Edge-core
NETWORKS

How to set up a Mesh network with WiFi 6 AP

Release: 2022-04-01

Doc Rev. No: R1

Copyright Notification

Edgecore Networks Corporation

Table of Contents

1. What is a Mesh network?

- A wireless mesh network is a communications network made up of radio nodes organized in a mesh topology.

- Wireless mesh infrastructure is a network built of peer radio devices that do not have to be cabled to a wired port like traditional WLAN access points (AP) do. Mesh infrastructure carries data over large distances by splitting the space into a series of short hops.

- Mesh network establishes the multi wireless link between nodes, providing backup uplinks when one of the nodes was out of service. It enhances the stability of network service.
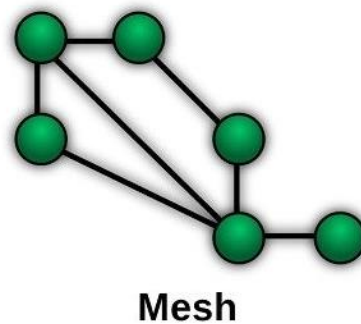
Mesh

- In the Mesh network, WiFi 6 AP could be a Mesh Portal Point (MPP), Mesh Point (MP), or a Mesh Access Point (MAP).
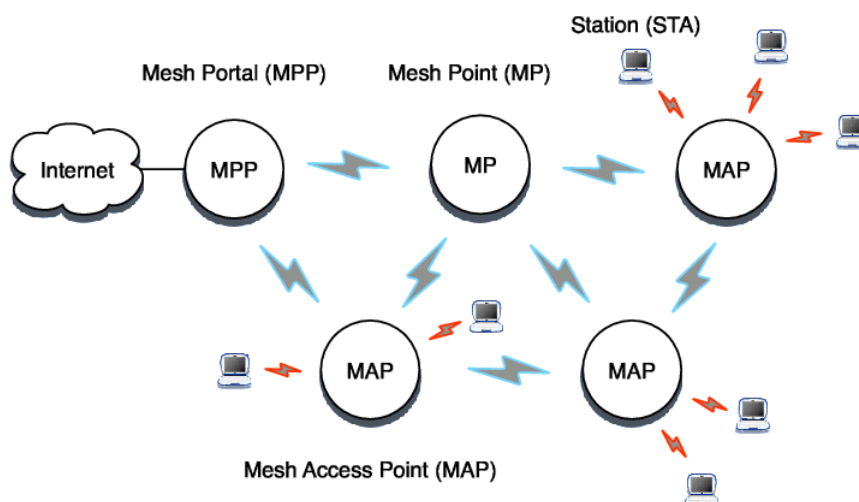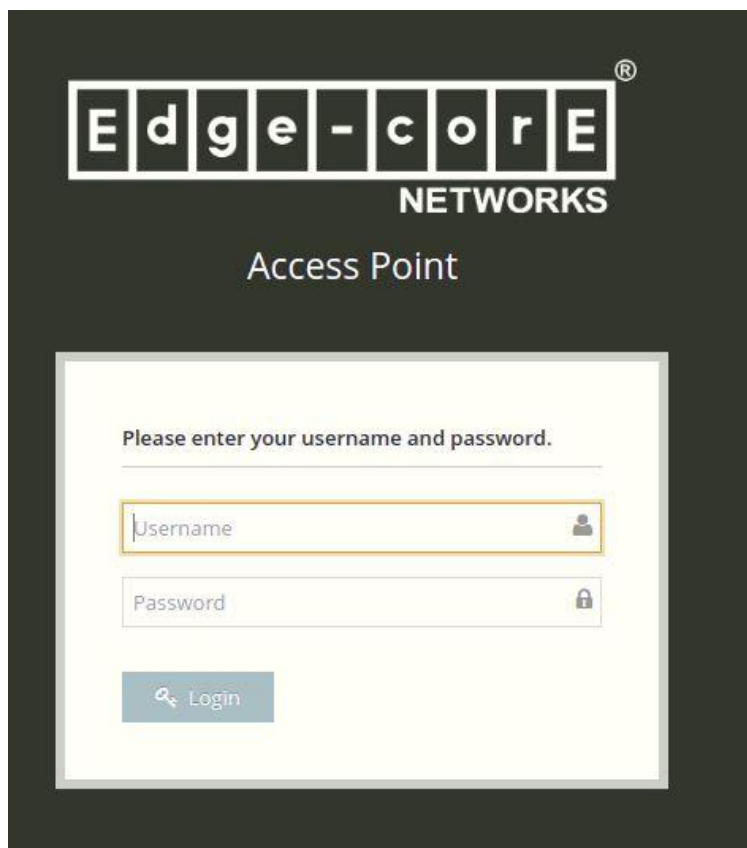
2. How to set up a Mesh network with stand-alone WiFi 6 AP?

The steps below show how to set up a Mesh network with two WiFi 6 APs with firmware 11.5.0-1175. One acts as a Mesh Portal Point (MPP), the other works as a Mesh Access Point (MAP).

2.1 Configure the Mesh Portal Point

1. Power on the EAP101, and plug the WAN uplink to a DHCP network. The default WAN setting is DHCP. The MPP should reach the network.

2. Configure the laptop ethernet to DHCP and connect to AP's LAN to access the IP at 192.168.2.1.
   The default administrative account is **Username=admin, Password=admin**.

3. Configure the AP with Stand-alone Mode and finish the setup wizard.

4. The AP can only enable Mesh with one interface, either 2.4GHz or 5GHz wireless interface. Please configure the Mesh wireless interface with a specific channel and then click Save and apply.

    Please note: Mesh network is a low-mobility centralized form of wireless connection. Please don't set Channel=Auto.

5. Enable the Mesh point of the wireless internet. Configure the Mesh ID.
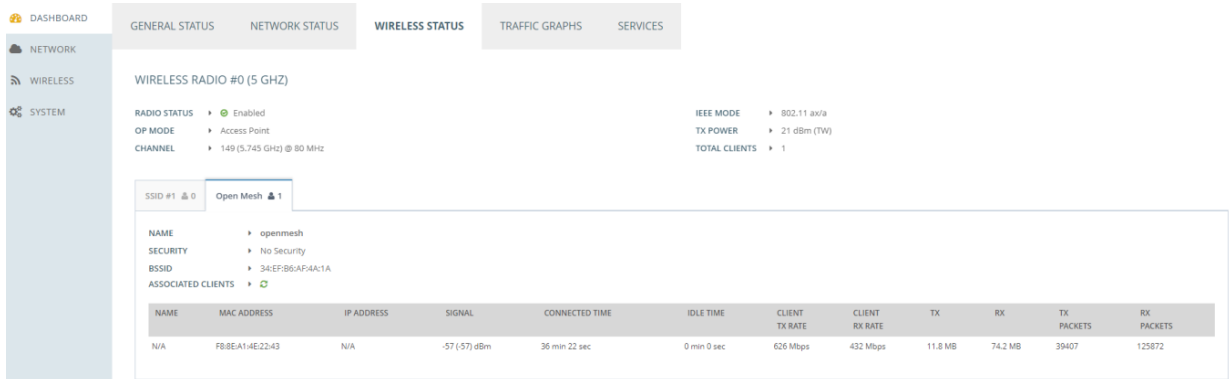   Mesh security is not necessary needed but recommended, in this guide we will be using "No Security", and then apply the setting. If a security is selected, remember to set the same security on the Mesh Access Point as well.

4

About the network behavior, MPP supports Bridge to the Internet & Route to Internet. MAP must Bridge to the Internet.
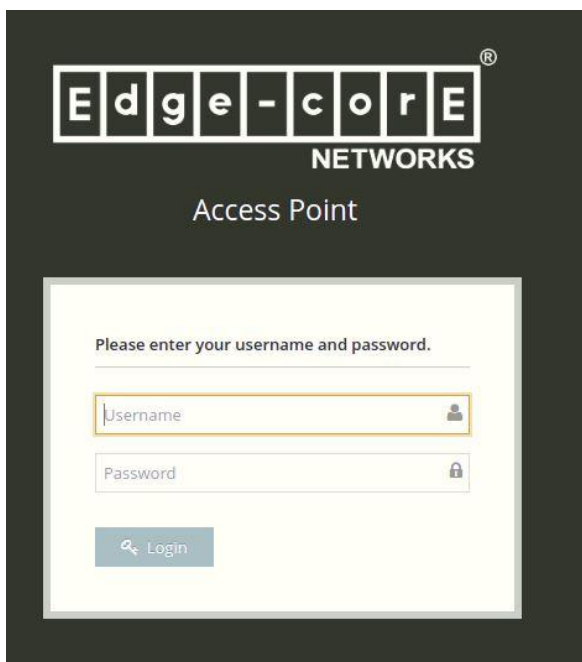
6. Go to Dashboard to see the Mesh network associated stations.

2.2 Configure the Mesh Access Point

1 Configure the laptop ethernet to DHCP and connect to AP's LAN to access the IP at 192.168.2.1.

The default administrative account is **Username=admin, Password=admin**.

2   Configure the AP with Stand-alone Mode and finish the setup wizard.

3   The EAP101 can enable Mesh with one interface, either 2.4GHz or 5GHz wireless interface. Configure the Mesh wireless interface with a specific channel.

Please note: Mesh network is a low-mobility centralized form of wireless connection. Please don't set Channel=Auto.

4   Enable the Mesh point of the wireless internet. Configure the Mesh ID.
     Mesh security is not necessary needed but recommended, in this guide we will be using "No

Security", and then apply the setting. If the Mesh Portal Point has security, please remember to set the same security.

OPEN MESH SETTINGS

Mesh Point	**ON** ✓
Mesh Id	openmesh
Method	No Security
Network Behavior	Bridge to Internet

About the network behavior, MAP must Bridge to the Internet.

5   Go to Dashboard→Wireless Status to see the Mesh network associated stations.

DASHBOARD

GENERAL STATUS   NETWORK STATUS   **WIRELESS STATUS**   TRAFFIC GRAPHS   SERVICES

NETWORK
WIRELESS
SYSTEM

WIRELESS RADIO #0 (5 GHZ)

RADIO STATUS	▸ ⊘ Enabled	IEEE MODE	▸ 802.11 ax/a
OP MODE	▸ Access Point	TX POWER	▸ 21 dBm (TW)
CHANNEL	▸ 149 (5.745 GHz) @ 80 MHz	TOTAL CLIENTS	▸ 1

SSID #1 ▲ 0   Open Mesh ▲ 1

NAME	▸ openmesh
SECURITY	▸ No Security
BSSID	▸ 34:EF:B6:AF:4A:1A
ASSOCIATED CLIENTS	▸ ⟳

NAME	MAC ADDRESS	IP ADDRESS	SIGNAL	CONNECTED TIME	IDLE TIME	CLIENT TX RATE	CLIENT RX RATE	TX	RX	TX PACKETS	RX PACKETS
N/A	F8:8E:A1:4E:22:43	N/A	-57 (-57) dBm	36 min 22 sec	0 min 0 sec	626 Mbps	432 Mbps	11.8 MB	74.2 MB	39407	125872

3. How to set up a Mesh network with WiFi 6 AP from ecCloud?

By default, the WiFi 6 AP v11.5.0 Management Settings is to connect to ecCloud. Below shows how to configure the MPP & MAP from the ecCloud device level settings.

3.1 Register MPP & MAP to the ecCloud.

1. Connect two WiFi 6 APs to the Internet with uplink port (ETH0).

2. Register WiFi 6 APs to the ecCloud account without inheriting site-level settings, and rename the AP.
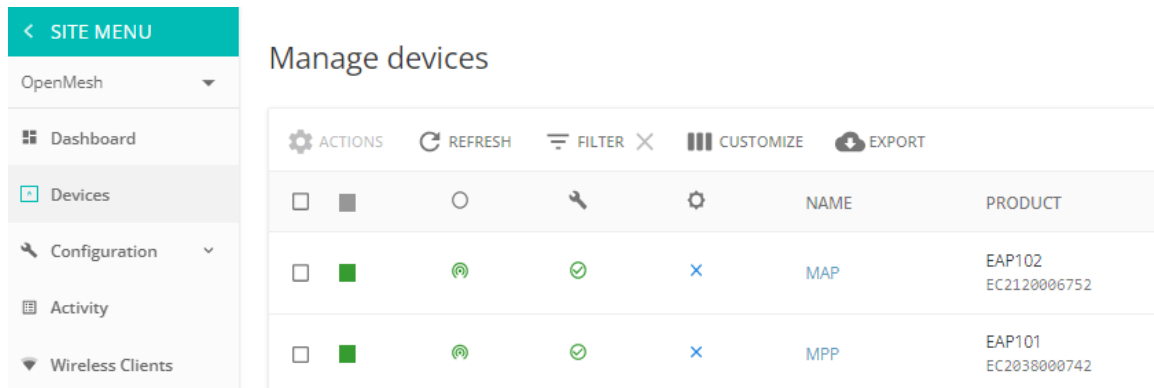
3.2 Configure the MPP

1. The AP can only enable Mesh with one interface, either 2.4GHz or 5GHz wireless interface. Please configure the Mesh wireless interface with a specific channel and then click Save and apply.

   Please note: Mesh network is a low-mobility centralized form of wireless connection. Please don't set Channel=Auto.

2. Enable the Mesh point of the wireless internet. Configure the Mesh ID.
   Mesh security is not necessary needed but recommended, in this guide we will be using "No Security", and then apply the setting. If a security is selected, remember to set the same security on the Mesh Access Point as well.

About the network behavior, MPP supports Bridge to the Internet & Route to Internet. MAP must Bridge to the Internet.

3.3 Configure the MAP

1. The AP can only enable Mesh with one interface, either 2.4GHz or 5GHz wireless interface. Please configure the Mesh wireless interface with a specific channel and then click Save and apply.

    Please note: Mesh network is a low-mobility centralized form of wireless connection. Please don't set Channel=Auto.

2. Enable the Mesh point of the wireless internet. Configure the Mesh ID.
    Mesh security is not necessary needed but recommended, in this guide we will be using "No Security", and then apply the setting. If the Mesh Portal Point has security, please remember to set the same security.

About the network behavior, MPP supports Bridge to the Internet & Route to Internet. MAP must Bridge to the Internet.

3.   Confirm both MPP & MAP configuration are synchronized with the ecCloud.

4.   Remove MAP WAN ethernet connection from the Internet.
5.   Manually reboot MAP from the local site.

After MPP rebooted and establish the Open Mesh connection with the MPP, users successfully extend their Mesh network.

Please contact Edgecore's Technical Support Team at ecwifi@edge-core.com for additional inquiries