

**ECW230S**

**User Manual**


# What is EnGenius Cloud?

Other Languages: [日本語](#)

## Before You Begin

To start using the EnGenius Cloud service, you must prepare the following:

- At least one supported EnGenius Cloud wireless access point or switch.
- An existing network with an Internet connection including DHCP and DNS configuration.

 You can also install the "EnGenius Cloud" mobile app (available for both iOS and Android) for easier device registration and monitoring.

## Supported Web Browsers

The EnGenius Cloud is primarily accessible with a web browser. Before signing up for the EnGenius Cloud service or logging on to the web interface to manage your network, first verify that you are using a supported browser.


The following table lists the web browsers that EnGenius Cloud supports:

Browser	Release
Google Chrome	57.0.2987.110 and later
Apple Safari	10.0.3 (12602.4.8) and later
Mozilla Firefox	52.0 and later
Microsoft Edge	80.0.361.103 and later

If you use an unsupported web browser, you may experience issues displaying elements on the web interface.

# Getting Started

This session will assist you in setting up a new network on the EnGenius Cloud web application. For easier, faster setup, use the EnGenius Cloud for iOS or EnGenius Cloud for Android mobile apps. No matter which version you start with, you can always switch seamlessly between the web and mobile.

 This article is not meant to be a comprehensive list of everything EnGenius Cloud, but rather a stepping stone to get started in the most informed way possible.

# Signing Up

Before you start to manage EnGenius devices, you must first sign up for the service.

Registering EnGenius Cloud is similar to other web-based platforms and can be done either with a social media account (e.g. Google or Facebook) or by creating an account from scratch. You will need to provide your email address, company name, physical address, and phone number. Furthermore, you must determine the country in which your account will be hosted. That is, all relative device information, user configurations, and client statistics will be kept in the corresponding region of servers (**Oregon** for US and **Frankfurt** for other countries). This enables EnGenius Cloud to protect customer data and comply with requirements like **GDPR** for customers within the European Union.

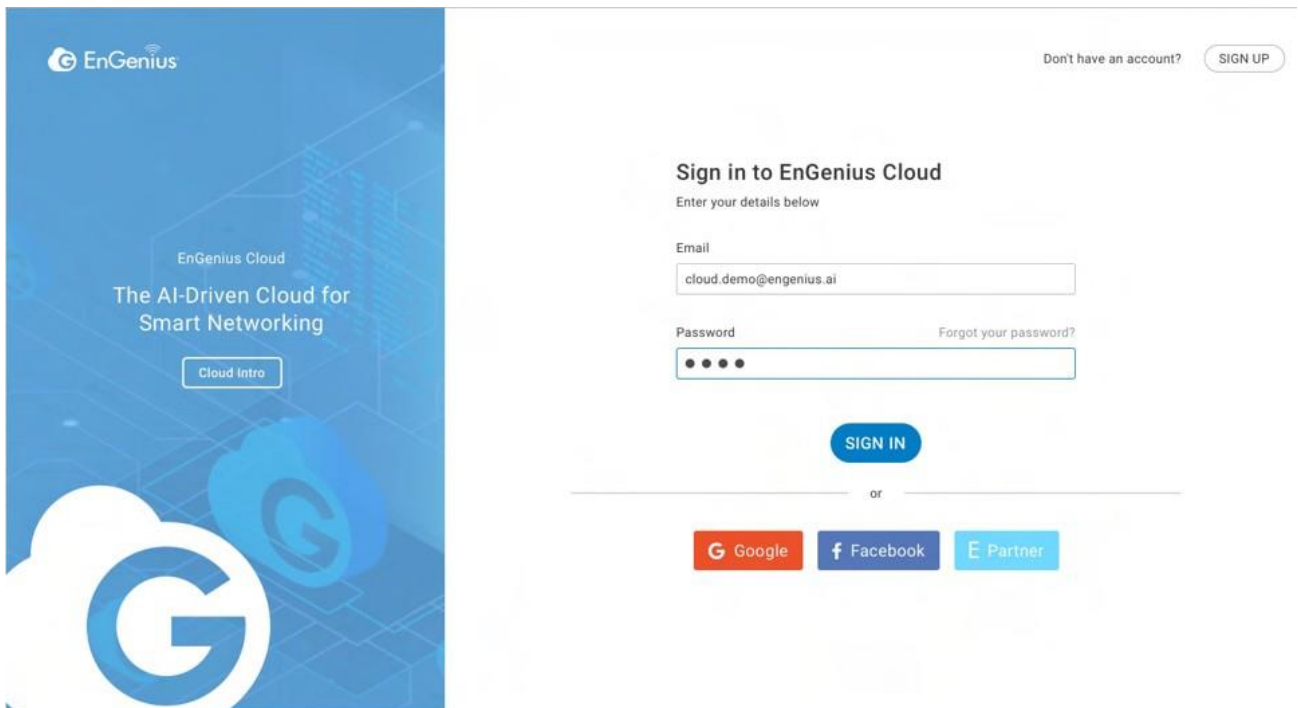


Support for signing up with EnGenius Partner Portal will be available soon.

# Logging On

Once your account has been created, you can login to EnGenius Cloud in the following steps:

1. Open a web browser to <https://cloud.engenius.ai/> . This will bring up the main login page.



2. Enter your EnGenius Cloud email address and password and click the **Sign in** button.
3. For EnGenius Partner who has account on EnGenius Partner Portal already, you can simply click on "E Partner" button, and EnGenius Partner Portal will pop up login page for you to use Single-Sign-On capability of Partner Portal to log on to EnGenius Cloud
4. For Google and Facebook users, you can also click on "Google" or "Facebook" button to use your account on Google and Facebook to log on to EnGenius Cloud
5. EnGenius Cloud will create a new default Organization and Network for every new account based on the email address as unique user identification. (note: If someone is invited to an Organization or Network, this account won't have default Organization and Network.) If you have multiple accounts created on EnGenius Cloud, EnGenius Cloud will

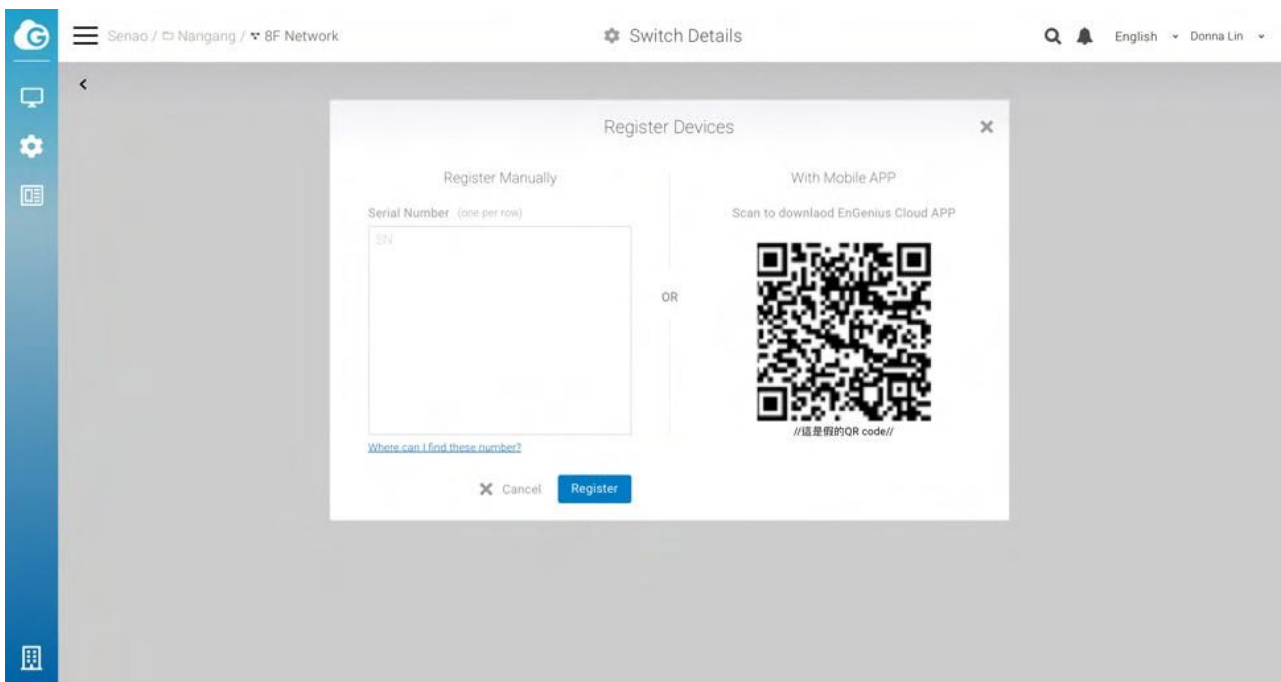
merge your accounts based on the "email address" of the account. For example, if you have created a new account on EnGenius Cloud using the same email address as your google account, then you're able to login to this email account either through Google account authentication with Google account password, or through EnGenius Cloud Login with the password while you created the EnGenius Cloud account.

# Registering Devices to Organization

Register a device to EnGenius Cloud inventory by using the serial number located on the device.

## Registering a device

Registering devices with a serial number is easy. Just enter the serial numbers of your devices, one per line, then click the **Register** button.



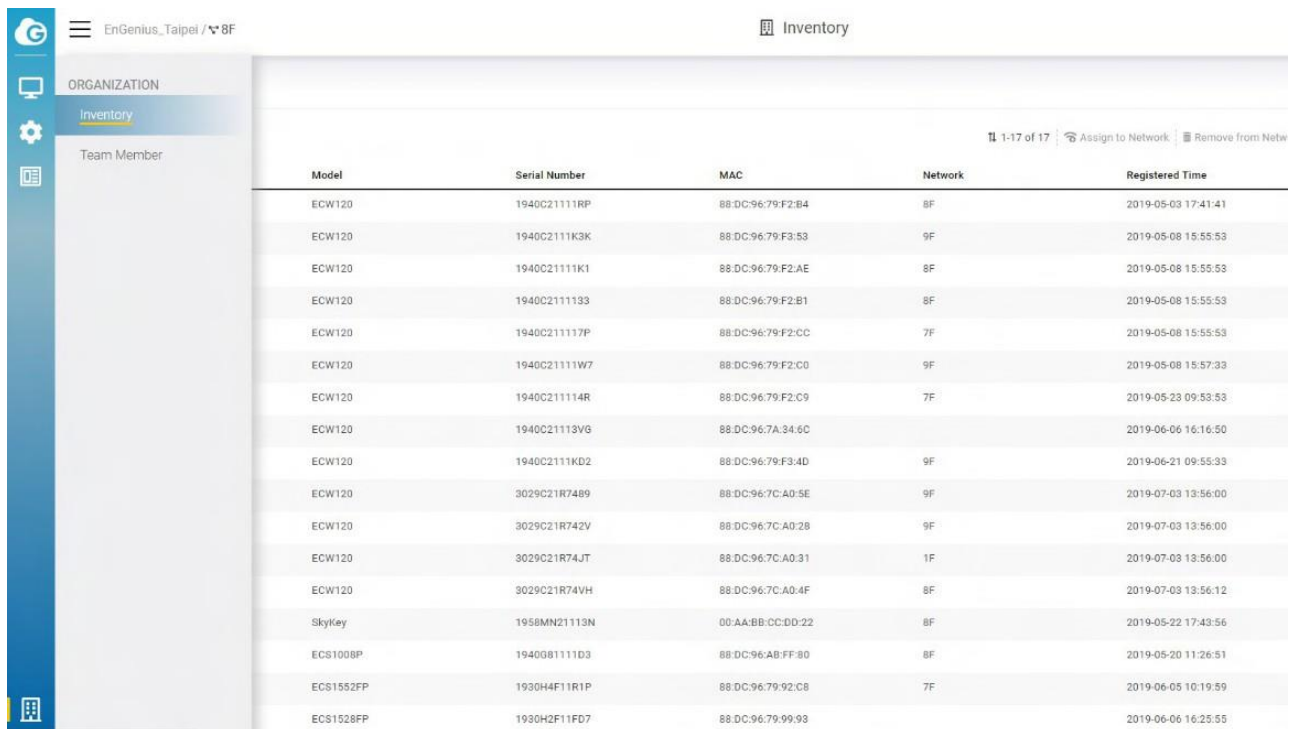


# Assigning Devices to Network

Before devices on EnGenius Cloud can be managed and configured, they must first be added to a network that you have created.

## Adding Devices to a Network

1. Navigate to **Organization > Inventory**.



The screenshot shows the EnGenius Cloud interface. The top navigation bar includes the EnGenius logo, the organization name 'EnGenius\_Taipei / 8F', and the page title 'Inventory'. The left sidebar shows the 'ORGANIZATION' menu with 'Inventory' selected. The main content area displays a table of devices with the following columns: Model, Serial Number, MAC, Network, and Registered Time. The table contains 17 rows of device information.

Model	Serial Number	MAC	Network	Registered Time
ECW120	1940C21111RP	88:DC:96:79:F2:B4	8F	2019-05-03 17:41:41
ECW120	1940C2111K3K	88:DC:96:79:F3:53	9F	2019-05-08 15:55:53
ECW120	1940C21111K1	88:DC:96:79:F2:AE	8F	2019-05-08 15:55:53
ECW120	1940C2111133	88:DC:96:79:F2:B1	8F	2019-05-08 15:55:53
ECW120	1940C211117P	88:DC:96:79:F2:CC	7F	2019-05-08 15:55:53
ECW120	1940C21111W7	88:DC:96:79:F2:C0	9F	2019-05-08 15:57:33
ECW120	1940C211114R	88:DC:96:79:F2:C9	7F	2019-05-23 09:53:53
ECW120	1940C21113VG	88:DC:96:7A:34:6C		2019-06-06 16:16:50
ECW120	1940C2111KD2	88:DC:96:79:F3:4D	9F	2019-06-21 09:55:33
ECW120	3029C21R74B9	88:DC:96:7C:A0:5E	9F	2019-07-03 13:56:00
ECW120	3029C21R742V	88:DC:96:7C:A0:28	9F	2019-07-03 13:56:00
ECW120	3029C21R74JT	88:DC:96:7C:A0:31	1F	2019-07-03 13:56:00
ECW120	3029C21R74VH	88:DC:96:7C:A0:4F	8F	2019-07-03 13:56:12
SkyKey	1958MN21113N	00-AA:BB:CC:DD:22	8F	2019-05-22 17:43:56
ECS100BP	1940B81111D3	88:DC:96:AB:FF:80	8F	2019-05-20 11:26:51
ECS1552FP	1930H4F11R1P	88:DC:96:79:92:C8	7F	2019-06-05 10:19:59
ECS1528FP	1930H2F11FD7	88:DC:96:79:99:93		2019-06-06 16:25:55

2. Select one or multiple devices as required.

EnGenius\_Taipei / 8F Inventory

1-17 of 17 Assign to Network Remove from Network Unregister Device Register Device

Type	Model	Serial Number	MAC	Network	Registered Time	Registered By
<input type="checkbox"/> AP	ECW120	1940C2111RP	88 DC 96 79 F2 B4	8F	2019-05-03 17:41:41	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	1940C2111K3K	88 DC 96 79 F3 53	9F	2019-05-08 15:55:53	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	1940C2111K1K1	88 DC 96 79 F2 AE	8F	2019-05-08 15:55:53	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	1940C2111133	88 DC 96 79 F2 B1	8F	2019-05-08 15:55:53	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	1940C211117P	88 DC 96 79 F2 CC	7F	2019-05-08 15:55:53	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	1940C21111W7	88 DC 96 79 F2 C0	9F	2019-05-08 15:57:33	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	1940C211114R	88 DC 96 79 F2 C9	7F	2019-05-23 09:53:53	senaccloud@gmail.com
<input checked="" type="checkbox"/> AP	ECW120	1940C21112V0	88 DC 96 7A 34 6C		2019-06-06 16:16:50	roger.liu@senao.com
<input type="checkbox"/> AP	ECW120	1940C2111KD2	88 DC 96 79 F3 4D	9F	2019-06-21 09:55:33	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	3029C21R7489	88 DC 96 7C A0 5E	9F	2019-07-03 13:56:00	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	3029C21R742V	88 DC 96 7C A0 28	9F	2019-07-03 13:56:00	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	3029C21R74JT	88 DC 96 7C A0 31	1F	2019-07-03 13:56:00	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	3029C21R74VH	88 DC 96 7C A0 4F	8F	2019-07-03 13:56:12	senaccloud@gmail.com
<input type="checkbox"/> ezMaster	SkyKey	1958MN21113N	00 AA BB CC DD 22	8F	2019-05-22 17:43:56	senaccloud@gmail.com
<input type="checkbox"/> Switch	ECS1008P	1940G8111D3	88 DC 96 AB FF 80	8F	2019-05-20 11:26:51	senaccloud@gmail.com
<input type="checkbox"/> Switch	ECS152FP	1930H4F11R1P	88 DC 96 79 92 C8	7F	2019-06-05 10:19:59	senaccloud@gmail.com
<input checked="" type="checkbox"/> Switch	ECS1528FP	1930H2F11FD7	88 DC 96 79 99 93		2019-06-06 16:25:55	senaccloud@gmail.com

### 3. Click Assign to Network.

EnGenius\_Taipei / 8F Inventory

1-17 of 17 **Assign to Network** Remove from Network Unregister Device Register Device

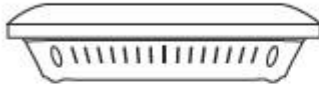
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<input type="checkbox"/> AP	ECW120	1940C21111W7	88 DC 96 79 F2 C0	9F	2019-05-08 15:57:33	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	1940C211114R	88 DC 96 79 F2 C9	7F	2019-05-23 09:53:53	senaccloud@gmail.com
<input checked="" type="checkbox"/> AP	ECW120	1940C21112V0	88 DC 96 7A 34 6C		2019-06-06 16:16:50	roger.liu@senao.com
<input type="checkbox"/> AP	ECW120	1940C2111KD2	88 DC 96 79 F3 4D	9F	2019-06-21 09:55:33	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	3029C21R7489	88 DC 96 7C A0 5E	9F	2019-07-03 13:56:00	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	3029C21R742V	88 DC 96 7C A0 28	9F	2019-07-03 13:56:00	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	3029C21R74JT	88 DC 96 7C A0 31	1F	2019-07-03 13:56:00	senaccloud@gmail.com
<input type="checkbox"/> AP	ECW120	3029C21R74VH	88 DC 96 7C A0 4F	8F	2019-07-03 13:56:12	senaccloud@gmail.com
<input type="checkbox"/> ezMaster	SkyKey	1958MN21113N	00 AA BB CC DD 22	8F	2019-05-22 17:43:56	senaccloud@gmail.com
<input type="checkbox"/> Switch	ECS1008P	1940G8111D3	88 DC 96 AB FF 80	8F	2019-05-20 11:26:51	senaccloud@gmail.com
<input type="checkbox"/> Switch	ECS152FP	1930H4F11R1P	88 DC 96 79 92 C8	7F	2019-06-05 10:19:59	senaccloud@gmail.com
<input checked="" type="checkbox"/> Switch	ECS1528FP	1930H2F11FD7	88 DC 96 79 99 93		2019-06-06 16:25:55	senaccloud@gmail.com

# Device Setup

## ECW AP Installation

### ECW AP Package Contents

-ECW120



Cloud Managed  
Indoor Access Point



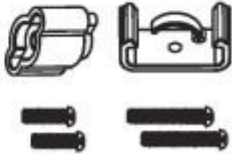
Quick Installation Guide



Mounting Bracket



Mounting Screw Kit



T-Rail Mounting Kit

ECW120 Package Contents

-ECW220

-ECW230



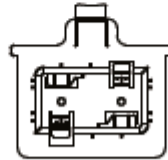
Cloud Managed  
Indoor Access Point



Quick Installation Guide



Ceiling Mount Base  
(9/16" T-Rail)



Ceiling Mount Base  
(15/16" T-Rail)



Mounting kit

ECW220/230 Package Contents

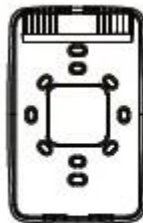
-ECW115



Cloud Managed  
Indoor Access Point



Quick Installation Guide



Junction plate(short)



Junction plate(tall)




Mounting Screw Kit

ECW115 Package Contents

## Minimum Access Requirement

**Power source option** - An ECW AP device can be powered by an 802.3af/at-compliant PoE device or by DC12V input

 Do not use both power sources at the same time.

### Ethernet port:

- LAN (PoE): Uplink port accepts an 802.3af/at power source.
- LAN2: Data link if this port is built on a device.

### Connect the AP to Internet:

You need to find a way to let the Cloud AP be able to access internet, so it can be managed by EnGenius Cloud.

- **Connect the uplink LAN port to a switch port or port of router:** This is the most common way to let AP be able to access Internet. (Note: please make sure the port is internet accessible by connecting a notebook to the port and browse the internet)
- **Use your existing Cloud-managed ECW AP to mesh the new AP:** Sometimes the place the AP installed is not accessible with Ethernet cable, then you can leverage EnGenius Mesh technology to mesh the new AP to your existing cloud-managed ECW AP.
- After internet connected, you will see Power LED blinking until the AP is able to communicate with EnGenius Cloud and the LED becomes steady lid. Usually it will take about 8 mins if there is new firmware available to upgrade.
- If the LED keeps blinking, then there could be some issues like no IP address, or local proxy server setting required...etc. To set static IP or Proxy, or managed VLAN, you can login to Local Access Page through Managed SSID of the AP.

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## ECS Switch Installation

## ECS Switch Package Contents

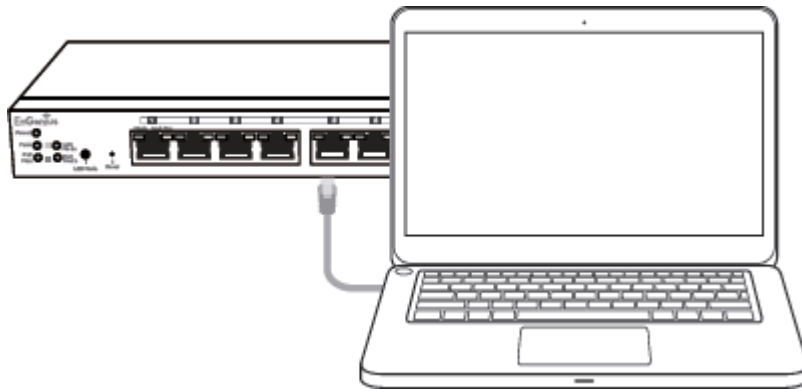
- |   |   |
|---|---|
| • For 13" and 19" 1U ECS series model<br>(ECS1xxx/ECS2xxx/ECS5xxx series) | • For Desktop type ECS series model<br>(ECS1008P) |
| + ECS Managed Switch  | + ECS Managed Switch                              |
| + Power Cord  | + Power Adapter                                   |
| + RJ-45 Console Cable   | + Power Cord                                      |
| + Rack Mount Kit  | + Ground Screw Kit                                |
| + Quick Installation Guide  | + Rubber Footpads                                 |
|   | + Wall Mount Kit                                  |
|   | + Quick Installation Guide                        |

## Connecting to ECS Switch

A) Connect the supplied power adapter (or power cord) to the switch and plug the other end into an electrical outlet. Verify the power LED indicator is lit on the switch. Wait for the switch to complete boot up. It might take few minutes to complete the process.



B) Connect one end of a category 5/6 Ethernet cable into the gigabit (10/100/1000) Ethernet port on the switch's front panel and the other end to the Ethernet port on the computer. Verify that the LED on the Ethernet port of the switch is green.



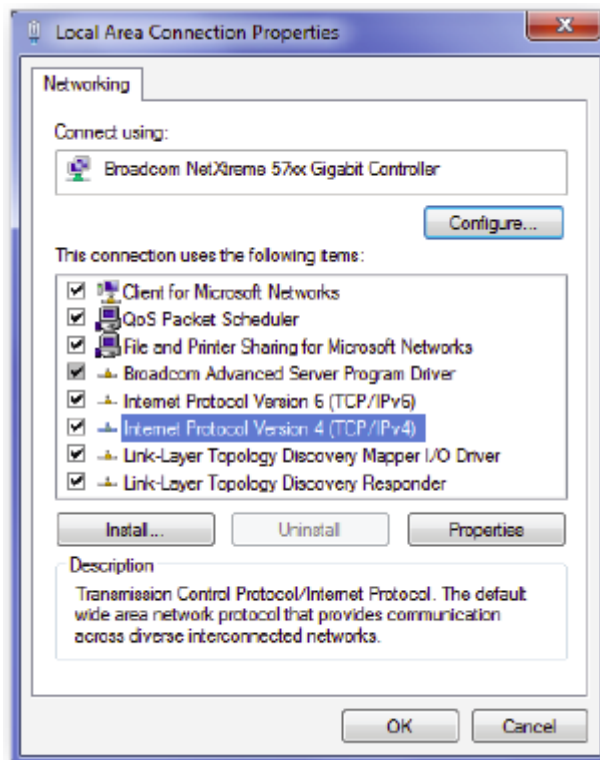
## **Login to the ECS Switch Local Access Page**

The switch's default IP address setting is DHCP client mode, which will get an IP address from the DHCP server. It will automatically change to static IP address assignment if the switch cannot get an IP address from the DHCP server within two minutes of booting up.

If your switch cannot get an IP address from local DHCP server, or you would like to use static IP address assignment, you may follow the below procedures to manage your computer connection to the switch via a static IP address.

### **IP address configuration on your computer:**

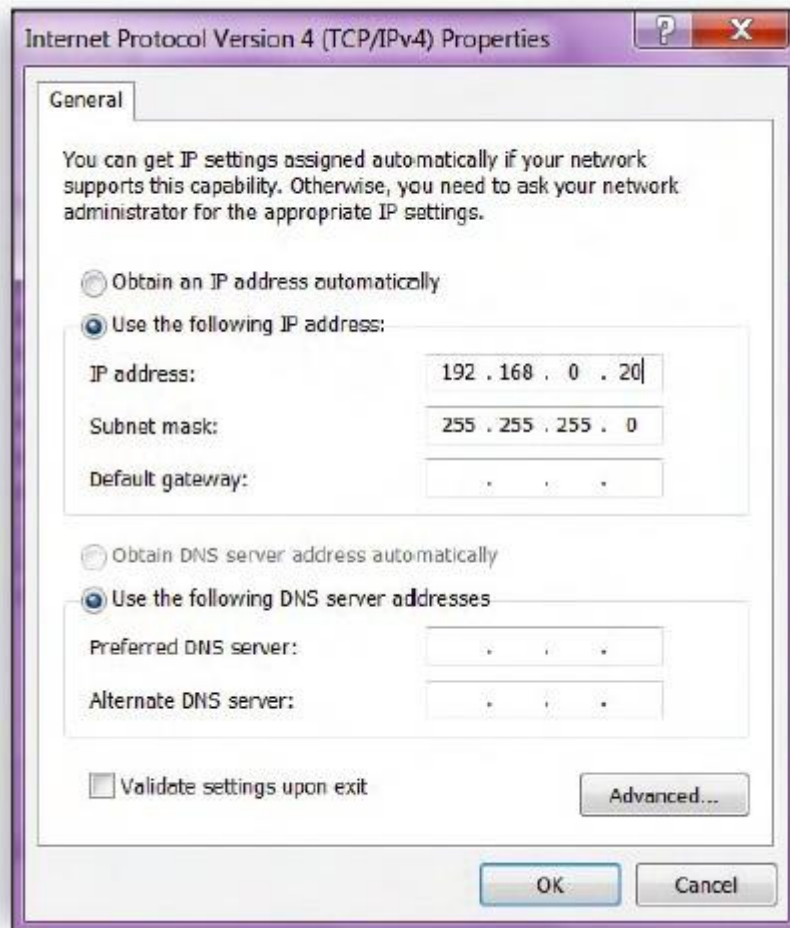
A) Once your computer is on, configure the settings of your network adapter. Open Network Connections > Local Area Connection > Internet Protocol Version 4 (TCP/IPv4) > Properties



B) Select **Use the following IP address** and make the following entries:

- **IP Address:** 192.168.0.10 (or any address in the 192.168.0.x network)
- **Subnet mask:** 255.255.255.0





## Login to ECS Switch

A) Open a web browser on your computer. In the address bar of the web browser, enter the ECS switch IP address and hit enter.


B) The default username is **admin** and the password is **password**. **We strongly recommend that you change these as soon as possible.** Enter the username and password of the switch and then click Login.

\*Your model number may be different in the web browser interface.



C) ECS Switch local access page will appear.

Summary	
Device Name:	ECS1552FP
FW Version:	3.01.045
Serial Number:	1970H4F11K1R
Base MAC Address:	88:DC:96:7D:DF:1B
Check Code:	6cad053a
System Uptime:	7 days, 2 hours, 36 mins
Fan Status:	OK

 Instead of default DHCP settings on ECS switch, users may choose a static IP address setting for their deployed network. Remember to open **System > Static Route** to setup the static IP address/gateway settings on the switch in this case.



# QIG

## ECW AP



[ECW120\\_ECW220\\_ECW230\\_QIG](#)

QIG\_ECW120\_ECW220\_ECW230.pdf - 2MB



[ECW115\\_QIG](#)

QIG\_ECW115.pdf - 2MB



[ECW160\\_QIG](#)

QIG\_ECW160.pdf - 2MB

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## ECS Switch



[ECS\\_Switch\\_QIG](#)

ECS\_QIG.pdf - 2MB

# Troubleshooting ECW AP

1. Check the [LED Status](#) to see if any problem encountered. If Power LED keeps flashing for over 10 minutes, then there could be Cloud connection issues.
2. Use your mobile phone to scan if Default SSID of the AP found. (you have to be around the AP location) From the Default SSID, you can also identify which stage the AP is stuck on. See [details of Default SSID](#).
3. To troubleshoot the connection issue, you may login to Local page:
  1. Use your client device (e.g., a laptop, mobile device, or tablet) to find the SSID: "EnMGMTxxxx" (xxxx is the last four digits of LAN MAC which can be found on the back of the device) and connect to it.
  2. Enter the URL in web browser: [http:// EnGenius.local](http://EnGenius.local) or the IP 192.168.1.1 to access the device's user interface. You can review device status after logging into the AP with the default account/password ( default admin account/ password : admin/ admin.)

## ***Issue: Cannot find Default SSID***

1. Check for available wireless networks (Check if a known [default SSID](#) is being broadcast).
2. If a default SSID is being broadcast, connect your device to it.
3. If no known default SSIDs are present, set up a manual wireless network connection. For the SSID name, use 'EnMGMT', e.g. 'EnMGMTxxxx', where the x's are replaced with the last four digits of the LAN MAC address.
4. After connecting, open a web browser and connect to one of the local access page addresses.

# LED Status



ECW120 LED

Status	LED / Color	State
Cloud Connected	Power LED Orange	Solid On
Connecting to Cloud	Power LED Orange	Flash
No LAN Physical Connection	LAN LED Blue	Off
LAN Connected	LAN LED Blue	Solid On
LAN Transmitting	LAN LED Blue	Flash
Wi-Fi Interface On	2.4G / 5G Blue/Green	Solid On
Wi-Fi Transmitting	2.4G / 5G Blue/Green	Flash
Firmware Upgrade	All LED's	Flash



Mesh Enabled

Mesh LED  
Blue

Flash



ECW115 LED

Status	LED Color	State
Power Up AP	Orange	Static
Waiting Period (before being added to Cloud)	Orange	Flash (slow)
Connected to Cloud	Blue	Static
Reset to Default	Blue	Flash (quick)
Error or Disconnected	Orange	Flash (quick)
Firmware Upgrading	Orange/Blue	Flash

# Default SSIDs

 Default SSIDs (only available before ECW AP is managed by EnGenius Cloud)

Potential known default SSID names along with potential causes/solutions:

## **EnMGMTxxxx-Initializing**

Cause: AP is in bootup sequence.

## **EnMGMTxxxx-SSID\_name>-No\_Eth**

Cause: AP does not have an Ethernet connection.

Solution: Check if the Ethernet cable is unplugged.

## **EnMGMTxxxx-No\_IP**

Cause: AP cannot get an IP address from the DHCP server. Solution: Check the AP's IP address configuration.

## **EnMGMTxxxx-IP\_Conflict**

Cause: AP's IP address conflicts with another device's IP in the same network. Solution:

Check the AP's IP address configuration.

## **EnMGMTxxxx-Gateway\_ERR**

Cause: AP is unable to connect to its default gateway.

Solution: Check the AP's IP address configuration and connectivity to its default gateway.



### **EnMGMTxxxx-Proxy\_ERR**

Cause: AP could not access Internet through an HTTP/HTTPS proxy.

Solution: Check the AP's proxy configuration in Miscellaneous Settings.

### **EnMGMTxxxx-DNS\_ERR**

Cause: AP could not resolve the domain name from the DNS server.

Solution: Check the AP's IP address configuration.

### **EnMGMTxxxx-Cloud\_ERR**

Cause: Everything appears to work normally, but device is unable to connect to cloud server.

Solution: Check cloud server status with EnGenius.

### **EnMGMTxxxx-No\_Cloud\_Configure**

Cause: AP's S/N has not been added to any network.

Solution: Check whether the AP has been added in the inventory and has been added to a network.

### **EnMGMTxxxx-Cloud\_Configured**

Everything is working as it should!

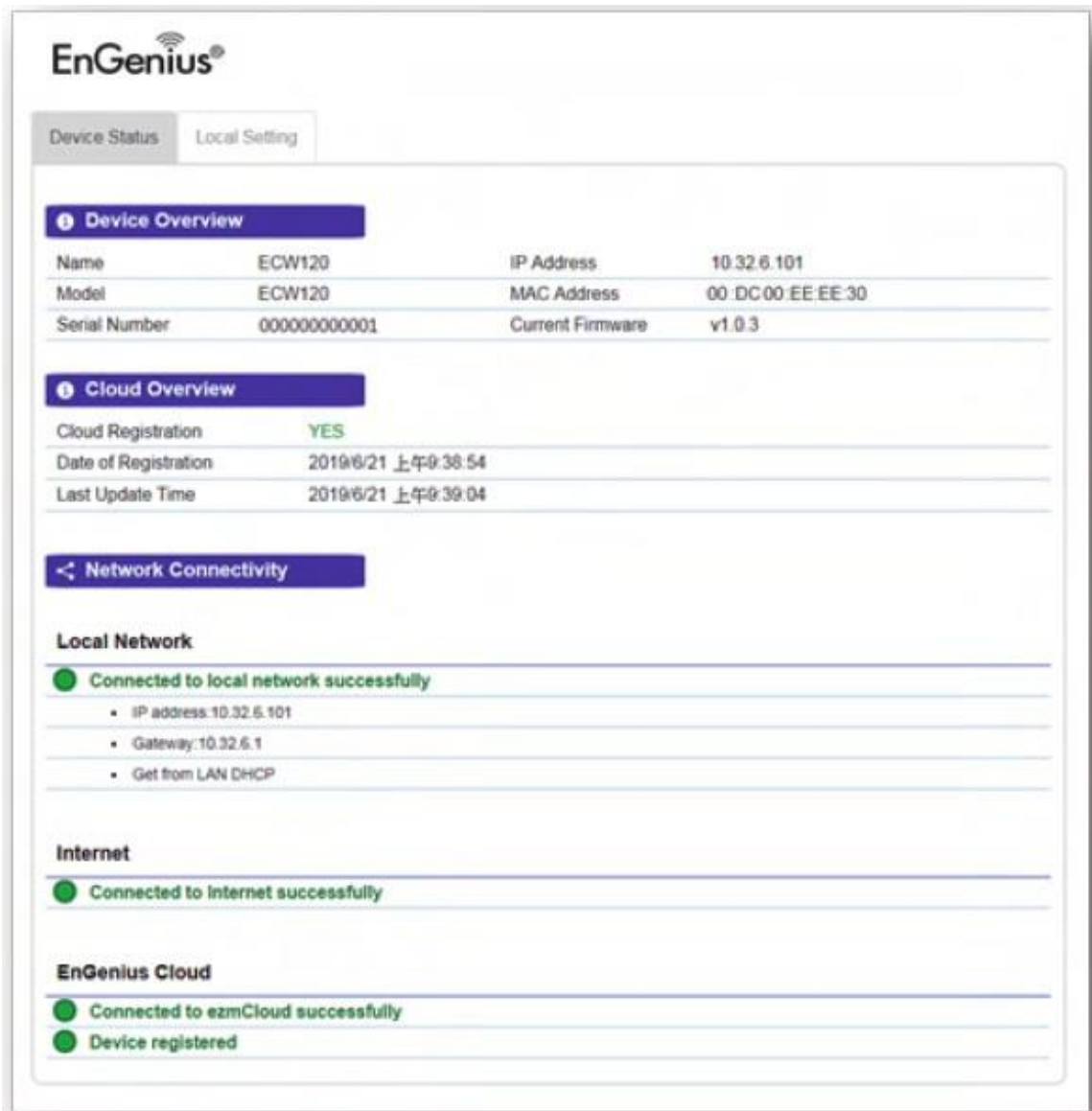
### **EnMGMTxxxx**

Cause: An AP has never connected to the EnGenius cloud or has been factory reset.

# Login to Local Access Page

1. Use your client device (e.g., a laptop, mobile device, or tablet) to find the SSID: "EnMGMTxxxx" (xxxx is the last four digits of the MAC address, found on the back of the device) and connect to it.
2. Under your web browser, enter the URL [http:// EnGenius.local](http://EnGenius.local) or the localhost IP address (192.168.1.1) to access the device's user interface. You can review device status after logging into the AP with the default admin account/password (default account & password: **admin/admin**)

By default, EnGenius cloud access points (ECW series) are assigned an IP address dynamically by the DHCP server. If you encounter issues with IP address assignment, please double check that the IP settings include IP address, subnet mask, gateway, proxy, and management VLAN. If any issues still exist, you may change your IP assignment from "DHCP mode" to "Static IP" via the following procedure:



**EnGenius®**

Device Status Local Setting

### Device Overview

Name	ECW120	IP Address	10.32.6.101
Model	ECW120	MAC Address	00:DC:00:EE:EE:30
Serial Number	000000000001	Current Firmware	v1.0.3

### Cloud Overview

Cloud Registration	YES
Date of Registration	2019/6/21 上午0:38:54
Last Update Time	2019/6/21 上午0:39:04

### Network Connectivity

#### Local Network

Connected to local network successfully

- IP address: 10.32.6.101
- Gateway: 10.32.6.1
- Get from LAN DHCP

#### Internet

Connected to Internet successfully

#### EnGenius Cloud

- Connected to ezmCloud successfully
- Device registered

ECW AP's Local Access Page

**i** By default, EnGenius cloud access points (ECW series) are assigned an IP address dynamically by the DHCP server. If you encounter issues with IP address assignment, please double check that the IP settings including IP address, subnet mask, gateway, proxy, and management VLAN. If any issues still exist, you may change your IP assignment from "DHCP mode" to "Static IP" via the following procedure:

a) Select "Local Setting" on this page.

b) Change IPv4 setting from "AS DHCP client" to "Use Static IP"

- c) Configure the IP address, gateway, net mask, and proxy policy as required.
- d) Reconnect this device to the LAN again if necessary.

## Local Access Page Options

Every device's status page includes useful information about the status of the device, basic configuration options (such as setting a static IP), and other tools. The following section will explain the items available on the device status page.

ECW Access Points provide the following information and configuration options on their local status page:

### Device Status Section

Contains information regarding the device overview, EnGenius Cloud overview, and network connectivity information.

Device Status
Local Setting
Reboot
Reset

---

i **Device Overview**

Name	ECW160	IP Address	192.168.2.122
Model	ECW160	MAC Address	88:DC:96:7E:FC:F3
Serial Number	1970CCE1KD15	Current Firmware	v1.2.9

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i **Cloud Overview**

Cloud Registration	YES
Date of Registration	2019/8/15 下午1:56:30
Last Update Time	2019/9/4 下午3:43:34

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← **Network Connectivity**

**Local Network**

● **Connected to local network successfully**

- IP address:192.168.2.122
- Gateway:192.168.2.254
- Get from LAN DHCP

---

**Internet**

● **Connected to Internet successfully**

---

**EnGenius Cloud**

● **Connected to ezmCloud successfully**

● **Device registered**

Device Status on Local Access Page

### Device Overview

Provides information regarding the name, model, serial number, IP address, MAC address, and current firmware.

### Cloud Overview

Provides information about the Cloud registration status, date of registration, and time of last update.

### Network Connectivity

Provides connectivity information to local network, Internet, and EnGenius Cloud.

## Local Setting Section

Provides settings for IPv4 / IPv6 address, management VLAN, firmware upgrade, and other miscellaneous configuration items (such as HTTP/HTTPS Proxy). Users can also reboot the device or reset the device to factory default settings from here.

The screenshot shows the 'Local Setting' page in the EnGenius web interface. At the top, there are tabs for 'Device Status' and 'Local Setting', with 'Local Setting' selected. To the right of the tabs are buttons for 'Reboot' and 'Reset'. Below the tabs is an 'Apply' button. The settings are organized into several sections:

- IPv4 Settings:** Includes radio buttons for 'As DHCP Client: Get IP from LAN DHCP Server (default)' and 'Use Static IP'.
- IPv6 Settings:** Includes a radio button for 'Link-local Address'.
- Spanning Tree Protocol (STP) Settings:** Includes a 'Status' section with radio buttons for 'Enable' and 'Disable'.
- Management VLAN Settings:** Includes radio buttons for 'Untagged' and 'Tagged'. The 'Tagged' option is selected, and the 'VLAN ID' is set to '4094' (range 1~4094).
- Firmware Upgrade:** Includes a dashed box with the text 'Drag & drop firmware file to upgrade here'. Below this is a file selection area with the text '選擇檔案' and '未選擇任何檔案', and a '提交' button.
- Miscellaneous:** Includes sections for 'HTTP Proxy' and 'HTTPS Proxy'. Each section has radio buttons for 'Authorization' and input fields for 'Address' and 'Port'. The 'No Proxy for' section has input fields for '192.168.100.0/24' and '192.168.110.0/24'.

Local Setting on Local Access page

**i** The HTTP proxy only allows all default management traffic from the EnGenius ECW device to be sent through a proxy.

# Label information

## ECW AP's

The first step is to get the serial numbers of the Cloud equipment you want to add to your cloud account. The serial number can be found on the box of the Cloud AP (ECW) or Cloud switch (ECS). An example of each is below:



Fig 1: ECW Serial number on box

1. Model number of ECW AP
2. Serial Number of ECW AP (This string of information that is added in the Cloud GUI)
3. Hardware version on ECW AP

The serial number for an ECW AP can also be found on the sticker on the back on the unit (check where you plug in the Ethernet cords into the ECW AP)



Fig 2: Back of AP

Below is an example of the sticker on the back on an ECW220 AP.



Fig 3: Sticker on back of ECW AP

As you can see the sticker on the back of the AP has the MAC address of the AP as well. It has the following items:

1. Model of AP
2. Serial number of ECW AP (This string of information that is added in the Cloud GUI)

You can also find the serial number of the ECW AP In the GUI of the ECW AP, when you login into the unit.



Highlighted below is the information needed to add the AP to the Cloud GUI, if the information is obtained via login to the ECW AP locally in the web GUI.



Fig 4: Local Login information

1. Model of the AP
2. Serial Number of ECW AP (This string of information that is added in the Cloud GUI)
3. Firmware version the AP is currently running

---

## ECS Switches

Below is the sticker that is on the box of the ECS switch

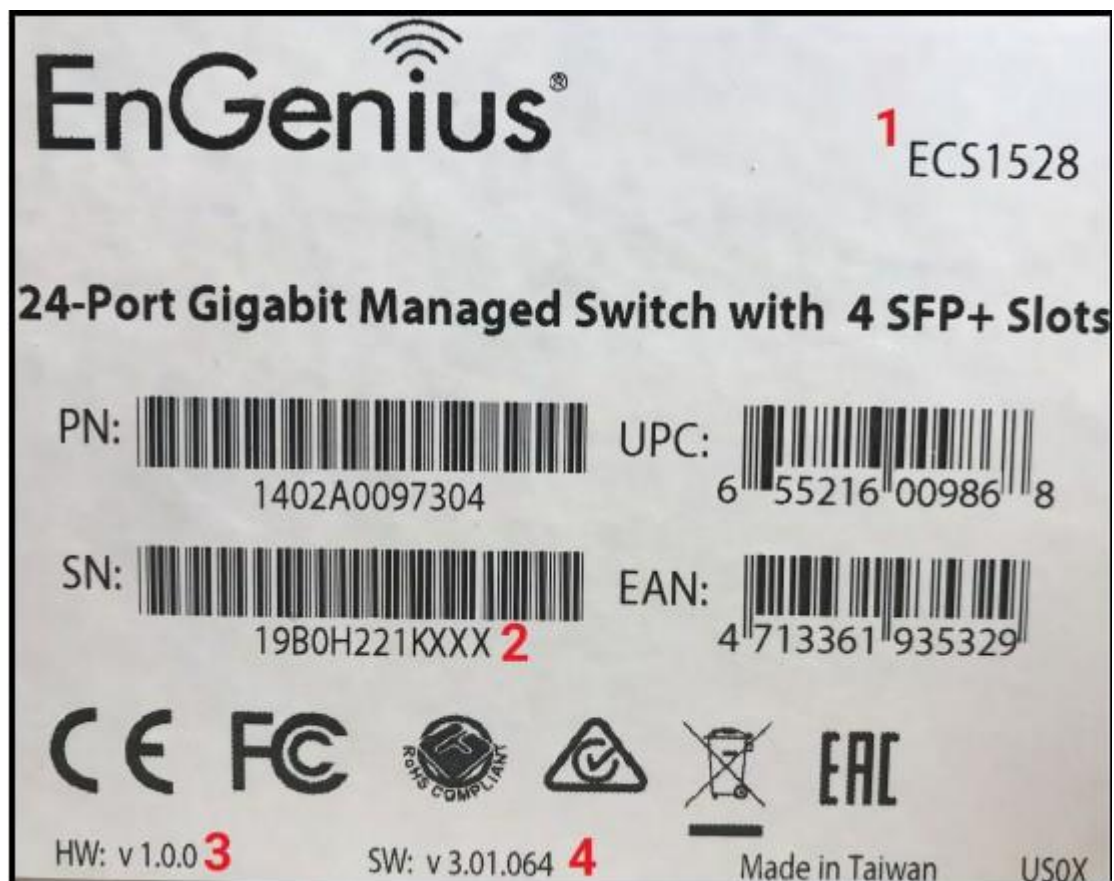


Fig 5: Sticker on the ECS box

1. Model of the ECS switch
2. Serial Number of ECW AP (This string of information that is added in the Gloud GUI)
3. Hardware version of the ECS switch
4. Firmware version that the switch came shipped with

Below is the information you find when you login to the ECS switch locally and go to **System > Summary** from the left hand column.



The screenshot shows a web interface for an ECS Switch. At the top, there is a navigation menu with 'System' (selected) and 'Summary'. Below the menu, a large black arrow points down to a 'Summary' section. This section contains a table of system information. The 'Device Name' is ECS1008P (marked with a red '1'), 'FW Version' is v1.1.21-2.01.072 (marked with a red '3'), and 'Serial Number' is 1990G811R55Q (marked with a red '2'). Other fields include 'Base MAC Address' (88:DC:96:81:BB:BB), 'Check Code' (5ebafff), and 'System Uptime' (4 days, 4 hours, 24 mins).

System	
Summary	
<b>Summary</b>	
Device Name:	ECS1008P <b>1</b>
FW Version:	v1.1.21-2.01.072 <b>3</b>
Serial Number:	1990G811R55Q <b>2</b>
Base MAC Address:	88:DC:96:81:BB:BB
Check Code:	5ebafff
System Uptime:	4 days, 4 hours, 24 mins

Fig 7: ECS Switch local login screen

1. Model of ECS Switch
2. Serial Number of ECW AP (This string of information that is added in the Gloud GUI)
3. Firmware version the switch is currently running

# Working with Organization Trees

EnGenius Cloud adopts an organization tree structure to let user define the scope of their managed networks. All device managing or monitoring functions can be applied to different scopes as laid out in the user's tree. That gives VAR or MSP users great flexibility in managing their networks.

The current organization tree structure consists of three levels, from largest to smallest:

- Organization - A grouping of one or more hierarchies under the umbrella of a single license.
- Hierarchy View - A cluster of networks, which may be geographically concentrated or spread out.
- Network - A set of network devices united by a single configuration set.

The organization tree definition is shown on the top left corner of the web GUI as follows:



---

## How-to Videos

**How to build your company networks in EnGenius Cloud**

**Real world**

**EnGenius Cloud**

Company A

- US
  - Sales team
  - R&D
  - Finance team
- EU
  - Sales team
  - R&D
  - Finance team
- APAC
  - Sales team
  - R&D
  - Finance team

Mapping to the Cloud

0:39 / 3:46

<https://www.youtube.com/watch?v=sN2y44Yzi7s&feature=youtu.be&t=5>

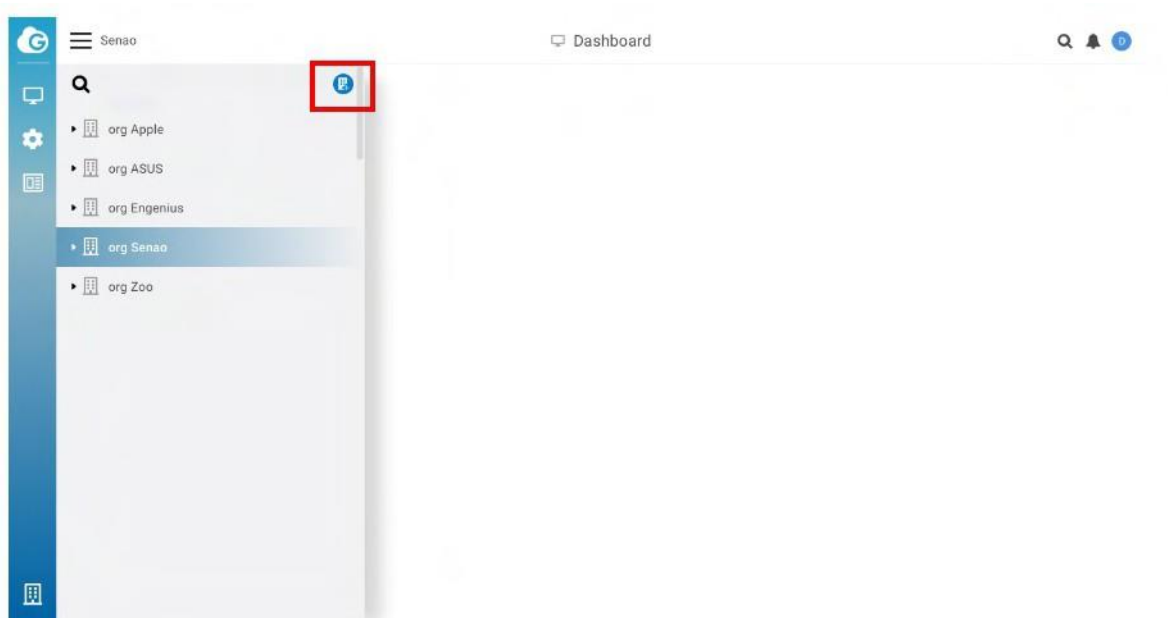
# Organization

A collection of hierarchy views and networks that are part of a single organizational entity, such as a company or school district. Each organization is the owner of a single license.

---

## Adding an organization

Click **Menu > Create Organization** button to create organization



## Edit Organization

Edit a organization if you need to update any its current settings (for example, if you want to change the Organization name, Country, TimeZone.)

Follow these steps to edit a Organization.

1. Click **Menu > Find the Organization you want to edit > Edit**

EnGenius\_Taipei Access Points

Model Name	Channel	WAN IP	LAN IP	FW Version	Network	Uptime	Last Update	Actions
2-09	FCW120	211.23.68.201	192.168.0.66	1.0.8	7F	20h 16m	a minute ago	Details
2-CC	ECW120	211.23.68.201	192.168.0.197	1.0.8	7F	11d 7h 15m	a minute ago	Details
2-81	EDW120	211.23.68.201	192.168.0.6	1.0.8	8F	5d 13h 45m	6 days ago	Details
2-4F	FCW120	211.23.68.201	192.168.0.63	1.0.8	8F	11d 7h 15m	a minute ago	Details
2-AE	ECW120	211.23.68.201	192.168.0.64	1.0.8	8F	7d 19h 37m	a minute ago	Details
2-84	EDW120	211.23.68.201	192.168.0.96	1.0.8	8F	1d 20h 6m	a minute ago	Details
3-4D	ECW120	211.23.68.201	192.168.0.193	1.0.8	9F	11d 7h 15m	a minute ago	Details
3-53	ECW120	211.23.68.201	192.168.0.177	1.0.8	9F	11d 7h 15m	a minute ago	Details
2-CC	EDW120	211.23.68.201	192.168.0.99	1.0.8	9F	11d 7h 15m	a minute ago	Details
0-9C	ECW120	211.23.68.201	192.168.0.91	1.0.8	9F	11d 7h 15m	a minute ago	Details
0-28	ECW120	211.23.68.201	192.168.0.169	1.0.8	9F	3d 14m	a minute ago	Details
0-31	ECW120	211.23.68.201	192.168.0.104	1.0.8	1F	4d 7h 16m	a minute ago	Details

## 2. Update Network Settings as required

Senao / Nangang / 8F Network Dashboard

Create New Organization ✕

Name

Country

Time zone

✕ Cancel

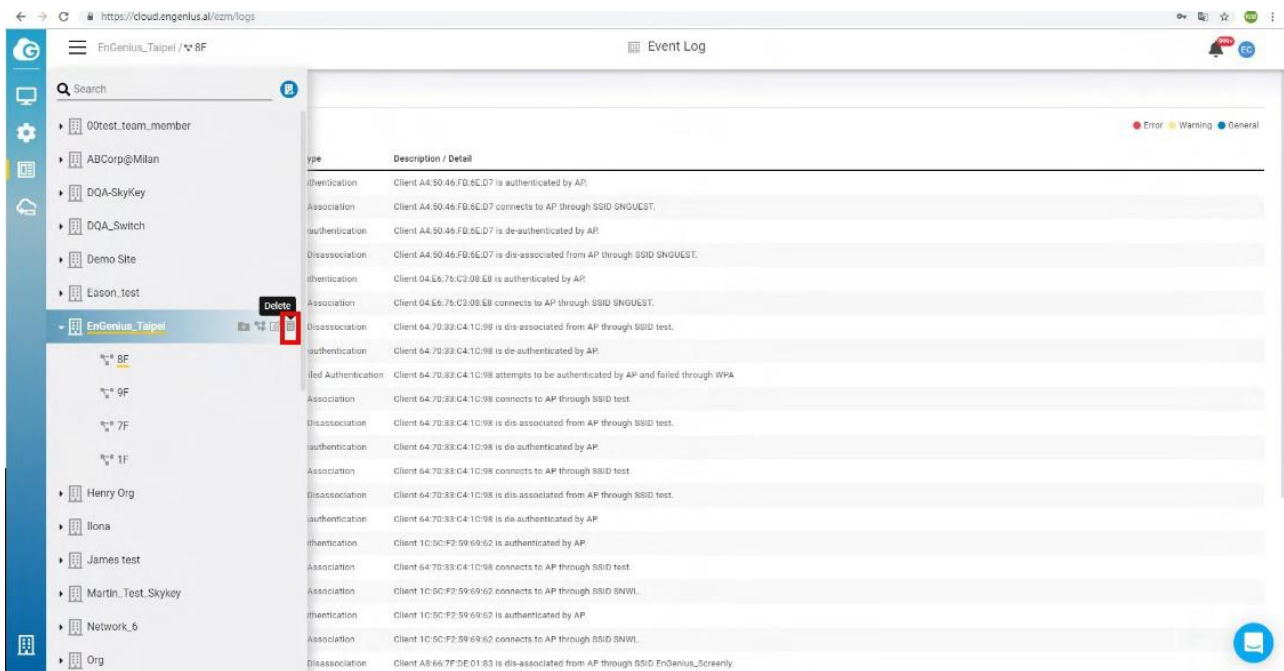
## 3. Click Apply

# Delete Organization

If you no longer need a Organization that you previously created, you can delete it.

Follow these steps to delete a organization

1. Click Menu > Find the Organization you want to edit > Delete



2. Popup is displayed and click **Confirm**

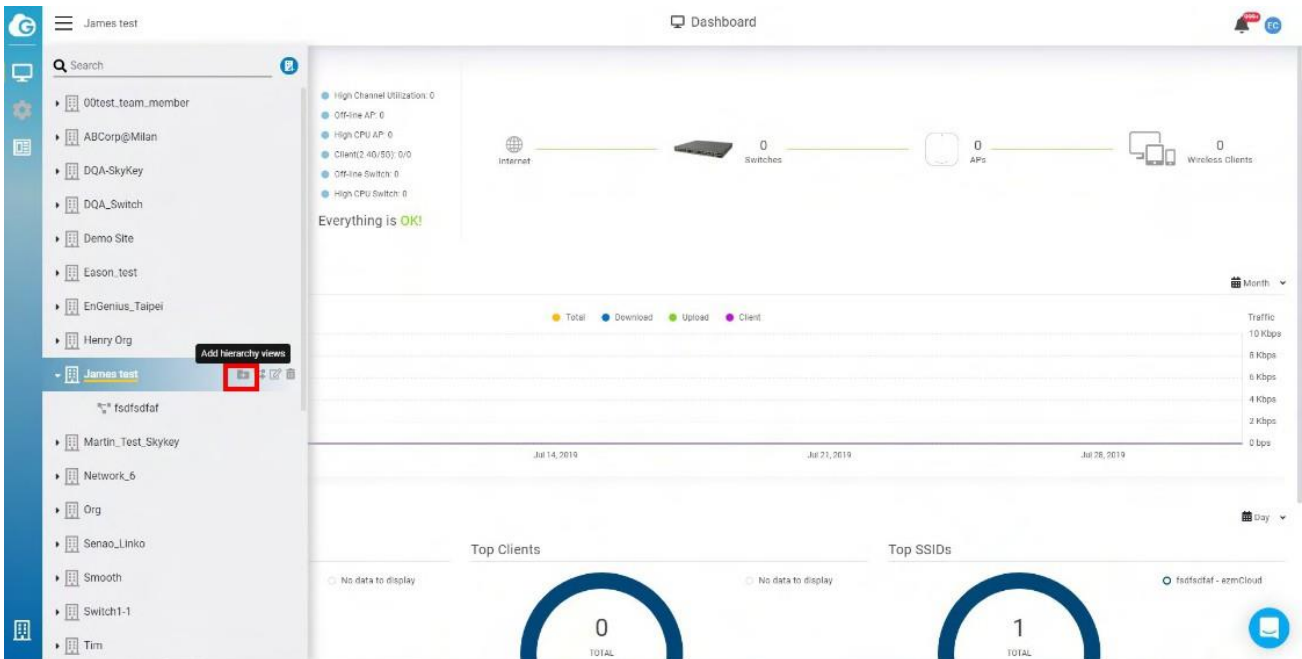


# Hierarchy View

A hierarchy view is a group of networks and/or nested hierarchy views. It follows a tree-like structure much like folders on your computer's operating system.

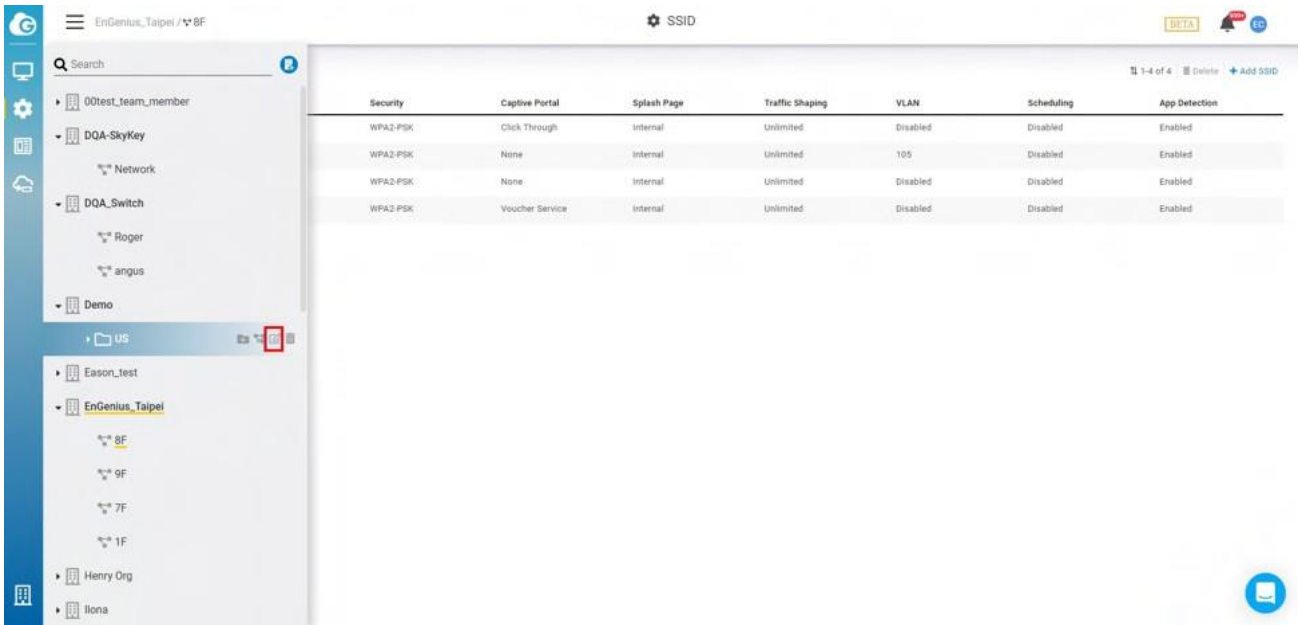
## Adding a hierarchy view

You can create hierarchy views for a new organization or an existing organization, or even within an existing hierarchy view. Click **Menu > Choose organization or hierarchy view > Add hierarchy view**

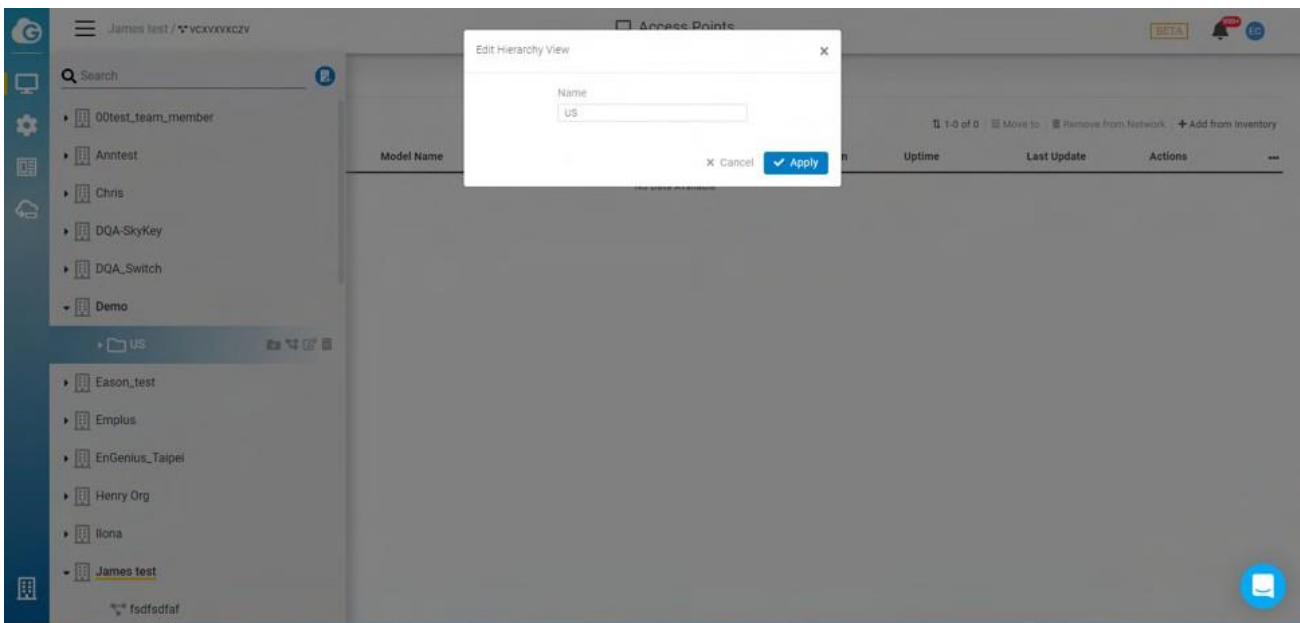


## Edit hierarchy views

1. You can edit the name of a hierarchy view name by clicking **Menu > Choose hierarchy view > Edit**



2. Change the Hierarchy View name and click **Apply**.



## Delete Hierarchy View

You can delete hierarchy views by clicking **Menu** > **Choose hierarchy view** and then clicking on the garbage icon.

Navigation sidebar with icons for Home, Settings, Reports, and Cloud. Below the icons is a search bar and a list of items:

- Q.see.ch
- Ea...\_t. t
- Emplus
- EnGenius\_Talpel
- sonryOrg
- 811...
- James tes t
- isd fs dref
- VCXVXXCZY
- test
- test
- Martin\_Test\_Skykey
- Network\_6
- Or
- pril0-1.lnlCO

Model Name	Channel	WAN IP	Last Update
No Data Available			

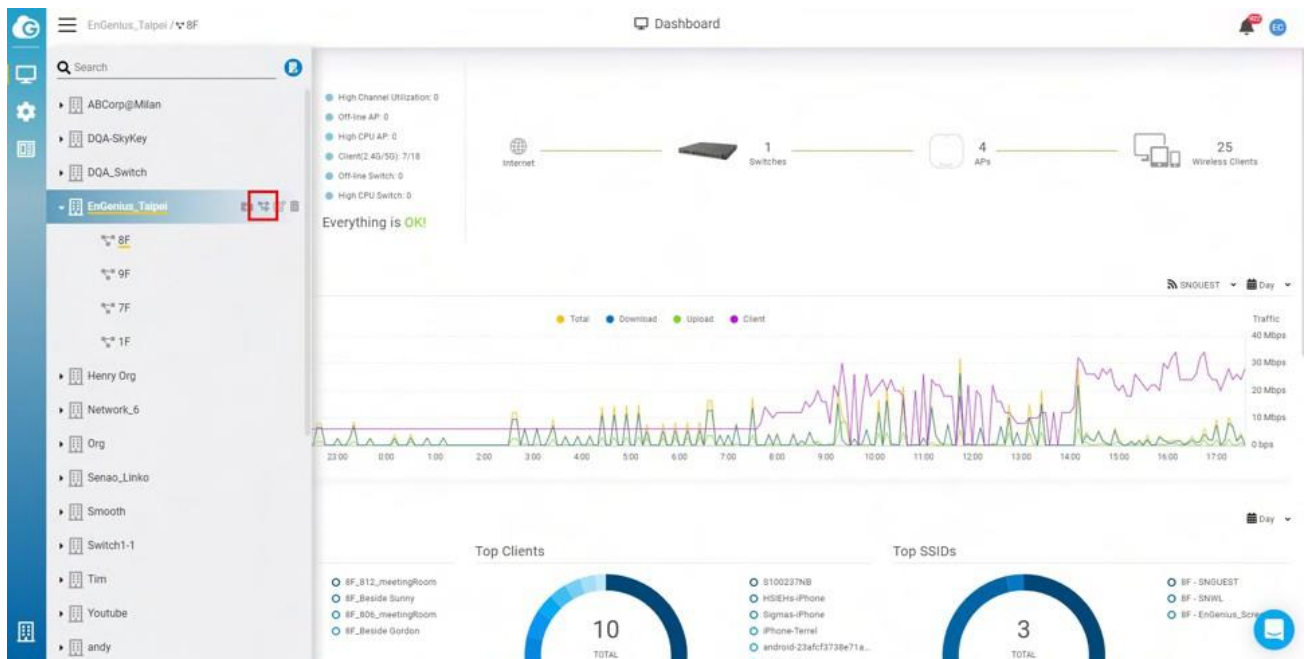
0

# Network

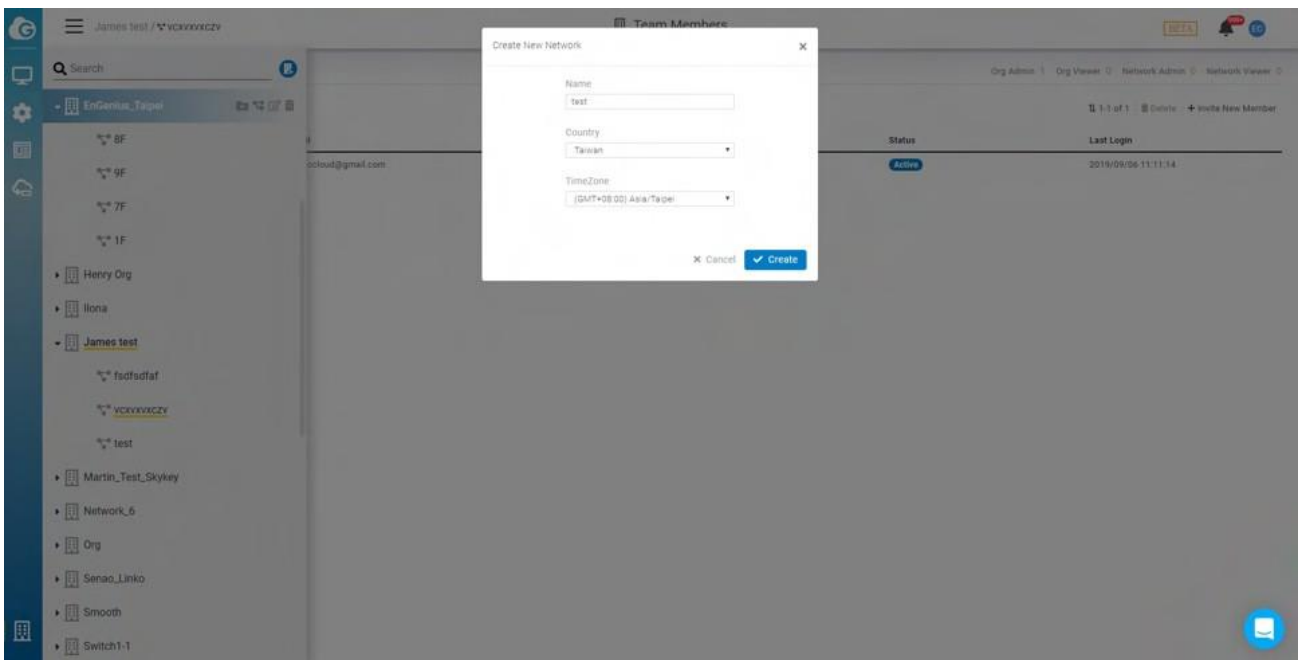
A network contains a list of devices and relevant information, such as configuration, SSID, radio settings, and firmware upgrade history. Each network contains a single configuration set for its devices, so if you have multiple configurations for devices, you can create a separate network to handle that.

## Adding a network

1. Click Menu > Choose organization or hierarchy > Create network



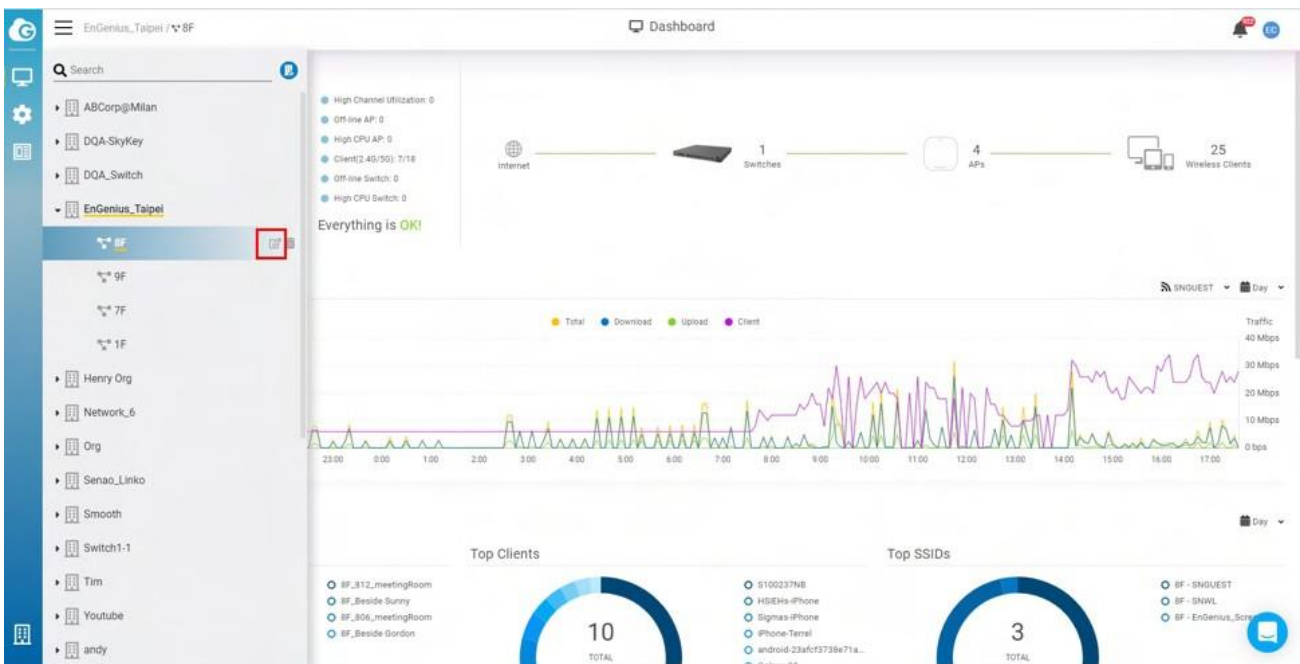
2. Enter a name for the network, select the country, time zone, and then click Create.



## Edit Network

Network name, country, and timezone can be edited as needed. Follow the steps below to edit a network.

Choose network > Edit

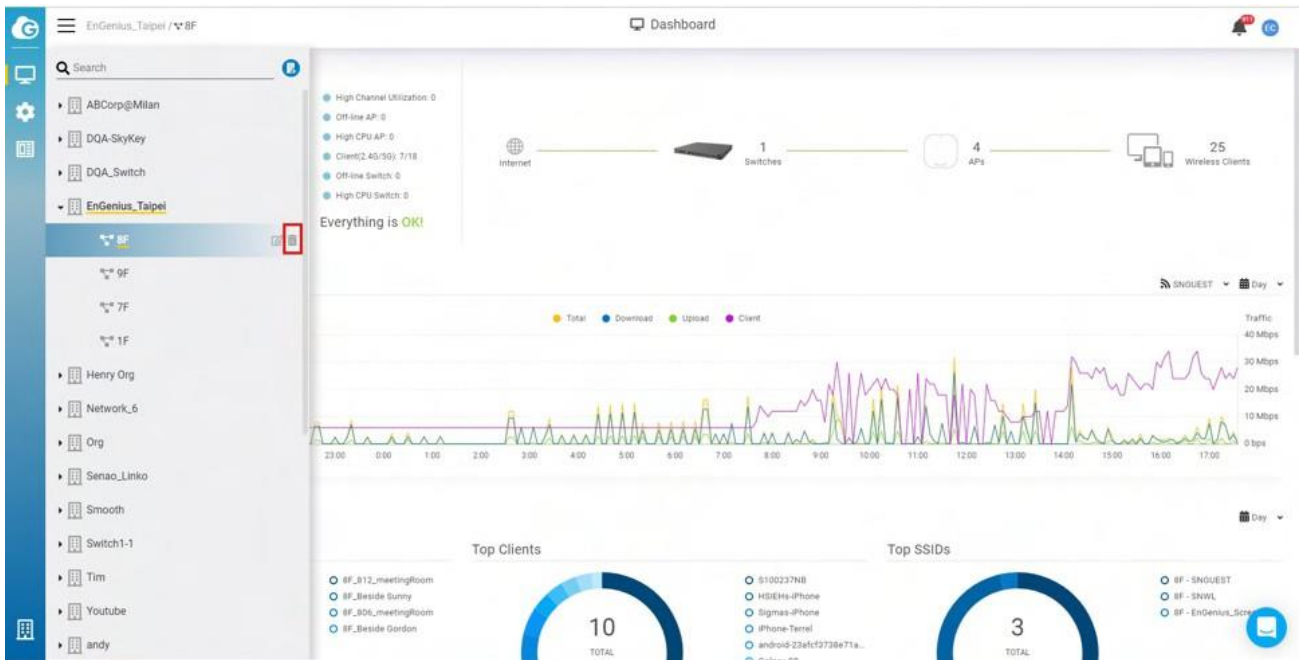


# Delete Network

If you no longer need a network that you previously created, you can delete it.

Follow these steps to delete a network.

1. Click **Menu** > **Choose network** > **Delete**



2. Popup is displayed. Click **Confirm**.

# Managing Devices

# Managing Access Points

This screen allows you to view the detailed information about your access points in the selected scope.

Click **Manage > Access Points** to visit the page, and double-click the organization/hierarchy view/network on the tree to change the current scope.

Name	MAC	Model Name	Channel	WAN IP	LAN IP	FW Version	Network	Uptime	Last Update	Actions
BF_B04_meetingRoom	88DC9679F2B1	ECW120	3	211.23.68.201	192.168.0.6	1.0.8	BF	4d 8h 45m	4 minutes ago	Details
BF_B12_meetingRoom	88DC967CA04F	ECW120	3	211.23.68.201	192.168.0.63	1.0.8	BF	4d 8h 45m	3 minutes ago	Details
BF_Beside Gordon	88DC9679F2AE	ECW120	3	211.23.68.201	192.168.0.64	1.0.8	BF	21h 7m	3 minutes ago	Details
BF_Beside Sunny	88DC9679F2B4	ECW120	3	211.23.68.201	192.168.0.36	1.0.8	BF	21h 7m	3 minutes ago	Details

The following describes the functions on this screen:

**Move:** Select one or multiple access points and click to move the AP(s) to another hierarchy view/network.

**Remove From Networks:** Select one or multiple access points and click to remove from the current org/hierarchy view/network.

**Add From Inventory:** Click to add access points from your inventory

**Detail:** Click to display individual access point details



# Customizing Access Point Radio Settings

You can override the network's default radio settings of an individual access point if needed.

Follow these steps to customize the radio settings of a network.

1. Choose an access point from the list to show its expanded settings.

The screenshot displays the EnGenius management interface for 'Access Points'. The top navigation bar includes 'List', 'Map', and 'Floor Plans'. A search bar is present, and the interface shows 1-5 of 5 items. The main content area is divided into several sections:

- Overview:** Shows 'Offline' status, '1 Clients', '0 Bytes Download', and '0 Bytes Upload'.
- Throughput:** A line graph showing throughput over time (19:00 to 13:00).
- Channel Utilization:** A line graph showing channel utilization over time (19:00 to 13:00).
- Radio Settings:** A section with a lock icon and 'Enabled' checkbox. It includes fields for 'Channel' (set to 3), 'Tx Power' (set to 1508m), and 'Channel Width' (set to 20).
- WLAN Settings:** Includes 'SSID' (SNGUEST), 'Status' (Enabled), and 'Hide' checkbox.
- Mesh:** A section with 'Disabled' checkbox and a 'Location' map.

Below the expanded settings is a table listing other access points:

Name	MAC	Model Name	Channel	WAN IP	LAN IP	FW Version	Uptime	Last Update	Actions
8F_806_meetingRoom	88DC9679F2B1	ECW120	11 45	211.23.68.201	192.168.0.6	1.2.7	3d 9h 41m	3 days ago	Details Reboot
8F_812_meetingRoom	88DC967C-A0-4F	ECW120	11 45	211.23.68.201	192.168.0.63	1.2.9	3d 11h	3 minutes ago	Details Reboot
8F_Beside Gordon	88DC9679F2AE	ECW120	11 45	211.23.68.201	192.168.0.64	1.2.9	3d 11h 1m	3 minutes ago	Details Reboot
8F_Beside Sunny	88DC9679F2B4	ECW120	11 44	211.23.68.201	192.168.0.36	1.2.9	3d 11h 1m	3 minutes ago	Details Reboot
linkou_7F_Beside_Yolin	88DC9678E656	ECW120	5 45	111.241.37.121	172.27.0.49	1.2.10	1h 15m	18 minutes ago	Details Reboot

2. In the **Radio** section, click the checkbox below the lock icon to override default settings.

The screenshot shows the configuration page for an access point in the Senao\_Linko system. The interface includes a navigation menu on the left, a top header with 'Senao\_Linko' and 'Access Points', and a main content area. The main content area features a table of access points, a detailed configuration panel for the selected AP, and a bottom section for another AP. The configuration panel for 'Linko\_3F\_Office02' shows the following settings:

Radio	Status	Channel	Tx Power	Channel Width
2.4G	<input type="checkbox"/> Disabled	Auto	Auto	20
5G	<input checked="" type="checkbox"/> Enabled	Auto	Auto	40

The WLAN section shows the SSID 'SENAOVL' is enabled. The Mesh section is disabled. The Location section prompts the user to set the AP location on a map.

3. Configure the following settings for both the 2.4GHz and 5GHz radio band:

- Channel
- Tx Power
- Channel Width

The screenshot shows the configuration page for an access point in the Senao\_Linko system. The interface includes a navigation menu on the left, a top header with 'Senao\_Linko' and 'Access Points', and a main content area. The main content area features a table of access points, a detailed configuration panel for the selected AP, and a bottom section for another AP. The configuration panel for 'Linko\_3F\_Office02' shows the following settings:

Radio	Status	Channel	Tx Power	Channel Width
2.4G	<input checked="" type="checkbox"/> Enabled	Auto	Auto	20
5G	<input checked="" type="checkbox"/> Enabled	Auto	Auto	40

The WLAN section shows the SSID 'SENAOVL' is enabled. The Mesh section is disabled. The Location section prompts the user to set the AP location on a map.

4. Click Apply.

The screenshot displays the Senao\_Linko management console for Access Points. At the top, there's a navigation bar with 'Senao\_Linko' and 'Access Points' labels, along with a 'BETA' badge and notification icons. Below this is a search bar and a table listing access points. The table columns include Name, MAC, Model Name, Channel, WAN IP, LAN IP, FW Version, Network, Uptime, Last Update, and Actions. Two access points are listed: 'Linko\_3F\_Office01' and 'Linko\_3F\_Office02'. Below the table, the configuration for a selected AP is shown. It includes a status overview (Online, 18 Clients, 5.32 GB Download, 928.57 MB Upload) and two line graphs for Throughput and Channel Utilization. The configuration panel is divided into Radio and WLAN sections. The Radio section shows settings for 2.4G and 5G bands. The WLAN section shows SSID settings for 'SENA...' and 'SNGU...'. A red box highlights the 'Apply' button at the bottom right of the configuration panel.

## Customizing the WLAN Settings of an Access Point

This shows SSIDs and allows you to override the default SSID setting.

Follow these steps to configure to enable the SSID, or hide the SSID of a network.

1. In the **WLAN** section, click checkbox near lock icon to override default settings.

Senao\_Linko Access Points

List | Map | Floor Plans

Search

1-15 of 15 | Move to | Remove from Network | Add from Inventory

Name	MAC	Model Name	Channel	WAN IP	LAN IP	FW Version	Network	Uptime	Last Update	Actions
Linko_SF_Office01	88 DC 96 76 FA 7F	ECW120	1	220.132.176.115	192.168.30.87	1.2.10	TrialZones	11h 6m	4 minutes ago	Details Reboot
Linko_SF_Office02	88 DC 96 76 FA 7C	ECW120	1	220.132.176.115	192.168.30.5	1.2.10	TrialZones	11h 6m	11 minutes ago	Details Reboot
Linko_SF_Office03	88 DC 96 76 FA 76	ECW120	11	220.132.176.115	192.168.30.58	1.2.10	TrialZones	11h 5m	4 minutes ago	Details Reboot

Throughput: 18 Clients, 5.32 GB Download, 928.57 MB Upload

Channel Utilization

Radio: Enabled, Channel: Auto, Tx Power: Auto, Channel Width: 20

5G: Auto, Tx Power: Auto, Channel Width: 40

WLAN: SSID: SNOIEST, Status: Enabled

Mesh: Disabled

Location: Please set AP location at Map

Apply

2. Configure SSID to be enabled or hidden per your request.

Senao\_Linko Access Points

List | Map | Floor Plans

Search

1-15 of 15 | Move to | Remove from Network | Add from Inventory

Name	MAC	Model Name	Channel	WAN IP	LAN IP	FW Version	Network	Uptime	Last Update	Actions
Linko_SF_Office01	88 DC 96 76 FA 7F	ECW120	1	220.132.176.115	192.168.30.87	1.2.10	TrialZones	11h 6m	4 minutes ago	Details Reboot
Linko_SF_Office02	88 DC 96 76 FA 7C	ECW120	1	220.132.176.115	192.168.30.5	1.2.10	TrialZones	11h 6m	11 minutes ago	Details Reboot
Linko_SF_Office03	88 DC 96 76 FA 76	ECW120	11	220.132.176.115	192.168.30.58	1.2.10	TrialZones	11h 5m	4 minutes ago	Details Reboot

Throughput: 18 Clients, 5.32 GB Download, 928.57 MB Upload

Channel Utilization

Radio: Enabled, Channel: Auto, Tx Power: Auto, Channel Width: 20

5G: Auto, Tx Power: Auto, Channel Width: 40

WLAN: SSID: SNOIEST, Status: Enabled

Mesh: Disabled

Location: Please set AP location at Map

Apply

3. Click Apply.



Sen001\_180

### Access Points

11-18 of 13

(Network) + Add from Inventory

Link\_SF\_Office01 (1)

C:,  
D C:J

LinkUpd111

FRIM111111

Actions

- Details Reboot
- Details Reboot



SENA	SNQU
SSID:	III &
Status:	III .....

Please set AP location at Map

4 minutes ago

Details Reboot

**Apply**

Link\_SF\_Office02 (1) MDC110-Ar... hW:XI 111 ml t10 U2 1ft, 11 1921M.OM q10

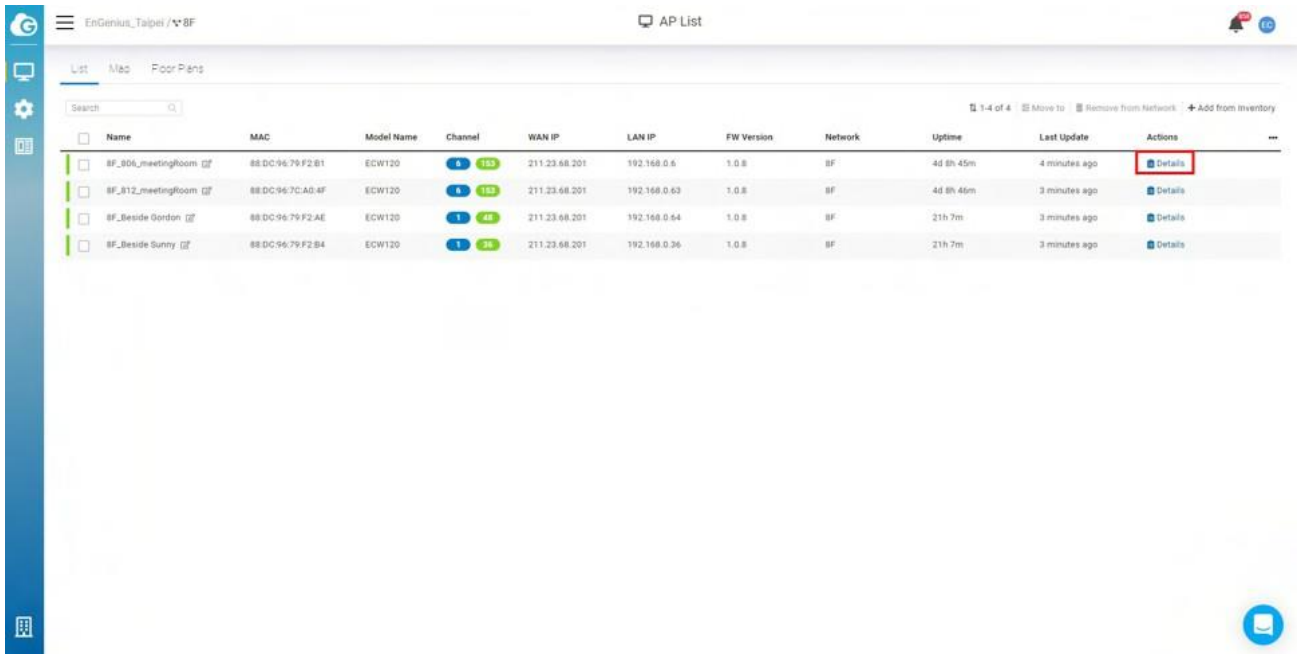


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# Getting Access Point Analytics

From the **access point list** page, you can click **Details** to get detailed information about an individual access point.



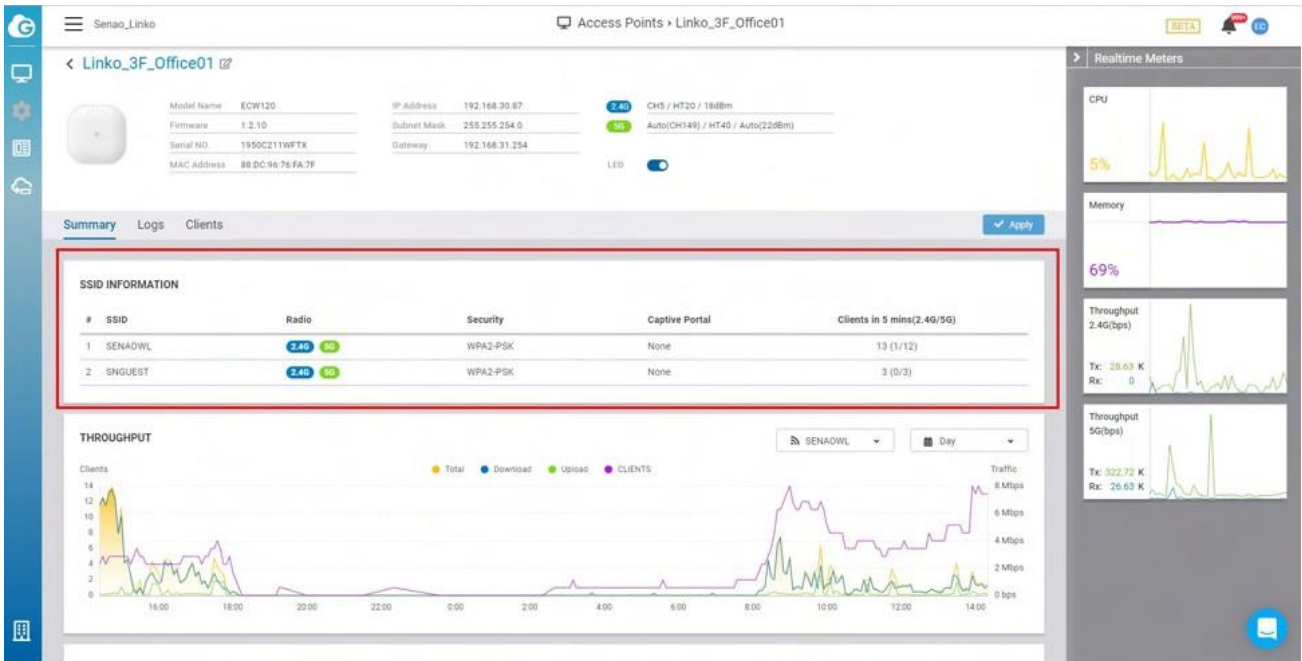
Name	MAC	Model Name	Channel	WAN IP	LAN IP	FW Version	Network	Uptime	Last Update	Actions
BF_806_meetingroom	88DC9679F2B1	ECW120	6 153	211.23.68.201	192.168.0.6	1.0.8	BF	4d 8h 45m	4 minutes ago	<a href="#">Details</a>
BF_812_meetingroom	88DC967CA04F	ECW120	6 153	211.23.68.201	192.168.0.63	1.0.8	BF	4d 8h 46m	3 minutes ago	<a href="#">Details</a>
BF_Reside Gordon	88DC9679F2AE	ECW120	1 48	211.23.68.201	192.168.0.64	1.0.8	BF	21h 7m	3 minutes ago	<a href="#">Details</a>
BF_Reside Sunny	88DC9679F2B4	ECW120	1 38	211.23.68.201	192.168.0.36	1.0.8	BF	21h 7m	3 minutes ago	<a href="#">Details</a>

## Summary

### SSID

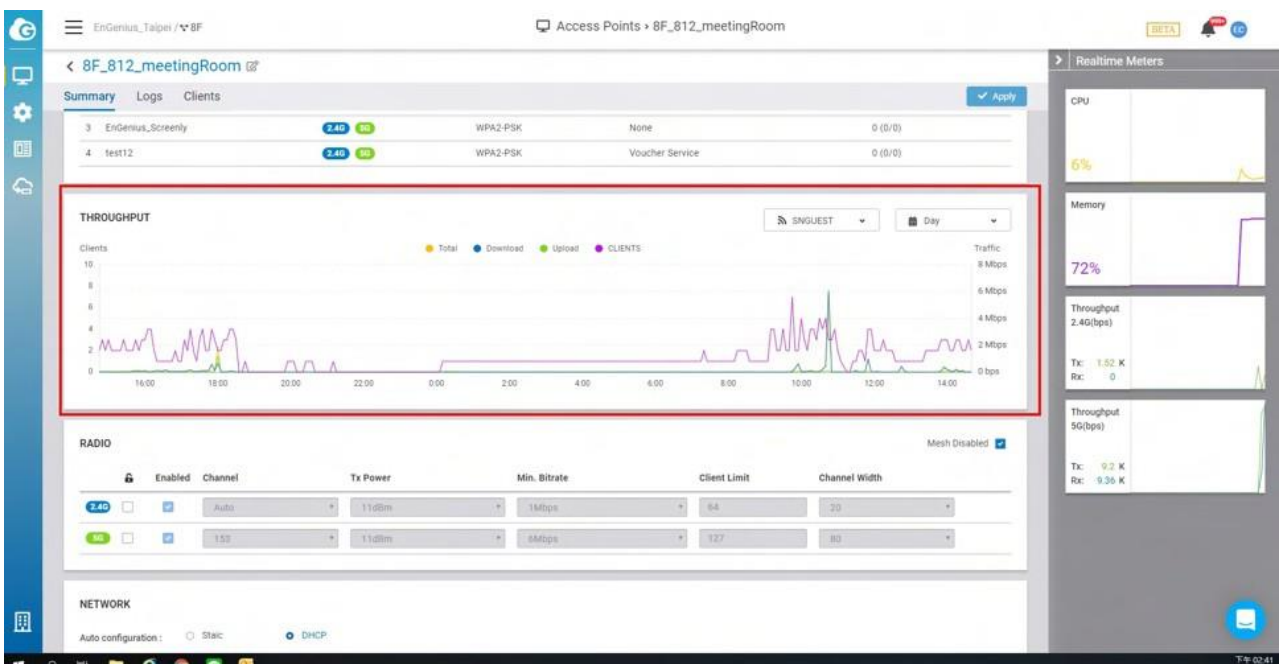
This screen allows you to monitor SSID for your access point.

- **SSID:** Shows the SSID name.
- **Radio:** Shows the SSID use for the 2.4GHz or 5GHz bands.
- **Security:** Authenticate users with Open or WPA-PSK or WPA-Enterprise when they connect to the SSID.
- **Captive portal:** Shows captive portal authentication type.



## Throughput

This screen allows you to monitor Throughput for your access point.



## Radio

This allows you to configure individual radio settings. The default radio setting will be followed by the network radio setting. If you want the radio settings of an access point to be different from the default, you can override them with custom values.

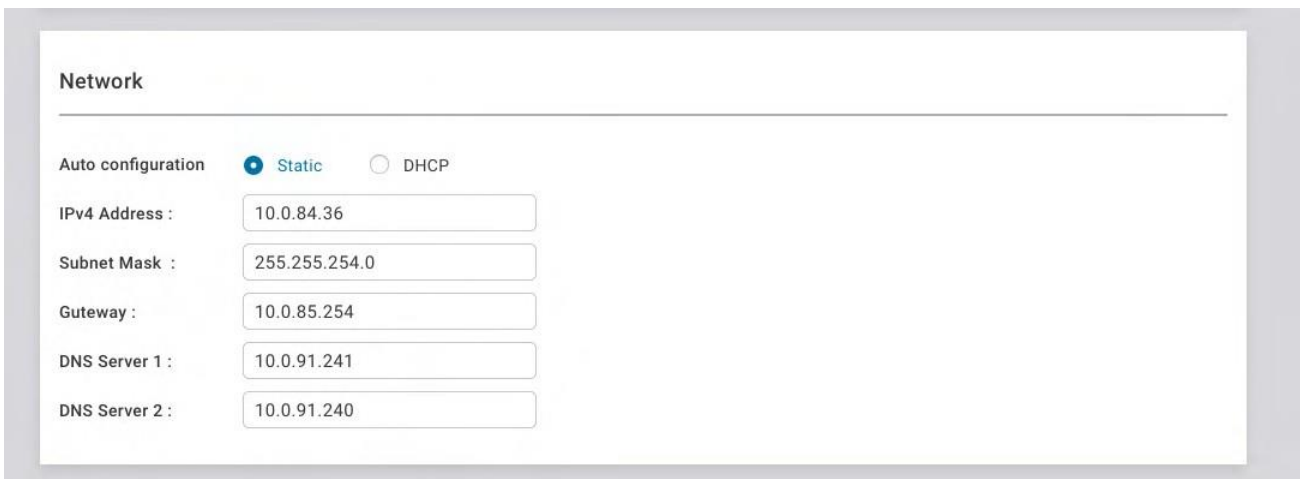


The screenshot shows a 'RADIO' configuration panel. At the top right, there is a 'Mesh Disable' checkbox which is checked. Below this is a table with columns: 'Enable', 'Channel', 'Tx Power', 'Min. Bitrate', 'Client Limit', and 'Channel Width'. There are two rows: '2.4G' and '5G'. The '2.4G' row has a checked checkbox, 'Enable' dropdown, '1' channel, 'Auto' Tx Power, '9Mbps' Min. Bitrate, '127' Client Limit, and '20' Channel Width. The '5G' row has a checked checkbox, 'Disable' dropdown, 'Auto' channel, 'Auto' Tx Power, '6Mbps' Min. Bitrate, '127' Client Limit, and '40' Channel Width. A red box highlights the checkboxes for both 2.4G and 5G.

	Enable	Channel	Tx Power	Min. Bitrate	Client Limit	Channel Width
2.4G	<input checked="" type="checkbox"/> Enable	1	Auto	9Mbps	127	20
5G	<input checked="" type="checkbox"/> Disable	Auto	Auto	6Mbps	127	40

## Network

This allows you to configure individual access point network settings.



The screenshot shows a 'Network' configuration panel. Under 'Auto configuration', the 'Static' radio button is selected, and the 'DHCP' radio button is unselected. Below this are five input fields: 'IPv4 Address' (10.0.84.36), 'Subnet Mask' (255.255.254.0), 'Gateway' (10.0.85.254), 'DNS Server 1' (10.0.91.241), and 'DNS Server 2' (10.0.91.240).

- **DHCP:** You can choose to auto assign IP addresses if there is a **DHCP** server in the network.
- **Static:** Allows you to manually assign an IP address.



Enter the IP address you wish to assign to the access point and fill in the subnet mask, default gateway, and DNS server address.

- **IPV4 Address:** Enter the IP address for the access point.
- **Subnet Mask:** Enter the subnet mask for the access point.
- **Gateway:** Enter the default gateway for the access point.
- **DNS Server 1:** Enter the primary DNS server name.
- **DNS Server 2:** Enter the secondary DNS server name.

## Logs

Periodically viewing events that have occurred on an access point (or on clients associated with the access point) can help alert you to potential issues. The Logs tab appears and displays the latest events that have occurred in the last 24 hours.

The screenshot shows the EnGenius management interface for an access point named '9F\_906\_meetingRoom'. The 'Logs' tab is selected, displaying a table of events. The table has columns for Time, SSID, Client, Event Type, and Description / Detail. The events listed are disassociation events for various clients. To the right of the table, there are system metrics including CPU usage (13%), Memory (69%), and Throughput for 2.4G and 5G bands. The interface also includes a search bar, a legend for event types (Error, Warning, General), and an 'Apply' button.

Time	SSID	Client	Event Type	Description / Detail
Jul-25 16:51:24	SNGUEST	54:99:83:C1:F1:41	802.11 Disassociation	Band: 2.4G Vap: 0 Channel: 1 Reason: 3 Aid: 5d39a35f3d27
Jul-25 16:51:24		54:99:83:C1:F1:41	802.11 Disassociation	
Jul-25 16:47:21		30:52:CB:28:6E:2B	802.11 Disassociation	
Jul-25 16:47:21	SRAWL	30:52:CB:28:6E:2B	802.11 Disassociation	Band: 5G Vap: 1 Channel: 40 Reason: 3 Aid: 5d3960b289c1b
Jul-25 16:43:38	SNGUEST	20:39:56:AE:99:C8	802.11 Disassociation	Band: 2.4G Vap: 0 Channel: 1 Reason: 3 Aid: 5d3965bb508d0
Jul-25 16:43:38		20:39:56:AE:99:C8	802.11 Disassociation	
Jul-25 16:22:52		20:39:56:AE:99:C8	802.11 Disassociation	
Jul-25 16:22:52	SNGUEST	20:39:56:AE:99:C8	802.11 Disassociation	Band: 5G Vap: 0

# Clients

Use the Clients tab on the access point list page to view information about wireless clients that have associated with a particular access point.

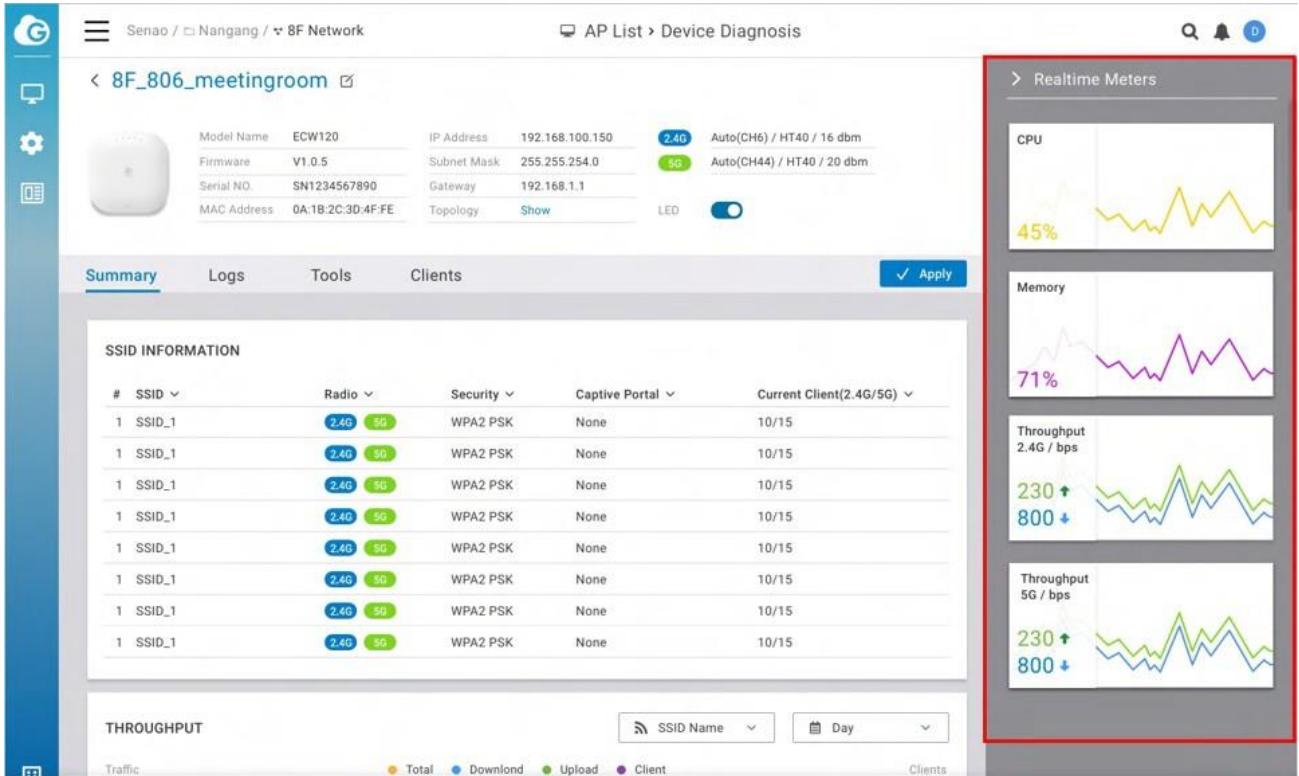
The screenshot shows the EnGenius web interface for an access point named '9F\_906\_meetingRoom'. The 'Clients' tab is selected, displaying a table of associated wireless clients. The table columns include Client Name, MAC, Last Seen, Last Asso. AP, SSID, OS, RSSI, Rate, Band, Download, and Upload. The right sidebar shows system metrics for CPU (3%), Memory (69%), and Throughput (2.4G and 5G).

Client Name	MAC	Last Seen	Last Asso. AP	SSID	OS	RSSI	Rate	Band	Download	Upload
x102441nb	D4:25:8B:C3:22:60	3 minutes ago	9F_906_meetingRoom	SNWL	Windows	...	521M	5G	875.62 MB	185.61 MB
jianmpleWatch	34:62:E2:BE:CD:A4	3 minutes ago	9F_906_meetingRoom	SNGUEST	Android	...	58M	2.4G	1.13 MB	560 KB
x102611nb	30:52:CB:2B:6E:2B	18 minutes ago	9F_906_meetingRoom	SNWL	Windows	...	325M	5G	498.47 MB	24.02 MB
Johnsons-iPhone	64:70:33:C4:1C:98	an hour ago	9F_906_meetingRoom	SNGUEST	iOS	...	864M	5G	24.39 MB	620 KB
Bruces-watch	40:40:7F:21:D4:5E	an hour ago	9F_906_meetingRoom	SNWL	Android	...	6M	2.4G	3 KB	39 KB
x101548nb	08:D4:0C:3B:32:65	2 hours ago	9F_906_meetingRoom	SNGUEST	Windows	...	7M	2.4G	5.56 MB	6.44 MB
x102457nb	60:F6:77:83:43:4A	2 hours ago	9F_906_meetingRoom	SNWL	Windows	...	433M	5G	371.71 MB	115.05 MB
x101738nb	60:F6:77:83:57:36	3 hours ago	9F_906_meetingRoom	SNGUEST	Android	...	14M	2.4G	3.89 MB	1.67 MB
iPhone	60:F8:1D:D6:AD:3A	3 hours ago	9F_906_meetingRoom	SNGUEST	iOS	...	13M	2.4G	74 KB	53 KB
S100067NB	00:23:14:42:8C:09	3 hours ago	9F_906_meetingRoom	SNGUEST	Android	...	0M	2.4G	0 Bytes	1 KB
Frs-iPhone	98:5A:EB:A4:61:94	4 hours ago	9F_906_meetingRoom	SNGUEST	iOS	...	6M	5G	0 Bytes	1 KB
x100732nb	34:13:EB:1E:3F:2F	5 hours ago	9F_906_meetingRoom	SNWL	Windows	...	2M	2.4G	4.27 MB	1.91 MB
x102493nb	0C:54:15:51:CD:59	6 hours ago	9F_906_meetingRoom	SNWL	Windows	...	6M	5G	421 KB	308 KB
x100463nb	28:82:80:9D:EB:01	6 hours ago	9F_906_meetingRoom	SNWL	Windows	...	1M	2.4G	0 Bytes	0 Bytes

# Realtime Meters

Realtime Meters is primarily for viewing real time statistics. By default, there are four types of data:

- CPU
- Memory
- Throughput 2.4G
- Throughput 5G



Capturing data over a period of time allows you to see trends most useful for determining the overall performance of your access point.

## LED

Use this screen to control LED lights and enable LED Blinking .

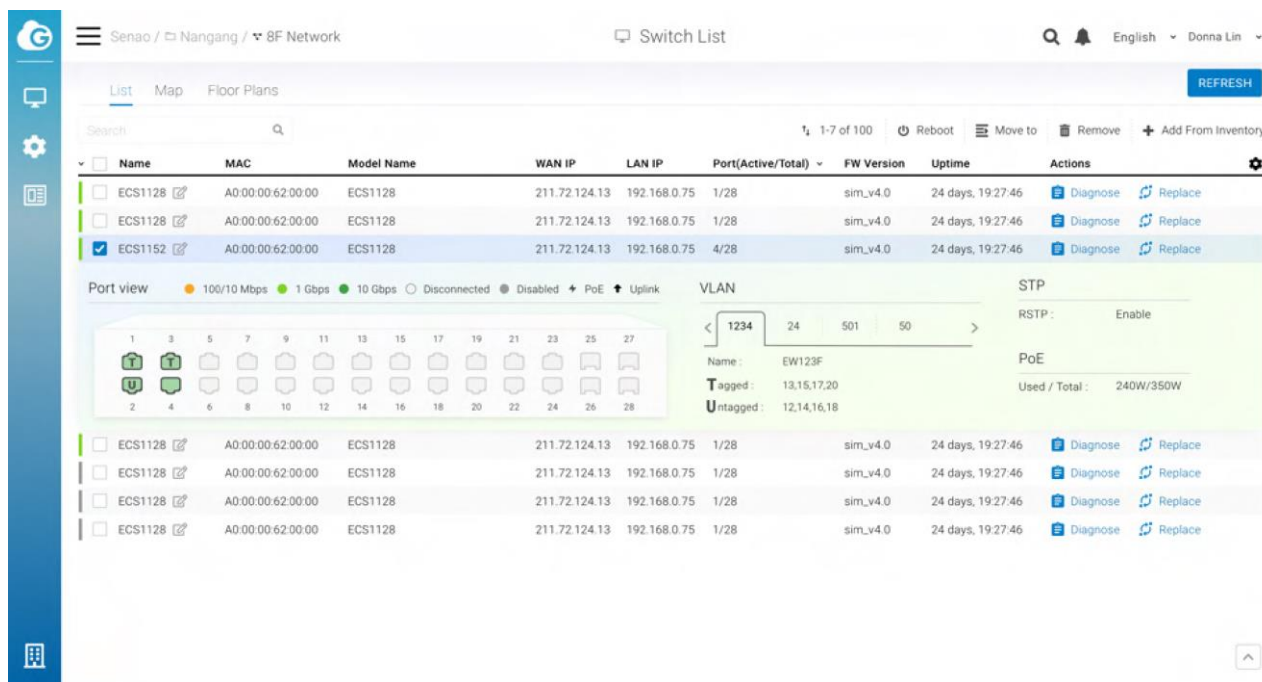
The screenshot displays the EnGenius web interface for an Access Point (AP) named '8F\_812\_meetingRoom'. The interface is divided into several sections:

- Header:** Shows the device name '8F\_812\_meetingRoom' and navigation options like 'Summary', 'Logs', and 'Clients'. There are 'Reset' and 'Apply' buttons.
- Configuration Details:** Lists various settings such as Model Name (ECW120), IP Address (192.168.0.102), and radio modes (2.4G and 5G).
- LED Light and LED Blinking:** A red box highlights two toggle switches: 'LED Light' (currently turned on) and 'LED Blinking' (currently turned off).
- SSID INFORMATION:** A table listing three SSIDs: '8NGUEST', '8NWL', and 'EnGenius\_Screenly'. Each row includes columns for Enabled, Hidden, Radio, Security, Captive Portal, and Clients in 5 mins (2.4G/5G).
- THROUGHPUT:** A line graph showing traffic over time, with a legend for Total, Download, Upload, and Clients. The y-axis represents traffic in Mbps and kbps.
- Realtime Meters:** A sidebar on the right showing CPU usage (9%), Memory usage (70%), and Throughput (2.4Gbps).

- ◆ **LED Light:** This allows you to enable or disable the LED Lights.
- ◆ **LED Blinking:** This feature is useful in situations where user could not find the specific AP properly. Click light bulbs to start blinking .

# Managing Switches

Click **Manage > Switches** to access this screen and double-click the organization/hierarchy view/network on the tree to change the scope.



The **Switch List** page lists all switches within your organization/hierarchy view/network, and allows you to choose each switch to view the port status, VLAN , STP and PoE.

The following describes the functions in this screen:

**Move to:** Select one or multiple switches and click to move the switches to another hierarchy view/network.

**Remove From Networks:** Select one or multiple switches and click to remove the switches from the current organization/hierarchy view/network.

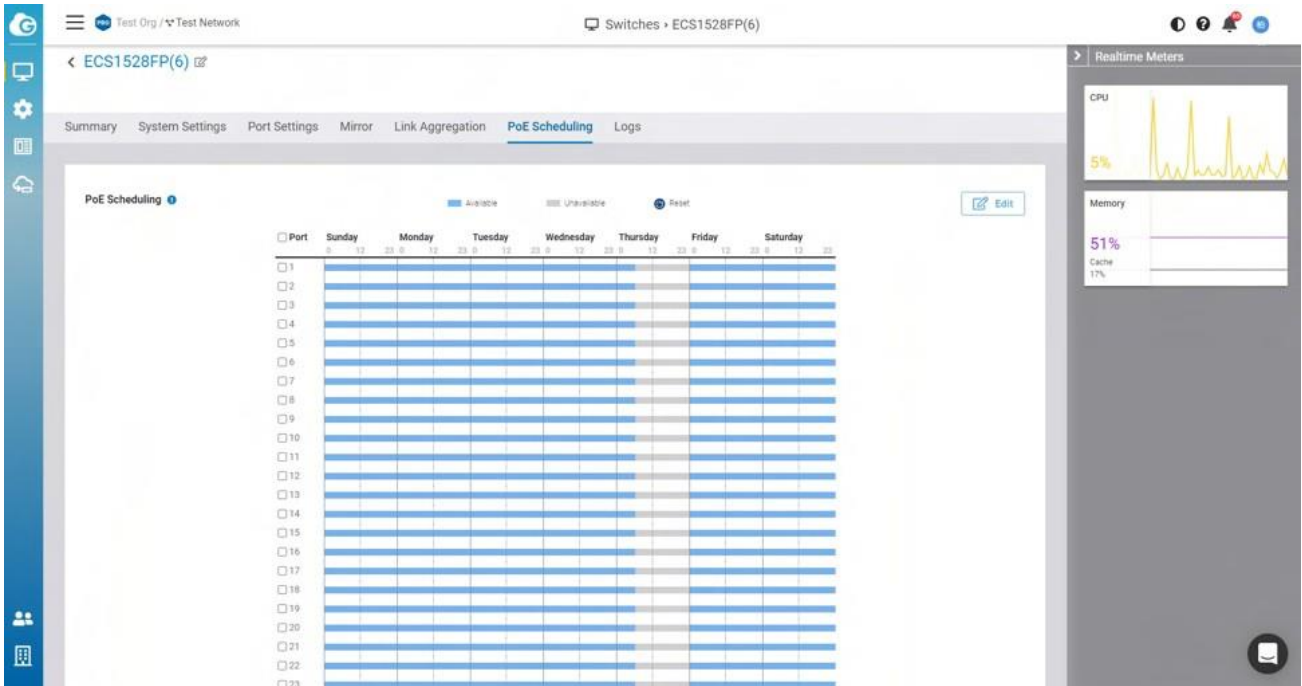
**Add From Inventory:** Click this button to add switches from your existing inventory.

**Detail:** Click to display the individual switch details.

# PoE scheduling

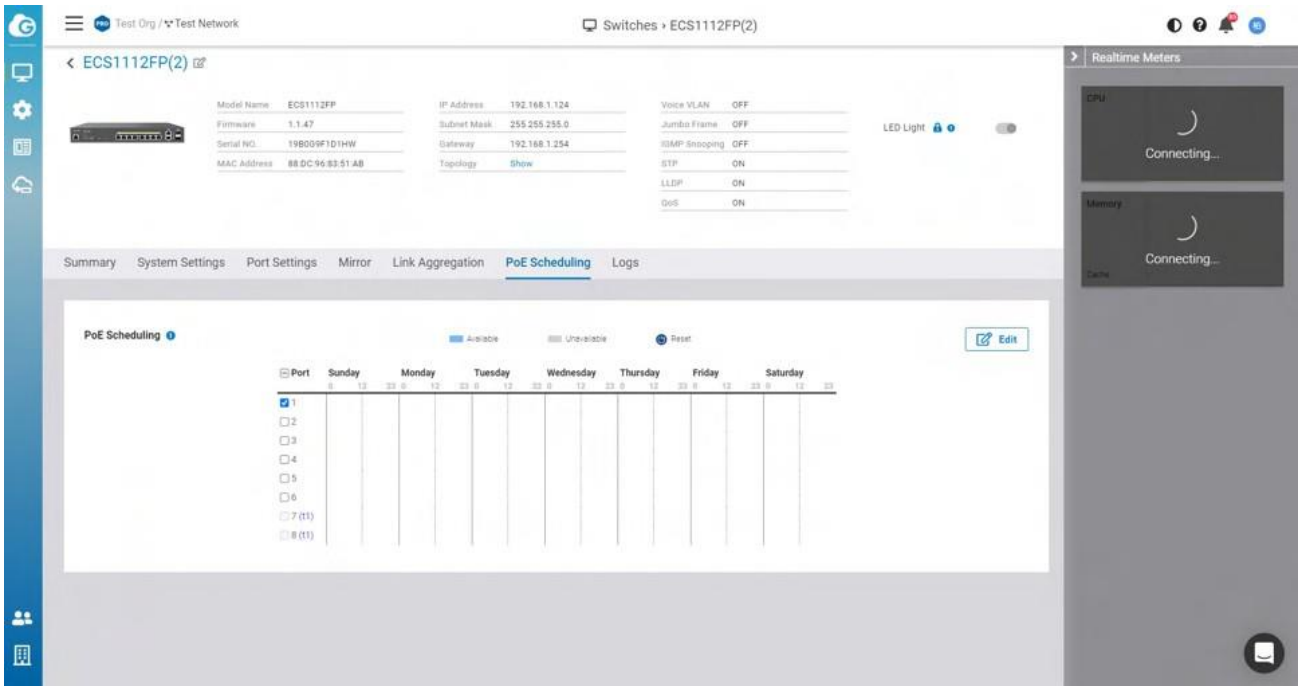
This allows you to view and configure PoE schedules that can be applied to the ports.

Below screens display the existing schedules visually. Click **Manage > Switch lists > detail > PoE scheduling** to access this screen

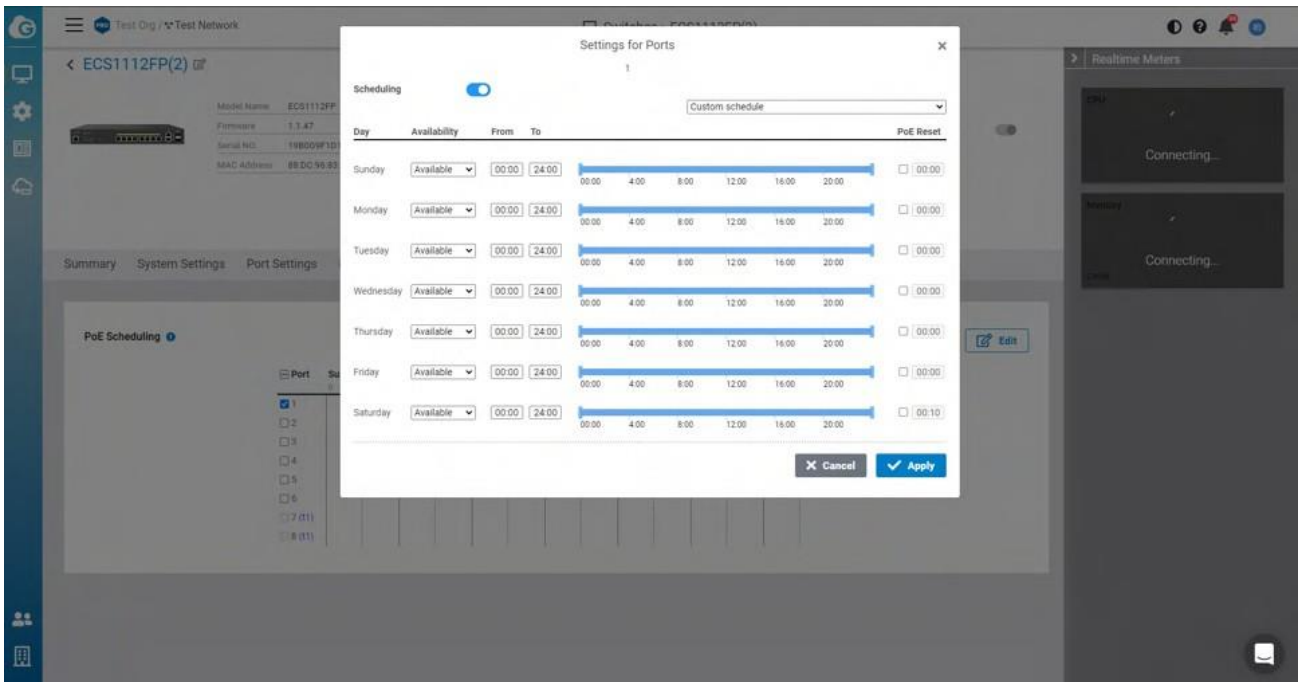


## Edit PoE Scheduling

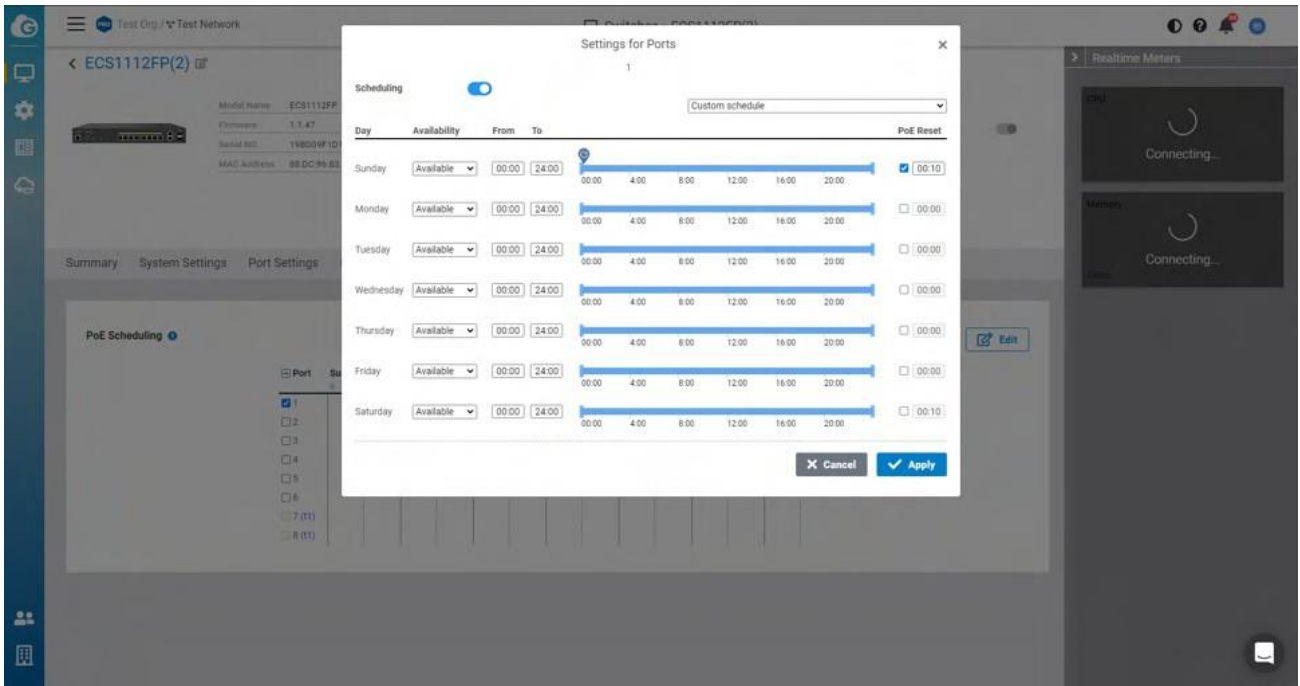
1. Select the ports to be set the PoE scheduling then click Edit



2. Enable scheduling and then customize the PoE on or Off by dragging the bar. This behavior is the same when you configure the SSID scheduling.



3. If you want to do the PoE reset, you can simply click PoE rest and then drag the icon to the specific time.

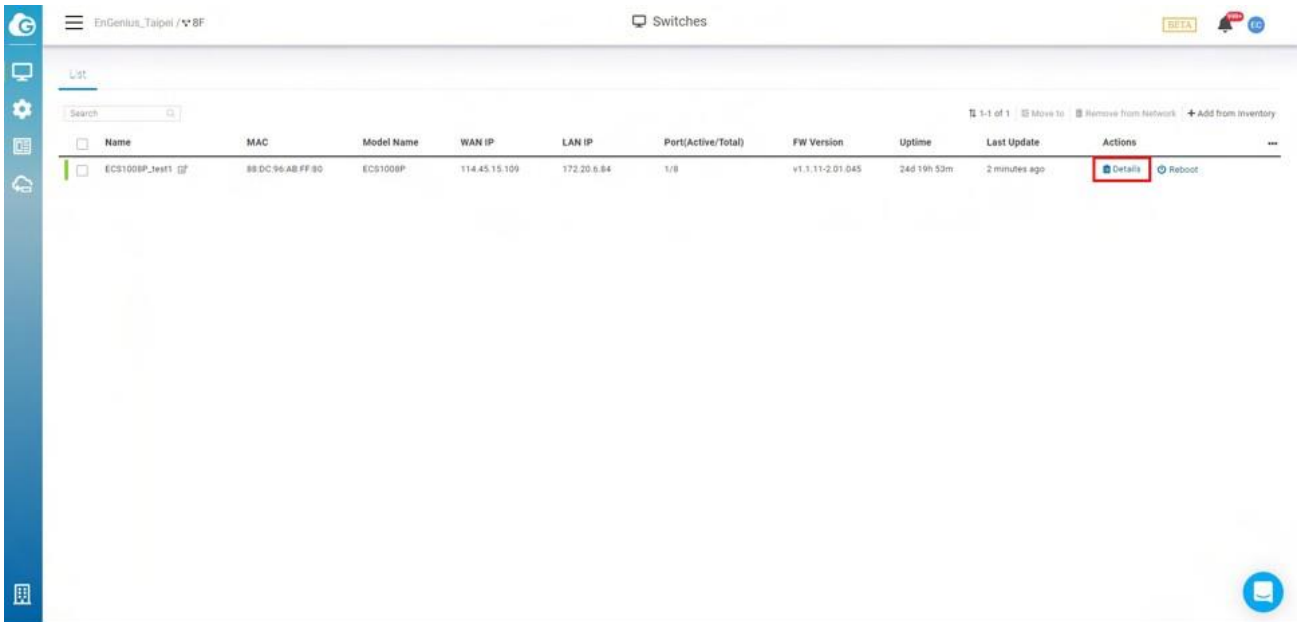


4. Click Apply.



# Getting Switch Analytics

From the **Switches** page, you can click **Details** on the web interface to display detailed information about a switch.



## Summary

### PoE reset from the Switch Panel :

User can mouse-over to the PoE port of the switch port panel and power-cycle the port, so the device attached to the port will be rebooted



**Total PoE Usage:** This bar graph displays the consumed, remaining, and total wattage utilized by Power over Ethernet.

**Total PoE Utilization by Port:** Displays the current PoE utilization by each port, in watts.

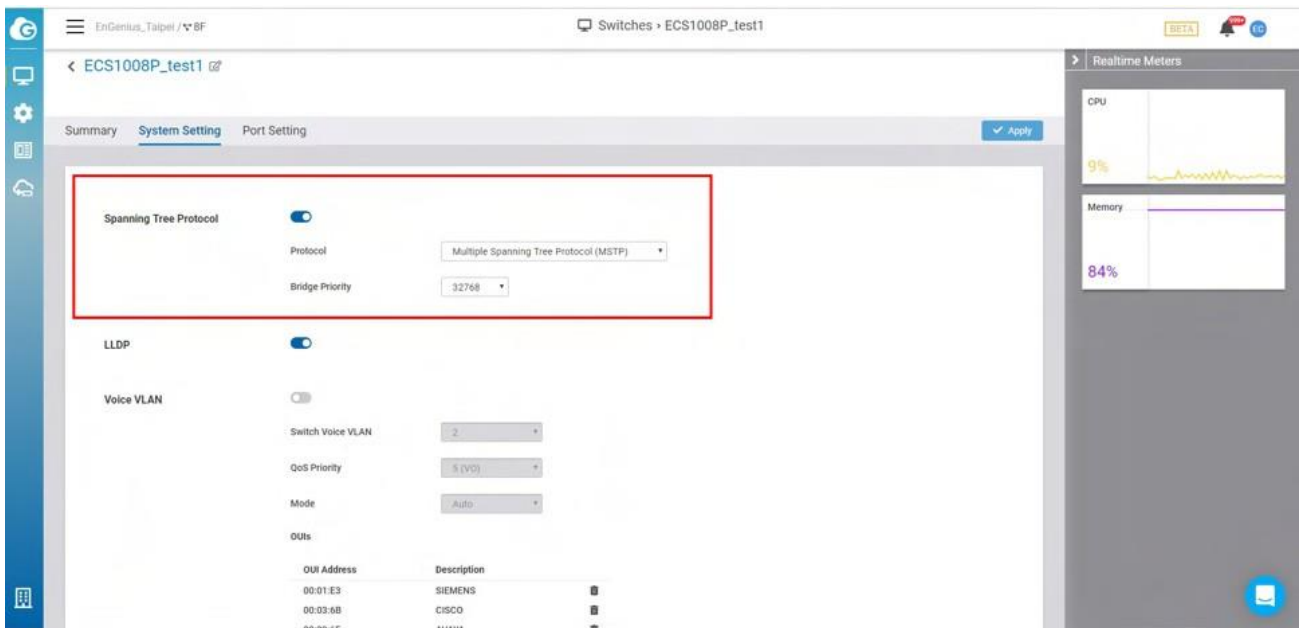


## System Setting

The System Settings section allows you to configure all primary networking options for your switch.

### Spanning Tree Protocol

A **Spanning Tree Protocol** is a Layer 2 protocol that prevents loops in a network with redundant paths created by multiple switches. We recommend using this feature if your environment incorporates multiple switches.

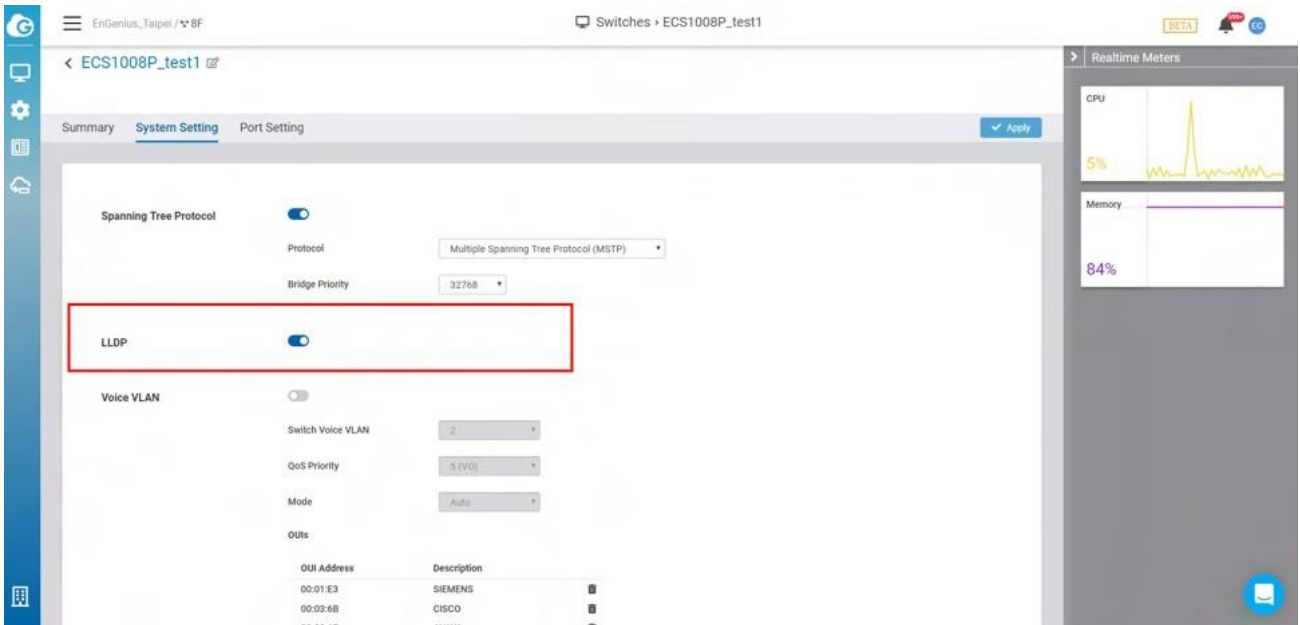


## Procedure

1. Enable the STP option
2. Select a Protocol
3. Select a Bridge Priority value
4. Click Apply

## LLDP

The **Link Layer Discovery Protocol (LLDP)** is a Layer 2, vendor-neutral protocol that allows network devices to advertise capabilities, identity, and other information. This data can potentially be queried by SNMP.

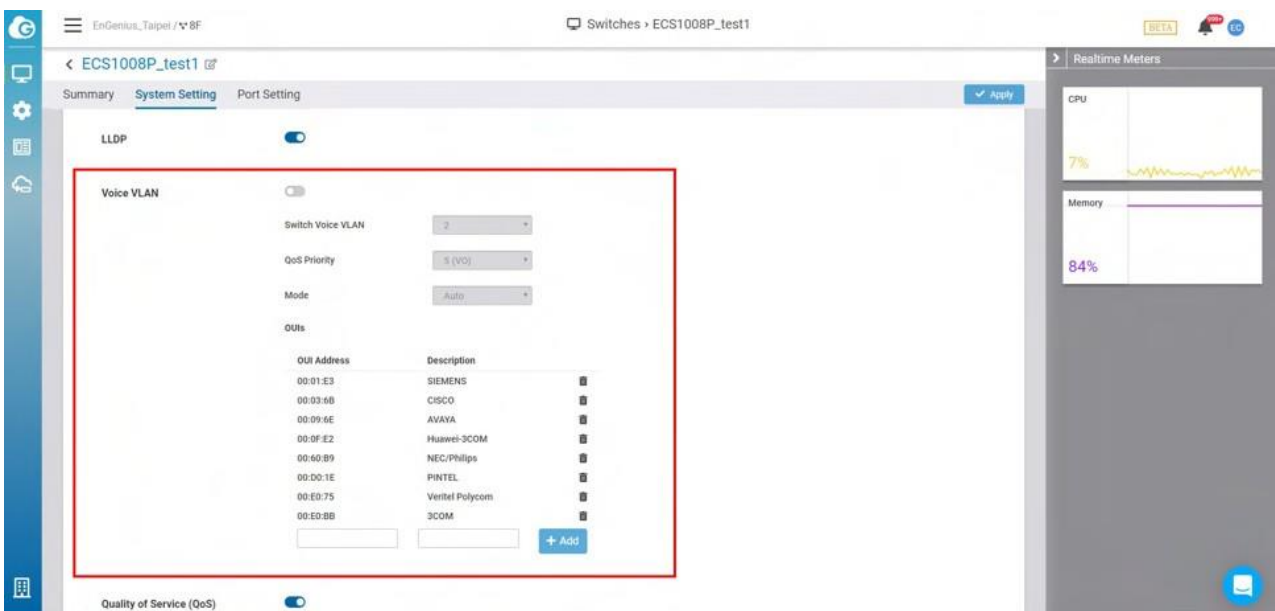


## Procedure

1. Enable the LLDP option
2. Click Apply

## Voice VLAN

The **Voice VLAN** feature configures switches to automatically allow and prioritize voice traffic over a designated VLAN. This keeps voice traffic separate and prioritized over other traffic types.



**Mode:** Allows you to define the Voice VLAN mode.

- ♦ **Auto:** Automatically advertises the Voice VLAN to connected devices via the LLDP-MED protocol.
- ♦ **OUIs:** Determines whether a received packet is a voice packet by checking its source MAC address.

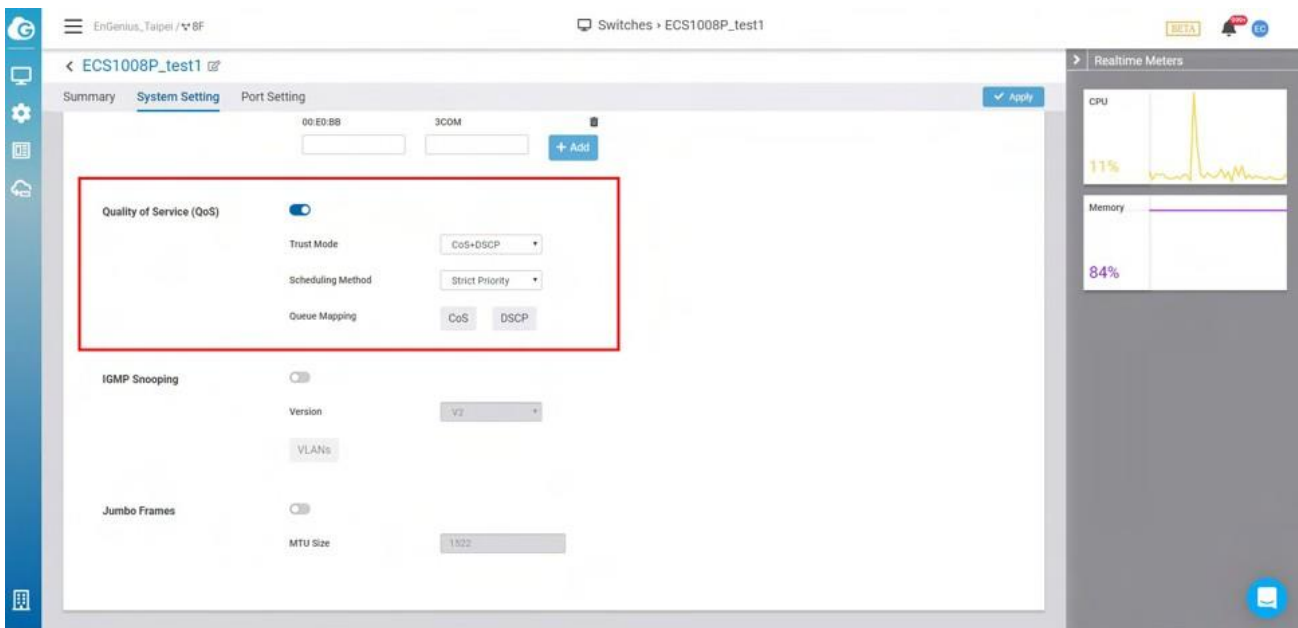
**Switch Voice VLAN:** Allows you to choose what VLAN is used for Voice VLAN. You can set up VLANs in Port Settings.

**QoS Priority:** Lets you define whether the switch will use the Quality of Service CoS value of the incoming packet, or tag the packet with a CoS value between 1-7.

**OUIs:** VoIP traffic has a pre-configured Organizationally Unique Identifier (OUI) prefix in the source MAC address. You can manually add a specific manufacturer's MAC address and description to the OUI table. All traffic received on the Voice VLAN ports from the specific IP phone with a listed OUI is forwarded on the voice VLAN.

## QoS

Quality of service (QoS) allows operators to prioritize application traffic to ensure that latency-affected data, such as VoIP and video conferencing, is uninterrupted during periods of network congestion. Switches implement this by reading tagged packets and prioritizing them accordingly. Packets are classified using **Class of Service (CoS)** on the data link layer, and **Differentiated Services Code Points (DSCP)** on the network layer, mapped to a queue, then sent out accordingly as per QoS.



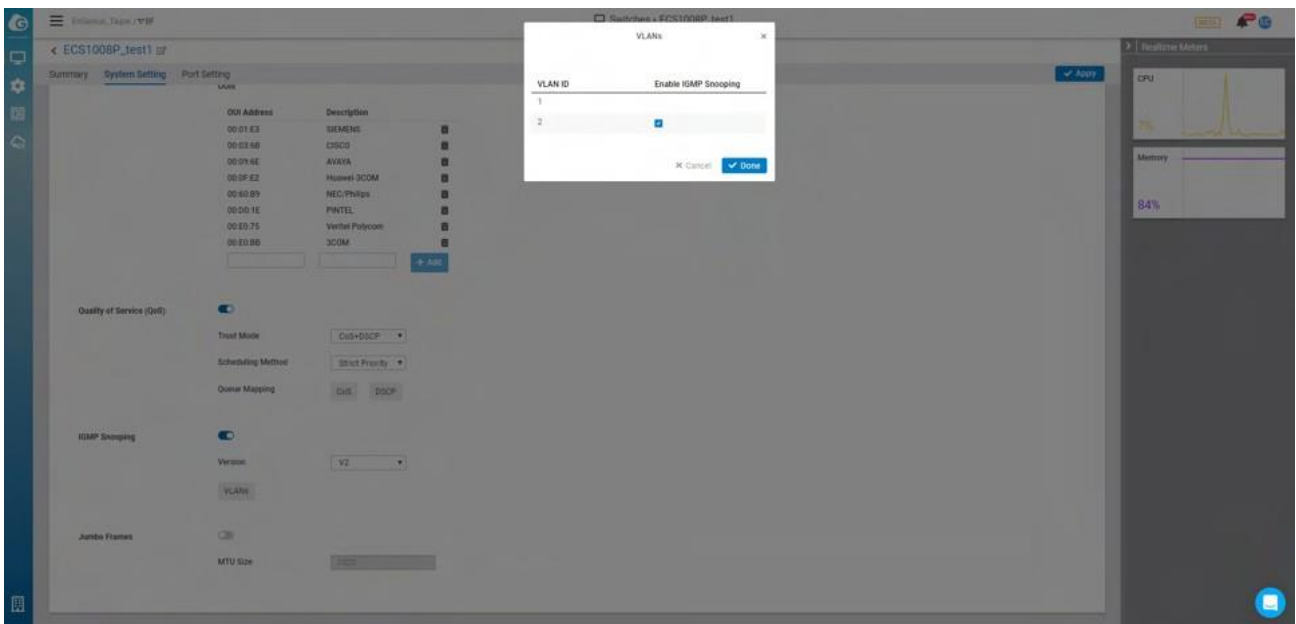
**Trust Mode:** Allows you to define whether the switch will use CoS, DSCP, or both trust modes for QoS.

**Scheduling Method:** Allows you to define what method the switch will use when assessing transmitting incoming packets in queues. **Strict priority** always prioritizes queues with a higher priority, while **Weighted Round Robin (WRR)** weights each queue by priority, then applies a round-robin policy when choosing packets for transmission.

**Queue Mapping:** Tagged packets are sent to queues defined in this setting. For each CoS or DSCP value, you can choose the queue to which tagged packets are mapped.

## IGMP

**IGMP Snooping** is used for controlling multicast traffic. It listens to IGMP messages being processed by the switch and prevents these messages from being sent to hosts not part of the respective multicast.



**Version:** The available IGMP Snooping versions are v2 and v3. You can select either/or in the **Version** dropdown.

**VLANS:** You can enable IGMP Snooping for any VLAN by selecting the corresponding checkbox next to the VLAN ID.

## Jumbo Frame

Ethernet has used the 1500 byte frame size since its inception. Jumbo frames are network layer PDUs that have a size much larger than the typical 1500 byte Ethernet Maximum Transmission Unit (MTU) size. Jumbo frames extend Ethernet to 9000 bytes, making them large enough to carry an 8 KB application datagram plus packet header overhead. If you intend to leave the local area network at high speeds, the dynamics of TCP will require you to use large frame sizes.

The switch supports a jumbo frame size of up to **9216 bytes**. Jumbo frames need to be configured to work on the ingress and egress port of each device along the end-to-end transmission path. Furthermore, all devices in the network must also be consistent on the maximum jumbo frame size, so it is important to do a thorough investigation of all your devices in the communication paths to validate their settings.

**Jumbo Frame :** Enter the size of a jumbo frame. The range is from **1522 to 9216 bytes**.

Jumbo Frames



MTU Size

1522

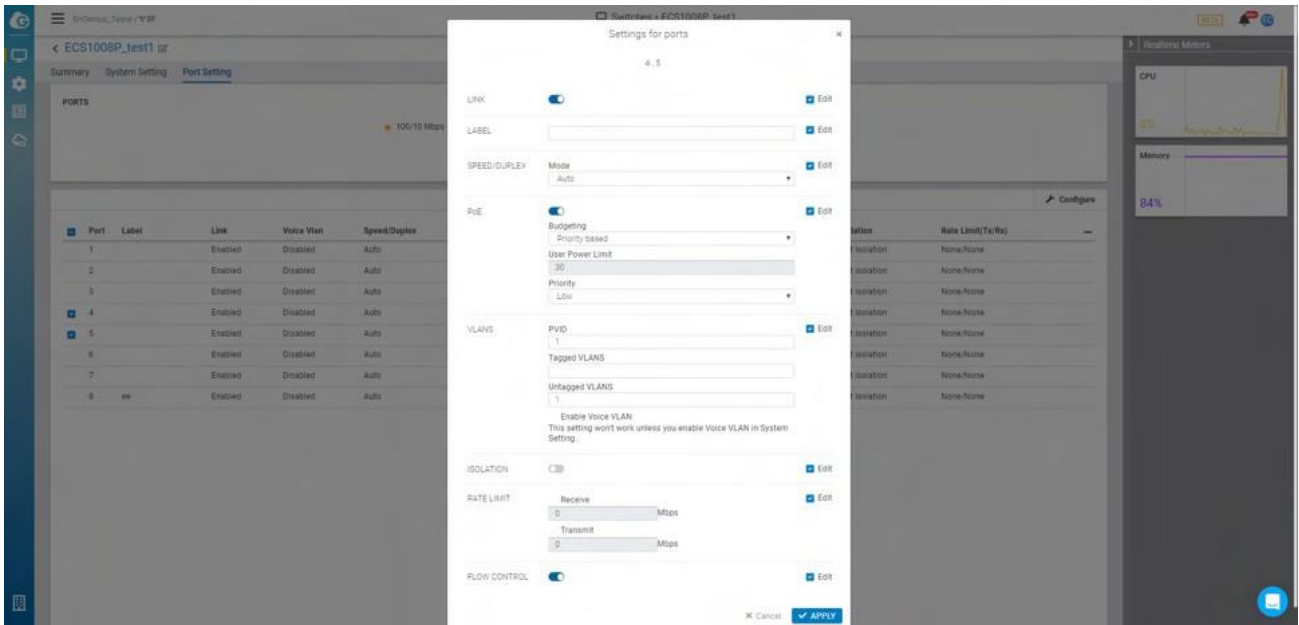
## Port Settings

Selecting one or more ports and clicking **Configure** will display the following settings:

The screenshot shows the network management interface for a switch named ECS1008P\_test1. The main content area displays the 'PORTS' section with a table of port configurations. A red box highlights the 'Configure' button in the top right corner of the table. The right-hand panel shows 'Realtime Meters' with CPU usage at 7% and Memory usage at 84%.

Port	Label	Link	Voice Vlan	Speed/Duplex	PoE	PVID	Untagged VLAN	Tagged VLAN	Isolation	Rate Limit(Tx/Rx)	...	
<input type="checkbox"/>	1	Enabled	Disabled	Auto	Low priority	1	1	-	Not isolation	None/None		
<input type="checkbox"/>	2	Enabled	Disabled	Auto	Low priority	1	1	-	Not isolation	None/None		
<input type="checkbox"/>	3	Enabled	Disabled	Auto	Low priority	1	1	2	Not isolation	None/None		
<input checked="" type="checkbox"/>	4	Enabled	Disabled	Auto	Low priority	1	1	2	Not isolation	None/None		
<input checked="" type="checkbox"/>	5	Enabled	Disabled	Auto	Low priority	1	1	-	Not isolation	None/None		
<input type="checkbox"/>	6	Enabled	Disabled	Auto	Low priority	1	1	-	Not isolation	None/None		
<input type="checkbox"/>	7	Enabled	Disabled	Auto	Low priority	1	1	-	Not isolation	None/None		
<input type="checkbox"/>	8	ee	Enabled	Disabled	Auto	Low priority	1	1	-	Not isolation	None/None	





**Link:** Allows you to enable or disable the connection for this port.

**Label:** Allows you to add a descriptor for this port.

**Speed/Duplex:** Allows you to define the following speed/duplex communication settings for this port:

- ◆ Auto: Speed/Duplex will auto-negotiate based on the connected node.
- ◆ 1Gbps / Full Duplex
- ◆ 100 Mbps / Full Duplex
- ◆ 100 Mbps / Half Duplex
- ◆ 10 Mbps / Full Duplex
- ◆ 10 Mbps / Half Duplex

**Power over Ethernet (PoE):** Allows you to power a connected device through an Ethernet cable using your switch.

**VLANs:** Allows you to group devices to create a partitioned network on the same LAN.

**Isolation:** Allows you to configure a port to transmit traffic only to its connected node.

**Rate Limit:** Allows you to limit the amount of incoming and outgoing traffic in Mbps.

**Flow Control:** Enabling this will have the switch regulate traffic during times of congestion.

**QoS:** If QoS is enabled in **Switch Settings**, you can configure additional settings per port.

- **CoS Value:** All incoming packets that lack a CoS value will use the one set in this dropdown.
- **Trust CoS:** If checked, the switch will queue packets tagged with CoS into their designated queues. If unchecked, all packets will leave the same queue.

**PD lifeguard:** When abnormal events happen on Powered Devices, they might require reboot in order to return to normal operation. PD Lifeguard can be used to judge if the PD is still reachable and turn the unreachable devices off and on.

- **Specified IP:** Setting specified IP on a specific port.
- **Ping Interval:** Setting ping IP interval on a specific port.
- **Ping Max Count:** Setting ping max count on a specific port.
- **Power Recovery Interval:** The waiting time between power off and power on a specific port.
- **PD BootUp Time:** Setting Powered Device boot-up time on a specific port.

PD Lifeguard PRO !  Edit

Detection Mode

Auto

Advanced Settings

Specified IP (Optional)	<input type="text"/>
Ping Interval	<input type="text" value="10"/> Seconds (1~3600)
Ping Max Count	<input type="text" value="3"/> (1~255)
Power Recovery Interval	<input type="text" value="10"/> Seconds (1~600)
PD Boot Up Time	<input type="text" value="300"/> Seconds (50~1200)

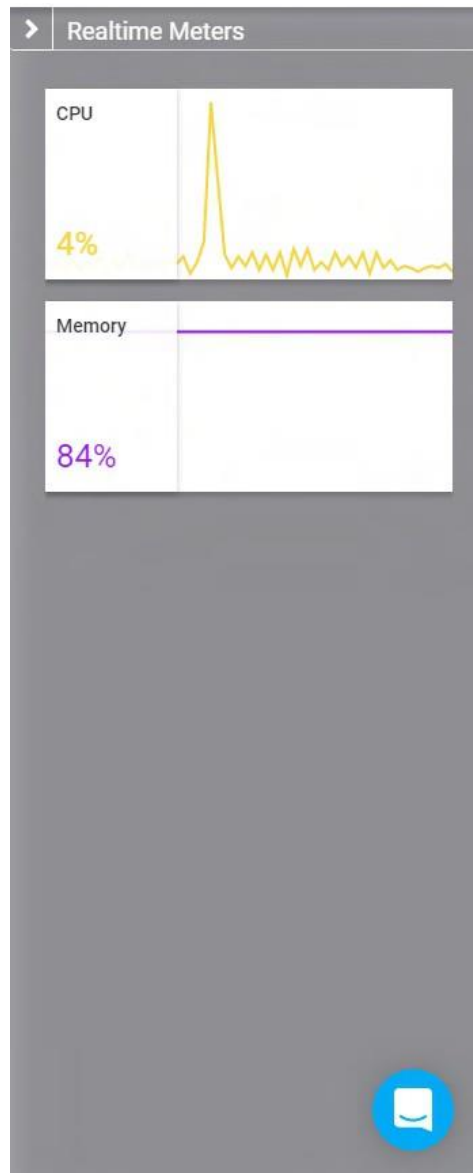
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## Realtime Meters

**System Metrics** is primarily for viewing real time statistics . By default there are two types of data:

- CPU
- Memory

Capturing data over a period of time allows you to see trends useful for determining the overall performance of your switch.



---

## Override System setting on the Switch Network-wide setting

System setting is followed by Switch setting from the **Configure > Switch settings** as default settings. If you want individual AP System settings to be different from the Switch Network- wide setting , you can click below part in the screen to override the setting .



ECS1152



Model Name ECW12D  
 Firmware V1.0.S  
 Serial NO. SN1 234567 8-90  
 MAC Address 0A:1B:2C:3D:4F:FE

IP Address 192.168.1.15  
 Subnet Mask 255.255.254.0  
 Gateway 192.168.1.1  
 Topology Show

Voice VLAN QoS  
 Jitter Protection Enable  
 IGMP Snooping Enable  
 STP Enable  
 LLDP Enable  
 QoS Enable

System Metrics

CPU

45%

Memory

71%



Summary [System Setting](#) Port Setting Event Log



Spanning Tree Protocol

Protocol

Spanning Tree Protocol

Bridge Priority

68

LLDP

Voice VLAN

C)

Switch Voice VLAN

Static VLAN

DoS Priority

D(BK)

# Mirror

Port Mirroring allows you to copy packets on one or more ports to a mirroring destination port. You can attach a monitoring device to the mirroring destination port to view details about the packets passing through the copied ports. This is useful for network monitoring and troubleshooting purposes. The feature is available is at **Manage > Switch < Details > Mirror**

The screenshot shows the EnGenius web interface for a switch named 'New\_10.0.85.250'. The 'Mirror' tab is selected, showing a table with three rows of mirror sessions. The table has columns for Session ID, Session State, Destination Port, Egress, and Ingress. All sessions are currently 'Disabled'. To the right, there are 'Reset' and 'Apply' buttons. Above the table, there are various system settings like IP Address, Subnet Mask, Gateway, and Topology. On the far right, there are 'Realtime Meters' for CPU (10%) and Memory (50%).

Session ID	Session State	Destination Port	Egress	Ingress
1	Disabled	-	-	-
2	Disabled	-	-	-
3	Disabled	-	-	-

The following describe the labels on this screen :

**Session id** : A number identifying the mirror session. Switch supports up to 3 mirror sessions.

**Session State** : Select whether to enable or disable port mirroring.

**Destination Port** : The port which all mirrored data is sent to .

**Ingress** : indicates that only data being received will be mirrored.

**Egress** : indicates that only data being sent will be mirrored

## How to configure

1. Click the edit icon towards the right .
  2. Enable the **Session state**.
  3. Select the **Destination port**
  4. Select the **Ingress** and **Egress** port
  5. Click **Apply**
- 

## Port state

There are four types of port that you configured .



Port was assigned to a destination port .



Port was assigned only data being sent will be mirrored .



Port was assigned only data being received will be mirrored .



Port was assigned both directions of data are being mirrored to the destination port.

# Link Aggregation

Link aggregation groups multiple ports together in parallel to act as a single logical link. Aggregation-enabled devices treat all physical links (ports) in an aggregation group entirely as a single logical link (port). Member ports in an aggregation group share egress/ingress traffic load, delivering a bandwidth that is multiple of a single physical link. The feature is available is at **Manage > Switch < Details > Link Aggregation**

---

## How to Configure

To Configure trunk , you must select **aggregation type** . Select from the following options:

- ♦ **LACP:** LACP is a dynamic protocol which helps to automate the configuration and maintenance of LAG's. The main purpose of LACP is to automatically configure individual links to an aggregate bundle, while adding new links and helping to recover from link failures if the need arises. LACP can monitor to verify if all the links are connected to the authorized group. LACP is a standard in computer networking, hence LACP should be enabled on the Switch's trunk ports initially in order for both the participating Switches/devices that support the standard to use it.
- ♦ **Static:** Static configuration is used when connecting to a switch that doesn't support LACP.
- ♦ **Disable** : Disable the trunk that you configured previously.

Then select the **Member Ports** to add into the trunk group. There are two ways to select the ports

1. Click on the port picker to select multiple ports.



EnGenius\_Taipei / 9F Switches > New\_10.0.85.250

< New\_10.0.85.250

Model Name	ECS1528FP	IP Address	10.0.85.250	Voice VLAN	OFF
Firmware	1.1.30	Subnet Mask	255.255.254.0	Jumbo Frame	OFF
Serial NO.	19CDH2F1DLWL	Gateway	10.0.85.254	IGMP Snooping	OFF
MAC Address	88-DC-96-83-DF-89	Topology	Show	STP	ON
				LLDP	ON
				QoS	ON

Summary System Setting Port Setting Mirror **Link Aggregation** Logs

Reset Apply

**TRUNK**

Aggregation Type: LACP Active Ports: Member Ports: 11,13,15

Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ

Realtime Meters: CPU 18%, Memory 50%, Cache 16%

2. Click Pencil icon to input port numbers

EnGenius\_Taipei / 9F Switches > New\_10.0.85.250

< New\_10.0.85.250

Model Name	ECS1528FP	IP Address	10.0.85.250	Voice VLAN	OFF
Firmware	1.1.30	Subnet Mask	255.255.254.0	Jumbo Frame	OFF
Serial NO.	19CDH2F1DLWL	Gateway	10.0.85.254	IGMP Snooping	OFF
MAC Address	88-DC-96-83-DF-89	Topology	Show	STP	ON
				LLDP	ON
				QoS	ON

Summary System Setting Port Setting Mirror **Link Aggregation** Logs

Reset Apply

**TRUNK**

Aggregation Type: LACP Active Ports: Member Ports: [Pencil icon] X

Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ
Disabled	-	-	ⓘ

Realtime Meters: CPU 25%, Memory 50%, Cache 16%

EnGenius\_Taipei / 8F Switches > New\_10.0.85.250

< New\_10.0.85.250

Model Name	ECS1528FP	IP Address	10.0.85.250	Voice VLAN	OFF
Firmware	1.1.30	Subnet Mask	255.255.254.0	Jumbo Frame	OFF
Serial NO.	19CDH2F1DLWL	Gateway	10.0.85.254	IGMP Snooping	OFF
MAC Address	88 DC 96 83 DF 89	Topology	Show	STP	ON
				LLDP	ON
				QoS	ON

Summary System Setting Port Setting Mirror **Link Aggregation** Logs

Reset Apply

**TRUNK**

Aggregation Type	Active Ports	Member Ports
LACP	-	2,8
Disabled	-	-
Disabled	-	-
Disabled	-	-
Disabled	-	-
Disabled	-	-
Disabled	-	-
Disabled	-	-

Realtime Meters

CPU 10%

Memory 50% Cache 18%

After you complete the trunk settings , remember to click **Apply** to take effect .

EnGenius\_Taipei / 8F Switches > New\_10.0.85.250

< New\_10.0.85.250

Model Name	ECS1528FP	IP Address	10.0.85.250	Voice VLAN	OFF
Firmware	1.1.30	Subnet Mask	255.255.254.0	Jumbo Frame	OFF
Serial NO.	19CDH2F1DLWL	Gateway	10.0.85.254	IGMP Snooping	OFF
MAC Address	88 DC 96 83 DF 89	Topology	Show	STP	ON
				LLDP	ON
				QoS	ON

Summary System Setting Port Setting Mirror **Link Aggregation** Logs

Reset **Apply**

**TRUNK**

Aggregation Type	Active Ports	Member Ports
LACP	-	10,14-15
Disabled	-	-
Disabled	-	-
Disabled	-	-
Disabled	-	-
Disabled	-	-
Disabled	-	-
Disabled	-	-

Realtime Meters

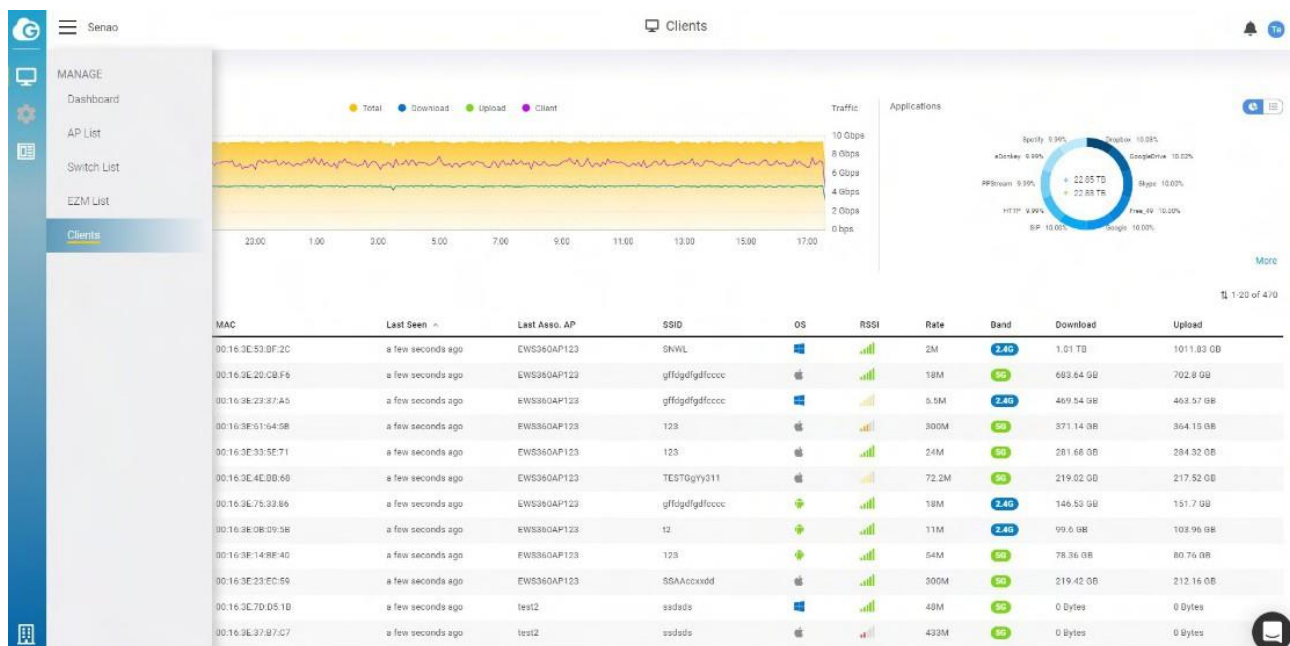
CPU 16%

Memory 50% Cache 16%

# Managing Clients

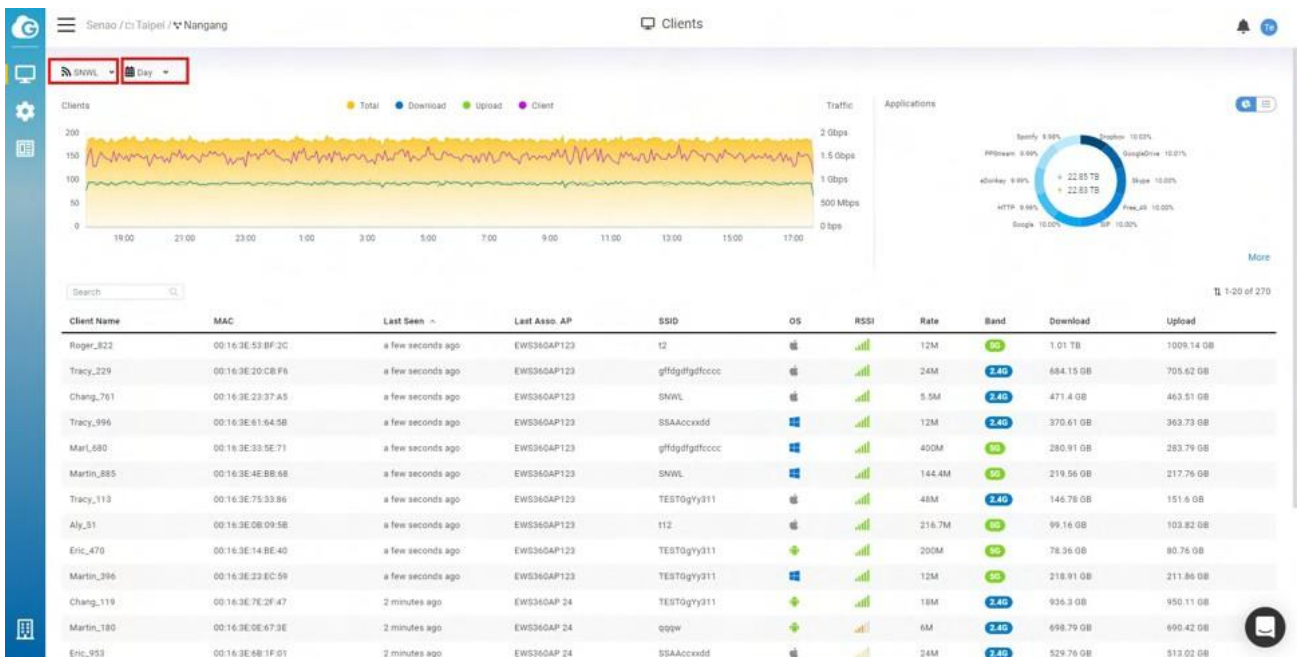
EnGenius Cloud provides management views that collect information about connected clients in your organization/hierarchy view/network.

Click **Manage** -> **Clients** to access this screen and double-click the organization/hierarchy view/network on the tree to change the scope.



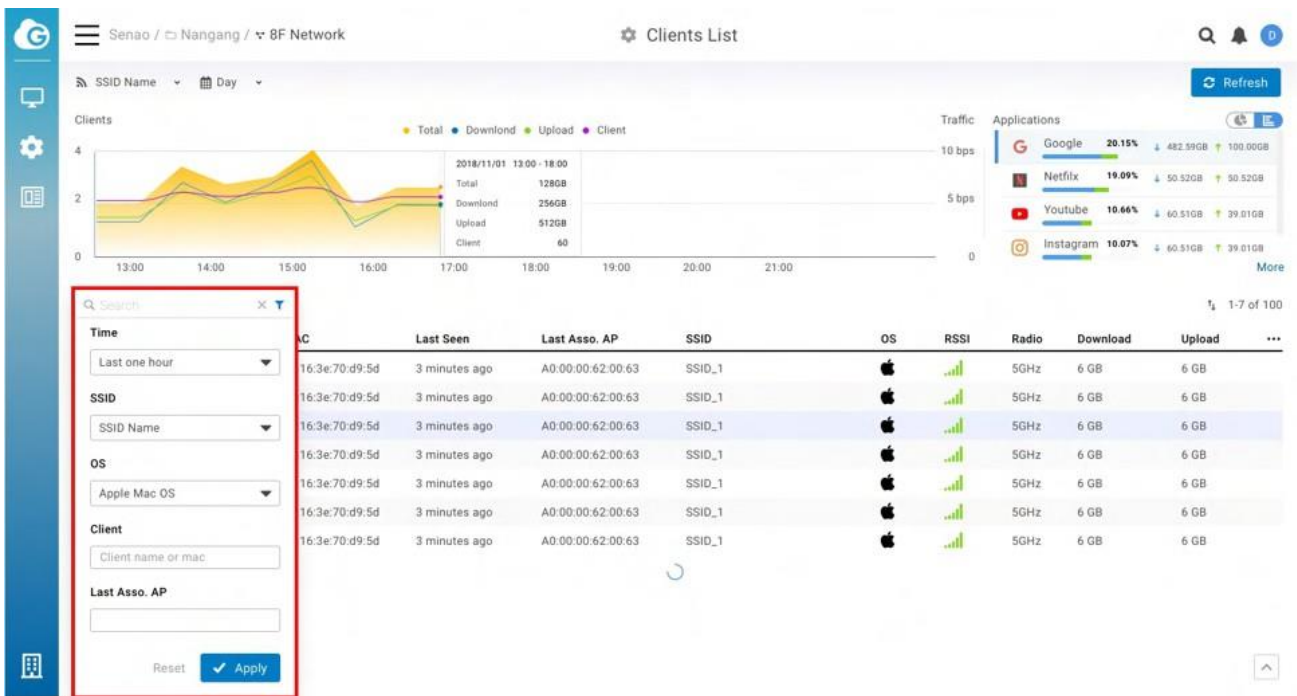
## Filtering the Clients List

The list of clients can be customized based on time intervals, and the chart can be customized based on time intervals and SSIDs. To change these parameters, use the appropriate dropdown menu at the top of the screen.



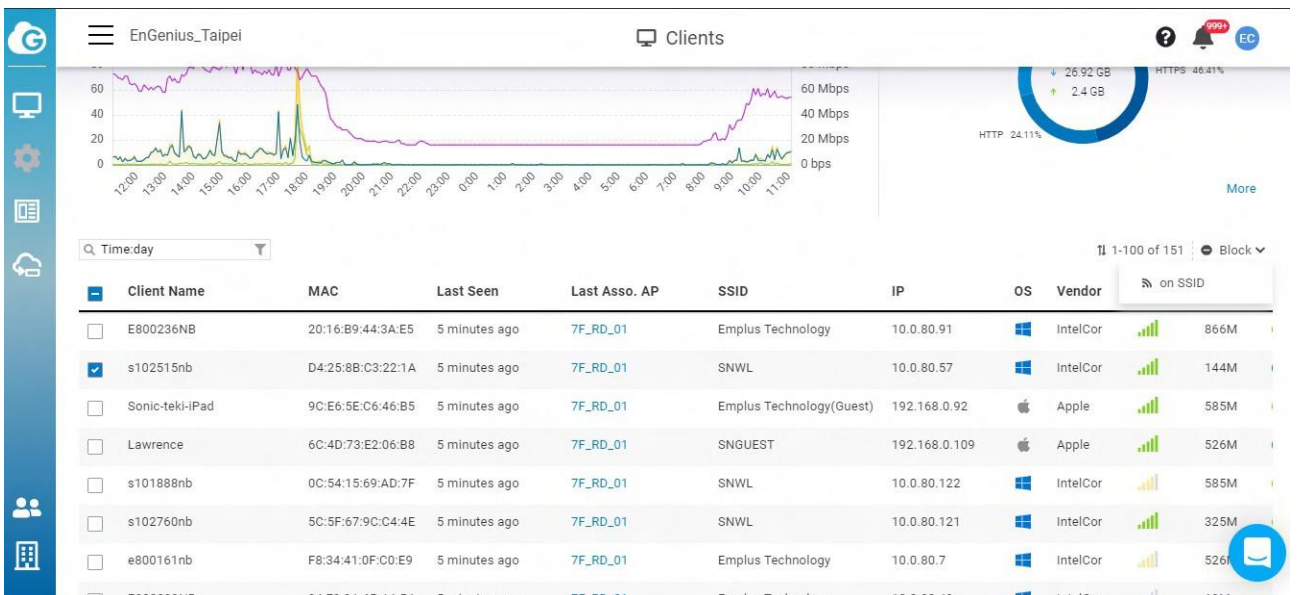
## Searching for Clients

You can search for a client in the current client list by using the search. You can search by any parameter included in the search options, and it will attempt to match your query across all fields. You can also specify multiple parameters by clicking on the icon in the search box, as seen below:

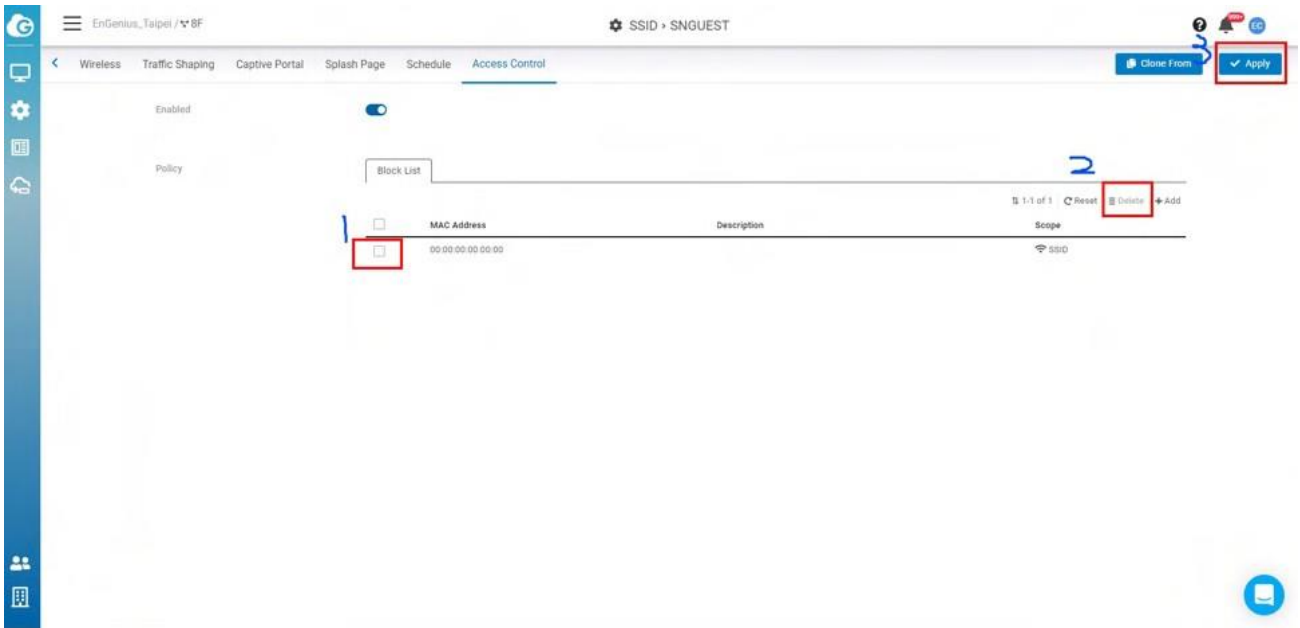


## Block Clients

This allows you to block clients on the current SSID that clients connected .

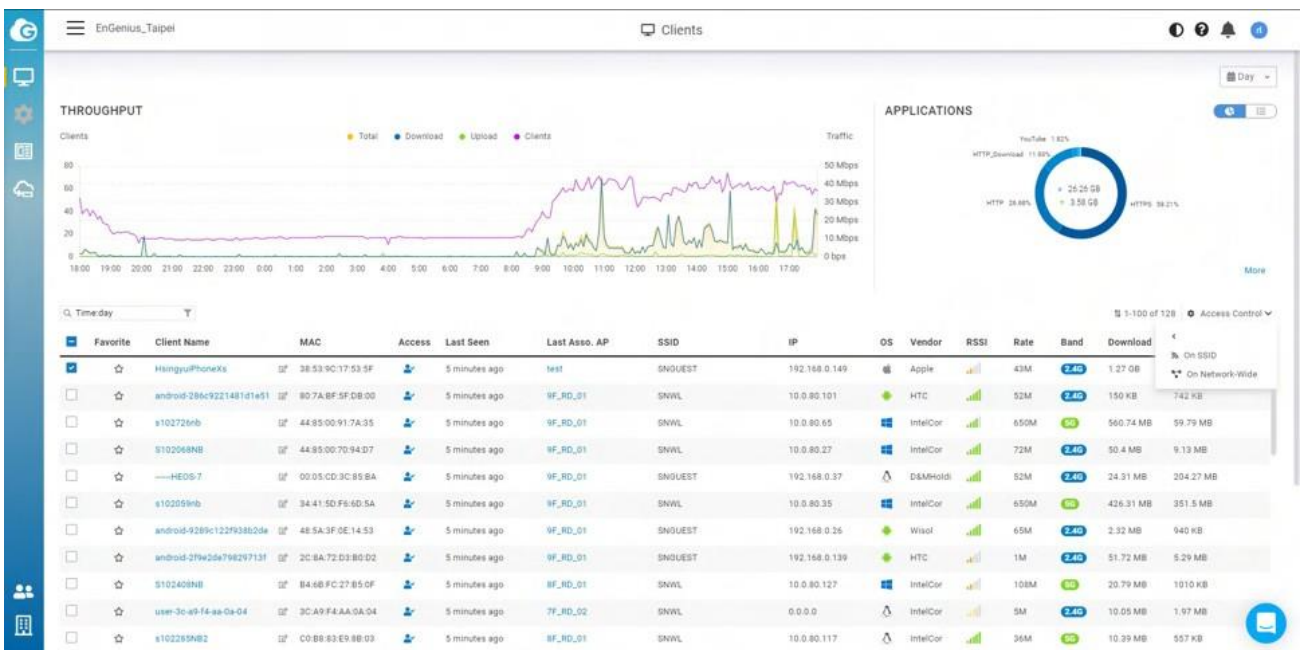


Once you want to unblock clients , please go to **Configure > SSID > Access control** to delete the Mac Address from the Block list .



## VIP Clients

This allows you to make clients as VIP on the current SSID or on Network wide that clients connected .



Once you want to delete clients from the VIP list , please go to **Configure > Access control** to delete the Mac Address from the VIP list .

# Client Timeline

The Client Timeline is a great feature that aggregates and analyzes activities of a specific wireless client to provide an intuitive and historical view. With Client Timeline, user can easily know how clients associate, authenticate, and roam among Access Points. It is extremely useful when you need to debug or trace your wireless network. The feature is available at **Manage > Client > Client name**.

---

## Client States

The EnGenius Cloud AI system categorizes client activities into five different states:



Client was connecting to an AP.



Client was roaming and connecting to another AP.



Client changed to associate with different radio or SSID of the same AP.

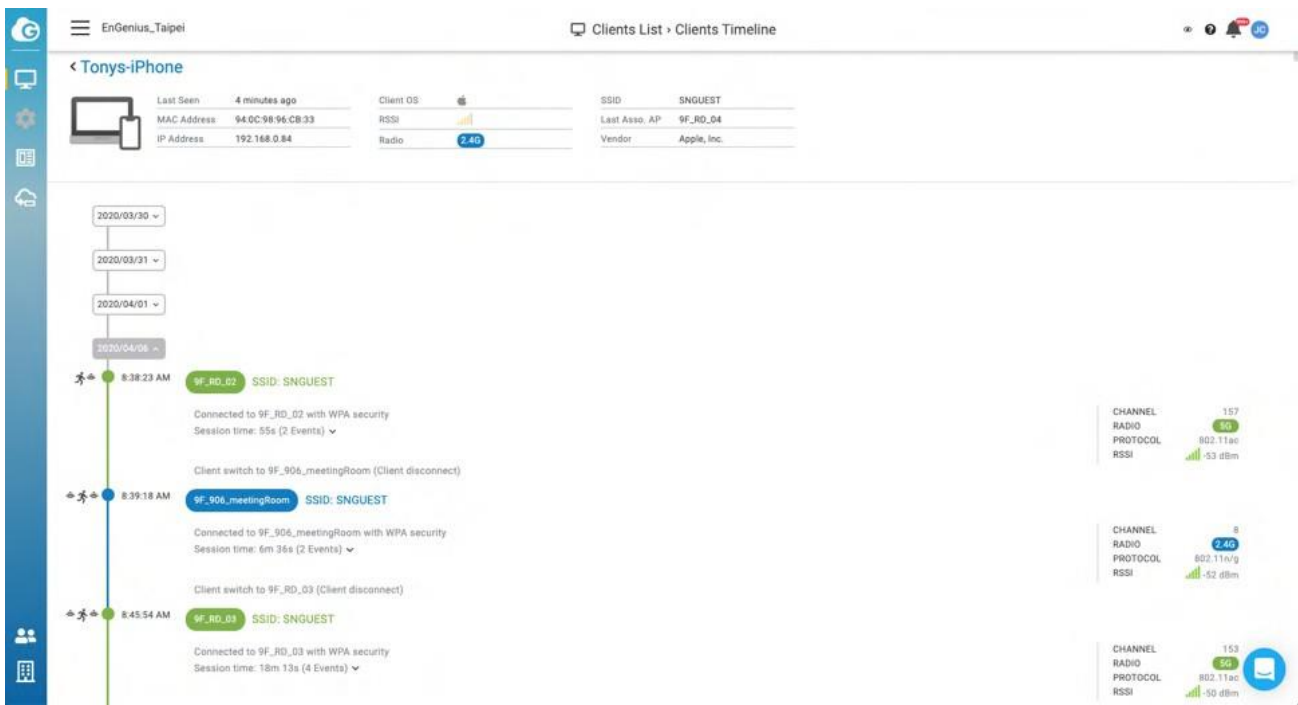


Client failed to authenticate with an SSID.



Client was denied because of it is in block list.

The states are displayed at the left hand side of timeline. User can easily see how a client transited its states among APs.



## Radio Color Conventions

The drawing and content of client timeline follows the color conventions as below:

- Green: represent a 5G session.
- Blue: represent a 2.4G session.

**i** In the right hand side of each session, the system shows the channel, band, protocol, and signal strength of client detected at the beginning of that session.

## Transition Details

The communication between wireless client and AP could be very complicated. Different clients with different wifi chips and wireless drivers can behave very differently while communicating with the same AP. The intelligent engine behind Client Timeline is capable



of analyzing communication packets effectively and performs clean and human readable transition details for the user.

User can click on the event summary inside a connection session to expand the sequence of transition details:

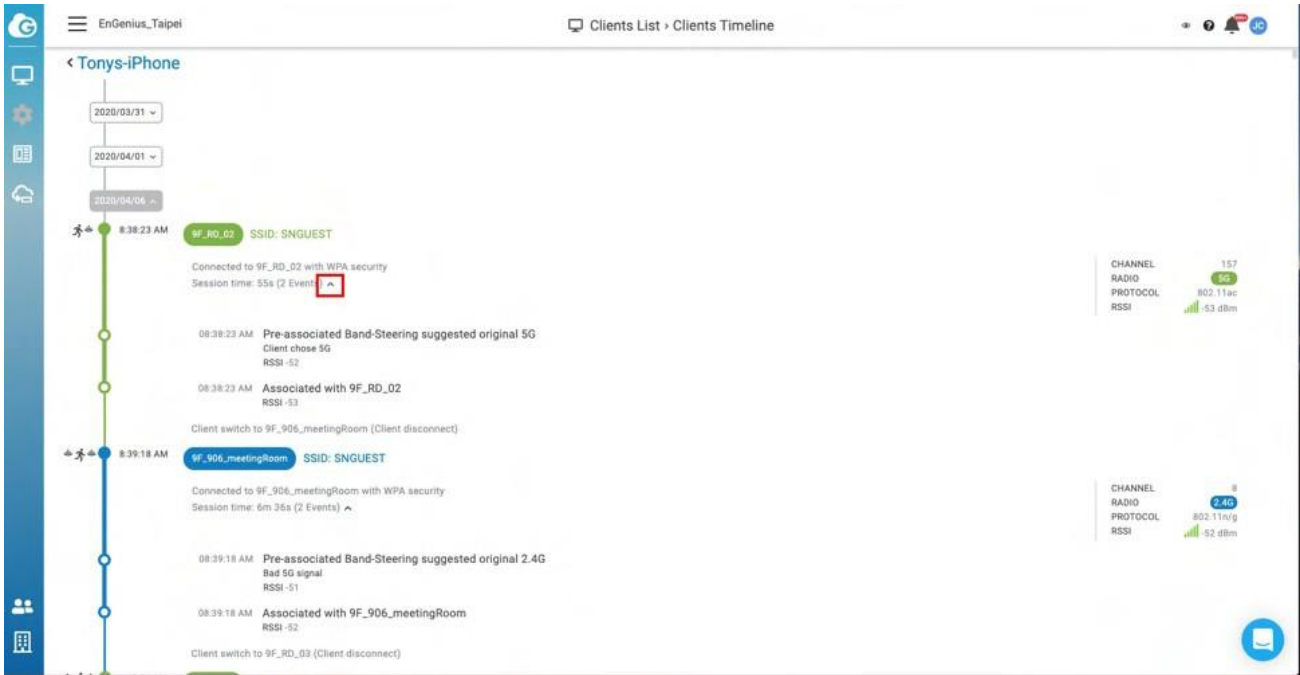


Table below displays client leave patterns when client leaves each connection session.

Leaving reason	Description
Incorrect password	Client entered the incorrect password for WPA or wrong authentication information for EAP
Client switch to {device_name}/{radio}	When the RSSI signal is not good enough, the client did not disassociate from the AP and it connected to new AP directly with regular authentication procedure.
Roam out to {device_name}	When the RSSI signal is not good enough. The client disconnected from the original AP and connected to the new AP by 802.11r fast roaming protocol.
Steer to {radio}	The client disconnected from the AP due to band steering protocol. It received the 802.11v trigger and connected to suggested band accordingly.

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<b>Disconnected by {device_name}</b>	The client was disconnected by the AP due to bad RSSI signal (fast handover).
<b>AP disconnect</b>	The client was disconnected by the AP due to unknown reason.
<b>Kicked by Cloud</b>	The client was kicked by the cloud administrator.
<b>Denied by ACL</b>	The connection was refused by AP because the client was on the blocked list under access control.
<b>Exceed client limit</b>	The connection was refused because the client count has exceeded the maximum 2.4G/5G client limit.
<b>Client inactive</b>	The client was inactive because it was on power saving mode or far away from the AP.
<b>Client disconnect</b>	The client disconnected because the user disabled the Wi-Fi or choose to connect to other AP.
<b>Disconnected due to SSID configuration change</b>	The clients was disconnected due to SSID configuration change. Some configuration change took effect only after recycled (down&up) the NIC (network interface controller). When the NIC is down, all connection are disconnected.

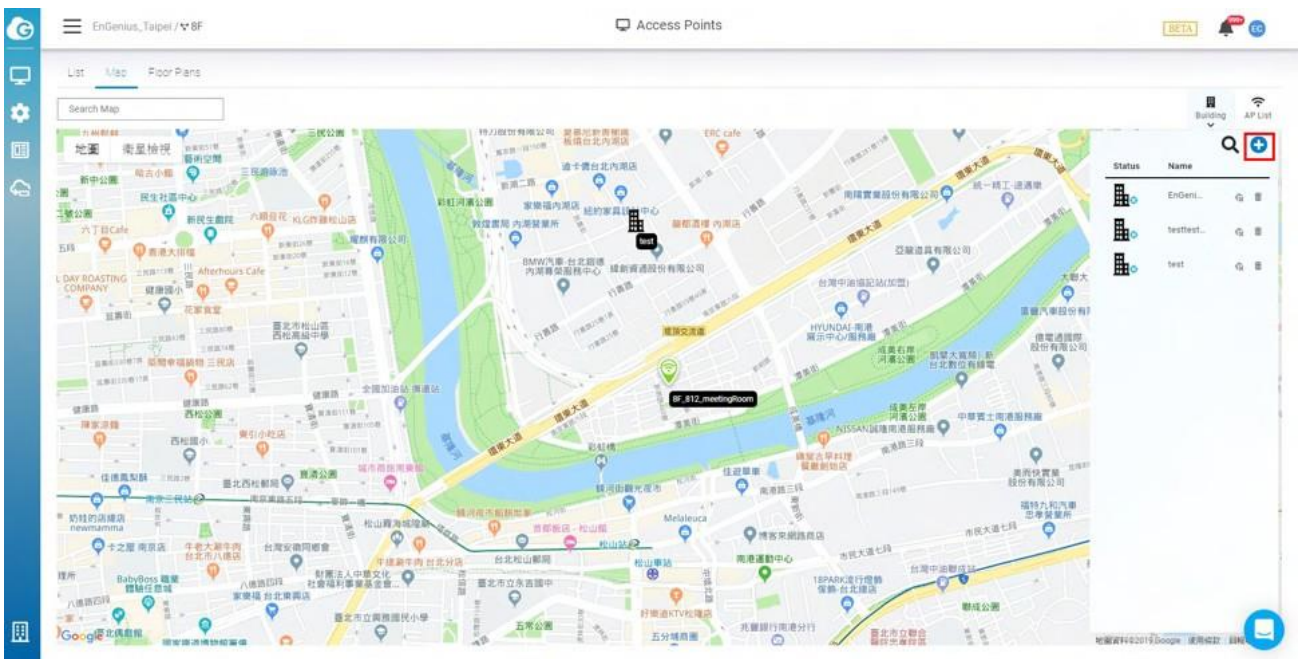
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# Device Map Location

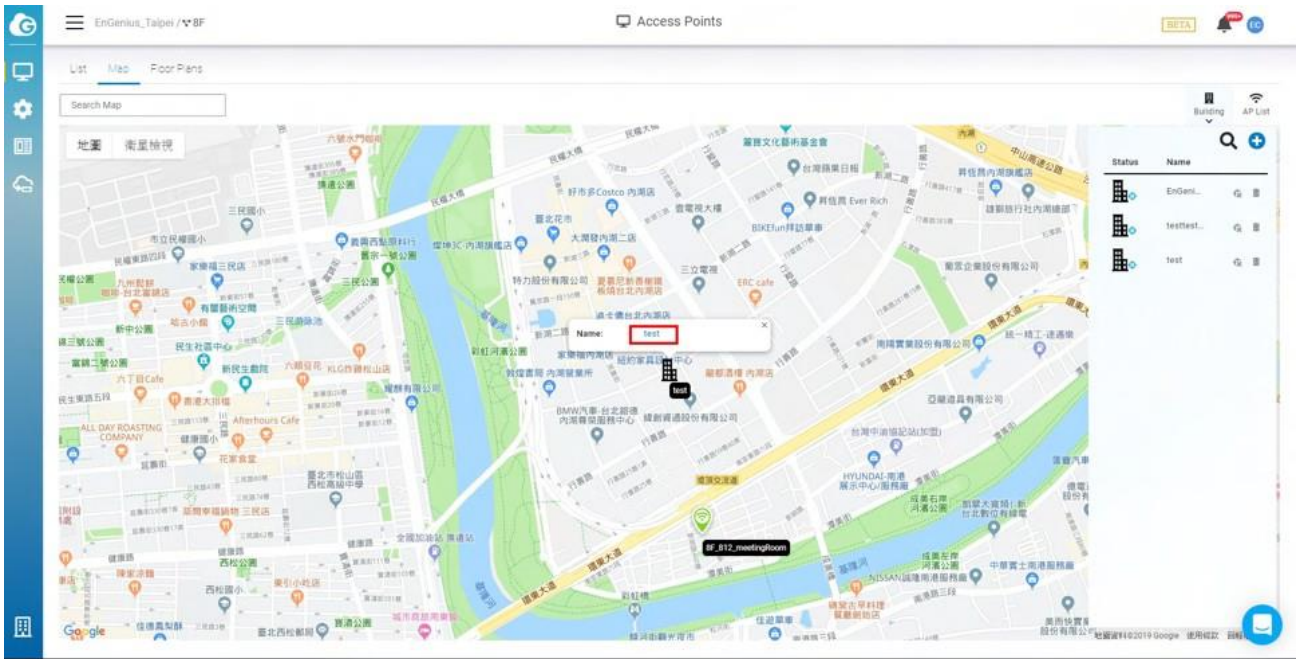
This screen allows you to locate a device on the world map to show the relationship between the space and EnGenius Devices. Maps provide a visualization for buildings and access points.

## Create Buildings

A **building** means a group of floor plans. You can create a new building with the + button.

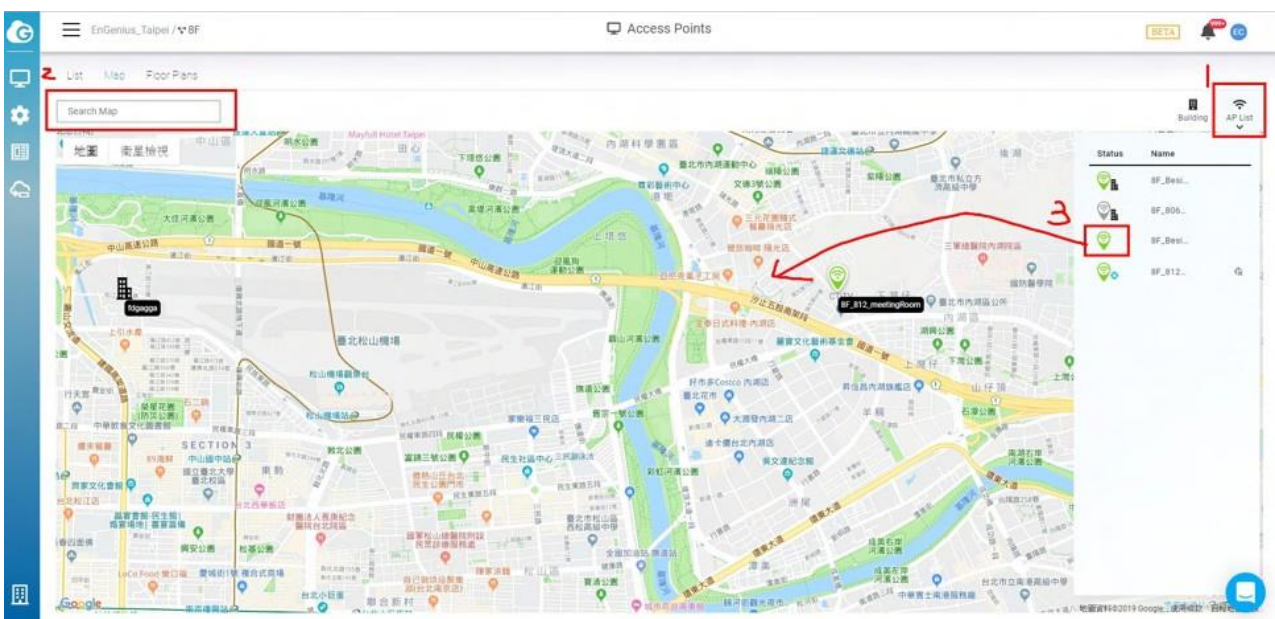


After you create a building, you can drag it to the map. Single-click on the building icon and a hyperlink will appear to allow you to edit floor plans.



## How to Place Access Points or Buildings on the Map

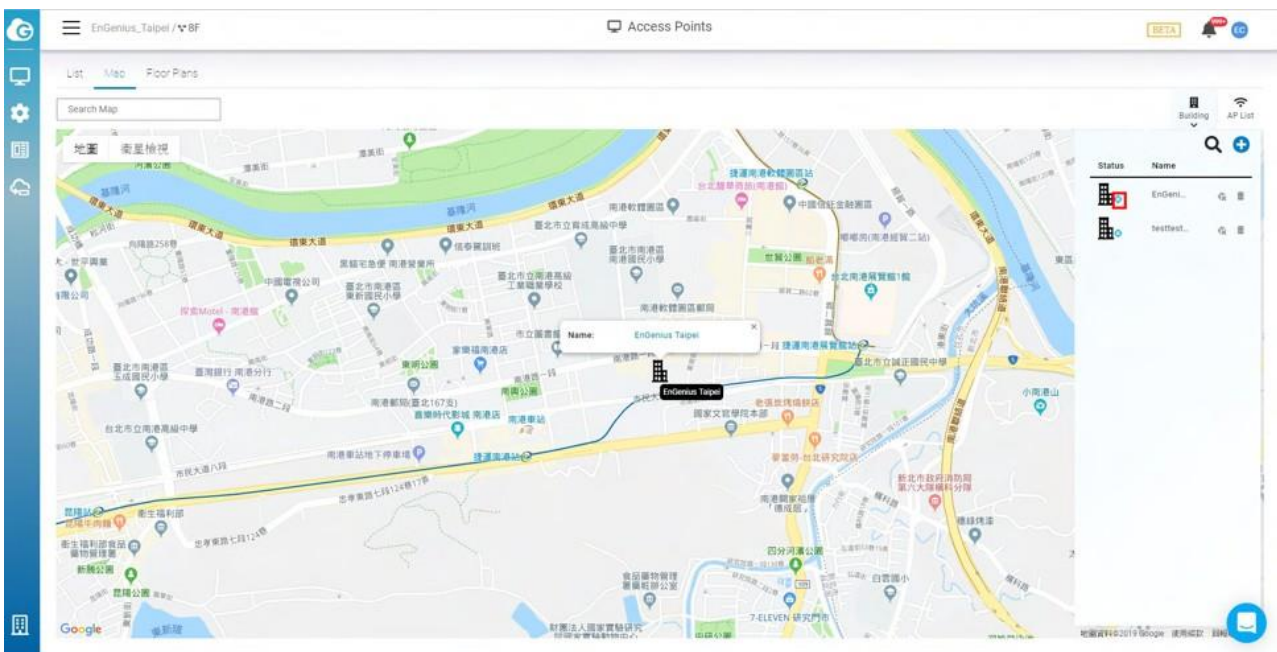
1. Click access point list or buildings list.
2. Enter the street address in the address field.
3. Drag the access point/building onto the map.

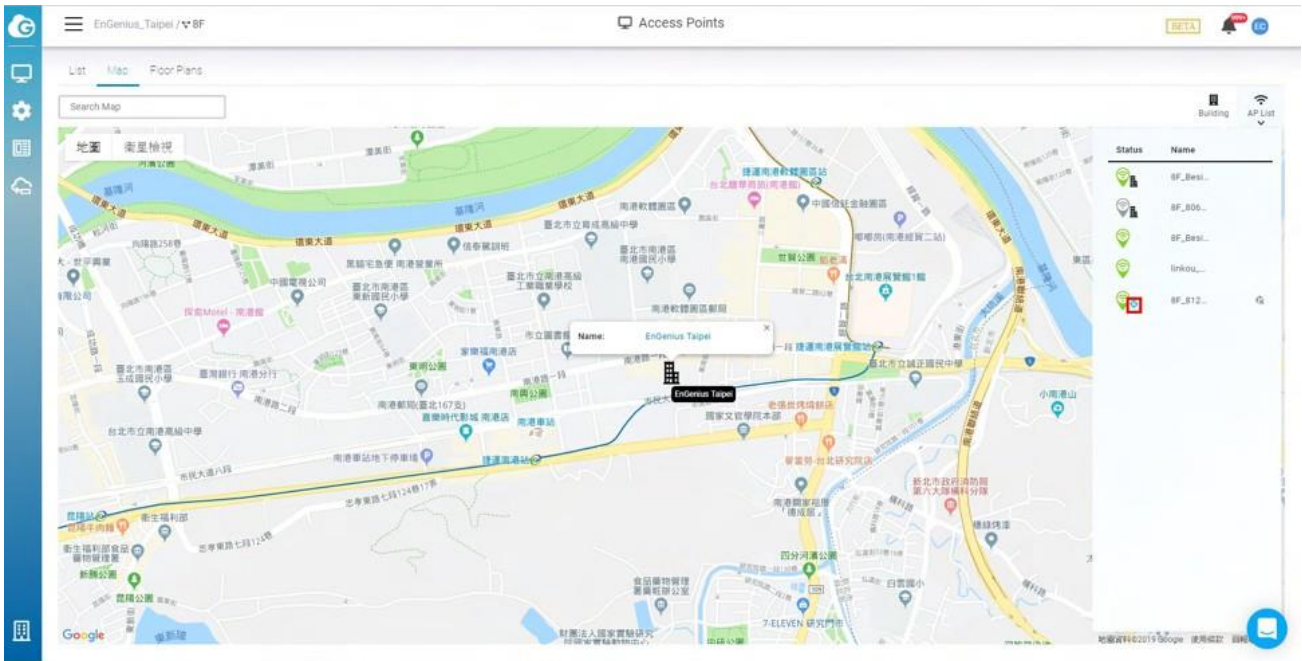


# Navigation

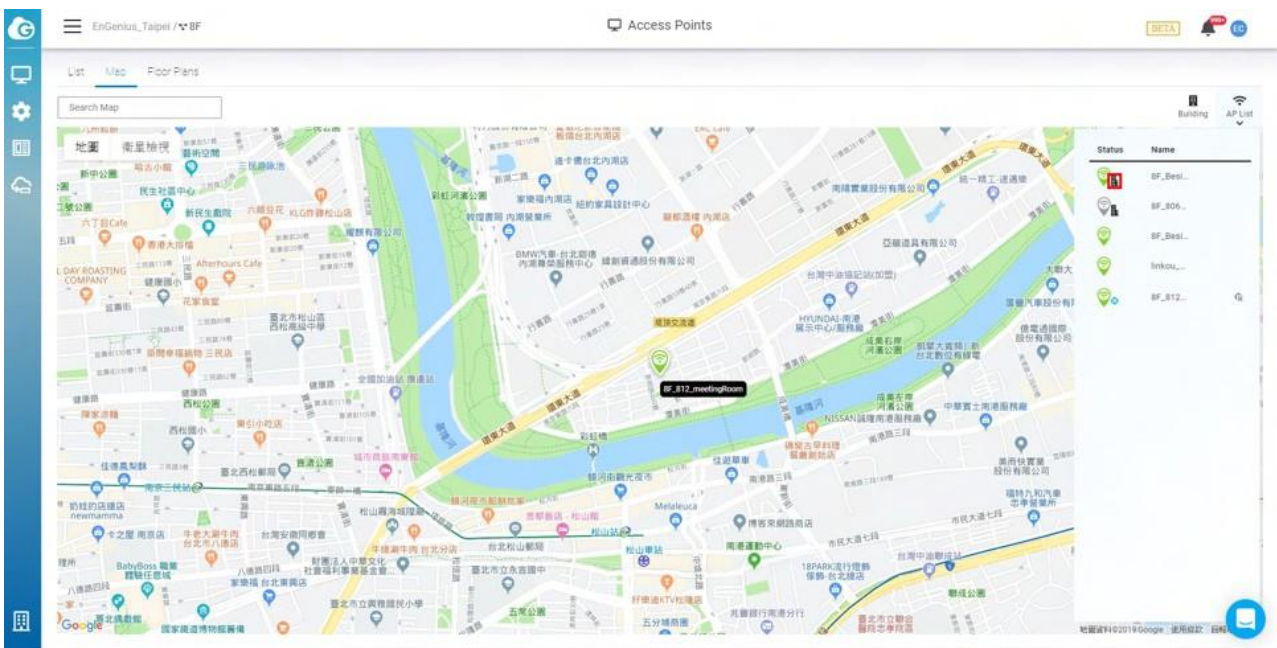
There are a number of ways to navigate through the map display.

**Single Click:** If the user single-clicks on the focus icon on the access point or building lists, it will auto-locate the same item in the map.





**Double Click:** If the user double-clicks on the building icon in the access point list, the UI will auto-navigate to the floor plans of that building.



# Floor Plans

Floor plans allow you to simulate the heatmap. This article will discuss how to upload custom floor plans, pin them on the map, and place devices within these floor plans.

## Uploading Floor Plans

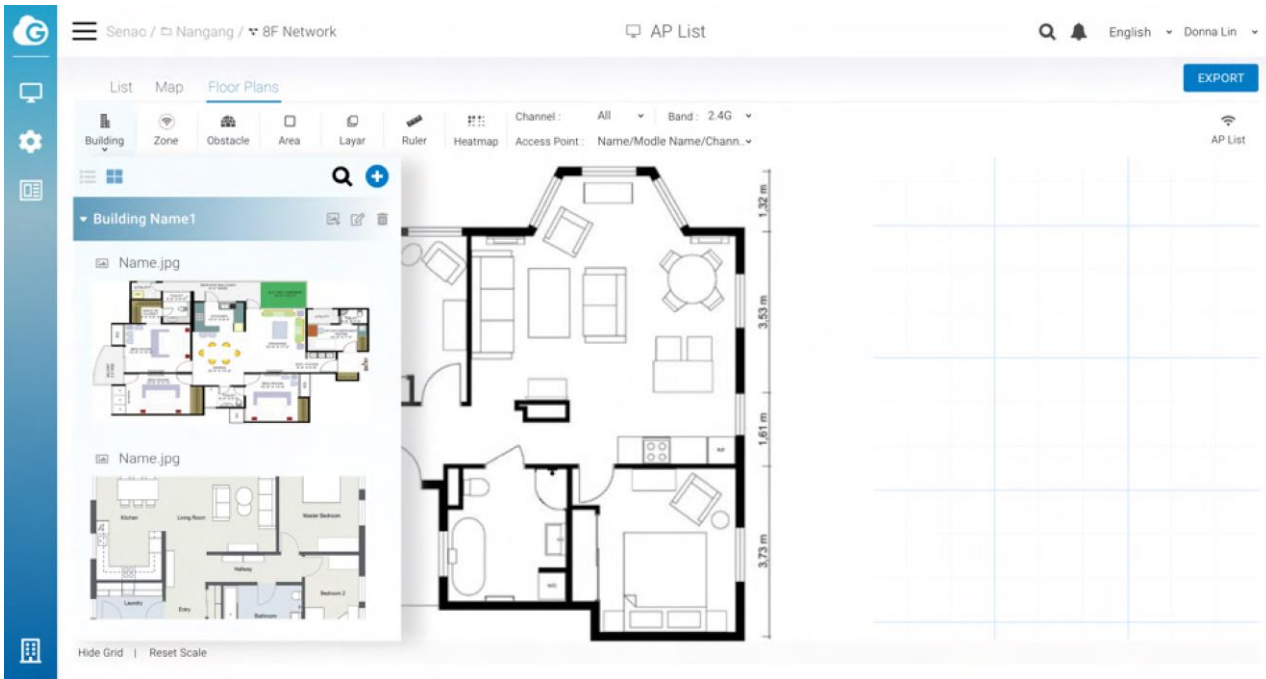
Before uploading floor plans, a building must be created to contain them (see **Managing Devices > Device Map Location** in the user manual).

To upload a custom floor plan/map:

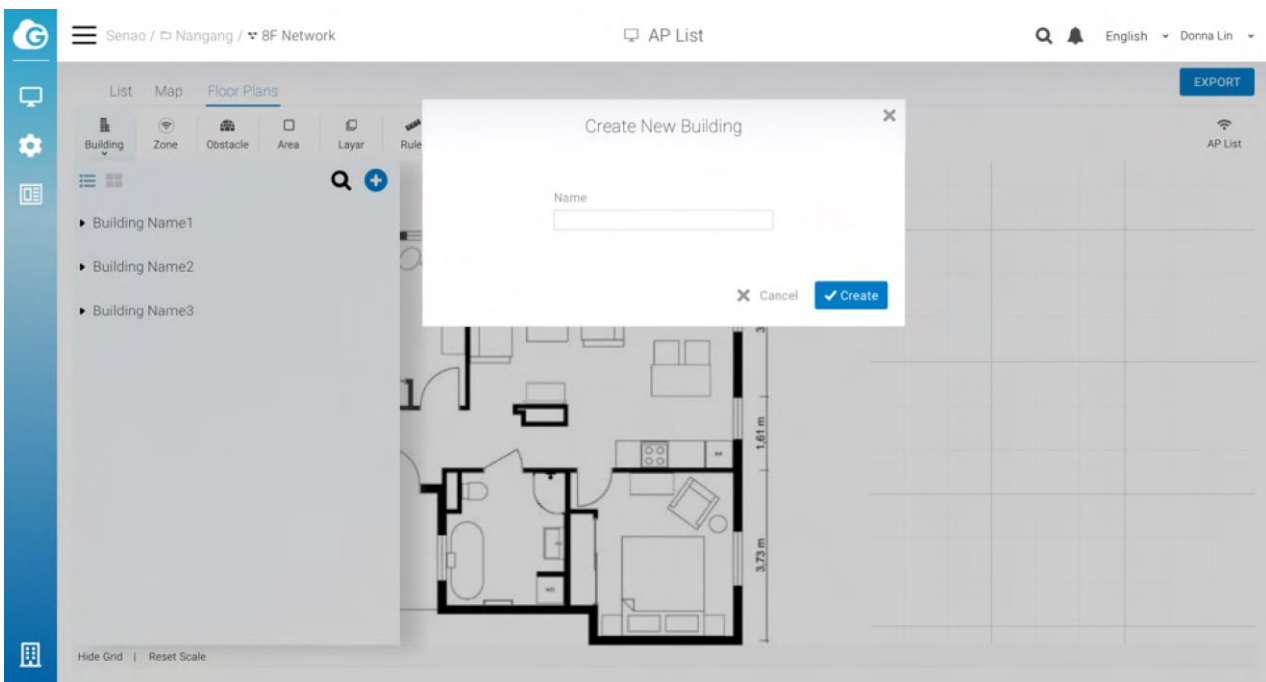
1. Navigate to **Manage > Map & Floor plans**.



2. Click **Building** and click **Add**.

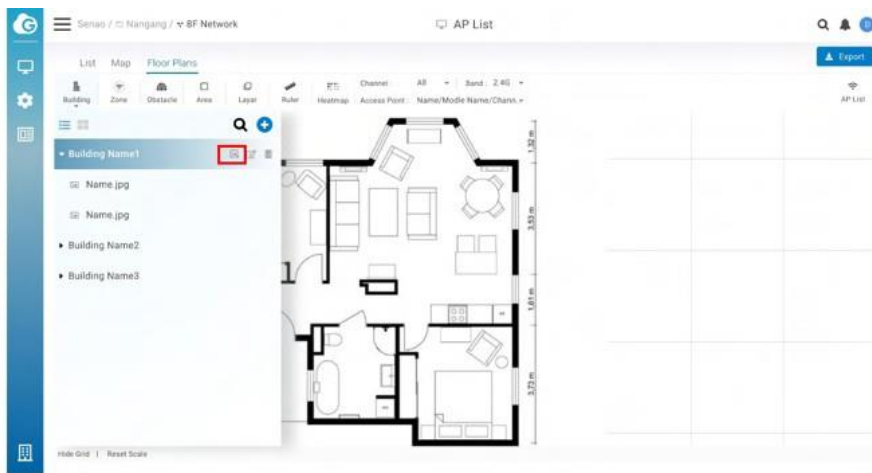


3. Enter a name and then click **Create**.

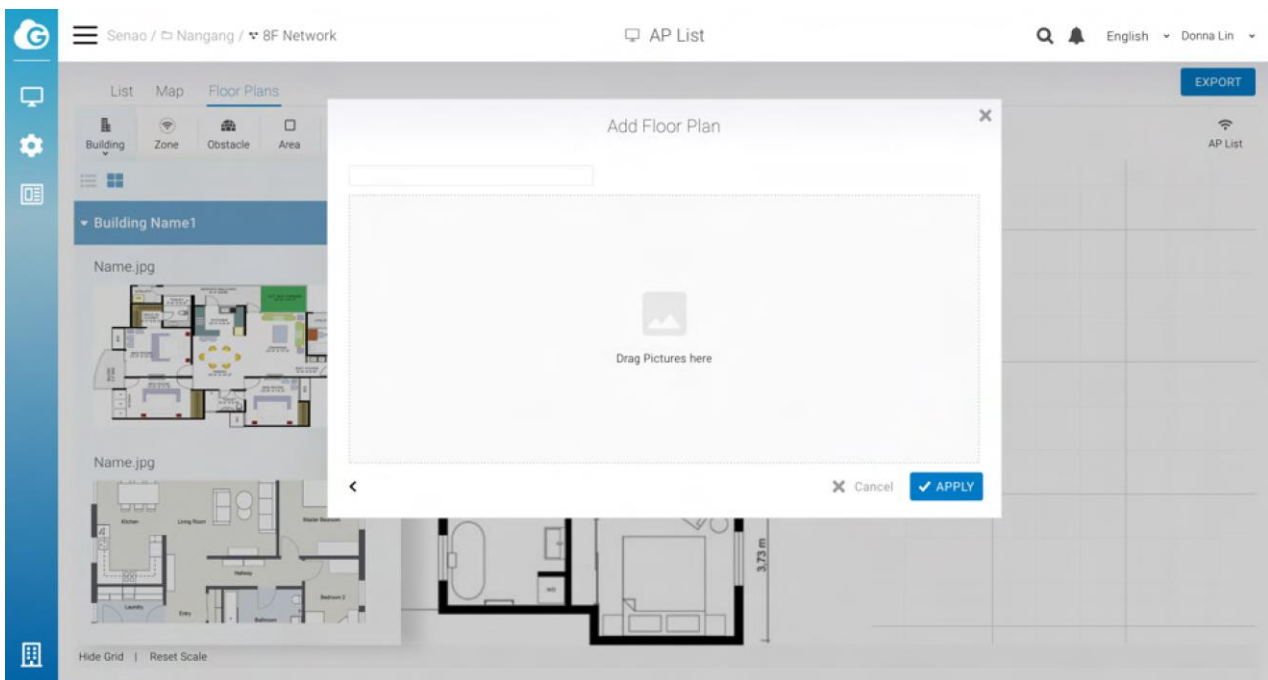


4. Find the building you have just created in the building list and click the picture icon.





5. Enter a **name** and upload the floor plan, then click **Apply**.

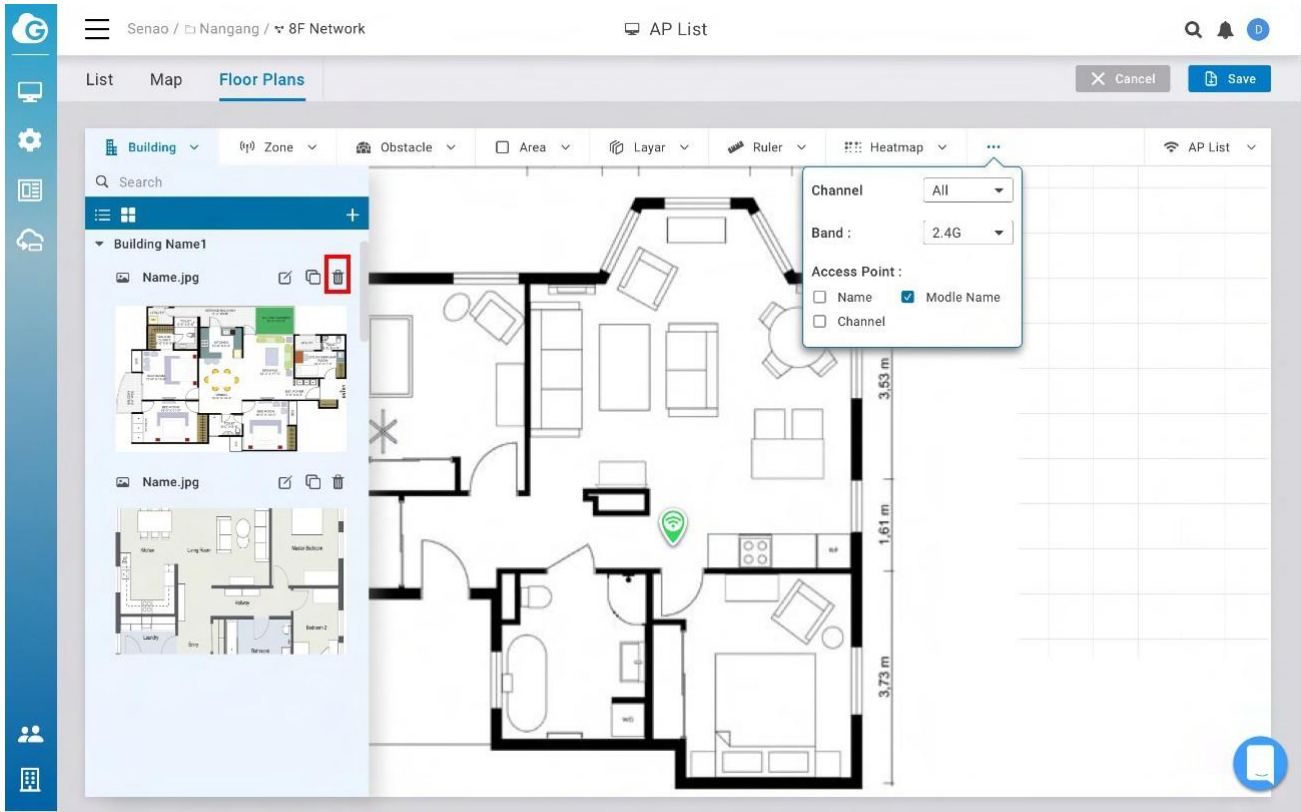


## Deleting a Floor Plan

If you no longer use a floor plan that you previously imported, you can delete it.

Follow these steps to delete a floor plan:

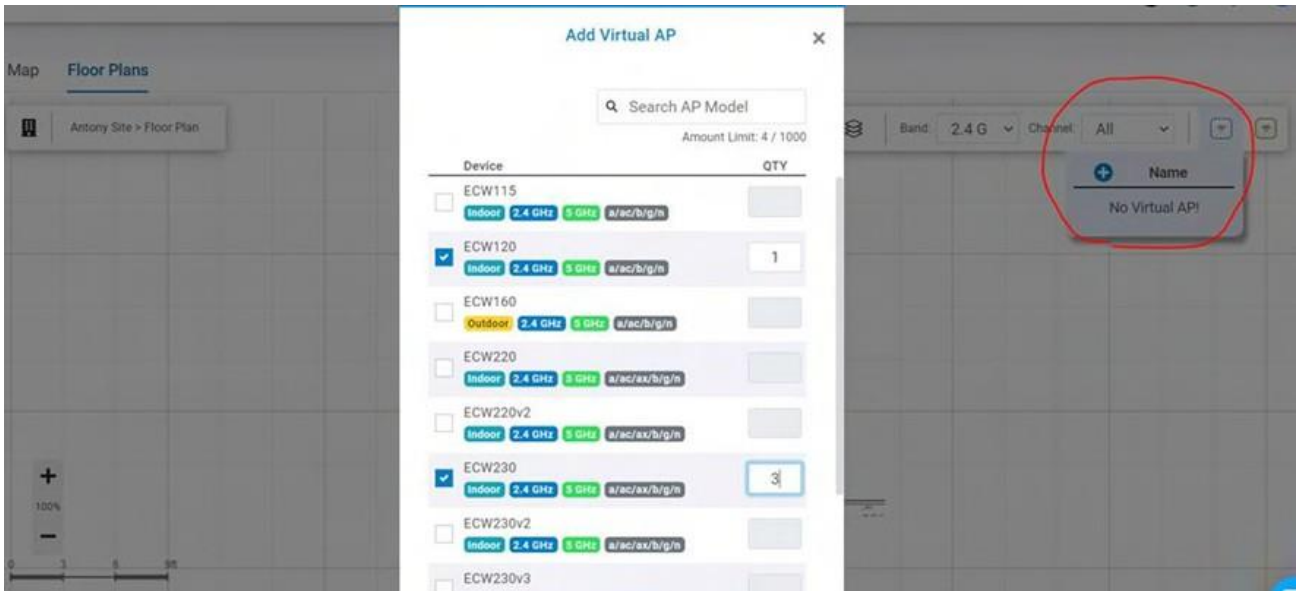
1. Find the building you created in the building list.
2. When the floor plan appears, hover over it and click **Delete**.



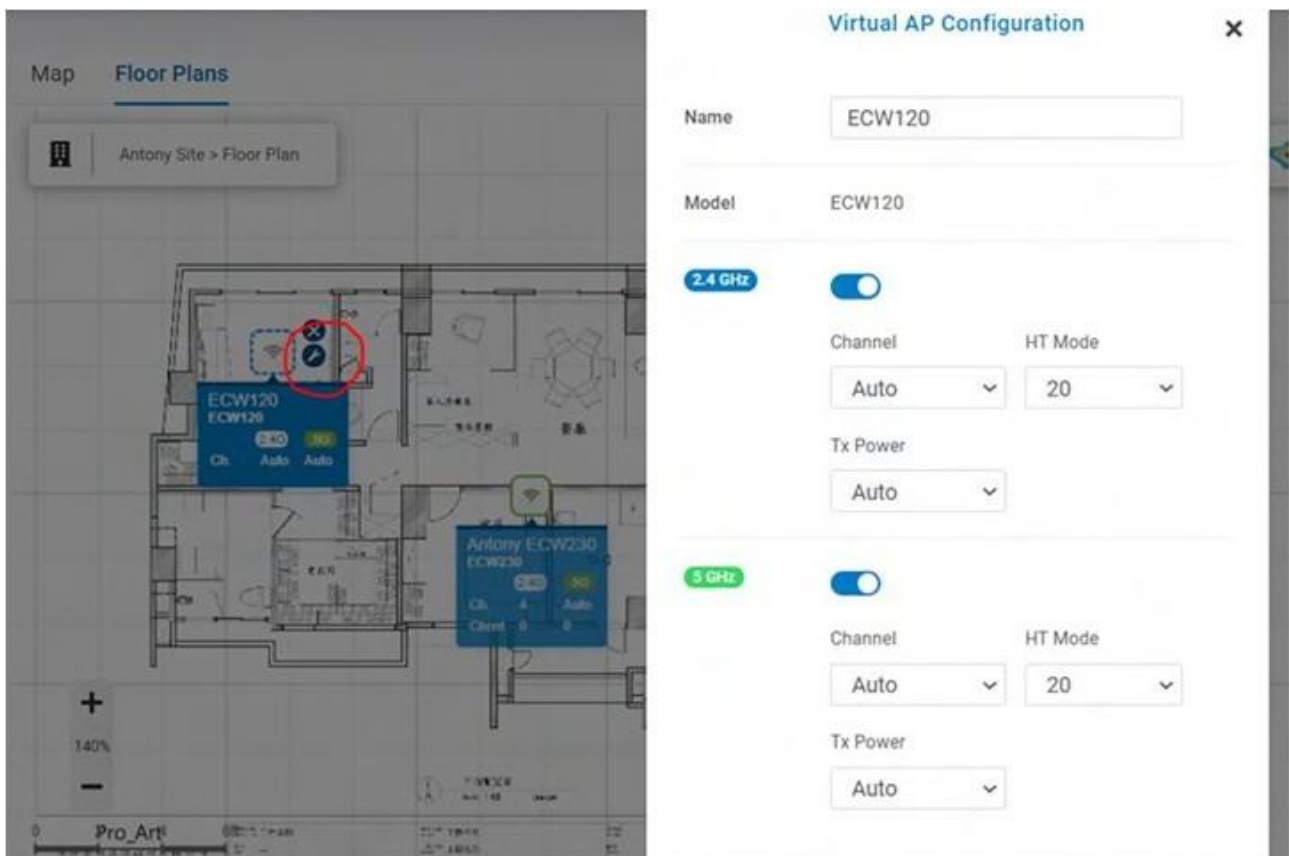
## Virtual AP

Virtual AP” is now available for users to add virtual AP together with “physical AP”, so users can simulate the heat map if he adds more AP to increase the coverage

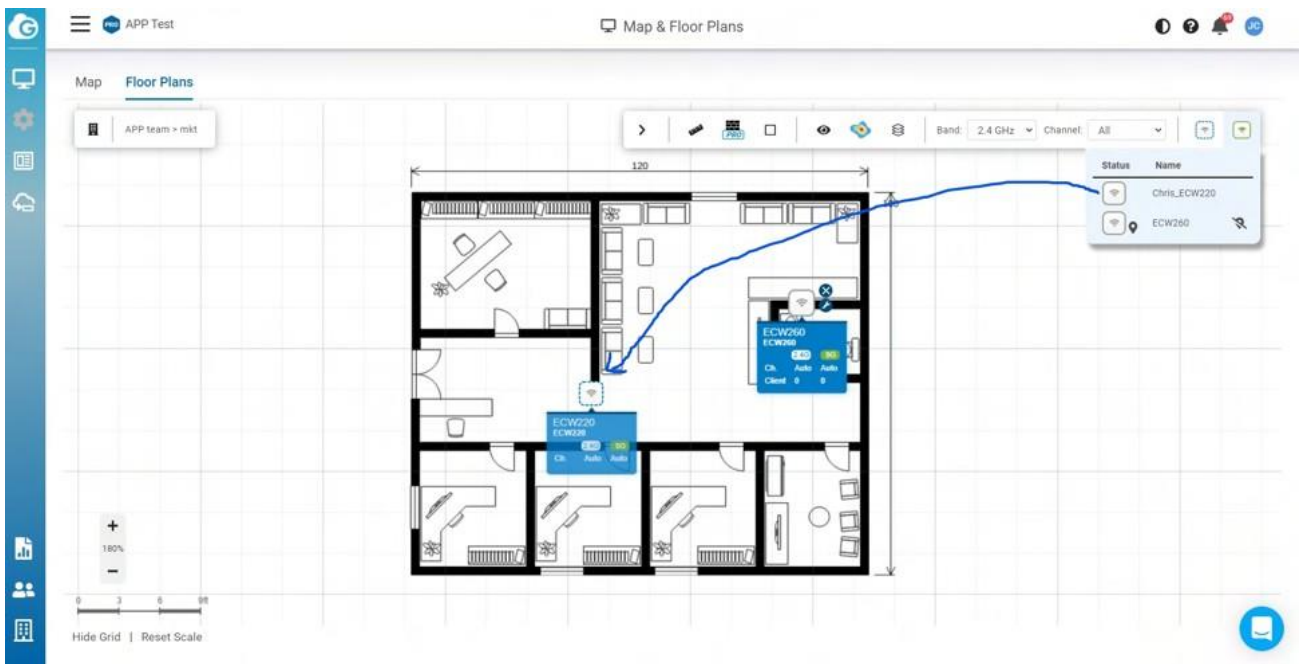
Add Virtual AP and choose units of models to add



The Tool icon for users to modify the tx power and channel for heat map simulation



Drag the physical AP to Virtual AP (model needs to be the same) then physical AP could use the Virtual AP configuration.



## Polyline in Obstacle

When drawing the walls, users used to draw the line one by one by click "start" and "end" for straight lines, now with the "Polyline" option available, users can simply click on the turning point to draw lines quicker.