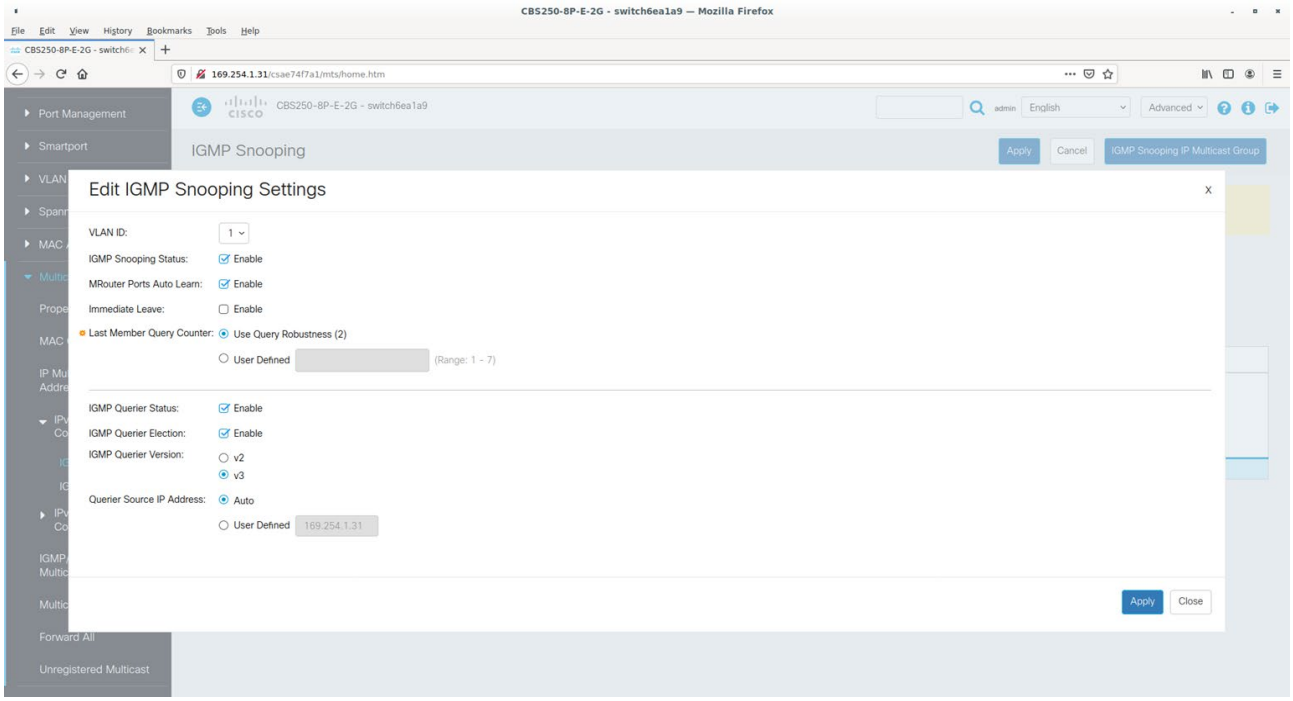
3. Go to *Edit VLAN 1*. Configure the following settings. Then click **Apply** and close the page.

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

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

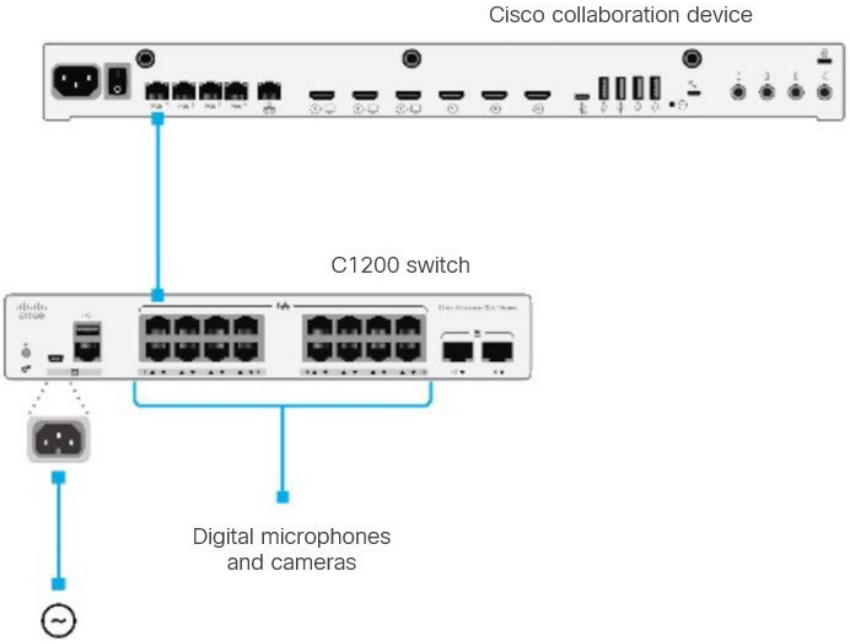
   Set *IGMP Querier Version* to: **v3**

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



Section 6 | Save settings and connect peripherals

1. Save *Settings* using the red save symbol.
2. Connect the microphones.



You can also now connect cameras to the switch, or to the codec.