User Guide

Omada Controller Software

1910012573 REV 3.3.0

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CONTENTS

1 Quick Start

Omada Controller is a management software for TP-Link EAPs. With this software, you can centrally manage your EAPs, such as configure EAPs in batches and conduct real-time monitoring of EAPs locally or remotely through Omada Cloud service.

Follow the steps below to complete the basic settings of Omada Controller.

1. Determine the Network Topology
2. Install Omada Controller Software
3. Inform the EAPs of the Controller Host's Address
4. Start and Log In to the Omada Controller
5. Create Sites and Adopt the EAPs
6. Monitor and Manage the EAPs

1.1 Determine the Network Topology

There are two methods to centrally manage EAPs via Omada Controller:

- Management on the Local Network
- Management via Cloud Access

Determine your management method according to your need and refer to the following introductions to build your network topology.

Tips:

Omada app offers a convenient way to access the Omada Controller and adopt EAPs. With Local Access and Cloud Access function on the Omada app, you can manage the controller at local and remote sites. For more detailed information about Omada app, refer to Appendix: Omada App.

1.1.1 Management on the local Network

There are two kinds of network topologies to centrally manage EAPs on the local network:

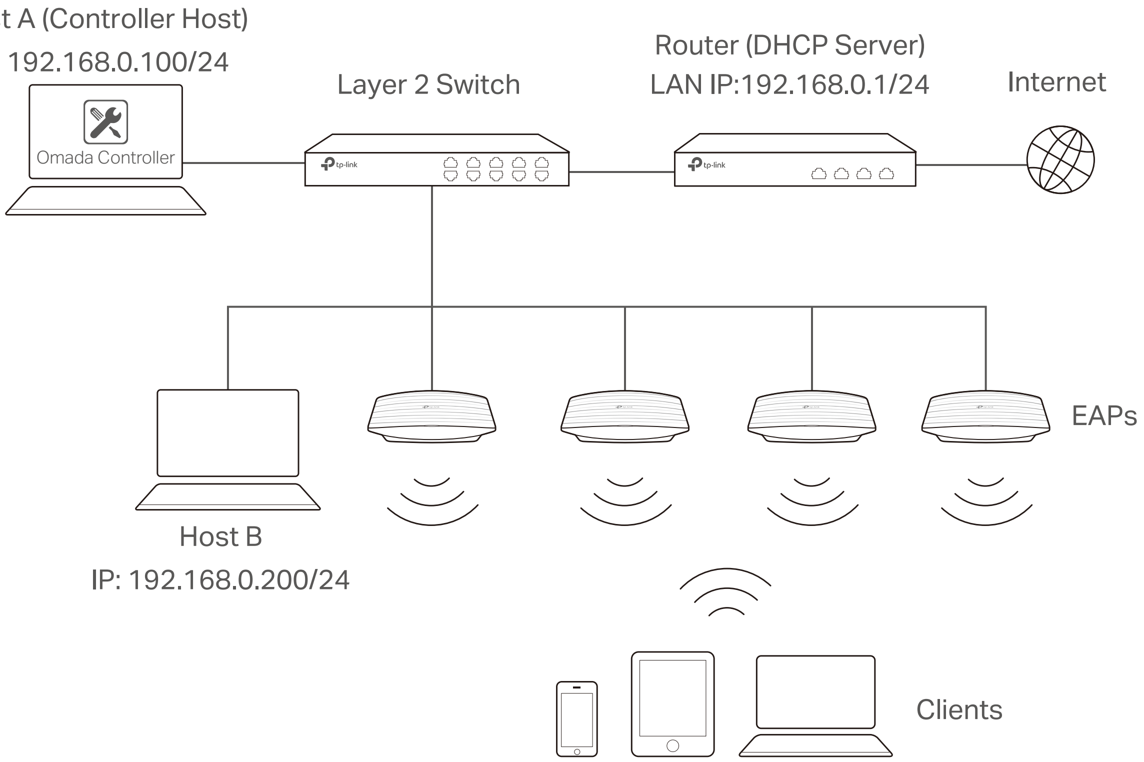
- Omada Controller and EAPs are in the same subnet.
- Omada Controller and EAPs are in different subnets.

Determine your management method according to your need and refer to the following introductions to build your network topology.

Management in the Same Subnet

If your Omada Controller and EAPs are in the same subnet, refer to the following network topology.

A router acts as a DHCP server to assign IP addresses to EAPs and clients. Omada Controller should be installed on one host, which is called as Controller Host. The other hosts in the same LAN can access the Controller Host to manage the network. Taking the following topology as an example, you can enter “https://192.168.0.100:8043“ in a web browser on Host B to visit the Omada Controller interface on Host A. It's recommended to set a static IP address to the Controller Host for the convenient login to the Omada Controller interface.



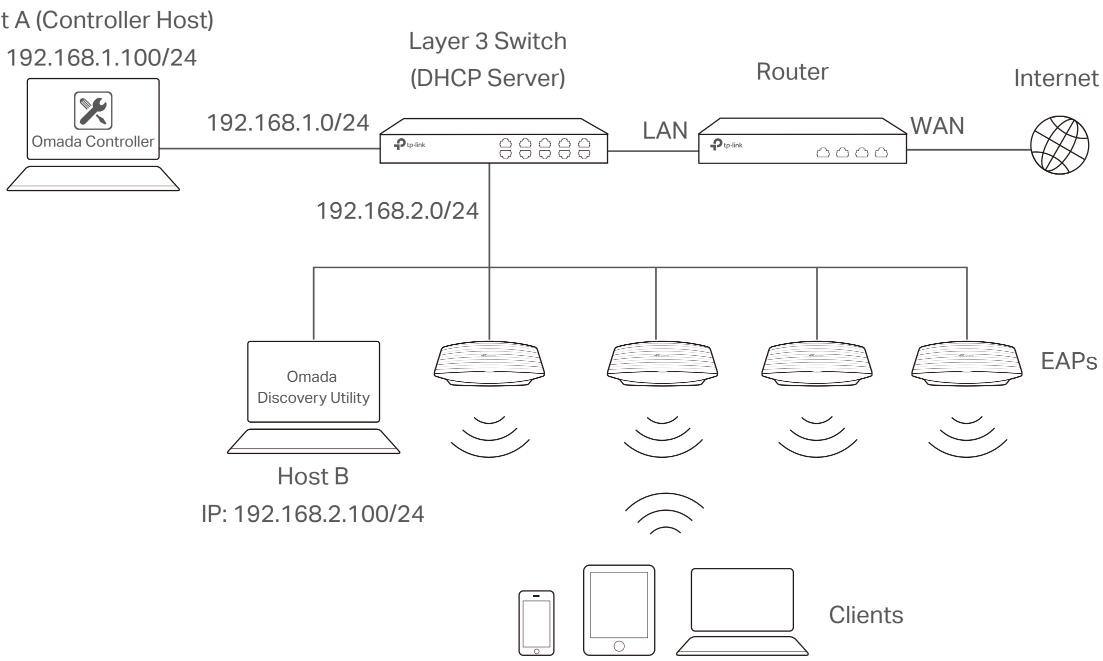
Note:

- Omada Controller must be running all the time when you manage the network.
- Omada Controller can be running on only one host in a LAN. When other users in the LAN try to launch Omada Controller on their own hosts, they will be redirected to the host that is already running Omada Controller.

Management in Different Subnets

If your Omada Controller and EAPs are in different subnets, refer to the following topology.

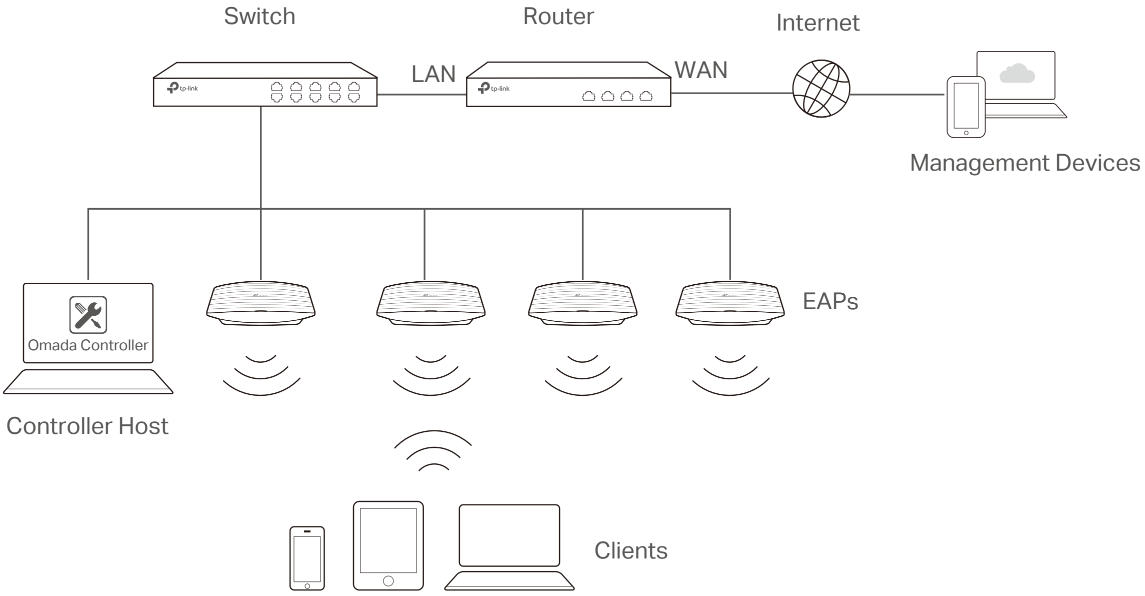
A router acts as the gateway of the network. A layer 3 switch acts as a DHCP server to assign IP addresses to EAPs and clients. The Controller Host and the EAPs are connected to the switch's different network segments. To help EAPs find the Controller Host, Omada Discover Utility should be installed on Host B which is in the same subnet with the EAPs. For how to use Omada Discovery Utility, refer to Inform the EAPs of the Controller Host's Address.



1.1.2 Management via Cloud Access

With Cloud Access enabled on the Omada Controller, you can use https://omada.tplinkcloud.com to remotely access and monitor multiple controllers. If you want to manage EAPs remotely via Omada Cloud , refer to the following topology.

A router acts as the gateway of the network. A Layer 3 switch acts as a DHCP server to assign IP addresses to EAPs and clients. The management device is not on the local network. On the management device, you can launch a web browser to remotely launch Omada Controller to manage EAPs via Omada Cloud. For more details about Cloud Access, refer to Omada Cloud Service .



1.2 Install Omada Controller Software

We provide Omada Controller for both Windows and Linux operating systems. Determine your operation system and follow the introductions below to install Omada Controller.

1.2.1 Installation on Windows Host

Make sure your PC meets the following system requirements and then properly install the Omada Controller software.

System Requirements

Operating System: Microsoft Windows 7/8/10/Server.

Web Browser: Mozilla Firefox 32 (or above), Google Chrome 37 (or above), Opera 24 (or above), or Microsoft Internet Explorer 11 (or above).

Note:

We recommend that you deploy Omada Controller on a 64-bit operating system to guarantee the software stability.

Install Omada Controller

Download the installation file of Omada Controller from the website *https://www.tp-link.com/en/download/EAP-Controller.html*. Then follow the instructions to properly install the Omada Controller software. After successful installation, a shortcut icon of the Omada Controller will be created on your desktop.

1.2.2 Installation on Linux Host

Two versions of installation package are provided: **.tar.gz** file and **.deb** file. The **.tar.gz** file can be used in multiple versions of Linux operating system. And the **.deb** file can be used in Ubuntu and Debian.

Make sure your PC meets the following system requirements and then choose the proper installation files to install the Omada Controller software.

System Requirements

Operating System: 64-bit Linux operating system, including Ubuntu 14.04/16.04/17.04, CentOS 6.x/7.x, Fedora 20 (or above) and Debian 9.8.

Web Browser: Mozilla Firefox 32 (or above), Google Chrome 37 (or above), Opera 24 (or above), or Microsoft Internet Explorer 11 (or above).

Install the Omada Controller

Download the installation file of Omada Controller from our website *https://www.tp-link.com/en/download/EAP-Controller.html.*

Make sure you have **jsvc** and **curl** installed in your system before installation, which is vital to the smooth running of the system. If your system does not have **jsvc** or **curl** installed, you can install it manually with the command: **apt-get install** or **yum install.** For example, you can use the command: **apt-get install jsvc** or **yum install jsvc** to get **jsvc** installed. And if dependencies are missing, you can use the command: **apt-get -f install** to fix the problem.

Install the *.tar.gz file*

Follow the steps below to install Omada Controller on your Linux PC:

1. Make sure your PC is running in root mode. You can use this command to enter root mode:

   sudo

2. Extract the tar.gz file using the command:

   tar zxvf Omada_Controller_v3.0.5_linux_x64_targz.tar.gz

3. Install Omada Controller using the command:

   sudo./install.sh

Install the *.deb file*

Follow the steps below to install Omada Controller on your Linux PC:

1. Make sure your PC is running in root mode. You can use this command to enter root mode:

   sudo

2. Install the .deb file using the command:

   dpkg -i Omada_Controller_v3.0.5_linux_x64.deb

Tips:

- For installing the **.tar.gz**, if you want Omada Controller to run as a user (it runs as root by default) you should modify OMADA_USER value in bin/control.sh.
- To uninstall Omada Controller, go to the installation path: /opt/tplink/EAPController, and run the command: sudo ./uninstall.sh.
- During uninstallation, you can choose whether to backup the database. The backup folder is /opt/tplink/eap_db_backup.
- During installation, you will be asked whether to restore the database if there is any backup database in the folder /opt/tplink/eap_db_backup.

1.3 Inform the EAPs of the Controller Host's Address

If your Controller Host and EAPs are in the same network segment, you can skip this section.

If your Controller Host and EAPs are in different subnets, you need to install Omada Discovery Utility on a host that is in the same network segment with the EAPs. Omada Discovery Utility can help EAPs find the Controller Host.

System Requirements

Windows 7/8/10/Server

Mac OS X 10.7/10.8/10.9/10.10/10.11

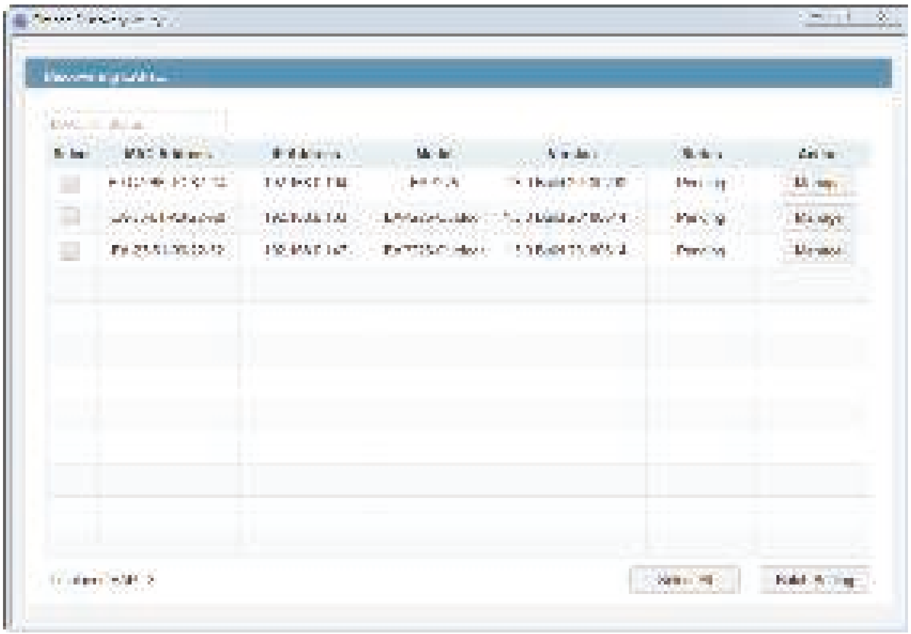
Install and Use Omada Discovery Utility

Follow the steps below to install Omada Discovery Utility and use it to inform the EAPs of the Controller Host's IP address:

1. Download the installation file with the latest version from the website https://www.tp-link.com/en/download/EAP-Controller.html#EAP_Discovery_Tool.

2. Make sure you have **JRE (Java Runtime Environment)** with version1.8 installed on your system before installation. If your system loses **JRE,** download **JRE** from the website https://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html and install it on your system.

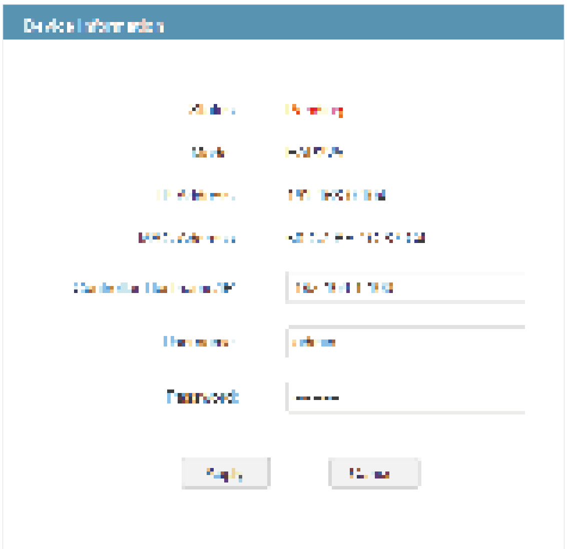
3. For Windows OS, run the **start-omada-discovery-utility.bat** to open the Omada Discovery Utility. For Mac OS, use the command **java –jar **** to open the Omada Discovery Utility. Then the following window will pop up. This window shows the information of all EAPs in the same LAN.



4. Click **Manage** in the **Action** column or select multiple EAPs and click **Batch Setting**.

5. Enter the hostname or IP address of the Controller Host.

6. Enter the EAP’s username and password (both are admin by default).



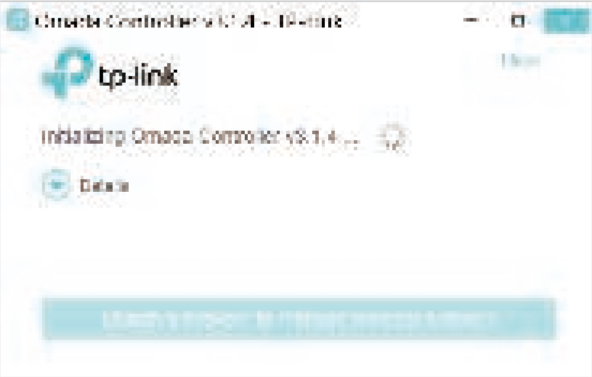
7. Click **Apply** to inform the EAP of the Controller Host's hostname or IP address. And then the connection can be established between the EAP and the Controller Host.

1.4 Start and Log In to the Omada Controller

Launch Omada Controller and follow the instructions to complete the basic configurations, and then you can log in to the management interface.

1.4.1 Launch Omada Controller

Double click the icon and the following window will pop up. You can click **Hide** to hide this window but do not close it. After a while, your web browser will automatically open.



Initializing Omada Controller v3.1.4 ...

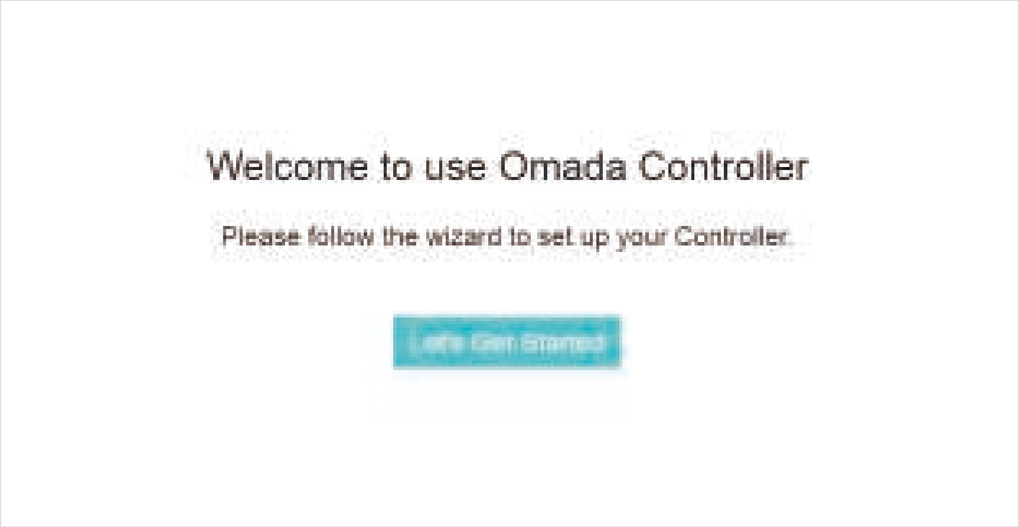
Note:

- If your browser does not open automatically, click **Launch a Browser to Manage Wireless Network**. You can also launch a web browser and enter http://127.0.0.1:8088 in the address bar.
- If your web browser opens but prompts a problem with the website's security certificate, click **Continue**.
- Only one Omada Controller can run in a LAN. If an Omada Controller has already been running on a host that is in your LAN, you will be redirected to the Omada Controller interface on that host.

1.4.2 Do the Basic Configurations

In the web browser you can see the configuration page. Follow the setup wizard to complete the basic settings for Omada Controller.

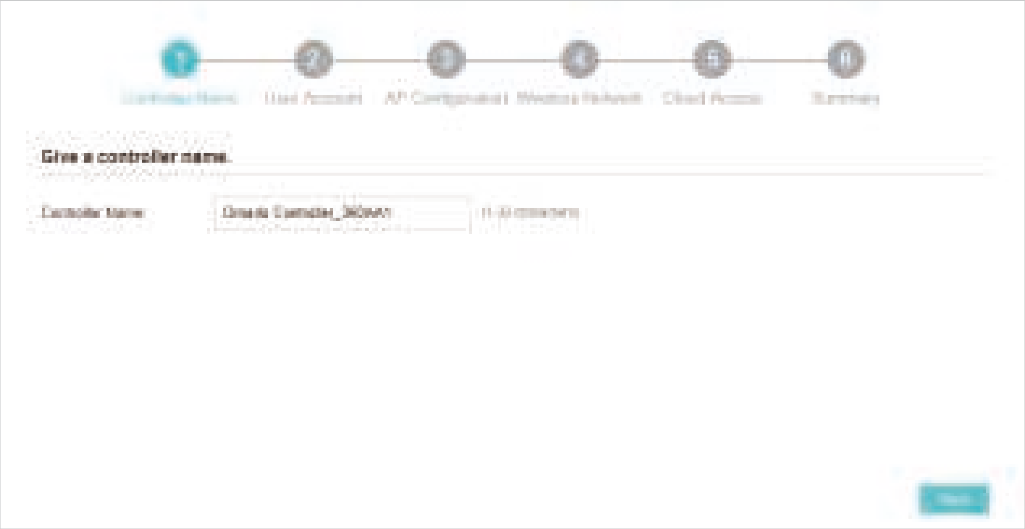
1. Click **Let's Get Started.**



Welcome to use Omada Controller

Please follow the wizard to set up your Controller.

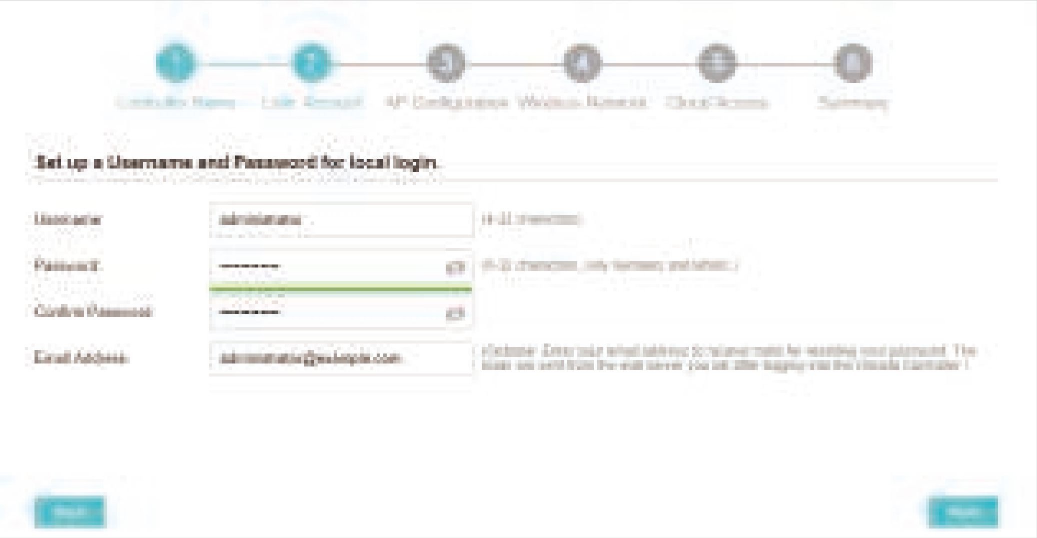
2. Specify a name for Omada Controller. Click **Next.**



Give a controller name.

Controller Name: Omada Controller_36D4A1 (1-32 characters)

3. Specify a username and password for the login account. Specify the email address for resetting your password in case that you forget the password. After logging in Omada Controller, set a mail server so that you can receive emails and reset your password. For how to set a mail server, refer to Configure Mail Server. Click **Next.**



Set up a Username and Password for local login.

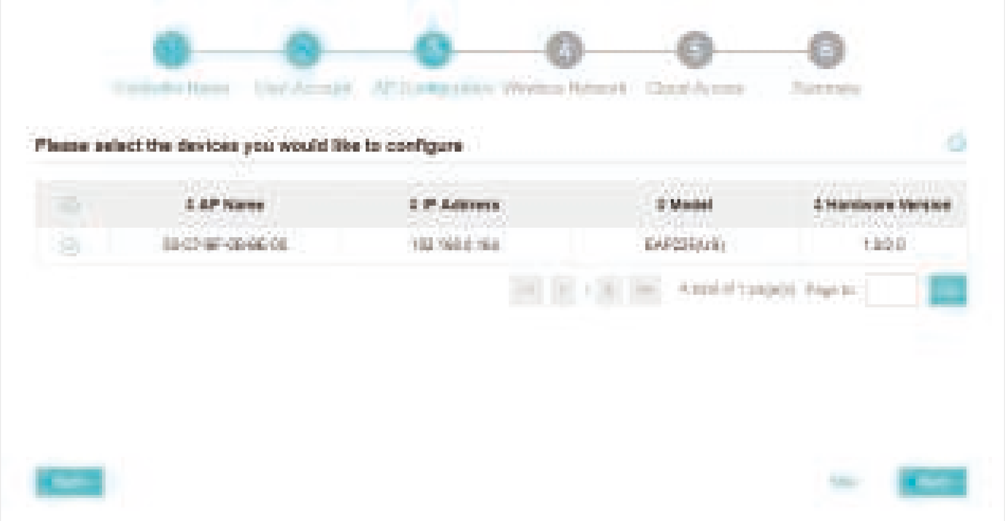
Username: administrator

Password: --------

Confirm Password: --------

Email Address: administrator@example.com

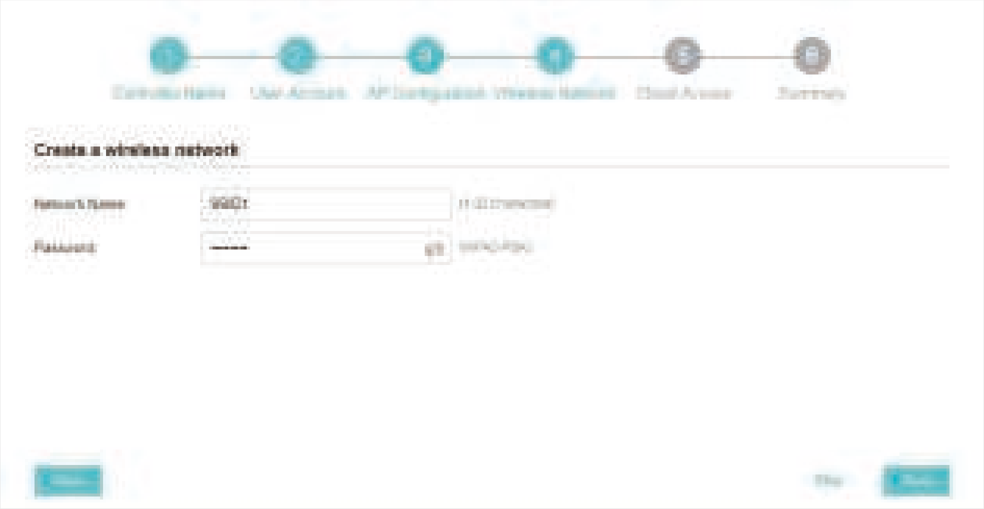
4. The setup page displays all the detected EAPs in the network. Select one or more EAPs to be managed and click **Next**.



Please select the devices you would like to configure

	AP Name	IP Address	Model	Hardware Version
○	[illegible]	[illegible]	EAP225(US)	[illegible]

5. Set an SSID name (wireless network name) and password for the EAPs to be managed. Omada Controller will create two wireless networks, a 2.4GHz one and a 5GHz one, both encrypted in WPA2-PSK mode. Click **Next**.

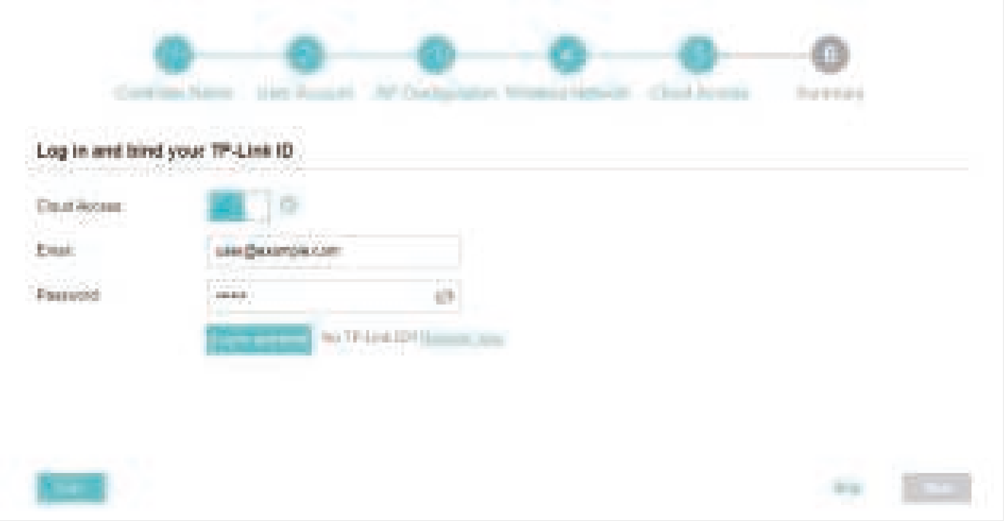


Create a wireless network

Network Name: SSID1

Password: ••••••

6. If you want to manage EAPs via Omada Cloud, enable the **Cloud Access** button, and bind your TP-Link ID to your Omada Controller, and then click **Next.** If you want to manage EAPs on the local network, you can just click **Skip.** For more details about Omada Cloud, please refer to Omada Cloud Service in chapter 4.



Log in and bind your TP-Link ID

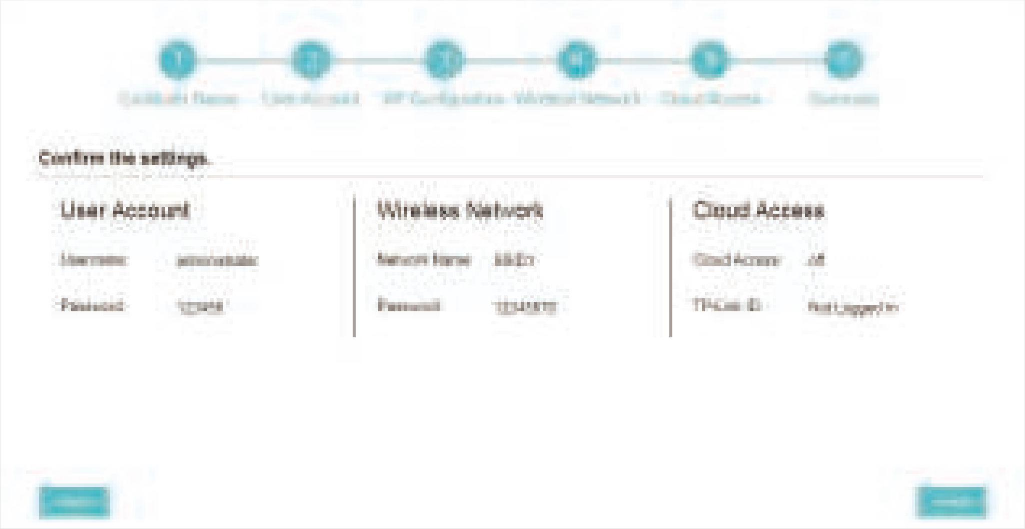
Cloud Access:

Email: user@example.com

Password: ••••

No TP-Link ID?

7. Review your settings and click **Finish.**



Confirm the settings.

User Account

Username [illegible]

Password 123456

Wireless Network

Network Name [illegible]

Password 12345678

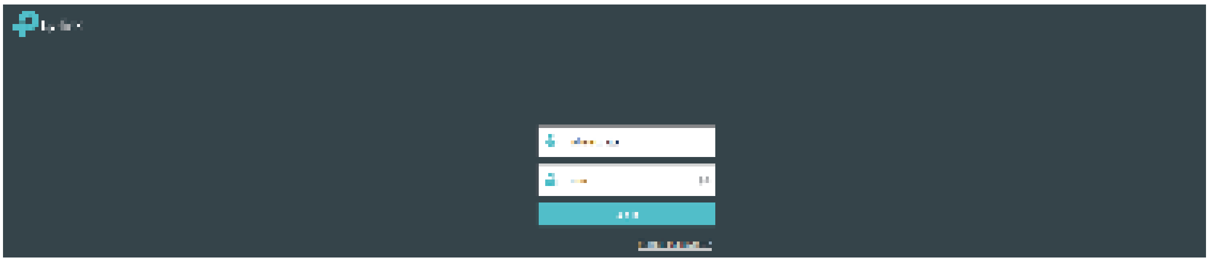
Cloud Access

Cloud Access Off

TP-Link ID Not Logged In

1.4.3 Log In to the Management Interface

Once the basic configurations are finished, the browser will be redirected to the following page. Log in to the management interface using the username and password you have set in the basic configurations.



Note:

In addition to the Controller Host, other hosts in the same LAN can also manage EAPs via remote access to the Controller Host. For example, if the IP address of the Controller Host is 192.168.0.100 and Omada Controller is running normally on this host, you can enter **https://192.168.0.100:8043/login**, or **https://192.168.0.100:8043**, or **http://192.168.0.100:8088** in the web browser of other hosts in the same LAN to log in to the Omada Controller and manage EAPs. Or you can log in to Omada Controller on the management devices through Omada Cloud service.

1.5 Create Sites and Adopt EAPs

Omada Controller can manage multiple EAP networks, which are called sites. Multiple sites are logically separated, and each site has its own configurations. There is an initial site named **Default**. The **Default** site cannot be deleted. If you have no need to manage EAPs with different sites, you can edit the default site and skip the **Create Sites** section. However, **Adopt the EAPs** is a necessary step to manage the EAPs.

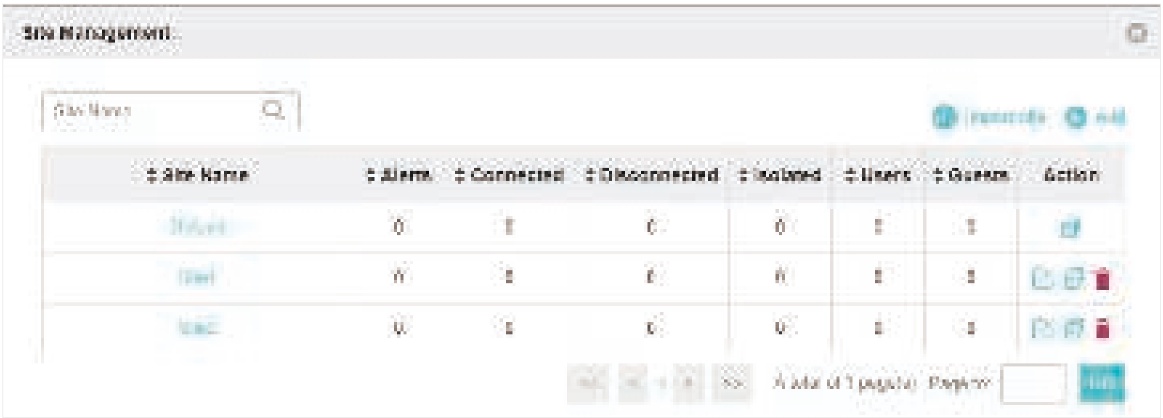
1.5.1 Create Sites

There are three methods to create sites: Add sites, Import sites, and Copy sites. Determine the method according to your need and refer to the following introductions to create sites.

Add Sites

Follow the steps below to add a new site directly.

1. Click Sites: Default in the top left corner of the page and select Site Manager, and then the following window will pop up.

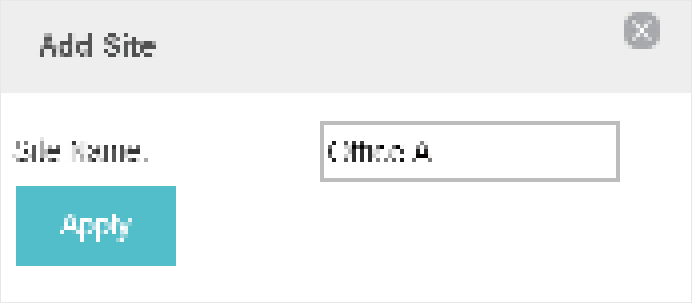


Site Management

⇕ Site Name	⇕ Alerts	⇕ Connected	⇕ Disconnected	⇕ Isolated	⇕ Users	⇕ Guests	Action
Default	0	1	0	0	1	1	
[illegible]	0	1	0	0	1	1	
[illegible]	0	1	0	0	1	1	

A total of 1 page(s) Page to: GO

2. Click Add and enter a unique name for the new site.



Add Site

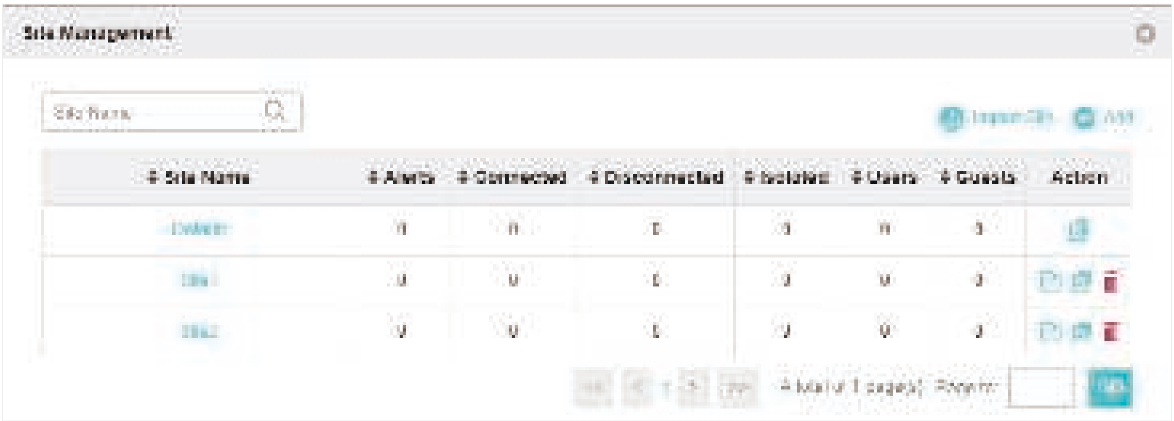
Site Name: Office A

3. Click **Apply** to create the site.

Import sites

You can import the site from another controller. The site settings and EAPs in the site will be imported to the new site. Note that the site to be imported must come from a different controller.

1. Click Sites: Default in the top left corner of the page and select Site Manager, and then the following window will pop up.



Site Management

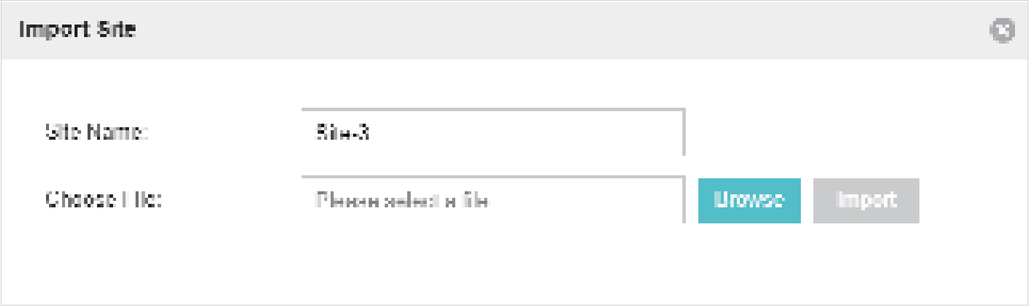
Site Name

Import Site Add

⇕ Site Name	⇕ Alerts	⇕ Connected	⇕ Disconnected	⇕ Isolated	⇕ Users	⇕ Guests	Action
Default	0	0	0	0	0	0	
Site1	0	0	0	0	0	0	
Site2	0	0	0	0	0	0	

A total of 1 page(s) Page to: GO

2. Click Import Site and enter a unique name for the new site.



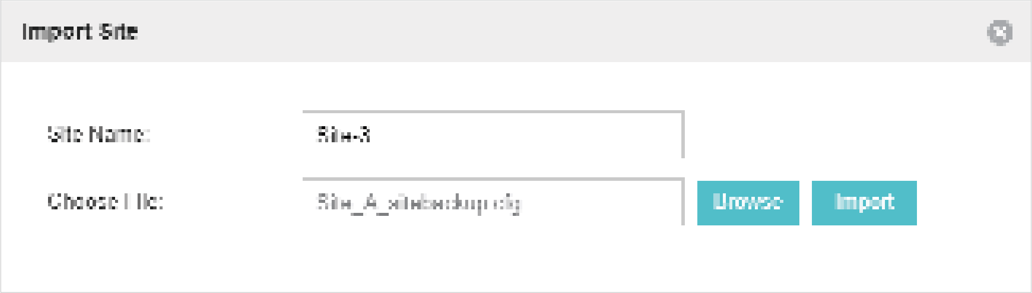
Import Site

Site Name: Site-3

Choose File: Please select a file

Browse Import

3. Click **Browse** to upload the backup file of other site and click **Import** to import the site.



Import Site

Site Name: Site-3

Choose File: Site_A_sitebackup.cfg

Browse Import

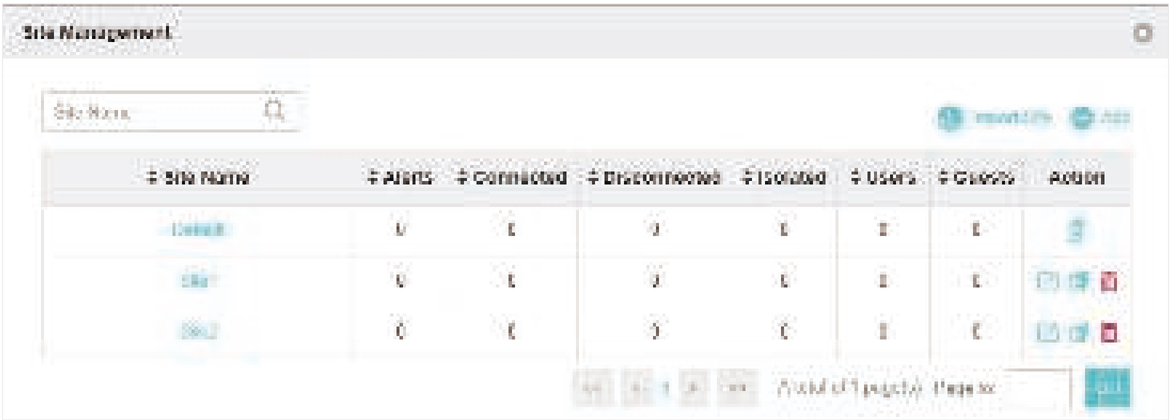
Tips:

To export sites (including site settings and EAPs in the sites) from one controller to another, use the **Migrate** function. For more details about **Migrate,** refer to Migrate.

Copy Sites

With **Site Copy**, you can create a new site with the same settings as the existing sites on your controller. Note that only Note that only the site settings will be copied. The EAPs will be still managed at the original site.

1. Click Sites: Default ⌄ in the top left corner of the page and select Site Manager, and then the following window will pop up.



Site Management

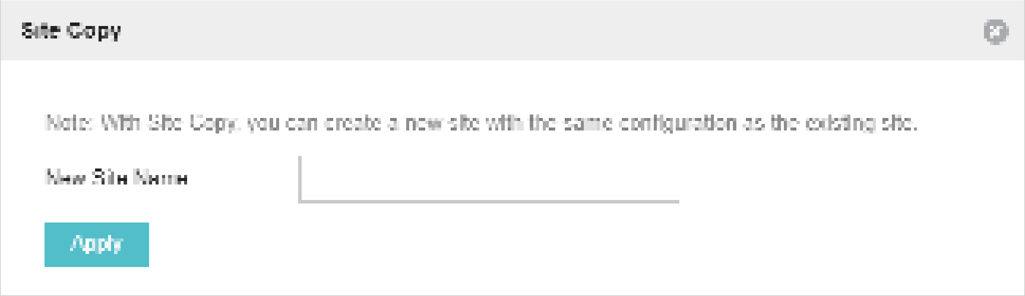
Site Name

Import Site Add

⇕ Site Name	⇕ Alerts	⇕ Connected	⇕ Disconnected	⇕ Isolated	⇕ Users	⇕ Guests	Action
Default	0	0	0	0	0	0	
Site1	0	0	0	0	0	0	
Site2	0	0	0	0	0	0	

Total of 1 page(s) Page to GO

2. Select a site that you want copy all the settings and click ▤ in the **Action** column. Then enter a unique name for the new site.



Site Copy

Note: With Site Copy, you can create a new site with the same configuration as the existing site.

New Site Name

Apply

3. Click **Apply** to create the site.

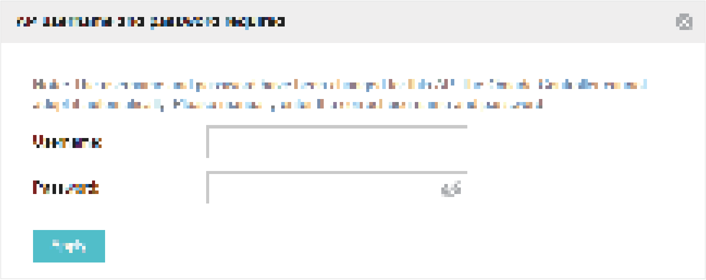
1.5.2 Adopt the EAPs

Omada Controller can discover all EAPs currently connected in the network and display their connection status. All EAPs are in **Pending** status when first discovered by Omada Controller. To manage the EAPs, you need to adopt them. In the quick setup process, Omada Controller will automatically adopt the selected EAPs using the default username and password (both are admin). However, if you have changed the username or password of your EAPs before, Omada Controller cannot automatically adopt them, and you need to refer to the following steps to adopt them manually.

To ensure that all EAPs are adopted, follow the steps below:

1. Select a site and go to **Access Points > Pending.** The table displays all the EAPs that have not been adopted.

2. Click the **Retry** button in the **Action** column and enter the current username and password of the EAP. Click **Apply**.



Tips:

- If you have a new discovered EAP, you can click the **Adopt** button in the **Action** column to adopt the EAP. Omada Controller will automatically adopt the EAP using the default username and password (both are admin).
- If you have multiple new discovered EAPs, and all of them have the default username and password (both are admin), you can click the **Batch Adopt** button to adopt them in batch. But if there are any EAPs with the Retry button, it means that the username and password of these EAPs have been changed. You need to first adopt them before batch adopt the rest EAPs.

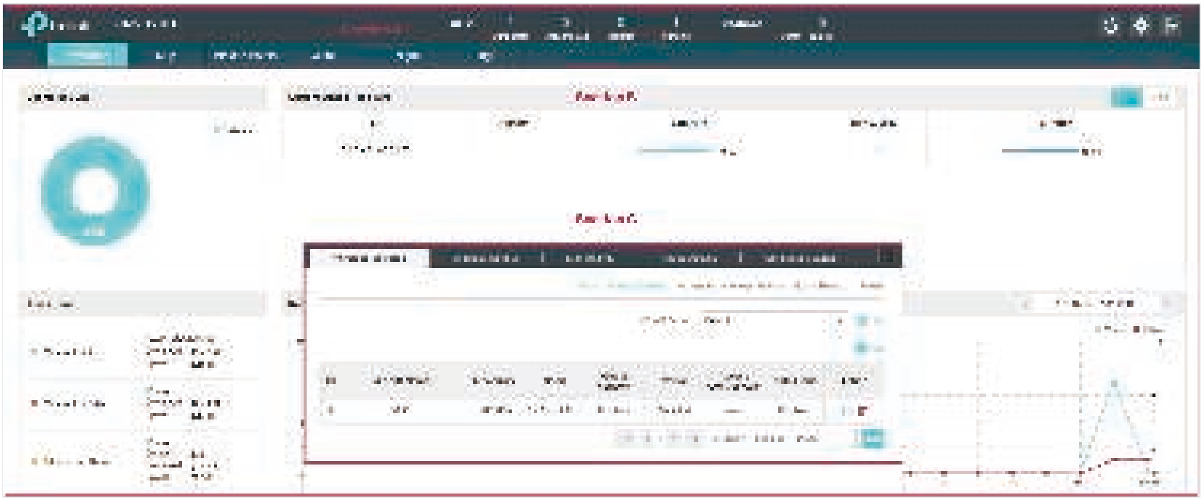
3. After EAPs are adopted, the status will change from **Pending** to **Connected.** All the EAPs' username and password will become the same as those of the Controller's administrator account you created in the Basic Configuration.

Tips:

If you want to change the EAPs' username and password, refer to Device Account.

1.6 Monitor and Manage the EAPs

When all the configurations above are finished, you can centrally monitor and manage the EAPs via the Omada Controller's management interface. The management interface is divided into three sections as the following figure shows.



Section A	In Section A, you can check the status of EAPs and clients in the network. Also, you can click ⟳ to refresh the current page, click ⚙ to globally configure the wireless network, and click ⇥ to sign out from the management interface. Furthermore, the **Sites** allows you to group your EAPs and manage them in batches. To configure sites, refer to Create Sites.
Section B	In Section B, you can centrally monitor the EAPs and clients.
Section C	In Section C, you can globally configure the wireless network. The global configurations will take effect on all the adopted EAPs.

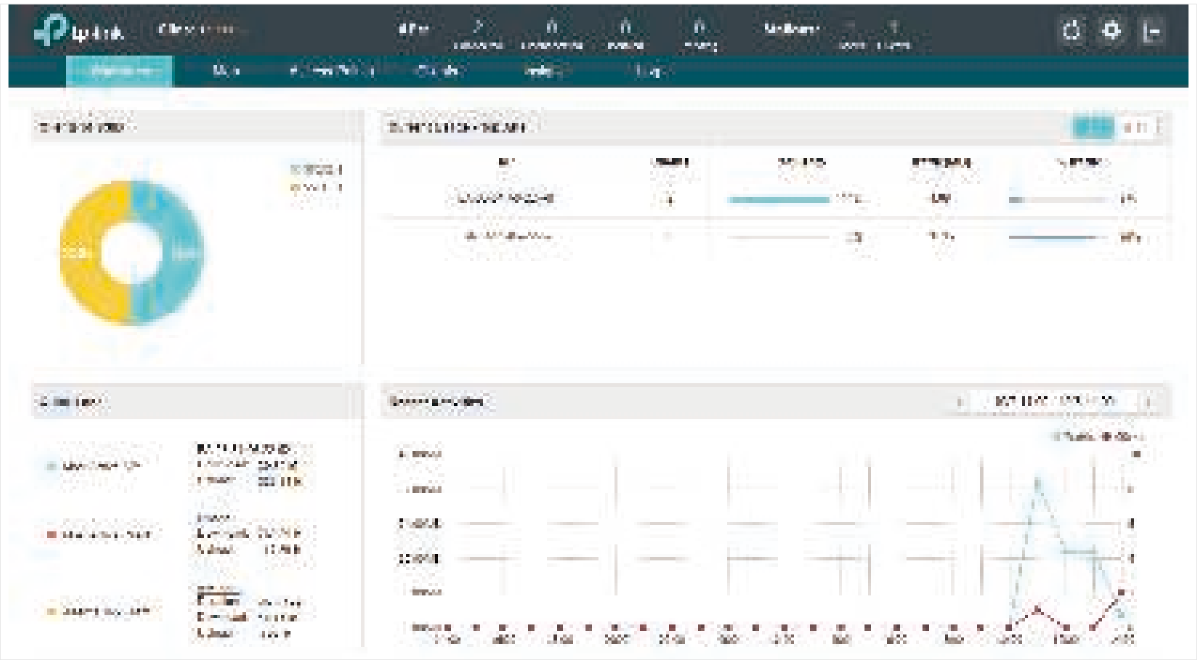
2 Monitor and Manage the Network

With Omada Controller you can monitor the EAPs and centrally manage your wireless network. This chapter includes the following sections:

- View the Statistics of the Network
- Monitor the Network with the Map
- Monitor and Manage the EAPs
- Monitor and Manage Clients
- View Clients Statistics during the Specified Period
- Manage the Rogue APs List
- View Past Guest Authorization
- View Logs

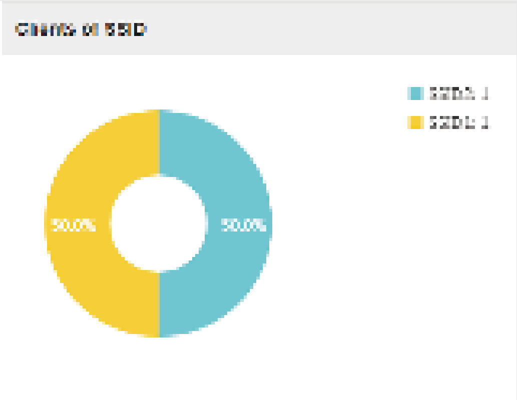
2.1 View the Statistics of the Network

Omada Controller collects all statistics of the managed EAPs and displays the statistical information via graphs, pie charts and tables, providing an overview of your wireless network.



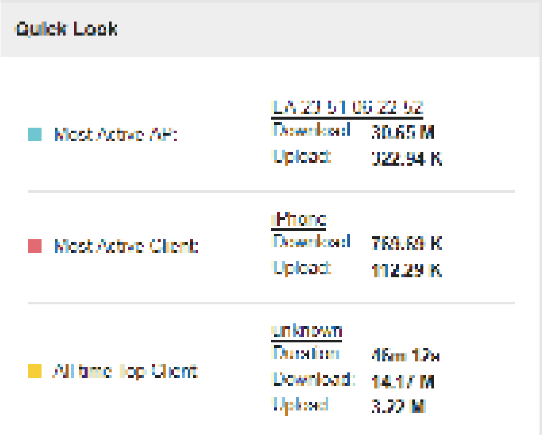
2.1.1 View the Client Distribution on SSID

A visual pie chart shows the client distribution on each SSID. For example, the SSID1 has one client, which occupies 50% of all the clients.



2.1.2 Have a Quick Look at EAPs and Clients

This tab displays the **Most Active AP**, the **Most Active Clients** and the **All-Time Top Client**. You can click the MAC address of the EAP or the client to see more details.



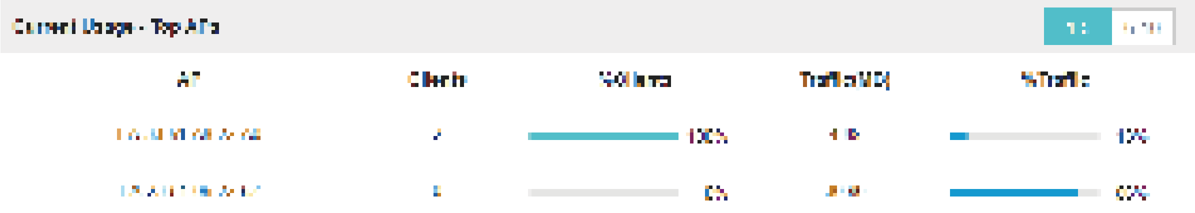
Quick Look

🟦 Most Active AP:	LA 23 51 06 22 52 Download 30.65 M Upload 322.94 K
🟥 Most Active Client:	iPhone Download 768.68 K Upload 112.29 K
🟨 All time Top Client:	unknown Duration 46m 12s Download: 14.17 M Upload 3.22 M

Most Active AP	The current connected AP with the maximum traffic.
Most Active Client	The current connected client with the maximum traffic.
All-time Top Client	The client with the maximum traffic among all the clients that have ever accessed the EAP network.

2.1.3 View Current Usage-Top EAPs

This tab lists the number of connected clients and the data traffic condition of the ten APs that use the most traffic currently.



Current Usage - Top APs

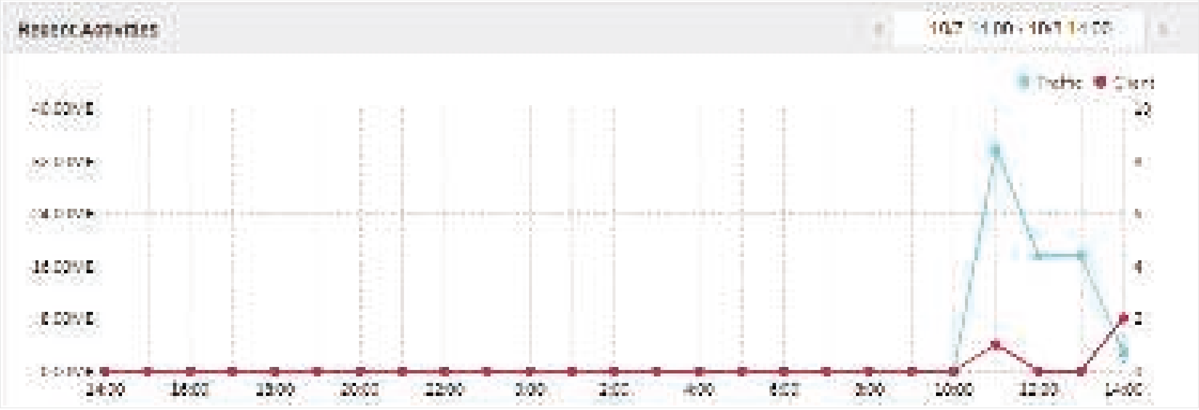
AP	Clients	%Clients	Traffic(MB)	%Traffic
[illegible]	[illegible]	100%	[illegible]	10%
[illegible]	[illegible]	0%	[illegible]	90%

Clients	The amount of clients connected to this EAP.
%Clients	The proportion of current connected clients to the Top EAPs' total client amount.
Traffic (MB)	The total amount of data transmitted by this EAP, which equals the sum of the transmission traffic of all the current clients that connect to the AP.
%Traffic	The proportion of the EAP's current data transmission amount to the Top EAPs' total transmission amount.

2.1.4 View Recent Activities

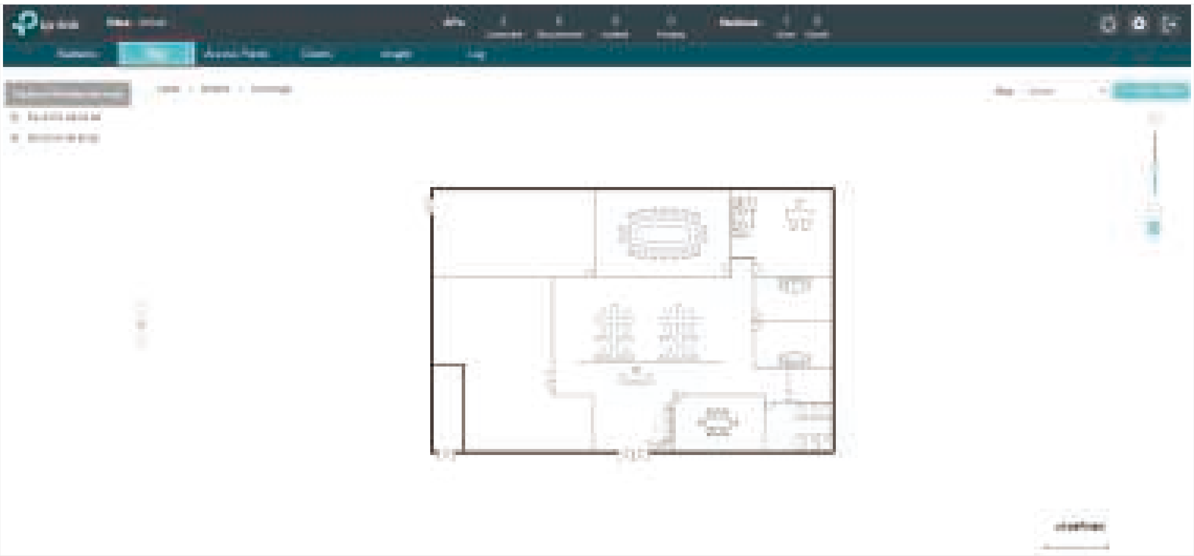
The **Recent Activities** statistics can be toggled between a view for the past specific 24 hours and one for the past specific 30 days.

The left ordinate axis indicates the traffic and the right one represents the number of the clients. The abscissa axis shows the selected time period. **Traffic** indicates a visual graph of the network traffic during the selected time period. **Client** indicates a visual graph of the number of the connected clients during the selected time period. For example, the statistics information at 15:00 indicates the traffic size and client number from 14:00 to 15:00. In the following figure, at 11 o’clock, the traffic is about 34MB and there is 1 clients connected to the AP.



2.2 Monitor the Network with the Map

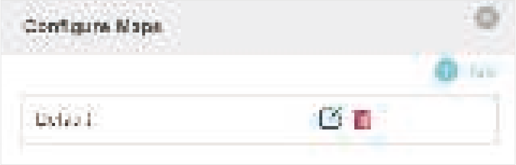
You can upload your local map images and monitor the status and coverage range of each EAP with the map. When you initially launch Omada Controller, a default map is displayed as the following figure shows. Follow the instructions below to add your own map and manage the EAPs via the map.



2.2.1 Add a Map

Prepare a map image in .jpg, .jpeg, .gif, .png, .bmp, .tiff format. And then follow the steps below to add the map to the Omada Controller.

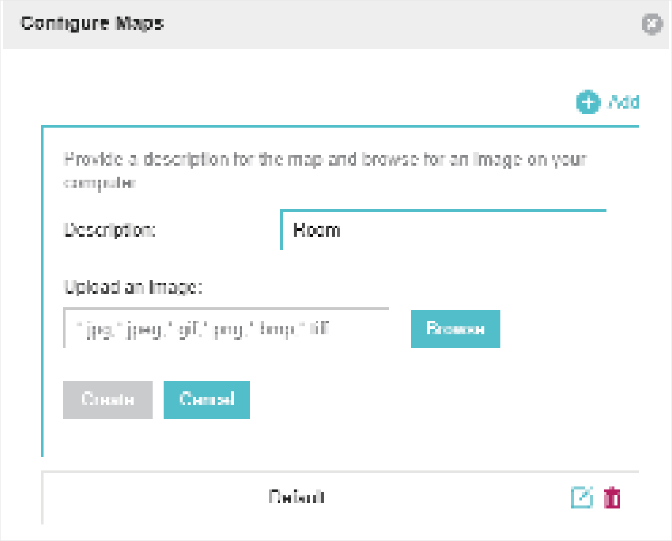
1. Click **Configure Maps** on the upper right corner of the Map page and click **Add.**



Configure Maps

Default

2. Enter the map description, select your map image, and click **Create**.



Configure Maps

Provide a description for the map and browse for an image on your computer

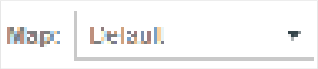
Description: Room

Upload an Image:

.jpg,.jpeg,*.gif,*.png,*.bmp,*.tiff

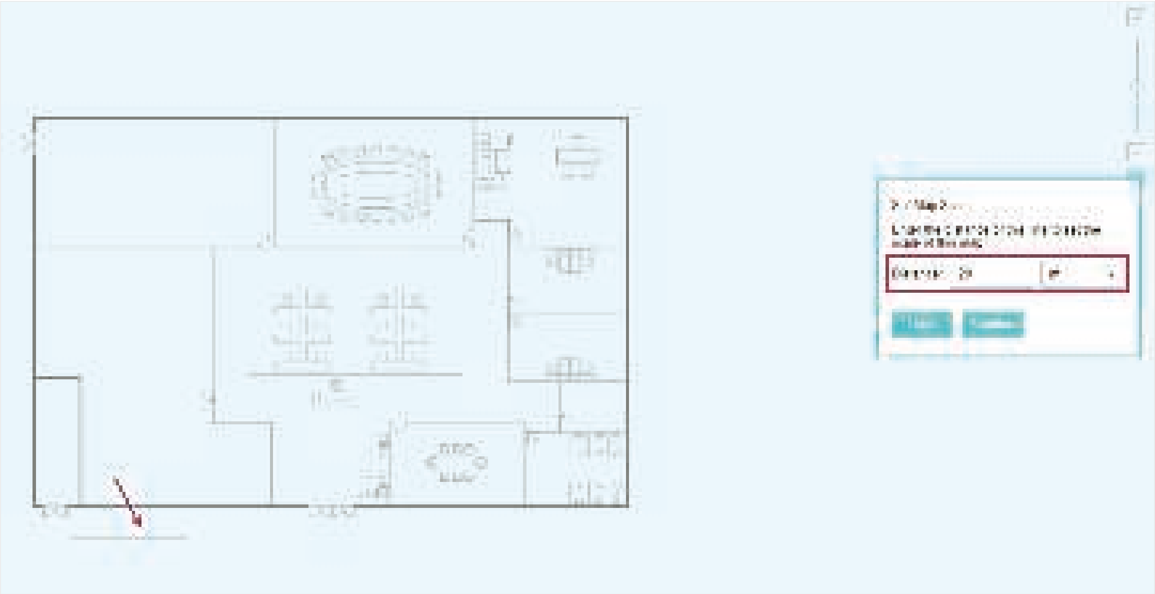
Default

3. Select your local map from the drop-down list on the upper right corner of the map area.



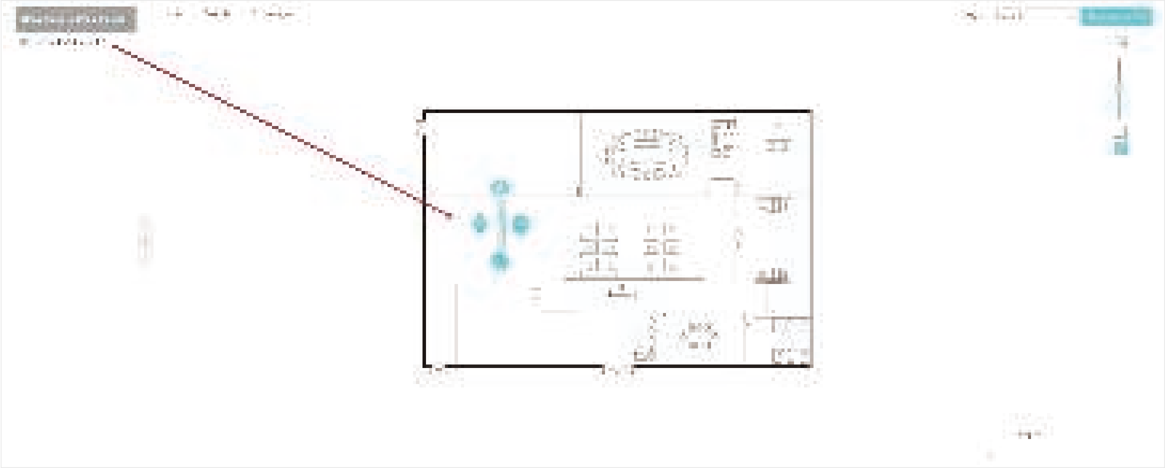
Map: Default

4. Click ✎ . Draw a line on the map and enter the distance the line represents. Then the Omada Controller will compute and generate the map scale automatically based on your configuration.

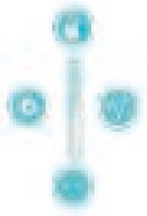


Distance: 20

5. Drag the EAPs from the **Unplaced APs** list to the appropriate locations on the map according to their actual locations.



You can click | to reveal additional options:



🔒	Lock the selected EAP in the current location on the map.
🔓	Unlock the selected EAP and you can drag it to another location.
⚙	Display the EAP's details and configure the wireless parameters. Refer to Configure the EAPs Separately.
⊖	Remove the selected EAP back into the Unplaced APs list.
✓	Flash the LED of the EAP on the map. Then the LED will flash for 10 minutes or until the cancel button is clicked again.
■	Click the button to stop the LED from flashing.

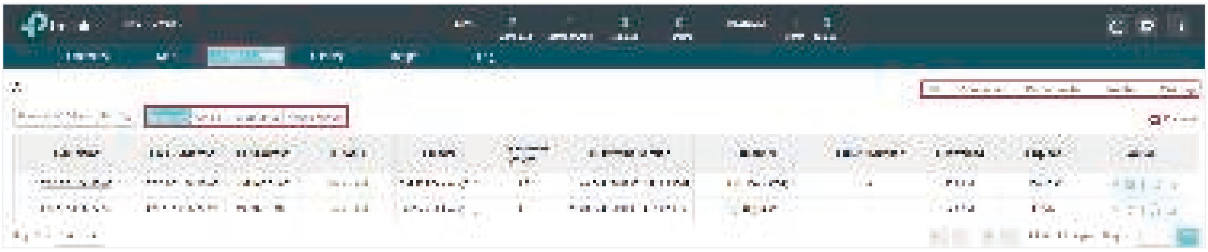
2.2.2 Monitor the EAPs on the Map

Click any of the following options to display EAP Label, Details, and Coverage on the map.

Label	Display the EAP’s name. The default name is the MAC address of the EAP.
Details	Display the EAP’s name, MAC address, IP address, transmitting/receiving channel, number of connected users, and number of connected guests.
Coverage	Display a visual representation of the wireless range covered by EAPs. The actual signal coverage may be smaller than the visual coverage on the map because the obstacles around the EAPs will weaken the signal.

2.3 Monitor and Manage the EAPs

Omada Controller can discover all the EAPs currently connected to the network and display the information of them on the **Access Points** page.



2.3.1 Manage the EAPs in Different Status

According to their connection status, EAPs are divided into four categories: **Connected**, **Disconnected**, **Isolated** and **Pending.** You can view the EAPs in different status on different pages:

All	Displays the information of all EAPs in different status.
Connected	Displays the connected EAPs. The status of connected EAPs includes two cases: **Connected** and **Connected (Wireless)**. **Connected:** After you adopt a wired EAP in Pending status, its status will become Provisioning, then Configuring and Connected eventually. **Connected (Wireless)**: In a mesh network, if an EAP has a successful wireless uplink, its status will become Adopting (Wireless) and then Connected (Wireless). Only connected EAPs can be managed. A connected EAP will turn into a pending one after you **forget** it. You can refer to Forget this AP to forget an EAP or click **Forget All** on the page to forget all the connected EAPs.
Disconnected	Displays the disconnected EAPs. If a connected EAP powers off or disconnects from the Omada Controller, it will be in Disconnected status. When a disconnected EAP is reset to factory defaults or forgot, it will turn into a pending one again. You can refer to Forget this AP to forget a EAP or click **Forget All** on the page to forget all the disconnected EAPs.
Isolated	Displays the isolated EAPs. In a mesh network, when the EAP which has been managed before by Omada Controller connects to the network wirelessly and cannot reach the gateway, it goes into the Isolated state. The isolated EAP searches for wireless uplink and the LED on the device turns green and flashes off every 5 seconds. To know more about mesh network, refer to Configure Mesh.

Pending	Displays the pending EAPs. The status of pending EAPs includes three cases: **Pending**, **Pending (Wireless)** and **Managed by others**. **Pending:** All the EAPs with wired network connection are in pending status by default when first discovered by Omada Controller. **Pending (Wireless):** The factory default EAP with mesh functions and no wired network connection is in Pending (Wireless) status when first discovered by Omada Controller. **Managed by others:** An EAP is located on the same network as the controller, but has been already managed by an existing controller before. You can provide the username/password to unbind the EAP from the existing controller and begin adoption in current controller. Only after pending EAPs are adopted and connected, you can manage them. To adopt pending EAPs, refer to Adopt the EAPs.

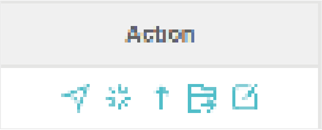
2.3.2 View the Detailed Information of EAPs

You can click **Overview**, **Config**, **Performance** or **Mesh Network** tab to view different detailed information of EAPs.

Overview	Displays the EAP's name, MAC address, IP address, status, model, hardware version, firmware version, channel number of connected clients and download/upload bytes.
Config	Displays the EAP’s name, MAC address, IP address, status, model, hardware version, firmware version, WLAN Group bounded with the 2G and 5G of the EAP, and radio of the 2G and 5G.
Performance	Displays the EAP’s name, MAC address, IP address, status, model, hardware version, firmware version, number of connected 2G clients and 5G clients, TX(Downloaded Traffic), RX(Uploaded Traffic), TX 2G and TX 5G.
Mesh Network	Displays the EAP’s name, MAC address, IP address, status, model, hardware version, firmware version, number of connected clients, hops, uplink APs and downlink APs.

2.3.3 Manage the EAPs in the Action Column

You can execute the corresponding operation to the EAP by clicking an icon in the **Action** column.



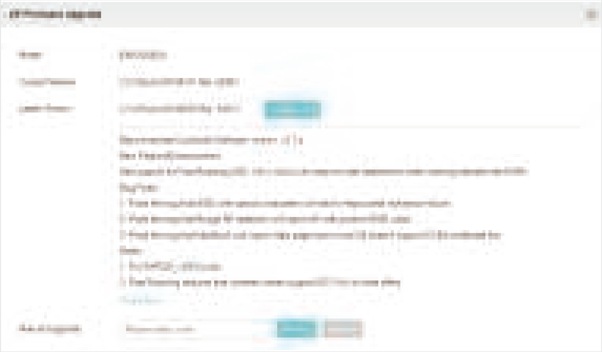
➤	Locate the EAP in the map.
✲	Reboot the EAP.

Upgrade the EAP.

Two options are available for upgrading: upgrade online and upgrade manually.

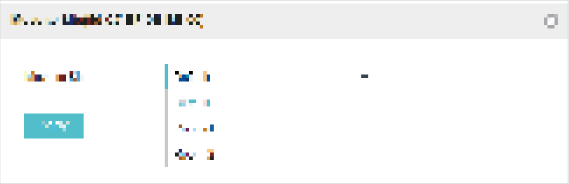
Upgrade online: With Cloud Access enabled on the controller and a TP-Link ID bound with the controller, the latest firmware for the EAP can be detected by the controller automatically. And you can upgrade the EAP online by clicking **Upgrade Now**. For more details about Cloud Access, refer to Omada Cloud Service.

Upgrade manually: Click **Browse** to locate and choose the upgrade file in your computer, then click **Upgrade** to install the latest EAP firmware. The Status will appear as **Upgrading** until the process is complete and the EAP reconnects to the Omada Controller.



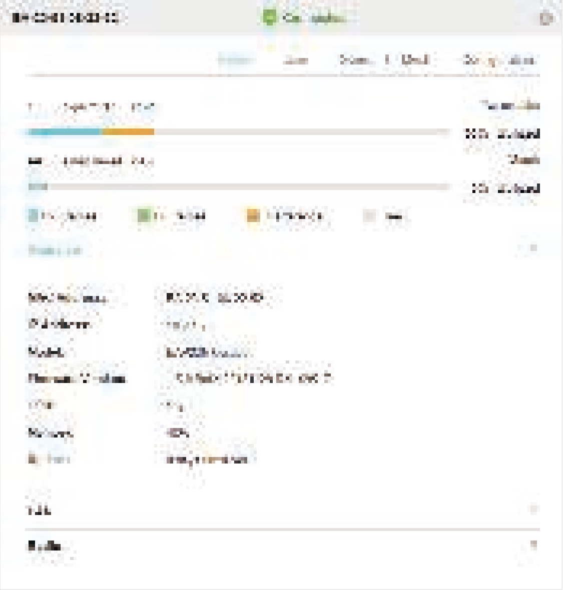
Move the EAP to a site.

Select a site that has been created and click **Apply**. You can group all the EAPs by this way and centrally manage them on each site.



Configure the EAP.

For detailed instructions about how to configure the EAP on this window, refer to Configure the EAPs Separately.

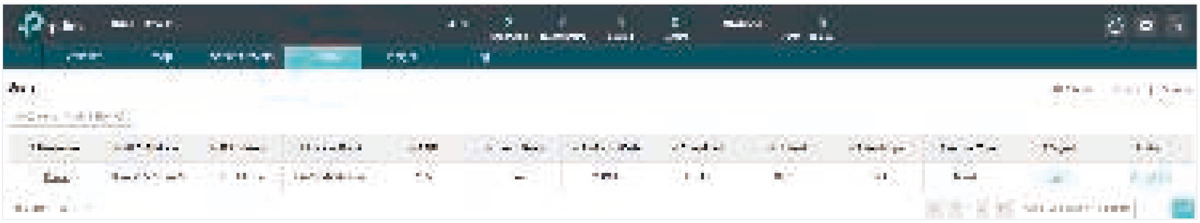


Note:

- Only managed EAPs can be rebooted or upgraded.
- The EAP which is managed by the controller can not be logged in to its own management interface. To log in to the EAP's own management interface, forget the EAP in the controller first.

2.4 Monitor and Manage Clients

The **Clients** tab displays the clients connected to the EAP network.



2.4.1 View the Current Information of Clients

The clients are divided into two types: User and Guest. Users are the clients connected to the EAP wireless network without the Portal Authentication. Guests are the clients connected to the EAP wireless network with the Portal Authentication.

You can click the following tabs to respectively view the detailed information of users and guests.

All Clients Users Guests

All Clients	The page displays the information of all clients including users and guests.
Users	The page displays the information of Users.
Guests	The page displays the information of Guests.

2.4.2 Manage Clients in the Action Column

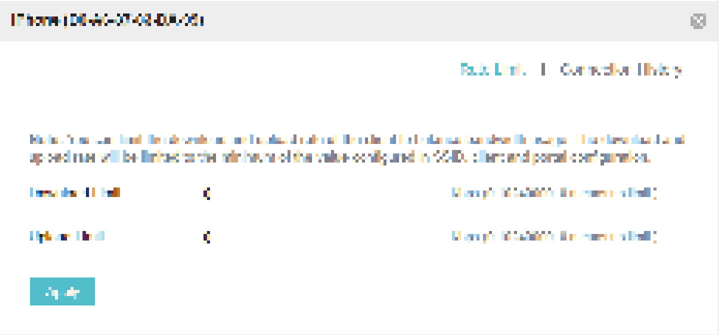
You can execute the corresponding operation to the EAP by clicking an icon in the **Action** column:

Action

🔗	Reconnect the client to the network.
⊘	Restrict the client's access to the network.

Configure the rate limit of the client and view the connection history.

Enter the download limit and upload limit and click **Apply**.



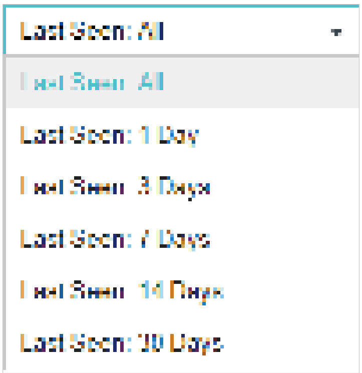
If the client is a Guest, you can click this icon to cancel the authorization for it.

2.5 View Clients Statistics During the Specified Period

The **Clients Statistics** page under the **Insight** tab displays the information of clients that have connected to the EAPs network during a specified period.

2.5.1 Select a Specified Period

Select a period from the drop-down menu. Then the page will display clients that have connected to the EAPs network during the period.



2.5.2 View the History Information of Clients

You can click the client's MAC address to get its connection history and configure the Rate Limit feature for this client. In addition, you can click the following tabs to view the information of different types of clients:

All	The page displays the history information of all the clients.
User	The page displays the history information of Users. Users are the clients connected to the EAP wireless network without the Portal Authentication.
Guest	The page displays the history information of Guests. Guests are the clients connected to the EAP wireless network with the Portal Authentication.
Blocked	The page displays the clients that have been blocked.
Rate Limited	The page displays the clients that have been limited upload or download rate.

All	The page displays the history information of all clients.
Offline Only	The page displays the history information of the off-line clients.

2.5.3 Manage Clients in the Action Column

You can execute the corresponding operation to the EAP in the **Action** column:

⊘	Block the client's access to the network.
↻	Resume the client's access.
✎	Configure the rate limit of the client and view the connection history.
⊖	Remove the limit to the client’s upload or download rates.

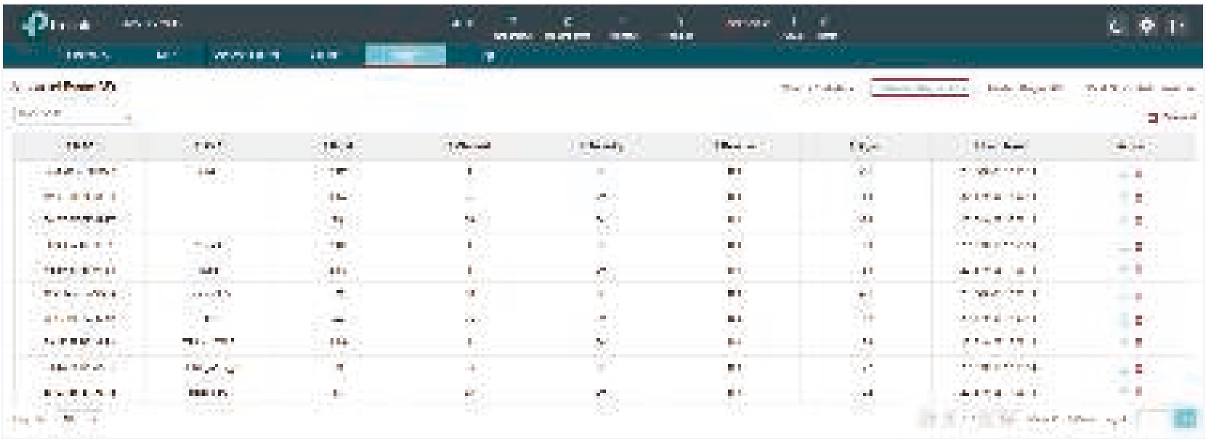
2.6 Manage the Rogue APs List

A Rogue AP is an access point that has been installed on a secure network without explicit authorization from a system administrator. The Omada Controller can scan all channels to detect all nearby EAPs. If rogue APs are detected, they will be shown on the **Untrusted Rogue APs** list. Besides, you can move the untrusted rogue APs to the **Trusted Rogue APs** list.

By default, the Rogue AP Detection feature is disabled. To allow your EAP to detect nearby APs, you need to enable this feature for this EAP. You can refer to Rogue AP Detection.

2.6.1 Manage the Untrusted Rogue APs List

The **Untrusted Rogue APs** page displays the detailed information of untrusted rogue APs.

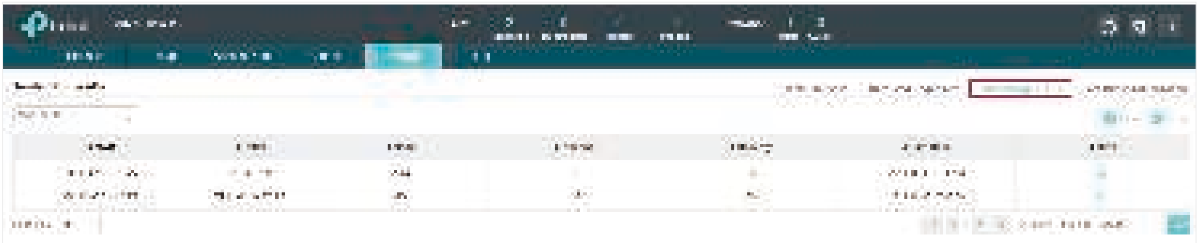


You can execute the corresponding operation to the EAP in the **Action** column:

☁	Move the untrusted rogue AP to the Trusted Rogue APs list.
🗑	Delete this record.
● Delete All	Delete all records.

2.6.2 Manage the Trusted Rogue APs List

The Trusted Rogue APs page displays the detailed information of trusted rogue APs.

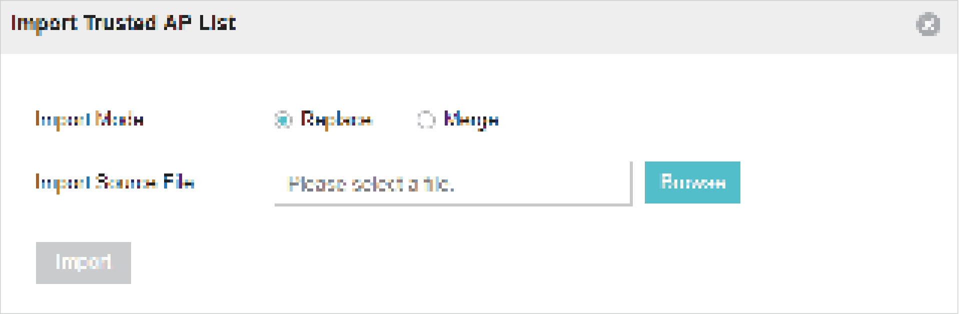


You can execute the corresponding operation to the EAP by clicking an icon in the **Action** column:

☁	Move the trusted rogue AP to the Untrusted Rogue APs list.
● Export	Export and download the current Trusted Rogue APs list and save it on your PC.

Import

Import a saved Trusted Rogue APs list. If the MAC address of an AP appears in list, it will not be detected as a rogue AP.



Import Trusted AP List

Import Mode ● Replace ○ Merge

Import Source File Please select a file. Browse

Import

Please follow the steps below:

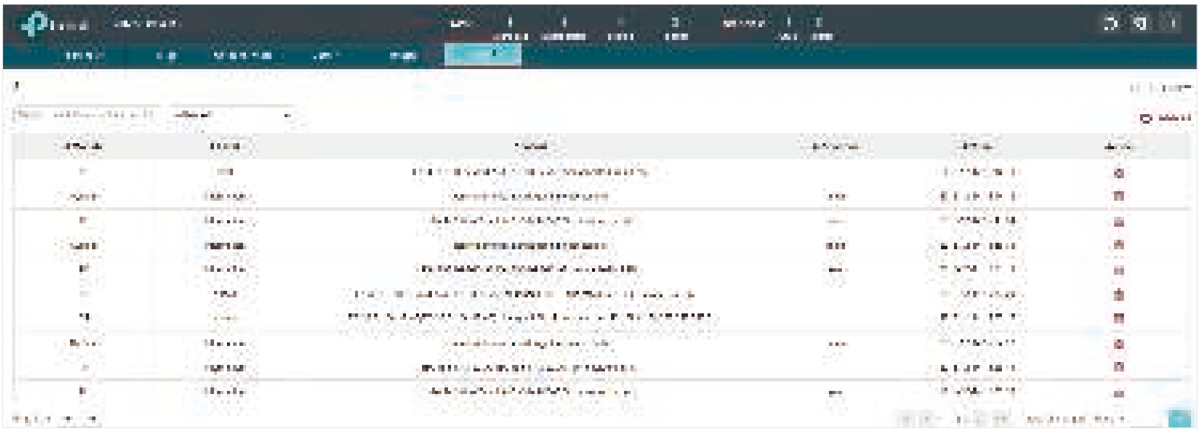
1. Select **Replace** (replace the current Trusted Rogue APs list with the one you import) or **Merge** (add the APs in the file to the current Trusted Rogue APs list).
2. Click **Browse** to locate the file and choose it.
3. Click **Import** to import the Trusted Rogue APs list.

2.7 View Past Guest Authorization

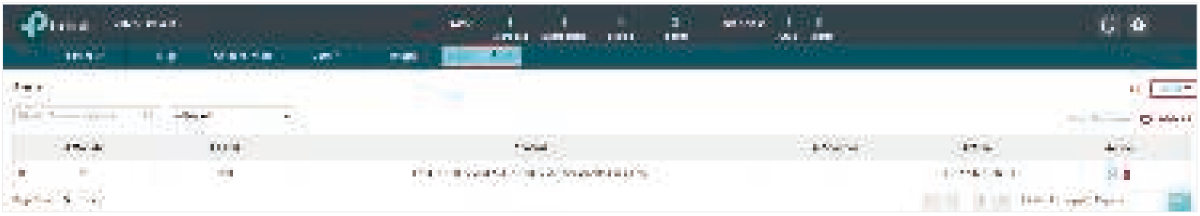
The Past Guest Authorization page displays the details about all the clients that accessed the network during a certain time period. You can select a period in the drop-down list.

2.8 View Logs

The logs of Omada Controller can effectively record, classify and manage the system information of the managed EAPs, providing powerful support for you to monitor network operation and diagnose malfunctions. The Log page displays the log’s module, level, content, operator and occurred time.



You can view the alerts on a separate page by clicking **Alerts** in the top right corner of the page. As follows, you can click 🔖 to mark the alerts as read.



Note:

The logs and alerts of the controller with version 3.0.5 or below will be discarded after the controller is upgraded to version 3.1.4 or above.

3 Configure the EAPs Globally

This chapter introduces the global configurations applied to all the managed EAPs. To configure a specific EAP, please refer to Chapter 5 Configure the EAPs Separately.

In global configurations, you can configure the following items:

- Wireless Network
- Access Control
- Portal Authentication
- Free Authentication Policy
- MAC Filter
- Scheduler
- QoS
- Site Settings

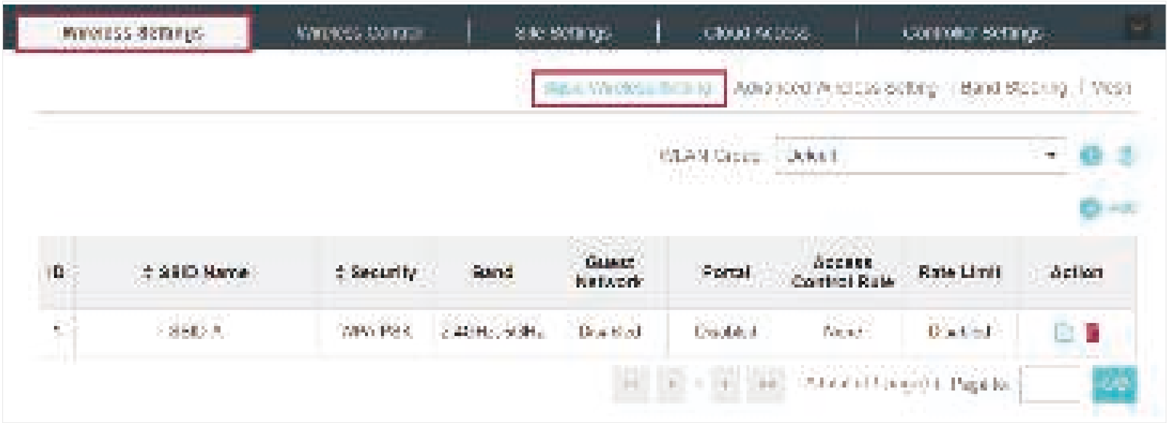
3.1 Wireless Network

In addition to the wireless network you created in Quick Start, you can add more wireless networks and configure the advanced wireless parameters to improve the network quality.

3.1.1 Add Wireless Networks

To add wireless networks, follow the steps below.

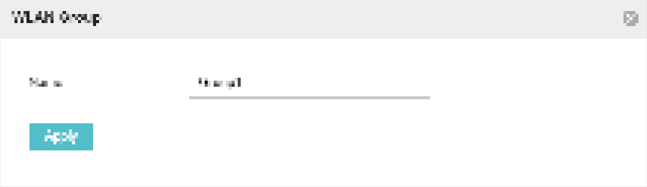
1. Go to **Wireless Settings > Basic Wireless Setting.**



ID	SSID Name	Security	Band	Guest Network	Portal	Access Control Rule	Rate Limit	Action
1	SSID A	WPA-PSK	2.4GHz, 5GHz	Disabled	Disabled	None	Disabled	

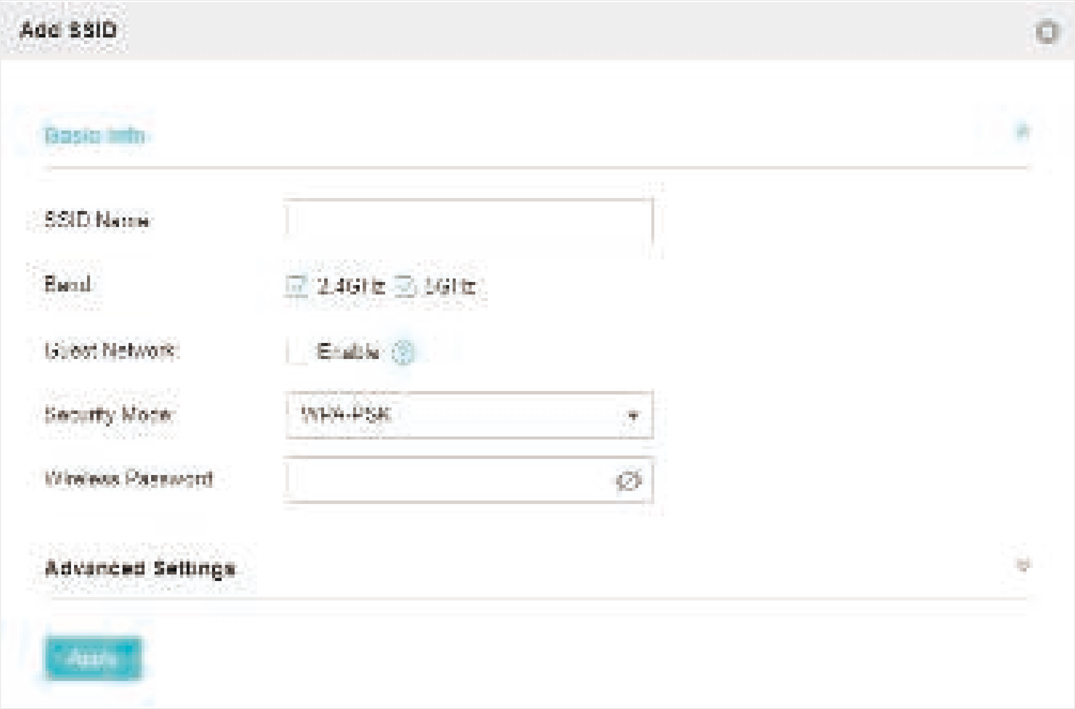
2. Click ⊕ at the right of WLAN Group Default to add a WLAN group. Creating WLAN groups is an easy way to quickly deploy EAPs by creating a template-based set of SSIDs with wireless parameters. Different WLAN groups can be applied to different EAPs. If you have no need to group your wireless networks, you can use the default WLAN group and skip this step.

3. Specify a name for the group and click **Apply**.



4. Select the WLAN group WLAN Group Default and click ⊕ Add to add an SSID to the specific WLAN group.

5. Configure the parameters in the following window.



Add SSID

Basic Info

SSID Name

Band ☑ 2.4GHz ☑ 5GHz

Guest Network □ Enable

Security Mode WPA-PSK

Wireless Password

Advanced Settings

SSID Name	Enter an SSID name using up to 32 characters.
Band	Select the radio band to add the SSID.
Guest Network	With this option enabled, the network act as a guest network. All the clients connecting to the SSID will be blocked from reaching any private IP subnet.
Security Mode	Select the security mode of the wireless network. None: The hosts can access the wireless network without authentication. WEP/WPA-Enterprise/WPA-PSK: The hosts need to get authenticated before accessing the wireless network. For the network security, you are suggested to encrypt your wireless network. Settings vary in different security modes and the details are in the following introduction.

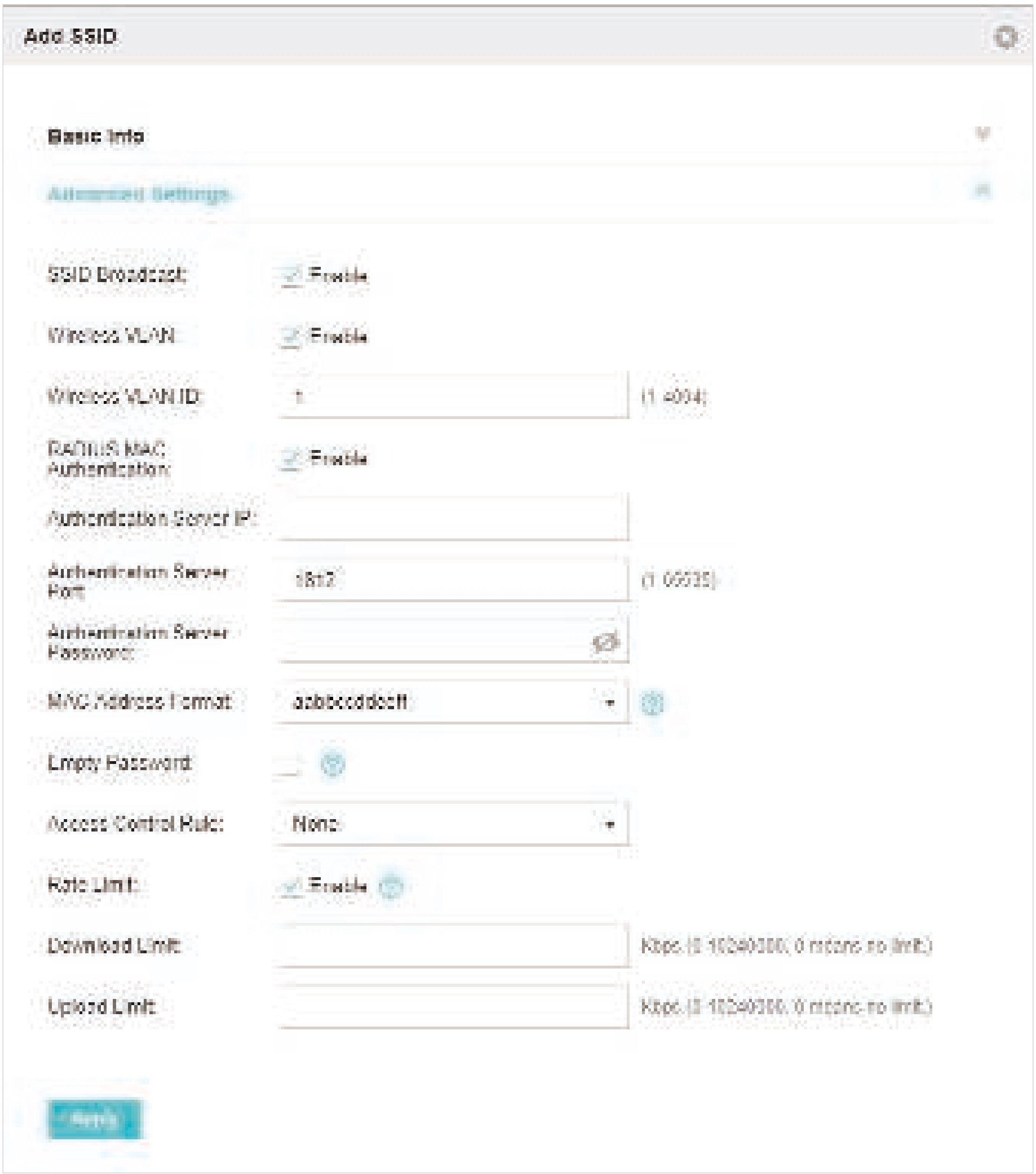
Note:

- 8 SSIDs can be created on each band at most.
- The SSID on different radio band with the same name will be regarded as an identical SSID entry. When you upgrade your controller or restore the backup files from the controller with the version 3.0.5 or below, the SSID entries with the same name will be merged if they are on 2.4GHz and 5GHz in the same WLAN group. All the configurations in the entry will be changed to the parameters of the original SSID on the 2.4GHz radio band.

Following is the detailed introduction of None, WEP, WPA-Enterprise and WPA-PSK.

None

The hosts can access the wireless network without authentication. Configure th advanced parameters in the following window.



Add SSID

Basic Info

Advanced Settings

SSID Broadcast: ☑ Enable

Wireless VLAN: ☑ Enable

Wireless VLAN ID: 1 (1-4094)

RADIUS MAC Authentication: ☑ Enable

Authentication Server IP:

Authentication Server Port: 1812 (1-65535)

Authentication Server Password:

MAC Address Format: aabbccddeeff

Empty Password: □

Access Control Rule: None

Rate Limit: ☑ Enable

Download Limit: Kbps (0-10240000, 0 means no limit)

Upload Limit: Kbps (0-10240000, 0 means no limit)

Apply

SSID Broadcast	With the option enabled, EAPs will broadcast the SSID to the nearby hosts, so that those hosts can find the wireless network identified by this SSID. If this option is disabled, users must enter the SSID manually to connect to the EAP. The option is enabled by default.

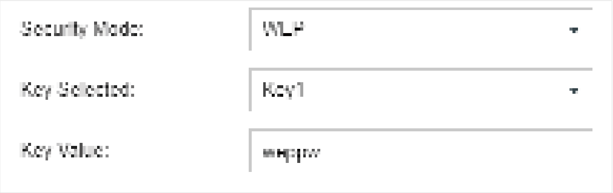
Wireless VLAN	With this option enabled, the EAP can work together with the switches supporting 802.1Q VLAN. Traffic from the clients in different wireless networks is added with different VLAN tags according to the VLAN settings of the wireless networks. Then the wireless clients in different VLANs cannot directly communicate with each other. To set a wireless VLAN for the wireless network, enable the option and set a VLAN ID in the **Wireless VLAN ID**.
Wireless VLAN ID	Enter a VLAN ID for the wireless VLAN. Wireless networks with the same VLAN ID are grouped to a VLAN. The value ranges from 1 to 4094.
RADIUS MAC Authentication	With this option enabled, the EAP will send the MAC address of the client to the RADIUS server as the username and password for authentication. If the authorization succeeds, the RADIUS server grants the client access to the network. To set RADIUS MAC Authentication, enable the option and configure the following parameters: **Authentication Server IP**, **Authentication Server Port**, **Authentication Server Password**, **MAC Address Format**, and **Empty Password**.
Authentication Server IP	With RADIUS MAC Authentication enabled, enter the IP address of the authentication server.
Authentication Server Port	With RADIUS MAC Authentication enabled, enter the port number you have set on the RADIUS server for authentication requests. The default setting is 1812.
Authentication Server Password	With RADIUS MAC Authentication enabled, enter the authentication password. The authentication server and the controller use the password to encrypt passwords and exchange responses.
MAC Address Format	With RADIUS MAC Authentication enabled, select the format to convert a client's MAC address to the RADIUS username.
Empty Password	With the option enabled, a blank password for RADIUS MAC Authentication will be allowed. With the option disabled, the password will be the same as the username.
Access Control Rule	Select an Access Control rule for this SSID. For more information, refer to Access Control.
Rate Limit	With this option enabled, the download and upload rate of each client which connects to the SSID will be limited to balance bandwidth usage. You can limit the download and upload rate for some specific clients by configuring rate limit in client list, refer to Manage Clients in the Action Column to get more details. Note that the download and upload rate will be limited to the minimum of the value configured in SSID, client and portal configuration.
Download Limit	With Rate Limit enabled, specify the limit of download rate. 0 means unlimited.
Upload Limit	With Rate Limit enabled, specify the limit of upload rate. 0 means unlimited.

WEP

WEP is based on the IEEE 802.11 standard and less safe than WPA-Enterprise and WPA-PSK.

Note:

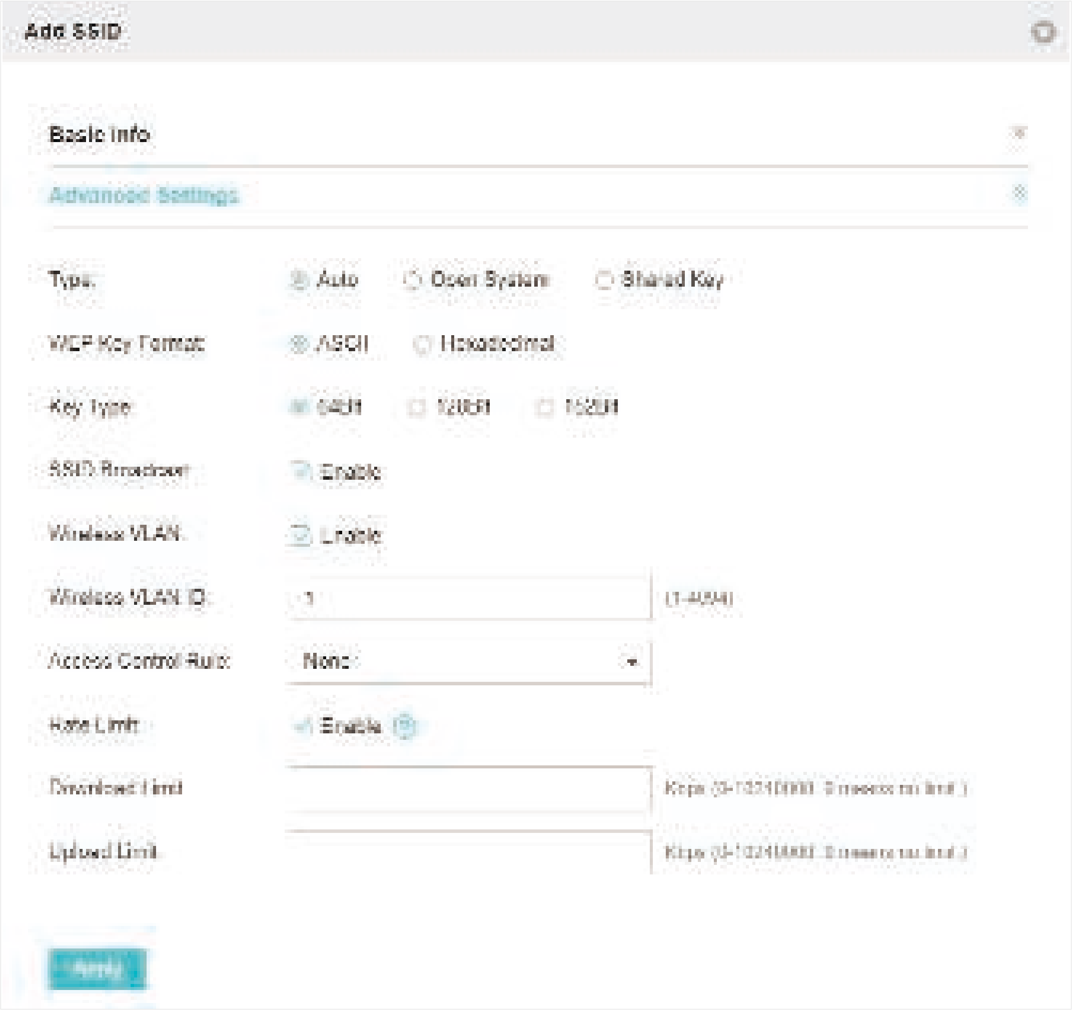
WEP is not supported in 802.11n mode or 802.11ac mode. If WEP is applied in 802.11n, 802.11 ac or 802.11n/ac mixed mode, the clients may not be able to access the wireless network. If WEP is applied in 11b/g/n mode (2.4GHz) or 11a/n (5GHz), the EAP may work at a low transmission rate.



Security Mode:	WEP
Key Selected:	Key1
Key Value:	weppw

Key Selected	Select one key to specify. You can configure four keys at most.
Key Value	Enter the WEP keys. The length and valid characters are affected by key type.

Configure th advanced parameters in the following window.



Add SSID

Basic Info

Advanced Settings

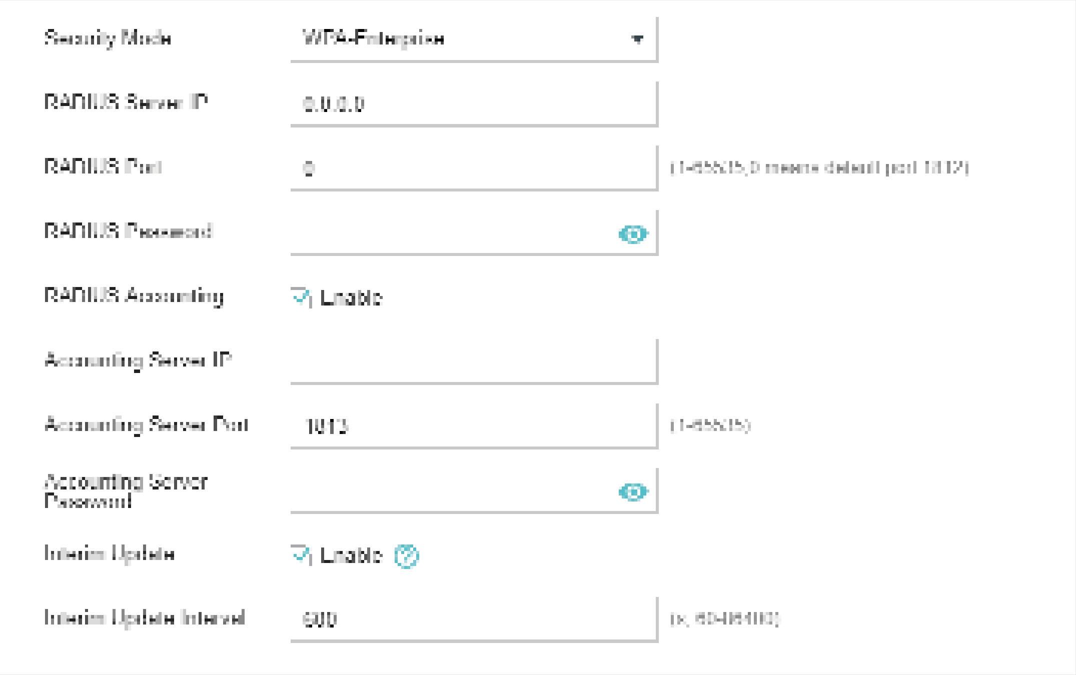
Type:	● Auto ○ Open System ○ Shared Key
WEP Key Format:	● ASCII ○ Hexadecimal
Key Type:	● 64Bit ○ 128Bit ○ 152Bit
SSID Broadcast:	☑ Enable
Wireless VLAN:	☐ Enable
Wireless VLAN ID:	1 (1-4094)
Access Control Rule:	None
Rate Limit:	☑ Enable
Download Limit:	Kbps (0-10240000, 0 means no limit.)
Upload Limit:	Kbps (0-10240000, 0 means no limit.)

Type	Select the authentication type for WEP. **Auto**: The Omada Controller can select Open System or Shared Key automatically based on the wireless station's capability and request. **Open System**: Clients can pass the authentication and associate with the wireless network without password. However, correct password is necessary for data transmission. **Shared Key**: Clients have to input password to pass the authentication, otherwise it cannot associate with the wireless network or transmit data.
WEP Key Format	Select **ASCII** or **Hexadecima** as the WEP key format. **ASCII**: ASCII format stands for any combination of keyboard characters of the specified length. **Hexadecimal**: Hexadecimal format stands for any combination of hexadecimal digits (0-9, a-f, A-F) with the specified length.
Key Type	Select the WEP key length for encryption. **64Bit**: Enter 10 hexadecimal digits or 5 ASCII characters. **128Bit**: Enter 26 hexadecimal digits or 13 ASCII characters. **152Bit**: Enter 32 hexadecimal digits or 16 ASCII characters.
Key Value	Enter the WEP keys. The length and valid characters are affected by key type.
SSID Broadcast	With the option enabled, EAPs will broadcast the SSID to the nearby hosts, so that those hosts can find the wireless network identified by this SSID. If this option is disabled, users must enter the SSID manually to connect to the EAP. The option is enabled by default.
Wireless VLAN	With this option enabled, the EAP can work together with the switches supporting 802.1Q VLAN. Traffic from the clients in different wireless networks is added with different VLAN tags according to the VLAN settings of the wireless networks. Then the wireless clients in different VLANs cannot directly communicate with each other. To set a wireless VLAN for the wireless network, enable the option and set a VLAN ID in the **Wireless VLAN ID**.
Wireless VLAN ID	Enter a VLAN ID for the wireless VLAN. Wireless networks with the same VLAN ID are grouped to a VLAN. The value ranges from 1 to 4094.
Access Control Rule	Select an Access Control rule for this SSID. For more information, refer to Access Control.
Rate Limit	With this option enabled, the download and upload rate of each client which connects to the SSID will be limited to balance bandwidth usage. You can limit the download and upload rate for some specific clients by configuring rate limit in client list, refer to Manage Clients in the Action Column to get more details. Note that the download and upload rate will be limited to the minimum of the value configured in SSID, client and portal configuration.
Download Limit	With Rate Limit enabled, specify the limit of download rate. 0 means unlimited.

Upload Limit	With Rate Limit enabled, specify the limit of upload rate. 0 means unlimited.

WPA-Enterprise

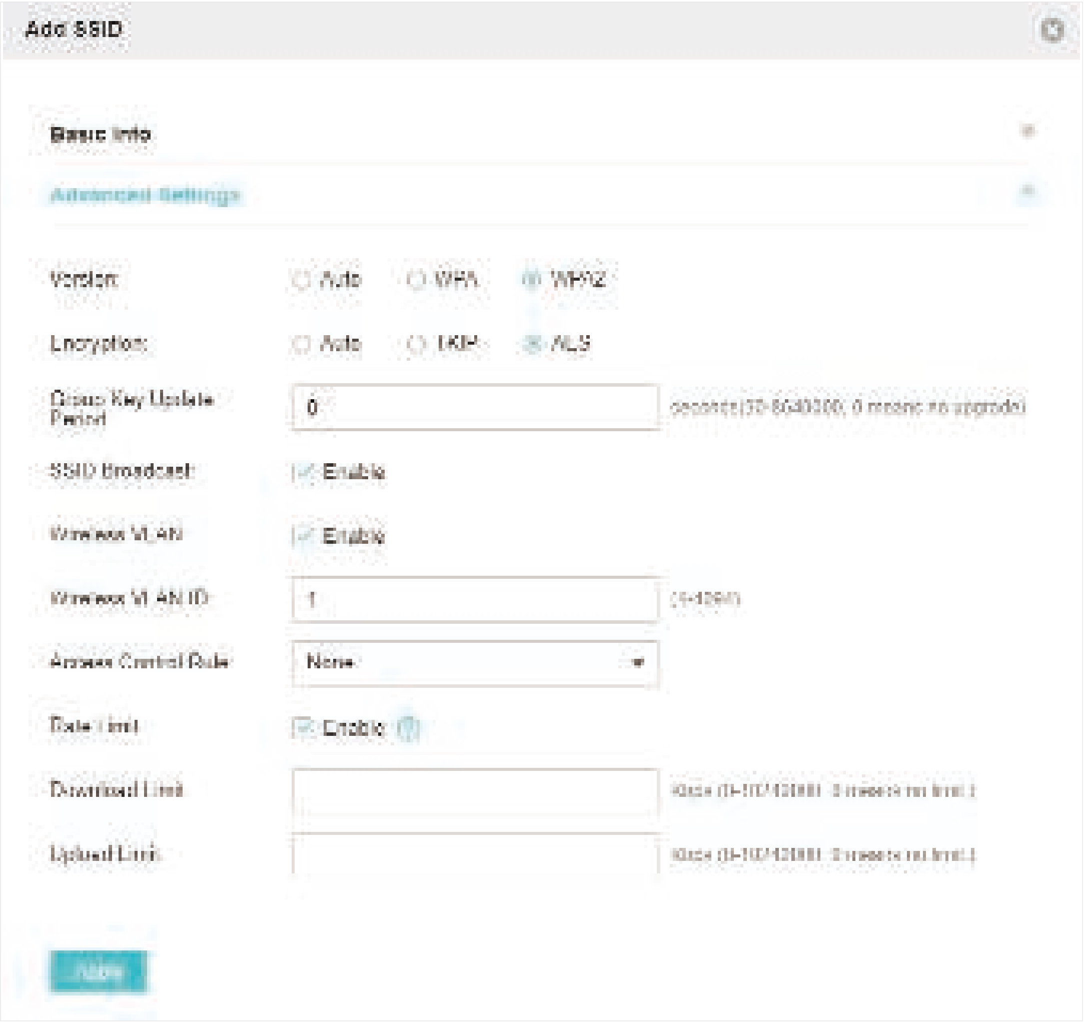
The WPA-Enterprise mode requires a RADIUS server to authenticate clients. Since the WPA-Enterprise can generate different passwords for different clients, it is much safer than WPA-PSK. However, it costs much more to maintain and is usually used by enterprise.



Security Mode	WPA-Enterprise	
RADIUS Server IP	0.0.0.0	
RADIUS Port	0	(1-65535,0 means default port 1812)
RADIUS Password		
RADIUS Accounting	☑ Enable	
Accounting Server IP		
Accounting Server Port	1813	(1-65535)
Accounting Server Password		
Interim Update	☑ Enable	
Interim Update Interval	600	(s, 60-86400)

RADIUS Server IP	Enter the IP address of the RADIUS Server.
RADIUS Port	Enter the port number of the RADIUS Server.
RADIUS Password	Enter the shared secret key of the RADIUS server.
RADIUS Accounting	Enable or disable RADIUS Accounting feature.
Accounting Server IP	Enter the IP address of the accounting server.
Accounting Server Port	Enter the port number of the accounting server.
Accounting Server Password	Enter the shared secret key of the accounting server.
Interim Update	With this option enabled, you can specify the duration between accounting information updates. By default, the function is disabled. Enter the appropriate duration between updates for EAPs in **Interim Update Interval**.
Interim Update Interval	With Interim Update enabled, specify the appropriate duration between updates for EAPs. The default duration is 600 seconds.

Configure th advanced parameters in the following window.



Add SSID

Basic Info

Advanced Settings

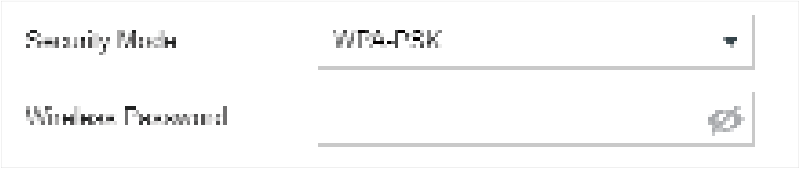
Version:	○ Auto ○ WPA ● WPA2
Encryption:	○ Auto ○ TKIP ● AES
Group Key Update Period	0 seconds(30-8640000, 0 means no upgrade)
SSID Broadcast:	☑ Enable
Wireless VLAN	☑ Enable
Wireless VLAN ID	1 (1-4094)
Access Control Rule	None
Rate Limit	☑ Enable
Download Limit	Kbps (1-10240000, 0 means no limit)
Upload Limit	Kbps (1-10240000, 0 means no limit)

Version	Select the version of WPA-Enterprise. **Auto**: The EAP will automatically choose the version used by each client device. **WPA/WPA2**: Two versions of Wi-Fi Protected Access.
Encryption	Select the Encryption type. **Auto**: The default setting is Auto and the EAP will select TKIP or AES automatically based on the client device's request. **TKIP**: Temporal Key Integrity Protocol. TKIP is not supported in 802.11n mode, 802.11ac mode or 802.11n/ac mixed mode. If TKIP is applied in 802.11n, 802.11 ac or 802.11n/ac mixed mode, the clients may not be able to access the wireless network of the EAP. If TKIP is applied in 11b/g/n mode (2.4GHz) or 11a/n mode(5GHz), the device may work at a low transmission rate. **AES**: Advanced Encryption Standard. We recommend that you select AES as the encryption type because it is more secure than TKIP.
Group Key Update Period	Specify a group key update period, which instructs the EAP how often it should change the encryption keys. The value can be either 0 or 30~8640000 seconds. 0 means no change of the encryption key anytime.

SSID Broadcast	With the option enabled, EAPs will broadcast the SSID to the nearby hosts, so that those hosts can find the wireless network identified by this SSID. If this option is disabled, users must enter the SSID manually to connect to the EAP. The option is enabled by default.
Wireless VLAN	With this option enabled, the EAP can work together with the switches supporting 802.1Q VLAN. Traffic from the clients in different wireless networks is added with different VLAN tags according to the VLAN settings of the wireless networks. Then the wireless clients in different VLANs cannot directly communicate with each other. To set a wireless VLAN for the wireless network, enable the option and set a VLAN ID in the **Wireless VLAN ID**.
Wireless VLAN ID	Enter a VLAN ID for the wireless VLAN. Wireless networks with the same VLAN ID are grouped to a VLAN. The value ranges from 1 to 4094.
Access Control Rule	Select an Access Control rule for this SSID. For more information, refer to Access Control.
Rate Limit	With this option enabled, the download and upload rate of each client which connects to the SSID will be limited to balance bandwidth usage. You can limit the download and upload rate for some specific clients by configuring rate limit in client list, refer to Manage Clients in the Action Column to get more details. Note that the download and upload rate will be limited to the minimum of the value configured in SSID, client and portal configuration.
Download Limit	With Rate Limit enabled, specify the limit of download rate. 0 means unlimited.
Upload Limit	With Rate Limit enabled, specify the limit of upload rate. 0 means unlimited.

WPA-PSK

Based on a pre-shared key, WPA-PSK is characterized by high safety and simple settings and is mostly used by common households and small businesses.

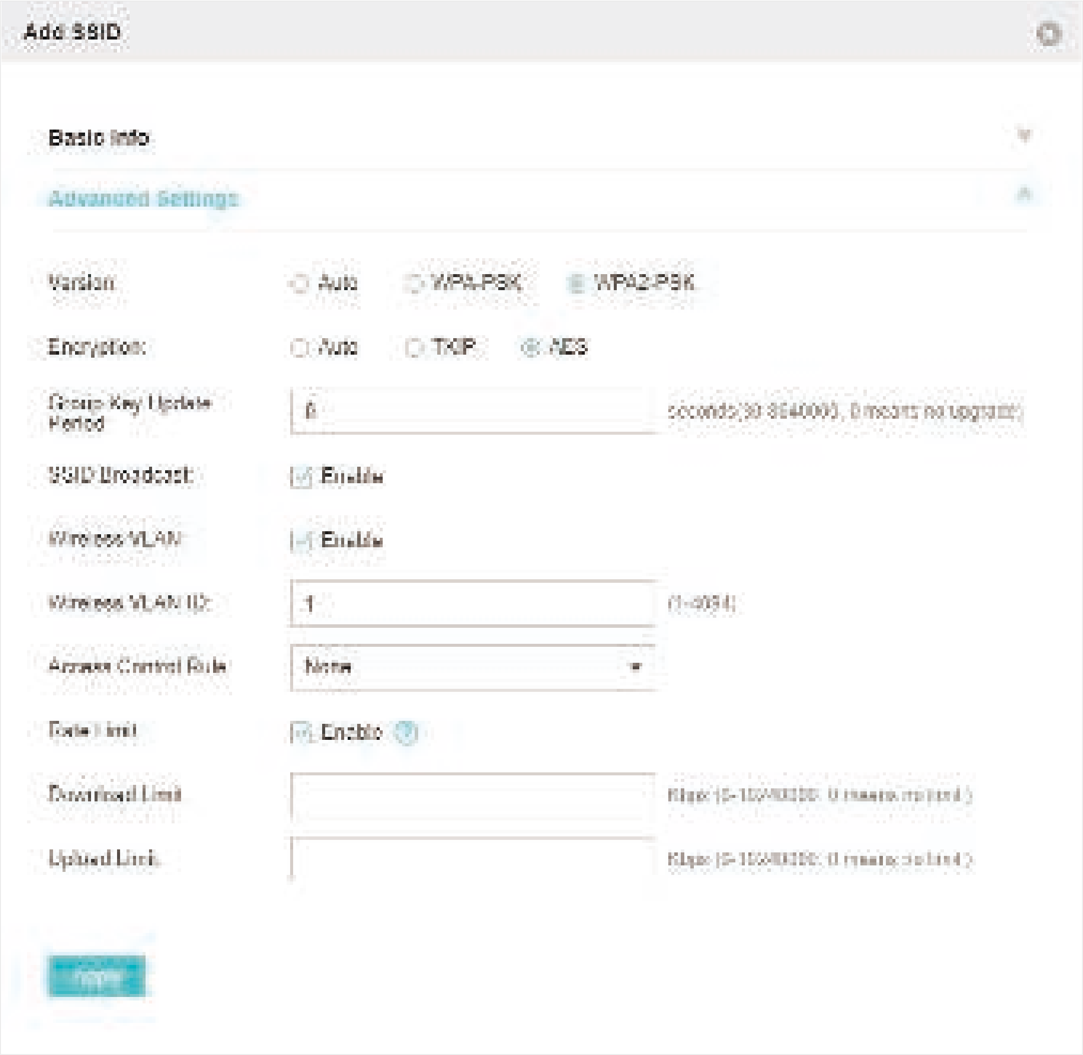


Security Mode: WPA-PSK

Wireless Password:

Wireless Password	Configure the wireless password with ASCII or Hexadecimal characters. For ASCII, the length should be between 8 and 63 characters with combination of numbers, letters (case-sensitive) and common punctuations. For Hexadecimal, the length should be 64 characters (case-insensitive, 0-9, a-f, A-F).

Configure th advanced parameters in the following window.



Add SSID

Basic Info

Advanced Settings

Version: ○ Auto ○ WPA-PSK ● WPA2-PSK

Encryption: ○ Auto ○ TKIP ● AES

Group Key Update Period: 0 seconds(30-8640000, 0 means no upgrade)

SSID Broadcast: ☑ Enable

Wireless VLAN: ☑ Enable

Wireless VLAN ID: 1 (1-4094)

Access Control Rule: None

Rate Limit: ☑ Enable

Download Limit: Kbps (0-10240000, 0 means no limit)

Upload Limit: Kbps (0-10240000, 0 means no limit)

Version	Select the version of WPA-Enterprise. **Auto**: The EAP will automatically choose the version used by each client device. **WPA/WPA2**: Two versions of Wi-Fi Protected Access.
Encryption	Select the Encryption type. **Auto**: The default setting is Auto and the EAP will select TKIP or AES automatically based on the client request. **TKIP**: Temporal Key Integrity Protocol. TKIP is not supported in 802.11n mode, 802.11ac mode or 802.11n/ac mixed mode. If TKIP is applied in 802.11n, 802.11 ac or 802.11n/ac mixed mode, the clients may not be able to access the wireless network of the EAP. If TKIP is applied in 11b/g/n mode (2.4GHz) or 11a/n mode(5GHz), the device may work at a low transmission rate. **AES**: Advanced Encryption Standard. We recommend that you select AES as the encryption type for it is more secure than TKIP.
Group Key Update Period	Specify a group key update period, which instructs the EAP how often it should change the encryption keys. The value can be either 0 or 30~8640000 seconds. 0 means the encryption keys will not be changed all the time.

SSID Broadcast	With the option enabled, EAPs will broadcast the SSID to the nearby hosts, so that those hosts can find the wireless network identified by this SSID. If this option is disabled, users must enter the SSID manually to connect to the EAP. The option is enabled by default.
Wireless VLAN	With this option enabled, the EAP can work together with the switches supporting 802.1Q VLAN. Traffic from the clients in different wireless networks is added with different VLAN tags according to the VLAN settings of the wireless networks. Then the wireless clients in different VLANs cannot directly communicate with each other. To set a wireless VLAN for the wireless network, enable the option and set a VLAN ID in the **Wireless VLAN ID**.
Wireless VLAN ID	Enter a VLAN ID for the wireless VLAN. Wireless networks with the same VLAN ID are grouped to a VLAN. The value ranges from 1 to 4094.
Access Control Rule	Select an Access Control rule for this SSID. For more information, refer to Access Control.
Rate Limit	With this option enabled, the download and upload rate of each client which connects to the SSID will be limited to balance bandwidth usage. You can limit the download and upload rate for some specific clients by configuring rate limit in client list, refer to Manage Clients in the Action Column to get more details. Note that the download and upload rate will be limited to the minimum of the value configured in SSID, client and portal configuration.
Download Limit	With Rate Limit enabled, specify the limit of download rate. 0 means unlimited.
Upload Limit	With Rate Limit enabled, specify the limit of upload rate. 0 means unlimited.

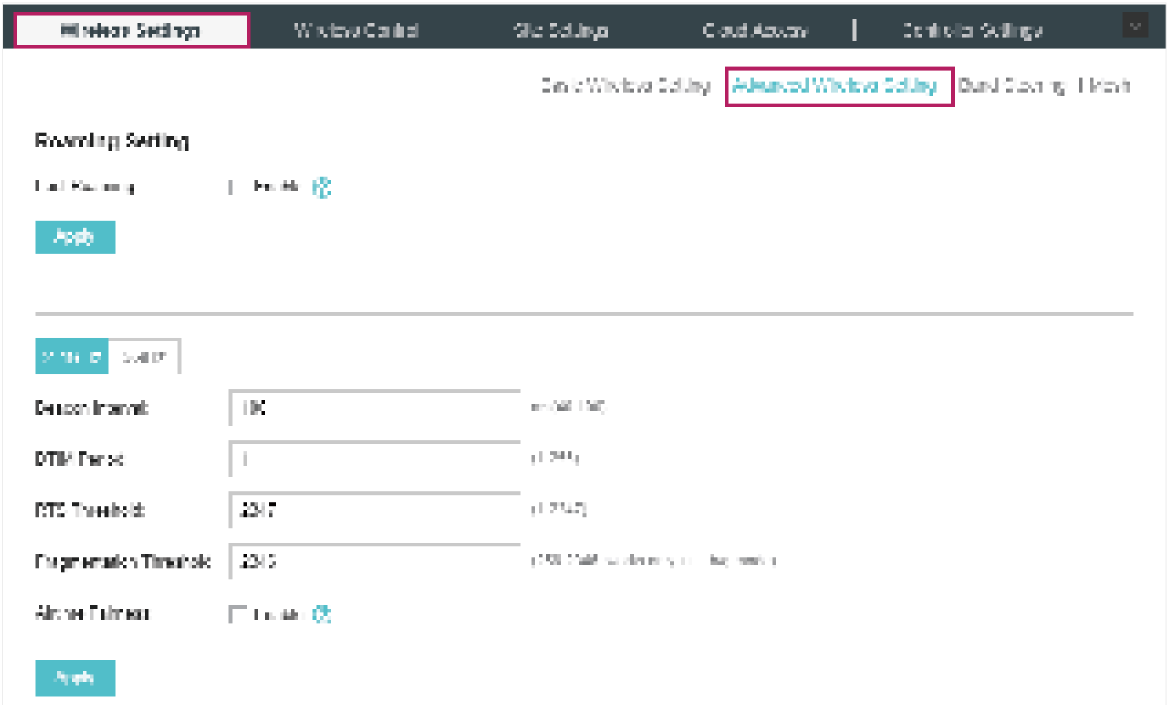
6. Click **Apply**.

3.1.2 Configure Advanced Wireless Parameters

Proper wireless parameters can improve the network's stability, reliability and communication efficiency. The advanced wireless parameters consist of **Fast Roaming**, **Beacon Interval**, **DTIM Period**, **RTS Threshold**, **Fragmentation Threshold** and **Airtime Fairness**.

To configure the advanced wireless parameters, follow the steps below.

1. Go to **Wireless Settings > Advanced Wireless Setting**.



Roaming Setting

Fast Roaming □ Enable

Apply

2.4GHz | 5GHz

Beacon Interval 100 (40-1000)

DTIM Period 1 (1-255)

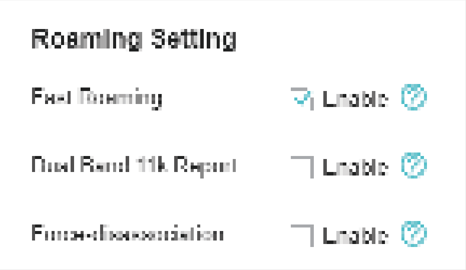
RTS Threshold 2347 (1-2347)

Fragmentation Threshold 2346 (256-2346, [illegible])

Airtime Fairness □ Enable

Apply

2. Enable **Fast Roaming** and configure the corresponding parameters.



Roaming Setting

Fast Roaming ☑ Enable

Dual Band 11k Report □ Enable

Force-disassociation □ Enable

Fast Roaming	With this option enabled, 11k/v capable clients can have improved fast roaming experience when moving among different APs.
Dual Band 11k Report	With this feature disabled, the controller provides candidate AP report that contains the APs in the same band as the clients. With this feature enabled, the controller provides candidate AP report that contains the APs in both 2.4GHz and 5GHz bands.
Force-disassociation	The controller dynamically monitors the link quality of every associated client. When the client's current link quality drops below the predefined threshold and there are some other APs with better signal, the current AP issues an 11v roaming suggestion to the client. With Force-disassociation disabled, the AP only issues a roaming suggestion, but whether to roam or not is determined by the client. With Force-disassociation enabled, the AP not only issues a roaming suggestion but also disassociates the client after a while. Thus the client is supported to re-associate to a better AP. This function is recommended when there are sticky clients that don't roam.

3. Click **Apply**.

4. Select the band frequency .

5. Configure the following parameters.

Beacon Interval	Beacons are transmitted periodically by the EAP to announce the presence of a wireless network for the clients. **Beacon Interval** value determines the time interval of the beacons sent by the device. You can specify a value between 40 and 100ms. The default is 100ms.
DTIM Period	The DTIM (Delivery Traffic Indication Message) is contained in some Beacon frames. It indicates whether the EAP has buffered data for client devices. The **DTIM Period** indicates how often the clients served by this EAP should check for buffered data still on the EAP awaiting pickup. You can specify the value between 1-255 Beacon Intervals. The default value is 1, indicating clients check for buffered data on the EAP at every beacon. An excessive DTIM interval may reduce the performance of multicast applications, so we recommend that you keep it by default.
RTS Threshold	RTS (Request to Send) can ensure efficient data transmission. When RTS is activated, the client will send a RTS packet to EAP to inform that it will send data before it send packets. After receiving the RTS packet, the EAP notices other clients in the same wireless network to delay their transmitting of data and informs the requesting client to send data, thus avoiding the conflict of packet. If the size of packet is larger than the **RTS Threshold**, the RTS mechanism will be activated. If you specify a low threshold value, RTS packets are sent more frequently and help the network recover from interference or collisions that might occur on a busy network. However, it also consumes more bandwidth and reduces the throughput of the packet. We recommend that you keep it by default. The recommended and default value is 2347.
Fragmentation Threshold	The fragmentation function can limit the size of packets transmitted over the network. If a packet exceeds the **Fragmentation Threshold**, the fragmentation function is activated and the packet will be fragmented into several packets. Fragmentation helps improve network performance if properly configured. However, too low fragmentation threshold may result in poor wireless performance caused by the extra work of dividing up and reassembling of frames and increased message traffic. The recommended and default value is 2346 bytes.
Airtime Fairness	With this option enabled, each client connecting to the EAP can get the same amount of time to transmit data, avoiding low-data-rate clients to occupy too much network bandwidth and improving the network throughput. We recommend that you enable this function under multi-rate wireless networks.

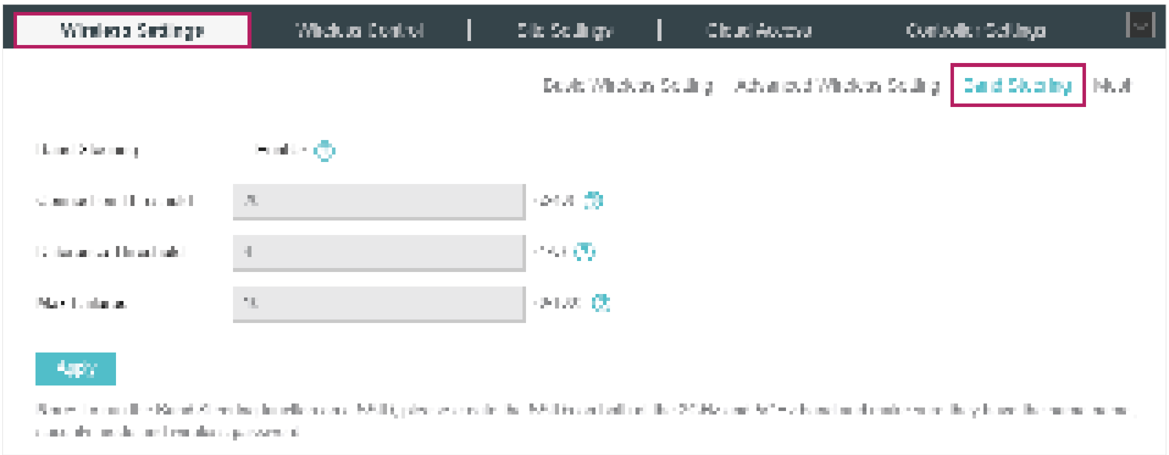
6. Click **Apply**.

3.1.3 Configure Band Steering

A client device that is capable of communicating on both the 2.4GHz and 5GHz frequency bands will typically connect to the 2.4GHz band. However, if too many client devices are connected to an EAP on the 2.4GHz band, the efficiency of communication will be diminished. Band Steering can steer dual-band clients to the 5GHz frequency band which supports higher transmission rates and more client devices, and thus to greatly improve the network quality.

To configure Band Steering, follow the steps below.

1. Go to **Wireless Settings > Band Steering.**



2. Check the box to enable the Band Steering function.

3. Configure the following parameters to balance the clients on both frequency bands:

Connection Threshold/ Difference Threshold	**Connection Threshold** defines the maximum number of clients connected to the 5GHz band. The value of **Connection Threshold** is from 2 to 40, and the default is 20. **Difference Threshold** defines the maximum difference between the number of clients on the 5GHz band and 2.4GHz band. The value of **Difference Threshold** is from 1 to 8, and the default is 4. When the following two conditions are both met, the EAP prefers to refuse the connection request on 5GHz band and no longer steers other clients to the 5GHz band: 1. The number of clients on the 5GHz band reaches the **Connection Threshold** value. 2. The difference between the number of clients on the 2.4GHz band and 5GHz band reaches the **Difference Threshold** value.
Max Failures	If a client repeatedly attempts to associate with the EAP on the 5GHz band and the number of rejections reaches the value of **Max Failures**, the EAP will accept the request. The value is from 0 to 100, and the default is 10.

4. Click **Apply.**

3.1.4 Configure Mesh

Mesh is used to establish a wireless network or expand a wired network through wireless connection on 5GHz radio band. In practical application, it can help users to conveniently deploy APs without requiring Ethernet cable. After mesh network establishes, the EAPs can be configured and managed within Omada controller in the same way as wired EAPs. Meanwhile, because of the ability to self-organize and self-configure, mesh also can efficiently reduce the configuration overhead.

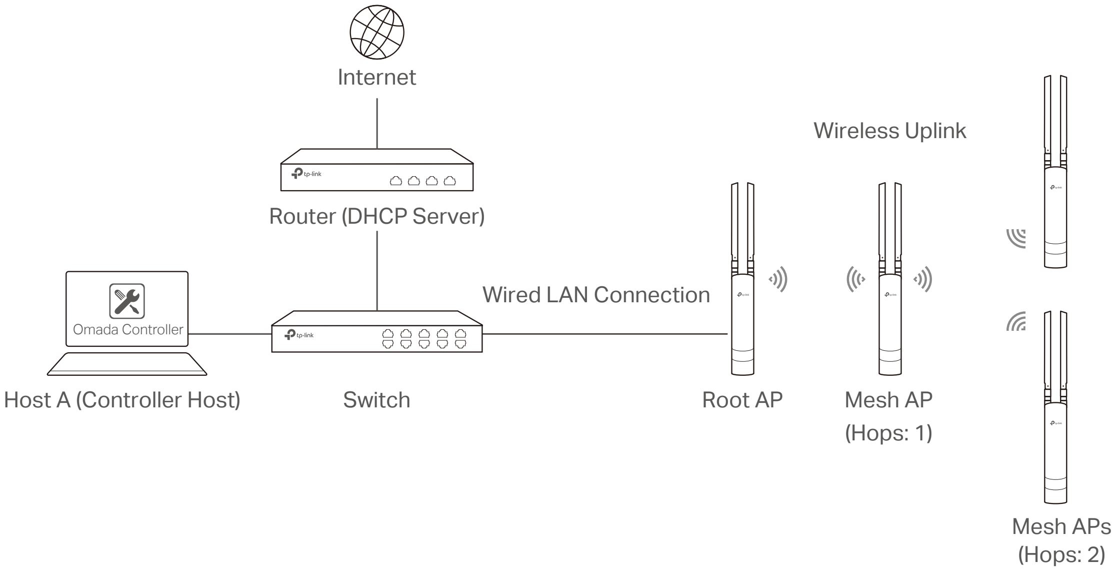
Note:

- Only EAP225-Outdoor with specific firmware (version 1.3 or above) is available for mesh function currently.
- Only the EAPs in the same site can establish a mesh network.

To understand how mesh can be used, the following terms used in Omada Controller will be introduced:

- Root AP: The AP is managed by Omada Controller with a wired data connection that can be configured to relay data to and from mesh APs (Downlink AP).
- Isolated AP: When the EAP which has been managed before by Omada Controller connects to the network wirelessly and cannot reach the gateway, it goes into the Isolated state.
- Mesh AP: An isolated AP will be mesh AP after establishing a wireless connection to the AP with network access.
- Uplink AP/Downlink AP: Among mesh APs, the AP that offers the wireless connection for other APs is Uplink AP. A Root AP or an intermediate AP can be the Uplink AP. And the AP that connects to the Uplink AP is called Downlink AP. An uplink AP can offer direct wireless connection for 4 Downlink APs at most.
- Wireless Uplink: The action that a Downlink AP connects to the uplink AP.
- Hops: In a deployment that uses a root AP and more than one level of wireless uplink with intermediate APs, the uplink tiers can be referred to by root, first hop, second hop and so on. The hops cannot be more than 3.

In a basic mesh network as shown below, there is a root AP that is connected by Ethernet cable, while other isolated APs have no wired data connection. Mesh allows the isolated APs to communicate with pre-configured root AP on the network. Once powered up, factory default or unadopted EAPs can sense the EAP in range and make itself available for adoption within the Omada controller.

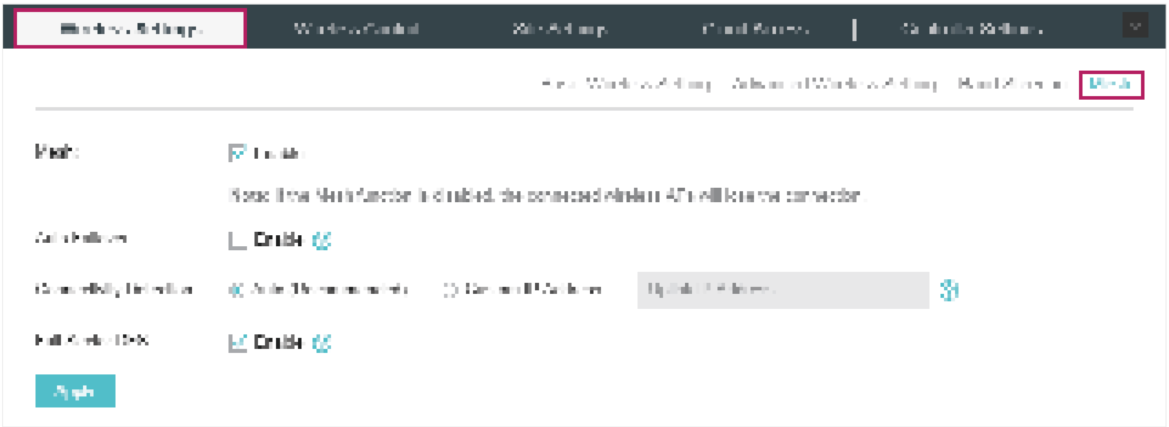


After all the EAPs are adopted, a mesh network is established. Then the EAPs connected to the network wirelessly also can broadcast SSIDs and relay network traffic to and from the network through the uplink AP.

To establish a mesh network, follow the steps below.

- Enable Mesh Function.
- Adopt the Root AP.
- Set up wireless uplink by adopting APs in Pending (Wireless) or Isolated status.

1. Go to **Wireless Settings > Mesh.**



Mesh: ☑ Enable

Note: If the Mesh function is disabled, the connected wireless APs will lose the connection.

Auto Failover: □ Enable

Connectivity Detection: ● Auto (Recommended) ○ Custom IP Address [Uplink IP Address]

Full-Sector DFS: ☑ Enable

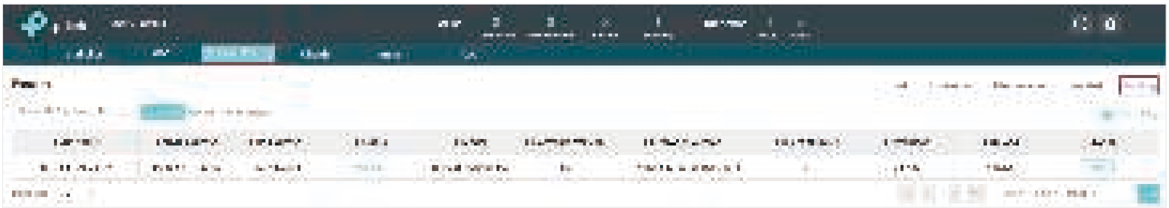
2. Check the box to enable the Mesh function.

3. Configure the following parameters to maintain the mesh network:

Auto Failover	Enable or disable Auto Failover. Auto Failover is used to automatically maintain the mesh network for the controller. With this feature enabled, the controller can automatically select an uplink AP for the isolated EAP to establish Wireless Uplink. Thus the controller will automatically select a new uplink AP for the mesh EAPs when the original uplink fails.
Connectivity Detection	Specify the method of Connection Detection. In a mesh network, the APs can send ARP request packets to a fixed IP address to test the connectivity. If the link fails, the status of these APs will change to Isolated. **Auto (Recommended):** Select this method and the mesh APs will send ARP request packets to the default gateway for the detection. **Custom IP Address:** Select this method and specify a desired IP address. The mesh APs will send ARP request packets to the custom IP address to test the connectivity. If the IP address of the AP is in different network segments from the custom IP address, the AP will use the default gateway IP address for the detection.
Full-Sector DFS	With this feature enabled, when radar signals are detected on current channel by one EAP, the other EAPs in the mesh network will be also informed. Then all EAPs in the mesh network will switch to an alternate channel.

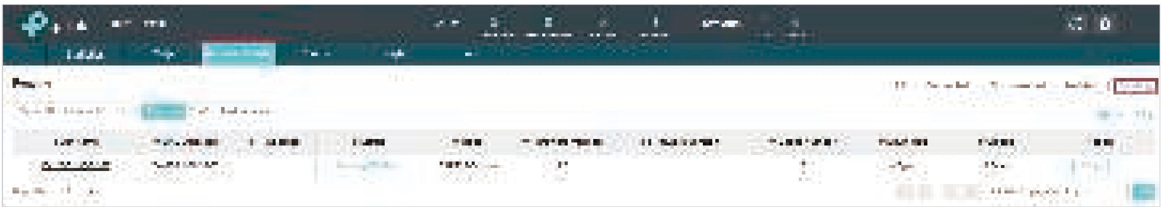
4. Click **Apply**.

5. Go to **Access Points > Pending** and adopt the Root AP. Then the status of the Root AP will change into Connected.



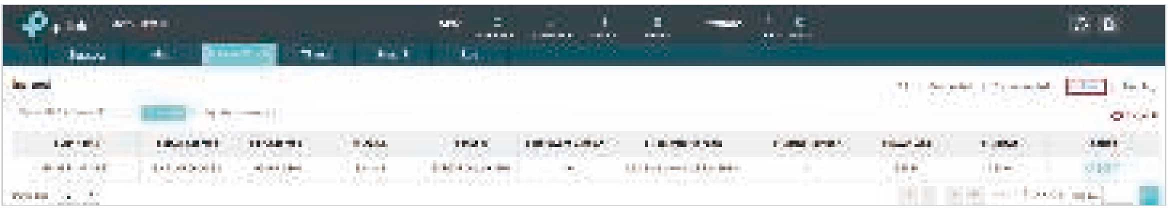
6. Install the EAP that will uplink the Root AP wirelessly. Make sure the intended location is within the range of Root AP. The EAPs that is waiting for Wireless Uplink includes two cases: factory default EAPs and EAPs that has been managed by Omada Controller before.

   1) For the factory default EAP, after powering on the device, the EAP will be in Pending (Wireless) status shown in the controller. Go to **Access Points > Pending** and adopt the EAPs in Pending (Wireless) status.

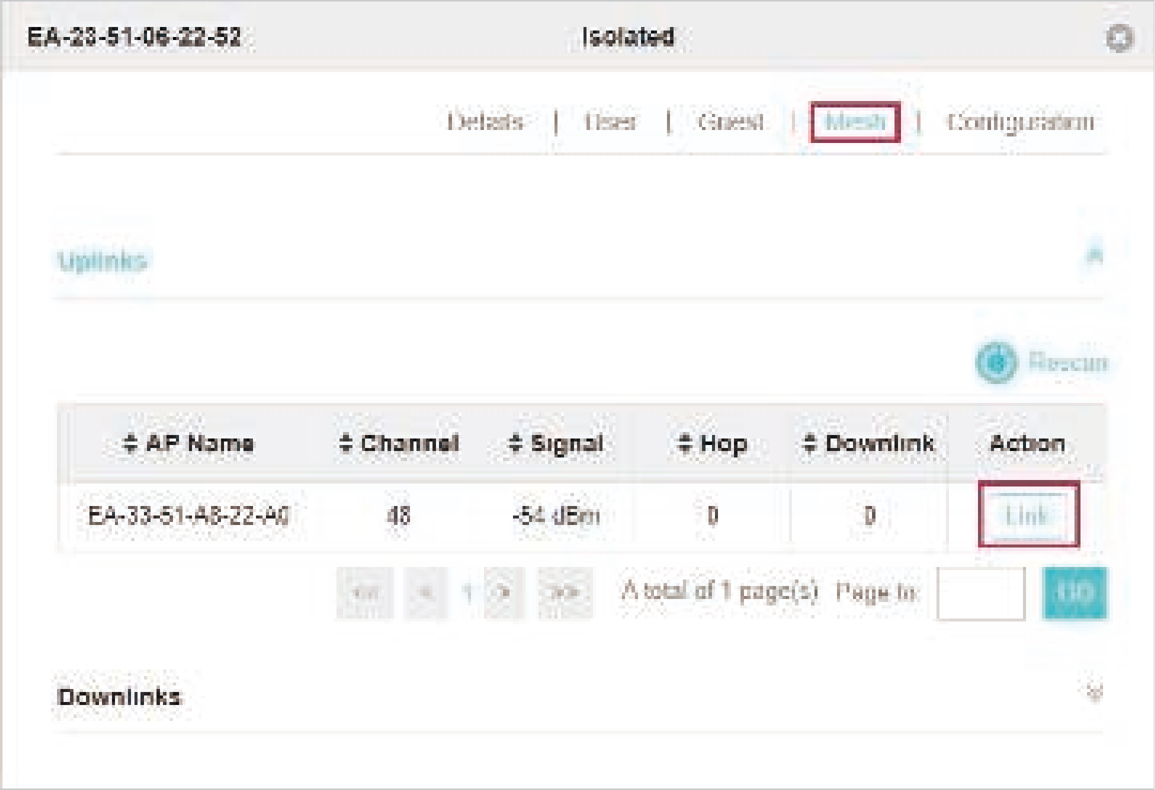


After adoption begins, the status of Pending (Wireless) EAP will become Adopting (Wireless) and then Connected (Wireless). It should take roughly 2 minutes to show up Connected (Wireless) within your controller.

2) For the EAP that has been managed by Omada Controller before and cannot reach the gateway, it goes into Isolated status when it is discovered by controller again. Go to **Access Points > Isolated**, click ✎.



The following page will shown, go to **Mesh**, then click Link to connect the Uplink AP.



EA-23-51-06-22-52 Isolated

≑ AP Name	≑ Channel	≑ Signal	≑ Hop	≑ Downlink	Action
EA-33-51-A8-22-A0	48	-54 dBm	0	0	Link

A total of 1 page(s) Page to GO

Downlinks

Once adoption has finished, your device can be managed by the controller in the same way as a wired EAP. You can click the EAP's name on the Access Points tab to view and configure the mesh parameters of the EAP on the pop-up window. Please refer to View Mesh Information of the EAP.

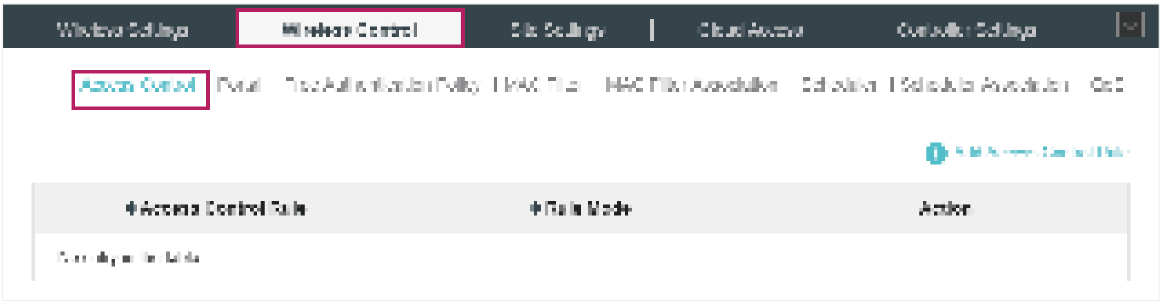
Tips:

- You can manually select the uplink AP that you want to connect in the uplink EAP list. To build a mesh network with better performance, we recommend that you select the Uplink AP with the strongest signal, least hop and least Downlink AP.
- You can enable **Auto Failover** to make the controller automatically select an uplink AP for the isolated EAP to establish Wireless Uplink. And the controller will automatically select a new uplink AP for the mesh EAPs when the original uplink fails.

3.2 Access Control

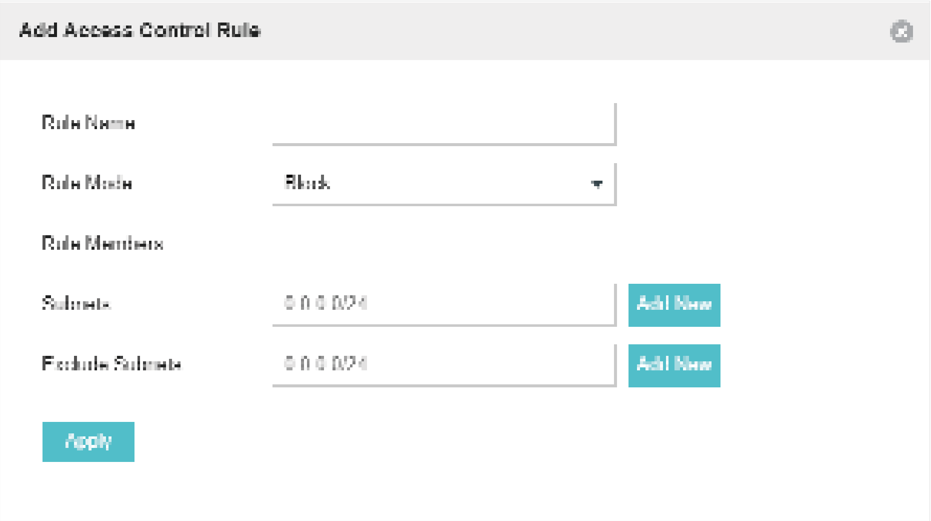
Access Control is used to block or allow the clients to access specific subnets. To configure Access Control rules, follow the steps below.

1. Go to **Wireless Control > Access Control.**



Access Control Rule	Rule Mode	Action
No entry in the table		

2. Click Add Access Control Rule to add a new Access Control rule.



Add Access Control Rule

Rule Name

Rule Mode: Block

Rule Members

Subnets: 0.0.0.0/24

Exclude Subnets: 0.0.0.0/24

3. Configure the following parameters.

Rule Name	Specify a name for this rule.
Rule Mode	Select the mode for this rule. **Block**: Select this mode to block clients to access the specific subnets. **Allow**: Select this mode to allow clients to access the specific subnets.
Rule Members	Specify the member subnets for this rule. **Subnets**: Enter the subnet that will follow the rule mode in the format X.X.X.X/X and click Add New . Up to 16 subnets can be added. **Except Subnets**: Enter the excepted subnet in the format X.X.X.X/X and click Add New . Up to 16 subnets can be added. The rule mode will not apply to the subnet that is in both of the Subnets list and Except Subnets list.

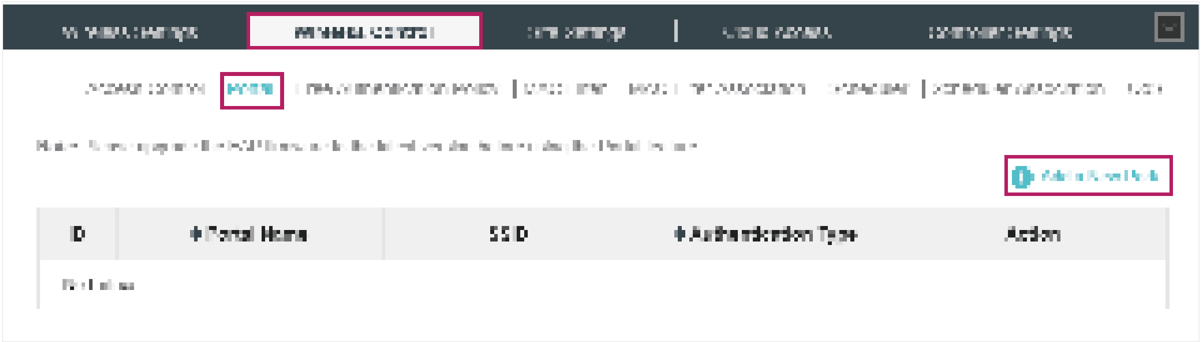
4. Click **Apply**.

5. Go to **Wireless Settings > Basic Wireless Setting** and enable Access Control function of a selected SSID.

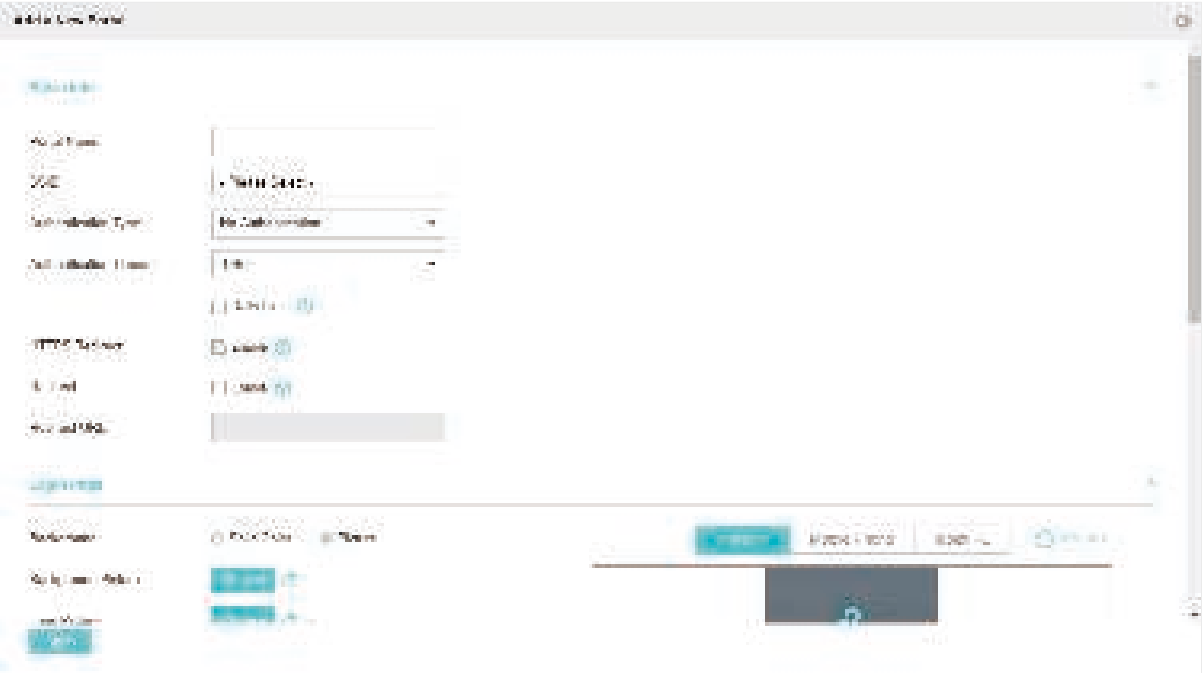
3.3 Portal Authentication

Portal authentication enhances the network security by providing authentication service to the clients that just need temporary access to the wireless network. Such clients have to log into a web page to establish verification, after which they will access the network as guests. What's more, you can customize the authentication login page and specify a URL which the newly authenticated clients will be redirected to.

To configure Portal Authentication, go to **Wireless Control > Portal and click** Add a New Portal .



Then the following window will pop up:



These authentication methods are available: No Authentication, Simple Password, Local User, Voucher, SMS, Facebook, External RADIUS Server and External Portal Server. The following sections introduce how to configure each Portal authentication.

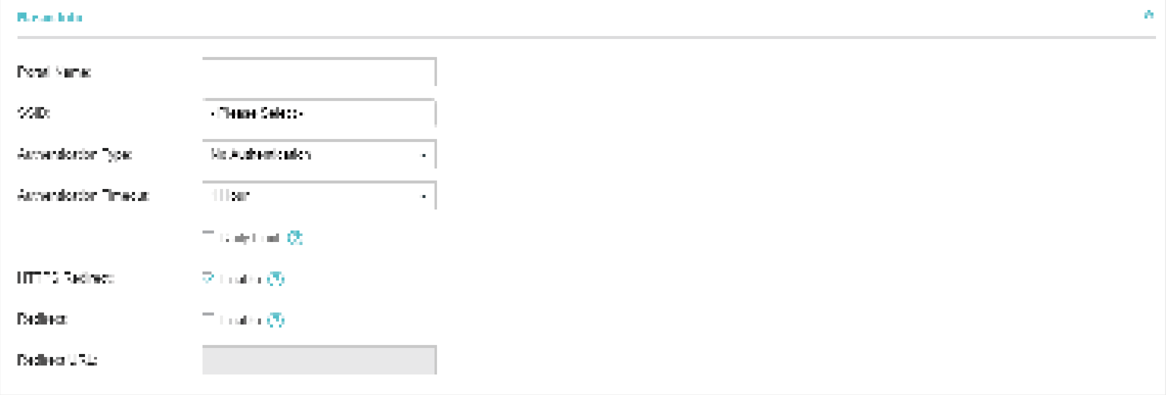
3.3.1 No Authentication

With No Authentication configured, clients can access the network without any authentication.

Follow the steps below to configure No Authentication:

1. Go to **Wireless Settings > Basic Wireless Settings** and create an SSID for the Portal.

2. Go back to the Portal configuration page. In the **Basic Info** section, complete the basic settings for the portal authentication.



Basic Info

Portal Name:

SSID: -Please Select-

Authentication Type: No Authentication

Authentication Timeout: 1 Hour

□ Daily Limit

HTTPS Redirect: ☑ Enable

Redirect: □ Enable

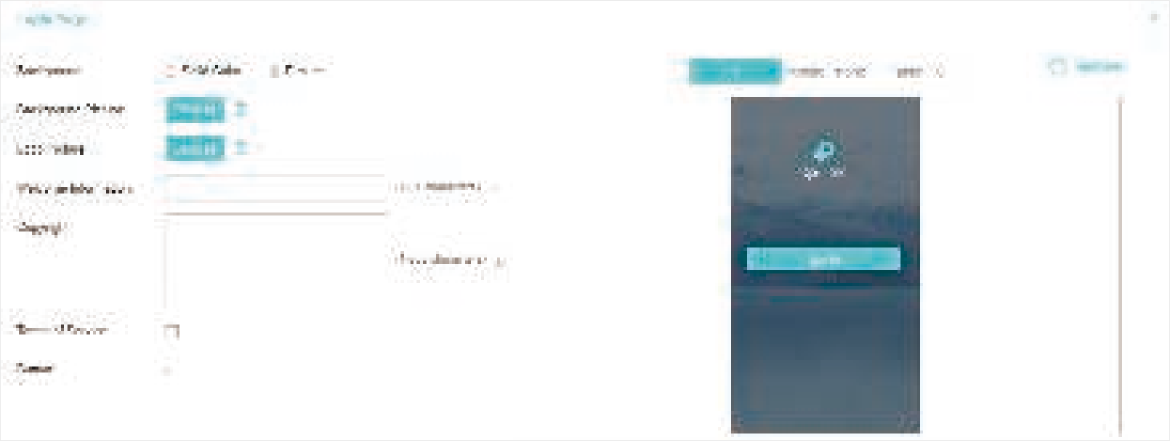
Redirect URL:

Configure the following parameters:

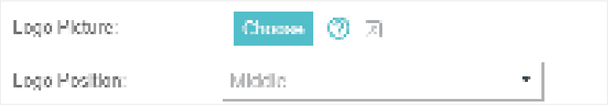
Portal Name	Specify a name for the Portal.
SSID	Select an SSID for the Portal.
Authentication Type	Select **No Authentication**.
Authentication Timeout	With Daily Limit disabled, the client's authentication will expire after the time period you set and the client needs to log in again on the web authentication page to access the network. Options include **1 Hour, 8 Hours, 24 Hours, 7 Days** and **Custom**. **Custom** allows you to define the time in days, hours and minutes. The default value is one hour. With Daily Limit enabled, the client's authentication will expire after the time period you set and the client cannot log in again in the same day. Options include **30 Minutes, 1 Hour, 2 Hours, 4 Hours** and **Custom**. **Custom** allows you to define the time in hours and minutes. The default value is 30 minutes.
Daily Limit	With Daily Limit enabled, after authentication times out, the user cannot get authenticated again in the same day.
HTTPS Redirect	With this function enabled, the unauthorized clients will be redirected to the Portal page when they are trying to browse HTTPS websites. With this function disabled, the unauthorized clients cannot browse HTTPS websites and are not redirected to the Portal page.

Redirect	If you enable this function, the portal will redirect the newly authenticated clients to the configured URL.
Redirect URL	If the Redirect function above is enabled, enter the URL that a newly authenticated client will be redirected to.

3. In the **Login Page** section, configure the login page for the Portal.



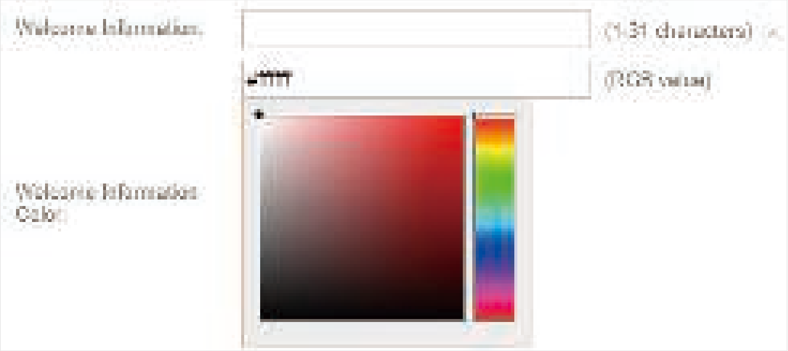
Configure the following parameters:

Background	Select the background type. Two types are supported: **Solid Color** and **Picture**.
Background Color	If **Solid Color** is selected, configure your desired background color through the color picker or by entering the RGB value manually.
Background Picture	If **Picture** is selected, click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**.
Logo Picture	Click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**. In addtion, you can click ⇱ and configure the logo position. The options include **Middle, Upper** and **Lower**.  Logo Picture: Choose Logo Position: Middle

Welcome Information

Specify the welcome information.

In addtion, you can click ▣ and select your desired text color for the welcome information through the color picker or by entering the RGB value manually.



Welcome Information: (1-31 characters)

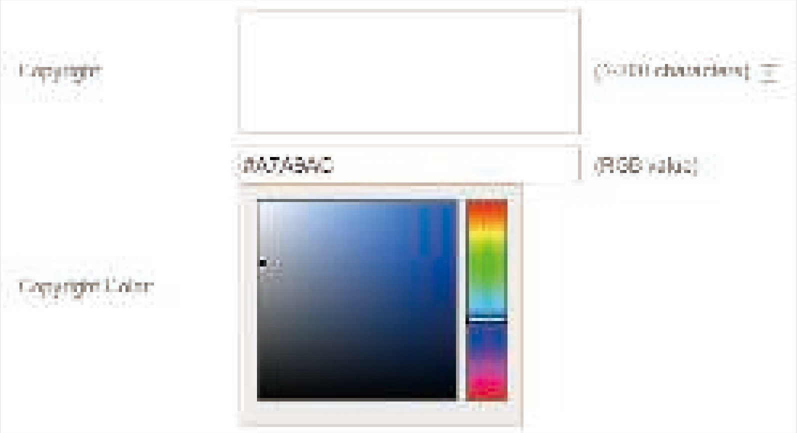
#ffffff (RGB value)

Welcome Information Color

Copyright

Specify the copyright information.

In addtion, you can click ▣ and select your desired text color for Copyright information through the color picker or by entering the RGB value manually.



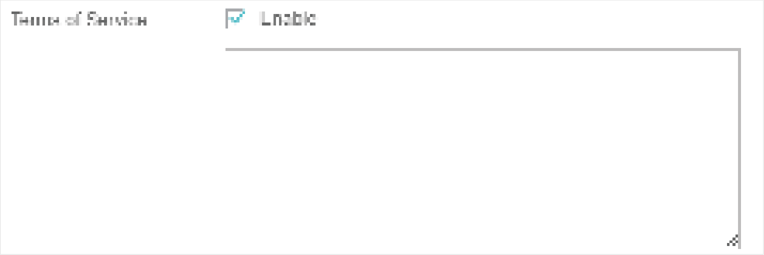
Copyright (1-200 characters)

#A7A9AC (RGB value)

Copyright Color

Terms of Service

Enable or disable Terms of Service. With this option enabled, specify the terms of service in the following box.



Terms of Service ☑ Enable

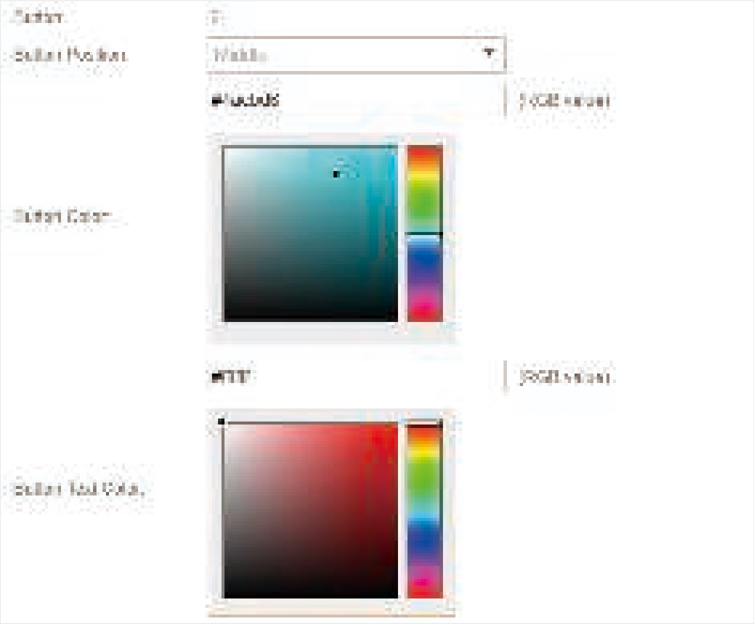
Button

Click ⊞ and configure the button.

Button Position: Set the position of the login button. The options include **Middle, Upper** and **Lower.**

Button Color: Select your desired login button color through the color picker or by entering the RGB value manually.

Button Text Color: Select your desired text color for the button through the color picker or by entering the RGB value manually.



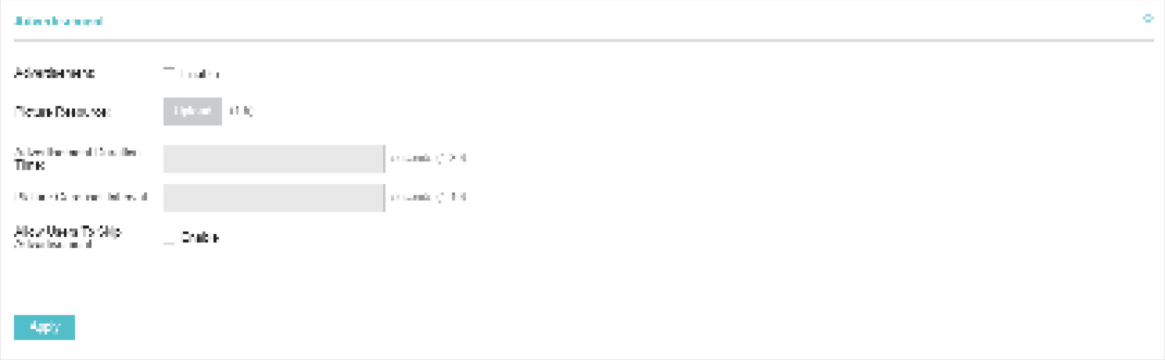
Button ⊞

Button Position: Middle

Button Color: #4acbd6 (RGB value)

Button Text Color: #FFF (RGB value)

4. In the **Advertisement** section, select whether to display advertisement pictures for users and configure the related parameters.



Advertisement

Advertisement: □ Enable

Picture Resource: Upload (1/5)

Advertisement Duration Time: seconds (1-30)

Picture Carousel Interval: seconds (1-10)

Allow Users To Skip Advertisement: □ Enable

Apply

Configure the following parameters:

Advertisement

Specify whether to enable the Advertisement feature. With this feature enabled, you can add advertisement pictures on the authentication page. These advertisement pictures will be displayed before the login page appears. You can also allow users to skip the advertisement by enabling **Allow Users To Skip Advertisement**. The advertisement picture should be less than 2MB. And only JPG, PNG, BMP, GIF and JPEG file types are supported.

Picture Resource	Upload advertisement pictures. When several pictures are added, they will be played in a loop.
Advertisement Duration Time	Specify how long the advertisement will be displayed for. For this duration, the pictures will be played in a loop. If the duration time is not enough for all the pictures, the rest will not be displayed.
Picture Carousel Interval	Specify the picture carousel interval. For example, if this value is set as 5 seconds, the first picture will be displayed for 5 seconds, followed by the second picture for 5 seconds, and so on.
Allow Users To Skip Advertisement	Specify whether to enable this feature. With this feature enabled, the user can click the **Skip** button to skip the advertisement.

5. Click **Apply**.

3.3.2 Simple Password

With this Simple Password configured, clients are required to enter the correct password to pass the authentication.

Follow the steps below to configure No Simple Password Portal:

1. Go to **Wireless Settings > Basic Wireless Settings** and create an SSID for the Portal.

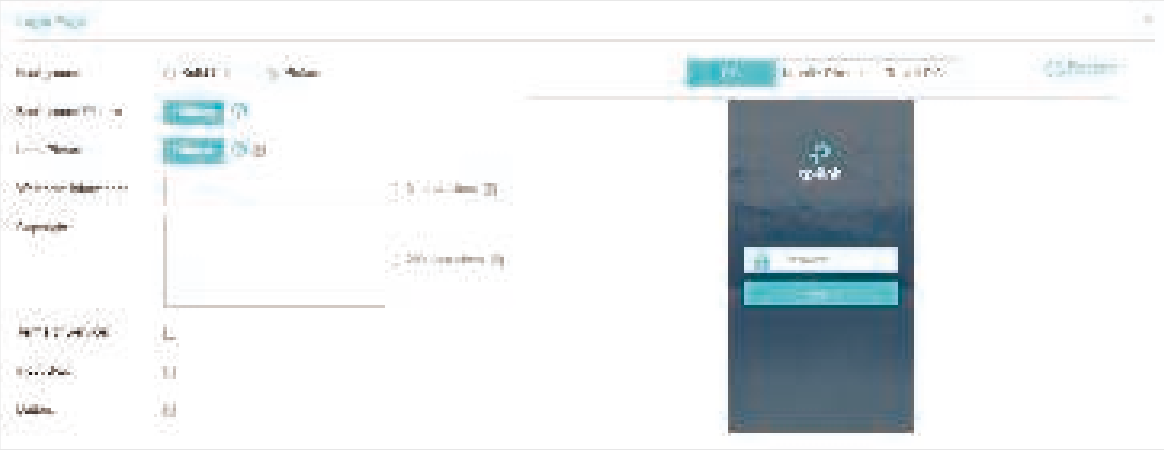
2. Go back to the Portal configuration page. In the **Basic Info** section, complete the basic settings for the portal authentication.

Configure the following parameters:

Portal Name	Specify a name for the Portal.
SSID	Select an SSID for the Portal.
Authentication Type	Select **Simple Password**.
Password	Set the password for authentication.

Authentication Timeout	The client's authentication will expire after the time period you set and the client needs to log in again on the web authentication page to access the network. Options include **1 Hour, 8 Hours, 24 Hours, 7 Days** and **Custom**. **Custom** allows you to define the time in days, hours and minutes. The default value is one hour.
HTTPS Redirect	With this function enabled, the unauthorized clients will be redirected to the Portal page when they are trying to browse HTTPS websites. With this function disabled, the unauthorized clients cannot browse HTTPS websites and are not redirected to the Portal page.
Redirect	If you enable this function, the portal will redirect the newly authenticated clients to the configured URL.
Redirect URL	If the Redirect function above is enabled, enter the URL that a newly authenticated client will be redirected to.

3. In the **Login Page** section, configure the login page for the Portal.



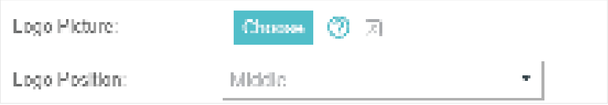
Configure the following parameters:

Background	Select the background type. Two types are supported: **Solid Color** and **Picture**.
Background Color	If **Solid Color** is selected, configure your desired background color through the color picker or by entering the RGB value manually.
Background Picture	If **Picture** is selected, click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**.

Logo Picture

Click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**.

In addtion, you can click ▣ and configure the logo position. The options include **Middle, Upper** and **Lower**.



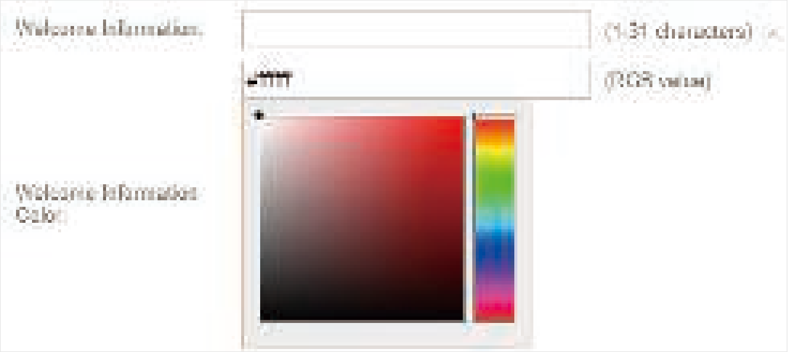
Logo Picture: Choose

Logo Position: Middle ▾

Welcome Information

Specify the welcome information.

In addtion, you can click ▣ and select your desired text color for the welcome information through the color picker or by entering the RGB value manually.



Welcome Information: (1-31 characters)

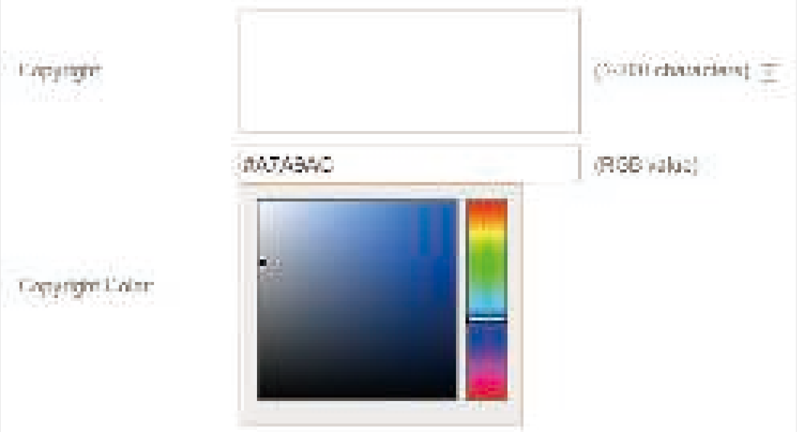
#ffffff (RGB value)

Welcome Information Color:

Copyright

Specify the copyright information.

In addtion, you can click ▣ and select your desired text color for Copyright information through the color picker or by entering the RGB value manually.



Copyright: (0-200 characters)

#A7A9AC (RGB value)

Copyright Color:

Terms of Service

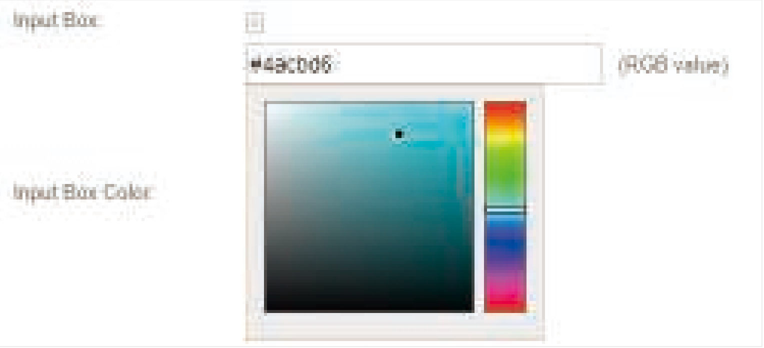
Enable or disable Terms of Service. With this option enabled, specify the terms of service in the following box.

Terms of Service: ☑ Enable

Input Box

Click ☑ and configure the input box.

Select your desired color for the input box through the color picker or by entering the RGB value manually.



Input Box ☑

Input Box Color #4acbd6 (RGB value)

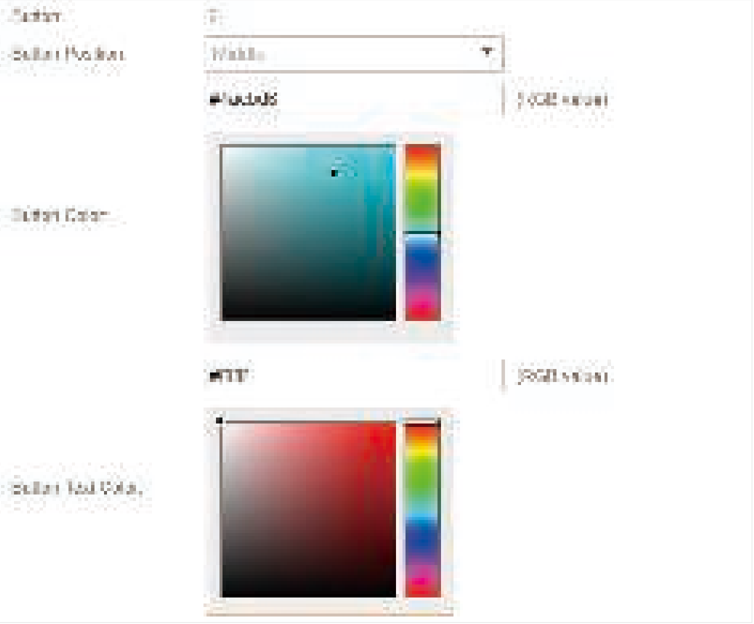
Button

Click ☑ and configure the button.

Button Position: Set the position of the login button. The options include **Middle, Upper** and **Lower.**

Button Color: Select your desired login button color through the color picker or by entering the RGB value manually.

Button Text Color: Select your desired text color for the button through the color picker or by entering the RGB value manually.



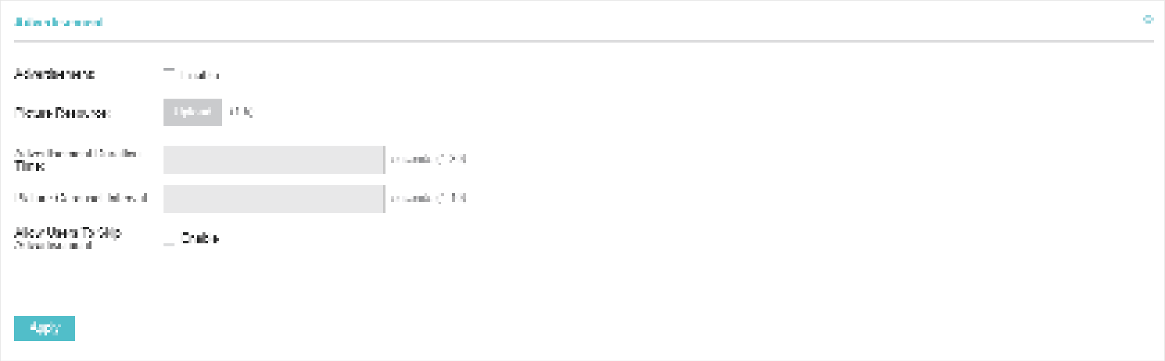
Button ☑

Button Position Middle

Button Color #4acbd6 (RGB value)

Button Text Color #ffffff (RGB value)

4. In the **Advertisement** section, select whether to display advertisement pictures for users and configure the related parameters.


Advertisement
Advertisement
□ Enable
Picture Resource
Upload
Advertisement Duration Time
seconds
Picture Carousel Interval
seconds
Allow Users To Skip Advertisement
□ Enable
Apply

Configure the following parameters:

Advertisement	Specify whether to enable the Advertisement feature. With this feature enabled, you can add advertisement pictures on the authentication page. These advertisement pictures will be displayed before the login page appears. You can also allow users to skip the advertisement by enabling **Allow Users To Skip Advertisement**. The advertisement picture should be less than 2MB. And only JPG, PNG, BMP, GIF and JPEG file types are supported.
Picture Resource	Upload advertisement pictures. When several pictures are added, they will be played in a loop.
Advertisement Duration Time	Specify how long the advertisement will be displayed for. For this duration, the pictures will be played in a loop. If the duration time is not enough for all the pictures, the rest will not be displayed.
Picture Carousel Interval	Specify the picture carousel interval. For example, if this value is set as 5 seconds, the first picture will be displayed for 5 seconds, followed by the second picture for 5 seconds, and so on.
Allow Users To Skip Advertisement	Specify whether to enable this feature. With this feature enabled, the user can click the **Skip** button to skip the advertisement.

5. Click **Apply**.

3.3.3 Local User

With this Local User configured, clients are required to enter the correct username and password of the login account to pass the authentication. You can create multiple accounts and assign different accounts for different users.

Configure Local User Portal

Follow the steps below to configure Local User Portal:

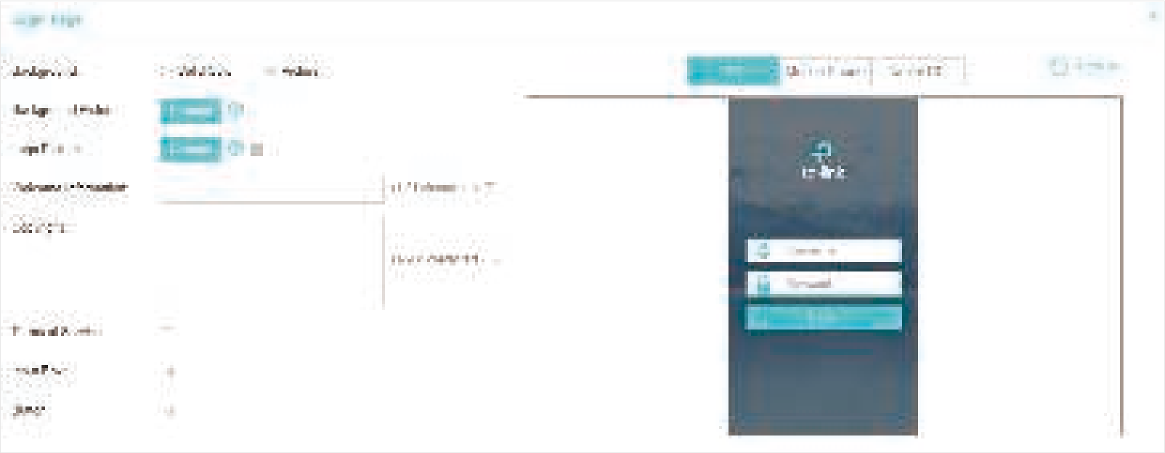
1. Go to **Wireless Settings > Basic Wireless Settings** and create an SSID for the Portal.
2. Go back to the Portal configuration page. In the **Basic Info** section, complete the basic settings for the portal authentication.

User Management

Configure the following parameters:

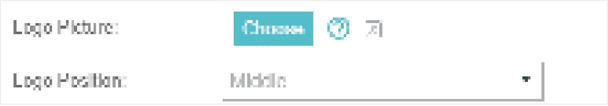
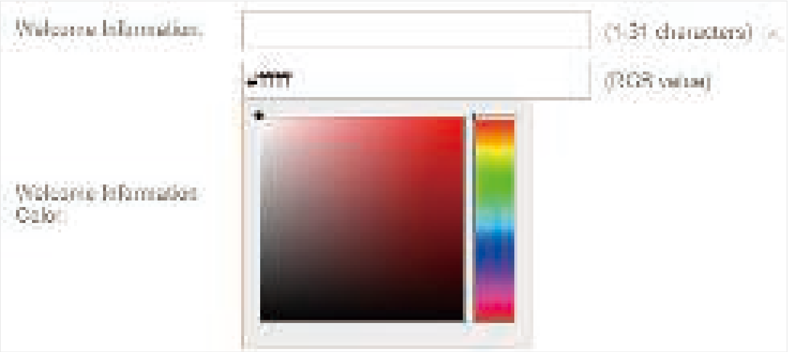
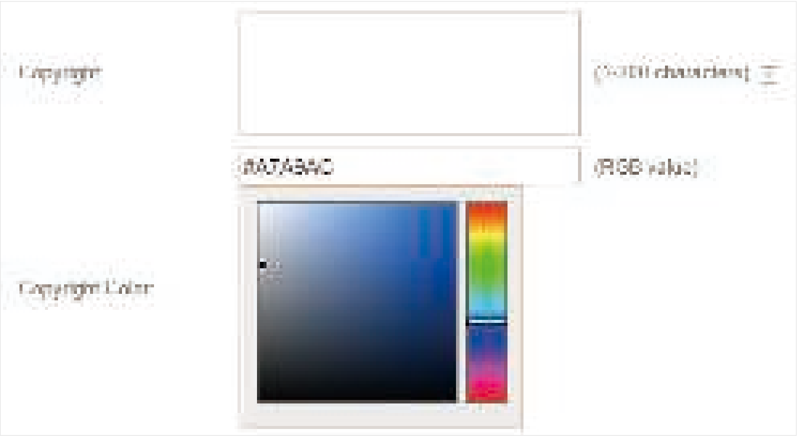
Portal Name	Specify a name for the Portal.
SSID	Select an SSID for the Portal.
Authentication Type	Select **Local User**.
User Management	You can click this button to configure user accounts for authentication later. Please refer to Create Local User Accounts.
HTTPS Redirect	With this function enabled, the unauthorized clients will be redirected to the Portal page when they are trying to browse HTTPS websites. With this function disabled, the unauthorized clients cannot browse HTTPS websites and are not redirected to the Portal page.
Redirect	If you enable this function, the portal will redirect the newly authenticated clients to the configured URL.
Redirect URL	If the Redirect function above is enabled, enter the URL that a newly authenticated client will be redirected to.

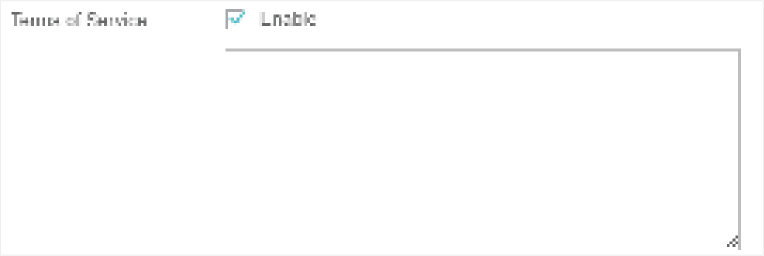
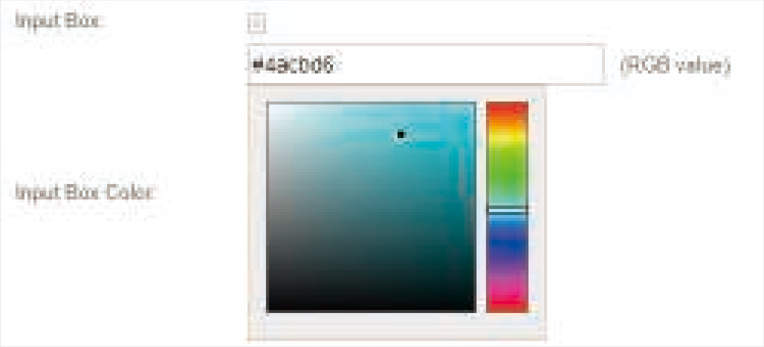
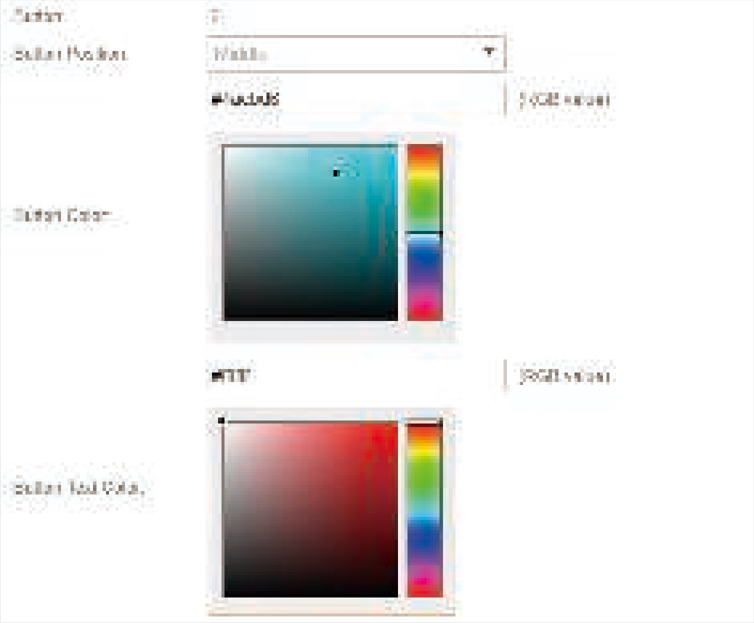
3. In the **Login Page** section, configure the login page for the Portal.



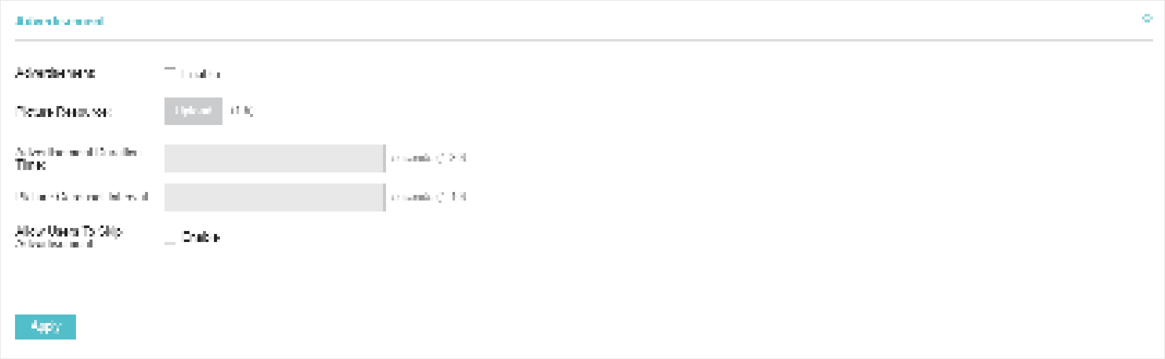
Configure the following parameters:

Background	Select the background type. Two types are supported: **Solid Color** and **Picture**.

Background Color	If **Solid Color** is selected, configure your desired background color through the color picker or by entering the RGB value manually.
Background Picture	If **Picture** is selected, click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**.
Logo Picture	Click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**. In addtion, you can click ▣ and configure the logo position. The options include **Middle, Upper** and **Lower**.  Logo Picture: Choose Logo Position: Middle
Welcome Information	Specify the welcome information. In addtion, you can click ▣ and select your desired text color for the welcome information through the color picker or by entering the RGB value manually.  Welcome Information: (1-31 characters) Welcome Information Color: #ffffff (RGB value)
Copyright	Specify the copyright information. In addtion, you can click ▣ and select your desired text color for Copyright information through the color picker or by entering the RGB value manually.  Copyright: (0-200 characters) Copyright Color: #A7A9AC (RGB value)

Terms of Service	Enable or disable Terms of Service. With this option enabled, specify the terms of service in the following box.  Terms of Service ☑ Enable
Input Box	Click ⊞ and configure the input box. Select your desired color for the input box through the color picker or by entering the RGB value manually.  Input Box □ Input Box Color #4acbd6 (RGB value)
Button	Click ⊞ and configure the button. **Button Position**: Set the position of the login button. The options include **Middle, Upper** and **Lower.** **Button Color**: Select your desired login button color through the color picker or by entering the RGB value manually. **Button Text Color**: Select your desired text color for the button through the color picker or by entering the RGB value manually.  Button □ Button Position Middle Button Color #4acbd6 (RGB value) Button Text Color #fff (RGB value)

4. In the **Advertisement** section, select whether to display advertisement pictures for users and configure the related parameters.


Advertisement
Advertisement
Enable
Picture Resource
Upload
Advertisement Duration Time
Picture Carousel Interval
Allow Users To Skip Advertisement
Enable
Apply

Configure the following parameters:

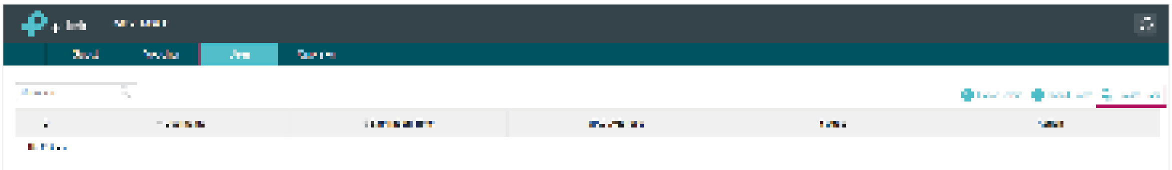
Advertisement	Specify whether to enable the Advertisement feature. With this feature enabled, you can add advertisement pictures on the authentication page. These advertisement pictures will be displayed before the login page appears. You can also allow users to skip the advertisement by enabling **Allow Users To Skip Advertisement**. The advertisement picture should be less than 2MB. And only JPG, PNG, BMP, GIF and JPEG file types are supported.
Picture Resource	Upload advertisement pictures. When several pictures are added, they will be played in a loop.
Advertisement Duration Time	Specify how long the advertisement will be displayed for. For this duration, the pictures will be played in a loop. If the duration time is not enough for all the pictures, the rest will not be displayed.
Picture Carousel Interval	Specify the picture carousel interval. For example, if this value is set as 5 seconds, the first picture will be displayed for 5 seconds, followed by the second picture for 5 seconds, and so on.
Allow Users To Skip Advertisement	Specify whether to enable this feature. With this feature enabled, the user can click the **Skip** button to skip the advertisement.

5. Click **Apply**.

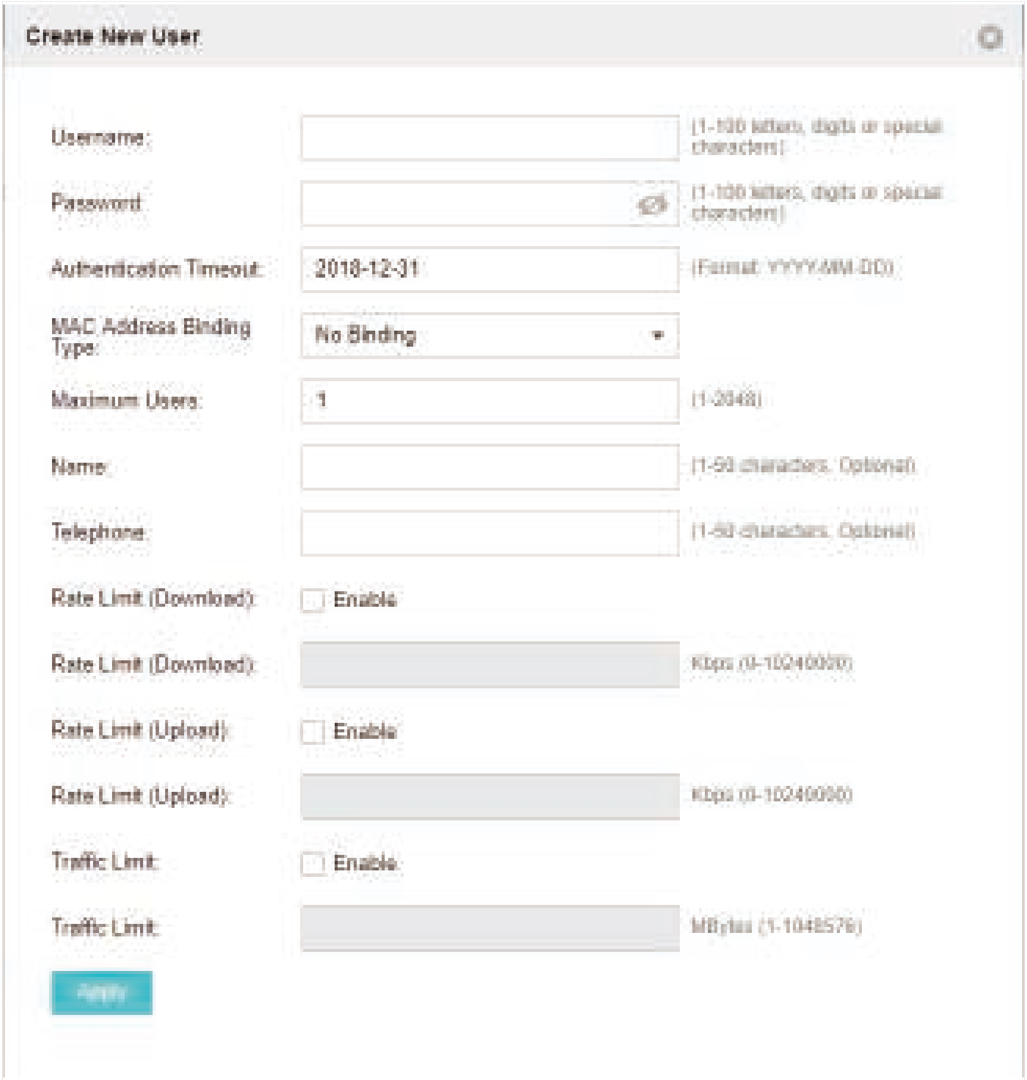
Create Local User Accounts

Follow the steps below to create the user accounts for authentication:

1. In the **Basic Info** section on the portal configuration page, click **User Management**. The management page will appear. Go to the **User** page and click Create User.



2. The following window will pop up. Configure the required parameters and click **Apply.**



Create New User

Username:		(1-100 letters, digits or special characters)
Password:		(1-100 letters, digits or special characters)
Authentication Timeout:	2018-12-31	(Format: YYYY-MM-DD)
MAC Address Binding Type:	No Binding	
Maximum Users:	1	(1-2048)
Name:		(1-50 characters, Optional)
Telephone:		(1-50 characters, Optional)
Rate Limit (Download):	□ Enable	
Rate Limit (Download):		Kbps (0-10240000)
Rate Limit (Upload):	□ Enable	
Rate Limit (Upload):		Kbps (0-10240000)
Traffic Limit:	□ Enable	
Traffic Limit:		MBytes (1-1048576)

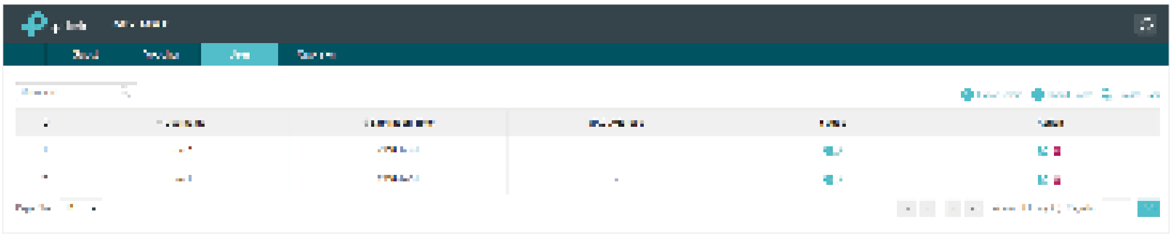
Configure the following parameters:

Username	Specify the username. The username should not be the same as any existing one.
Password	Specify the password. Users will be required to enter the username and password when they attempt to access the network.
Authentication Timeout	Specify the authentication timeout for formal users. After timeout, the users need to log in again on the web authentication page to access the network.
MAC Address Binding Type	There are three types of MAC binding: **No Binding**, **Static Binding** and **Dynamic Binding**. **Static Binding:** Specify a MAC address for this user account. Then only the user with the this MAC address can use the username and password to pass the authentication. **Dynamic Binding:** The MAC address of the first user that passes the authentication will be bound. Then only this user can use the username and password to pass the authentication.

Maximum Users	Specify the maximum number of users able to use this account to pass the authencitation.
Name	Specify a name for identification.
Telephone	Specify a telephone number for identification.
Rate Limit (Download)	Select whether to enable download rate limit. With this option enabled, you can specify the limit of download rate.
Rate Limit (Upload)	Select whether to enable upload rate limit. With this option enabled, you can specify the limit of upload rate.
Traffic Limit	Select whether to enable traffic limit. With this option enabled, you can specify the total traffic limit for the user. Once the limit is reached, the user can no longer use this account to access the network.

3. In the same way, you can add more user accounts. The created user accounts will be displayed in the list. Users can use the username and password of the account to pass the portal authentication.

   By default, the account Status is ●, which means that the user account is enabled and valid. You can also click this button to disable the user account. The icon will be changed to ○, which means that the user account is disabled.

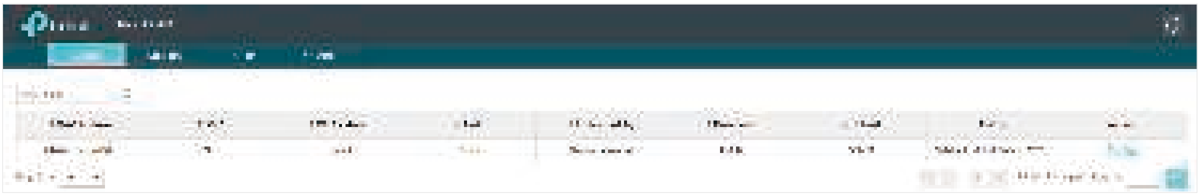
   Additionally, you can click Export Users to backup all the user account information into a CSV file or XLS file and save the file to your PC. If needed, you can click Import Users and select the file to import the account information to the list.

Note:

Using Excel to open the CSV file may cause some numerical format changes, and the number may be displayed incorrectly. If you use Excel to edit the CSV file, please set the cell format as text.

Manage the Guests

On the Guest page, you can view the information of clients that have passed the portal authentication and manage the clients.



You can select an icon to execute the corresponding operation:

	Disconnect client.
	Extend the effective time.

Create Operator Accounts

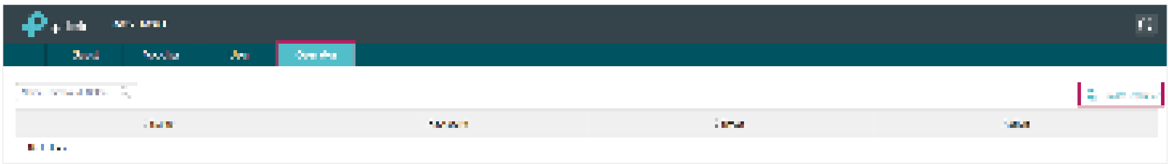
Operator account can be used to remotely manage the Local User Portal and Voucher Portal. Other users can visit the URL **https://Omada Controller Host's IP Address:8043/hotspot** (For example: https://192.168.0.64:8043/hotspot) and use the Operator account to enter the portal management page.

Note:

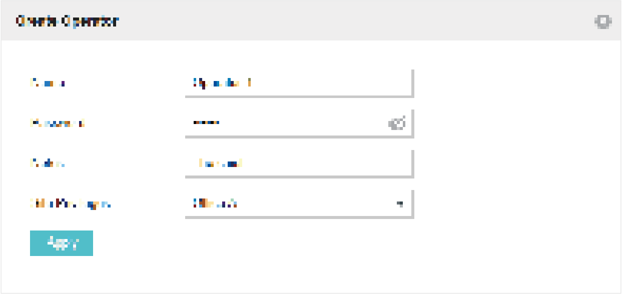
- Make sure the host that is used to enter the portal management page with operator account can visit the Controller host.
- Only the user that log in to the controller with the administrator role can add or remove the operator account for portal management.
- The users who enter the portal management page by operator account can only create local user accounts and vouchers and manage the clients.

Follow the steps below to create Operator account.

1. Go to the **Operator** page.



2. Click Create Operator and the following window will pop up.



3. Specify the **Name**, **Password** and **Notes** of the Operator account.

4. Select **Site Privileges** from the drop-down list (multiple options available) for the Operator account.

5. Click **Apply** to create an Operator account. Then other users can use this account to enter the hotspot management page.

3.3.4 Voucher

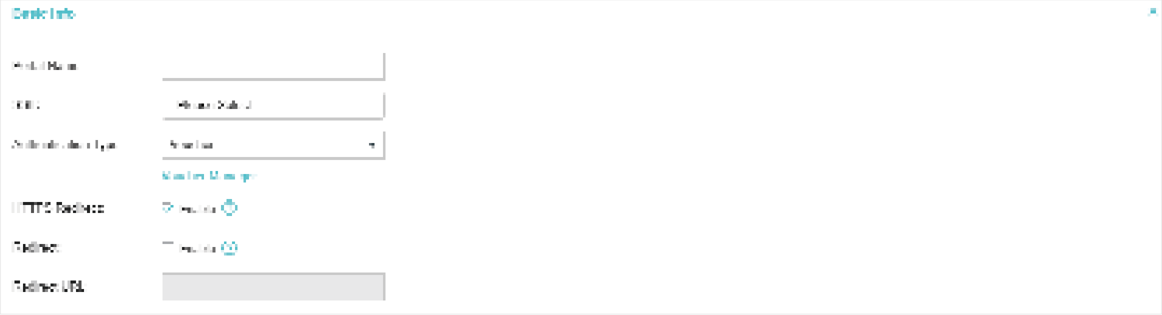
With Voucher configured, you can distribute the vouchers automatically generated by the Omada Controller to the clients. Clients can use the vouchers to access the network.

Configure Voucher Portal

Follow the steps below to configure Voucher Portal:

1. Go to **Wireless Settings > Basic Wireless Settings** and create an SSID for the Portal.

2. Go back to the Portal configuration page. In the **Basic Info** section, complete the basic settings for the portal authentication.



Basic Info

Portal Name

SSID: Please Select

Authentication Type: Voucher

Voucher Manager

HTTPS Redirect ☑ Enable

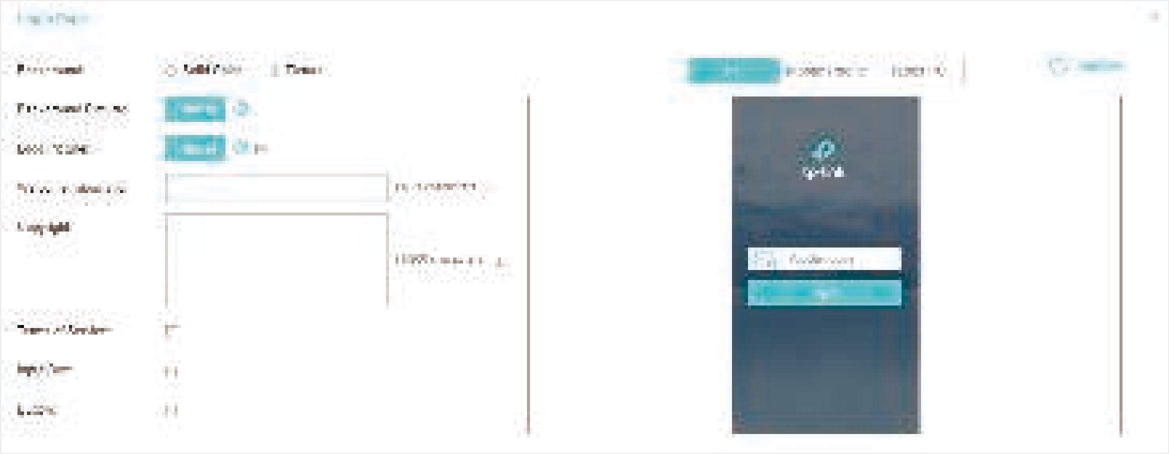
Redirect □ Enable

Redirect URL

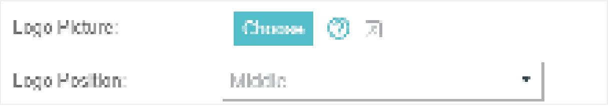
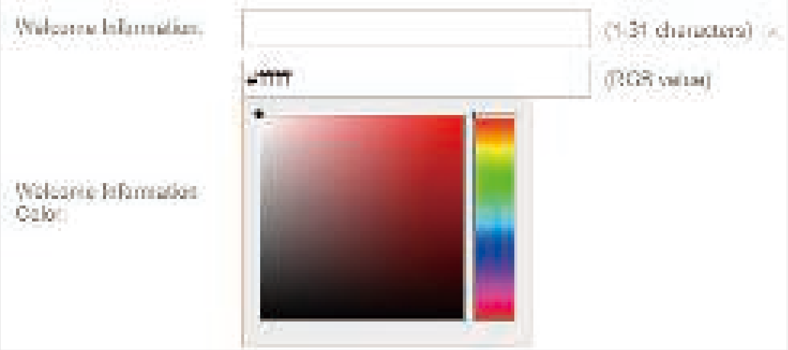
Configure the following parameters:

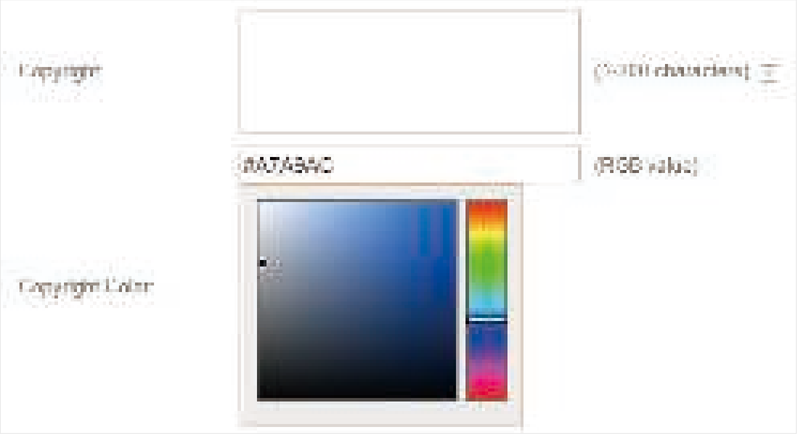
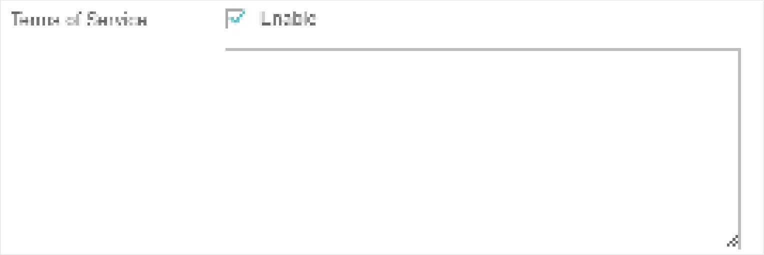
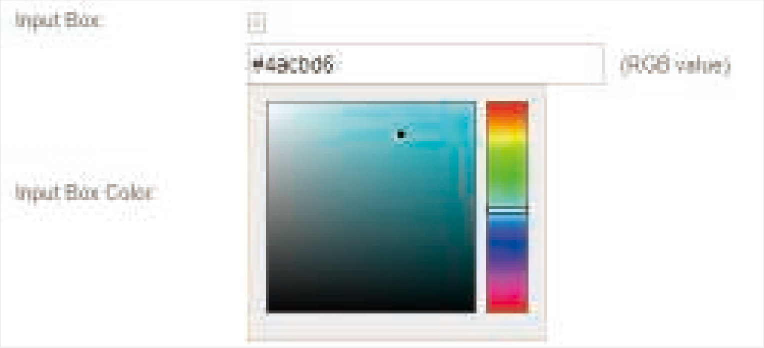
Portal Name	Specify a name for the Portal.
SSID	Select an SSID for the Portal.
Authentication Type	Select **Voucher**.
User Management	You can click this button to configure vouchers for authentication later. Please refer to Create Vouchers.
HTTPS Redirect	With this function enabled, the unauthorized clients will be redirected to the Portal page when they are trying to browse HTTPS websites. With this function disabled, the unauthorized clients cannot browse HTTPS websites and are not redirected to the Portal page.
Redirect	If you enable this function, the portal will redirect the newly authenticated clients to the configured URL.
Redirect URL	If the Redirect function above is enabled, enter the URL that a newly authenticated client will be redirected to.

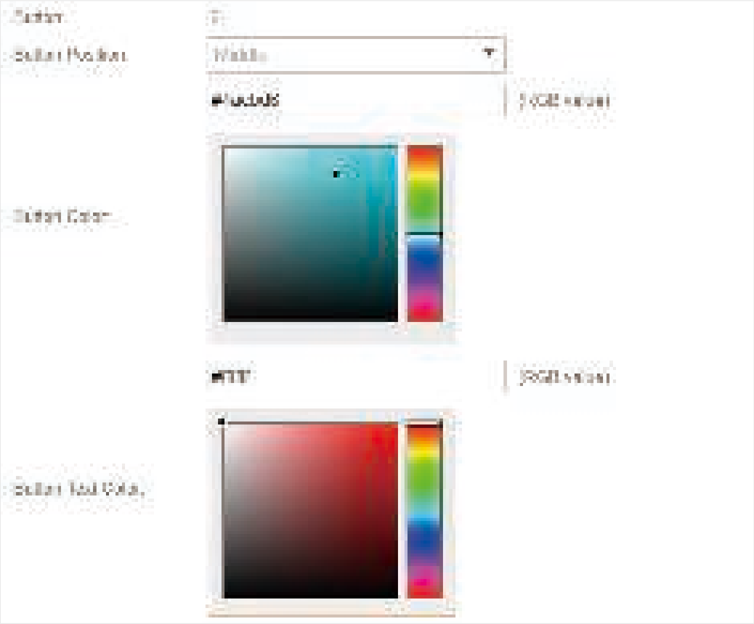
3. In the **Login Page** section, configure the login page for the Portal.



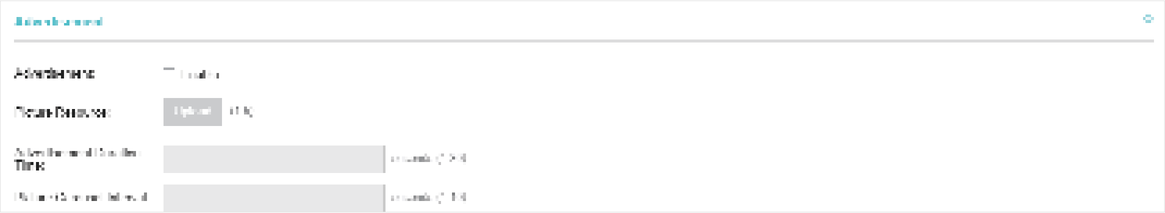
Configure the following parameters:

Background	Select the background type. Two types are supported: **Solid Color** and **Picture**.
Background Color	If **Solid Color** is selected, configure your desired background color through the color picker or by entering the RGB value manually.
Background Picture	If **Picture** is selected, click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**.
Logo Picture	Click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**. In addtion, you can click ⊞ and configure the logo position. The options include **Middle, Upper** and **Lower**.  Logo Picture: Choose Logo Position: Middle
Welcome Information	Specify the welcome information. In addtion, you can click ⊞ and select your desired text color for the welcome information through the color picker or by entering the RGB value manually.  Welcome Information: (1-31 characters) Welcome Information Color: #ffffff (RGB value)

Copyright	Specify the copyright information. In addtion, you can click ⊞ and select your desired text color for Copyright information through the color picker or by entering the RGB value manually.  Copyright (0-200 characters) #A7A9AC (RGB value) Copyright Color
Terms of Service	Enable or disable Terms of Service. With this option enabled, specify the terms of service in the following box.  Terms of Service ☑ Enable
Input Box	Click ⊞ and configure the input box. Select your desired color for the input box through the color picker or by entering the RGB value manually.  Input Box ⊞ #4acbd6 (RGB value) Input Box Color

Button	Click ⊞ and configure the button. **Button Position**: Set the position of the login button. The options include **Middle, Upper** and **Lower.** **Button Color**: Select your desired login button color through the color picker or by entering the RGB value manually. **Button Text Color**: Select your desired text color for the button through the color picker or by entering the RGB value manually. 

4. In the **Advertisement** section, select whether to display advertisement pictures for users and configure the related parameters.



Configure the following parameters:

Advertisement	Specify whether to enable the Advertisement feature. With this feature enabled, you can add advertisement pictures on the authentication page. These advertisement pictures will be displayed before the login page appears. You can also allow users to skip the advertisement by enabling **Allow Users To Skip Advertisement**. The advertisement picture should be less than 2MB. And only JPG, PNG, BMP, GIF and JPEG file types are supported.
Picture Resource	Upload advertisement pictures. When several pictures are added, they will be played in a loop.
Advertisement Duration Time	Specify how long the advertisement will be displayed for. For this duration, the pictures will be played in a loop. If the duration time is not enough for all the pictures, the rest will not be displayed.

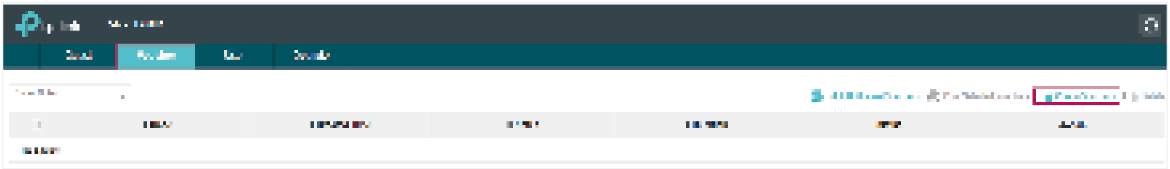
Picture Carousel Interval	Specify the picture carousel interval. For example, if this value is set as 5 seconds, the first picture will be displayed for 5 seconds, followed by the second picture for 5 seconds, and so on.
Allow Users To Skip Advertisement	Specify whether to enable this feature. With this feature enabled, the user can click the **Skip** button to skip the advertisement.

5. Click **Apply**.

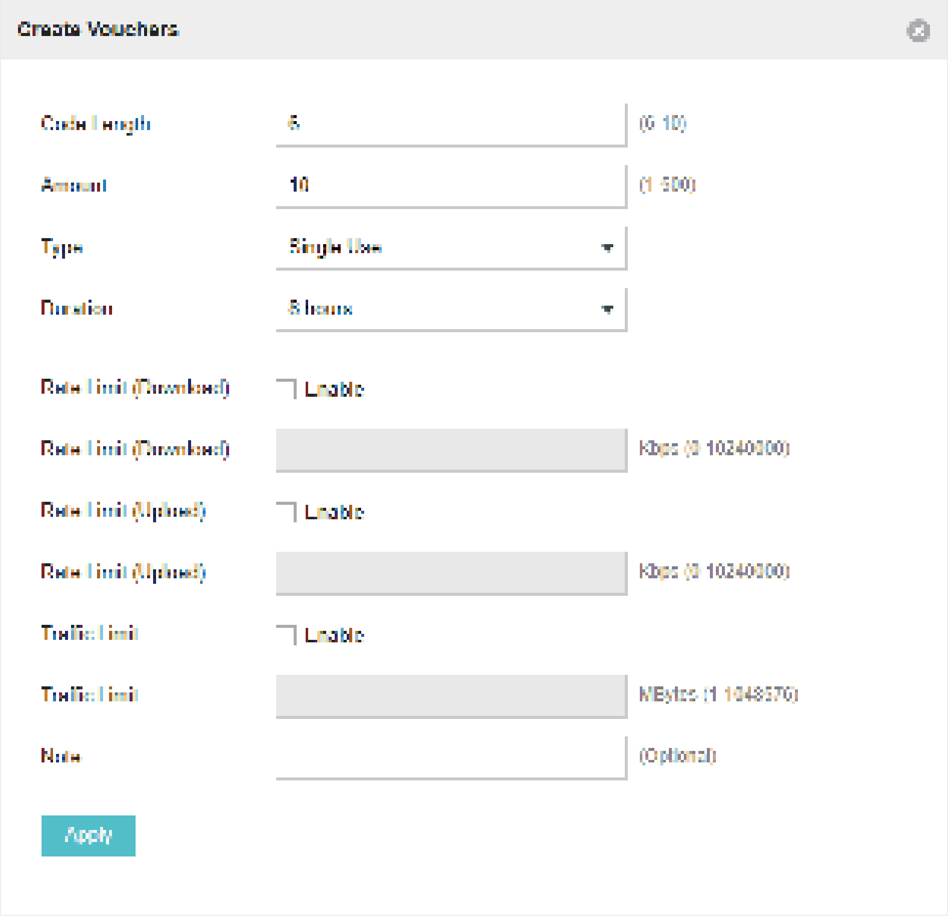
Create Vouchers

Follow the steps below to create vouchers for authentication:

1. In the **Basic Info** section, click **Voucher Manager**. The voucher management page will appear. Go to the **Voucher** page and click Create Vouchers .



2. The following window will pop up. Configure the required parameters and click **Apply**.



Create Vouchers

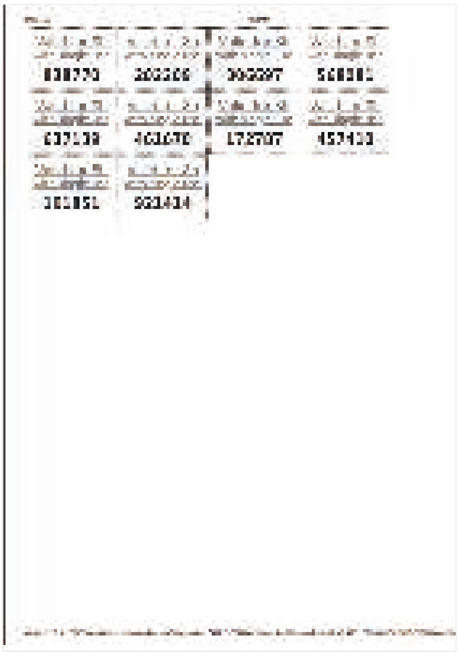
Code Length	6	(6-10)
Amount	10	(1-500)
Type	Single Use	
Duration	8 hours	
Rate Limit (Download)	☐ Enable	
Rate Limit (Download)		Kbps (0-10240000)
Rate Limit (Upload)	☐ Enable	
Rate Limit (Upload)		Kbps (0-10240000)
Traffic Limit	☐ Enable	
Traffic Limit		MBytes (1-1048576)
Note		(Optional)

Configure the following parameters:

Code Length	Specify the length of the voucher codes to be created.
Amount	Enter the voucher amount to be generated.
Type	Select **Single Use** or **Multi Use**. Single Use means one voucher can only be distributed to one client. Multi Use means one voucher can be distributed to several clients, who can use the same voucher to access the network at the same time. If you select Multi Use, enter the value of **Max Users**. When the number of clients who are connected to the network with the same voucher reaches the value, no more clients can use this voucher to access the network.
Duration	Select the period of validity of the Voucher. The options include **8 hours**, **2 days** and **User-defined**. The period of valid of the voucher is reckoned from the time when it is used for the first time.
Rate Limit (Download)	Select whether to enable download rate limit. With this option enabled, you can specify the limit of download rate.
Rate Limit (Upload)	Select whether to enable upload rate limit. With this option enabled, you can specify the limit of upload rate.
Traffic Limit	Specify the total traffic limit for one voucher. Once the limit is reached, the client can no longer access the network using the voucher.
Notes	Enter a description for the Voucher (optional).

3. The Vouchers will be generated and displayed on the page.

4. Click 🖶 to print a single voucher; click 🖶 Print Selected Vouchers to print your selected vouchers; click 🖶 Print All Unused Vouchers to print all unused vouchers.

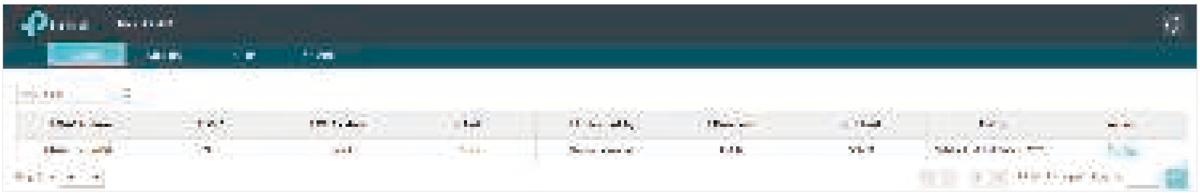


5. Distribute the vouchers to clients, and then they can use the codes to pass authentication.

6. When the vouchers are invalid, you can click 🗑 to delete the Voucher or click Delete to delete the selected vouchers.

Manage the Guests

On the Guest page, you can view the information of clients that have passed the portal authentication and manage the clients.



You can select an icon to execute the corresponding operation:

🔑	Restrict the client to access the network.
🕓	Extend the effective time.

Create Operator Accounts

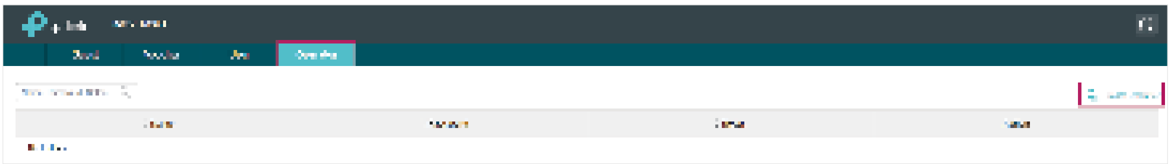
Operator account can be used to remotely manage the Local User Portal and Voucher Portal. Other users can visit the URL **https://Omada Controller Host’s IP Address:8043/hotspot** (For example: https://192.168.0.64:8043/hotspot) and use the Operator account to enter the portal management page.

Note:

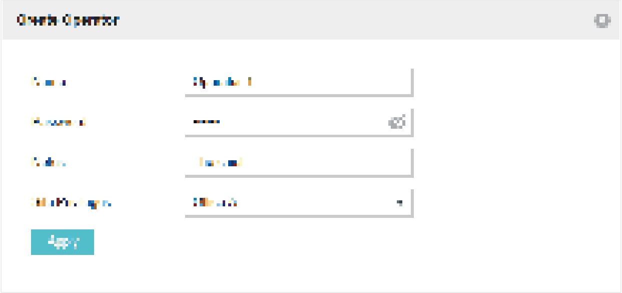
- Make sure the host that is used to enter the portal management page with operator account can visit the Controller host.
- Only the user that log in to the controller with the administrator role can add or remove the operator account for portal management.
- The users who enter the portal management page by operator account can only create local user accounts and vouchers and manage the clients.

Follow the steps below to create Operator account.

1. Go to the **Operator** page.



2. Click Create Operator and the following window will pop up.



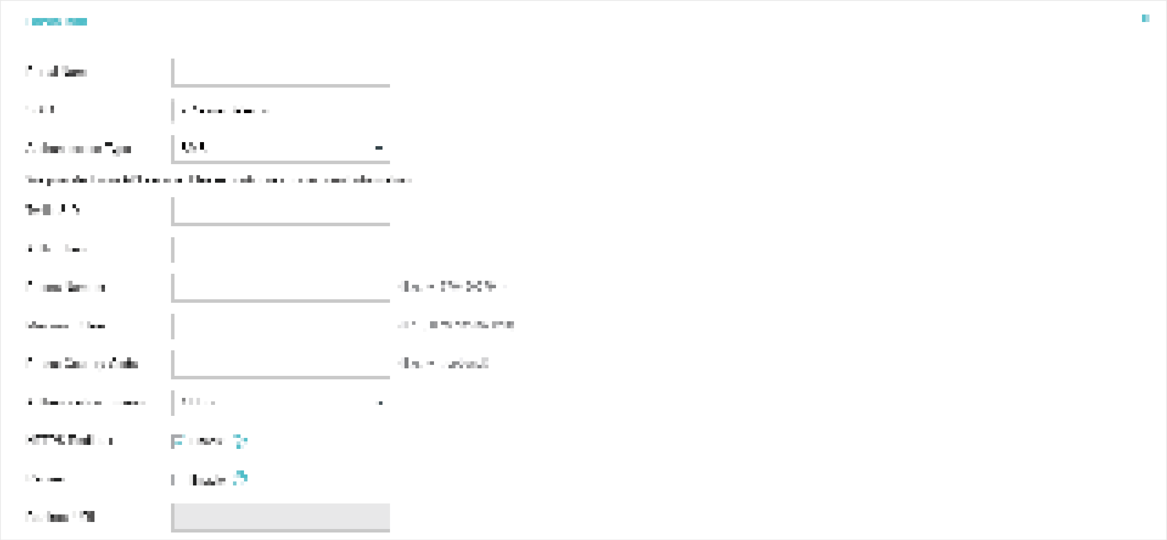
3. Specify the **Name**, **Password** and **Notes** of the Operator account.
4. Select **Site Privileges** from the drop-down list (multiple options available) for the Operator account.
5. Click **Apply** to create an Operator account. Then other users can use this account to enter the hotspot administrative system.

3.3.5 SMS

With SMS portal configured, client can get verification codes using their mobile phones and enter the received codes to pass the authentication.

Follow the steps below to configure SMS Portal:

1. Go to www.twilio.com/try-twilio and get a Twilio account. Buy the Twilio service for SMS. Then get the account information, including ACCOUNT SID, AUTH TOKEN and Phone number.
2. Go to **Wireless Settings > Basic Wireless Settings** and create an SSID for the Portal.
3. Go back to the Portal configuration page. In the **Basic Info** section, complete the basic settings for the portal authentication.

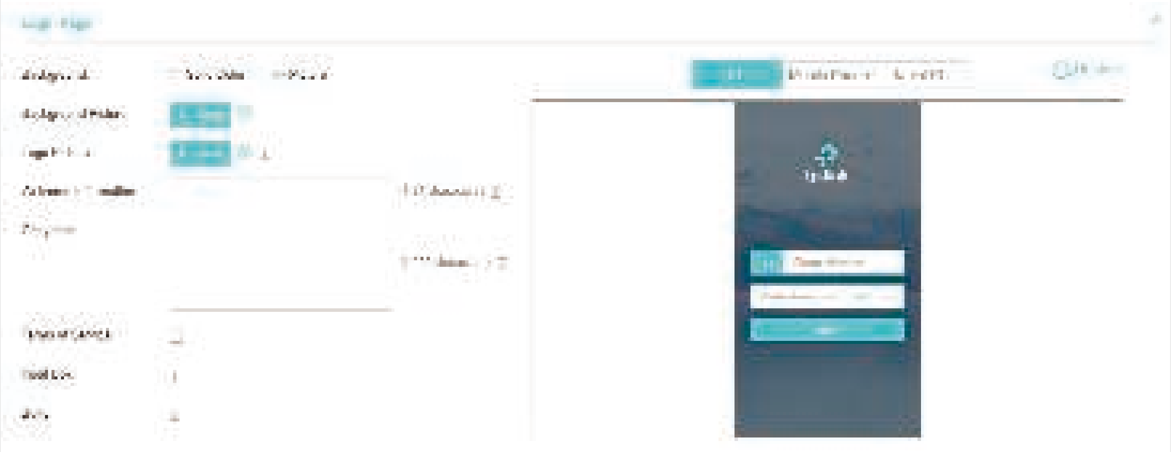


Configure the following parameters:

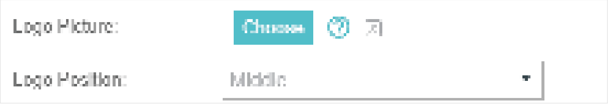
Portal Name	Specify a name for the Portal.
SSID	Select an SSID for the Portal.
Authentication Type	Select **SMS**.
Twilio SID	Enter the Account SID for Twilio API Credentials.
Auth Token	Enter the Authentication Token for Twilio API Credentials.
Phone Number	Enter the phone number that is used to send verification messages to the clients.
Maximum Users	A telephone can get several codes via messages one by one, and different clients can use different codes to pass the authentication. However, the number of clients that is allowed to be authenticated using the same telephone at the same time has a upper limit. Specify the upper limit in this field.
Authentication Timeout	The client's authentication will expire after the time period you set and the client needs to log in again on the web authentication page to access the network. Options include **1 Hour, 8 Hours, 24 Hours, 7 Days** and **Custom**. **Custom** allows you to define the time in days, hours and minutes. The default value is one hour.
Preset Country Code	Set the default country code that will be filled automatically on the authentication page.
HTTPS Redirect	With this function enabled, the unauthorized clients will be redirected to the Portal page when they are trying to browse HTTPS websites. With this function disabled, the unauthorized clients cannot browse HTTPS websites and are not redirected to the Portal page.

Redirect	If you enable this function, the portal will redirect the newly authenticated clients to the configured URL.
Redirect URL	If the Redirect function above is enabled, enter the URL that a newly authenticated client will be redirected to.

4. In the **Login Page** section, configure the login page for the Portal.



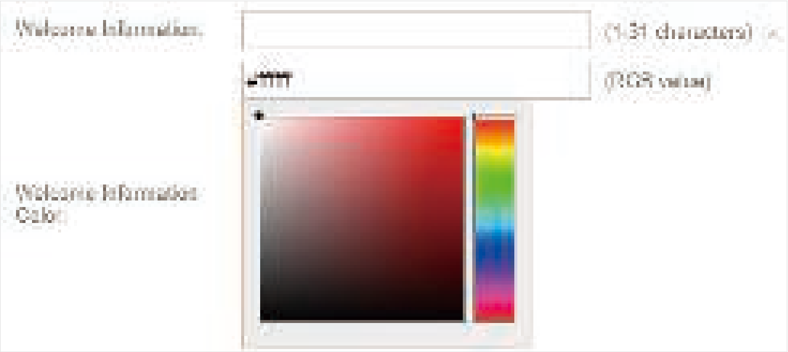
Configure the following parameters:

Background	Select the background type. Two types are supported: **Solid Color** and **Picture**.
Background Color	If **Solid Color** is selected, configure your desired background color through the color picker or by entering the RGB value manually.
Background Picture	If **Picture** is selected, click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**.
Logo Picture	Click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**. In addtion, you can click ⊞ and configure the logo position. The options include **Middle, Upper** and **Lower**.  Logo Picture: Choose Logo Position: Middle

Welcome Information

Specify the welcome information.

In addtion, you can click ⊞ and select your desired text color for the welcome information through the color picker or by entering the RGB value manually.



Welcome Information: (1-31 characters)

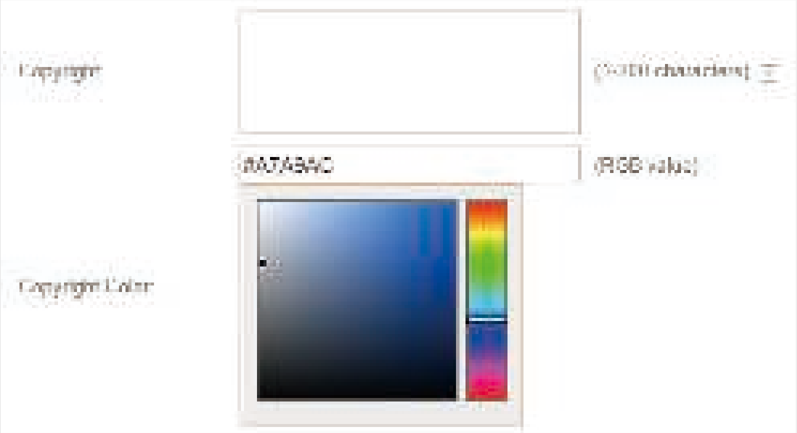
#ffffff (RGB value)

Welcome Information Color:

Copyright

Specify the copyright information.

In addtion, you can click ⊞ and select your desired text color for Copyright information through the color picker or by entering the RGB value manually.



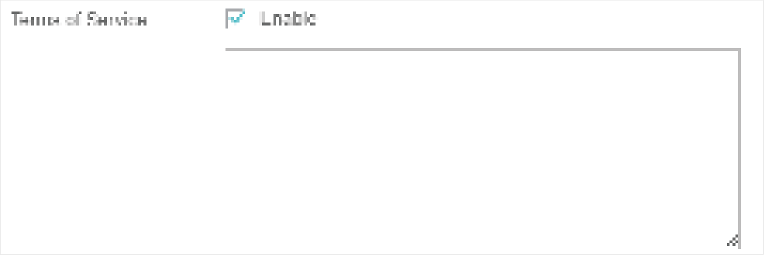
Copyright: (0-200 characters)

#A7A9AC (RGB value)

Copyright Color:

Terms of Service

Enable or disable Terms of Service. With this option enabled, specify the terms of service in the following box.

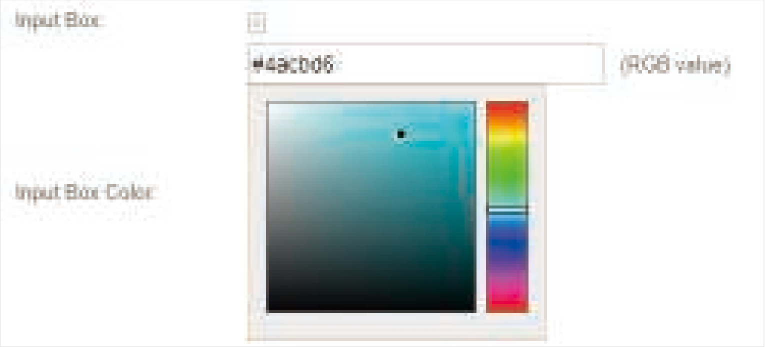


Terms of Service ☑ Enable

Input Box

Click ⊞ and configure the input box.

Select your desired color for the input box through the color picker or by entering the RGB value manually.



Input Box ☐

#4acbd6 (RGB value)

Input Box Color

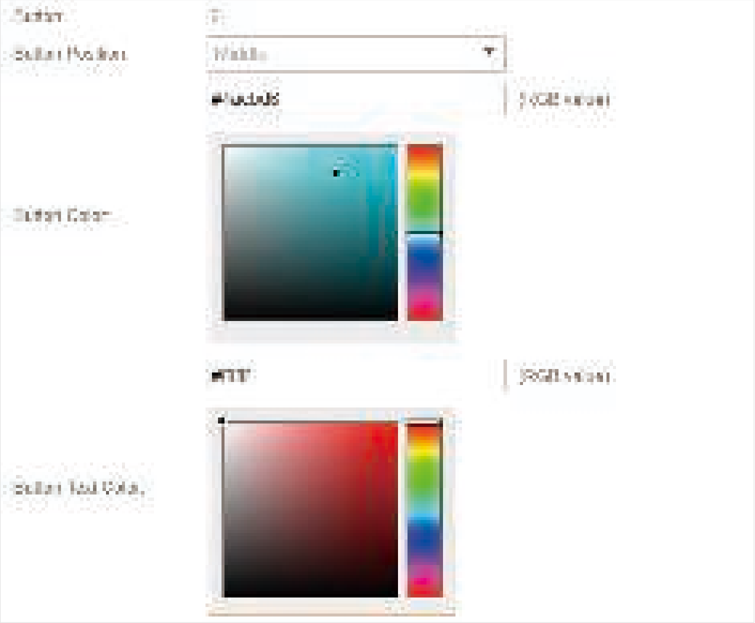
Button

Click ⊞ and configure the button.

Button Position: Set the position of the login button. The options include **Middle, Upper** and **Lower.**

Button Color: Select your desired login button color through the color picker or by entering the RGB value manually.

Button Text Color: Select your desired text color for the button through the color picker or by entering the RGB value manually.



Button ☐

Button Position: Middle

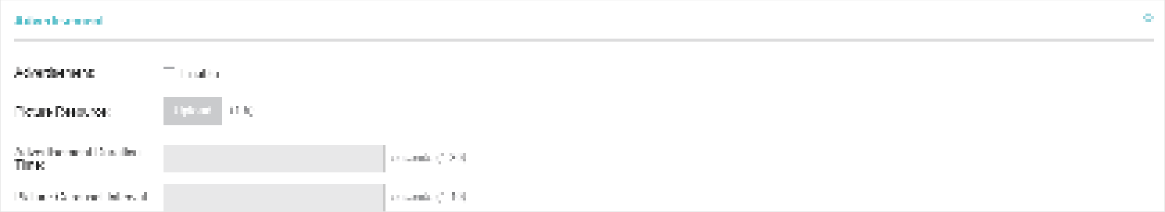
#4acbd6 (RGB value)

Button Color

#ffffff (RGB value)

Button Text Color

5. In the **Advertisement** section, select whether to display advertisement pictures for users and configure the related parameters.



Advertisement

Advertisement: ☐ Enable

Picture Resource: Upload (1-5)

Advertisement Duration Time: seconds

Picture Carousel Interval: seconds

Configure the following parameters:

Advertisement	Specify whether to enable the Advertisement feature. With this feature enabled, you can add advertisement pictures on the authentication page. These advertisement pictures will be displayed before the login page appears. You can also allow users to skip the advertisement by enabling **Allow Users To Skip Advertisement**. The advertisement picture should be less than 2MB. And only JPG, PNG, BMP, GIF and JPEG file types are supported.
Picture Resource	Upload advertisement pictures. When several pictures are added, they will be played in a loop.
Advertisement Duration Time	Specify how long the advertisement will be displayed for. For this duration, the pictures will be played in a loop. If the duration time is not enough for all the pictures, the rest will not be displayed.
Picture Carousel Interval	Specify the picture carousel interval. For example, if this value is set as 5 seconds, the first picture will be displayed for 5 seconds, followed by the second picture for 5 seconds, and so on.
Allow Users To Skip Advertisement	Specify whether to enable this feature. With this feature enabled, the user can click the **Skip** button to skip the advertisement.

6. Click **Apply**.

For more details about how to configure SMS Portal, you can go to https://www.tp-link.com/en/configuration-guides.html and download the configuration guide for SMS Portal.

3.3.6 Facebook

With Facebook Portal configured, when clients connect to your Wi-Fi, they will be redirected to your Facebook page. To access the internet, clients need to pass the authentication on the page.

Note:

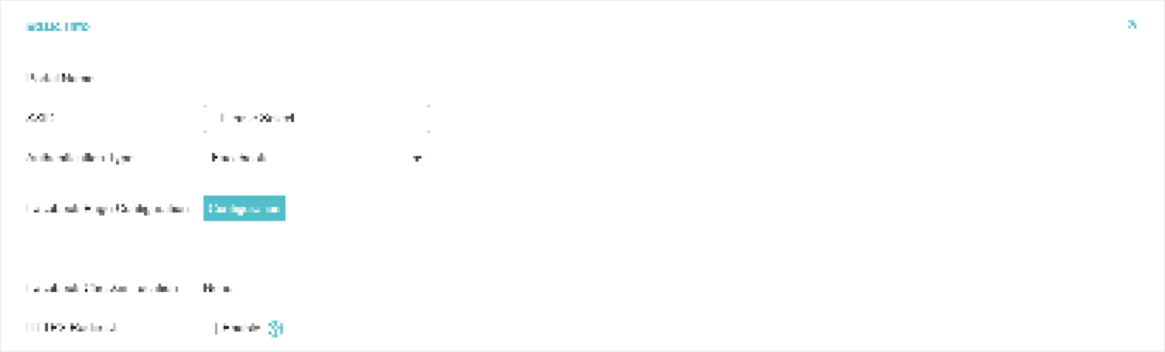
Omada Controller will automatically create Free Authentication Policy entries for the Facebook Portal. You don't need to create them manually.

Follow the steps below to configure Facebook Portal:

1. Go to www.facebook.com and get a Facebook account. Create your Facebook page according to your needs.

2. Go to **Wireless Settings > Basic Wireless Settings** and create an SSID for the Portal.

3. Go back to the Portal configuration page. In the **Basic Info** section, complete the settings for the portal authentication.



Basic Info

Portal Name

SSID: Please Select

Authentication Type: Facebook

Facebook Page Configuration: Configuration

Facebook Checkin Location: None

HTTPS Redirect: ☐ Enable

Configure the following parameters:

Portal Name	Specify a name for the Portal.
SSID	Select an SSID for the Portal.
Authentication Type	Select **Facebook**.
Facebook Page Configuration	Click this button to specify the Facebook Page.
Facebook Checkin Location	If the Facebook page is successfully got by the Omada Controller, the name of the Facebook page will be displayed here.
HTTPS Redirect	With this function enabled, the unauthorized clients will be redirected to the Portal page when they are trying to browse HTTPS websites. With this function disabled, the unauthorized clients cannot browse HTTPS websites and are not redirected to the Portal page.

For more details about how to configure Facebook Portal, you can go to https://www.tp-link.com/en/configuration-guides.html and download the configuration guide for Facebook Portal.

3.3.7 External RADIUS Server

If you have a RADIUS server, you can configure External RADIUS Server Portal. With this type of portal, you can get two types of portal customization: Local Web Portal and External Web Portal. The authentication login page of Local Web Portal is provided by the built-in portal server of the controller. The External Web Portal is provided by external portal server.

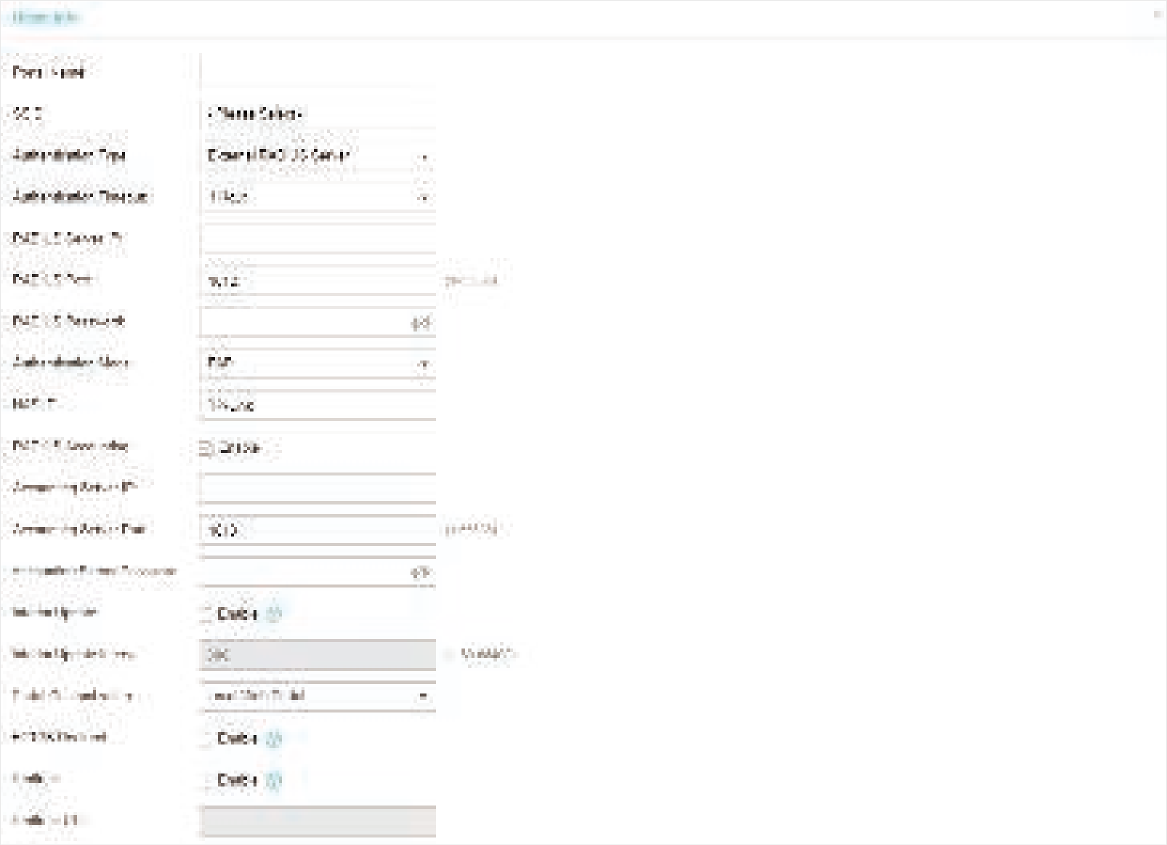
Note:

Omada Controller will automatically create Free Authentication Policy entries for the External RADIUS Portal.

Follow the steps below to configure External RADIUS Server Portal:

1. Go to **Wireless Settings > Basic Wireless Settings** and create an SSID for the Portal.

2. Go back to the Portal configuration page. In the **Basic Info** section, complete the basic settings for the portal authentication.



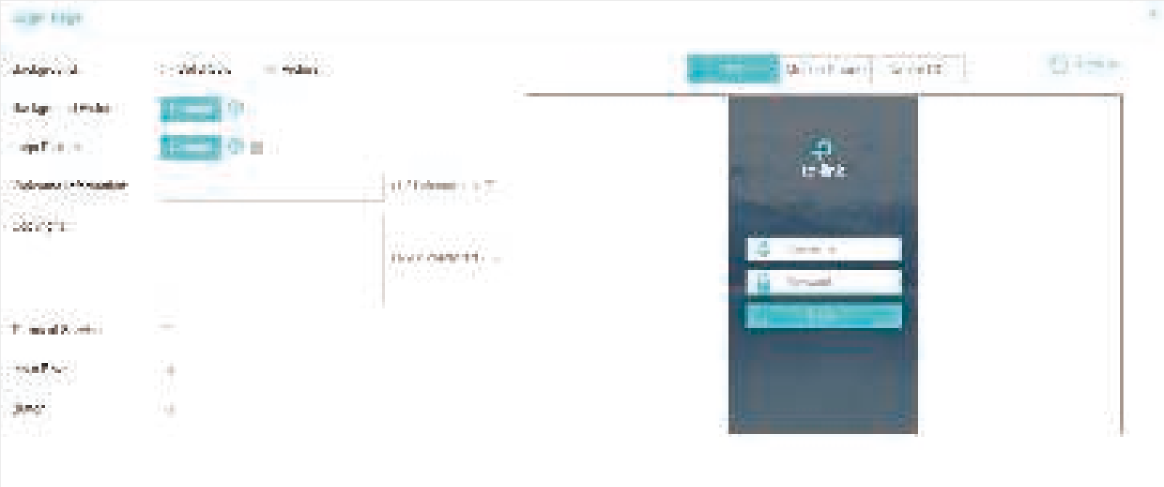
Portal Name	
SSID	-Please Select-
Authentication Type	External RADIUS Server
Authentication Timeout	1 Hour
RADIUS Server IP	
RADIUS Port	1812
RADIUS Password	
Authentication Mode	PAP
NAS ID	
RADIUS Accounting	□ Enable
Accounting Server IP	
Accounting Server Port	1813
Accounting Server Password	
Interim Update	□ Enable
Interim Update Interval	600
Portal Customization	Local Web Portal
HTTPS Redirect	□ Enable
Redirect	□ Enable
Redirect URL	

Configure the following parameters:

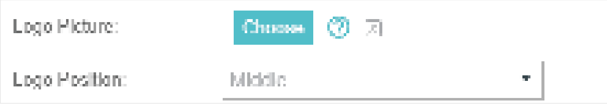
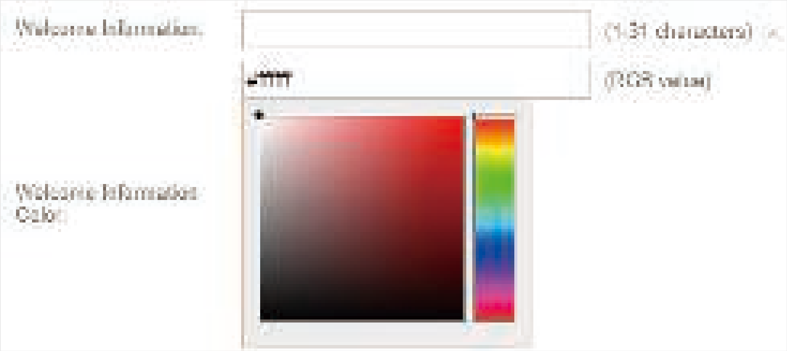
Portal Name	Specify a name for the Portal.
SSID	Select an SSID for the Portal.
Authentication Type	Select **External RADIUS Server**.
Authentication Timeout	The client's authentication will expire after the time period you set and the client needs to log in again on the web authentication page to access the network. Options inclde **1 Hour, 8 Hours, 24 Hours, 7 Days, Custom**. **Custom** allows you to define the time in days, hours, and minutes. The default value is one hour.
RADIUS Server IP	Enter the IP address of the RADIUS server.
RADIUS Port	Enter the port number you have set on the RADIUS server.
RADIUS Password	Enter the password you have set on the RADIUS server.
Authentication Mode	Select the authentication protocol for the RADIUS server. Two authentication protocols are available: **PAP** and **CHAP**.

NAS ID	Configure a Network Access Server Identifier (NAS ID) using 1 to 64 characters on the portal. The NAS ID is sent to the RADIUS server by the controller through an authentication request packet. With the NAS ID which classifies users to different groups, the RADIUS server can send a customized authentication response. The default value is **TP-Link**.
RADIUS Accounting	Enable or disable RADIUS Accounting feature.
Accounting Server IP	Enter the IP address of the accounting server.
Accounting Server Port	Enter the port number of the accounting server. The default port number is 1813.
Accounting Server Password	Enter the shared secret key of the accounting server.
Interim Update	With this option enabled, you can specify the duration between accounting information updates. By default, the function is disabled. Enter the appropriate duration between updates for EAPs in **Interim Update Interval**.
Interim Update Interval	With Interim Update enabled, specify the appropriate duration between updates for EAPs. The default duration is 600 seconds.
Portal Customization	Select Local Web Portal or External Web Portal. **Local Web Portal**: If this option is selected, refer to step 3 to configure the login page and step 4 to configure the advertisement. **External Web Portal**: If this option is selected, follow the steps below. 1. Configure the external RADIUS server. 2. Enter the authentication login page's URL provided by the external portal server in the External Web Portal URL field. Note that you should update the External Web Portal after you upgrade your controller with old version to version 3.1.4 or above. Otherwise, the External Web Portal will not take effect.
HTTPS Redirect	With this function enabled, the unauthorized clients will be redirected to the Portal page when they are trying to browse HTTPS websites. With this function disabled, the unauthorized clients cannot browse HTTPS websites and are not redirected to the Portal page.
Redirect	If you enable this function, the portal will redirect the newly authenticated clients to the configured URL. It is disabled by default.
Redirect URL	If the Redirect function above is enabled, enter the URL that a newly authenticated client will be redirected to.

3. **Local Web Portal** is configured, configure the login page for the Portal in the **Login Page** section.



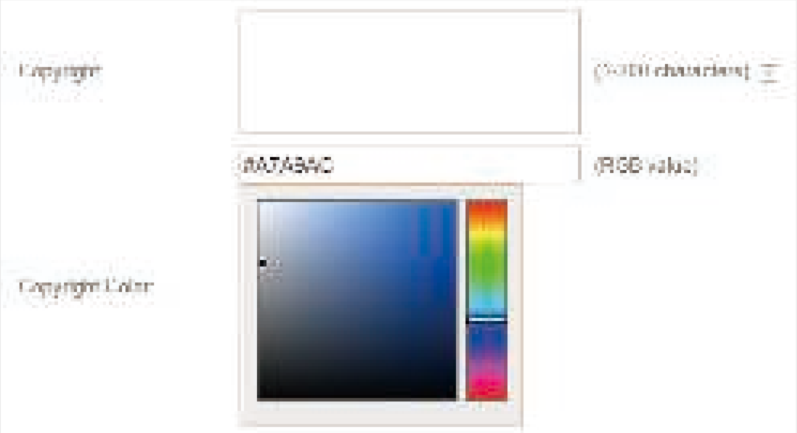
Configure the following parameters:

Background	Select the background type. Two types are supported: **Solid Color** and **Picture**.
Background Color	If **Solid Color** is selected, configure your desired background color through the color picker or by entering the RGB value manually.
Background Picture	If **Picture** is selected, click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**.
Logo Picture	Click the **Choose** button and select a picture from your PC. Drag and scale the clipping region to edit the picture and click **Confirm**. In addtion, you can click ▣ and configure the logo position. The options include **Middle, Upper** and **Lower**.  Logo Picture: Choose Logo Position: Middle
Welcome Information	Specify the welcome information. In addtion, you can click ▣ and select your desired text color for the welcome information through the color picker or by entering the RGB value manually.  Welcome Information: (1-31 characters) #ffffff (RGB value) Welcome Information Color:

Copyright

Specify the copyright information.

In addtion, you can click ⊞ and select your desired text color for Copyright information through the color picker or by entering the RGB value manually.



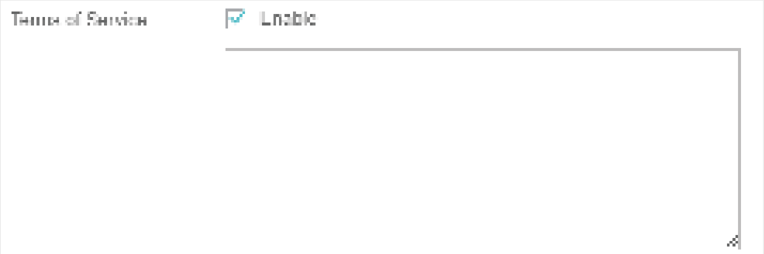
Copyright (0-100 characters)

#A7A8AC (RGB value)

Copyright Color

Terms of Service

Enable or disable Terms of Service. With this option enabled, specify the terms of service in the following box.

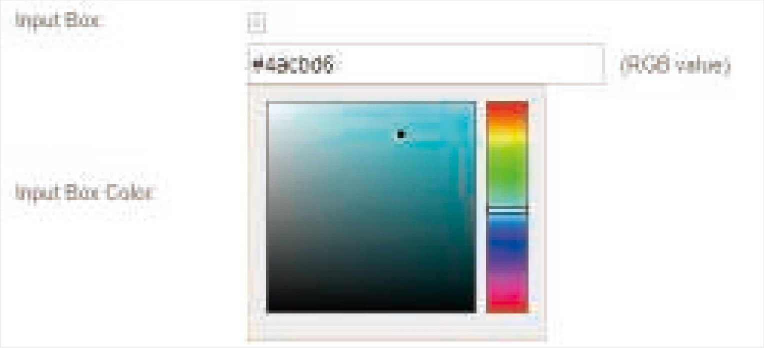


Terms of Service ☑ Enable

Input Box

Click ⊞ and configure the input box.

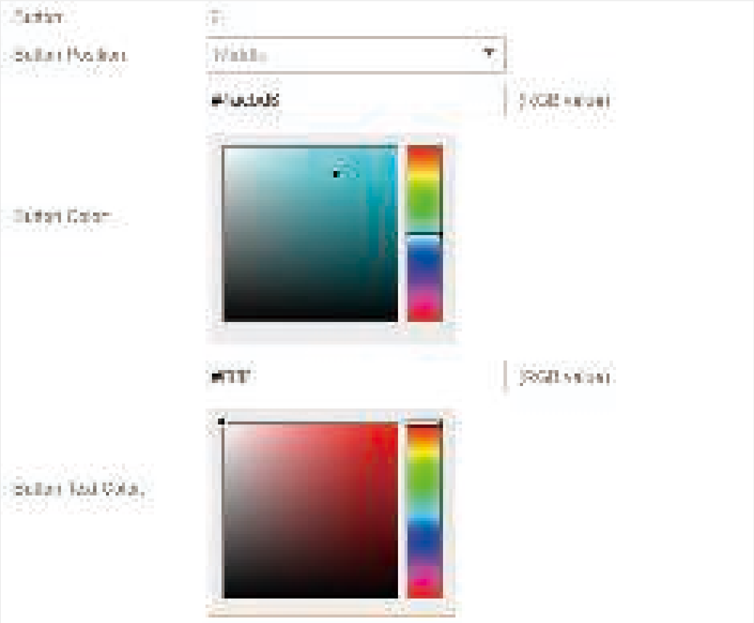
Select your desired color for the input box through the color picker or by entering the RGB value manually.



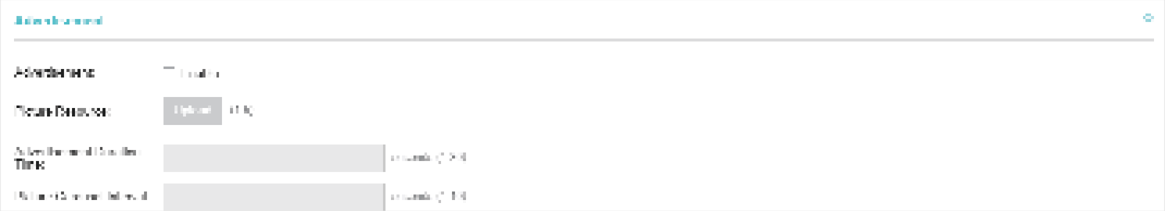
Input Box ⊟

#4acbd6 (RGB value)

Input Box Color

Button	Click ⊞ and configure the button. **Button Position**: Set the position of the login button. The options include **Middle, Upper** and **Lower.** **Button Color**: Select your desired login button color through the color picker or by entering the RGB value manually. **Button Text Color**: Select your desired text color for the button through the color picker or by entering the RGB value manually. 

4. If **Local Web Portal** is configured, select whether to display advertisement pictures for users and configure the related parameters in the **Advertisement** section, .



Configure the following parameters:

Advertisement	Specify whether to enable the Advertisement feature. With this feature enabled, you can add advertisement pictures on the authentication page. These advertisement pictures will be displayed before the login page appears. You can also allow users to skip the advertisement by enabling **Allow Users To Skip Advertisement**. The advertisement picture should be less than 2MB. And only JPG, PNG, BMP, GIF and JPEG file types are supported.
Picture Resource	Upload advertisement pictures. When several pictures are added, they will be played in a loop.
Advertisement Duration Time	Specify how long the advertisement will be displayed for. For this duration, the pictures will be played in a loop. If the duration time is not enough for all the pictures, the rest will not be displayed.

Picture Carousel Interval	Specify the picture carousel interval. For example, if this value is set as 5 seconds, the first picture will be displayed for 5 seconds, followed by the second picture for 5 seconds, and so on.
Allow Users To Skip Advertisement	Specify whether to enable this feature. With this feature enabled, the user can click the **Skip** button to skip the advertisement.

5. Click **Apply**.

3.3.8 External Portal Server

The option of External Portal Server is designed for the developers. They can customized their own authentication type according to the interface provided by Omada Controller, e.g. message authentication and WeChat authentication etc.

1. Go to **Wireless Settings > Basic Wireless Settings** and create an SSID for the Portal.

2. Go back to the Portal configuration page. In the **Basic Info** section, complete the settings for the portal authentication.

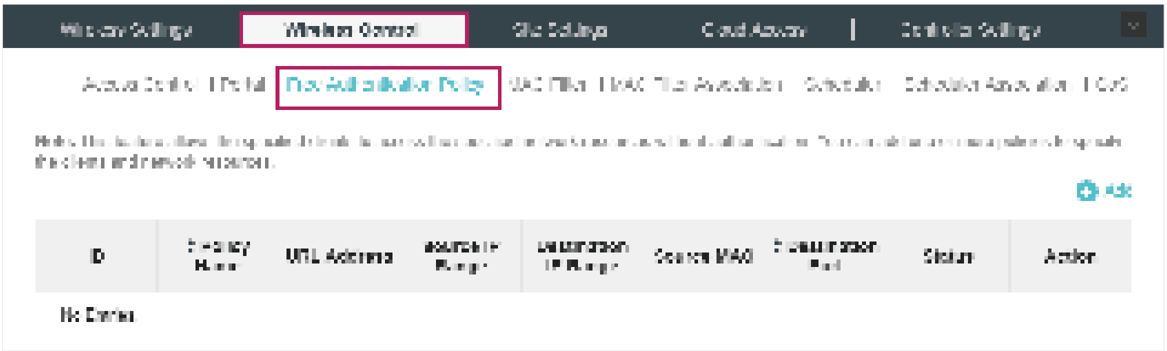
Portal Name	Specify a name for the Portal.
SSID	Select an SSID for the Portal.
Authentication Type	Select **External Portal Server**.
External Portal Server	Enter the complete authentication URL that redirect to an external portal server, for example: http://192.168.0.147:8880/portal/index.php or http://192.168.0.147/portal/index.html
HTTPS Redirect	With this function enabled, the unauthorized clients will be redirected to the Portal page when they are trying to browse HTTPS websites. With this function disabled, the unauthorized clients cannot browse HTTPS websites and are not redirected to the Portal page.

3. Click **Apply**.

3.4 Free Authentication Policy

Free Authentication Policy allows some specified clients to access the network resources without authentication. Follow the steps below to add free authentication policy.

1. Go to **Wireless Control > Free Authentication Policy.**



Wireless Settings | Wireless Control | Site Settings | Cloud Access | Controller Settings

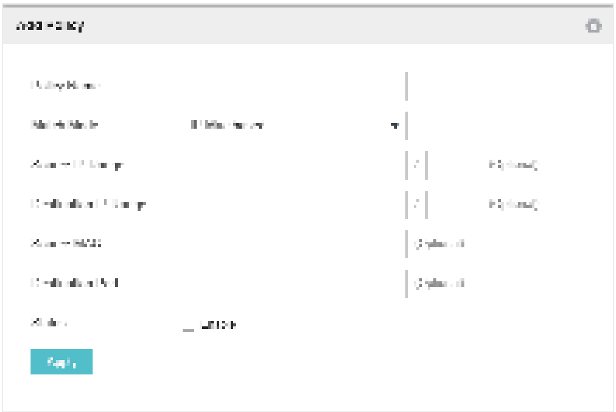
Access Control | Portal | Free Authentication Policy | MAC Filter | MAC Filter Association | Scheduler | Scheduler Association | QoS

[illegible]

Add

ID	Policy Name	URL Address	Source IP Range	Destination IP Range	Source MAC	Destination Port	Status	Action
No Entries								

2. Click Add and the following window will pop up.



Add Policy

Policy Name		
Match Mode	IP-MAC Based	
Source IP Range	/	(Optional)
Destination IP Range	/	(Optional)
Source MAC		(Optional)
Destination Port		(Optional)
Status	☐ Enable	

Apply

3. Configure the following parameters. When all conditions are met, the client can access the network without authentication.

Policy Name	Specify a name for the policy.
Match Mode	Select the match mode for the policy. Two options are provided: **URL**: With this option selected, configure an URL that is allowed to be visited by the clients without authentication. **IP-MAC Based**: With this option selected, configure Source IP Range, Destination IP Range, Source MAC and Destination MAC to specify the specific clients and service that will follow the Free Authentication feature.
URL	Set the URL.
Source IP Range	Set the Source IP Range with the subnet and mask length of the clients.
Destination IP Range	Set the Destination IP Range with the subnet and mask length of the server.
Source MAC	Set the MAC address of client.
Destination Port	Enter the port the service uses.
Status	Check the box to enable the policy.

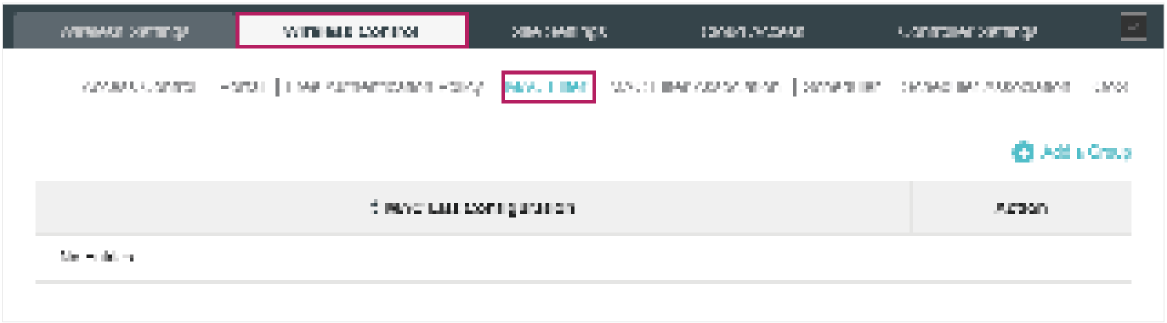
4. Click **Apply** and the policy is successfully added.

3.5 MAC Filter

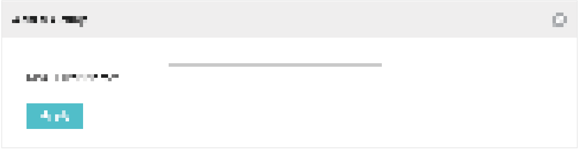
MAC filter can be used to allow or block the listed clients to access the network. Thereby it can effectively control the client's access to the wireless network.

Follow the steps below to configure MAC Filter.

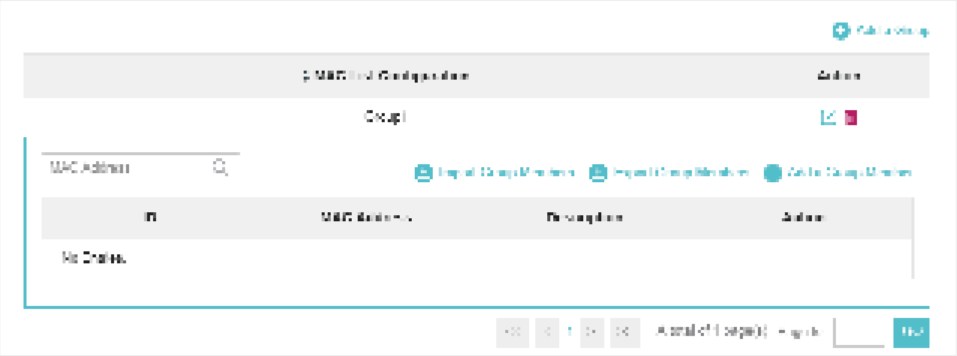
1. Go to **Wireless Control > MAC Filter** to add MAC Filter group and group members.



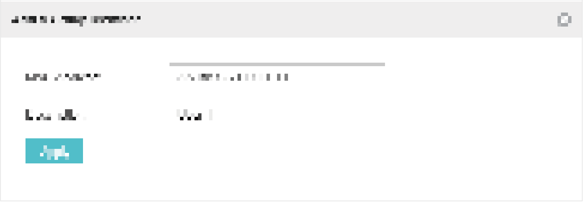
1) Click Add a Group and specify a name for the group.



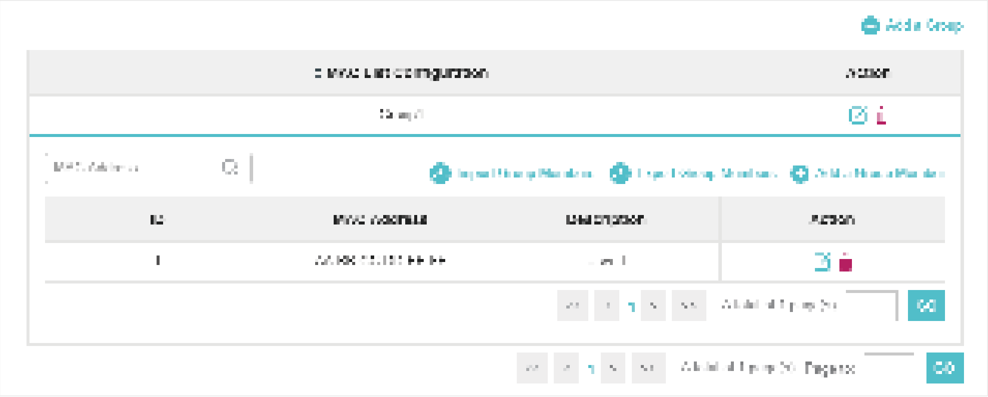
2) Click **Apply** and the group will be successfully added as shown below.



3) Click Add a Group Member and enter a MAC address in the format as shown below.



4) Click **Apply** to add the MAC address into the MAC filter group.

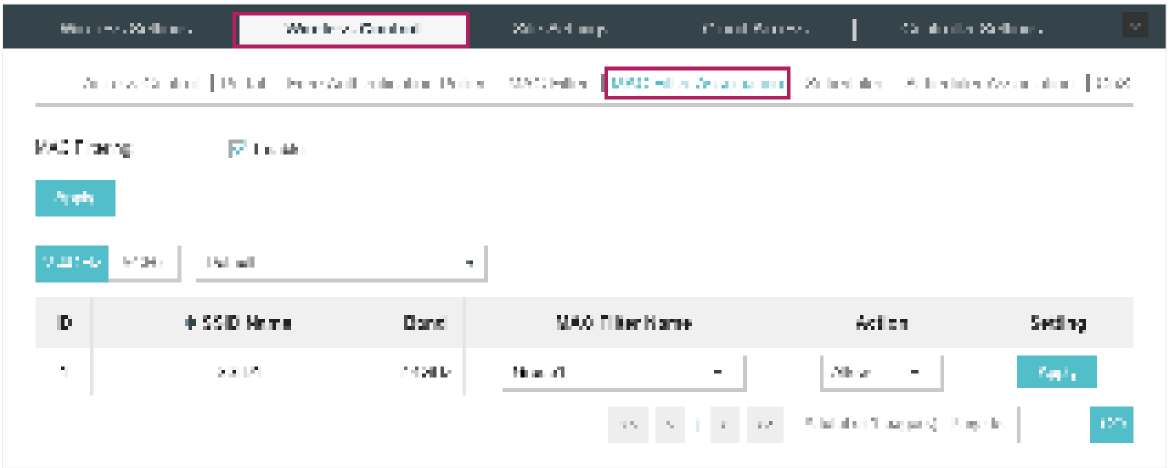


2. You can add more groups or members according to your need.

Note:

You can click Export Group Members to export the group members to a excel file and save the file on your PC. If needed, you can also click Import Group Members to import the group members to the Omada Controller.

3. Go to **Wireless Control > MAC Filter Association** to associate the added MAC Filter group with SSID.



1) Check the box and click **Apply** to enable MAC Filtering function.

2) Select a band frequency (2.4GHz or 5GHz) and a WLAN group.

3) In the MAC Filter Name column of the specified SSID, select a MAC Filter group in the drop-down list. Then select **Allow/Deny** in the Action column to allow/deny the clients in the MAC Filter group to access the network.

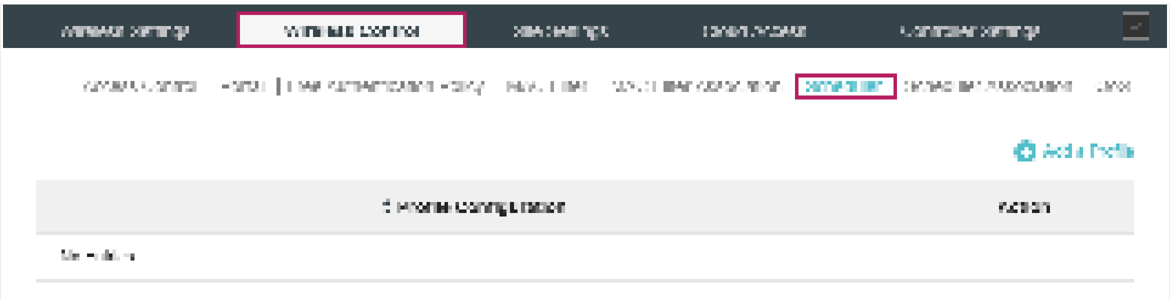
4) Click **Apply** in the Setting column.

3.6 Scheduler

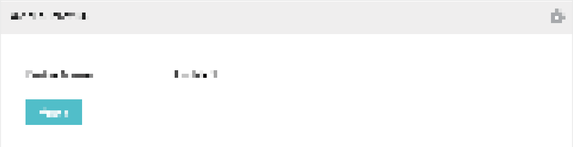
With the Scheduler, the EAPs or its' wireless network can automatically turn on or off at the time you set. For example, you can use this feature to schedule the radio to operate only during the office working time in order to achieve security goals and reduce power consumption. You can also use the Scheduler to make clients can only access the wireless network during the time period you set in the day.

Follow the steps below to configure Scheduler.

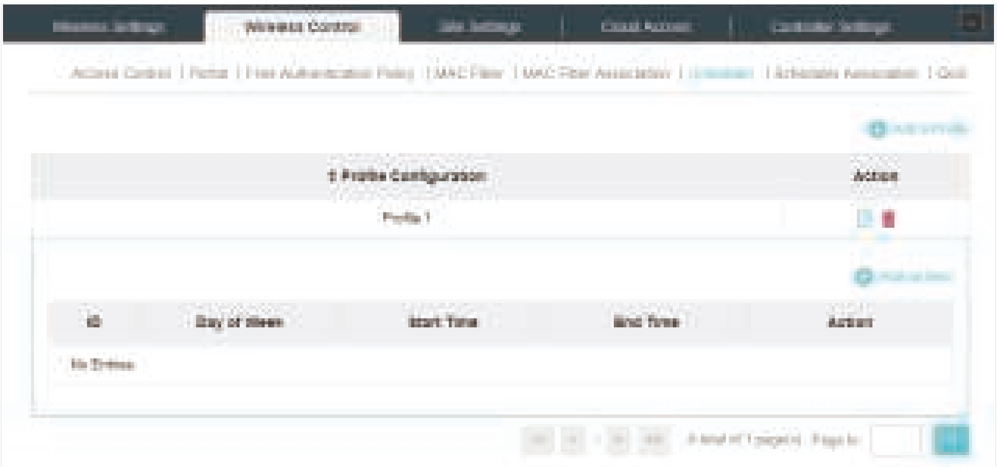
1. Go to **Wireless Control > Scheduler**.



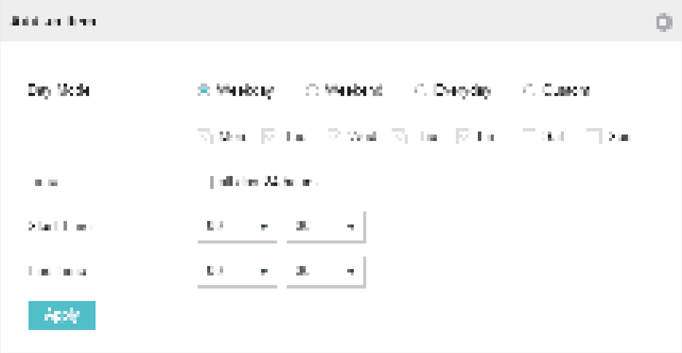
1) Click ⊕ Add a Profile and specify a name for the profile.



2) Click **Apply** and the profile will be added.

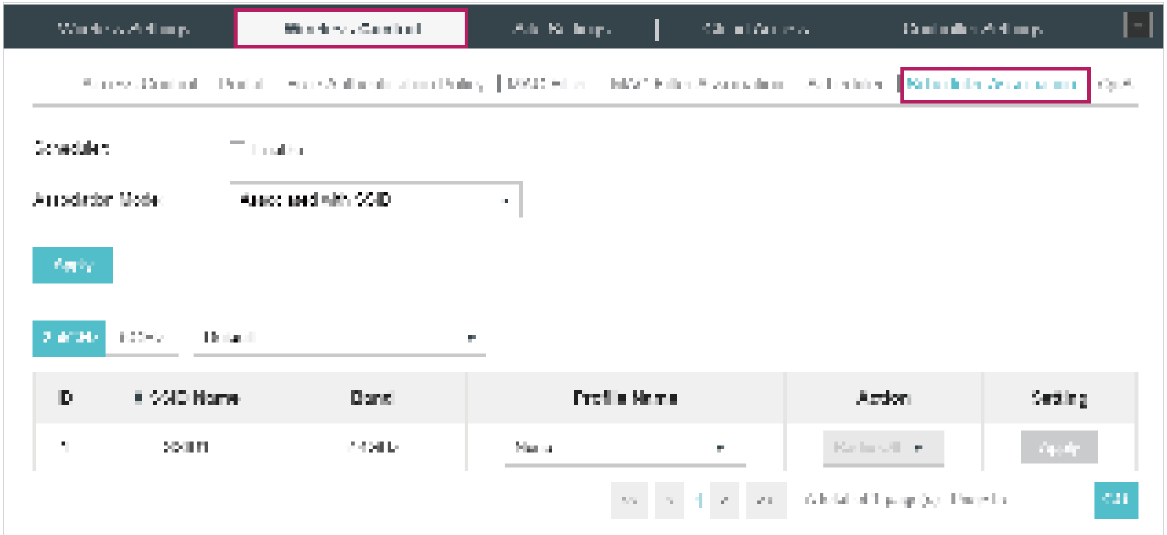


3) Click ⊕ Add an Item and configure the parameters to specify a period of time.



4) Click **Apply** and the profile is successfully added in the list.

2. Go to **Wireless Control > Scheduler Association.**



1) Check the box to enable Scheduler function.

2) Select **Associated with SSID** (the profile will be applied to the specific SSID on all the EAPs) or **Associated with AP** (the profile will be applied to all SSIDs on the specific EAP). Then click **Apply**.

3) Select a band frequency (2.GHz or 5GHz) and a WLAN group.

4) In the Profile Name column of the specified SSID or AP, select a profile you added before in the drop-down list. Select **Radio Off/Radio On** to turn off or on the wireless network during the time interval set for the profile.

5) Click **Apply** in the Setting column.

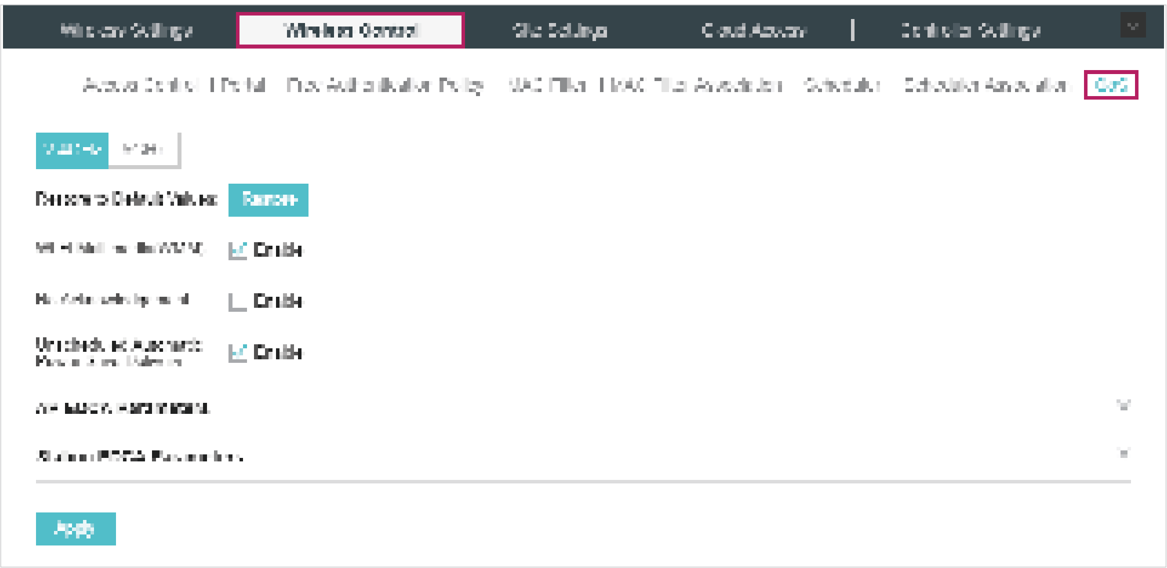
3.7 QoS

The Omada Controller software allows you to configure the quality of service (QoS) on the EAP for optimal throughput and performance when handling differentiated wireless traffic, such as Voice-over-IP (VoIP), other types of audio, video, streaming media, and traditional IP data.

To configure QoS on the EAP, you should set parameters on the transmission queues for different types of wireless traffic and specify minimum and maximum wait times (through contention windows) for transmission. In normal use, we recommend that you keep the default values for the EAPs and station EDCA (Enhanced Distributed Channel Access).

Follow the steps below to configure QoS.

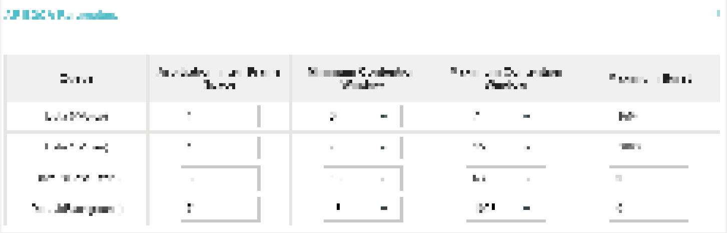
1. Go to **Wireless Control > QoS**.



2. Enable or disable the following features.

Wi-Fi Multimedia (WMM)	By default enabled. With WMM enabled, the EAPs have the QoS function to guarantee the high priority of the transmission of audio and video packets. If 802.11n only mode is selected in 2.4GHz (or 802.11n only, 802.11ac only, or 802.11 n/ac mixed mode in 5GHz), the WMM should be enabled. If WMM is disabled, the 802.11n only mode cannot be selected in 2.4GHz (or 802.11n only, 802.11ac only, or 802.11 n/ac mixed mode in 5GHz).
No Acknowledgment	By default disabled. You can enable this function to specify that the EAPs should not acknowledge frames with Qos No Ack. Acknowledgeable is recommended if VoIP phones access the network through the EAP
Unscheduled Automatic Power Save Delivery	By default enabled. As a power management method, it can greatly improve the energy-saving capacity of clients.

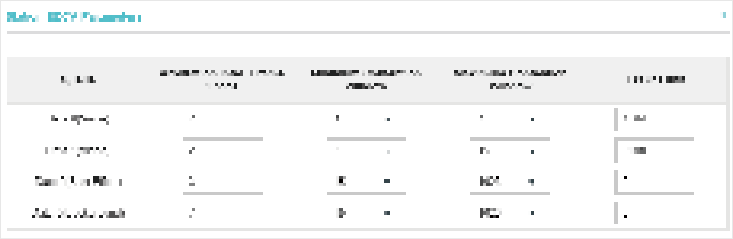
3. Click **AP EDCA Parameters** and the following page will appear. AP EDCA parameters affect traffic flowing from the EAP to the client station. We recommend that you use the defaults.



Queue	**Queue** displays the transmission queue. By default, the priority from high to low is Data 0, Data 1, Data 2, and Data 3. The priority may be changed if you reset the EDCA parameters. **Data 0 (Voice)**—Highest priority queue, minimum delay. Time-sensitive data such as VoIP and streaming media are automatically sent to this queue. **Data 1 (Video)**—High priority queue, minimum delay. Time-sensitive video data is automatically sent to this queue. **Data 2 (Best Effort)**—Medium priority queue, medium throughput and delay. Most traditional IP data is sent to this queue. **Data 3 (Background)**—Lowest priority queue, high throughput. Bulk data that requires maximum throughput and is not time-sensitive is sent to this queue (FTP data, for example).
Arbitration Inter-Frame Space	A wait time for data frames. The wait time is measured in slots. Valid values for **Arbitration Inter-Frame Space** are from 0 to 15.
Minimum Contention Window	A list to the algorithm that determines the initial random backoff wait time (window) for retry of a transmission. This value can not be higher than the value for the **Maximum Contention Window**.
Maximum Contention Window	The upper limit (in milliseconds) for the doubling of the random backoff value. This doubling continues until either the data frame is sent or the Maximum Contention Window size is reached. This value must be higher than the value for the **Minimum Contention Window**.

Maximum Burst	**Maximum Burst** specifies the maximum burst length allowed for packet bursts on the wireless network. A packet burst is a collection of multiple frames transmitted without header information. The decreased overhead results in higher throughput and better performance.

4. Click **Station EDCA Parameters** and the following page will appear. Station EDCA parameters affect traffic flowing from the client station to the EAP. We recommend that you use the defaults.

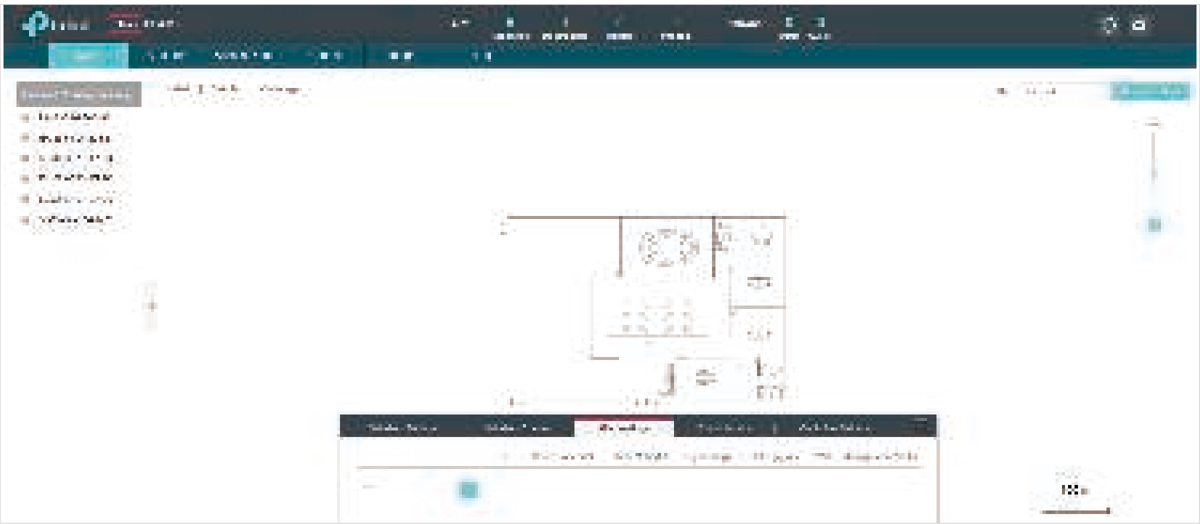


Queue	**Queue** displays the transmission queue. By default, the priority from high to low is Data 0, Data 1, Data 2, and Data 3. The priority may be changed if you reset the EDCA parameters. **Data 0 (Voice)**—Highest priority queue, minimum delay. Time-sensitive data such as VoIP and streaming media are automatically sent to this queue. **Data 1 (Video)**—High priority queue, minimum delay. Time-sensitive video data is automatically sent to this queue. **Data 2 (Best Effort)**—Medium priority queue, medium throughput and delay. Most traditional IP data is sent to this queue. **Data 3 (Background)**—Lowest priority queue, high throughput. Bulk data that requires maximum throughput and is not time-sensitive is sent to this queue (FTP data, for example).
Arbitration Inter-Frame Space	A wait time for data frames. The wait time is measured in slots. Valid values for **Arbitration Inter-Frame Space** are from 0 to 15.
Minimum Contention Window	A list to the algorithm that determines the initial random backoff wait time (window) for retry of a transmission. This value can not be higher than the value for the **Maximum Contention Window**.
Maximum Contention Window	The upper limit (in milliseconds) for the doubling of the random backoff value. This doubling continues until either the data frame is sent or the Maximum Contention Window size is reached. This value must be higher than the value for the **Minimum Contention Window**.
TXOP Limit	The **TXOP Limit** is a station EDCA parameter and only applies to traffic flowing from the client station to the EAP. The Transmission Opportunity (TXOP) is an interval of time, in milliseconds, when a WME client station has the right to initiate transmissions onto the wireless medium (WM) towards the EAP. The valid values are multiples of 32 between 0 and 8192.

5. Click **Apply**.

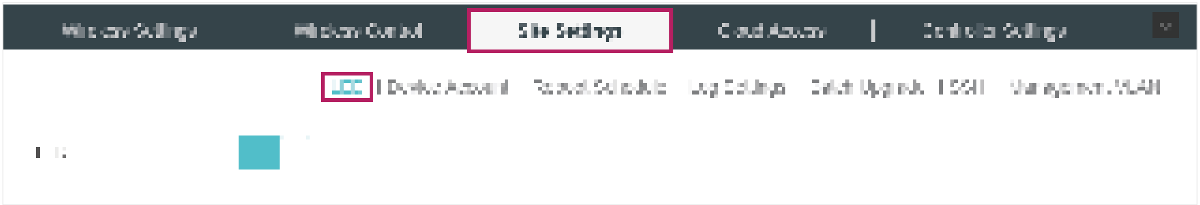
3.8 Site Settings

You can configure the site-specific settings on the **Site Settings** page. To switch sites, select a different site from the **Sites** drop-down menu at the top of any screen.



3.8.1 LED

You can change the LED light status on the EAPs on the page **Site Settings > LED**.



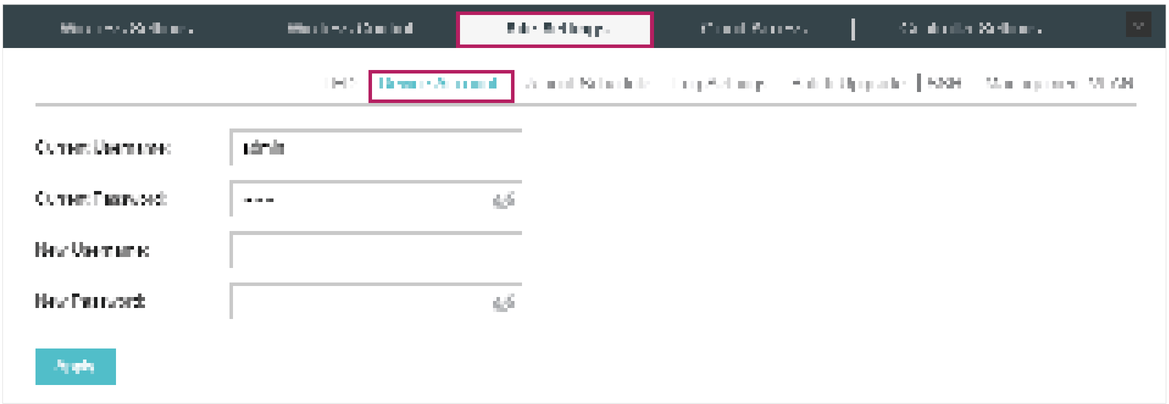
By default, the LED status is 🟦 , which means that the LED lights of all the EAPs on the site are on. You can click this button to change the LED light status. The icon will be changed to ▨, which means that all the LED lights are off.

3.8.2 Device Account

When the EAPs are adopted at the first time, their username and password will become the same as those of the Omada Controller which are specified at Basic Configurations. You can specify a new username and password for the adopted EAPs in batches.

Follow the steps below to change the username and password of EAPs.

1. Go to **Site Settings > Device Account.**



Current Username: admin

Current Password:

New Username:

New Password:

2. Specify a new username and password for the EAPs.

3. Click **Apply**.

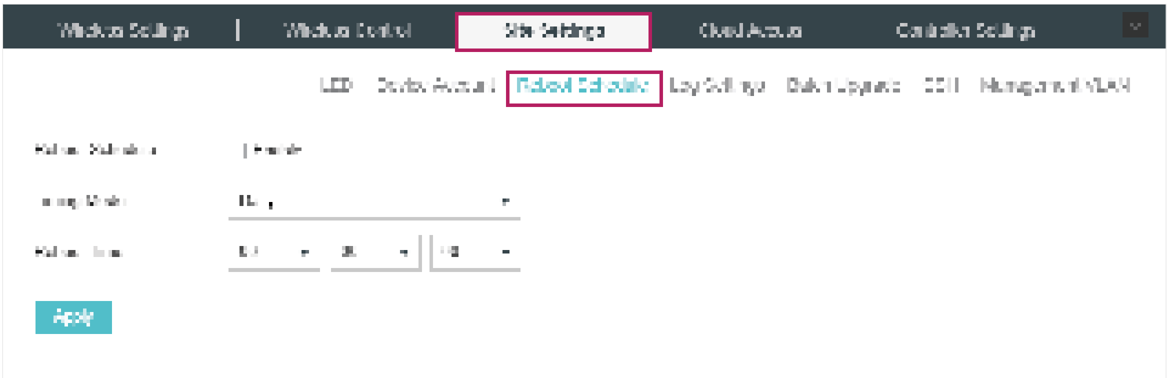
Note:

- The new account will be applied to EAPs but not the Omada Controller. To change the Omada Controller's username and password, please refer to User Account.
- Device account can be only viewed and changed when you log in to the controller as the administrator. While the operator and observer accounts do not have the permission.

3.8.3 Reboot Schedule

You can reboot all the EAPs in the network periodically as needed. Follow the steps below to configure Reboot Schedule.

1. Go to **Site Settings > Reboot Schedule.**



Reboot Schedule: □ Enable

Timing Mode: [illegible]

Reboot Time: [illegible] [illegible] [illegible]

2. Check the box to enable the function.

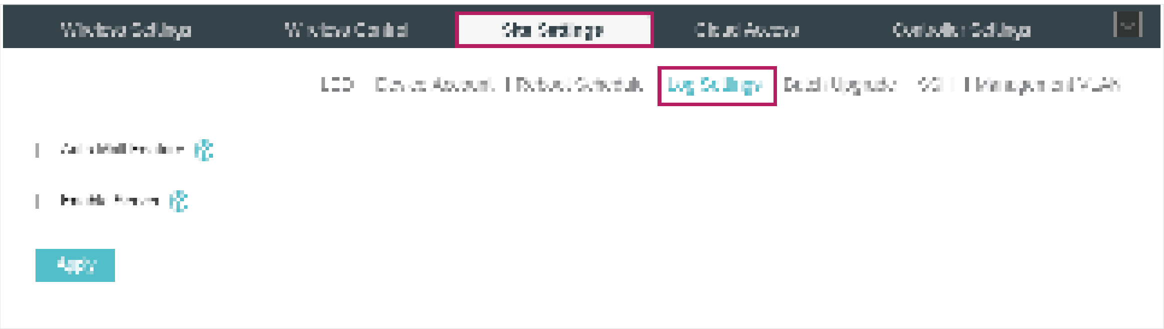
3. Choose **Daily**, **Weekly** or **Monthly** in the **Timing Mode** drop-down list and set a specific time to reboot the EAPs.

4. Click **Apply**.

3.8.4 Log Settings

Follow the steps below to choose the way to receive system logs.

1. Go to **Site Settings > Log Setting.**



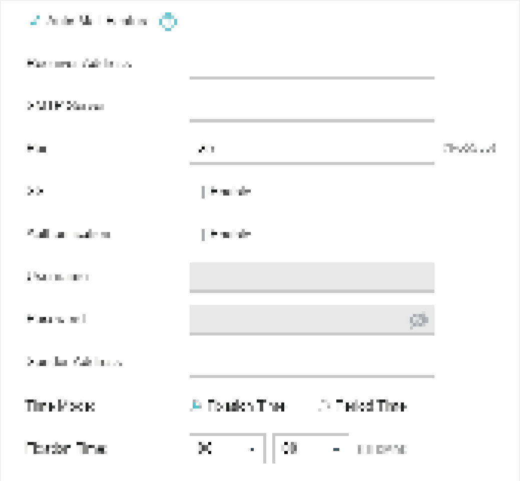
2. Check the box to choose the ways to receive system logs and click **Apply.** Two ways are available: **Auto Mail Feature** and **Server.** You can choose more than one way.

Note:

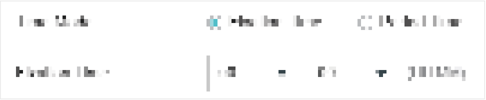
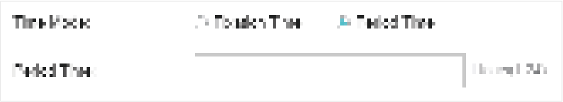
The logs and alerts of the controller with version 3.0.5 or below will be discarded after the controller is upgraded to version 3.1.4 or above.

Auto Mail Feature

If Auto Mail Feature is enabled, system logs will be sent to a specified mailbox. Check the box to enable the feature and configure the parameters.

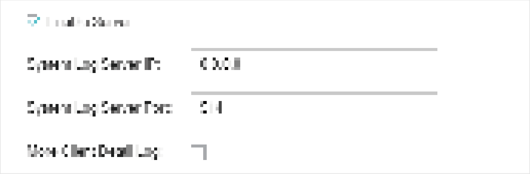


Receiver Address	Enter the receiver's E-mail address.
SMTP Server	Enter the IP address or domain name of the SMTP server.
Port	The SMTP server uses port 25 as default. If SSL is enabled, the port number will automatically change to 465.
SSL	You can check the box to enable SSL (Security Socket Layer) to enhance secure communications over the internet.
Authentication	You can check the box to enable mail server authentication. Enter the sender's mail account name and password.

Username	Enter the sender's mail account name.
Password	Enter the sender's mail password.
Sender Address	Enter the sender's E-mail address.
Time Mode	Select Time Mode. System logs can be sent at specific time or time interval.
Fixation Time	If you select Fixation Time, specify a fixed time to send the system log mails. For example, 08:30 indicates that the mail will be sent at 8:30 am everyday.  Time Mode ● Fixation Time ○ Period Time Fixation Time [illegible] : [illegible] (HH:MM)
Period Time	If you select Period Time, specify a period time to regularly send the system log mail. For example, 6 indicates that the mail will be sent every six hours.  Time Mode ○ Fixation Time ● Period Time Period Time (1-24h)

Server

If Server is enabled, system logs will be sent to a server. Check the box to enable the feature and configure the parameters.



☑ Enable Server

System Log Server IP: 0.0.0.0

System Log Server Port: 514

More Client Detail Log: □

System Log Server IP	Enter the IP address of the server.
System Log Server Port	Enter the port of the server.
More Client Detail Log	With the option enabled, the logs of clients will be sent to the server.

3.8.5 Batch Upgrade

You can upgrade your EAPs of the same model in batches using Batch Upgrade. Two options are available for upgrading: upgrade online and upgrade manually.

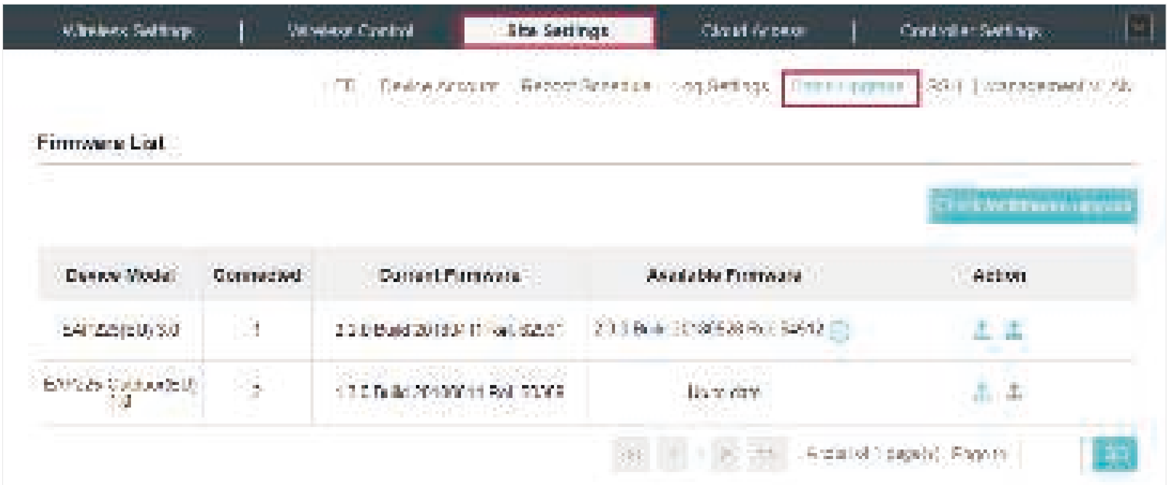
Upgrade Online

With Cloud Access enabled, the latest firmware for the EAPs can be detected by the controller automatically. And you can upgrade the EAPs online. Thus you need not to save the firmware files locally in advance.

Follow the steps below to upgrade the EAPs online according to their model.

1. Go to **Cloud Access.** Click the button to enable Cloud Access and log in and bind with your TP-Link ID. For more details about Cloud Access, please refer to Omada Cloud Service.

2. Go to **Site Settings > Batch Upgrade.** The device model, amount, current firmware and available firmware will appear on the **Firmware list.**



Device Model	Connected	Current Firmware	Available Firmware	Action
EAP225(EU) 3.0	1	[illegible]	[illegible]	
EAP225-Outdoor(EU) 1.0	[illegible]	[illegible]	Up to date	

3. Click ⭱ in the **Action** column to upgrade the device.

After upgrading, the device will reboot automatically.

Tips:

- You can click [illegible] to check if the latest firmware is available.
- You can click ▤ in the **Available Firmware** column to view the release note of the firmware, which can help you know the new features or improvements of this firmware.

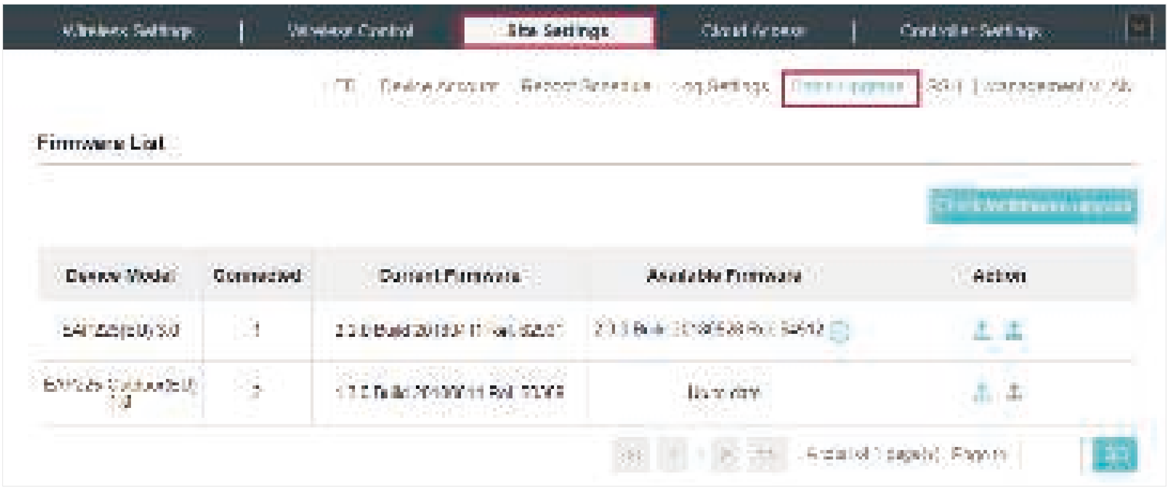
Upgrade Manually

The latest firmware files can be downloaded in the download center of TP-Link Website. Then you can upgrade the EAPs manually.

Follow the steps below to upgrade the EAPs manually according to their model.

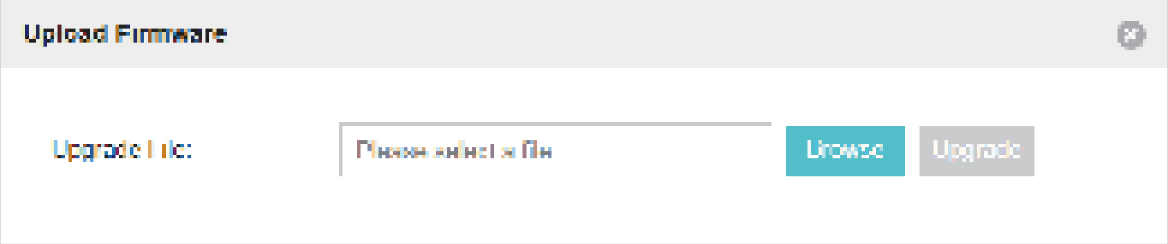
1. Visit http://www.tp-link.com/en/support/download/ to download the latest firmware file of the corresponding model.

2. Go to **Site Settings > Batch Upgrade**.



Device Model	Connected	Current Firmware	Available Firmware	Action
EAP225(EU) 3.0	1	[illegible]	[illegible]	
EAP225-Outdoor(EU) 1.0	2	[illegible]	Up to date	

3. Click in the **Action** column to upgrade the device.



4. Click **Browse** to locate and choose the proper firmware file for the model.

5. Click **Upgrade** to upgrade the device.

After upgrading, the device will reboot automatically.

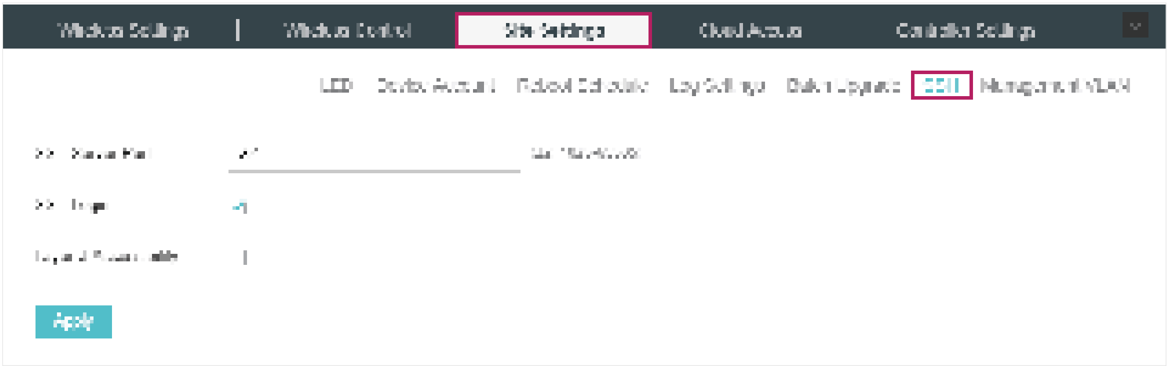
Note:

- The EAP cannot be upgraded manually when you access the controller via Omada Cloud.
- To avoid damage, please do not turn off the device while upgrading.

3.8.6 SSH

SSH is a protocol working in application layer and transport layer. It can provide a secure, remote connection to a device. After enabling SSH Login here, you can log in to the EAPs via SSH.

1. Go to **Site Setting > SSH**. Enter the port number of the SSH server.



SSH Server Port: 22 (22, 1025-65535)

SSH Login: ☑

Layer-3 Accessibility: □

2. Check the box to enable **SSH Login**. If you want to log in to the EAP from a different subnet via SSH, enable **Layer-3 Accessibility**.

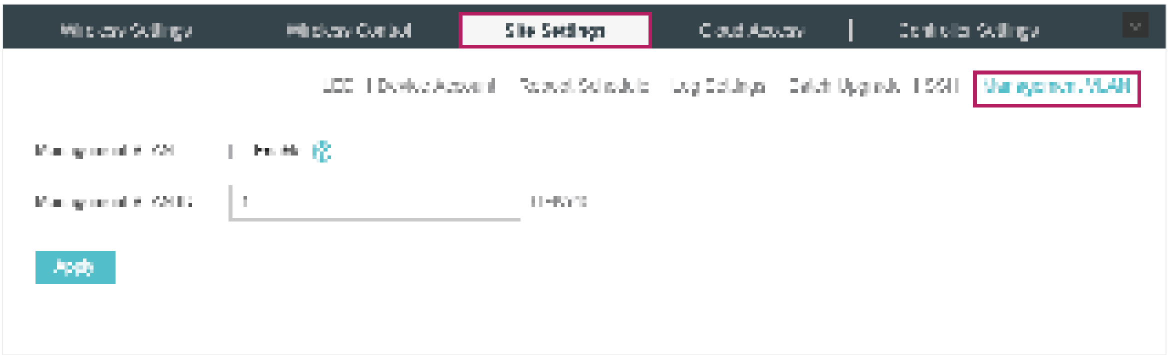
3. Click **Apply**.

3.8.7 Management VLAN

Management VLAN provides a safer way for you to manage the EAP. With Management VLAN enabled, only the hosts in the management VLAN can manage the EAP. Since most hosts cannot process VLAN TAGs, connect the management host to the network via a switch, and set up correct VLAN settings for the switches on the network to ensure the communication between the host and the EAP in the management VLAN.

Follow the steps below to configure Management VLAN.

1. Go to **Site Setting > Management VLAN**. Check the box to enable Management VLAN.



Management VLAN: □ Enable

Management VLAN ID: 1 (1-4094)

2. Specify the Management VLAN ID. The default VLAN ID is 1.

3. Click **Apply**.

4 Omada Cloud Service

TP-Link Omada Cloud Service provides a better way to realize remote management. With Cloud Access enabled on the controller and a TP-Link ID bound with your controller, and you can easily monitor and manage your wireless network. To ensure that your EAPs stay new and get better over time, the Omada Cloud will notify you when a newer firmware upgrade is available. Surely you can also manage multiple Omada Controllers with a single TP-Link ID.

Follow the steps below to configure Cloud Access and access the controller via Omada Cloud:

1. Configure the Cloud Access

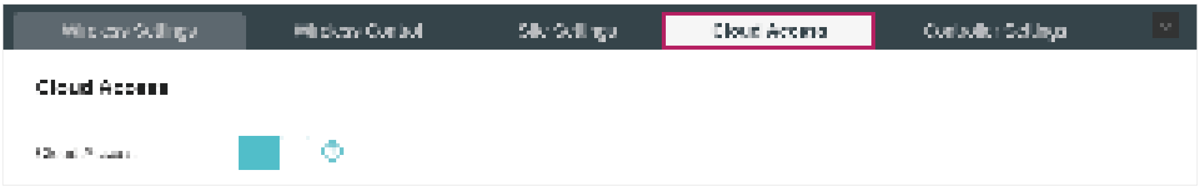
2. Manage the Controller via Omada Cloud

4.1 Configure the Cloud Access

4.1.1 Enable Cloud Access

You can configure the controller via Omada Cloud only when Cloud Access is enabled on the controller and you have been added as a Cloud User.

On the page **Cloud Access** you can configure Cloud Access. Click the button to enable the **Cloud Access.** The Cloud Access status is , which means that the Cloud Access is enabled.



4.1.2 Manage the Cloud Users

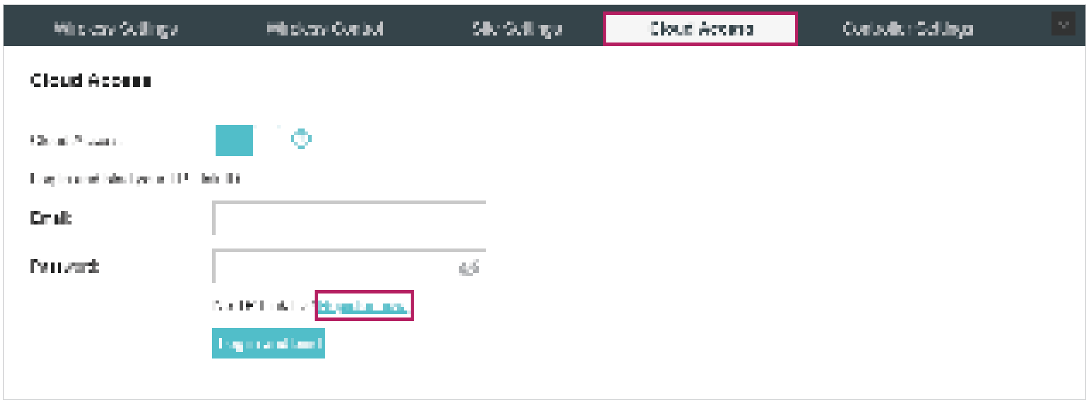
To configure and manage Omada Controller through Cloud service, you need to have a TP-Link ID, and bind your TP-Link ID to the controller. Then you can remotely access the controller as a Cloud User.

Note:

To register a TP-Link ID and bind it to your controller, make sure that the controller host can access the internet.

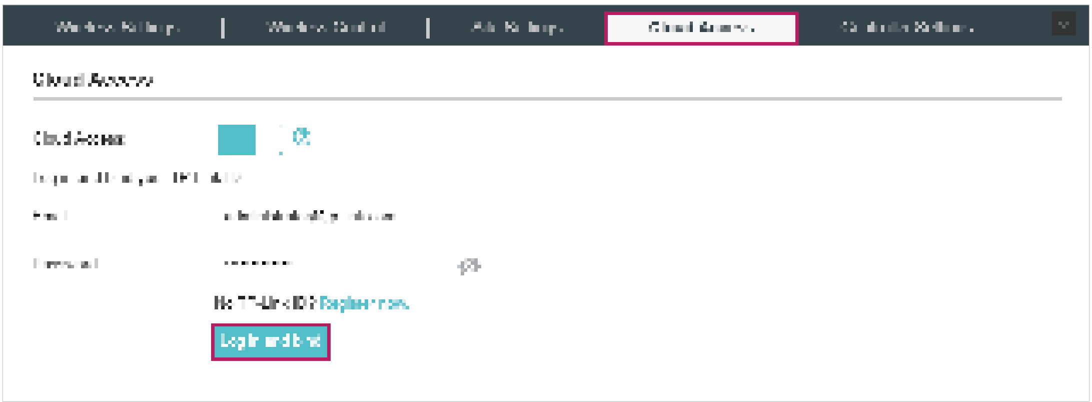
Register a TP-Link ID

In the Quick Setup process, you can register a TP-Link ID and bind it to your controller. If you have skipped the registration during the Quick Setup process, you can go to **Cloud Access**. Click **Register Now** and follow the instructions to register a TP-Link ID.



Log in and bind your TP-Link ID

After activating your TP-Link ID, come back to **Cloud Access** page to log in and bind your TP-Link ID to your controller.



Cloud Access

Cloud Access: ●

[illegible]

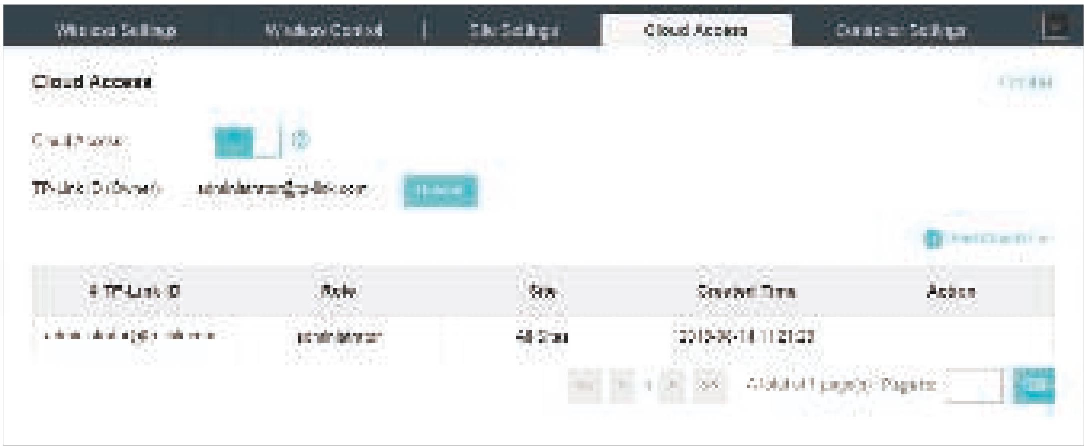
Email: [illegible]

Password: ********

No TP-Link ID? Register now.

Login and bind

The TP-Link ID which is bound with the controller for the first time will be automatically bound as an administrator. And only one TP-Link ID can be bound with the controller as an administrator. An administrator account can add or remove other TP-Link IDs to or from the same controller as Cloud Users.



Cloud Access

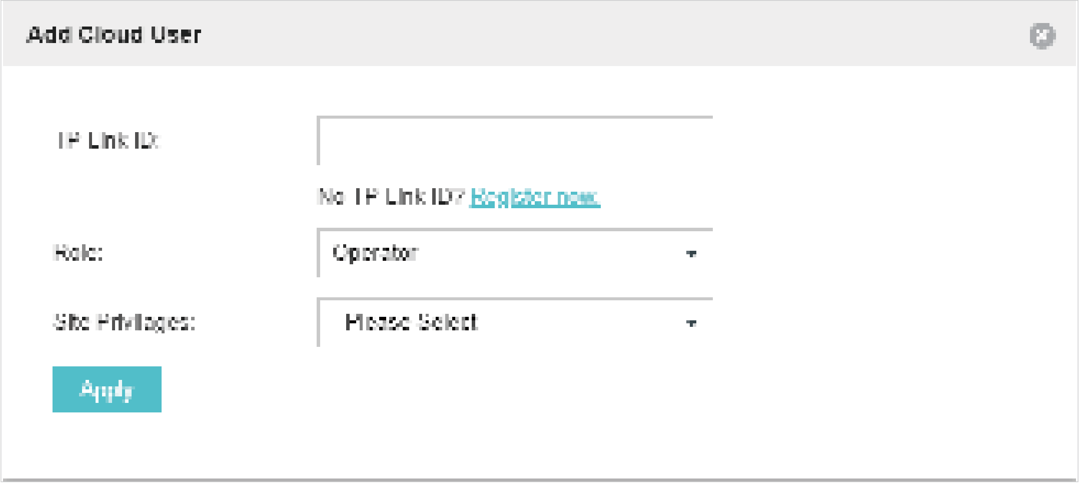
Cloud Access: ●

TP-Link ID (Owner): [illegible]

# TP-Link ID	Role	Site	Created Time	Action
[illegible]	administrator	All Sites	2019-08-14 11:21:23	

Add new Cloud Users

After you have an administrator TP-Link ID, you can add new Cloud Users. Click ⊕ Add Cloud User , enter another TP-Link ID as needed and click **Save**.



Add Cloud User

TP-Link ID:

No TP-Link ID? Register now.

Role: Operator

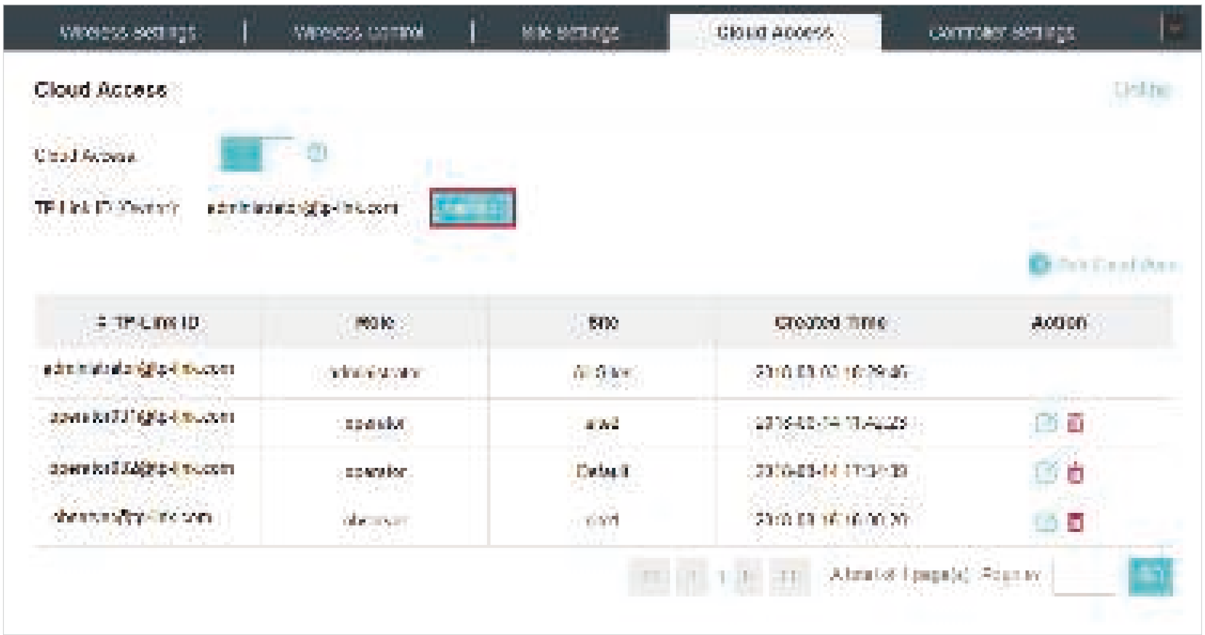
Site Privileges: Please Select

Apply

TP-Link ID	Enter the TP-Link ID that you want to add as the new Cloud User. If you do not have another TP-Link ID, you can click **Register Now** and follow the instructions to register a TP-Link ID.
Role	Select the role for the new Cloud User from the drop-down list. Two options are provided: **Operator:** An Operator account can change the settings of the privileged sites that are given by the administrator. And the Operator account cannot manage the cloud users and change controller settings. **Observer**: An Observer account can only view the status and settings of the privileged sites that are given by the administrator but not change the settings. Both the Operator and Observer accounts cannot manage the cloud users and controller settings. Thus Operator and Observer accounts can only be created or deleted by the administrator.
Site Privileges	Select the privileged sites (multiple options available) for the Operator or Observer accounts from the drop-down list.

Unbind a TP-Link ID

You can click **Unbind** to unbind your administrator TP-Link ID. Note that Unbind operation cannot be performed when you log in to the controller through Omada Cloud service.



Cloud Access

Cloud Access

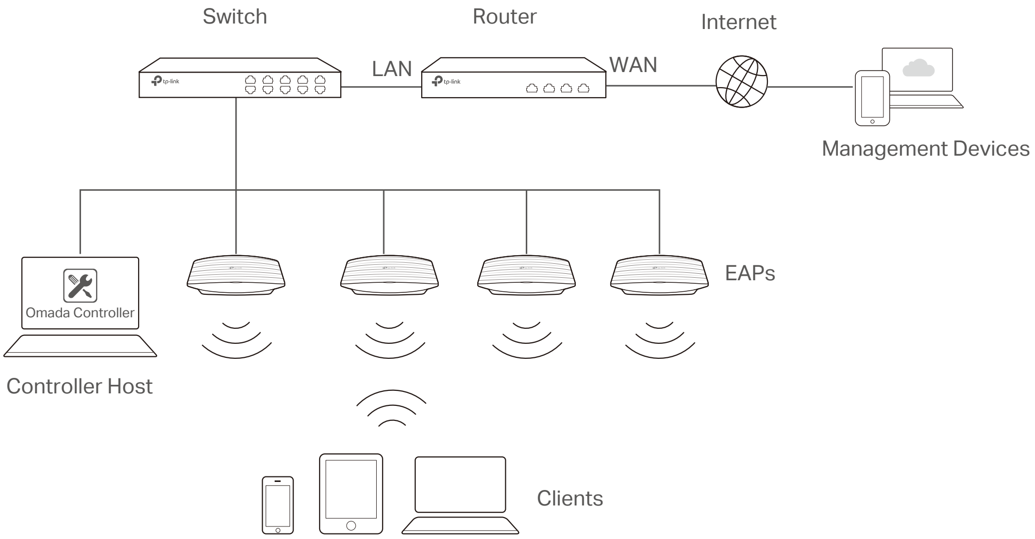
TP-Link ID (Owner): [illegible]

TP-Link ID	Role	Site	Created Time	Action
[illegible]	administrator	All Sites	[illegible]	
[illegible]	operator	site2	[illegible]	
[illegible]	operator	Default	[illegible]	
[illegible]	observer	[illegible]	[illegible]	

A total of 1 page(s) Page to

4.2 Manage the Controller via Omada Cloud

With Cloud Access enabled, you can manage your controller remotely using your TP-Link ID. You can refer to the following topology.



Before you remotely access your controller, make sure that the following requirements have been met:

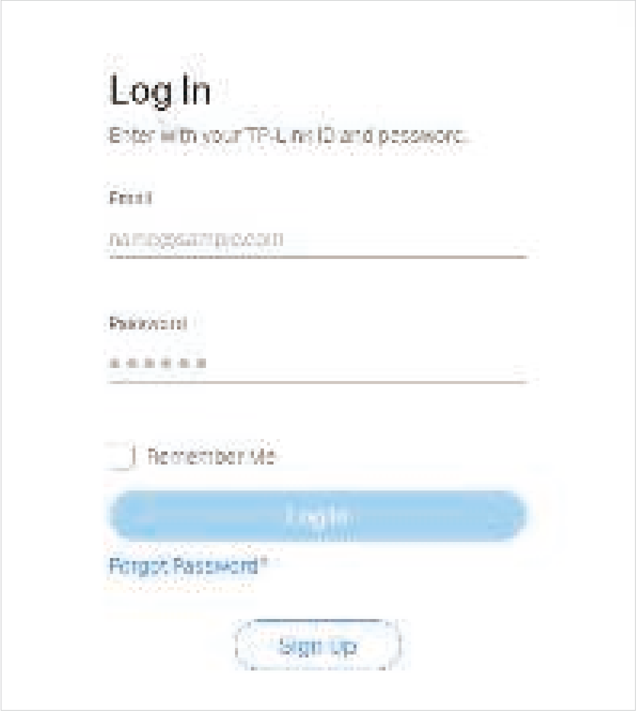
- Cloud Access is enabled on the controller.
- Your controller has been bound with a TP-Link ID. If you don't have a TP-Link ID, refer to Register a TP-Link ID to get one.
- Both your Controller Host and management devices have internet access.

4.2.1 Access the controller via Omada Cloud

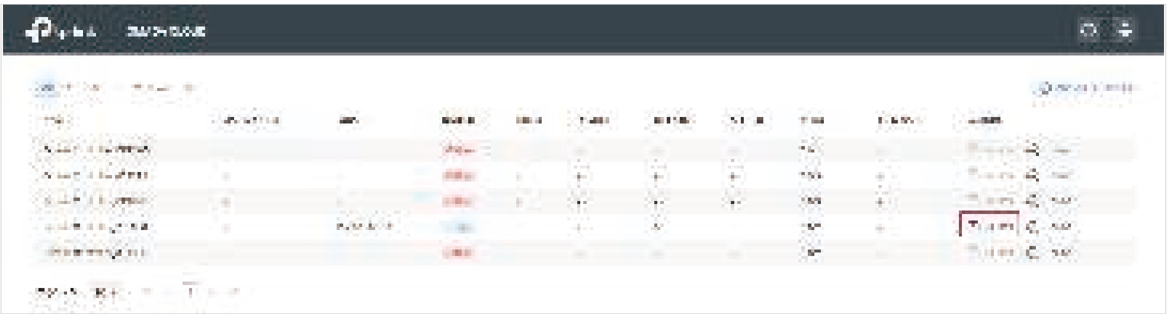
1. Launch a web browser and type **https://omada.tplinkcloud.com** in the address bar, then press **Enter** (Windows) or **Return** (Mac).

https://omada.tplinkcloud.com

2. Enter your TP-Link ID and password and click **Log In**.



3. After you log in to Omada Cloud, a list of controllers that has been bound with your TP-Link ID will appear. If the controller does not appear on the list, you can click ⟳ to refresh the current page.



Click **Launch** to access your controller. Then you can configure and manage your controller.

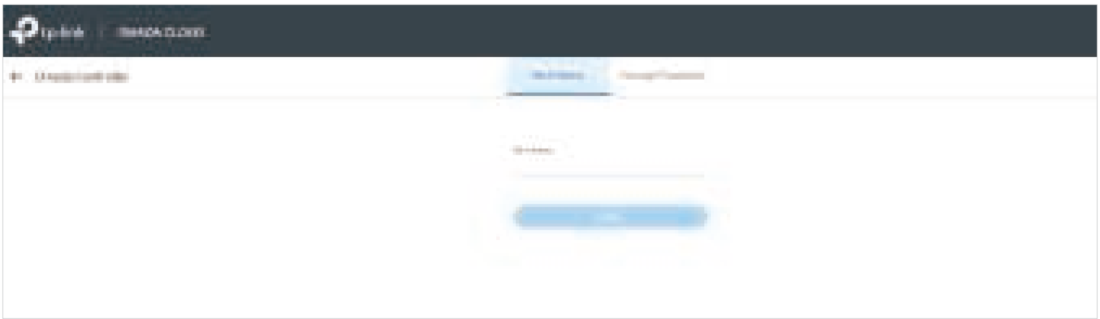
Note:

- To Refresh the page, click ⟳ . Automatic refreshing is not available when accessing the controller via Omada Cloud.
- To remove the Omada Controller from your cloud account, you can click ⚙ .
- To log out Omada Cloud, click 👤 and select **Log Out.**

4.2.2 Change your TP-Link ID information

You can change your TP-Link ID information on the Omada Cloud page. Click 👤 and select **My TP-Link ID**, the cloud accounting settings will appear.

You can have a nickname for your TP-Link ID. Enter your nick name and click **Save**.



You can also change the password of your TP-Link ID. Enter the current password, then a new password twice and click **Save**.

5 Configure the EAPs Separately

In addition to global configuration, you can configure the EAPs separately and the configuration results will be applied to a specified EAP.

To configure a specified EAP, please click the EAP's name on the **Access Points** tab or click ⚙ of connected EAP on the map. Then you can view the EAP's detailed information and configure the EAP on the pop-up window.

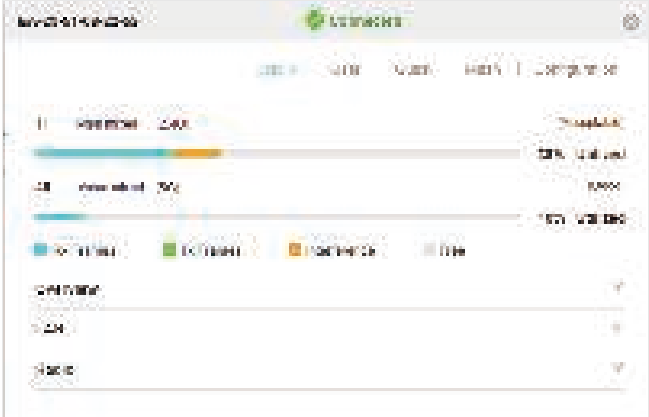
This chapter includes the following contents:

- *View the Information of the EAP*
- *View Clients Connecting to the EAP*
- View Mesh Information of the EAP
- Configure the EAP

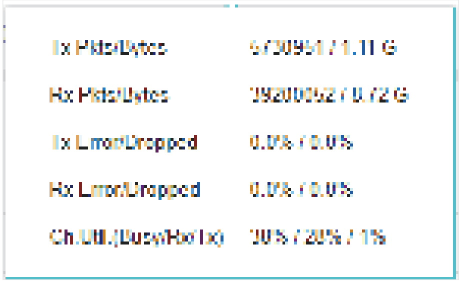
5.1 View the Information of the EAP

5.1.1 Active Channel Information

The active channel information on each radio band will be displayed in a bar graph, which indicates its percentages of the following: Rx Frames (blue), Tx Frames (green), Interference (orange), and Free bandwidth (gray). The percentage of channel utilization is also displayed with the corresponding evaluation.



You can click a point on either bar graph for more details:

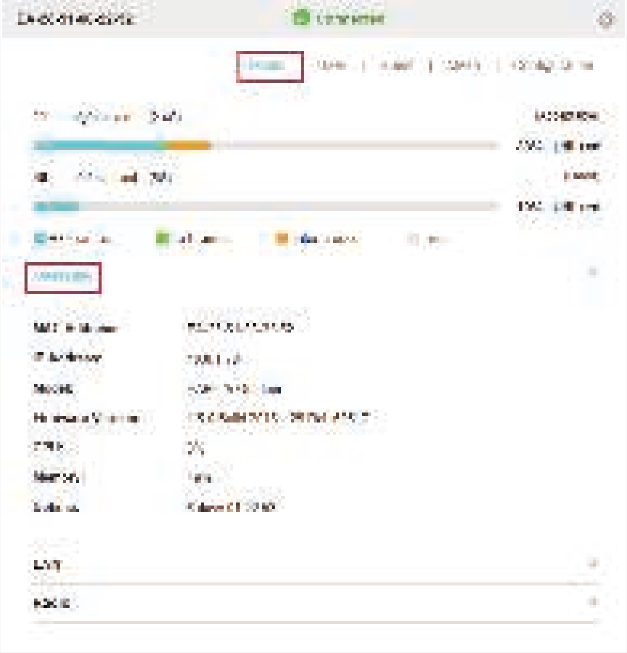


Tx Pkts/Bytes	5730951 / 1.11 G
Rx Pkts/Bytes	39200052 / 0.72 G
Tx Error/Dropped	0.0% / 0.0%
Rx Error/Dropped	0.0% / 0.0%
Ch.Util.(Busy/Rx/Tx)	30% / 20% / 1%

Tx Pkts/Bytes	Displays the amount of data transmitted as packets and bytes.
Rx Pkts/Bytes	Displays the amount of data received as packets and bytes.
Tx Error/Dropped	Displays the percentage of transmit packets that have errors and the percentage of packets that were dropped.
Rx Error/Dropped	Displays the percentage of receive packets that have errors and the percentage of packets that were dropped.
Ch.Util.(Busy/Rx/Tx)	Displays channel utilization statistics. **Busy**: This number is the sum of Tx, Rx, and also non-WiFi interference, which indicates how busy the channel is. **Rx**: This number indicates how often the radio is in active receive mode. **Tx**: This number indicates how often the radio is in active transmit mode.

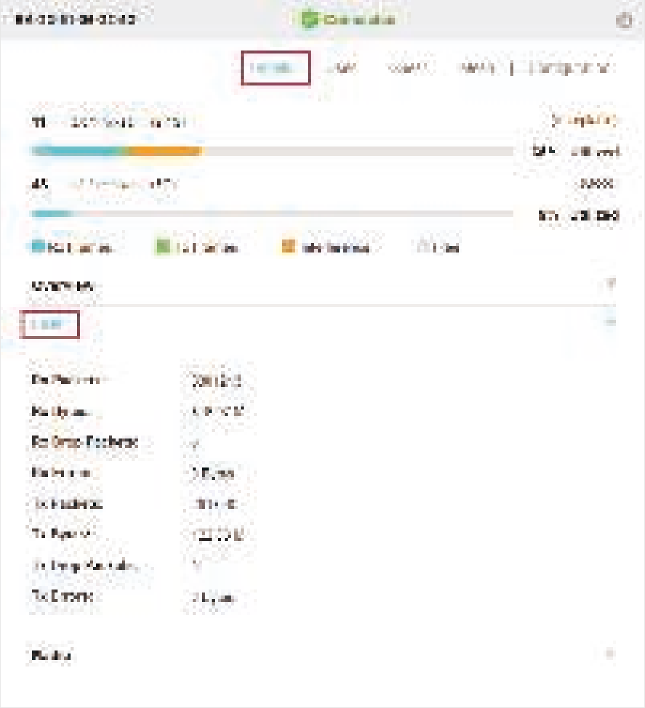
5.1.2 Overview

Click **Overview** to view the basic information of the EAP which includes EAP's MAC address (or name you set), IP address, model, firmware version, the usage rate of CPU and Memory and uptime (indicates how long the EAP has been running without interruption).



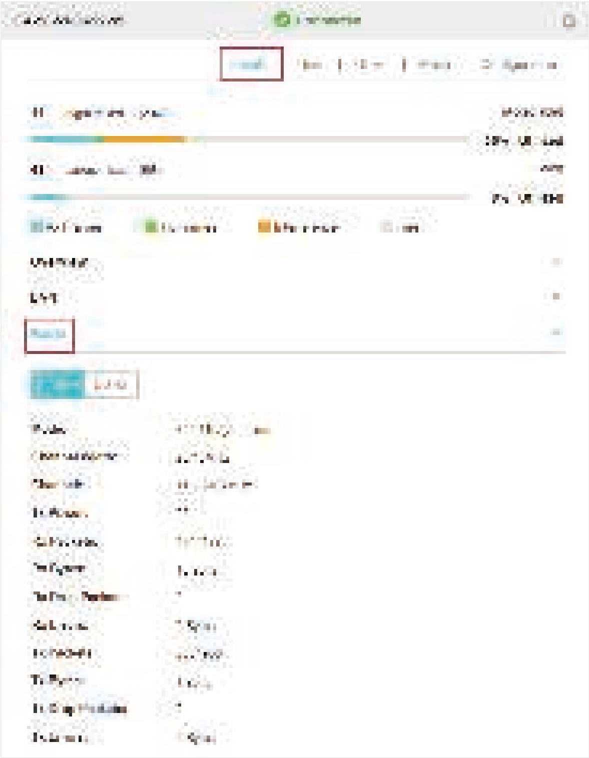
5.1.3 LAN

Click **LAN** to view the traffic information of the LAN port, including the total number of packets, the total size of data, the total number of packets loss, and the total size of error data in the process of receiving and transmitting data.



5.1.4 Radio

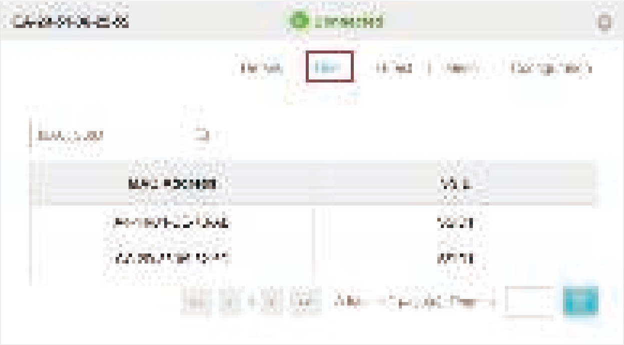
Click **Radio** to view the radio information including the frequency band, the wireless mode, the channel width, the channel, and the transmitting power. You can also view parameters of receiving/transmitting data on each radio band.



5.2 View Clients Connecting to the EAP

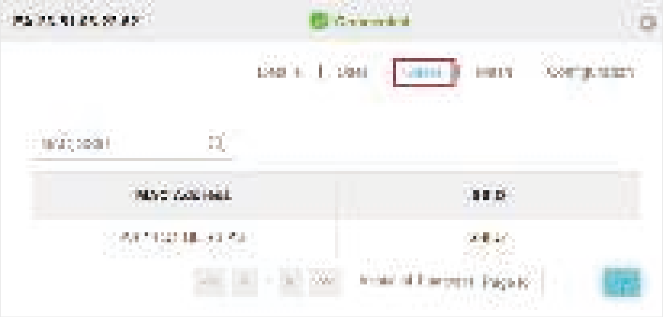
5.2.1 User

The **User** page displays the information of clients connecting to the SSID with Portal disabled, including their MAC addresses and connected SSIDs. You can click the client's MAC address to get its connection history.



5.2.2 Guest

The **Guest** page displays the information of clients connecting to the SSID with Portal enabled, including their MAC addresses and connected SSIDs. You can click the client's MAC address to get its connection history.



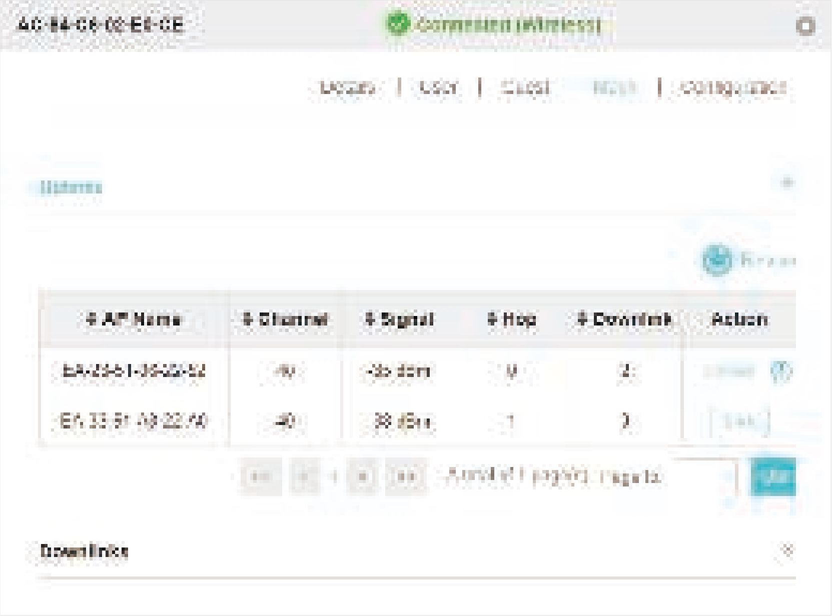
MAC Address	SSID
[illegible]	[illegible]

5.3 View Mesh Information of the EAP

The **Mesh** page is used to view and configure the mesh parameters of the EAP.

5.3.1 Uplinks

Here you can view the parameters of the uplink APs or click Link to change the uplink AP.



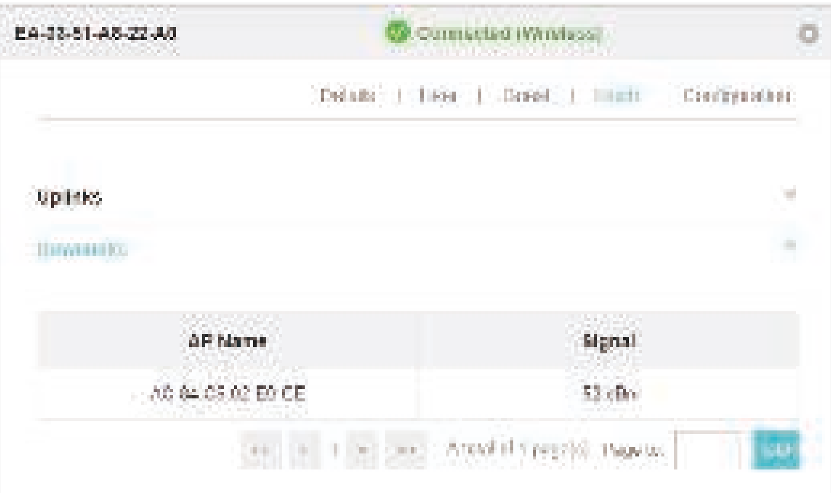
AP Name	Channel	Signal	Hop	Downlink	Action
[illegible]	40	-35 dBm	0	2	[illegible]
[illegible]	40	-38 dBm	1	2	Link

Tips:

- You can click Rescan to search the available uplink APs and the Uplink list will refresh.
- To build a mesh network with better performance, we recommend that you select the Uplink AP with the strongest signal, least hop and least Downlink AP.

5.3.2 Downlinks

Here you can view the downlink APs.

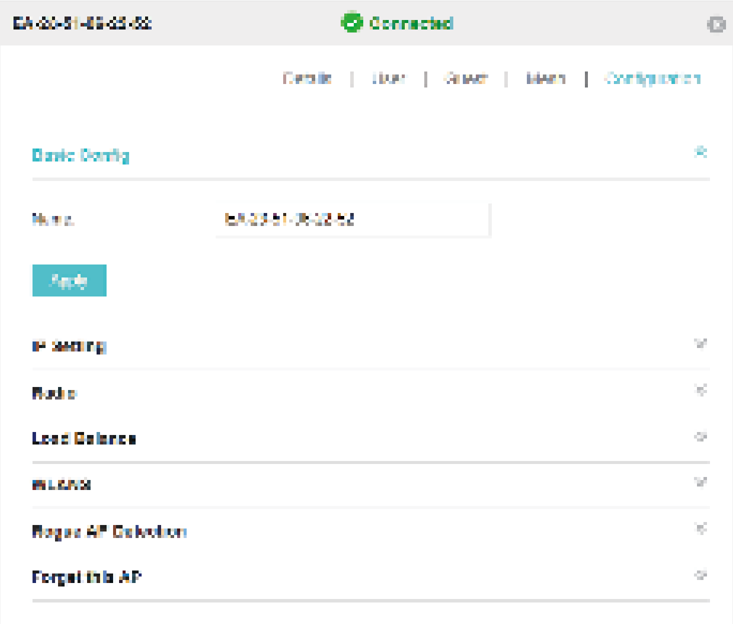

EA-23-51-A8-22-A0
Connected (Wireless)
Details | User | Guest | Mesh | Configuration
Uplinks
Downlinks

AP Name	Signal
AC-84-C6-02-E0-CE	52 dBm

1
A total of 1 page(s) Page to:
GO

5.4 Configure the EAP

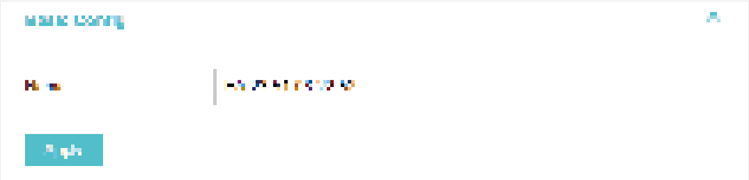
The **Configuration** page is used to configure the EAP. All the configurations will only take effect on this device.



Name: EA-23-51-A8-22-A0

5.4.1 Basic Config

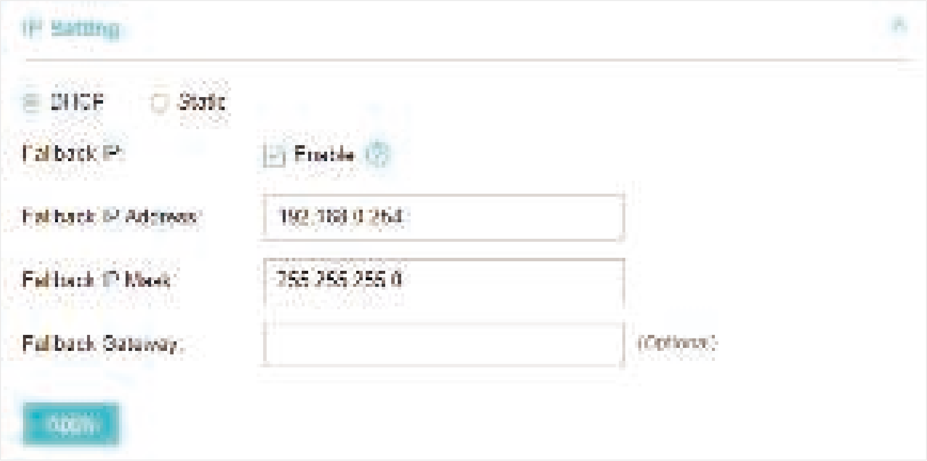
Here you can change the name of the EAP.



Name: EA-23-51-A8-22-A0

5.4.2 IP Setting

You can configure an IP address for this EAP. Two options are provided: DHCP and Static.



IP Setting

● DHCP ○ Static

Fallback IP: ☑ Enable

Fallback IP Address: 192.168.0.254

Fallback IP Mask: 255.255.255.0

Fallback Gateway: (Optional)

Get a Dynamic IP Address From the DHCP Server

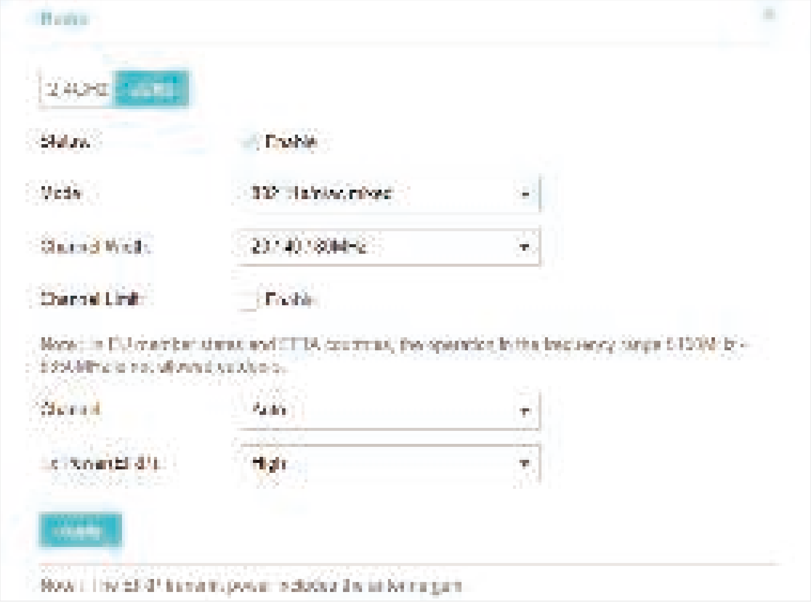
1. Configure your DHCP server.
2. Select **DHCP** on the page above.
3. Enable the Fallback IP feature. When the device cannot get a dynamic IP address, the fallback IP address will be used.
4. Set IP address, IP mask and gateway for the fallback address and click **Apply**.

Manually Set a Static IP Address for the EAP

1. Select **Static**.
2. Set the IP address, IP mask and gateway for the static address and click **Apply**.

5.4.3 Radio

Radio settings directly control the behavior of the radio in the EAP and its interaction with the physical medium; that is, how and what type of signal the EAP emits.



Radio

2.4GHz | 5GHz

Status ☑ Enable

Mode 802.11a/n/ac mixed

Channel Width 20/40/80MHz

Channel Limit □ Enable

Note: In EU member states and EFTA countries, the operation in the frequency range 5150MHz - 5350MHz is only allowed indoors.

Channel Auto

Tx Power(EIRP) High

Apply

Note: The EIRP transmit power includes the antenna gain.

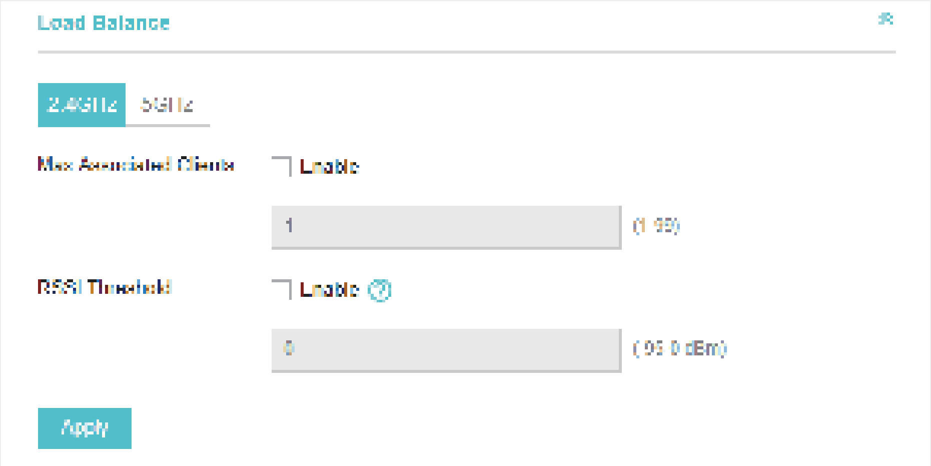
Select the frequency band (2.4GHz/5GHz) and configure the following parameters.

Status	Enabled by default. If you disable the option, the radio on the frequency band will turn off.
Mode	Select the IEEE 802.11 mode the radio uses. When the frequency of 2.4GHz is selected, 802.11b/g/n mixed, 802.11b/g mixed, and 802.11n only modes are available: **802.11b/g/n mixed**: All of 802.11b, 802.11g, and 802.11n clients operating in the 2.4GHz frequency can connect to the EAP. We recommend that you select the 802.11b/g/n mixed mode. **802.11b/g mixed**: Both 802.11b and 802.11g clients can connect to the EAP. **802.11n only**: Only 802.11n clients can connect to the EAP. When the frequency of 5GHz is selected, 802.11 n/ac mixed, 802.11a/n mixed, 802.11 ac only, 802.11a only, and 802.11n only modes are available: **802.11n/ac mixed**: Both 802.11n clients and 802.11ac clients operating in the 5GHz frequency can connect to the EAP. **802.11a/n mixed**: Both 802.11a clients and 802.11n clients operating in the 5GHz frequency can connect to the EAP. **802.11ac only**: Only 802.11ac clients can connect to the EAP. **802.11a only**: Only 802.11a clients can connect to the EAP. **802.11n only**: Only 802.11n clients can connect to the EAP.
Channel Limit	For the EAPs that support DFS in EU version, there is a Channel Limit option. If you want to use your EAP outdoors, enable this option to comply with the laws in your country.

Channel Width	Select the channel width of the EAP. The available options differ among different EAPs. For some EAPs, available options include **20MHz**, **40MHz** and **20/40MHz**. For other EAPs, available options include **20MHz**, **40MHz**, **80MHz** and **20/40/80MHz**. The 20/40 MHz and 20/40/80MHz channels enable higher data rates but leave fewer channels available for use by other 2.4GHz and 5GHz devices. When the radio mode includes 802.11n, we recommend that you set the channel bandwidth to 20/40 MHz or 20/40/80MHz to improve the transmission speed.
Channel	Select the channel used by the EAP to improve wireless performance. The range of available channels is determined by the radio mode and the country setting. If you select Auto for the channel setting, the EAP scans available channels and selects a channel where the least amount of traffic is detected.
Tx Power (EIRP)	Select the Tx Power (Transmit Power) in the 4 options: **Low, Medium, High** and **Custom**. Low, Medium and High are based on the Min. Txpower (Minimum transmit power) and Max. TxPower (Maximum transmit power. It may vary among different countries and regions). **Low**: Min. TxPower + (Max. TxPower-Min. TxPower) * 20% (round off the value) **Medium**: Min. TxPower + (Max. TxPower-Min. TxPower) * 60% (round off the value) **High**: Max. TxPower **Custom**: Enter a value manually.

5.4.4 Load Balance

By setting the maximum number of clients accessing the EAPs, Load Balance helps to achieve rational use of network resources.



Max Associated Clients □ Enable

1 (1-99)

RSSI Threshold □ Enable

0 (-95-0 dBm)

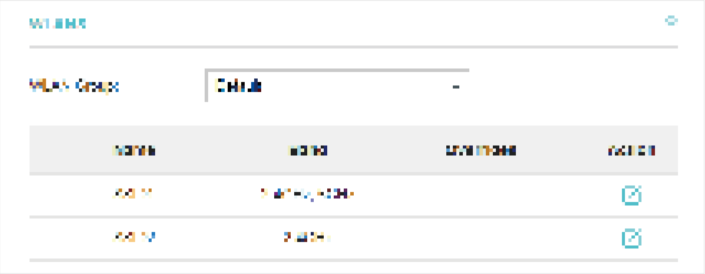
Select the frequency band (2.4GHz/5GHz) and configure the parameters.

Max Associated Clients	Enable this function and specify the maximum number of connected clients. While more clients requesting to connect, the EAP will disconnect those with weaker signals.

RSSI Threshold	Enable this function and enter the threshold of **RSSI** (Received Signal Strength Indication). When the clients' signal is weaker than the **RSSI Threshold** you've set, the clients will be disconnected from the EAP.

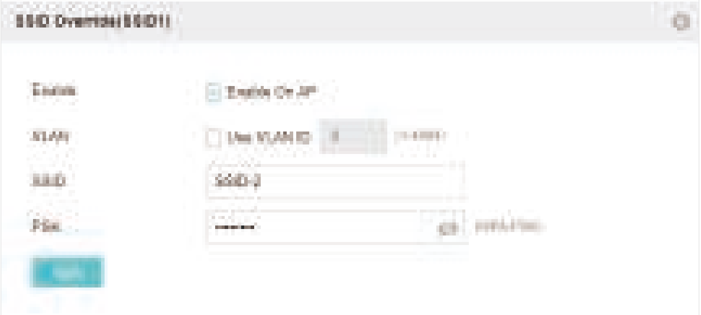
5.4.5 WLANs

You can specify a different SSID name and password to override the previous SSID. After that, clients can only see the new SSID and use the new password to access the network. Follow the steps below to override the SSID.



1. Select the WLAN group.

2. Click ☑ and the following window will pop up.



3. Check the box to enable the feature.

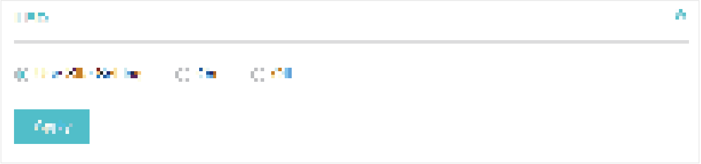
4. You can join the overridden SSID in to a VLAN. Check the **Use VLAN ID** box and specify a VLAN ID.

5. Specify a new name and password for the SSID.

6. Click **Apply** to save the configuration.

5.4.6 LED

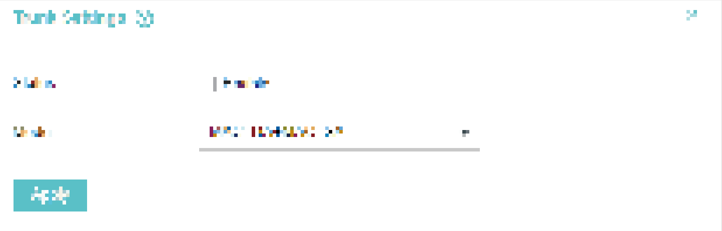
You can change the LED status of each EAP.



Using Site Setting	The LED status will be the same as the site settings.
On	Turn on the LED.
Off	Turn off the LED.

5.4.7 Trunk Settings (Only for EAP330)

The trunk function can bundles multiple Ethernet links into a logical link to increase bandwidth and improve network reliability.



Status	Enable this function. The EAP330 has two 1000Mbps Ethernet ports. If the Trunk function is enabled and the ports are in the speed of 1000Mbps Full Duplex, the whole bandwidth of the trunk link is up to 4Gbps (2000Mbps * 2).
Mode	Select the applied mode of Trunk Arithmetic from the drop-down list. **MAC_DA+MAC_SA**: When this option is selected, the arithmetic will be based on the source and destination MAC addresses of the packets. **MAC_DA**: When this option is selected, the arithmetic will be based on the destination MAC addresses of the packets. **MAC_SA**: When this option is selected, the arithmetic will be based on the source MAC addresses of the packets.

5.4.8 Rogue APs Detection

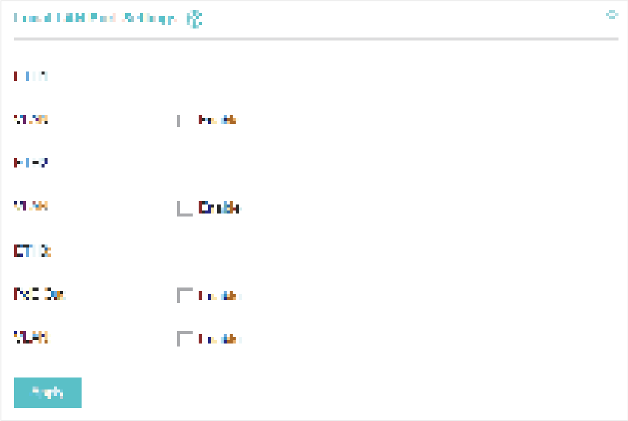
With this option enabled, the EAP will detect rogue APs in all channels. You can view the results in **Insight** > **Untrusted Rogue APs** page.

Note:

For some specific versions of the firmware, some EAPs will detect rogue APs automatically when this option is enabled.

5.4.9 Local LAN Port Settings (Only for EAP115-Wall and EAP225-Wall)

You can configure the LAN port of the EAP.



Local LAN Port Settings

ETH1

VLAN □ Enable

ETH2

VLAN □ Enable

ETH3

PoE Out □ Enable

VLAN □ Enable

VLAN	Enable this feature and specify the VLAN that the EAP is added to, and then the hosts connected to this EAP can only communicate with the devices in this VLAN. The valid values are from 1 to 4094, and the default is 1.
PoE Out	If your EAP has PoE OUT port, you can enable this option to supply power to the connected device on this port. The EAP that has no PoE OUT port does not support this feature.

5.4.10 Forget this AP

If you no longer want to manage this EAP, you may remove it. All the configurations and history about this EAP will be deleted. It is recommended to back up the configurations of this EAP before you forget it.

Forget this AP

[illegible]

6 Manage the Omada Controller

This chapter mainly introduces how to manage the user account and configure system settings. This chapter includes the following contents.

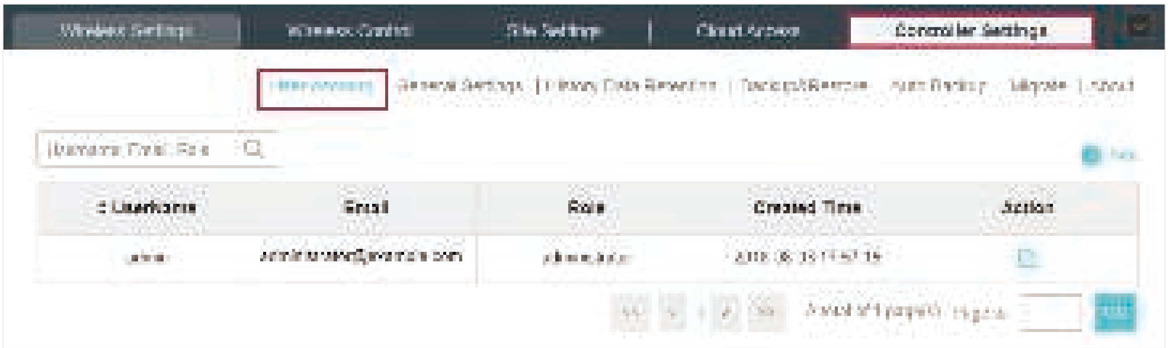
6.1 User Account

You can use different user account to log in to the Omada Controller. User has three roles: administrator, operator and observer. The administration authority varies among different roles.

Administrator	The first administrator account is created in the Basic Configuration process and this account can not be deleted. An administrator can change the settings of the EAP network and create and delete user accounts.
Operator	An operator account can be created or deleted by the administrator. The operator can change the settings of the EAP network.
Observer	An observer account can be created or deleted by the administrator. The observer can only view the status and settings of the EAP network but not change the settings.

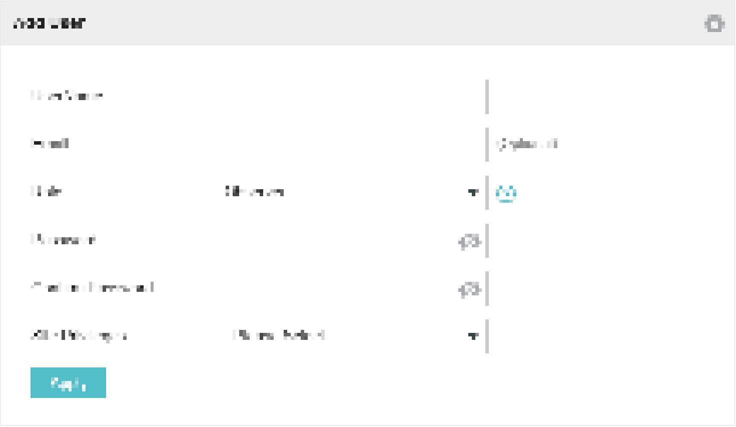
Follow the steps below to add user account.

1. Go to **Controller Settings > User Account.**



Username	Email	Role	Created Time	Action
[illegible]	[illegible]	[illegible]	[illegible]	

2. Click ⊕ Add and the following window will pop up.



3. Specify the username, Email and password of the account.

4. Select the role from the drop-down list.

- If you select **operator** or **observer**, you also need to select the **Site Privileges**.

- If you select **administrator**, the **Site Privileges** option will not appear and all sites are available for the administrator user.

5. Click **Apply** to add the user account.

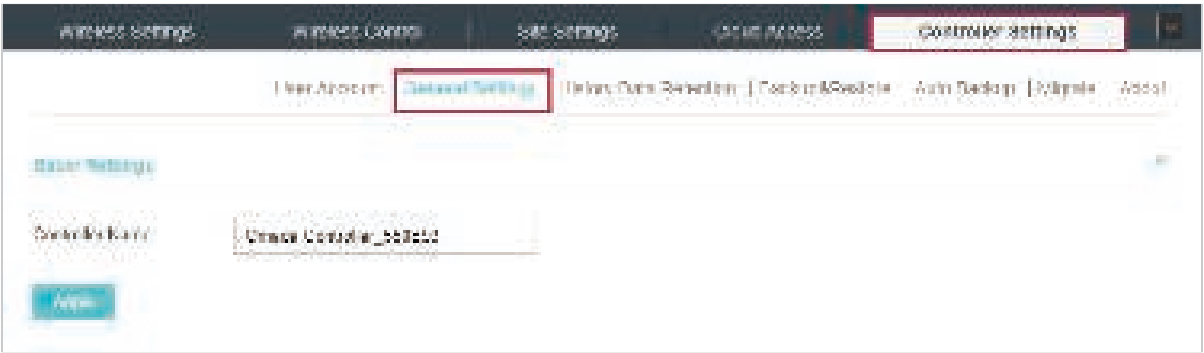
Note:

- You can refer to the **Role** page to view the user role's type, description information, permission scope and created time.
- The user account cannot be used to log in to the Omada Controller through Omada Cloud Service. To access the controller via Cloud Access, you should be a cloud user. To add a cloud user, refer to manage the cloud users.

6.2 General Setting

6.2.1 Configure Controller Name

Omada Controller is given a default name in the format **Omada Controller_XXXXXX.** You can give your controller a descriptive name in the **Controller Settings** > **General Setting** page and click **Apply**.



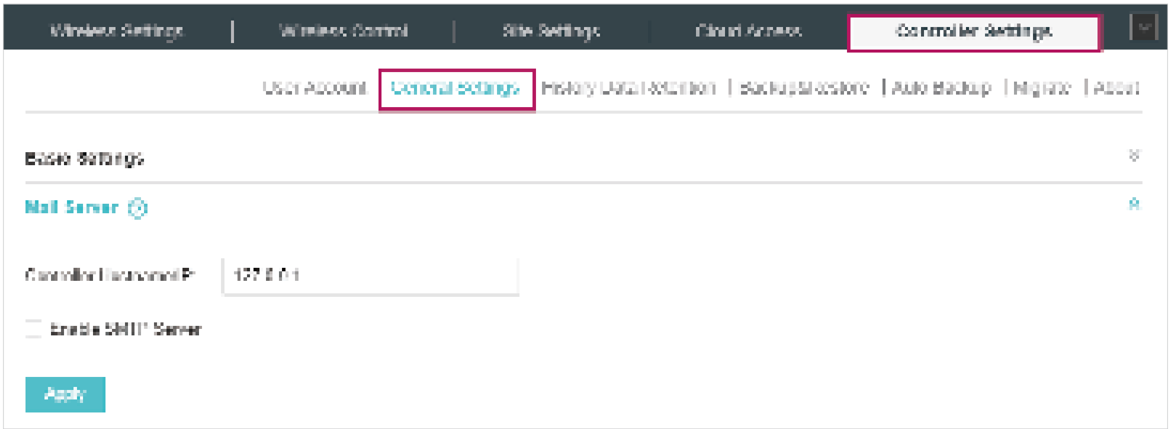
Controller Name Omada Controller_[illegible]

6.2.2 Configure Mail Server

With the Mail Server, you can reset the login password of the user account if necessary. An email with the link of resetting password will be sent from the Omada Controller. It is different from the SMTP Server, which is just for the system log emails sending.

Follow the steps below to configure mail server.

1. Go to **Controller Settings > General Setting** and click **Mail Server**.



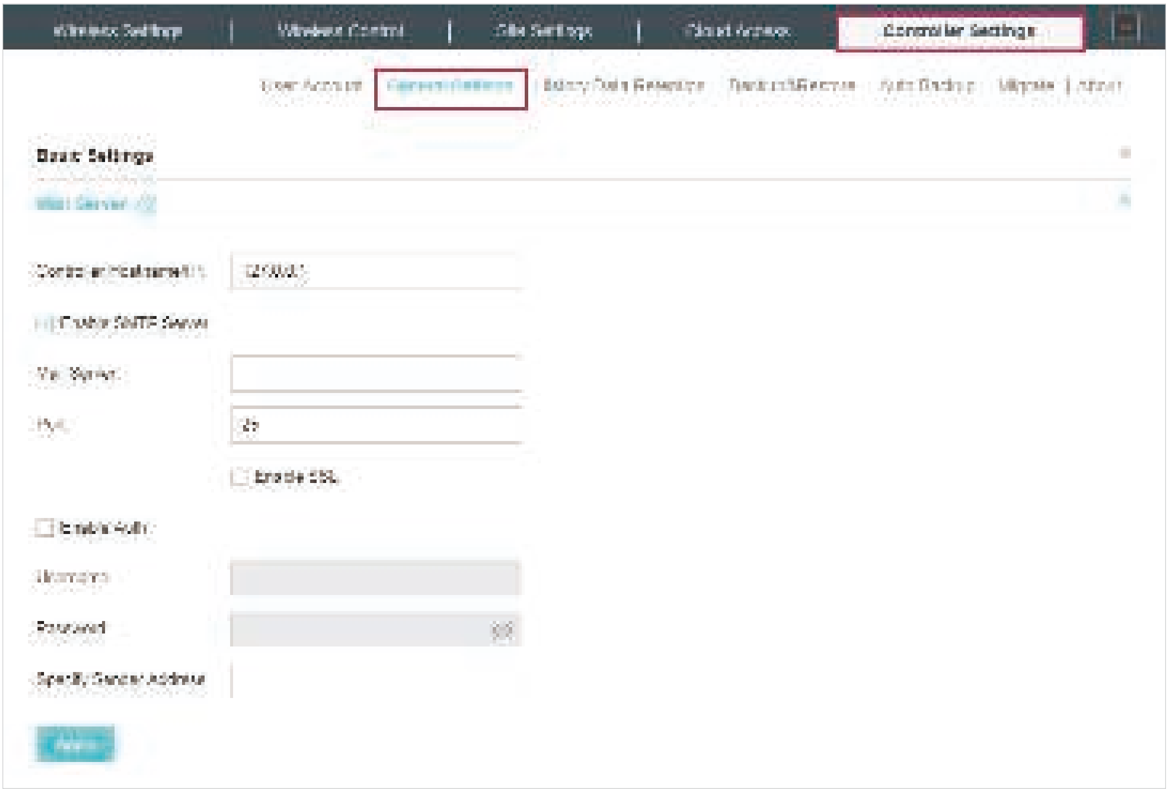
Controller Hostname/IP: 127.0.0.1

□ Enable SMTP Server

2. Enter the hostname or IP address of the Omada Controller. The default IP address of the Omada Controller is **127.0.0.1**. You can keep it or customize the hostname or IP address which can be visited by the Controller host.

   When the email with the link of resetting password are sent out, the Controller hostname or IP address will be specified in the Controller URL in every message.

3. Check the box to enable **SMTP Server**, and then the following screen will appear.



Controller Hostname/IP: 127.0.0.1

☑ Enable SMTP Server

Mail Server:

Port: 25

□ Enable SSL

□ Enable Auth

Username

Password

Specify Sender Address

4. Configure the following parameters.

Mail Server	Enter the IP address or domain name of SMTP Server.
Port	The SMTP server uses port 25 as default. You can enable SSL (Security Socket Layer) to enhance secure communications over the Internet. If SSL is enabled, the port number will automatically change to 465.
Enable Auth	Check the box to enable authentication (Optional).
Username/Password	If you enable authentication, enter the username and password required by the mail server.
Specify Sender Address	Specify the sender's mail address. Enter the email address that will appear as the sender for resetting password.

5. Click **Apply** to save the configuration.

Note:

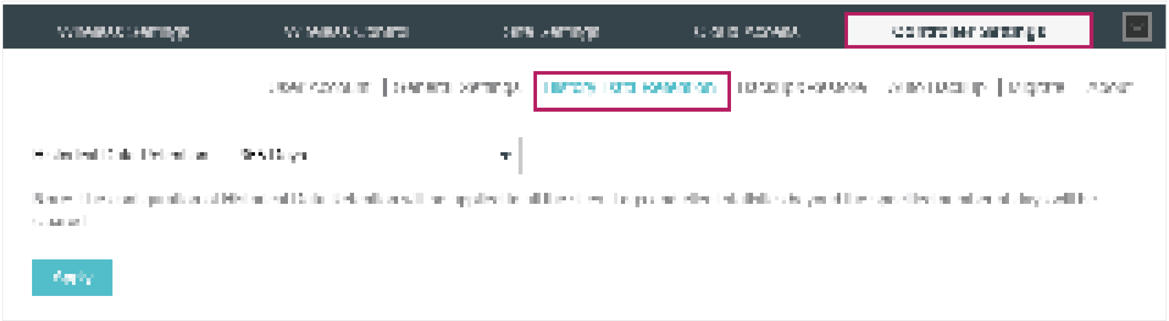
Specify the account email address based on the Mail server to receive the email for resetting password.

6.3 History Data Retention

History Data Retention allows users to determine the retention of logs and client statistics. The logs and client statistics beyond the specified number of days will be cleared. For example, with **7 days** selected, only the logs and client statistics in recent 7 days will be retained, and the data beyond 7 days will be cleared from the controller.

Follow the steps below to configure Historical Data Retention:

1. Go to **Controller Settings** > **History Data Retention.**



2. Select the length of time in days that data will be retained from the drop-down list. Seven options are provided: **7 days**, **30 days**, **60 days**, **90 days**, **180 days**, **365 days**, or **All time.**

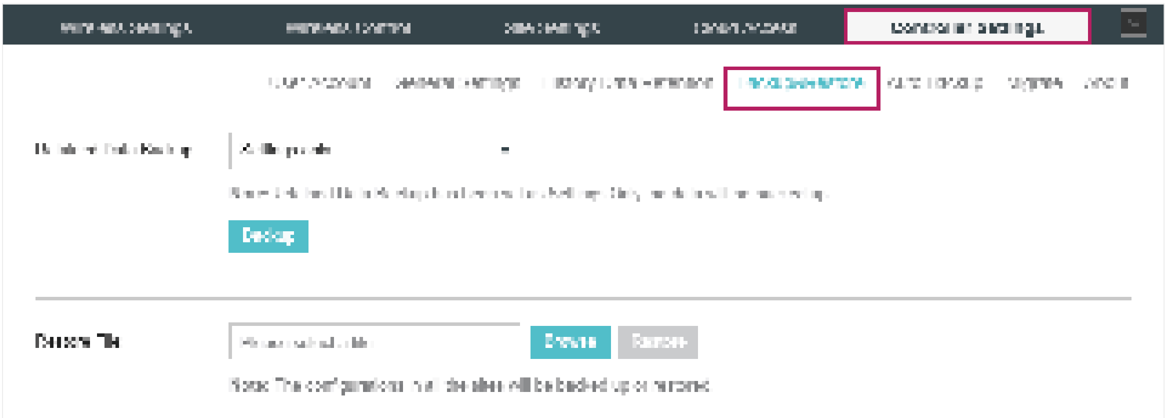
3. Click **Apply**.

6.4 Backup&Restore

You can save the current configuration and data in the controller as a backup file and if necessary, restore the configuration using the backup file. We recommend that you back up the settings before upgrading the device. This function is available only for local logged-in users.

Follow the steps below to backup and restore the configuration.

1. Go to **Controller Settings > Backup&Restore.**



2. Select the length of time in days that data will be backed up in the **Retained Data Backup** drop-down list. For example, with **7 days** selected, the data only in recent 7 days will be backed up.

3. Click **Backup** to save the backup file.

4. If necessary, click **Browse** to locate and choose the backup file. Then click **Restore** to restore the configuration.

Note:

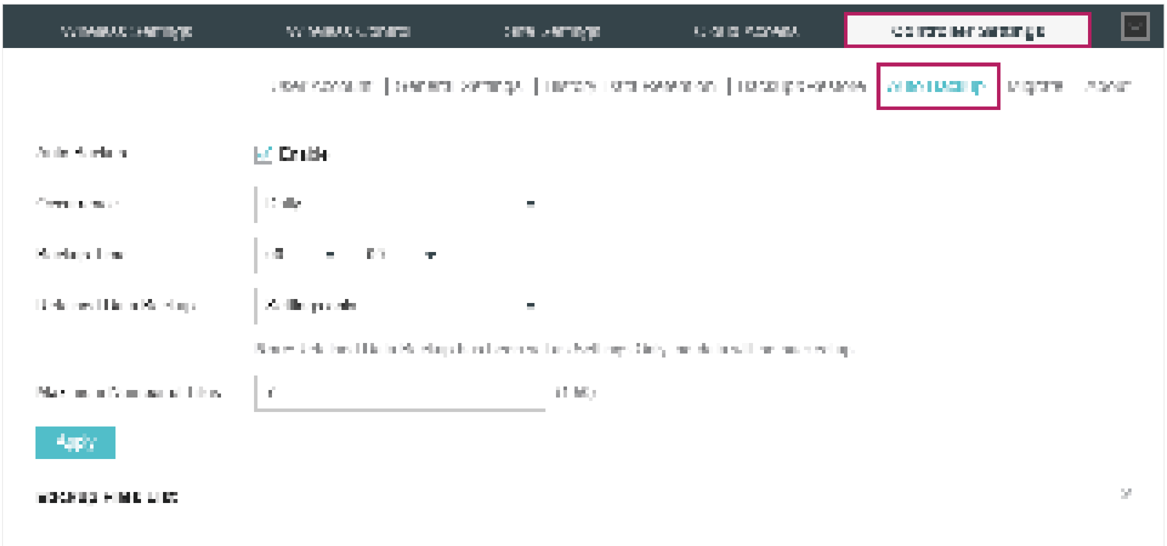
- If you do not want to back up historical data, you can select **Settings only** to get only the controller setting saved in the backup files.
- If you do not want to back up data manually, you can enable the **Auto Backup** function. Please refer to Auto Backup.
- To keep the backup data safe , please wait without any operations while restoring the backup file.

6.5 Auto Backup

With Auto Backup enabled, the controller will be scheduled to back up the configuration and data automatically at the specified time.

Follow the steps below to configure Auto Backup function.

1. Go to **Controller Settings > Auto Backup.**



2. Check the box to enable Auto Backup function.

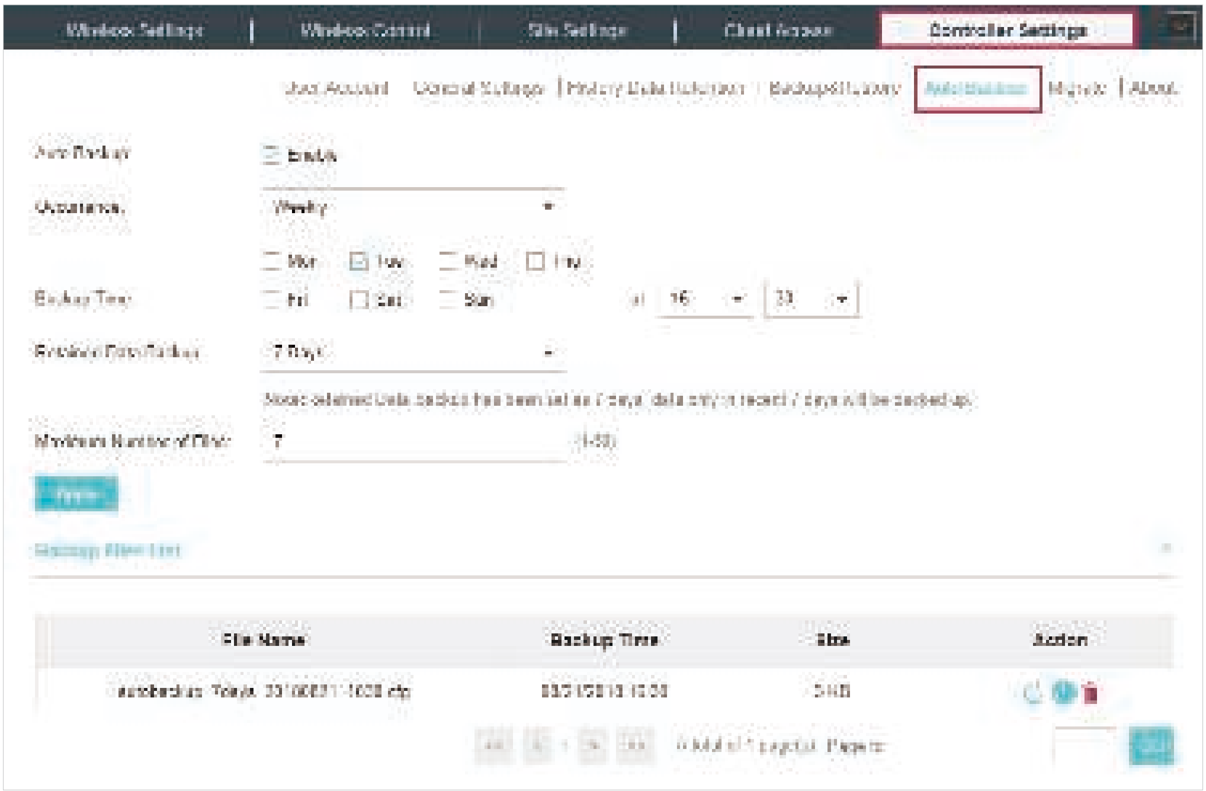
3. Select how often to perform Auto Backup in the **Occurrence**. You can choose **Daily**, **Weekly**, **Monthly** or **Yearly** from drop-down list. Then set an appropriate time to back up files in the **Backup Time**.

   Note: When you choose the Occurrence as Monthly, please carefully choose the backup date in Backup Time. For example, if you choose to automatically backup the data on the 31th day of every month. When it comes to June, which is only 30 days long, the auto backup will not take effect

4. Select the length of time in days that data will be backed up in the **Retained Data Backup**. For example, with **7 days** selected, the data only in recent 7 days will be backed up.

5. Specify the maximum number of backup files to save in the **Maximum Number of Files**. The default is 7.

You can view the name, backup time and size of the backup files in the **Backup Files List.**


Wireless Settings | Wireless Control | Site Settings | Client Access | Controller Settings
User Account | General Settings | History Data Retention | Backup&Restore | Auto Backup | Migrate | About

Auto Backup: ☑ Enable

Occurrence: Weekly

Backup Time: □ Mon ☑ Tue □ Wed □ Thu □ Fri □ Sat □ Sun at 16 : 33

Retained Data Backup: 7 Days

Note: Retained Data Backup has been set as 7 days, data only in recent 7 days will be backed up.

Maximum Number of Files: 7 (1-50)

Apply

Backup Files List

File Name	Backup Time	Size	Action
autobackup_Tokyo_20180821_1633.cfg	08/21/2018 16:33	5 KB	↻ ⬇ 🗑

Total of 1 page(s) Page(s)

You can execute the corresponding operation to the backup files by clicking an icon in the Action column.

↻	Restore the data and configurations in the backup file.
⬇	Download the backup file.
🗑	Delete the backup file.

Note:

- To back up data manually and restore the data to the controller, configure **Backup&Restore** function. Please refer to Backup&Restore.
- If you do not want to back up historical data, you can select **Settings only** to get only the controller setting saved in the backup files.
- The auto backup files will be stored in data/ autobackup folder of the controller installation location.
- The configuration of the cloud users will not be backed up. Thus the configuration of the cloud users cannot be restored. To add cloud users, please refer to Manage the Cloud Users.
- To keep the backup data safe , please wait without any operations while restoring the backup file.

6.6 Migrate

Migrate function allows users to migrate the configurations and data to any other site or controller.

For Migrating all the configurations and data from the current controller to any other controller, refer to Controller Migrate.

For Migrating the configurations and data from the existing site to any other controller, refer to Site Migrate.

6.6.1 Controller Migrate

With Controller Migrate function, you can migrate your configurations and data from the current controller to any other controller that has the same or higher version.

The process of migrating configurations and data from the current controller to another controller can be summarized in three steps: Export Controller, Migrate Controller and Migrate Devices.

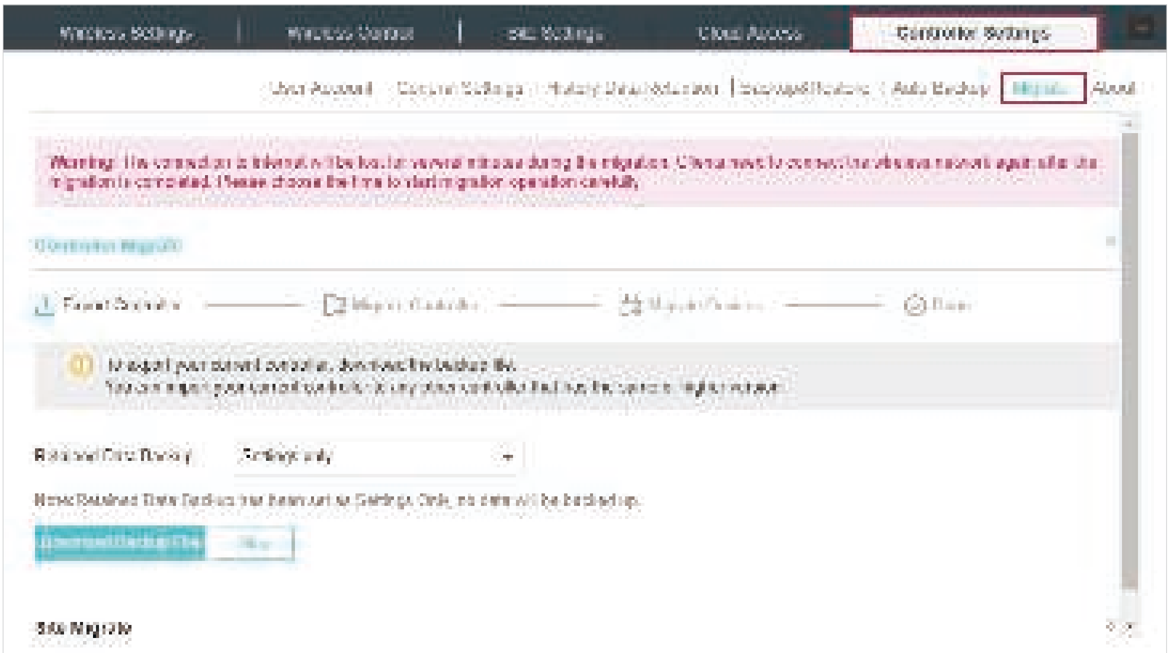
Follow the steps below to migrate your controller.

Note:

The connection to internet will be lost for several minutes during the migration. Clients need to connect the wireless network again after the migration is completed. Please choose the time to start migration operation carefully.

- Export Controller

1. Go to **Controller Settings > Migrate > Controller Migrate.**



Warning: The connection to internet will be lost for several minutes during the migration. Clients need to connect the wireless network again after the migration is completed. Please choose the time to start migration operation carefully.

To export your current controller, download the backup file.
You can import your current controller to any other controller that has the same or higher version.

Retained Data Backup: Settings only

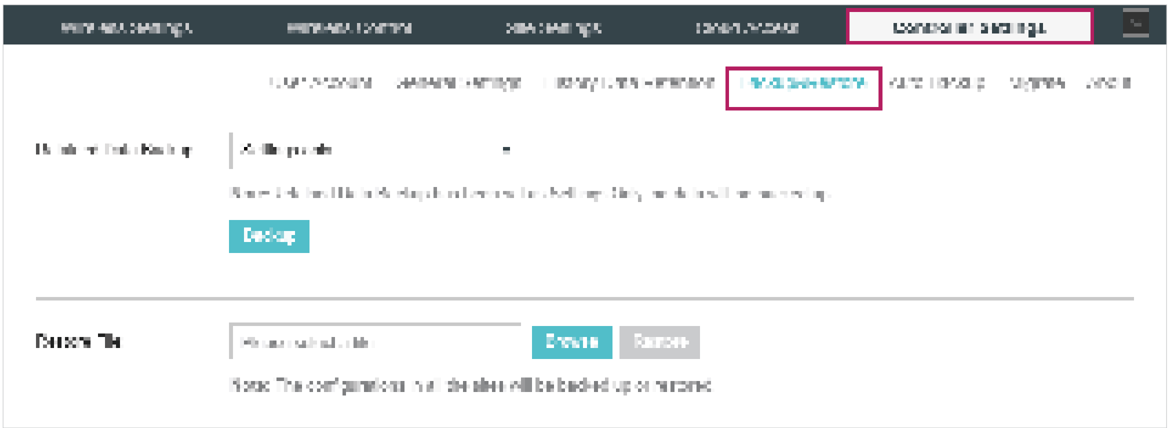
Note: Retained Data Backup has been set as Settings Only, no data will be backed up.

2. Select the length of time in days that data to be imported into the second controller in the **Retained Data Backup** drop-down list. For example, with **7 days** selected, the data only in recent 7 days will be imported into the second controller.

3. Click **Download Backup File** to download the file of the current controller. If you have backed up the file, click **Skip**.

■ Migrate Controller

1. Start and log in to the second controller, go to **Controller Settings > Backup&Restore > Restore File.**

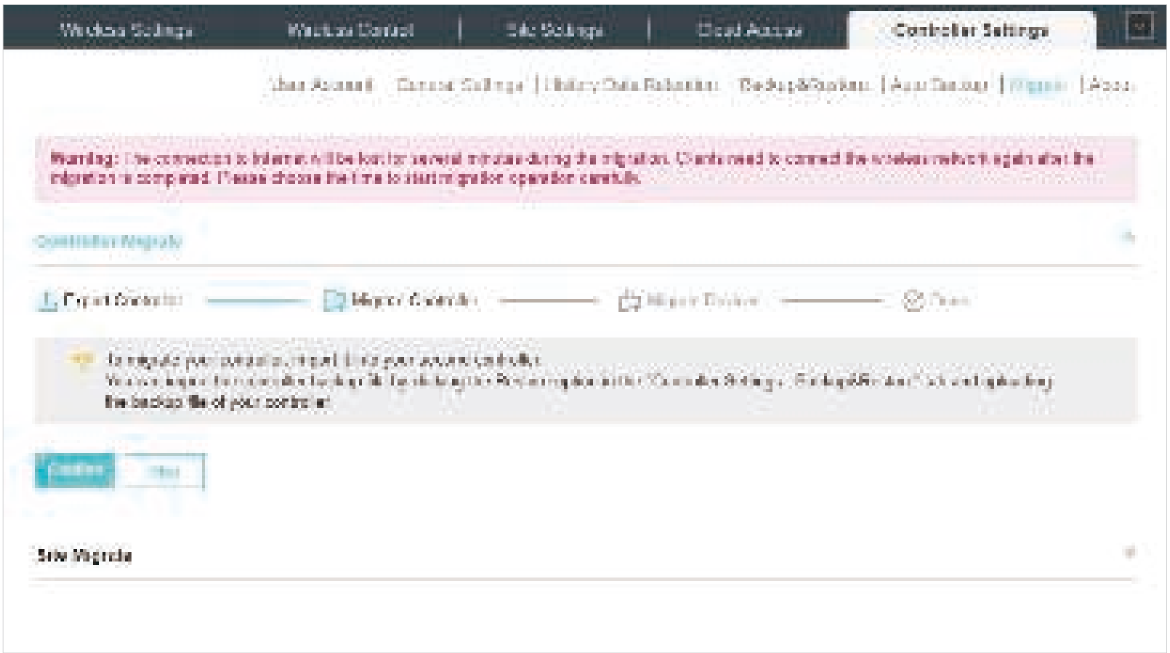


[illegible]

Note: The configurations and the devices will be backed up or restored.

2. Click **Browse** to locate and choose the file of your controller to be imported. Then click **Restore** to upload the file.

3. After the file has been restored to the second controller, go back to the export controller and click **Confirm.**



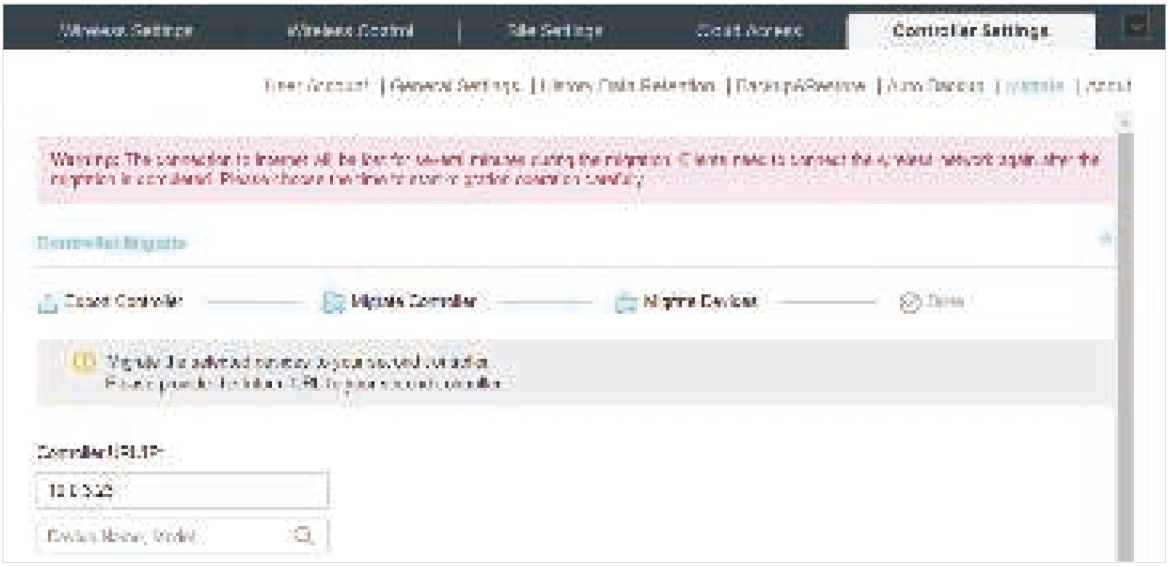
Warning: The connection to Internet will be lost for several minutes during the migration. Clients need to connect the wireless network again after the migration is completed. Please choose the time to start migration operation carefully.

To migrate your controller, import it into your second controller.
You can import the controller backup file by clicking the Restore option in the "Controller Settings > Backup&Restore" and uploading the backup file of your controller.

■ Migrate Devices

1. Click **Browse** to locate and choose the file of your controller to be imported. Then click **Restore** to upload the file.

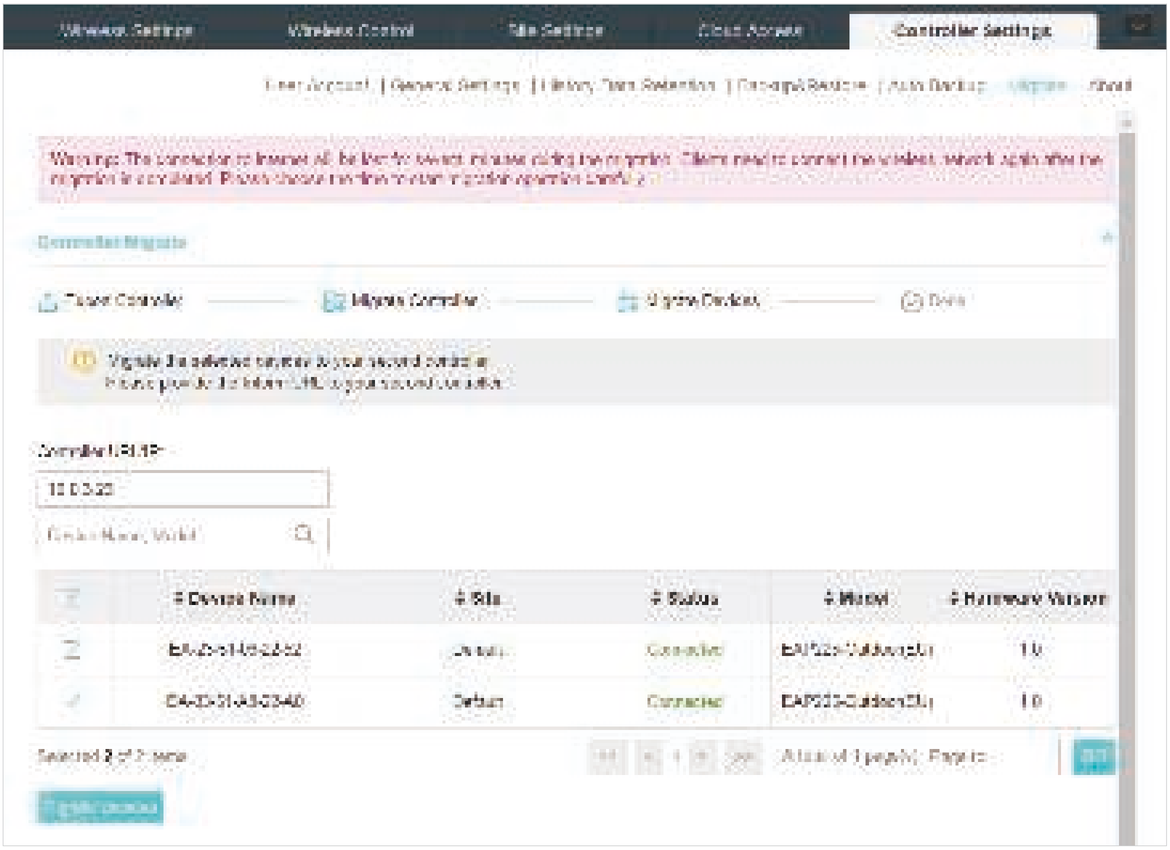
2. Enter the IP address or URL of your second controller into **Controller URL/IP** input filed. In this case, the IP address of the second controller is 10.0.3.23.



Note:

Make sure that you enter the correct IP address of the second controller to establish the communication between EAPs and your second controller. Otherwise the EAPs cannot be adopted by the second controller.

3. Select the devices that are to be migrated by clicking the boxes next to each devices. By default, all the devices are selected.

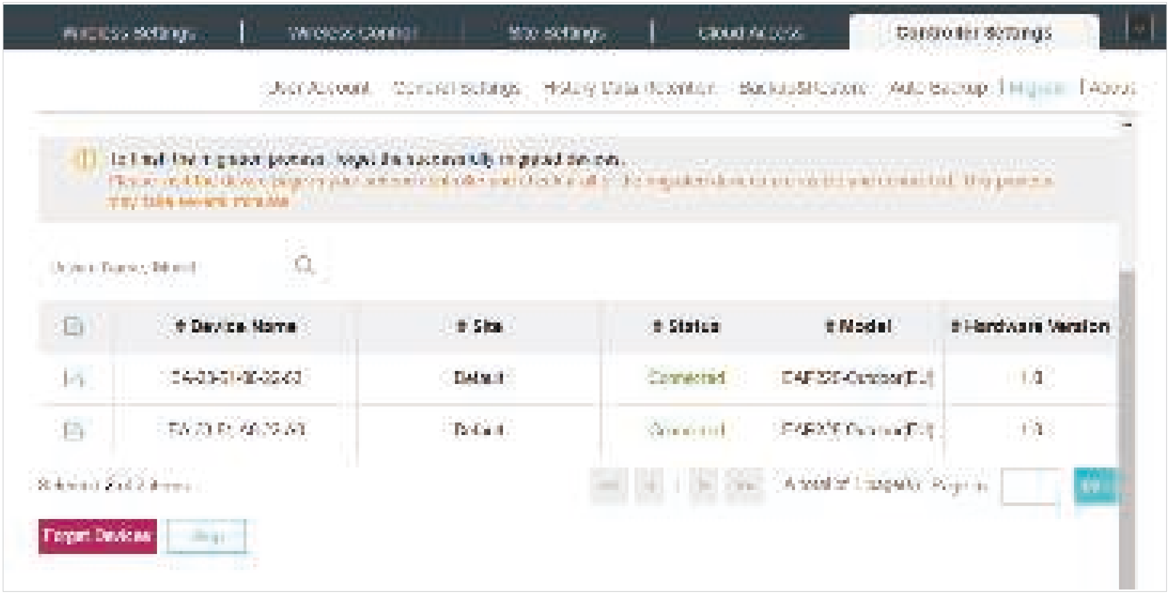


	Device Name	Site	Status	Model	Hardware Version
☑	[illegible]	Default	Connected	[illegible]	1.0
☑	[illegible]	Default	Connected	[illegible]	1.0

Selected 2 of 2 items

4. Click **Migrate Devices** to migrate the selected devices to the second controller.

5. Verify that all the migrated devices are visible and connected on the second controller. Note that this may take several minutes. When all the migrated devices are in **Connected** status on the **Access Points** page on the second controller, click **Forget Devices** to finish the migration process.

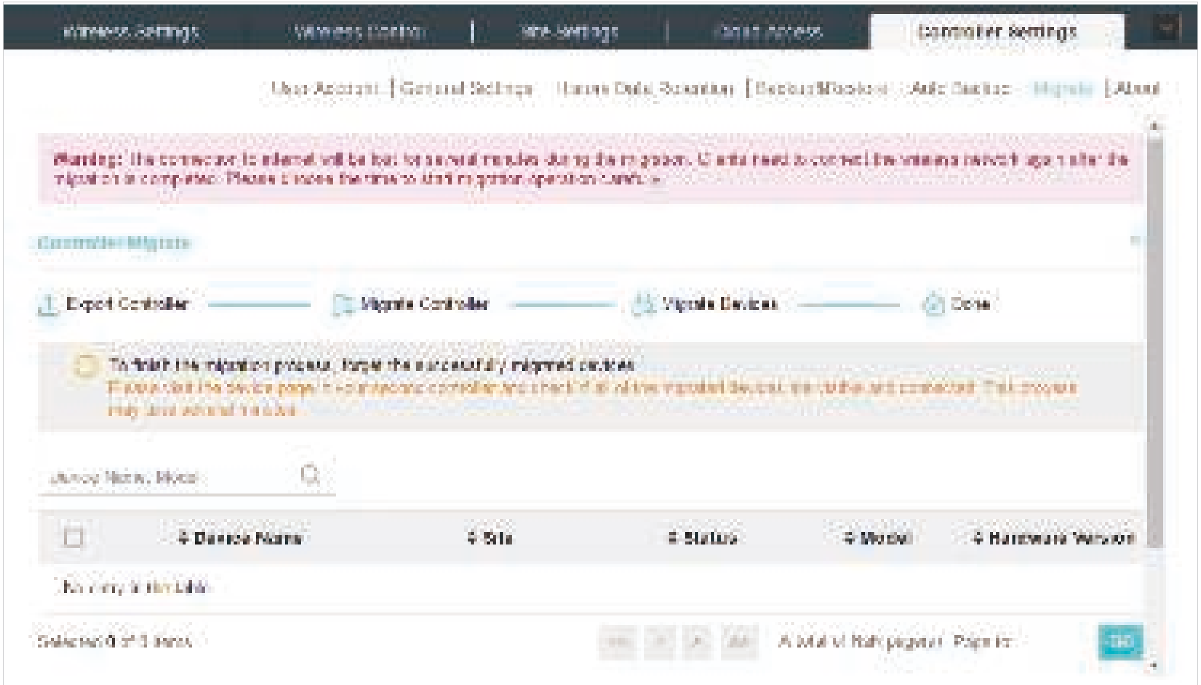


To finish the migration process, forget the successfully migrated devices.
[illegible] may take several minutes.

☑	Device Name	Site	Status	Model	Hardware Version
☑	[illegible]	Default	Connected	EAP[illegible]-Outdoor(EU)	1.0
☐	[illegible]	Default	Connected	EAP[illegible]-Outdoor(EU)	1.0

Selected 2 of 2 items. A total of 1 page(s) Page to: [illegible]

When the migration process is completed, all the configuration and data are migrated to the second controller. You can uninstall the previous controller if necessary.



Warning: The connection to internet will be lost for several minutes during the migration. [illegible] migration is completed. Please choose the time to start migration operation carefully.

To finish the migration process, forget the successfully migrated devices.
[illegible] may take several minutes.

☐	Device Name	Site	Status	Model	Hardware Version
No entry in the table.					

Selected 0 of 0 items. A total of 0 page(s) Page to:

6.6.2 Site Migrate

With Site Migrate function, you can migrate your configurations and data of a site to any other controller that has the same version.

The process of migrating configurations and data from a site to another controller can be summarized in three steps: Export Site, Migrate Site and Migrate Devices.

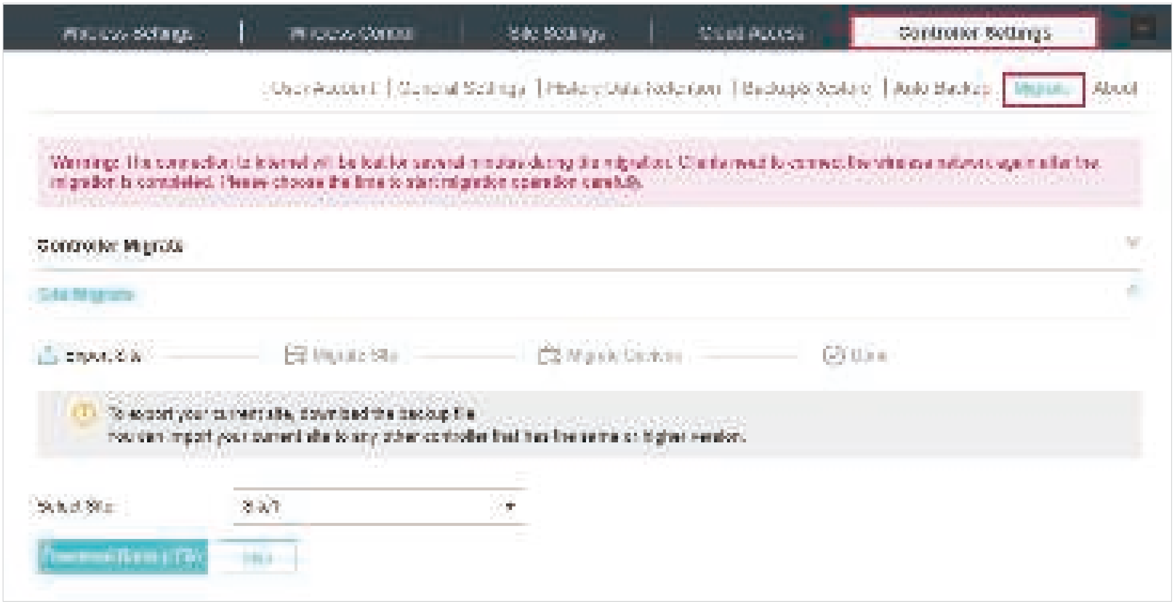
Follow the steps below to migrate a site to anther controller.

Note:

The connection to internet will be lost for several minutes during the migration. Clients need to connect the wireless network again after the migration is completed. Please choose the time to start migration operation carefully.

- Export Site

1. Go to **Controller Settings > Migrate > Site Migrate.**



Warning: The connection to internet will be lost for several minutes during the migration. Clients need to connect the wireless network again after the migration is completed. Please choose the time to start migration operation carefully.

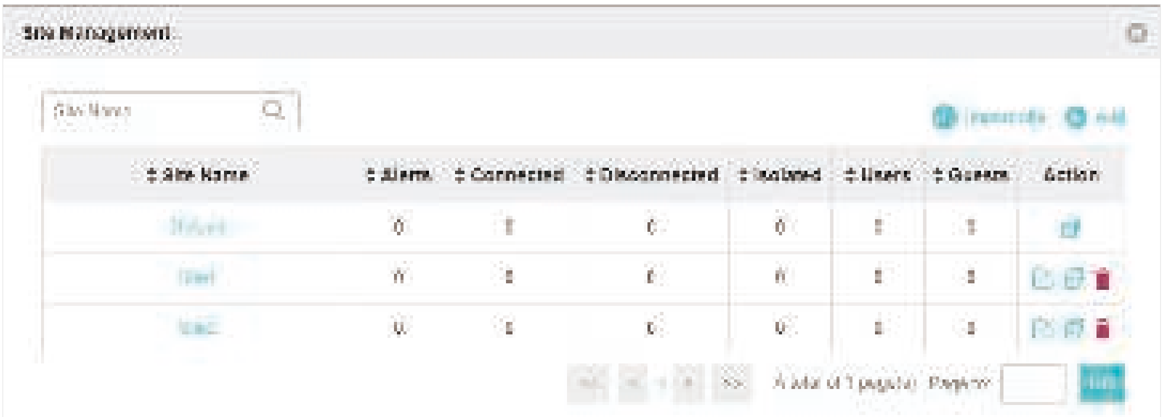
To export your current site, download the backup file.
You can import your current site to any other controller that has the same or higher version.

2. Select the site to be imported into the second controller in the **Select Site** drop-down list.

3. Click **Download Backup File** to download the file of the current site. If you have backed up the file, click **Skip.**

- Migrate Site

1. Start and log in to the second controller, click Sites: Default in the top left corner of the page and select Site Manager, and then the following window will pop up.



Site Management

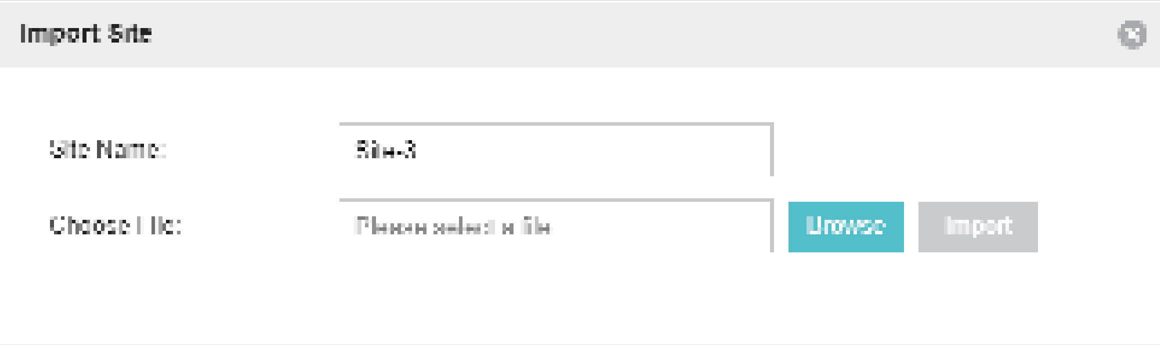
Site Name

Import Site Add

Site Name	Alerts	Connected	Disconnected	Isolated	Users	Guests	Action
Default	0	1	0	0	1	1	
[illegible]	0	1	0	0	1	1	
[illegible]	0	1	0	0	1	1	

A total of 1 page(s) Page to: GO

2. Click Import Site and enter a unique name for the new site.

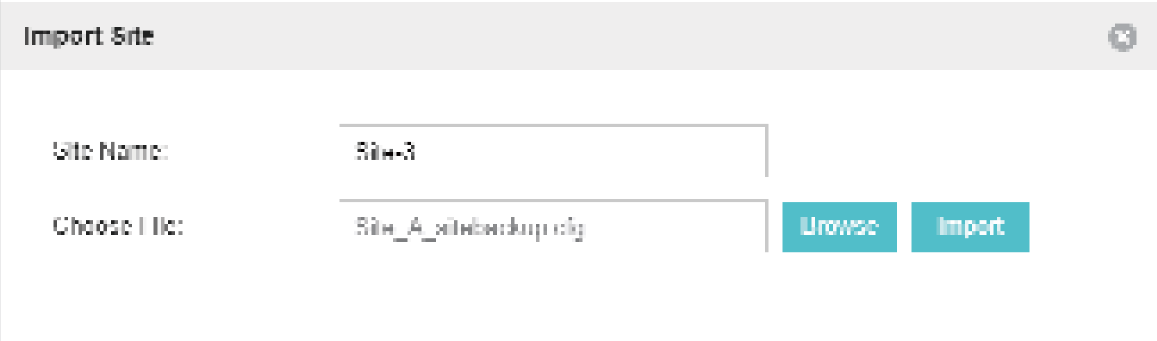


Import Site

Site Name: Site-3

Choose File: Please select a file

3. Click **Browse** to upload the file of the site to be imported and click **Import** to import the site.

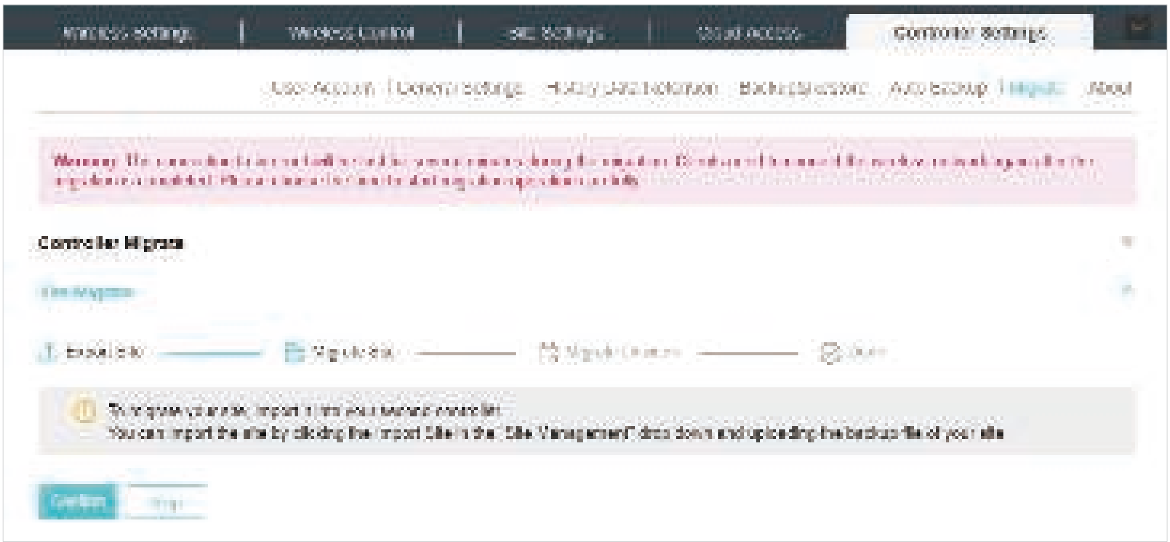


Import Site

Site Name: Site-3

Choose File: Site_A_sitebackup.cfg

4. After the file has been imported to the second controller, go back to the export controller and click **Confirm.**

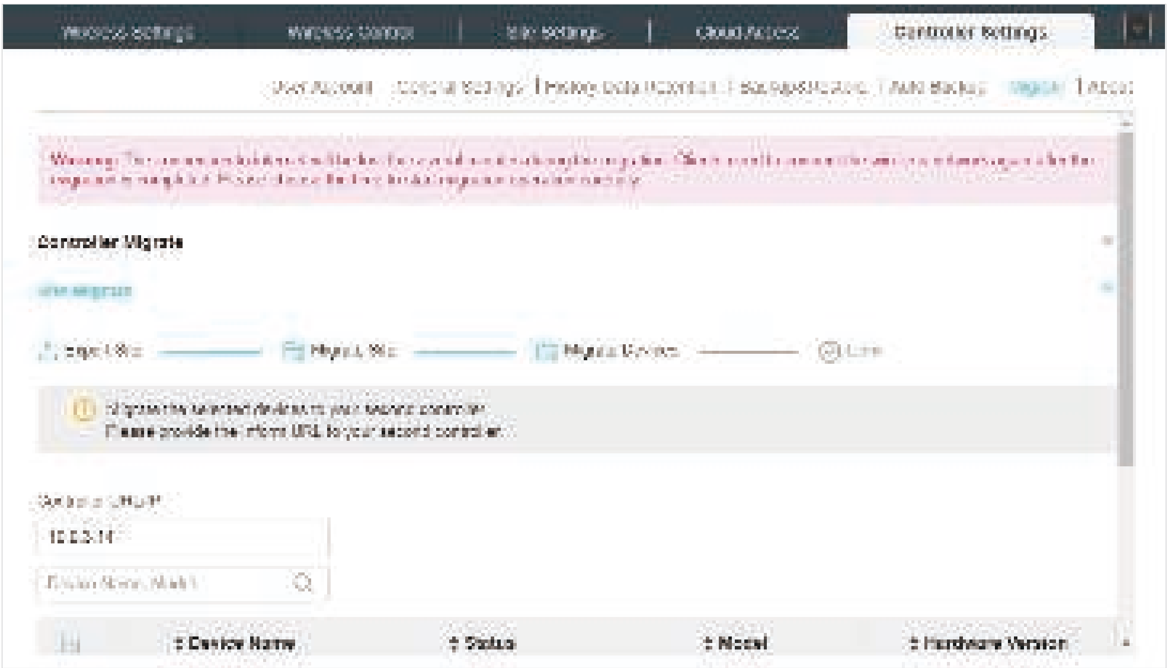


Warning: [illegible]

You can import the site by clicking the Import Site in the "Site Management" drop down and uploading the backup file of your site

- Migrate Devices

1. Enter the IP address or URL of your second controller into **Controller URL/IP** input filed. In this case, the IP address of the second controller is 10.0.3.14.



Warning: [illegible]

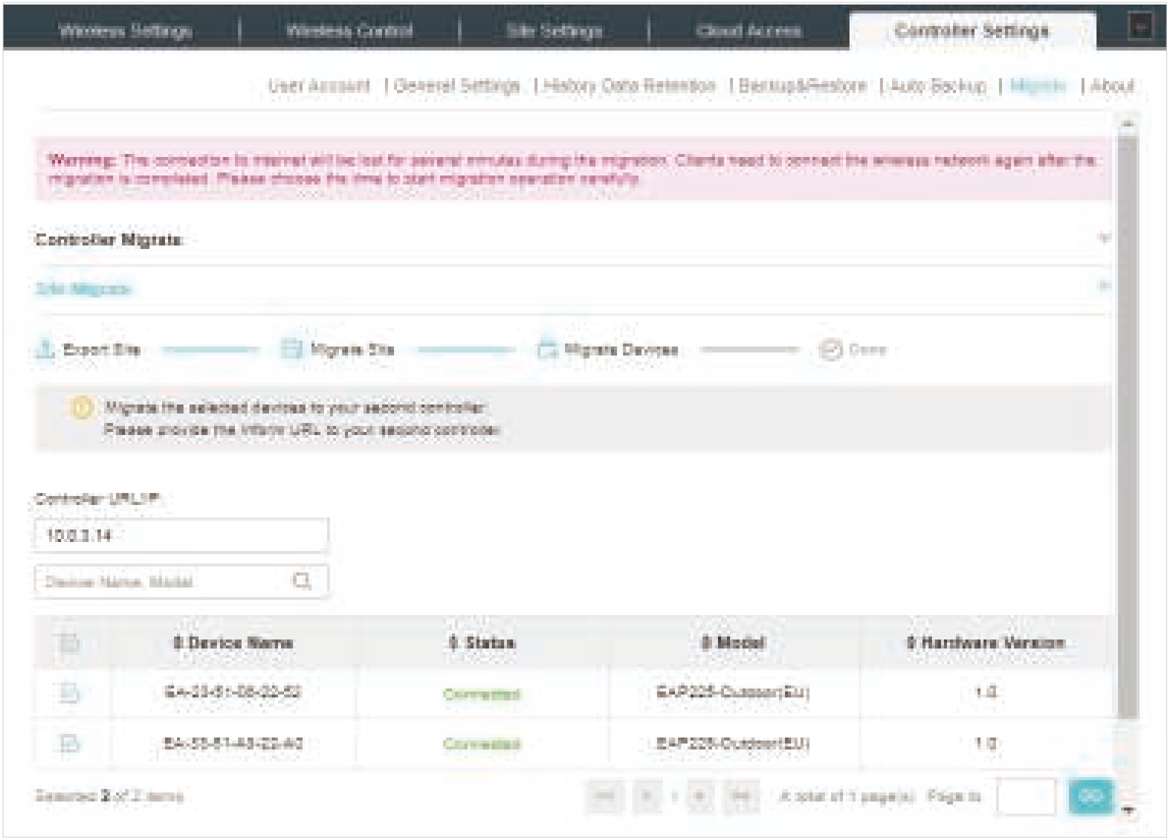
Migrate the selected devices to your second controller.
Please provide the inform URL to your second controller.

Controller URL/IP: 10.0.3.14

Note:

Make sure that you enter the correct IP address of the second controller to establish the communication between EAPs and your second controller. Otherwise the EAPs cannot be adopted by the second controller.

2. Select the devices that are to be migrated by clicking the boxes next to each devices. By default, all the devices are selected.


Wireless Settings
Wireless Control
Site Settings
Cloud Access
Controller Settings
User Account | General Settings | History Data Retention | Backup&Restore | Auto Backup | Migrate | About

Warning: The connection to internet will be lost for several minutes during the migration. Clients need to connect the wireless network again after the migration is completed. Please choose the time to start migration operation carefully.

Migrate the selected devices to your second controller.
Please provide the Inform URL to your second controller.

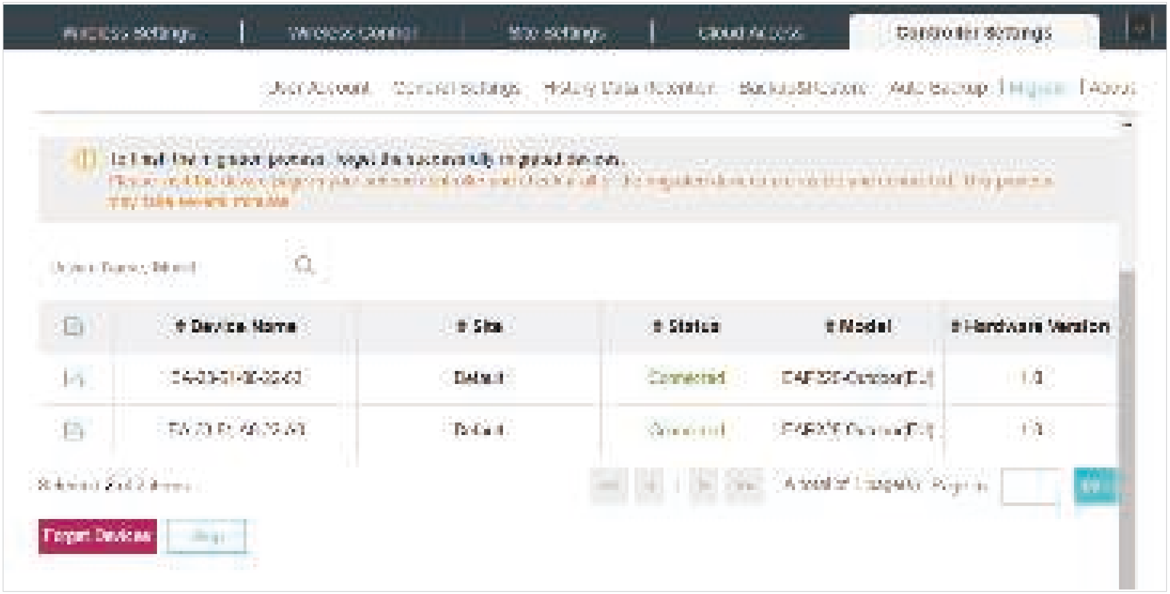
Controller URL/IP: 10.0.3.14

☑	Device Name	Status	Model	Hardware Version
☑	EA-23-51-08-22-53	Connected	EAP225-Outdoor(EU)	1.0
☑	EA-33-51-48-22-AC	Connected	EAP225-Outdoor(EU)	1.0

Selected 2 of 2 items

3. Click **Migrate Devices** to migrate the selected devices to the second controller.

4. Verify that all the migrated devices are visible and connected on the second controller. Note that this may take several minutes. When all the migrated devices are in **Connected** status on the **Access Points** page on the second controller, click **Forget Devices** to finish the migration process.


Wireless Settings
Wireless Control
Site Settings
Cloud Access
Controller Settings
User Account | General Settings | History Data Retention | Backup&Restore | Auto Backup | Migrate | About

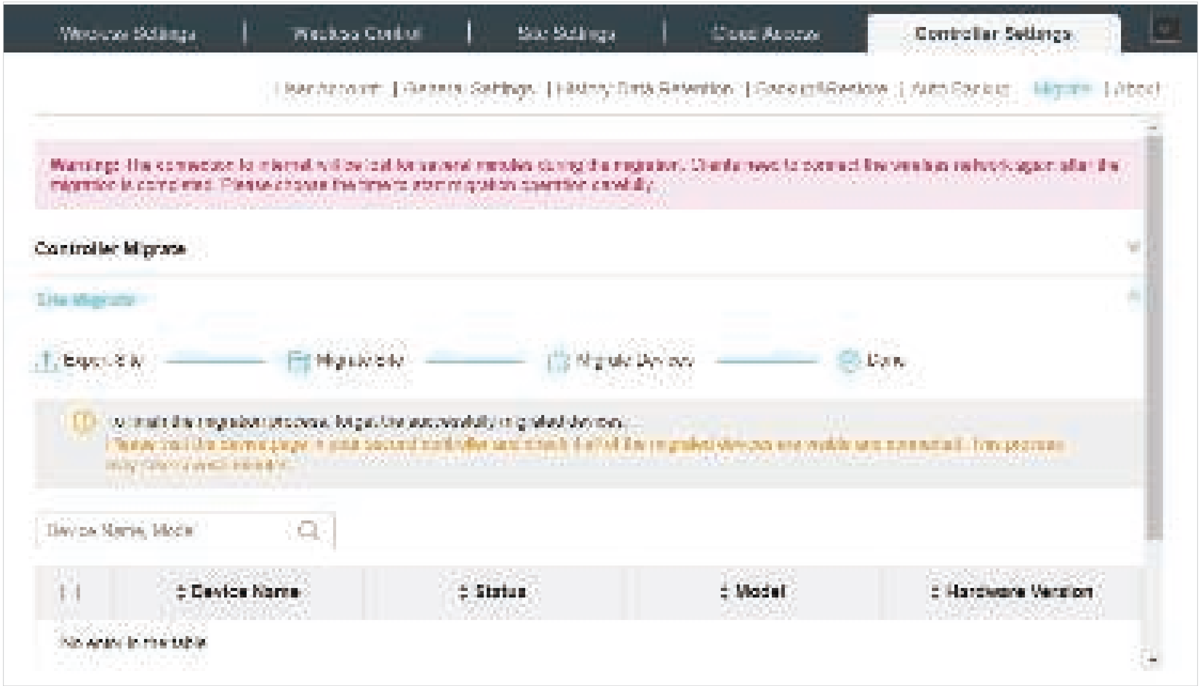
To finish the migration process, forget the successfully migrated devices.
[illegible] may take several minutes.

☑	Device Name	Site	Status	Model	Hardware Version
☑	[illegible]	Default	Connected	EAP225-Outdoor(EU)	1.0
☑	[illegible]	Default	Connected	EAP225-Outdoor(EU)	1.0

Selected 2 of 2 items

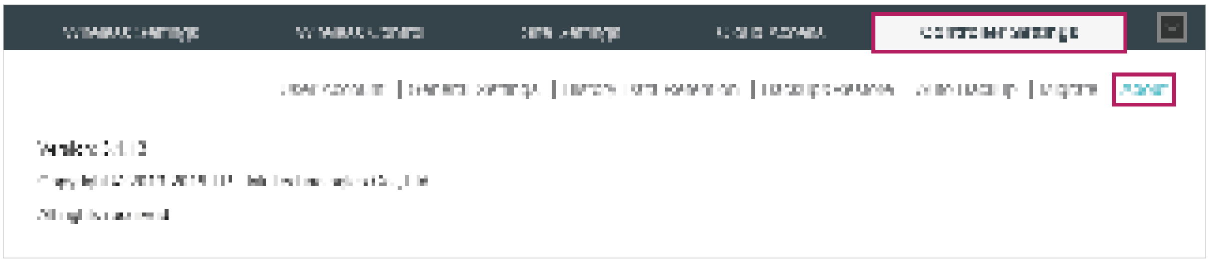
A total of 1 page(s) Page to
Forget Devices
Skip

When the migration process is completed, all the configuration and data are migrated to the second controller. You can delete the previous site if necessary.



6.7 Information About the Software

You can view the Omada Controller's version and copyright information on the **Controller Settings** > **About** page.



7 Application Example

A restaurant has a wireless network with three EAPs managed by the Omada Controller. The network administrator wants to :

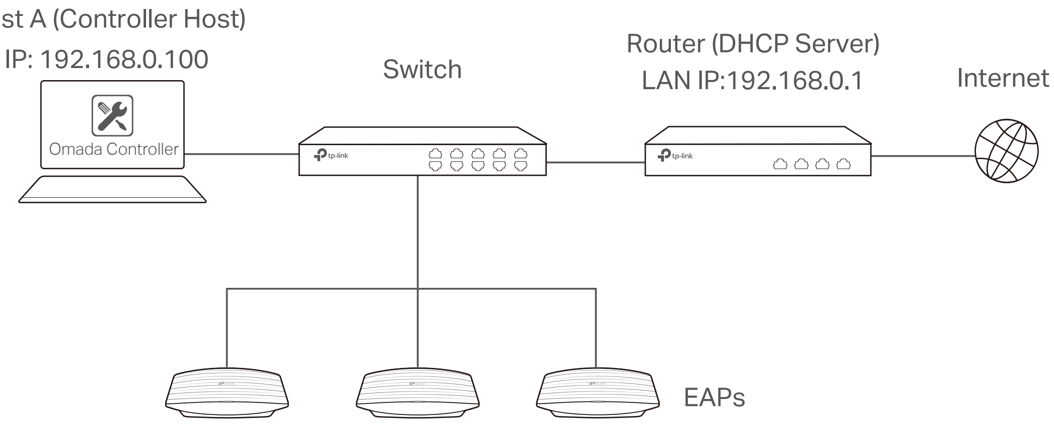
- Monitor the EAPs with the Map.
- Enable Portal function to drive customers' attention to the ads of the supermarket when customers attempt to access the network. The costumers need to use a simple password to pass the authentication.
- Allow the employees of the restaurant to access the network resources without portal authentication.
- Schedule the radio to operate only during the working time (8:00 am to 22:00 pm) in order to reduce power consumption.

Follow the steps below to achieve the requirements above.

7.1 Basic Configuration

Follow the steps below to do the basic configuration.

1. Connect the hardware by referring to the following topology.



2. Install the Omada Controller on Host A.
3. Launch the software and follow the instructions to complete some initial configurations.
4. Log into the management interface.
5. Adopt the pending EAPs.

7.2 Advanced Settings

After the basic configuration, refer to the following content to meet the network administrator's requirements.

7.2.1 Monitor the EAPs with Map

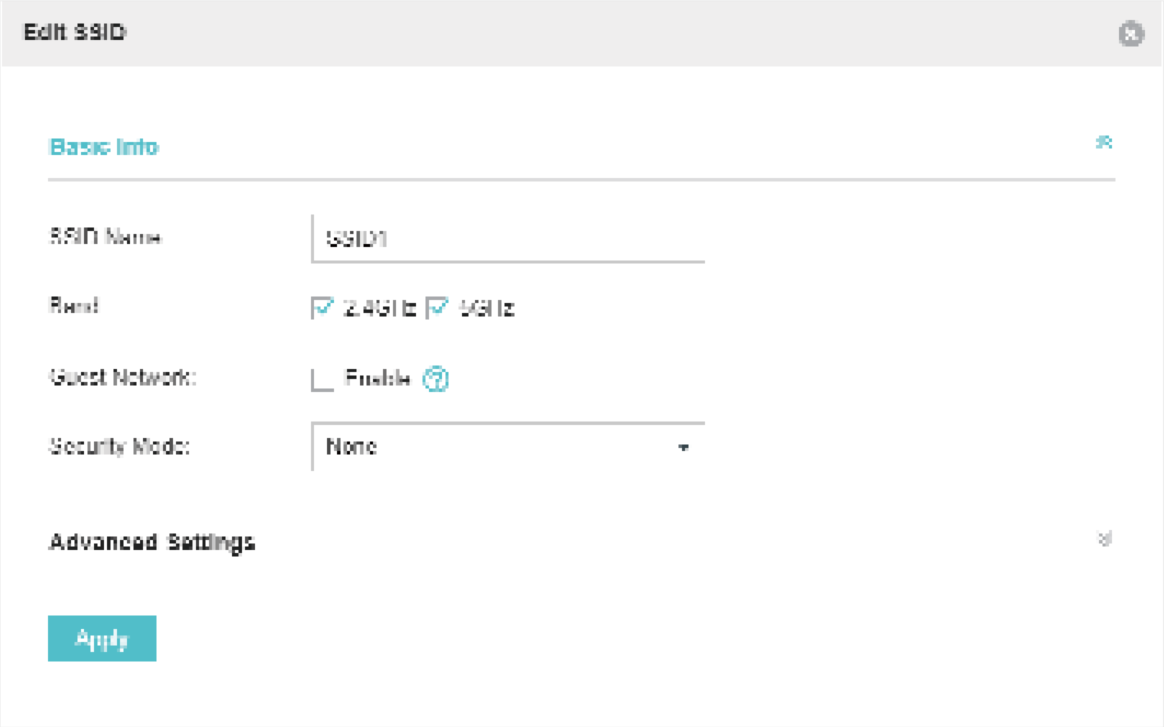
Follow the steps below to create a map and monitor the EAPs with the map.

1. Go to the **Map**.
2. Import a local map and set the map scale.
3. Drag the EAPs to the appropriate locations on the map.
4. Click **Coverage** and you can see the representation of the EAPs’ wireless coverage.

7.2.2 Configure Portal Authentication

Follow the steps below to configure Portal function.

1. Go to **Wireless Settings** > **Basic Wireless Settings** and edit the SSID we created in the basic configuration.



Edit SSID

Basic Info

SSID Name: SSID1

Band: ☑ 2.4GHz ☑ 5GHz

Guest Network: □ Enable

Security Mode: None

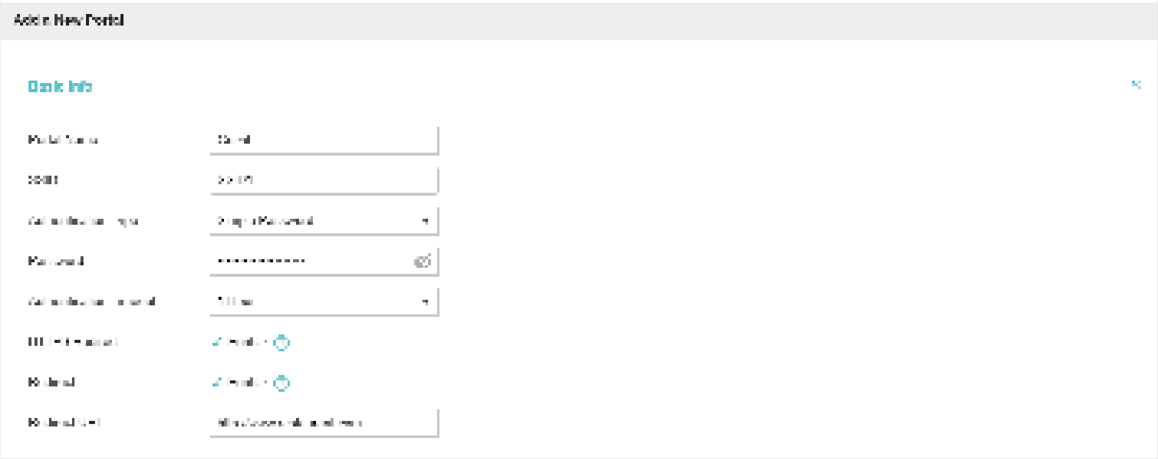
Advanced Settings

Apply

To make it easier for customers to connect, change the Security Mode from **WPA-PSK** to **None.** Customers can connect to the EAPs without password and be redirected to the Portal Authentication where the correct password will be required.

2. Open the global configuration window and go to **Wireless Control** > **Portal.** Click ⊕ Add a New Portal The configuration window will pop up.

3. In the **Basic Info** section, complete the basic settings for the portal.



Add a New Portal

Basic Info

Portal Name	[illegible]
SSID	[illegible]
Authentication Type	Simple Password
Password	••••••••••••
Authentication Timeout	1 Hour
HTTPS Redirect	✓ Enable
Redirect	✓ Enable
Redirect URL	[illegible]

   1) Specify a name for the portal.

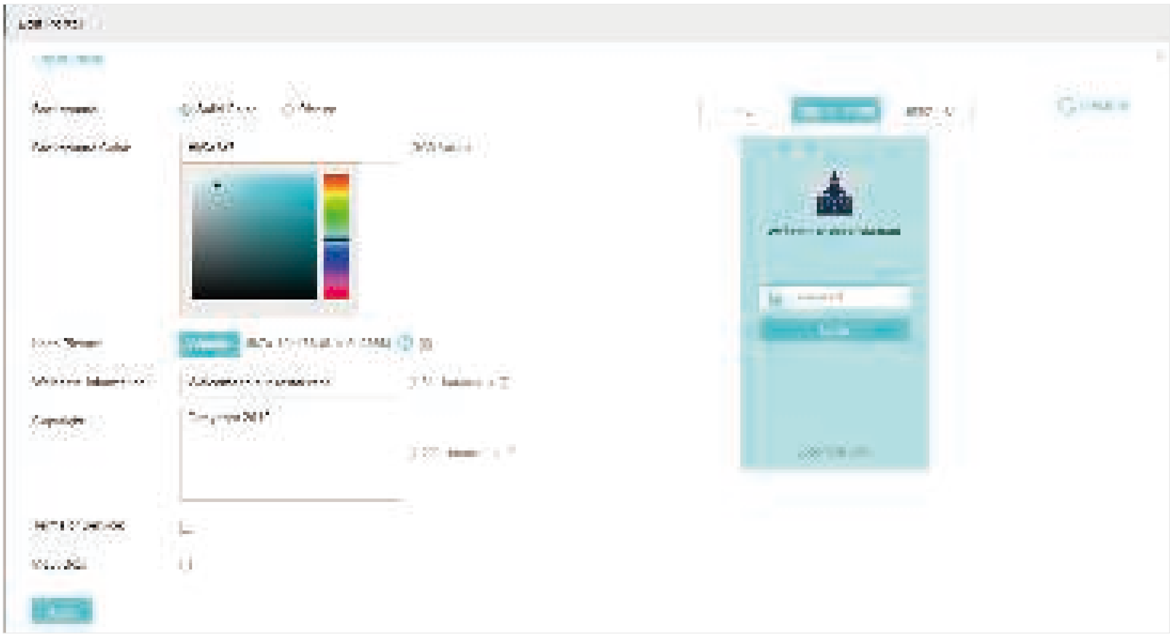
   2) Select an SSID for the portal.

   3) Select the Authentication Type as Simple Password. Specify a simple password for the guests.

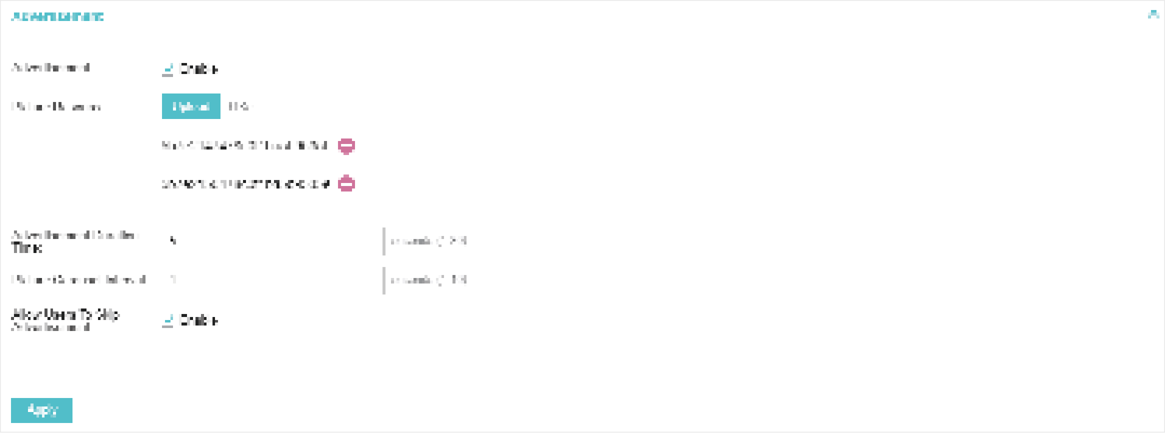
   4) Select the **Authentication Timeout.** For example, 1 Hour is suitable for the customers at the restaurant.

   5) Enable the **Redirect** to drive the costumers to the restaurant's homepage after successful login. We can put some promotion information on the page.

4. In the **Login Page** section, configure the login page.



5. In the Advertisement section, upload two pictures of the restaurant and set the related parameters.



Advertisement

Advertisement ☑ Enable

Picture Resource Upload [illegible]

[illegible]

[illegible]

Advertisement Duration Time 5 [illegible]

Picture Carousel Interval [illegible] [illegible]

Allow Users To Skip Advertisement ☑ Enable

6. Click **Apply**.

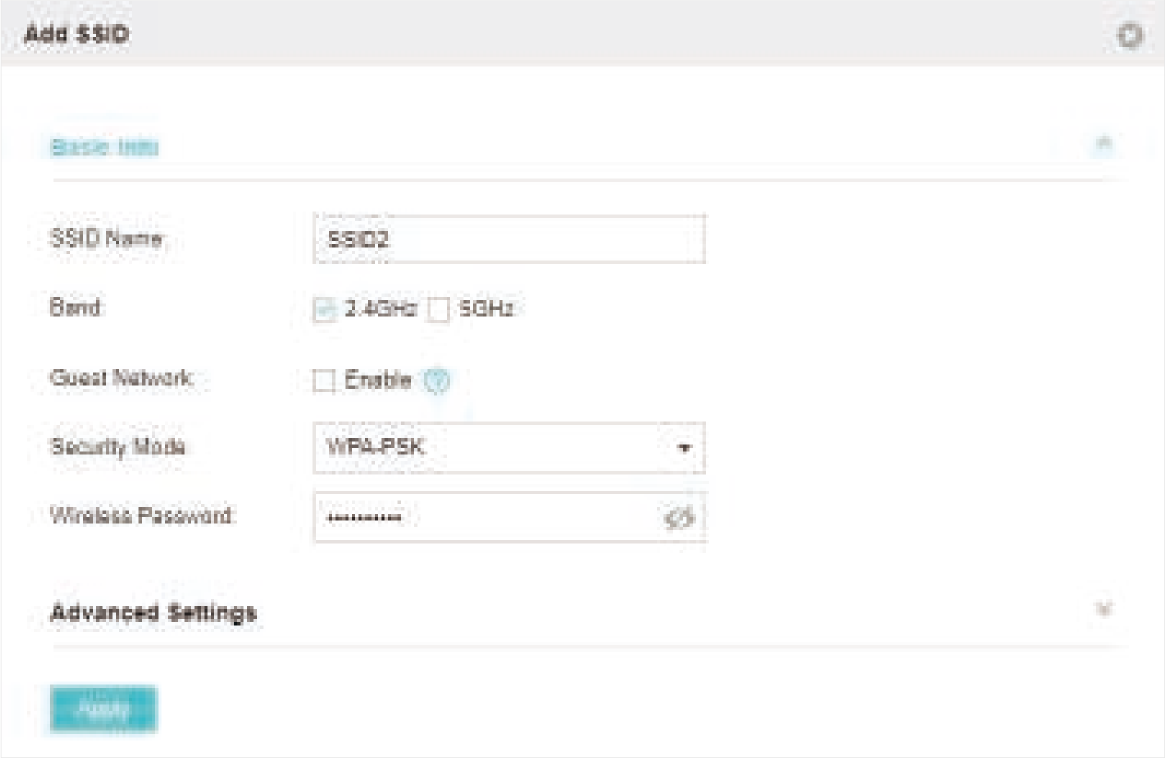
7.2.3 Create a SSID for the Employees

We have created a SSID in the basic configuration for the customers. Here we need to create another SSID for the employees to allow them to access the network without portal authentication. In addition, the new SSID should be invisible for the customers.

Follow the steps below to create a SSID for the employees.

1. Open the global configuration window and go to **Wireless Settings** > **Basic Wireless Settings**.

2. Click **Add** to add a new SSID.



Add SSID

Basic Info

SSID Name: SSID2

Band: ☑ 2.4GHz □ 5GHz

Guest Network: □ Enable

Security Mode: WPA-PSK

Wireless Password: ••••••••••

Advanced Settings

Configure the parameters.

1) Disable the **SSID Broadcast** to hide this SSID from the customers.

2) Specify the **SSID Name**, **Security Mode** and **Wireless Password**. Let the employees manually enter the SSID name and password, and choose the security mode you set to access the network.

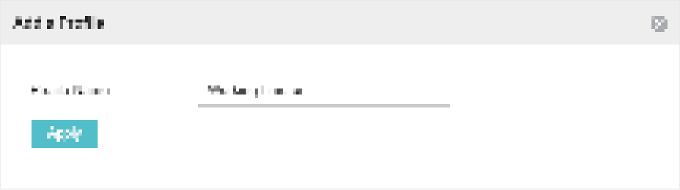
3) Click **Apply** to save the configuration.

7.2.4 Configure Scheduler

Follow the steps below to schedule the radio to operate only during the working time (from 8:00 to 22:00).

1. Open the global configuration window and go to **Wireless Control** > **Scheduler**.

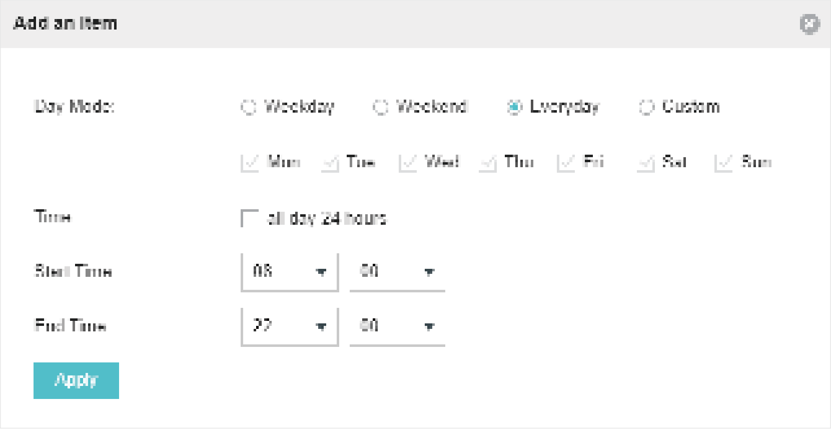
   1) Add a profile.



Add a Profile

Profile Name: Working time

   2) Add an item for the profile. The parameters are set as shown on the following screen.



Add an Item

Day Mode: ○ Weekday ○ Weekend ● Everyday ○ Custom

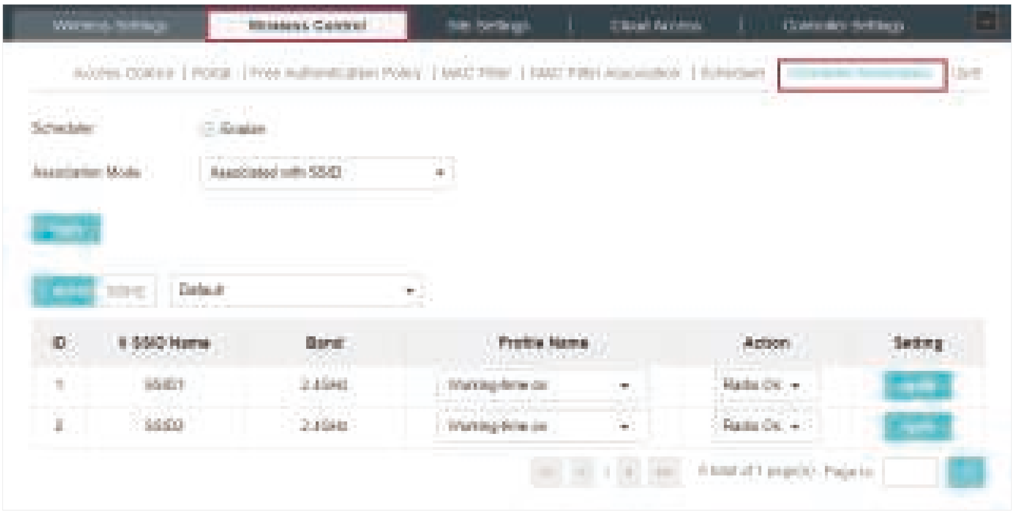
☑ Mon ☑ Tue ☑ Wed ☑ Thu ☑ Fri ☑ Sat ☑ Sun

Time: □ all day 24 hours

Start Time: 08 : 00

End Time: 22 : 00

2. Go to **Scheduler Association** tab.


Wireless Settings
Wireless Control
Site Settings
Cloud Access
Controller Settings
Access Control | Portal | Free Authentication Policy | MAC Filter | MAC Filter Association | Scheduler | Scheduler Association | QoS
Apply
2.4GHz
5GHz
Apply

Scheduler: □ Enable

Association Mode: Associated with SSID

Default

ID	SSID Name	Band	Profile Name	Action	Setting
1	SSID1	2.4GHz	Working-time on	Radio On	Apply
2	SSID2	2.4GHz	Working-time on	Radio On	Apply

A total of 1 page(s) Page to

1) Enable the function and select **Associated with SSID**. Click **Apply**.

2) In the **Profile Name** column of both SSIDs, select the profile we just created.

3) In the **Action** column of both SSIDs, select **Radio On.**

4) Click **Apply** in the **Setting** column of both SSIDs.

5) Select **5GHz** and do the same configurations as above.

Appendix: Omada App

Omada app is a mobile application designed for Omada series EAP products. It allows you to conveniently monitor and manage your network. The Omada app can be used for Standalone and Controller modes.

This appendix introduces how to use Omada app to manage your network and includes the following sections:

1 Install Omada App on the Mobile Device

Omada app runs on iOS and Android devices, such as smart phones and tablets. Launch the Apple App Store (iOS) or Google Play store (Android) and search "TP-Link Omada" or simply scan the QR code to download and install the app.

Scan for Omada App

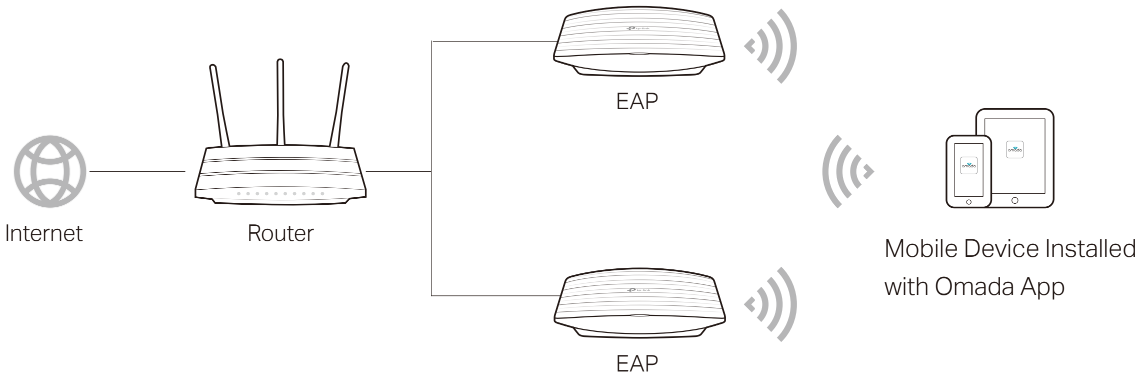
Download Omada App

2 Manage your Network in Standalone Mode

For a relatively small-scale network which has a few EAPs (usually less than three) and only basic functions are required, standalone mode is recommended. You can use a mobile device to configure each EAP individually for basic functionality without configuring a Omada Controller. Note that the EAP which is managed by Omada Controller is inaccessible in standalone mode.

Refer to the topology below, make sure that the following requirements have been met:

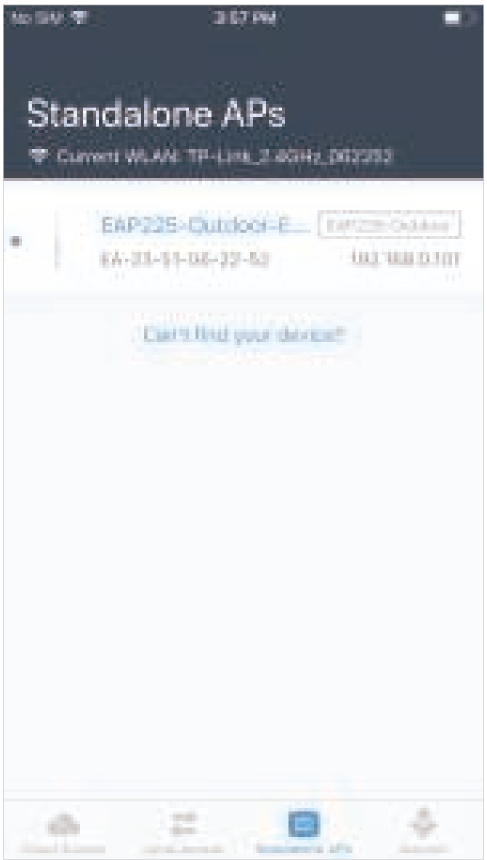
- An Ethernet connection from your Omada EAP to the LAN with a DHCP server.
- The supported firmware version of the EAP. EAP245, EAP225, EAP115, EAP110, EAP225-Outdoor, EAP110-Outdoor, EAP115-Wall and EAP225-Wall are currently supported. To check the firmware versions of the supported EAPs, please refer to www.tp-link.com/omada_compatibility_list. More products will be supported by Omada app in the near future as firmware updates are released.
- A compatible iOS or Android device with Omada app.



Follow the steps below to manage your network via Omada app in standalone mode. The following page is exampled with the iOS version of the app. The Android version is similar.

1. Connect your mobile device to the EAP by using the default SSID (format: **TP-Link 2.4GHz/5GHz_XXXXXX**) printed on the label.

2. Launch the Omada app, tap **Standalone APs** and wait for the EAP device to be discovered.



No SIM 3:57 PM

Standalone APs

Current WLAN: TP-Link_2.4GHz_062253

EAP225-Outdoor-E... EAP225-Outdoor

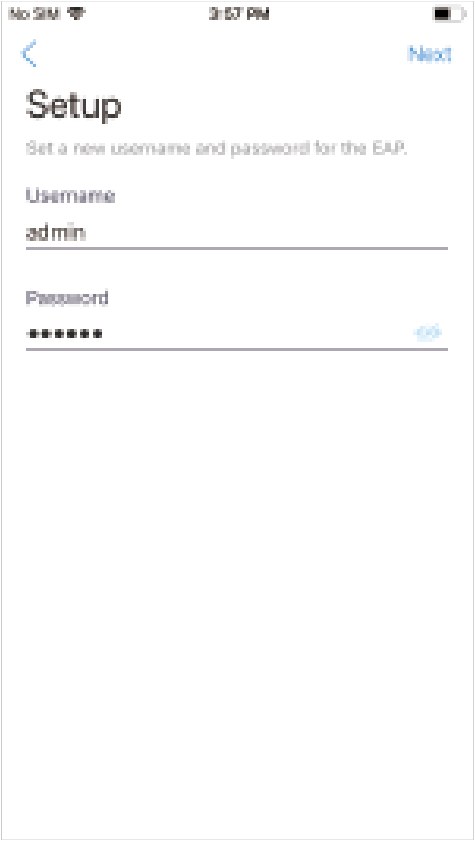
EA-23-11-06-22-52 192.168.0.101

Can't find your device?

Tips:

All the EAP devices in the same subnet will be discovered by Omada app and shown on the page. You can tap the discovered EAP device to configure directly.

3. Tap on the EAP device appearing on the page. Set a new username and password for your login account of the EAP.



No SIM 3:57 PM

Next

Setup

Set a new username and password for the EAP.

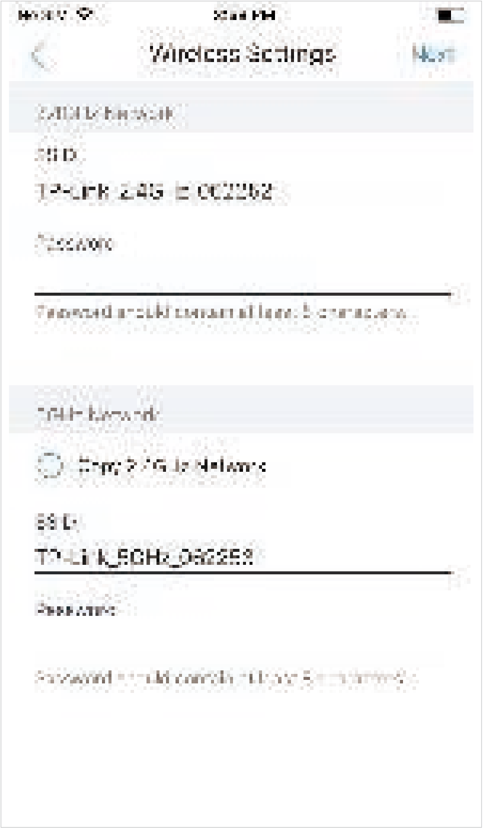
Username

admin

Password

••••••

4. Edit the default SSID and password to keep your wireless network secure. Tap **Next.**



Wireless Settings Next

2.4GHz Network

SSID

TP-Link_2.4GHz_062252

Password

Password should contain at least 8 characters.

5GHz Network

○ Copy 2.4GHz Network

SSID

TP-Link_5GHz_062253

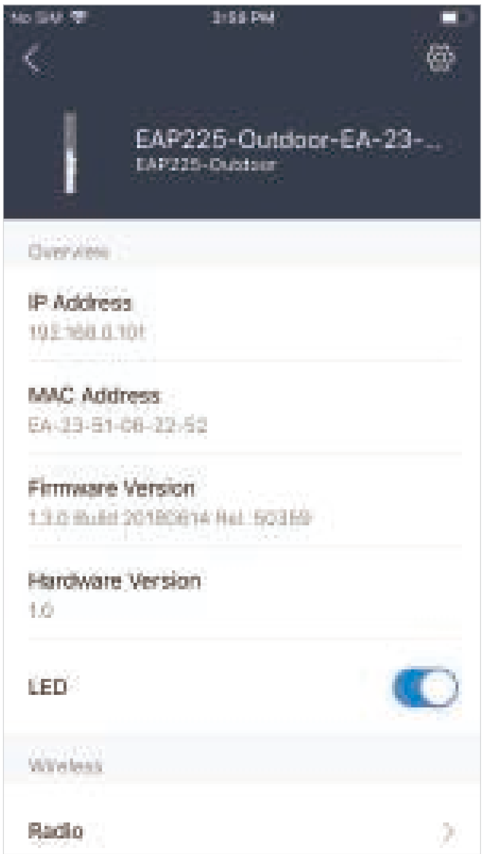
Password

Password should contain at least 8 characters.

Note:

The settings will take effect after several minutes. For operation system differences, the wireless network connection will be different. When the default SSID of the EAP device is changed, normally mobile device join the new wireless network automatically. For the unsupported operation system, you should manually connect to the new SSID.

5. You can view the name of the EAP device and other information including wireless parameters and clients. And you can tap ⚙ to change the settings of radio, SSID and device account.



No SIM 3:58 PM

EAP225-Outdoor-EA-23-...
EAP225-Outdoor

Overview

IP Address
192.168.0.101

MAC Address
EA-23-51-08-22-52

Firmware Version
1.3.0 Build 20180614 Rel. 50369

Hardware Version
1.0

LED

Wireless

Radio

Tips:

- Omada app is designed to help you quickly configure some basic settings. For advanced configuration, you can use controller mode. And when your EAP is managed by the controller, you can not use standalone mode.
- In standalone mode, only one user is allowed to log in to the management page of the EAP at the same time. Thus the management web page of the EAP cannot be logged in to when using the Omada app and vice versa. Also only one user can log in to the EAP via Omada app.

3 Manage your Network in Controller Mode

For a large-scale network which has mass EAPs and advanced functions are required, controller mode is recommended. Controller mode allows you to configure and automatically synchronize unified wireless settings to all EAPs in the network.

Omada app offers a convenient way to access the Omada Controller and adopt EAPs. With Local Access and Cloud Access function on the Omada app, you can manage the controller at local and remote sites.

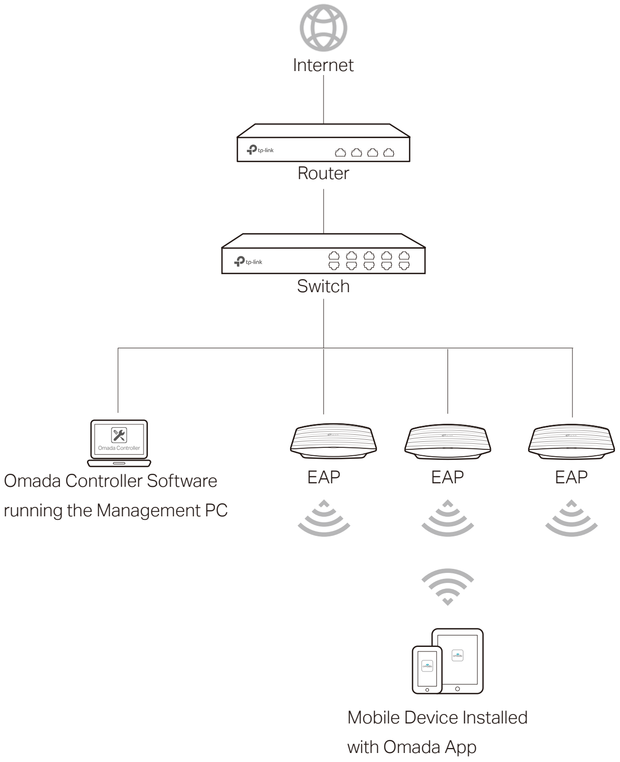
Note:

Omada Controller needs to be kept running when using Omada app to access the controller.

3.1 Locally manage your EAPs using the Omada App

Local Access function on Omada app is designed for accessing the controller which is in the same subnet with your mobile devices. Refer to the topology below, make sure that the following requirements have been met:

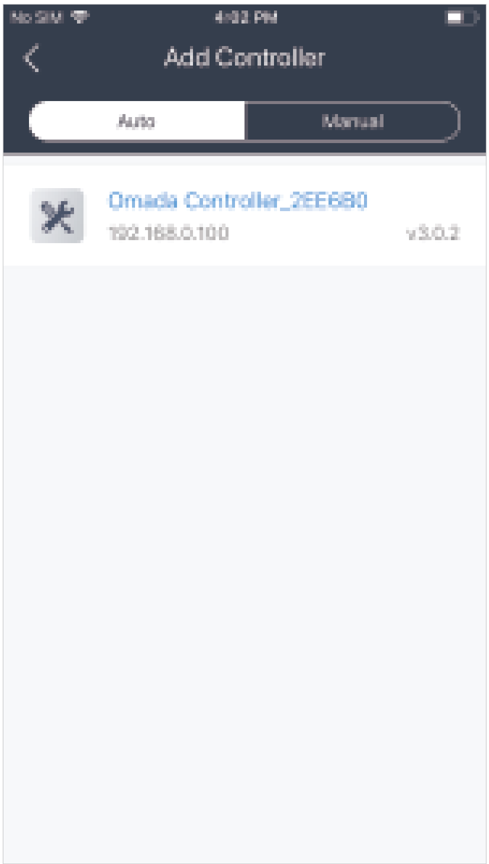
- An Ethernet connection from your Omada EAP to the LAN with a DHCP server.
- The version of the Omada Controller is 3.0.2 or above.
- A compatible iOS or Android device with Omada app.



Follow the steps below to manage your network via Omada app in controller mode locally. The following page is exampled with the iOS version of the app. The Android version is similar.

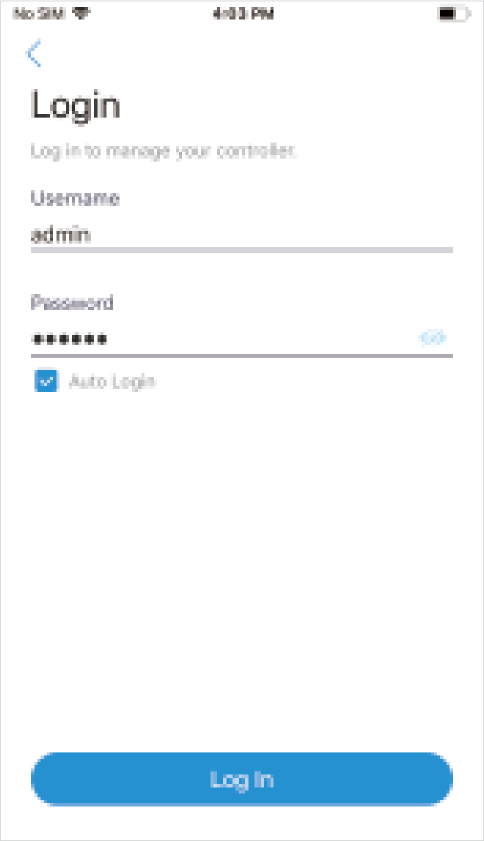
1. Connect your mobile device to the EAP by using the default SSID (format: **TP-Link 2.4GHz/5GHz_XXXXXX**) printed on the label. Note that the EAP should be in the same subnet with the controller.

2. Launch the Omada app, go to **Local Access**, tap the **+** button on the upper-right corner to add the Omada controller. Normally Omada app will discover the controller which is in the same subnet. If the controller cannot be found, you can add the controller by entering the IP address and port of the controller host in the manual column.



Omada Controller_2EE680
192.168.0.100 v3.0.2

3. Tap the Omada Controller, the controller login page will show. Enter the username and password of the controller, then tap **Log In** to launch the controller.

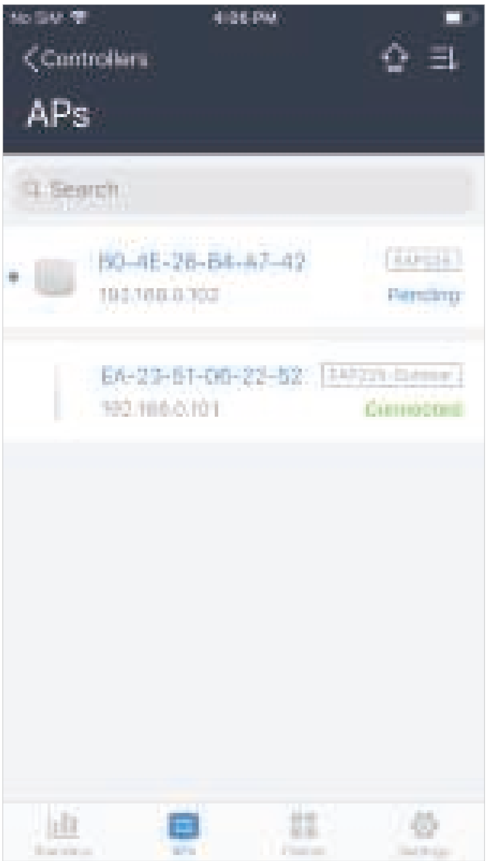


Username admin

Password ******

☑ Auto Login

4. On the **APs** screen, tap the EAP that is pending for the adoption. And you can use the functions at the bottom to navigate various screens of the Omada Controller including the wireless statistics, clients information and basic settings.



B0-4E-26-B4-A7-42 EAP225
192.168.0.102 Pending

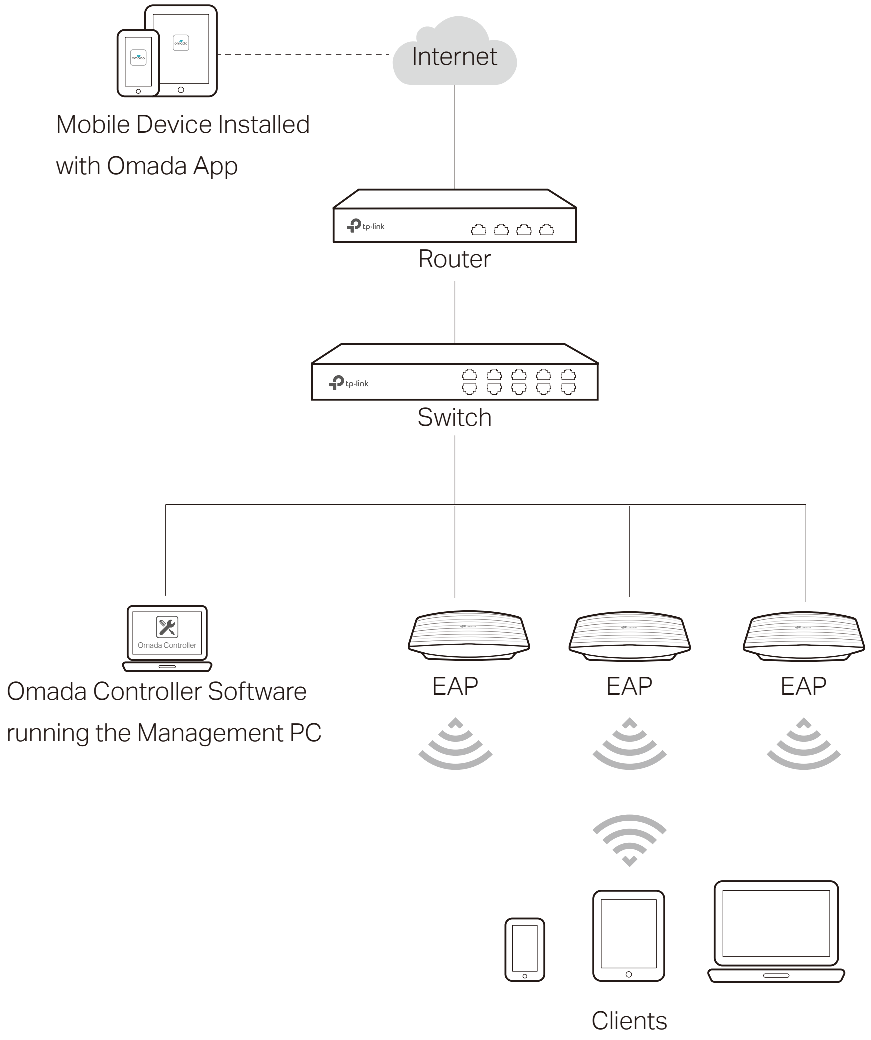
EA-23-61-06-22-52 EAP225-Outdoor
192.168.0.101 Connected

3.2 Remotely manage your EAPs using the Omada App

Cloud Access function on Omada app is designed for accessing the controller via Omada Cloud service. Thus, you can configure your controller and manage EAPs at any time, from anywhere.

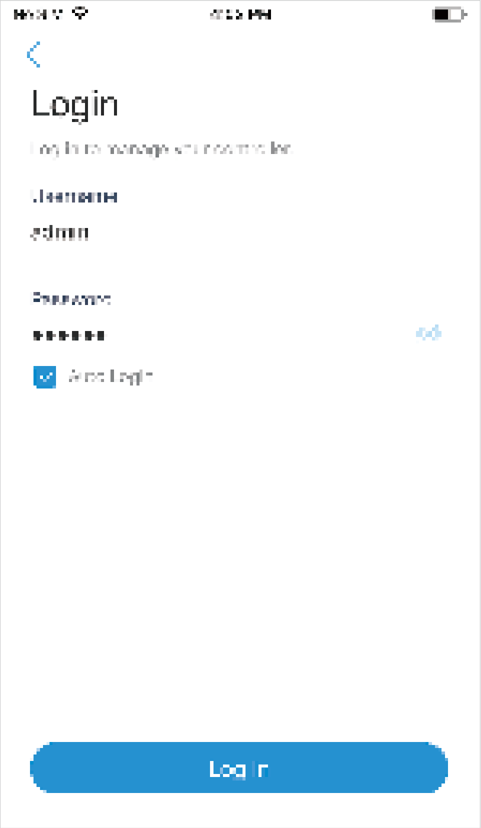
Refer to the topology below, make sure that the following requirements have been met:

- Both your Controller Host and mobile device have internet access.
- The version of the Omada Controller is 3.0.2 or above.
- A compatible iOS or Android device with Omada app.
- Cloud Access is enabled on the controller. The controller has been bound with a TP-Link ID. For more details about the Cloud Access on the controller, refer to the Omada Cloud Service.



Follow the steps below to manage your network via Omada app in controller mode remotely. The following page is exampled with the iOS version of the app. The Android version is similar.

1. Launch the Omada app, go to **Cloud Access** and tap **Go to Log In** to log in to Omada Cloud with your TP-Link ID.



Login

Log in to manage your controller.

Username

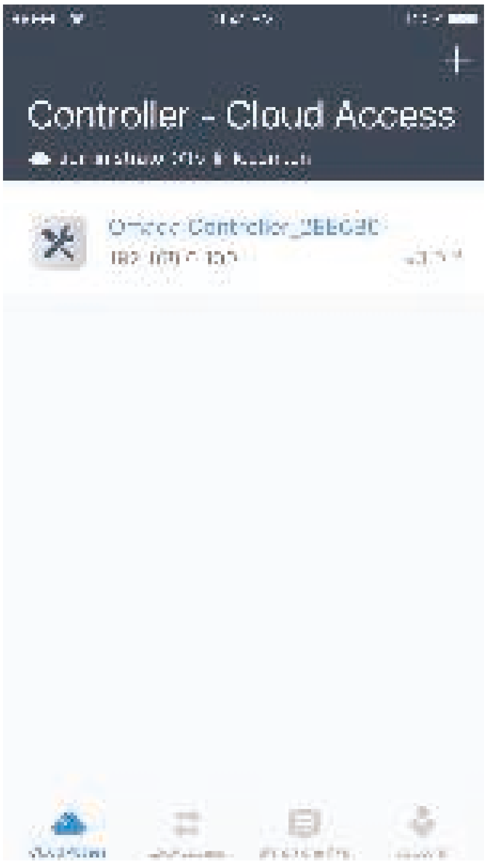
admin

Password

••••••

☑ Auto Login

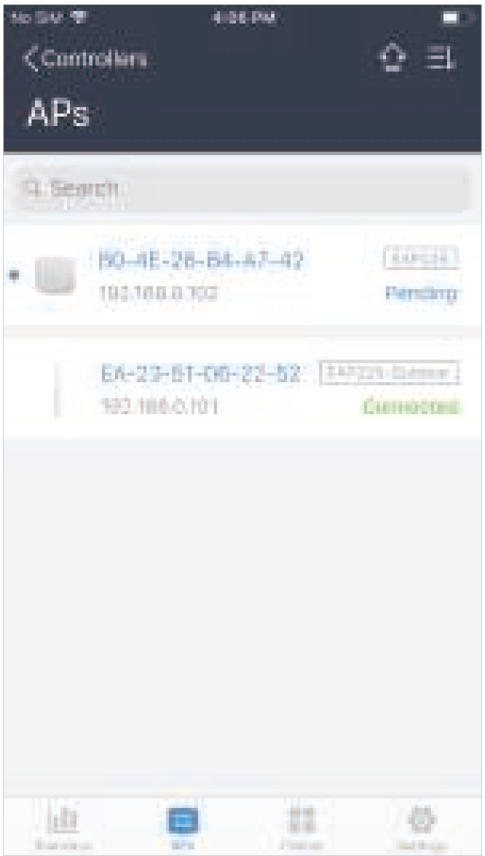
2. All the online controller which are bound with your TP-Link ID will appear on the page. Tap the controller to launch and configure the controller.



Controller - Cloud Access

Omada Controller_[illegible]

3. On the **APs** screen, tap the EAP that is pending for the adoption. And you can use the functions at the bottom to navigate various screens of the Omada Controller including the wireless statistics, clients information and basic settings.



50-4E-26-B4-A7-42 EAP[illegible]
192.168.0.102 Pending

EA-23-B1-D0-22-52 EAP225-Outdoor
192.168.0.101 Connected

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