Ruijie Cloud

Cookbook V1.3

Preface

Thank you for using our products.

Audience

This manual is intended for:

- Network engineers
- Technical support and servicing engineers
- Network administrators

Symbols

Important information. Contains helpful suggestions or references.

Use caution. Could result in equipment damage or data loss.

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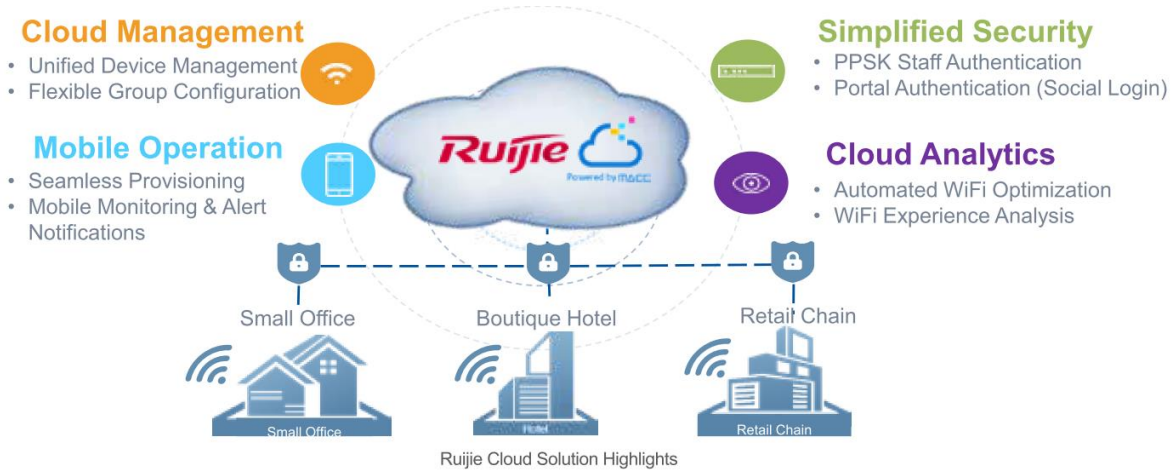
2. Ruijie Cloud Service Overview

Ruijie Cloud Service is Ruijie's easy and efficient cloud solutions for chain stores, small and medium-sized businesses and boutique hotels. The solutions include equipment deployment, monitoring, network optimization and operational lifecycle management; enabling customers with simple plug and play deployment and operation and maintenance. Meeting the needs for automatic cloud RF planning and user experience monitoring, it also supports mobile monitoring and alert, and fast provisioning by QR-Code scanning. At the same time, it provides flexible wireless user access control features, including high security “One person, one machine and one password” PPSK, built-in cloud Portal and Facebook certification.

KEY FEATURES

- Unified Device Management
- Fast Provisioning by Mobile APP
- Secure PPSK Authentication for Staff
- Captive Portal & Social Authentication for Guest
- Mobile APP Monitoring & Alert

Ruijie Cloud Service Overview



Ruijie Cloud Solution Highlights

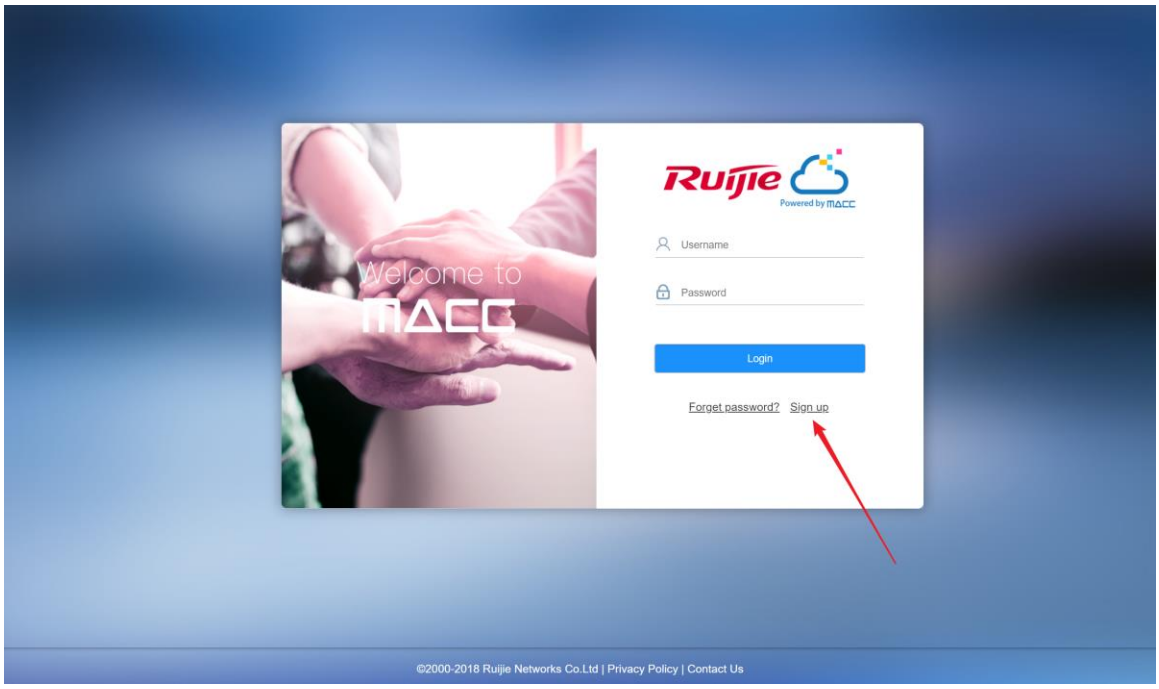
Ruijie Cloud Service Feature List:

Deployment	Monitoring
- Seamless Provisioning with Mobile APP - Startup Wizard Guide for Initial Setup - Batch Import for Device Activation - Device Activation by QR-Code Scanning - Flexible Device Group Architecture	- Global Google Map Dashboard - Network/Site Overview (Network total user, total traffic) - Device Real-time Monitoring and Alert - User Experience & Summary Report - Mobile Network Monitoring and Alert (Mobile APP)
Optimization	**Troubleshooting**
- Auto RF Planning (Power & Channel Optimization) - Band Steering	- Web-Cli Remote Debugging Tool
Authentication	**Advanced Features**
- Hotspot WiFi Portal (1-Click Authentication) - Facebook Login - PPSK Authentication for Staff	- Load Balancing - Wireless L2&L3 Roaming - Multi-level Account Management - Firmware Auto Upgrade

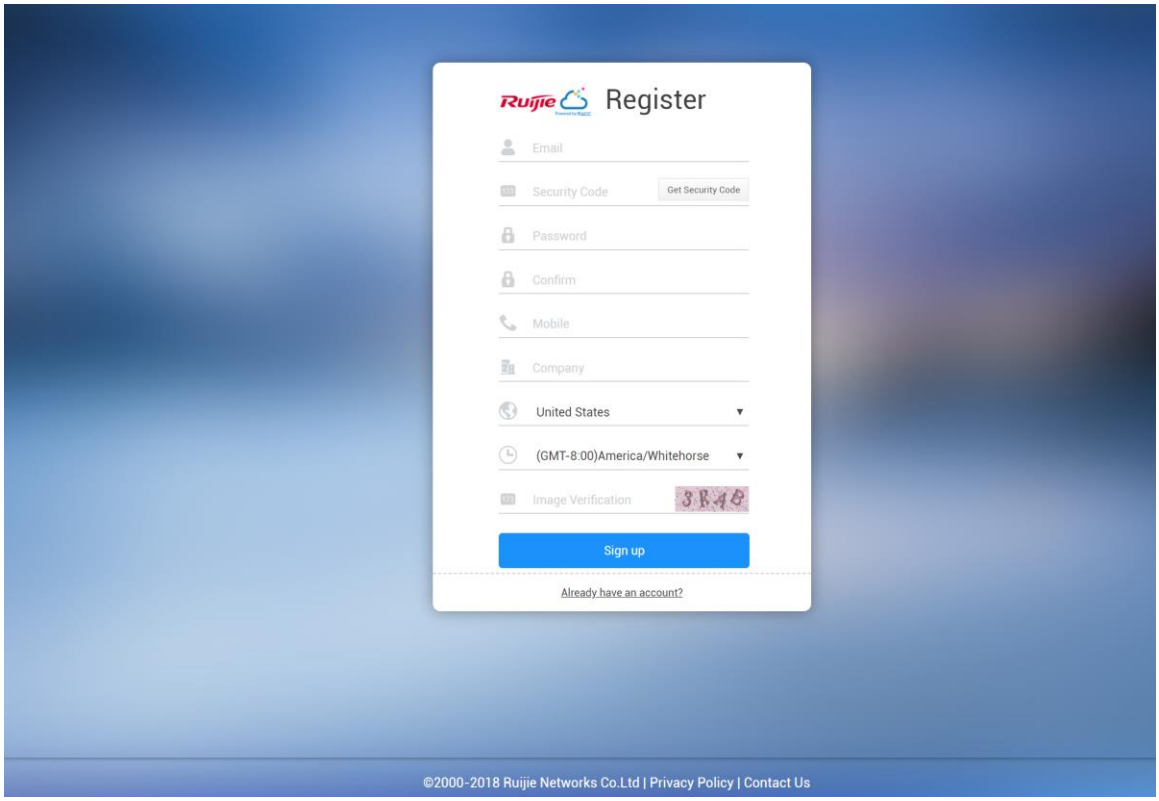
3. Quick Start

3.1. Register Ruijie Cloud Account

1) Access https://cloud.ruijienetworks.com with your browser and Click “**Sign Up**” to create a Ruijie Cloud account.



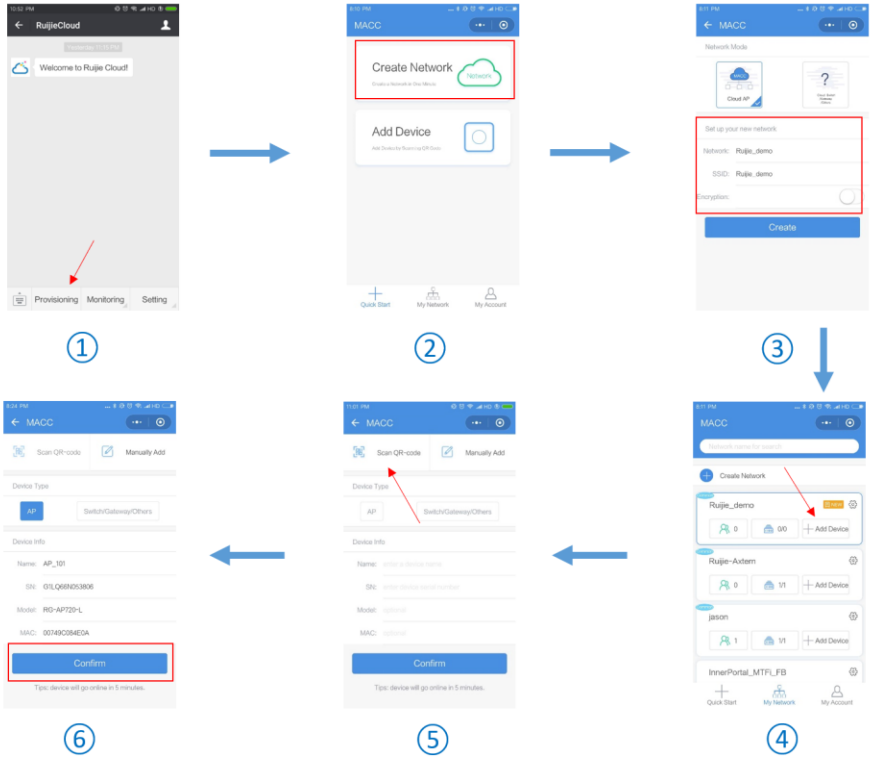
2) Fill in your email address and related info to register an account.



3.2. Quick provisioning via Mobile APP

1) Open WeChat APP and scan Ruijie Cloud QR-Code.

2) Follow the Ruijie Cloud account and add devices as following illustration:



a) Click "**Provisioning**" and Login your Ruijie Cloud account to get start.
b) Select "**Create Networks**" to create a network for your devices.
c) Fill out the network info and SSID name and password to protect your network security.
d) Click "**Add Device**" to add wireless or wired devices to cloud.
e) Choose "**Scan QR code**" to scan the QR-code on device's back panel(Recommended).
f) It will fill in device's basic info automatically and click "**Confirm**" to finish wizard.

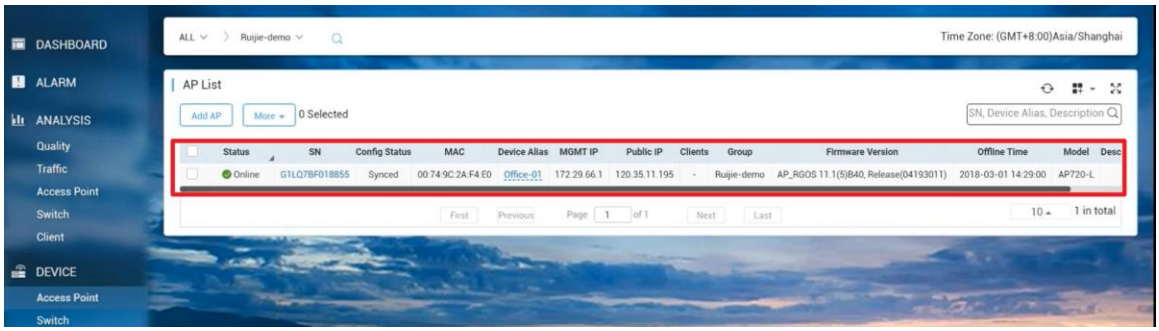
For S2910 series, it requires to configure CWMP template under command line. The configuration sample as below:

```
Ruijie-Switch#conf t
Ruijie-Switch (config)#cwmp
Ruijie-Switch (config-cwmp)#acs url http://cloud.ruijienetworks.com/service/tr069servlet
```

And management IP address and DNS domain should be configured correctly for internet access.

3.3. Verification

Log in to Ruijie Cloud and click **Access Point** or **Switch** on **MONITOR** > **DEVICE** to check whether the device is online.


DASHBOARD
ALARM
ANALYSIS
Quality
Traffic
Access Point
Switch
Client
DEVICE
Access Point
Switch
ALL
Ruijie-demo
Time Zone: (GMT+8:00)Asia/Shanghai
AP List
Add AP
More
0 Selected
SN, Device Alias, Description
Status
SN
Config Status
MAC
Device Alias
MGMT IP
Public IP
Clients
Group
Firmware Version
Offline Time
Model
Desc
Online
G1LQ7BF018855
Synced
00:74:9C:2A:F4:E0
Office-01
172.29.66.1
120.35.11.195
-
Ruijie-demo
AP_RGOS 11.1(5)B40, Release(04193011)
2018-03-01 14:29:00
AP720-L
First
Previous
Page
1
of 1
Next
Last
10
1 in total

4. Configuration Guidance

Ruijie Cloud 3.1 can manage wireless and switch device as listed in release note. And this chapter will introduce configuration examples for each function.

4.1. Wireless Devices

4.1.1. WIFI Configuration

In this section will introduce how to create SSID for AP device.

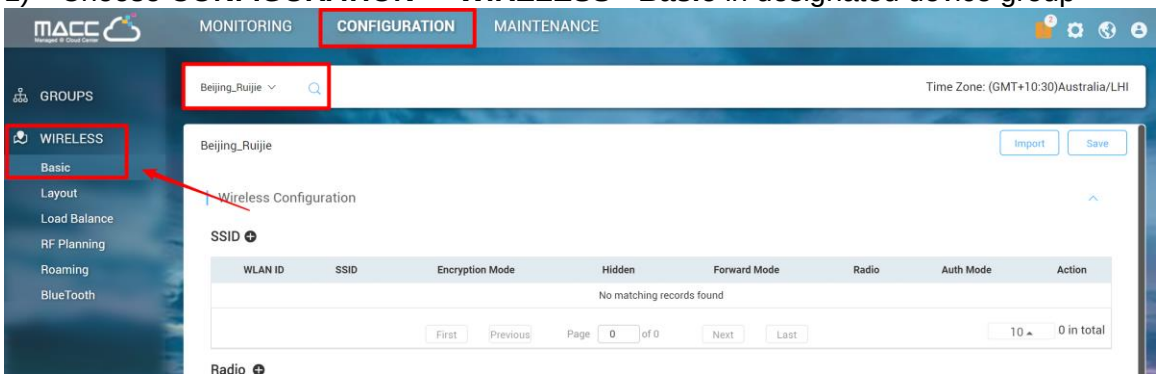
General Setting

In WiFi Setting page, Ruijie Cloud support wireless basic functions as follow:

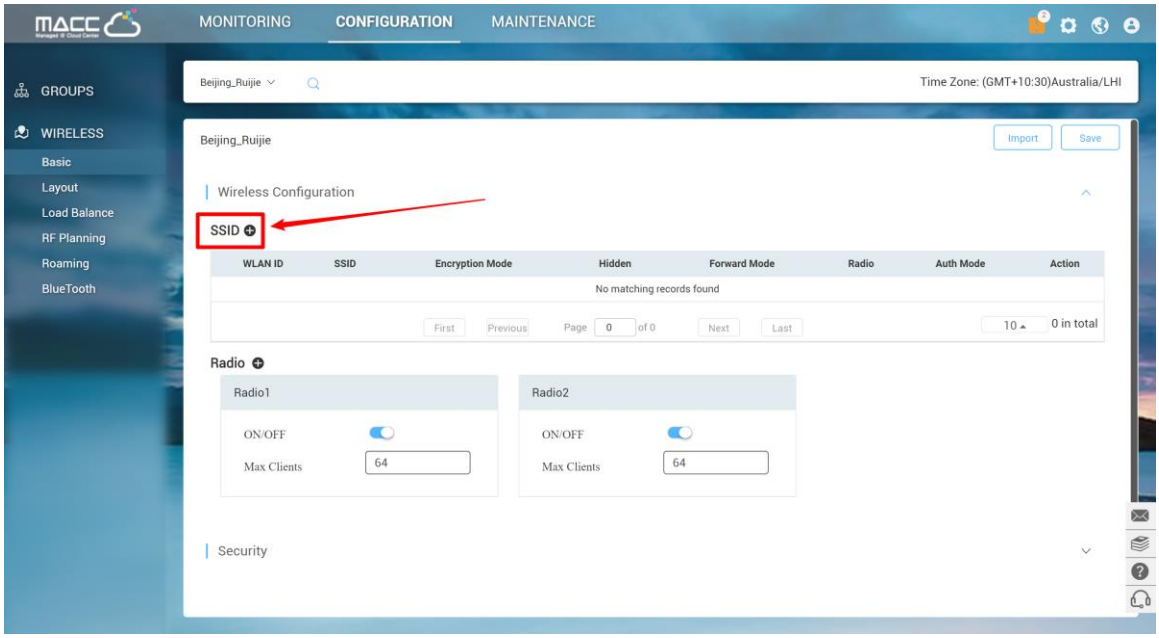
- **Authentication**: Open, PSK, PPSK, Dot1x with 3rd party radius server, WiFidog authentication, One Click Authentication, Facebook Login
- **SSID Advanced Setting**: SSID QOS, Bridge/NAT working mode, Band Steering, Seamless authentication
- **Radio Setting**: Maximum Connectors
- **Security**: Web Login Password, Wireless Attack Defence
- **Advanced Features**: Whitelist, CLI Command Batch Delivery

Configuration Steps

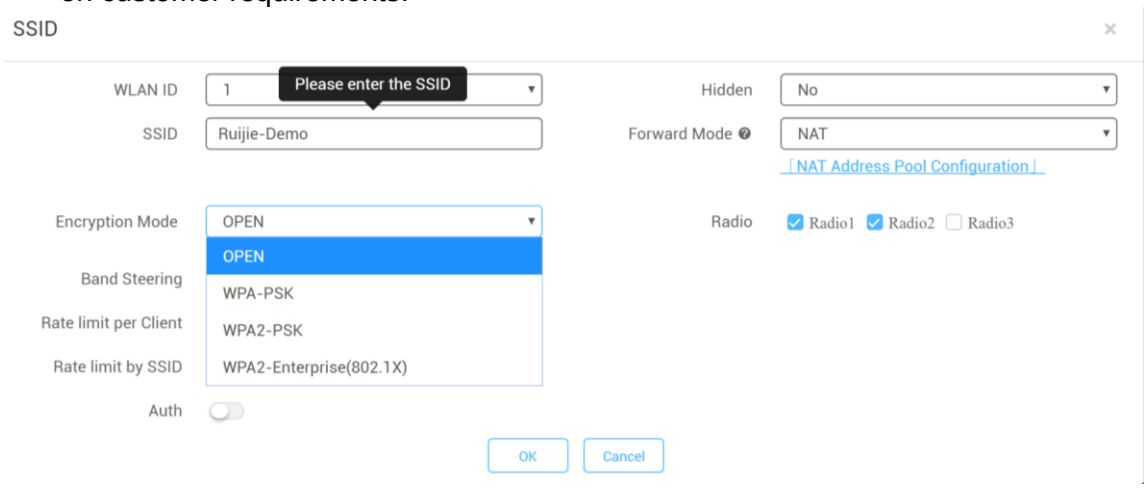
1) Choose **CONFIGURATION -> WIRELESS->Basic** in designated device group



2) Click “**+**” to create a SSID for the devices under this group



3) In SSID setting page, user can create an SSID and fill in related parameters based on customer requirements.



WLAN ID: Sequence number to represent SSID ID (Up to 32 SSID is supported, there may be differences between diverse models)

Hidden: Choose disable broadcasting SSID or not

SSID: WiFi Name

Forward Mode:

NAT mode or bridge mode. NAT mode: AP will work as a router and DHCP pool to provide IP address for terminal stations.

Bridge mode: AP will work as a switch and passthrough all traffic. It requires the user to fill in specific VLAN ID for STA.

(If not familiar with existed network design, NAT mode is recommended)

Encryption Mode:

OPEN: Open SSID and password is not required

WPA-PSK: Use WPA algorithm to encrypt SSID and password is required

WPA2-PSK: Use WPA2 algorithm to encrypt SSID and password is required

WPA2-Enterprise(802.1x): Dot1x authentication and external radius server is required

Radio: generally, Radio 1 represent 2.4Ghz and Radio 2 represent 5Ghz.

Band Steering: detect clients capable of 5 GHz operation and steers them to that frequency which leaves the more crowded 2.4 GHz band available for legacy clients. (Please ensure 5G Radio Interface is enabled)

Rate limit per Client: Upload and download speed limitation for each client on this SSID

Rate limit by SSID: Total throughput (upload & download) on this SSID

Auth:

Portal Server URL: external wifidog portal server URL for user login

Portal IP: Portal server IP address

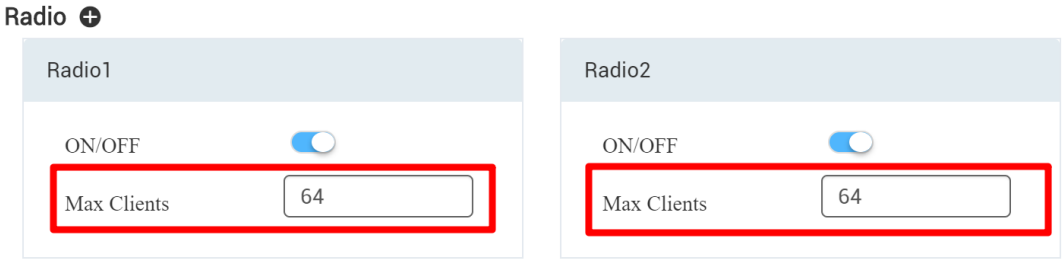
Portal Port: Port number for landing page redirection. Default is 80

Gateway ID: Gateway ID value for wifidog

Seamless Online: Seamless auth on STA connected to SSID second time. Authentication server supports seamless feature is required.

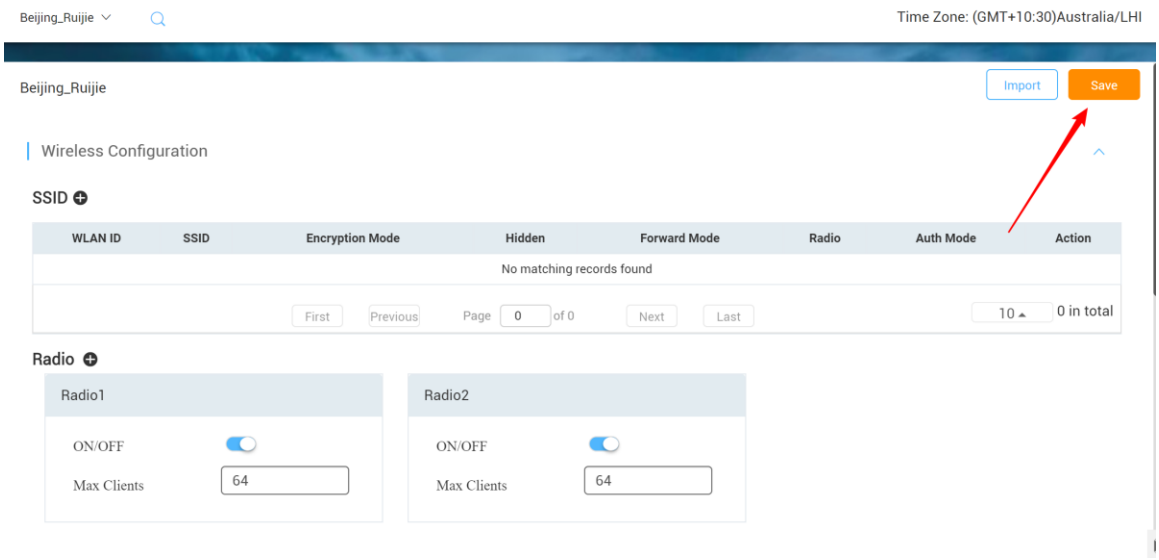
Idle Client Timeout: User will be kicked if low traffic or no traffic passthrough in specific period

4) Turn on the RF and fill in Max Clients value as required



⚠ The Max Clients of each Radio Interface is 32 by default.

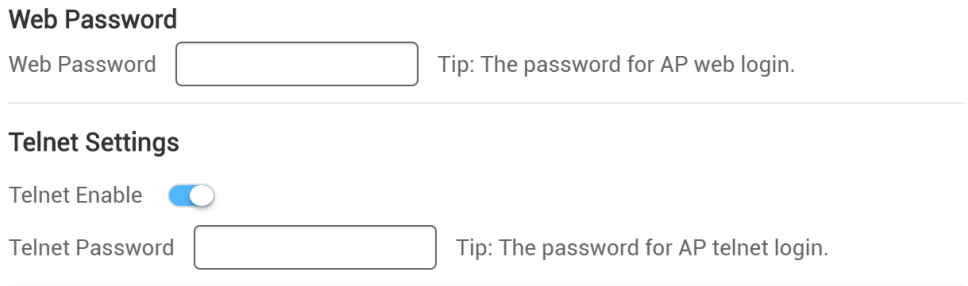
5) Click Save on the top right corner to save all changes and take effect



Advanced Setting

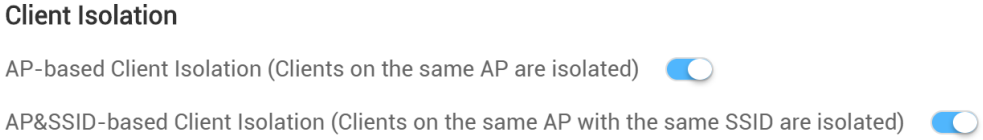
Web/Telnet Password

Allows user to edit WEB UI and Telnet password for security concerns.



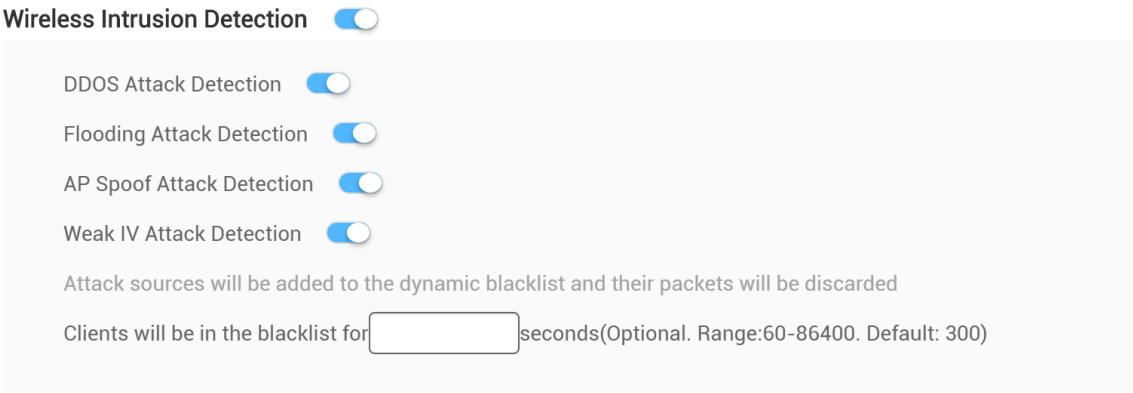
Isolation

Client Isolation is to isolate all traffic (unicast, multicast, broadcast) for each user.



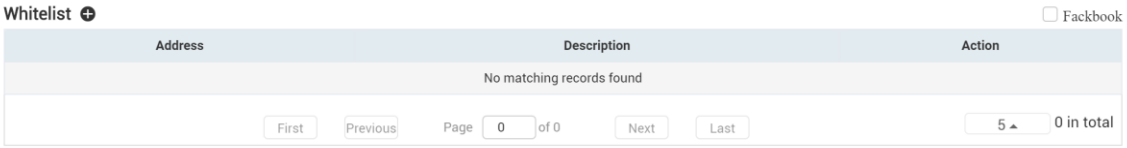
Wireless Intrusion Detection

Wireless Intrusion Detection can monitor STA behavior and prevent damage to network caused by anonymous hacker.



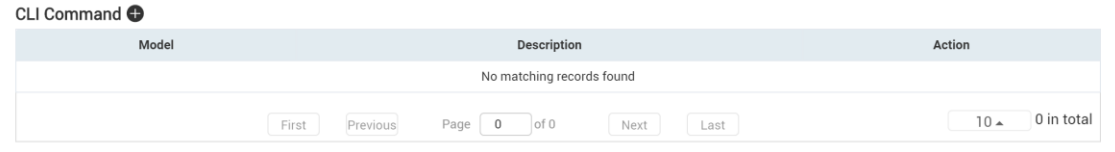
Whitelist

Whitelist feature can bypass those addresses or traffic on the list before STA completes authentication process.



CLI Command

CLI Command provides a window for user to exec cli setting which not be support in Ruijie Cloud UI.



One-Click Authentication/Facebook Login

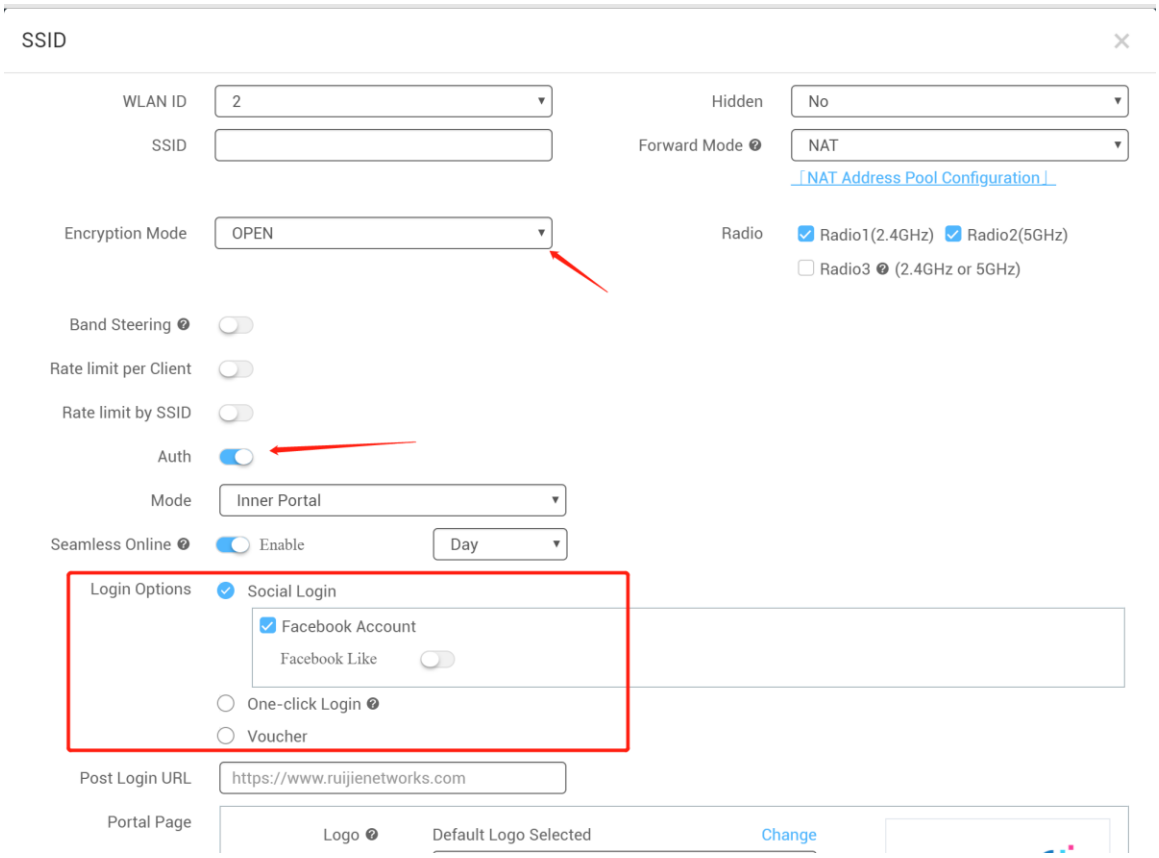
One-Click/Facebook authentication allows the user to design your own portal page for you network by using web authentication.

One-Click Login: Access network by clicking login button.

Facebook Login: Use Facebook account to login Wi-Fi network.

Configuration Steps

Create an SSID with **OPEN** encryption mode and select **Inner Portal** mode for authentication. User can customize captive portal page design and post login page on this page.

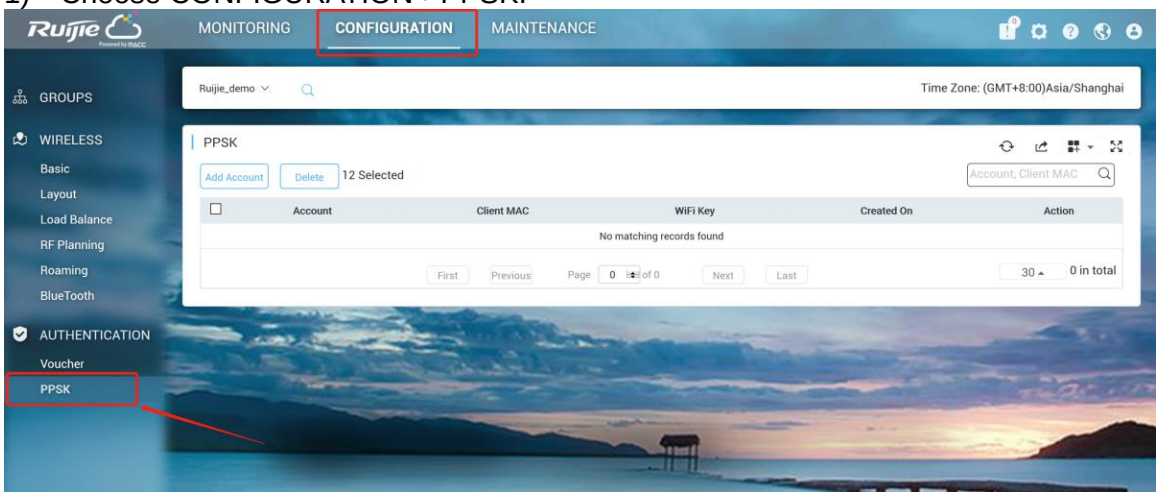


PPSK Authentication

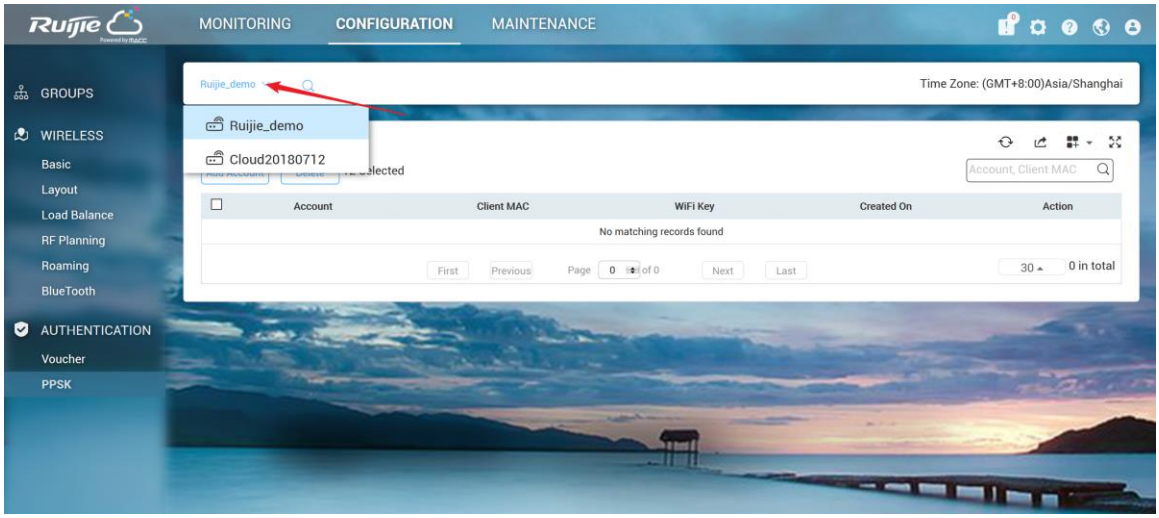
PPSK provides high security by using different passwords for each user and device at individual SSID. The PPSK consists with 2 components:

Configuration Steps

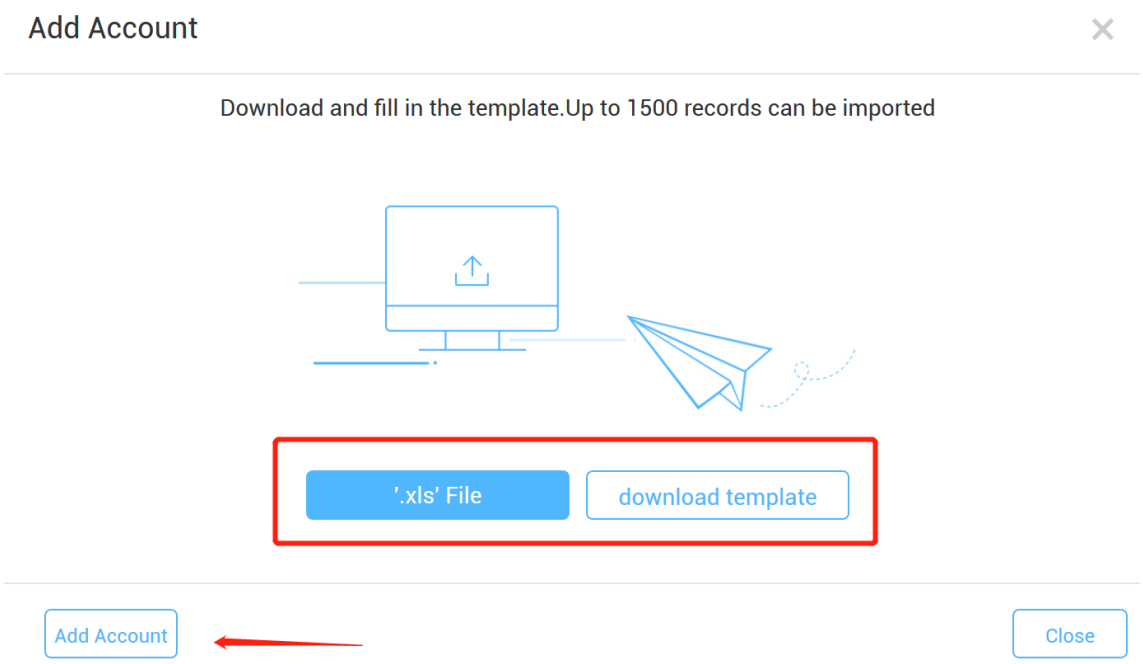
1) Choose CONFIGURATION->PPSK.



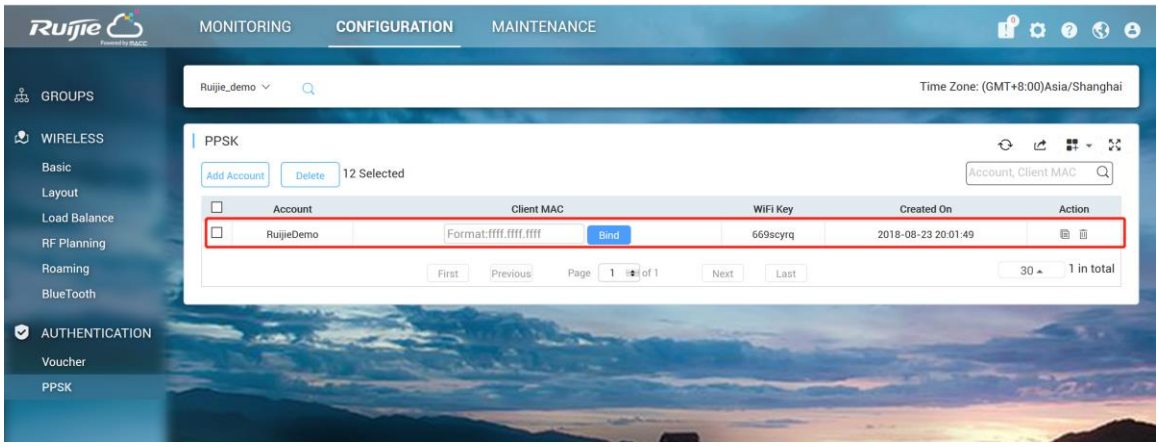
2) Select designated group for PPSK authentication.



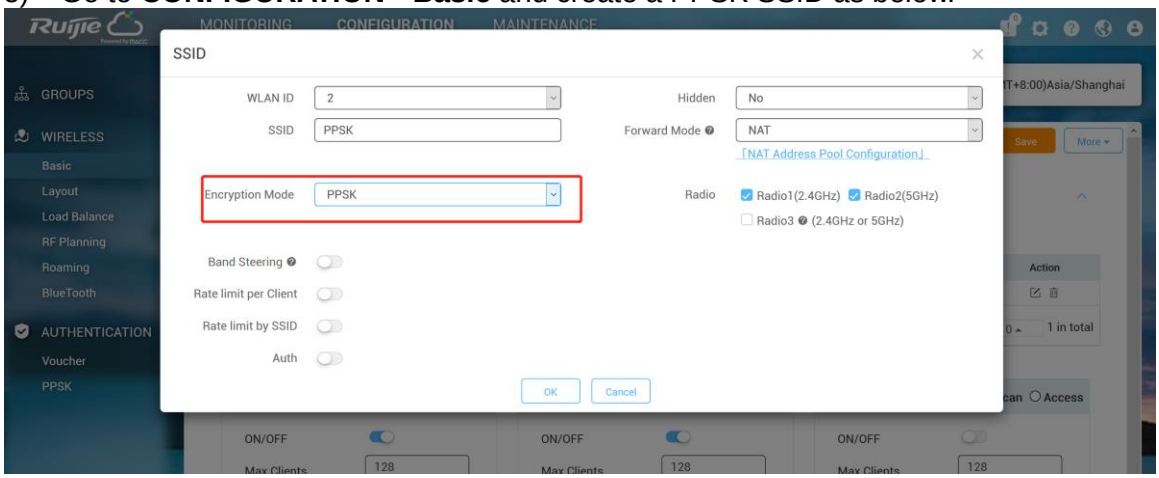
3) Click **Add Account** to initialize Wi-Fi keys for your guest to login your network.



4) After Wi-Fi keys are generated, you can view all the keys for your users. And it will be mapped to specific mac address after the user first time login or binding manually.



5) Go to **CONFIGURATION**->**Basic** and create a PPSK SSID as below.

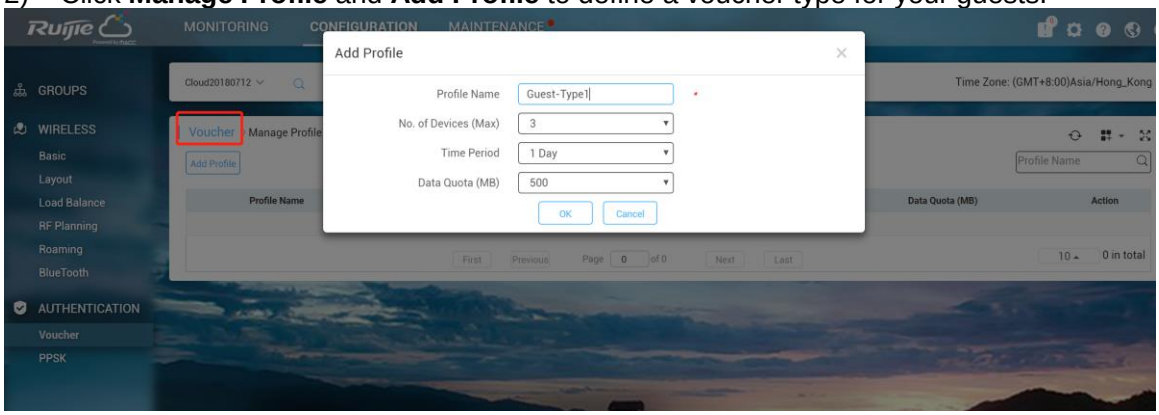


Voucher Authentication

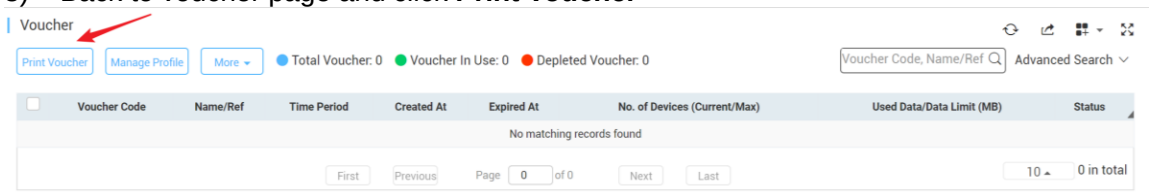
Voucher authentication on Ruijie Cloud allows you to charge users for wireless network access using access codes. Concurrent users, time period and data quota limit can be customized and offer to your guests.

Configuration Steps

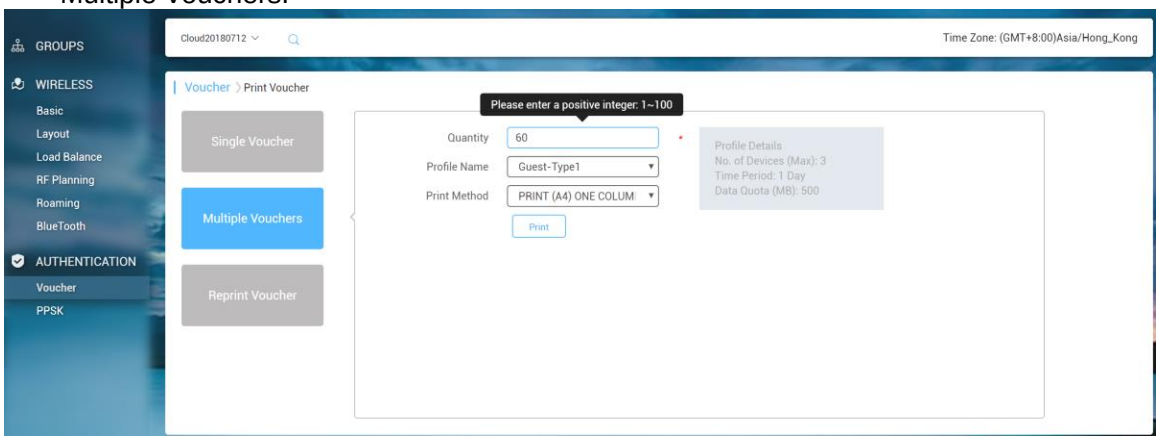
1) Navigate to **CONFIGURATION**->**AUTHENTICATION**->**Voucher.**
2) Click **Manage Profile** and **Add Profile** to define a voucher type for your guests.



3) Back to voucher page and click **Print Voucher**

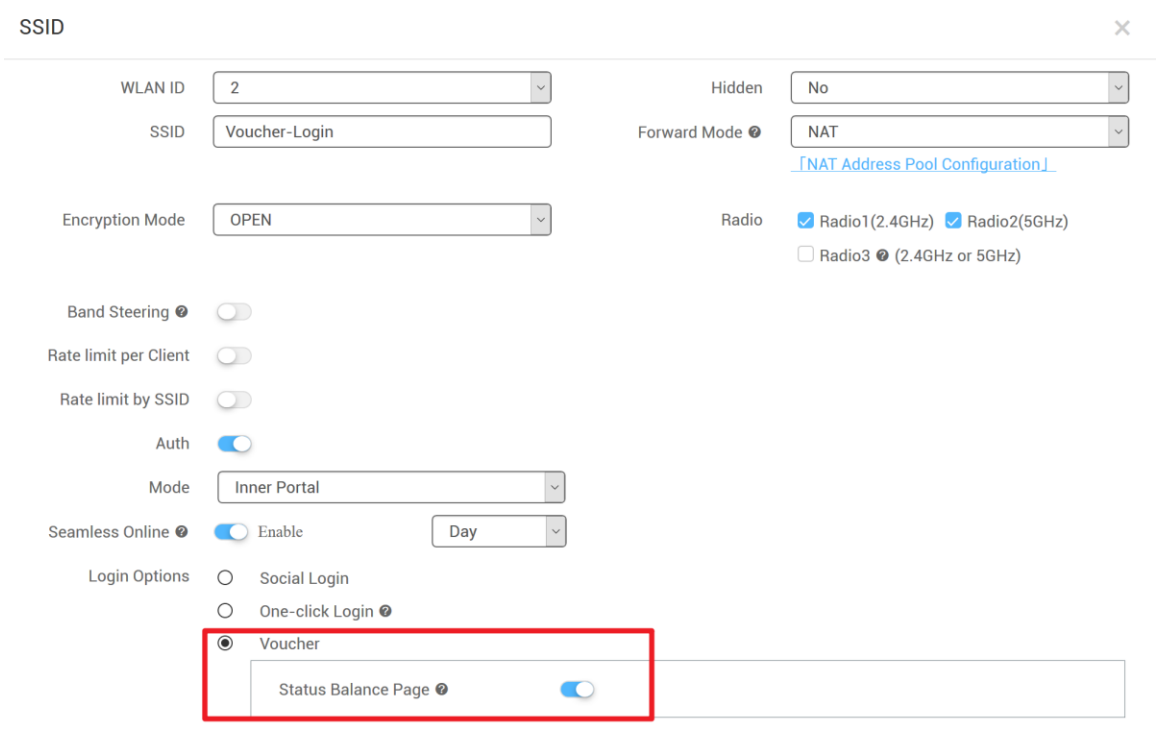


4) Select the way you want to print voucher codes and fill the quantity if you are selecting Multiple Vouchers.

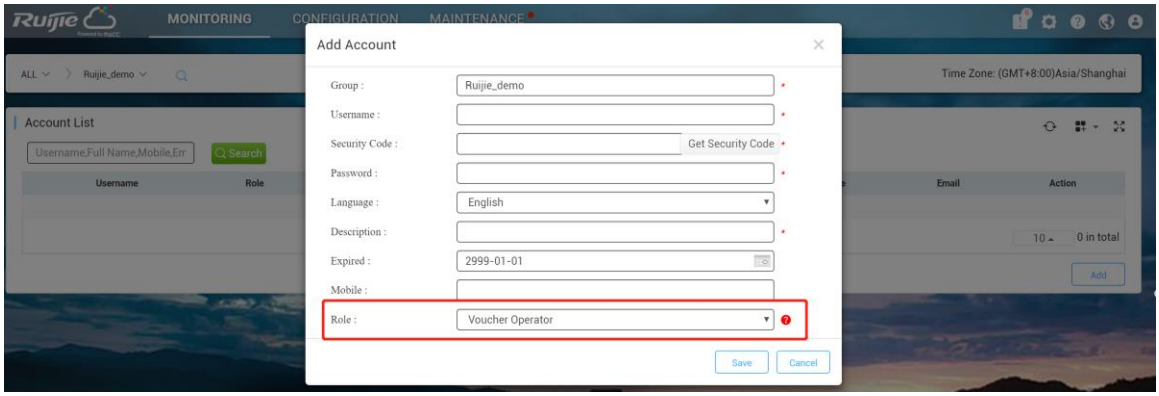


5) Click the **Print** button

6) Create an SSID with voucher inner portal on **CONFIGURATION**->**WIRELESS**->**Basic**



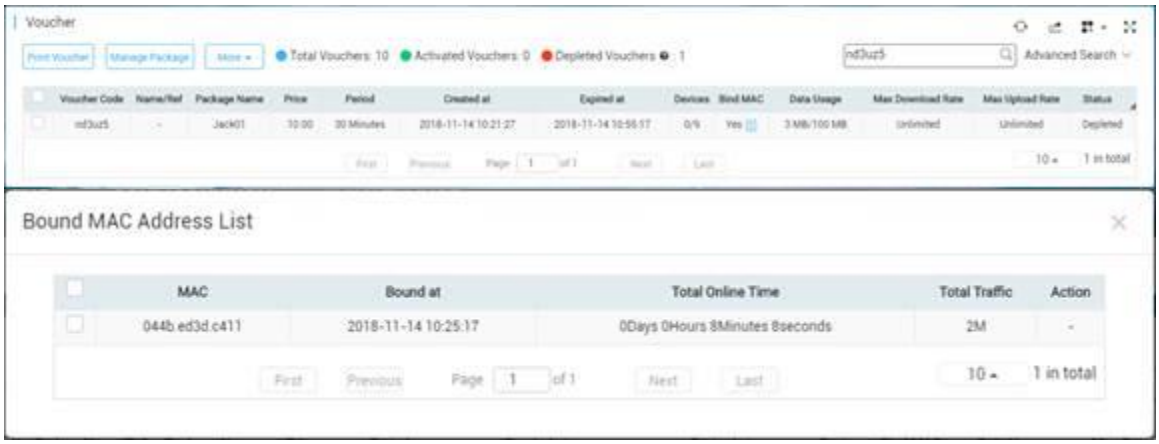
7) *(Optional)* Click **Sub Account** on top right corner and create an account as voucher operator role who can only view the voucher page.



8) Bind/Unbind MAC

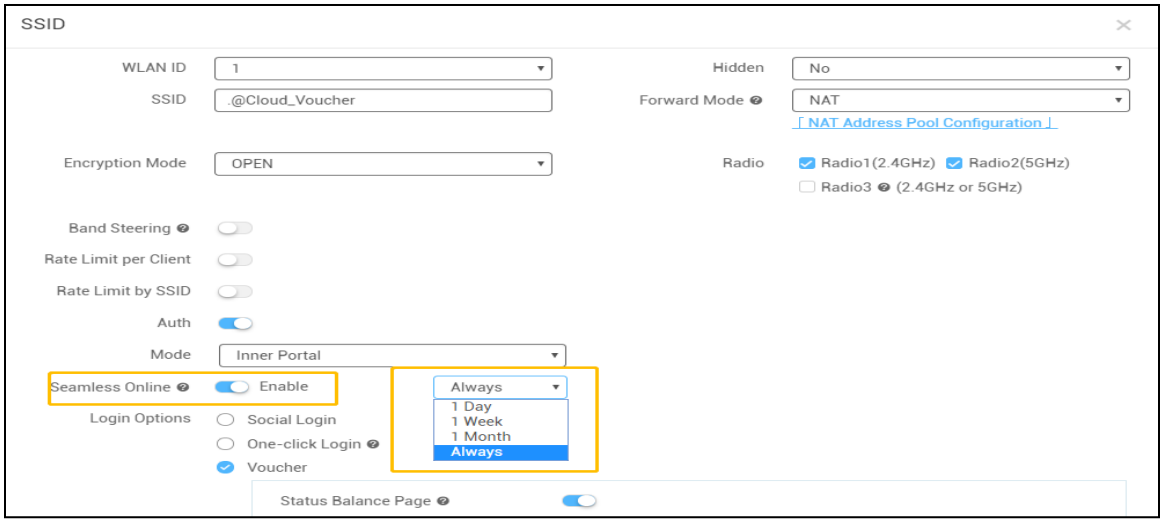
If **Bind MAC** is enabled for the package, the voucher code used by a device will be bound with its MAC address. The number of bound MAC can be set in **Max Concurrent Devices**.

When the **Status** is **Activated** or **Depleted**, you can click in the **Bind MAC** column to unbind MAC addresses.



9) *(Optional)* Seamless Online Policy

Seamless Online Policy: based on SSID and Tenant to go online directly, means first time login in, if you connect to the same SSID and APs belong to the same tenant, you can seamless online, not need input account again, valid for Facebook, Voucher, one-Click login.

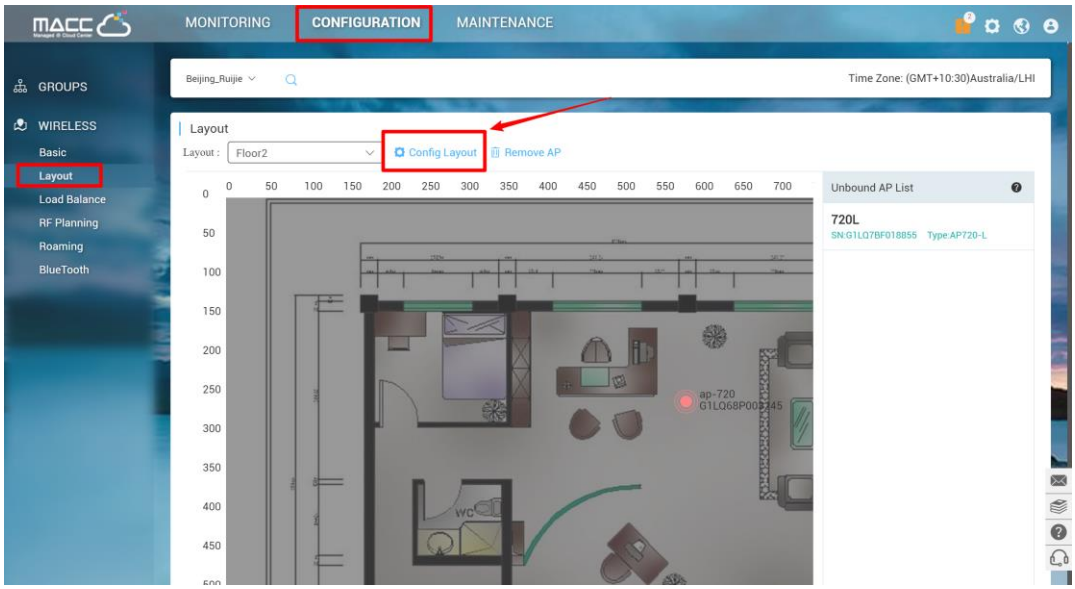


4.1.2. Layout Planning

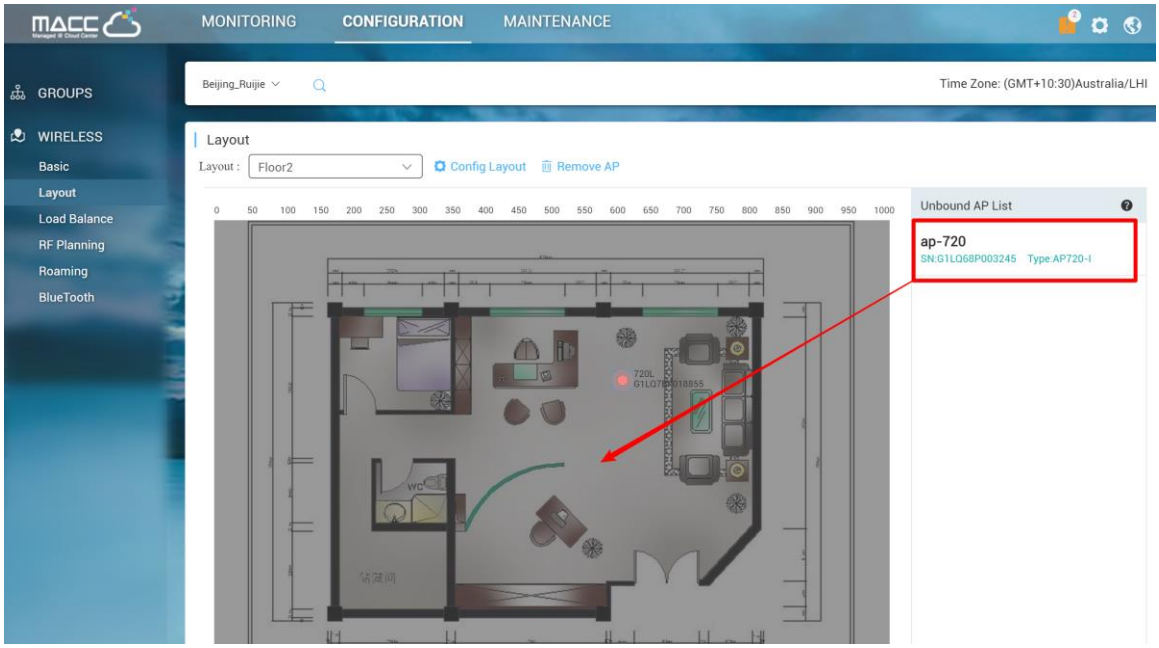
Layout Planning allows user to import floor plan to Ruijie Cloud and binds AP to specific location as deployment.

Configuration Steps

1) Choose CONFIGUARTION->Layout and click Config Layout to add floor plan to Ruijie Cloud.



2) Drag the AP from un-bond AP list to floor plan to bind AP to specific location.

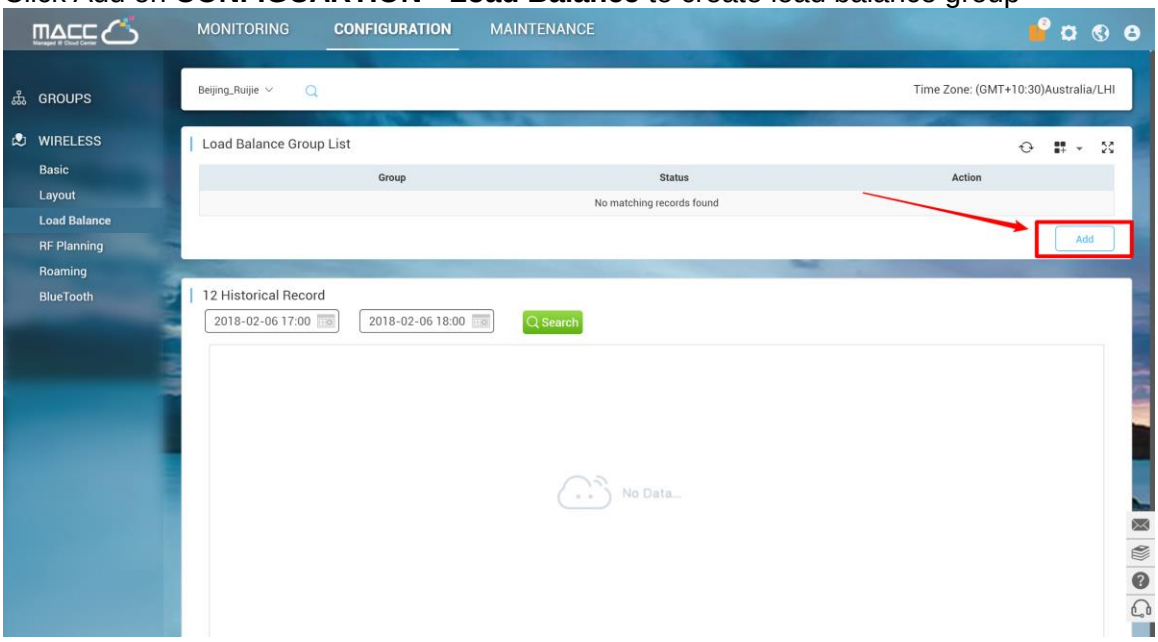


4.1.3. Load Balance

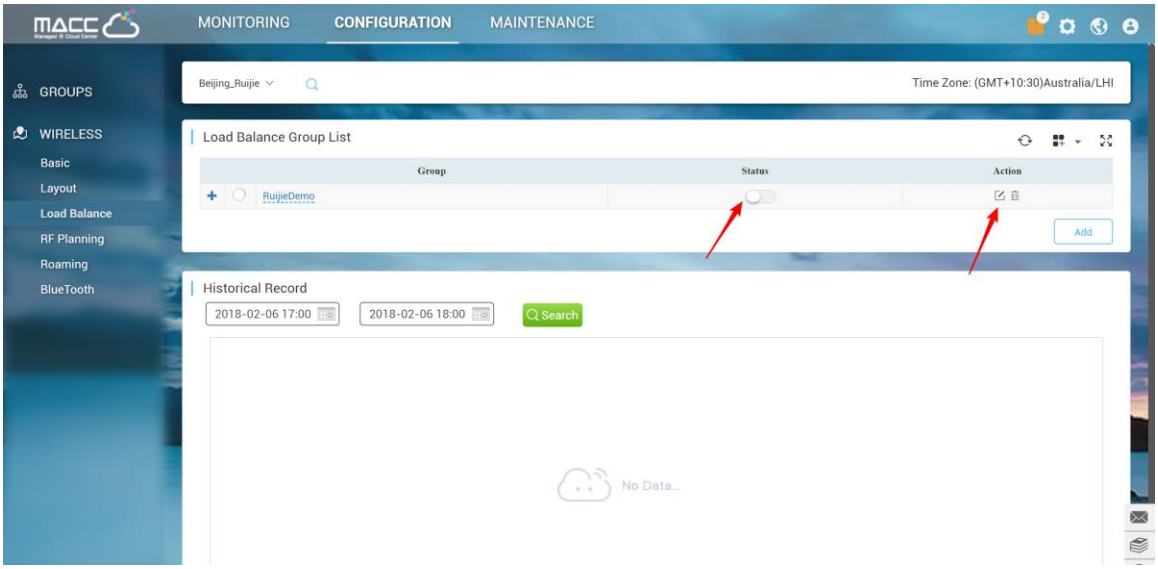
Ruijie Cloud load balance feature can dynamic allocate STA to each AP equally in high density scenario.

Configuration Steps

1) Click Add on **CONFIGUARTION->Load Balance** to create load balance group



2) Click **edit icon** to add access point into load balance group and **turn on** group status.



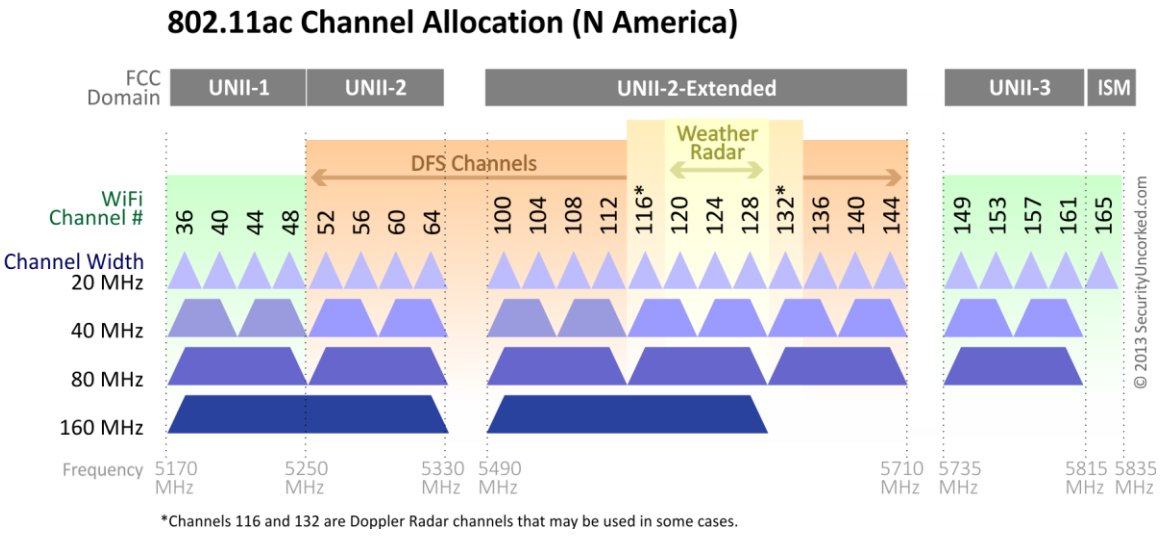
4.1.4. RF Setting

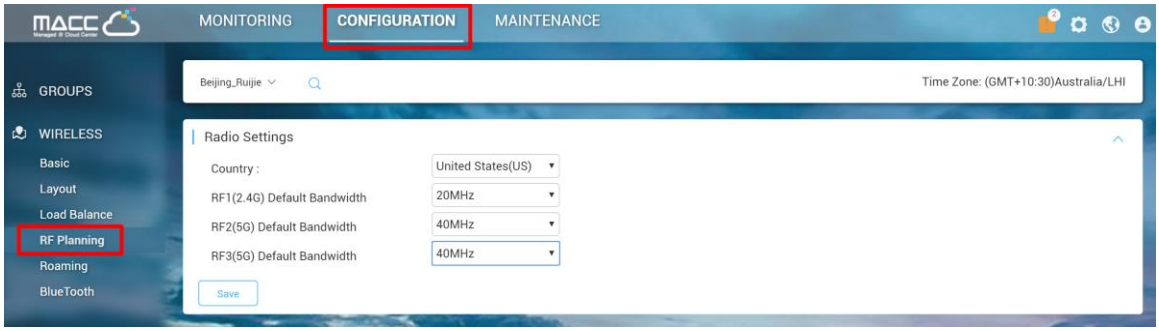
The RF Setting provides a global setting of wireless country code, bandwidth and intelligent channel/power planning.

Radio Setting

Country code enables you to specify a particular country of operation and it ensures each radio's broadcast frequency bands, interfaces, channels, and transmit power levels are compliant with country-specific regulations. Frequency bandwidth determine how many non-overlap channels can be used for your AP to reduce RF interference.

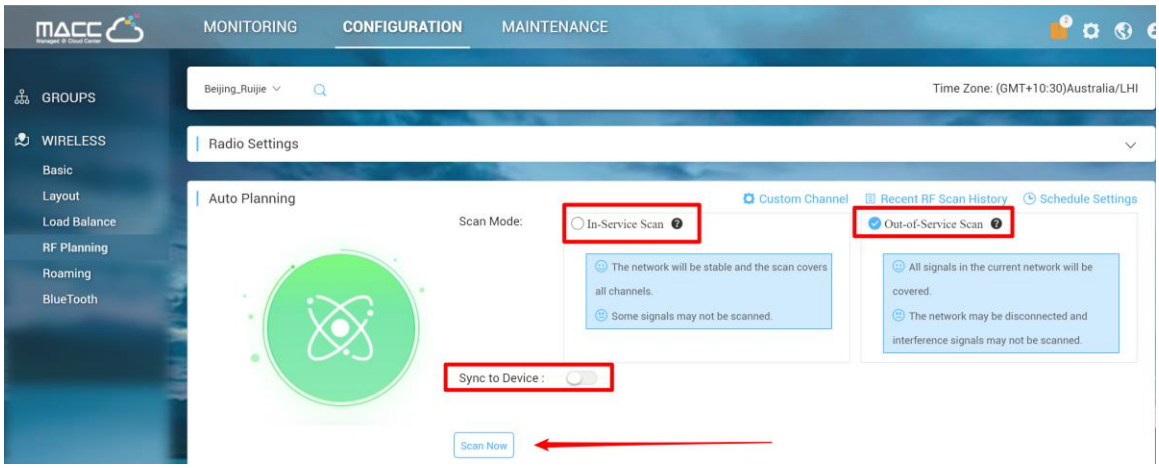
The best practice for user experience is 2.4GHz in 20MHz, 5GHz in 40MHz.





Auto Planning

Auto Planning works as a smart RRM function. It can help user to evaluate network channel and power status and provides recommended parameters by its intelligent algorithm.



Custom Channel: Allows user to select specific channel for channel planning

Recent RF Scan History: Records all scanning history and recommended value after scanning

Schedule Settings: Periodic scanning setting for access point

In-Service Scan (Quick Scan):

- The WiFi service won't be interrupted during scanning process.
- The scanning result may not include all interference.

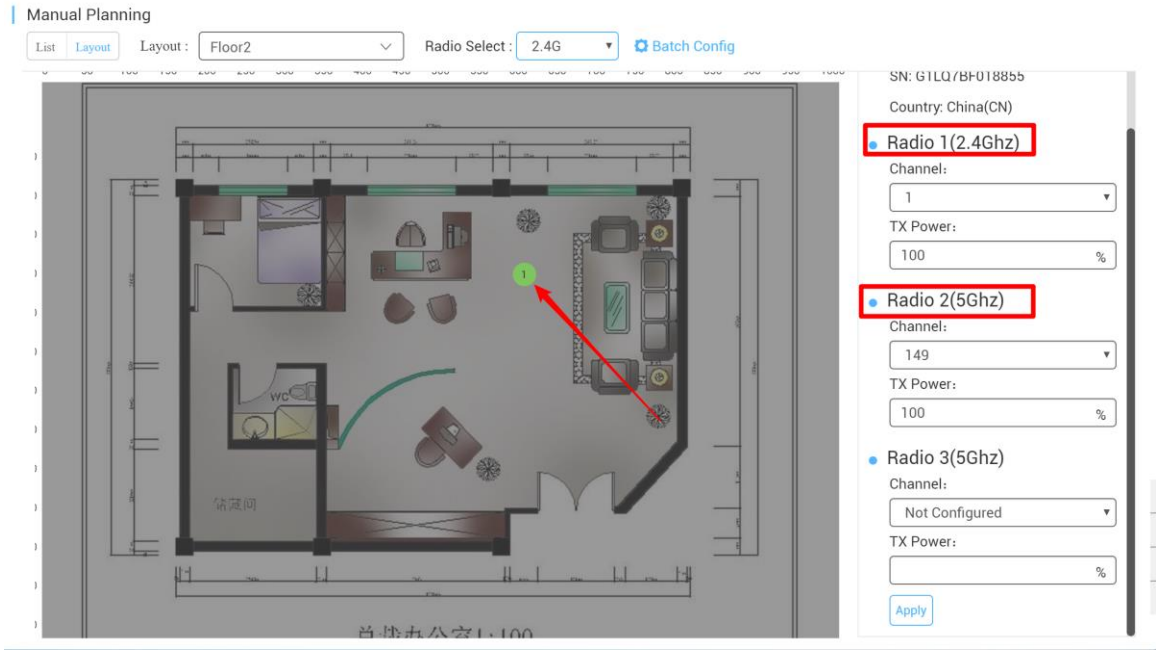
Out-of-Service Scan (Deep Scan):

- The result will cover almost all WiFi interference.
- The WiFi service will be interrupted during scanning process (disconnect and reconnect) and it will take around 30 minutes

Sync to Device: Whether sync the recommended setting to APs after scanning

Manual Planning

Manual Planning enables user to select designated AP and change the channel and power setting.



Only AP740-I can support Radio 3 setting

4.1.5. Roaming

Ruijie Cloud roaming function allows STA from AP-1 roaming to AP-2 subnet B seamlessly. User can turn on the layer 3 roaming and layer 2 roaming on **Roaming** page.

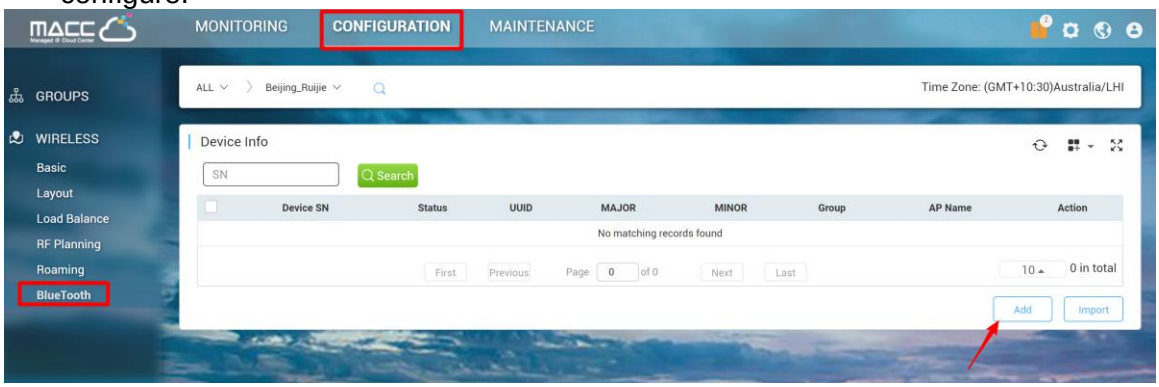
In web authentication scenario, seamless authentication function should be turned on to improve user roaming experience.

4.1.6. BlueTooth

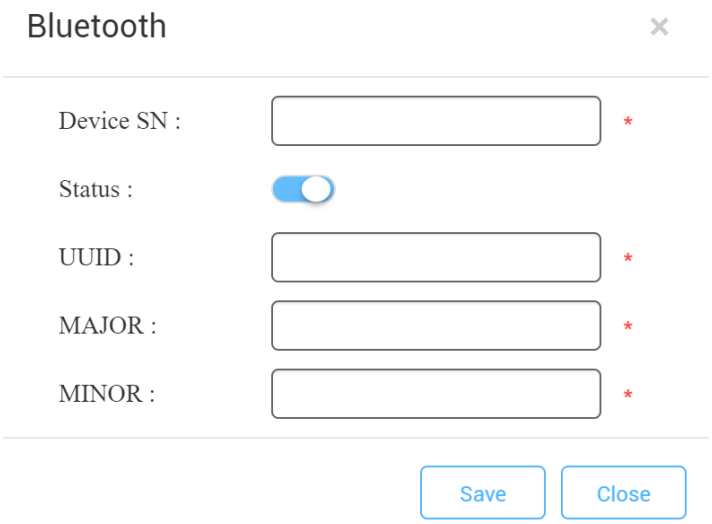
BlueTooth is used for the AP which supports iBeacon feature to broadcast iBeacon signal.

Configuration Steps

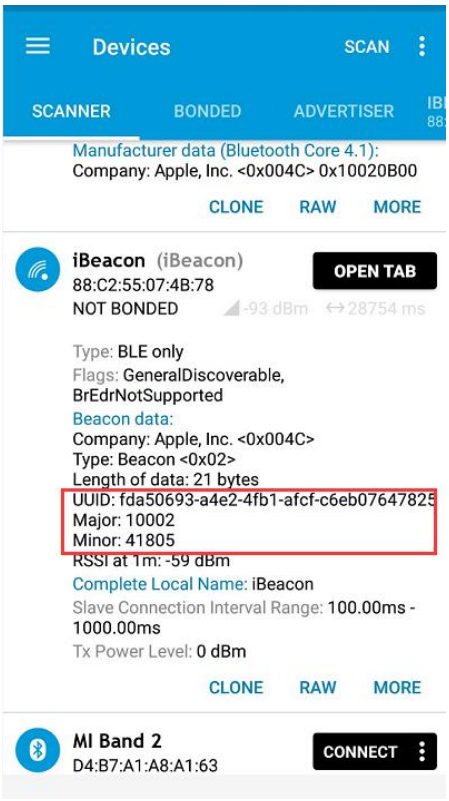
1) Click "**Add**" to iBeacon parameters to designated AP. Or click "**Import**" for batch configure.



2) Fill in AP serial number (needs to be online) and iBeacon parameters which are provided by iBeacon service provider.



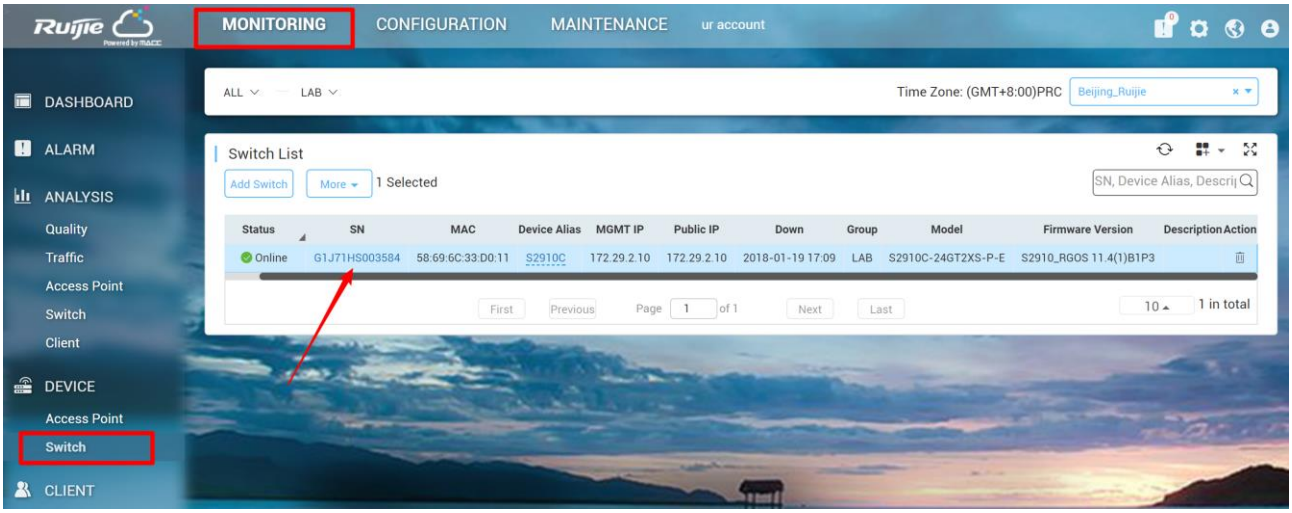
3) Verify by using "nRF Master Control Pannel" APP on Android phone.


Devices
SCAN
SCANNER
BONDED
ADVERTISER
Manufacturer data (Bluetooth Core 4.1):
Company: Apple, Inc. <0x004C> 0x10020B00
CLONE
RAW
MORE
iBeacon (iBeacon)
88:C2:55:07:4B:78
NOT BONDED
-93 dBm
28754 ms
OPEN TAB
Type: BLE only
Flags: GeneralDiscoverable, BrEdrNotSupported
Beacon data:
Company: Apple, Inc. <0x004C>
Type: Beacon <0x02>
Length of data: 21 bytes
UUID: fda50693-a4e2-4fb1-afcf-c6eb07647825
Major: 10002
Minor: 41805
RSSI at 1m: -59 dBm
Complete Local Name: iBeacon
Slave Connection Interval Range: 100.00ms - 1000.00ms
Tx Power Level: 0 dBm
CLONE
RAW
MORE
MI Band 2
D4:B7:A1:A8:A1:63
CONNECT

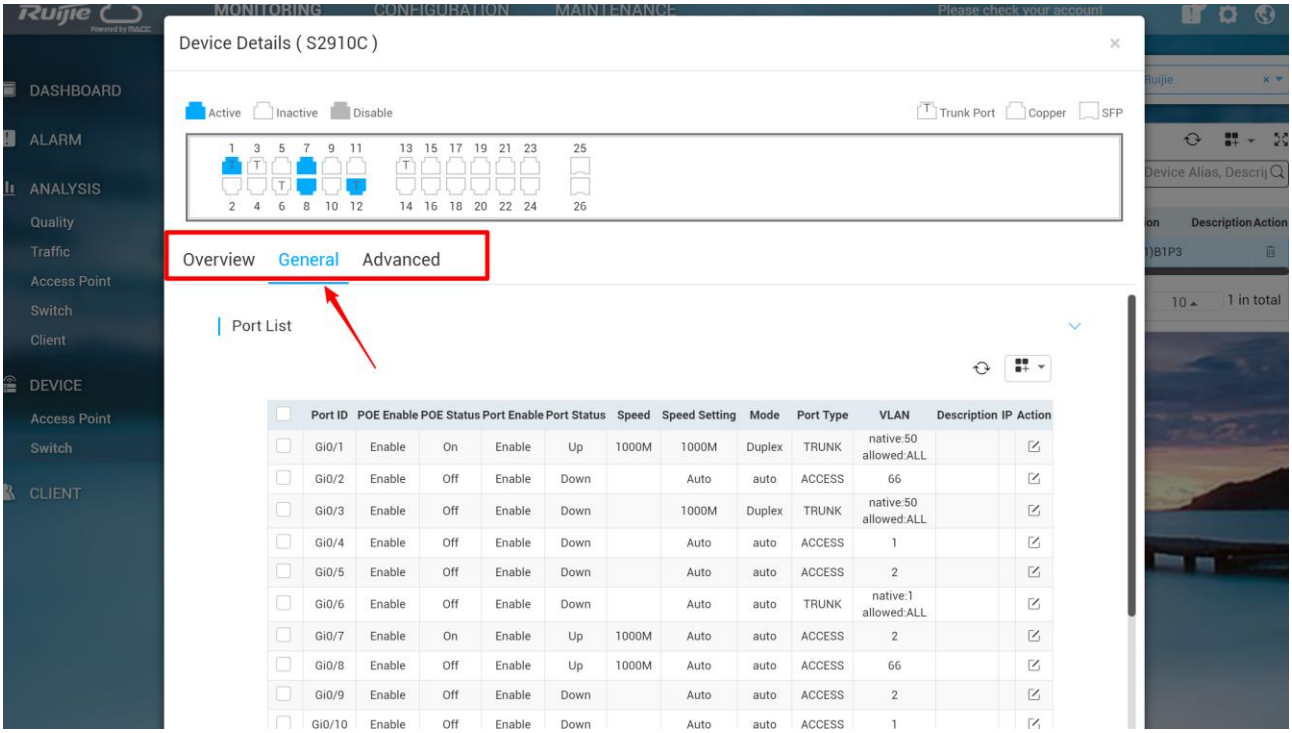
4.2. Switch Device

Configuration Steps

1) Click designated switch on **MONITOR** > **Switch**.



2) Click **General** or **Advanced** to configure the switch.

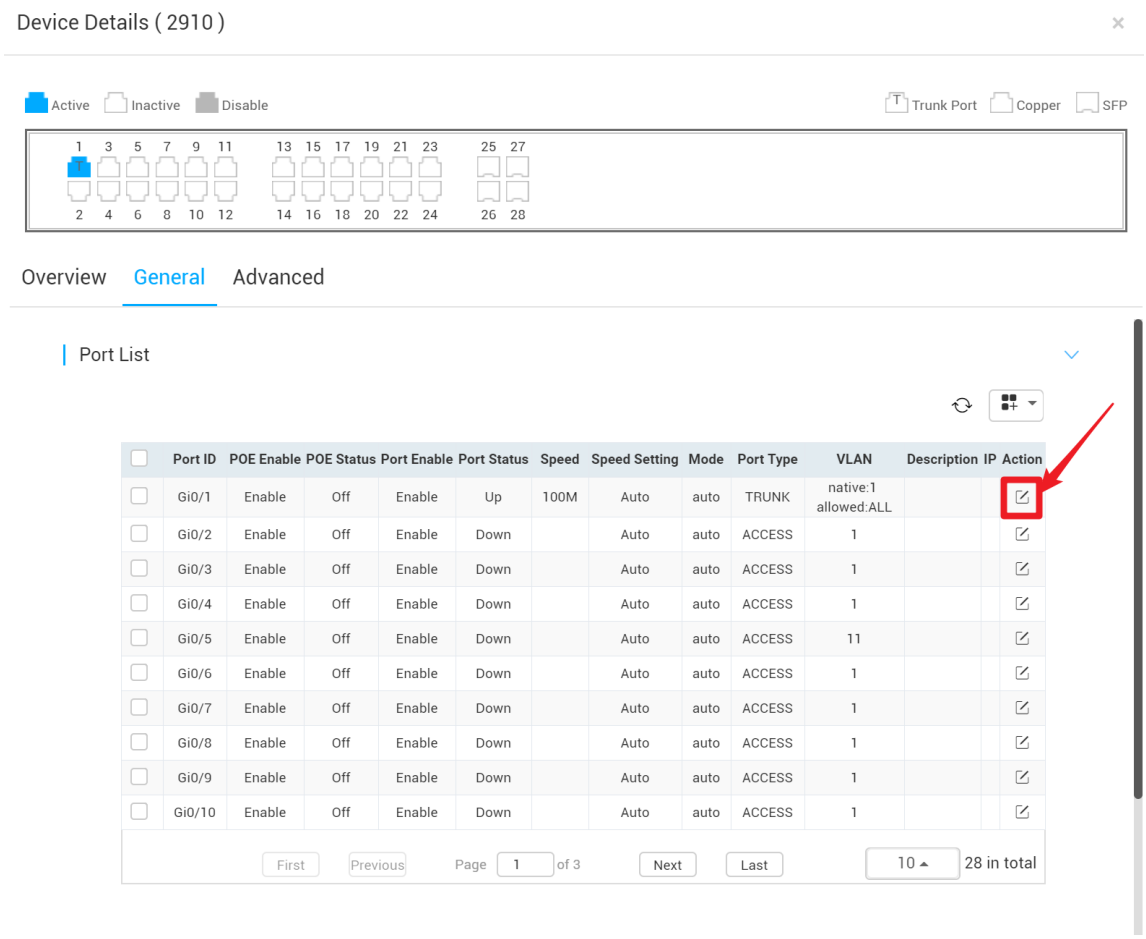


4.2.1. Port Setting

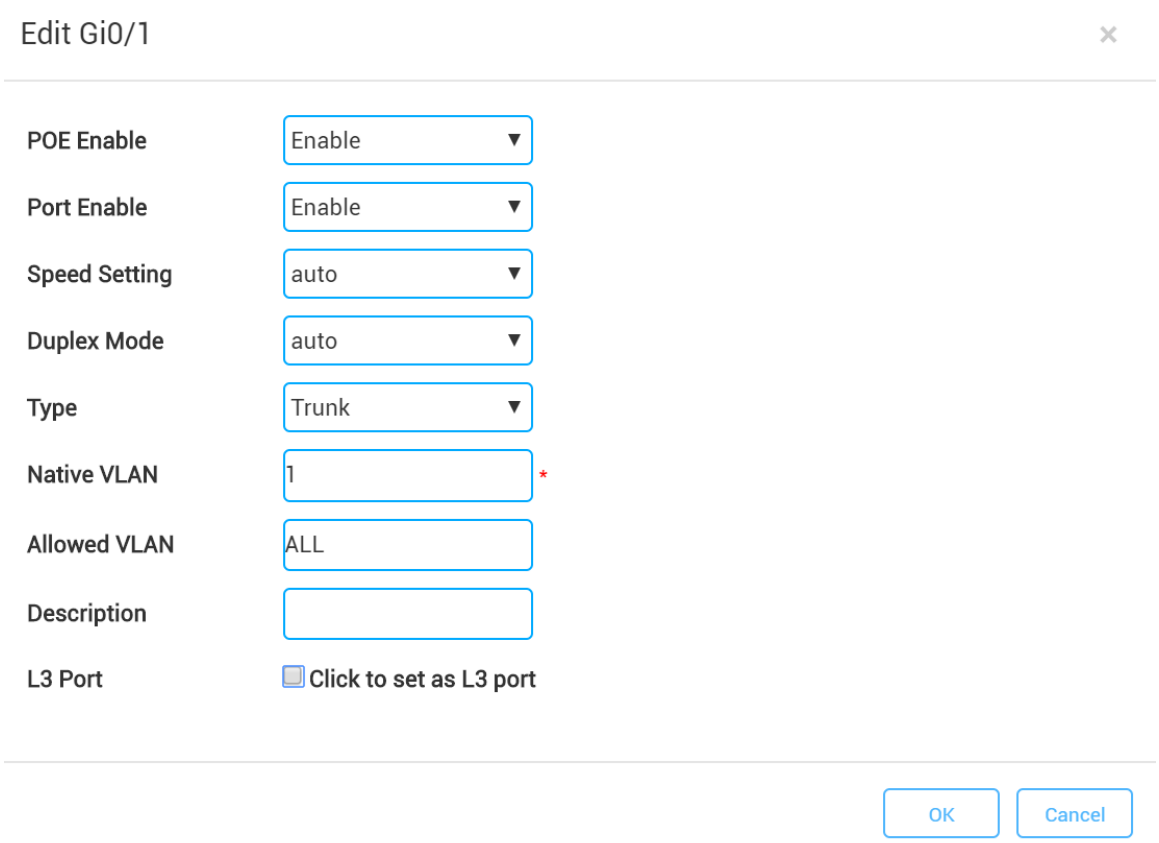
Port setting enables user to manage switch interface, including port status, speed, VLAN and SVI.

Configuration Steps

1) Click edit button on **General** page of device detail.



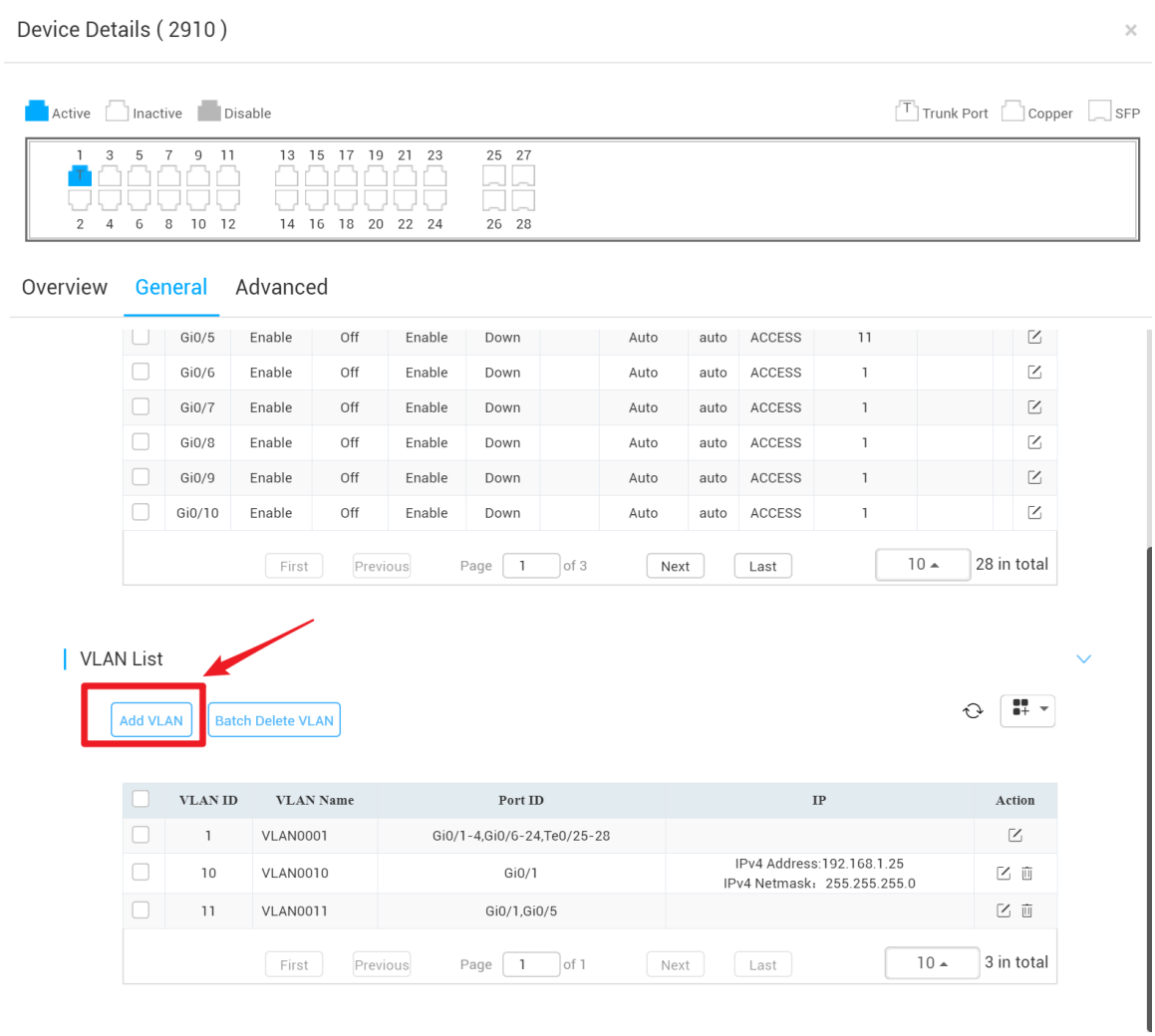
2) Modify interface setting as required.



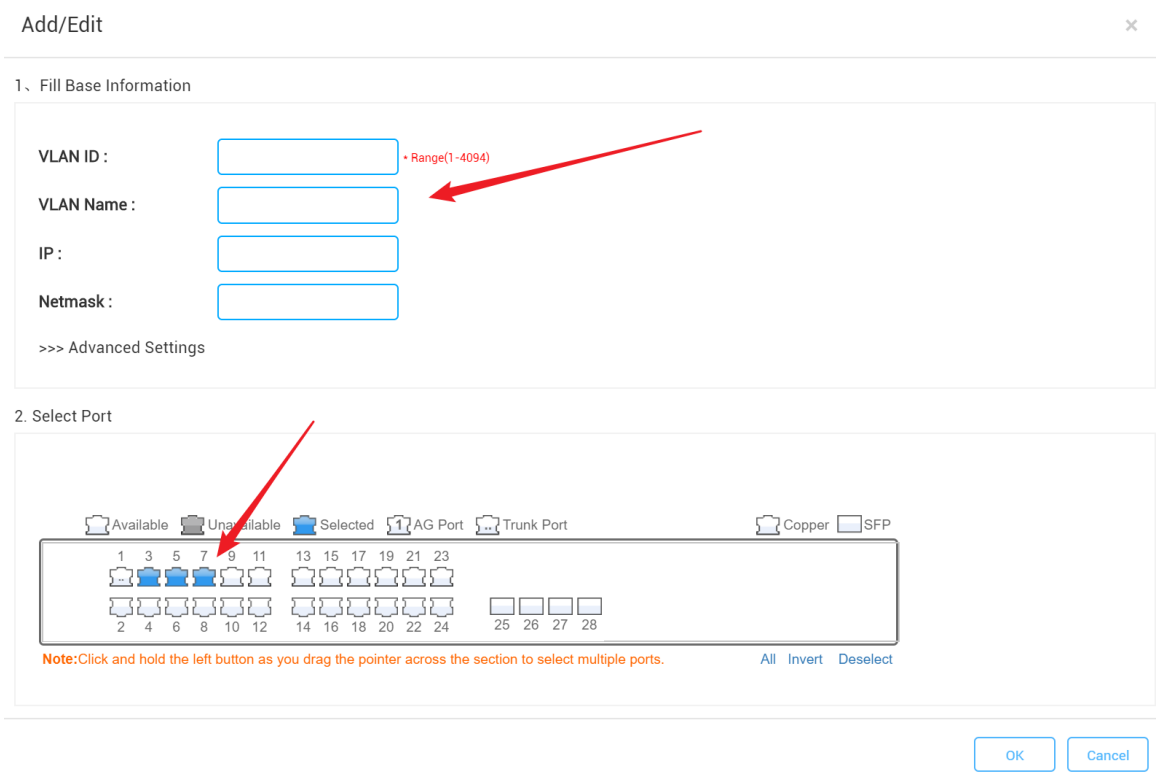
4.2.2. VLAN Setting

Configuration Steps

1) Click Add VLAN to create VLAN/SVI.



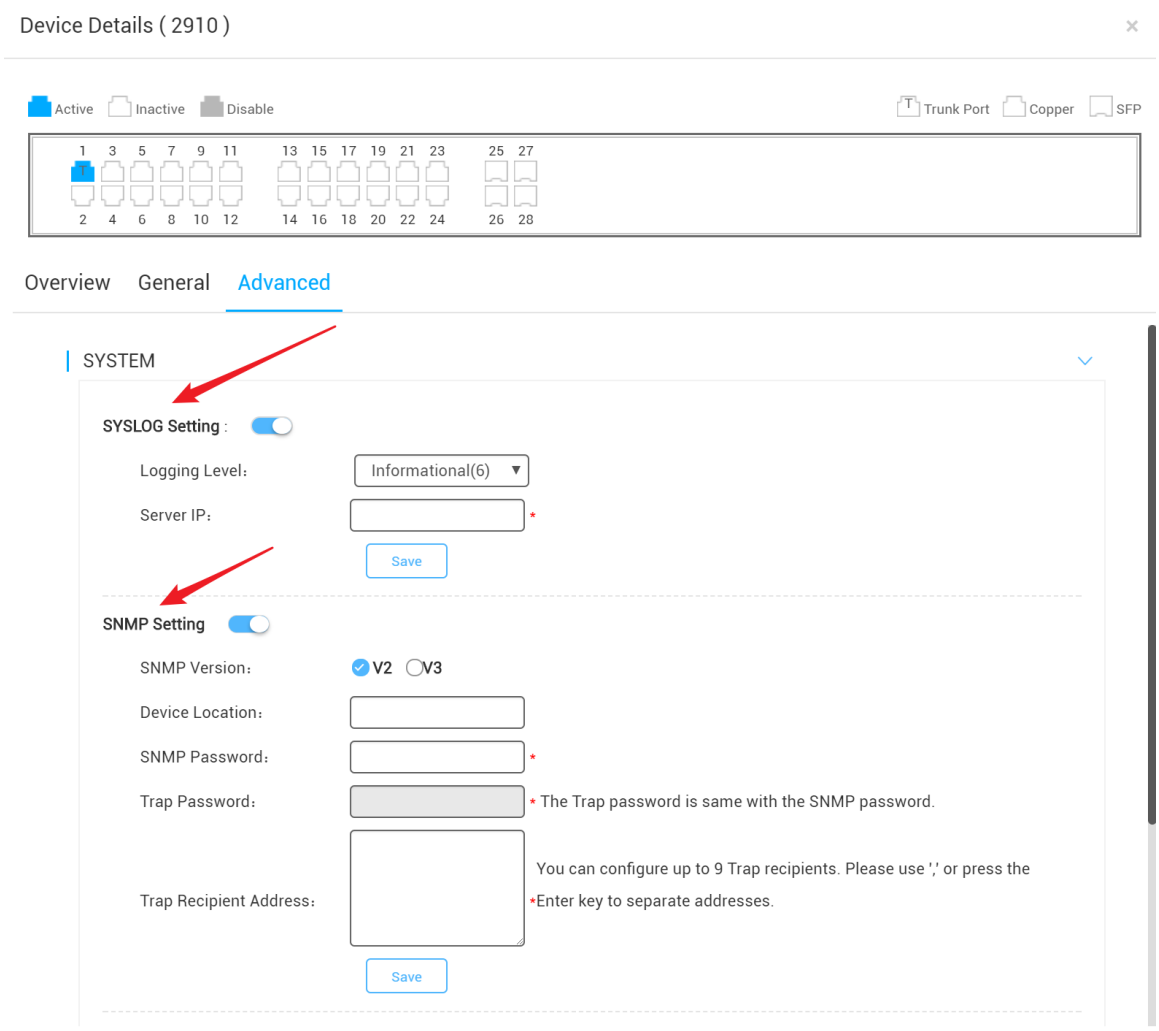
2) Fill in VLAN info and bind to corresponding interface.



4.2.3. Advanced Setting

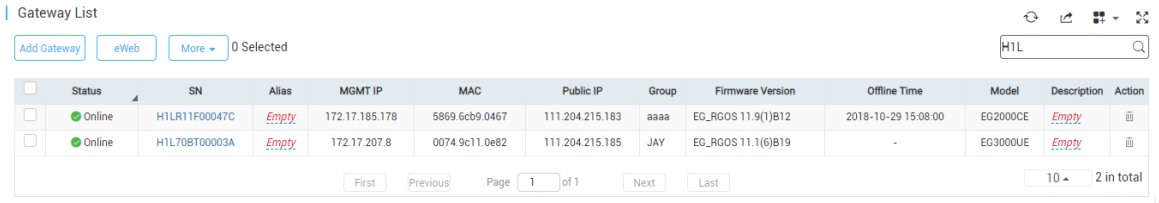
The advanced setting for switch includes system log, SNMP, NTP, DNS, NFPP and IGMP snooping.

Configuration Steps



4.3 **Gateway Device**

4.3.1 Gateway List



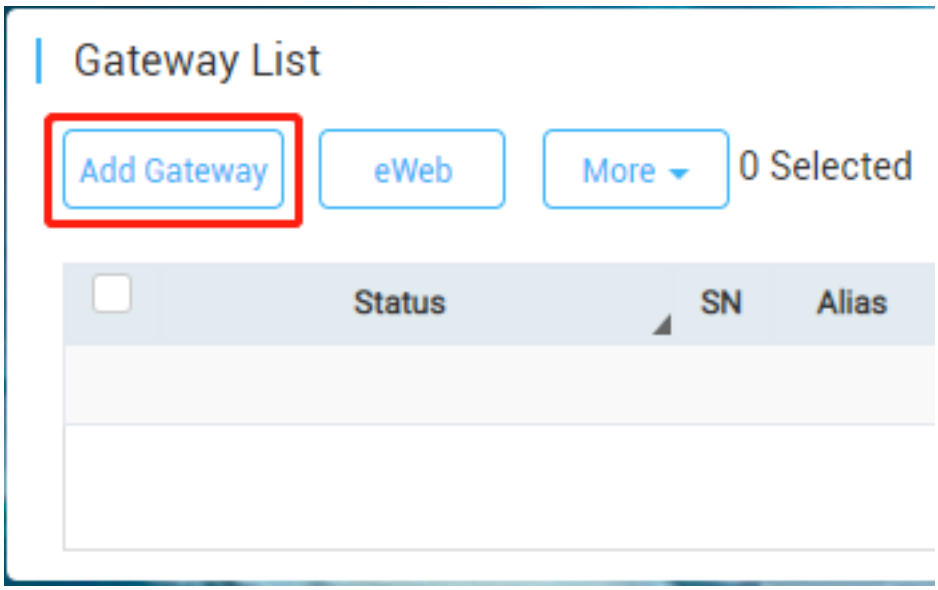
The **Gateway List** displays the basic device information, including status, SN, alias, management IP,MAC, public IP, group, firmware version, offline time, model and description.

The **Search** function supports fuzzy queries based on SN, alias and description, and also supports queries based on status.

Above the list are the **Add Gateway, eWeb, Move to, Restart, Diagnosis Tool** and **Tunnel Config**

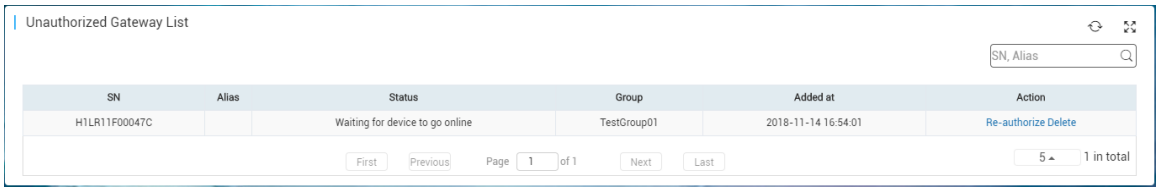
functions.

4.3.2 Add Gateway



Click **Add Gateway**, enter the SN, Alias and Web Password, and click **OK** to add a gateway to the group. Only one gateway can be added to a group.

4.3.2 Unauthorized Gateway List



Before a gateway is authorized, it is shown in the **Unauthorized Gateway List**. If failed to authorize, you can click **Re-authorize** in the **Action** column to re-enter the **Web Password** to re-authorize the device.

5. Maintenance & Upgrade

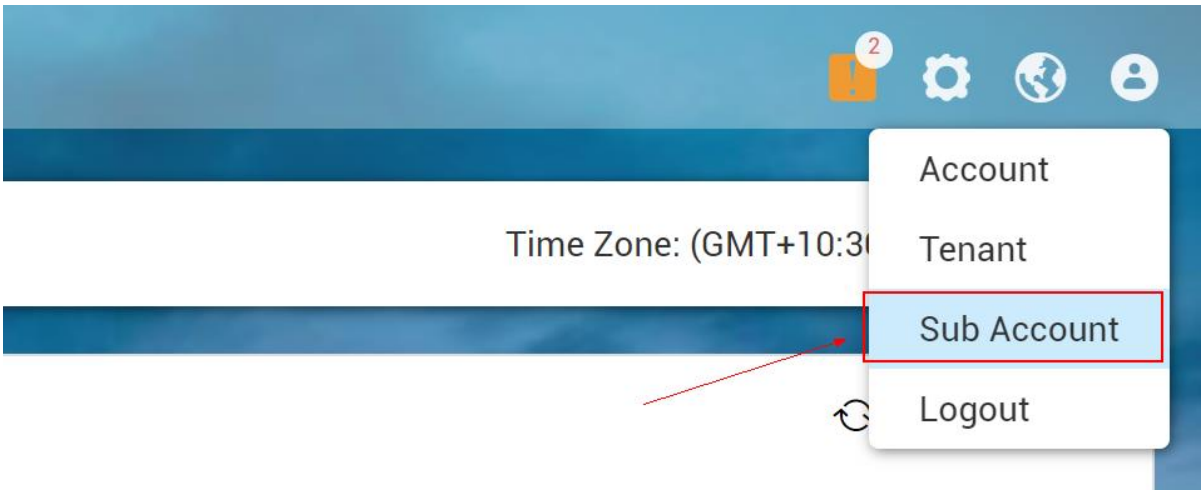
5.1. Ruijie Cloud Account Management

Ruijie Cloud provides 3 different roles for sub-account for admin user to manage system easily.

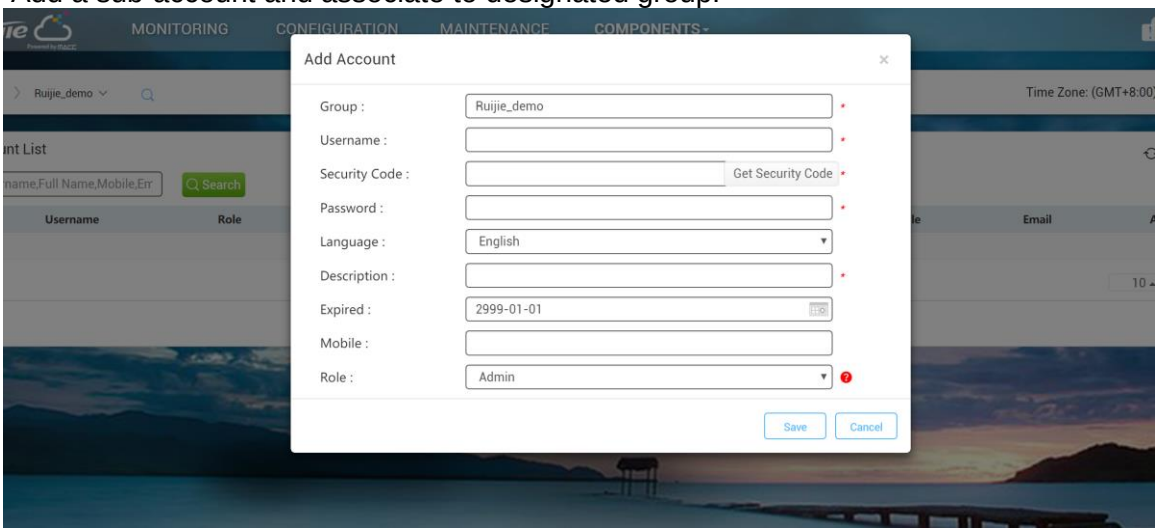
- **Admin**: Own the permissions to create sub-account, edit, read.
- **Employee**: Own the permissions to edit, read.
- **Guest**: Own the permissions to read.

Configuration Steps

1) Login Ruijie Cloud and click Account on top right corner



2) Add a sub-account and associate to designated group.



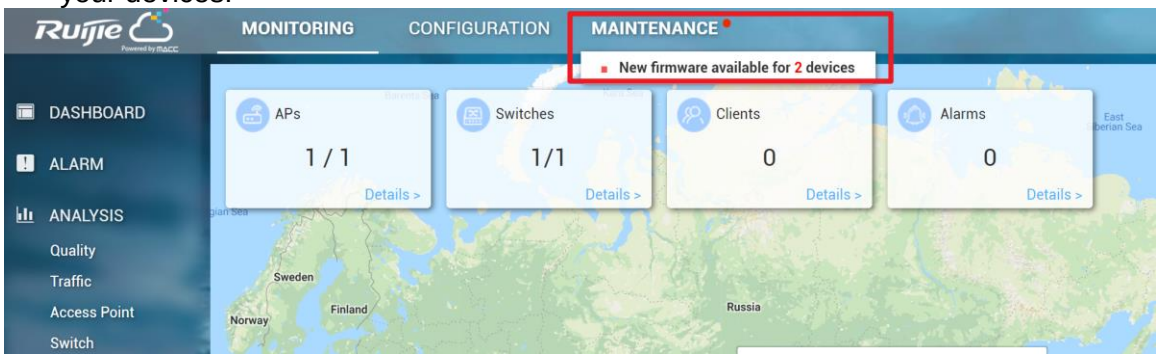
3) Login to Ruijie Cloud using this newly created account.

5.2. Firmware Upgrade

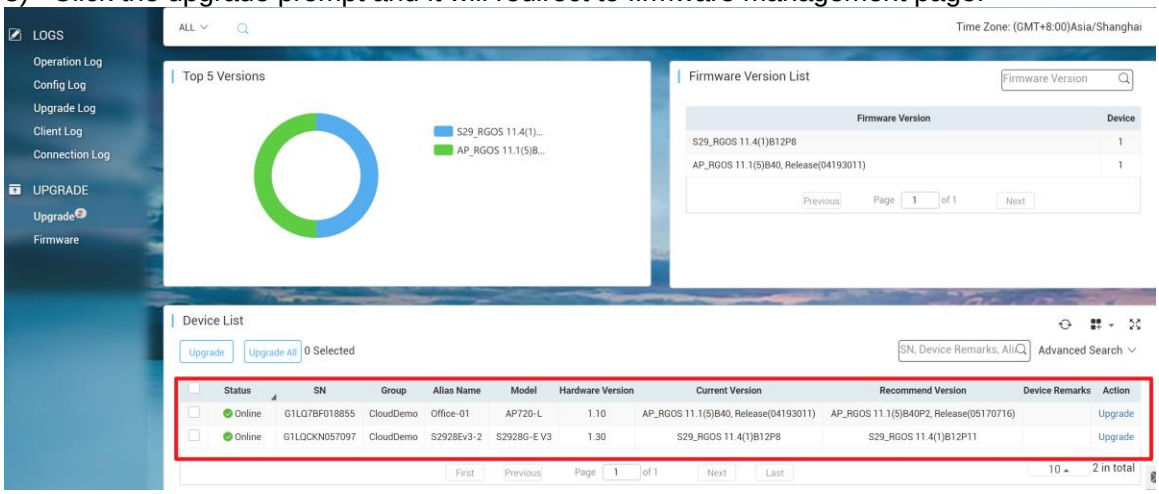
Ruijie Cloud support devices firmware online upgrade, and it allows network administrator to utilize the latest features and security enhancements for their Ruijie devices. Online upgrade feature allows admin to easily schedule firmware upgrade on their networks, view firmware releases.

Configuration Steps

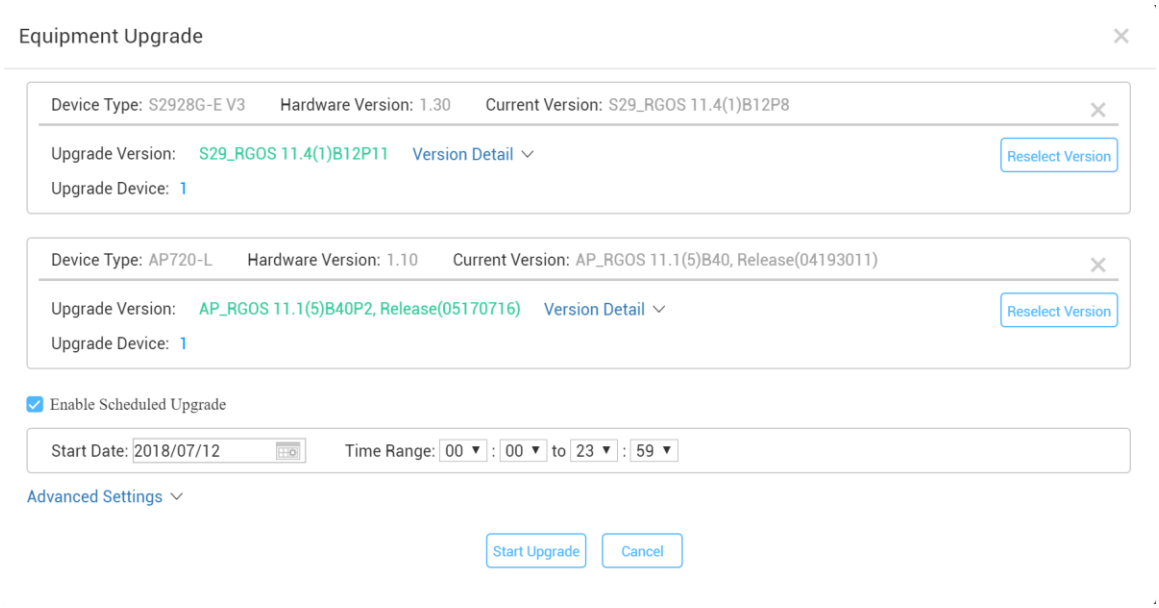
1) Login Ruijie Cloud and register your devices on cloud.
2) Navigate to MAINTENANCE and it will show the latest firmware which are suitable for your devices.



3) Click the upgrade prompt and it will redirect to firmware management page.



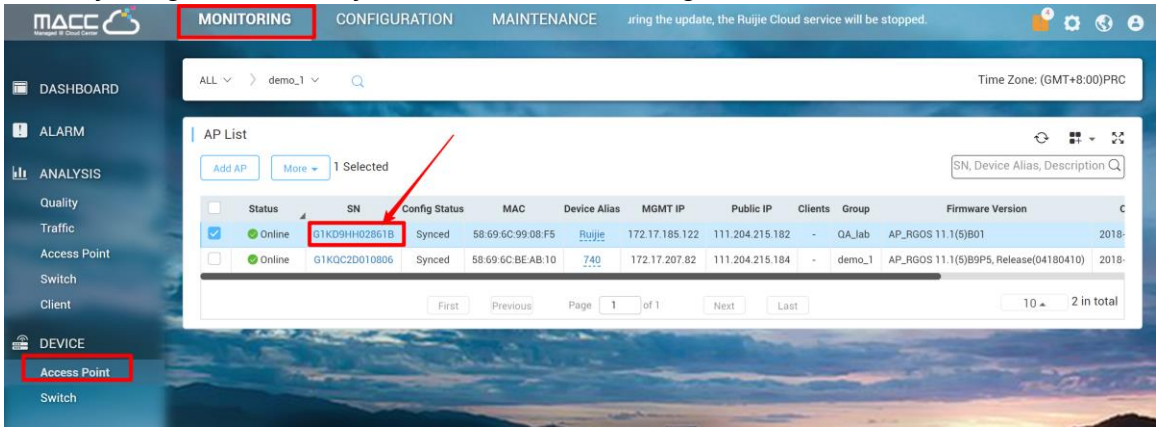
4) Select the devices or networks to be upgraded by clicking the checkboxes beside the device status. Admin can specify upgrades on a per-network or per-device type by choosing network group or using advanced search to filter the device model needed to be upgraded.
5) Click upgrade button to perform firmware upgrade. Select either Perform the upgrade now or Schedule the upgrade for, specifying a specific date and time for the upgrade.



5.3. Monitoring

5.3.1. AP Status

Click Access Point serial number to monitor AP running status, including AP info, CPU & Memory usage, connectivity record, traffic, RF setting and interference.



Device Details

AP Info

SN : G1KD9HH02861B
MAC : 5869.6c99.08f5
MGMT IP : 172.17.185.122
Model : AP520(W2)
Config Status : Synced to the latest
Hardware Version : 1.00
Software Version : AP_RGOS 11.1(5)B01
Alias Name : Ruijie
Description :
ssid : hotelssid coffeebarssid surveyssid tila test roctestiner

Status

Online
Online Clients: 0
Clients with Weak Signal : 0

Memory Usage

CPU Usage

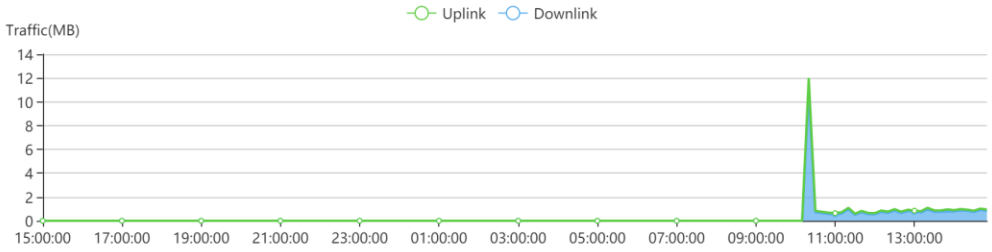
Alarms : 0

Connectivity

Last 24 Hours | Last 7 Days

Traffic Summary

Last 24 Hours | Last 7 Days



Radio List

RF Type	Channel	Power	Bandwidth（MHz）	Channel Usage(%)
2.4G	1	20%	20	59%
5G	149	20%	40	19%

Client List

IP	MAC	SSID	RSSI	Band	Traffic（MB）	OS	Manufacturer	Up	Down
No matching records found									

First Previous Page 0 of 0 Next Last 10 0 in total

Adjacent RF Signal

Triggered: 2016-11-21 16:00 **Ended:** 2016-11-21 16:11 **Status:** Complete

BSSID	Radio	Adjacent SSID	Adjacent Channel	RSSI	Adjacent SN	Adjacent MAC	Uploaded
0669.6c5b.5034	Radio2(5G)	zxkart	149	81	G1KD14G002056	5869.6c5b.5031	2016-11-21 16:11
0669.6c54.8d17	Radio1(2.4G)	Eweb_8D151	1	76	G1JDB1P031399	5869.6c54.8d15	2016-11-21 16:11
0669.6c5b.4fd7	Radio1(2.4G)	Ruijie_FREE.WiFi-Leon	1	75	G1KD14G001828	5869.6c5b.4fd5	2016-11-21 16:11
0a69.6c5b.4fd7	Radio1(2.4G)	Staff	1	75	G1KD14G001828	5869.6c5b.4fd5	2016-11-21 16:11
0669.6c7a.5dd2	Radio1(2.4G)	Eweb_5DD01	1	73	G1KD84Y017646	5869.6c7a.5dd0	2016-11-21 16:11
0669.6c99.2b67	Radio1(2.4G)	New-1	1	71	G1KD9HH050650	5869.6c99.2b65	2016-11-21 16:11
1669.6c99.2b67	Radio1(2.4G)	test-5	1	71	G1KD9HH050650	5869.6c99.2b65	2016-11-21 16:11
0669.6c85.82d5	Radio1(2.4G)	SanTest1	6	69	G1KD54Z00410B	5869.6c85.82d2	2016-11-21 16:11
0669.6c7a.5dd3	Radio2(5G)	Eweb_5DD01	149	68	G1KD84Y017646	5869.6c7a.5dd0	2016-11-21 16:11
0669.6c5b.4fd8	Radio2(5G)	Ruijie_FREE.WiFi-Leon	149	66	G1KD14G001828	5869.6c5b.4fd5	2016-11-21 16:11

First Previous Page 1 of 8 Next Last 10 77 in total

Scan Adjacent RF

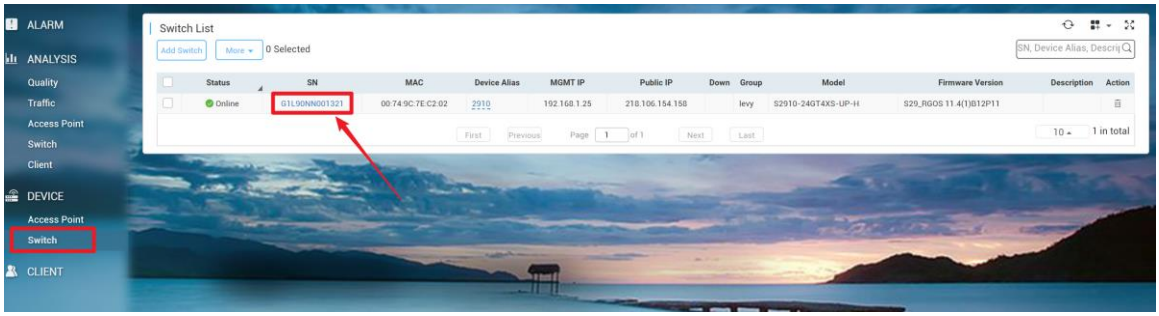
Device Log

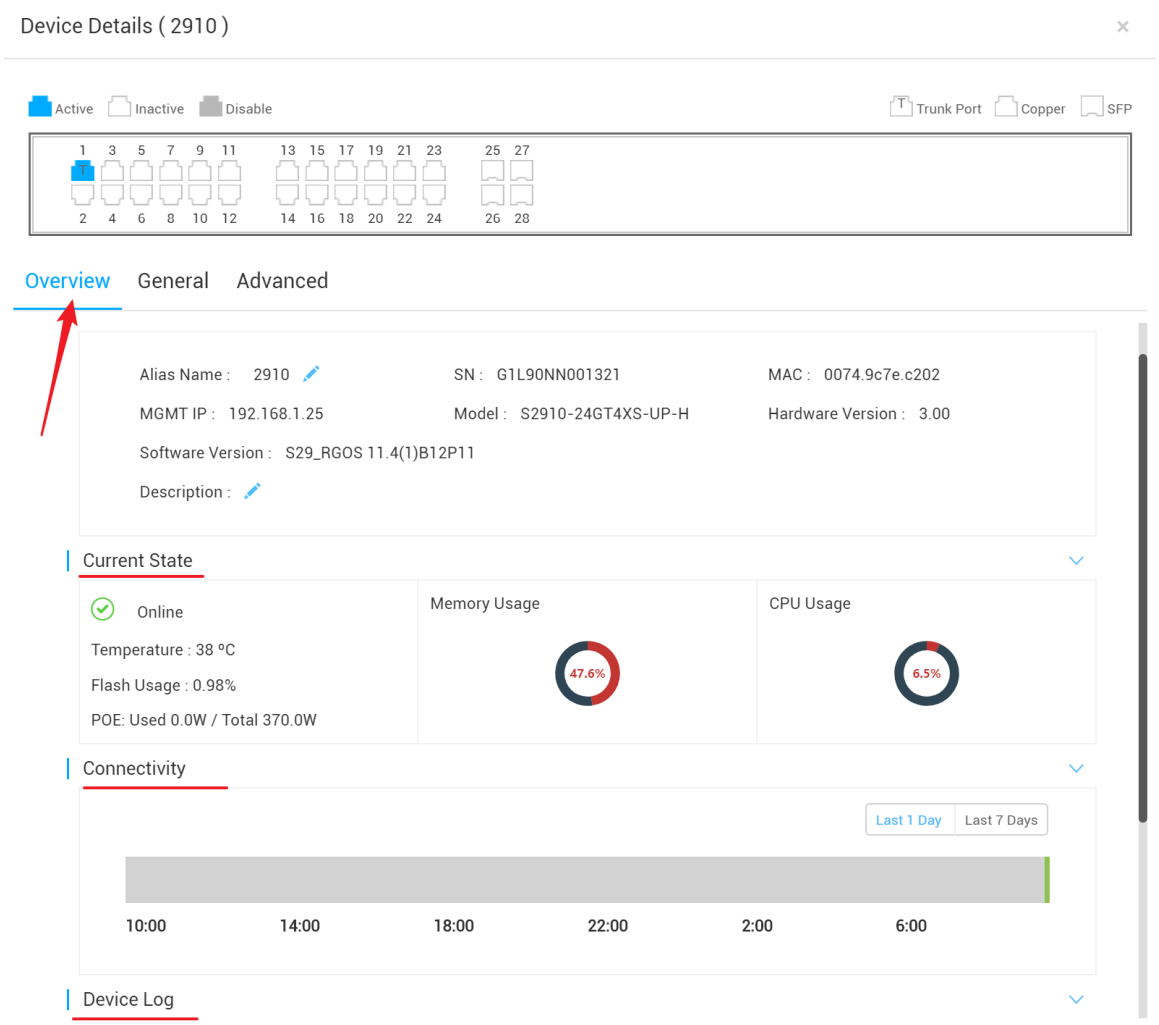
All Days Search

Type	Updated On	Content
Online/Offline	2018-02-07 10:13:00	Device online
Online/Offline	2018-02-07 10:04:00	Device offline
Online/Offline	2018-02-07 10:02:23	Device online
Online/Offline	2018-02-07 09:53:00	Device offline

5.3.2. Switch Status

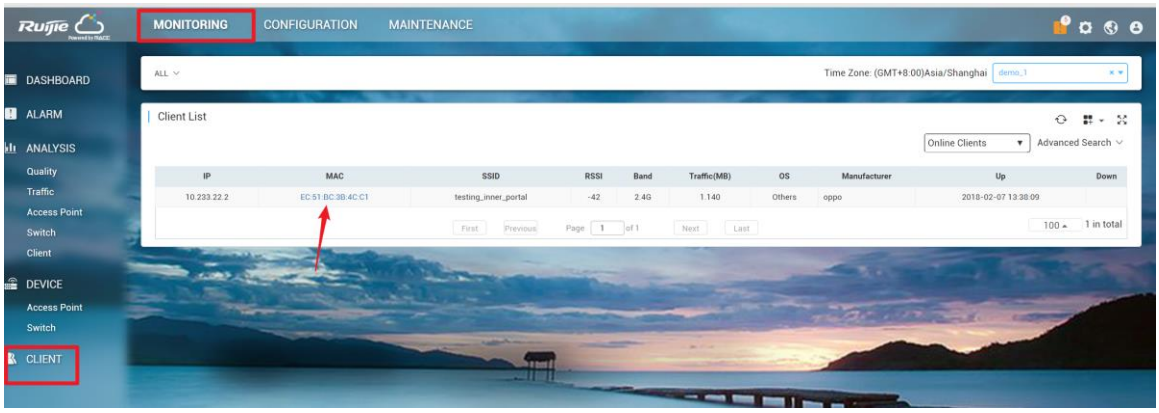
Click Switch serial number on switch list to monitor AP running status, including switch info, port status, CPU & Memory usage, connectivity record, traffic, device log.





5.3.3. STA Status

Click client mac address to view client details, including client info, traffic, delay, RSSI and connect record.



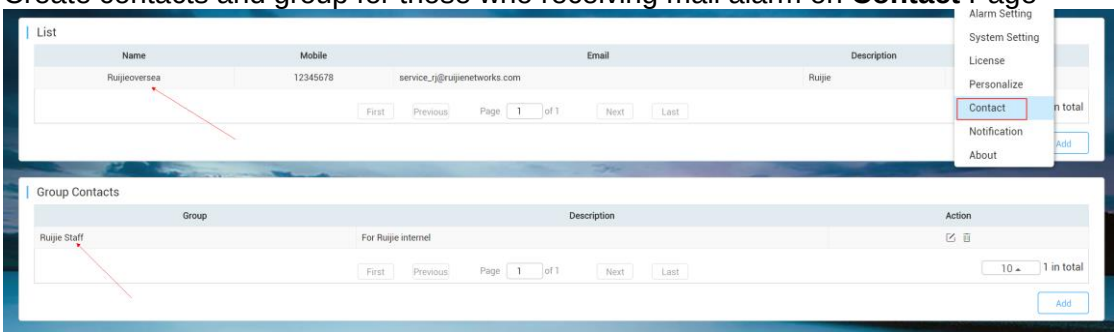
5.4. Alarm Setting

Ruijie Cloud supports AP exception alarm function, when AP offline, working on high channel utilization, AP state unstable, it will trigger the mail alarm function on Ruijie Cloud.

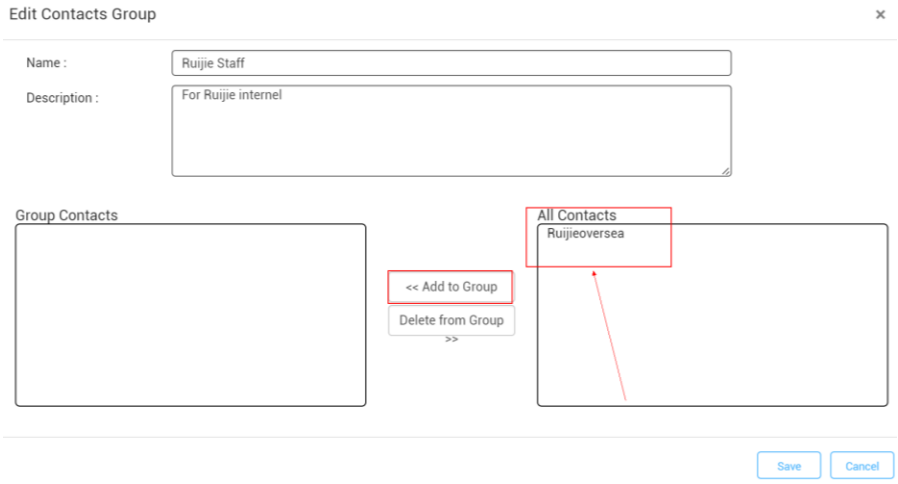
Configuration Steps

1) Enable the alarm function and turn on the mailing function on **Alarm Setting**.

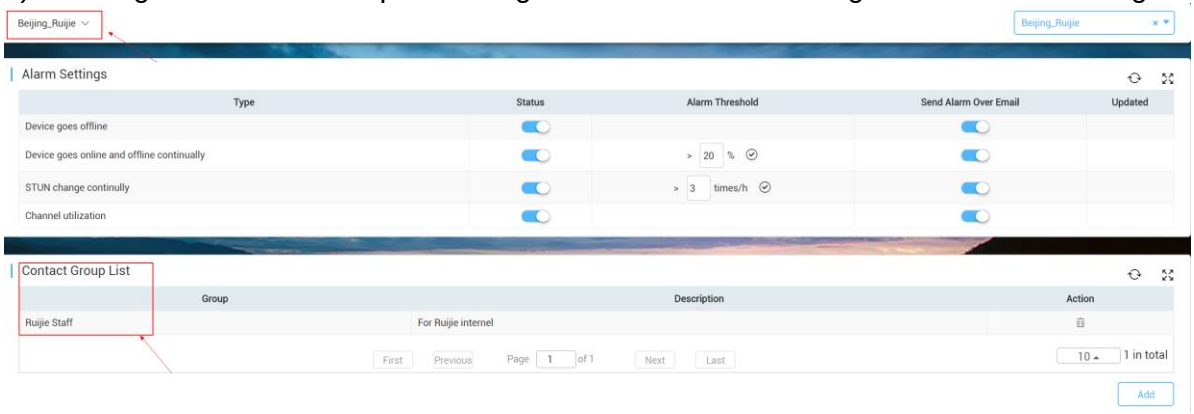
2) Create contacts and group for those who receiving mail alarm on **Contact** Page



3) Edit the **Group Contacts** and Add the contacts into this group.



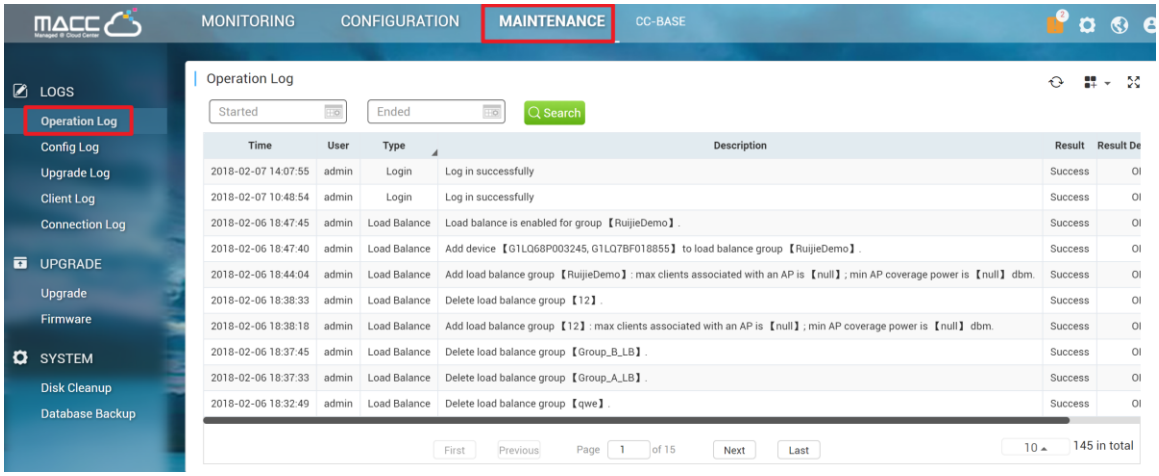
4) Binding the Contact Group to this organization on alarm settings and save the setting.



5.5. Log

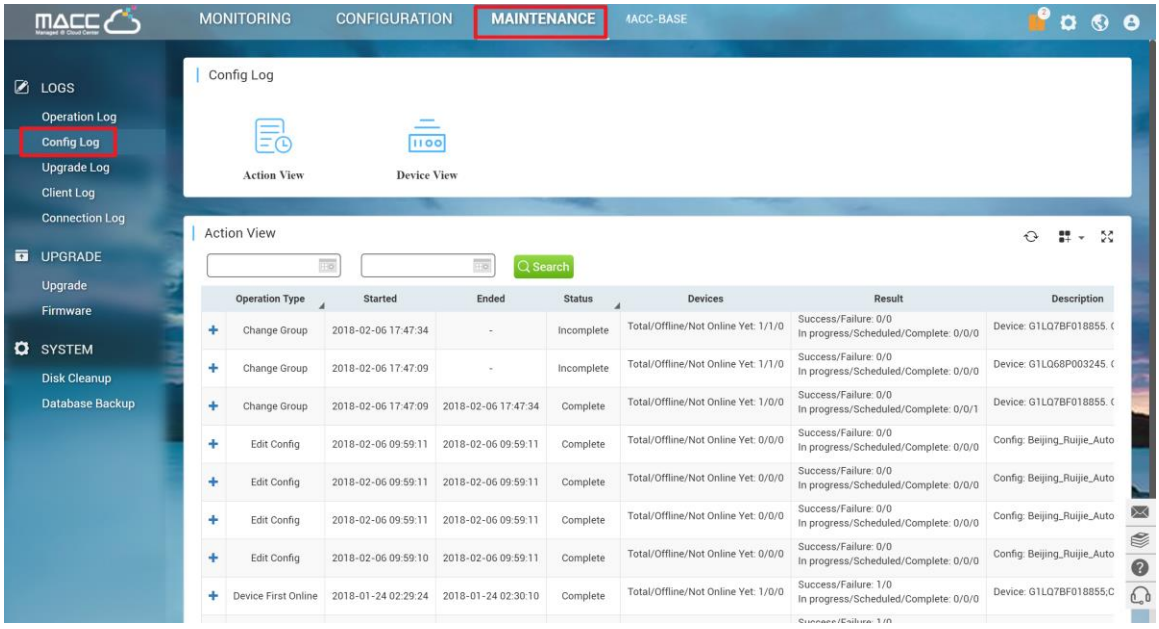
5.5.1. Operation Log

Operation Log records all operation info.



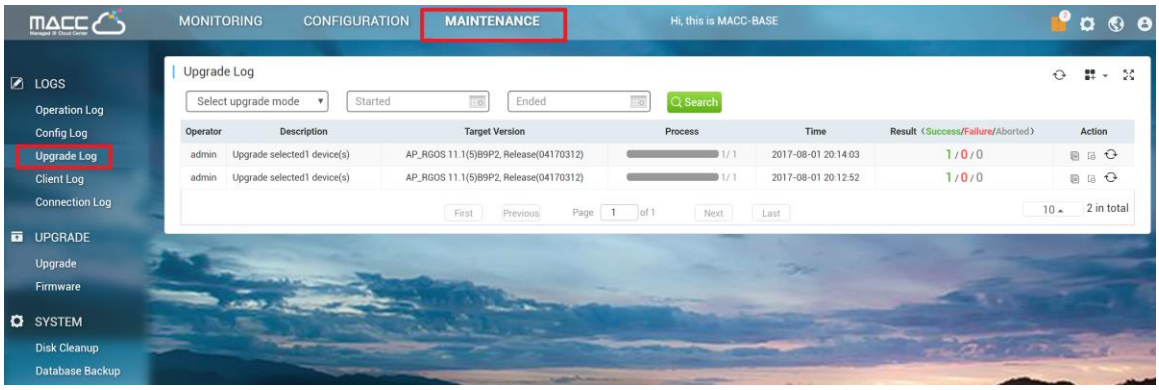
5.5.2. Config Log

Config Log lists down the status of device configuration. If the device stucks on not sync state, user can check the configuration delivery status by clicking the detail button.



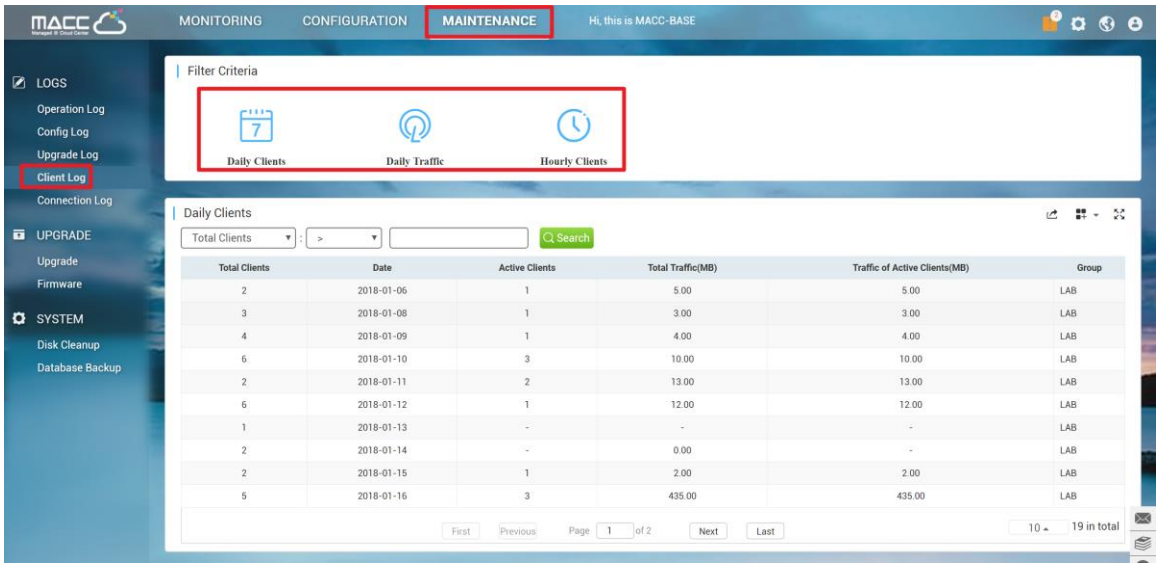
5.5.3. Upgrade Log

Devices firmware upgrade history will be listed on this page.



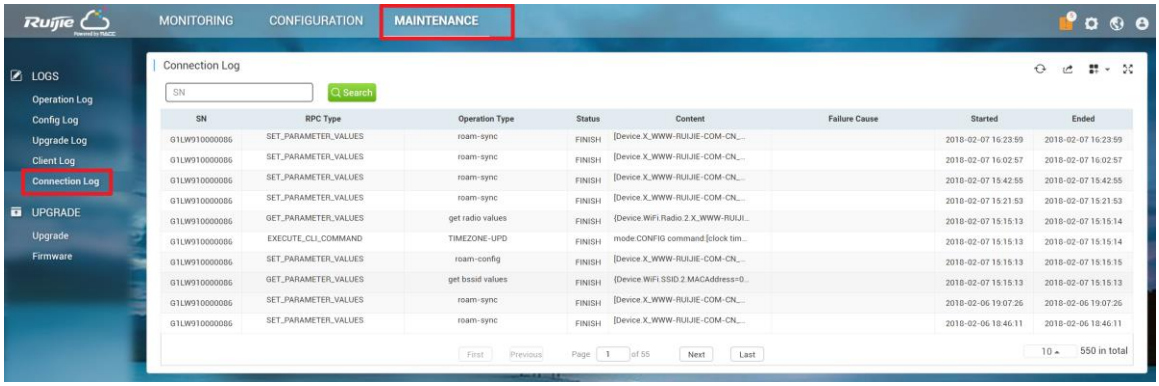
5.5.4. Client Log

Client History logs in client log page, and user can export client info base on days, traffic, hours.



5.5.5. Connection Log

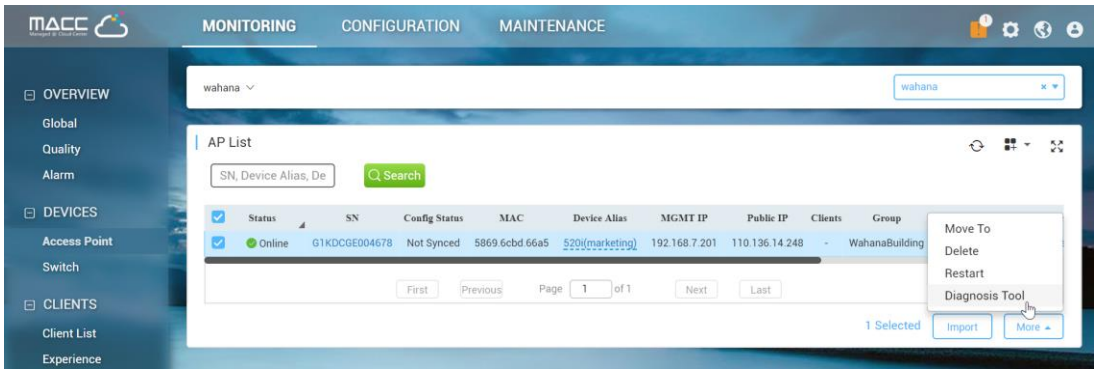
Connection Log is the connection record between Ruijie Cloud and managed devices. If the device is abnormal, it's recommended to check connection history on this page.



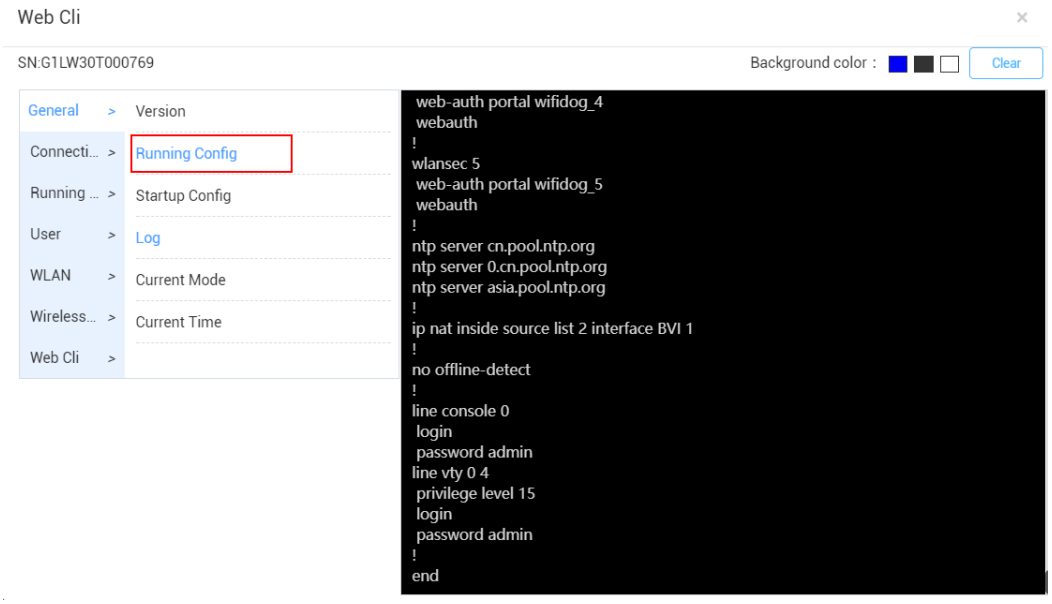
5.6. Diagnosis Tool

Ruijie Cloud supports Advanced troubleshooting, CLI access to devices to perform advanced debugging.

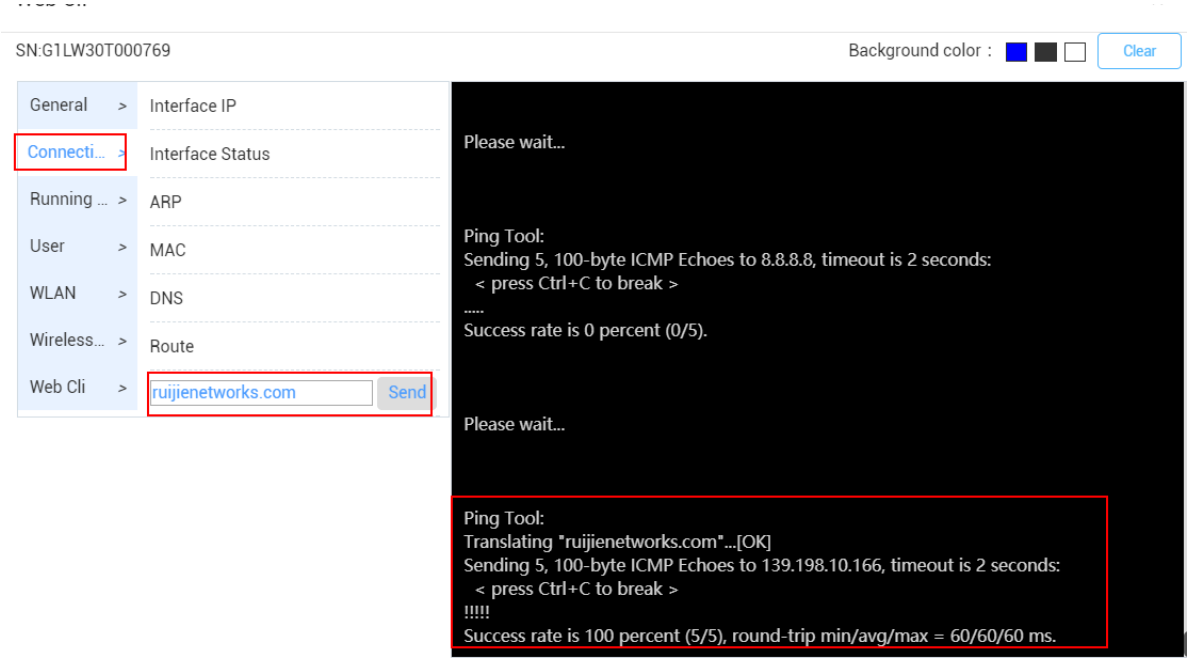
1) Go to **Monitoring Page** > Access Point /Switch. Click **More** and select **Diagnosis Tool**.



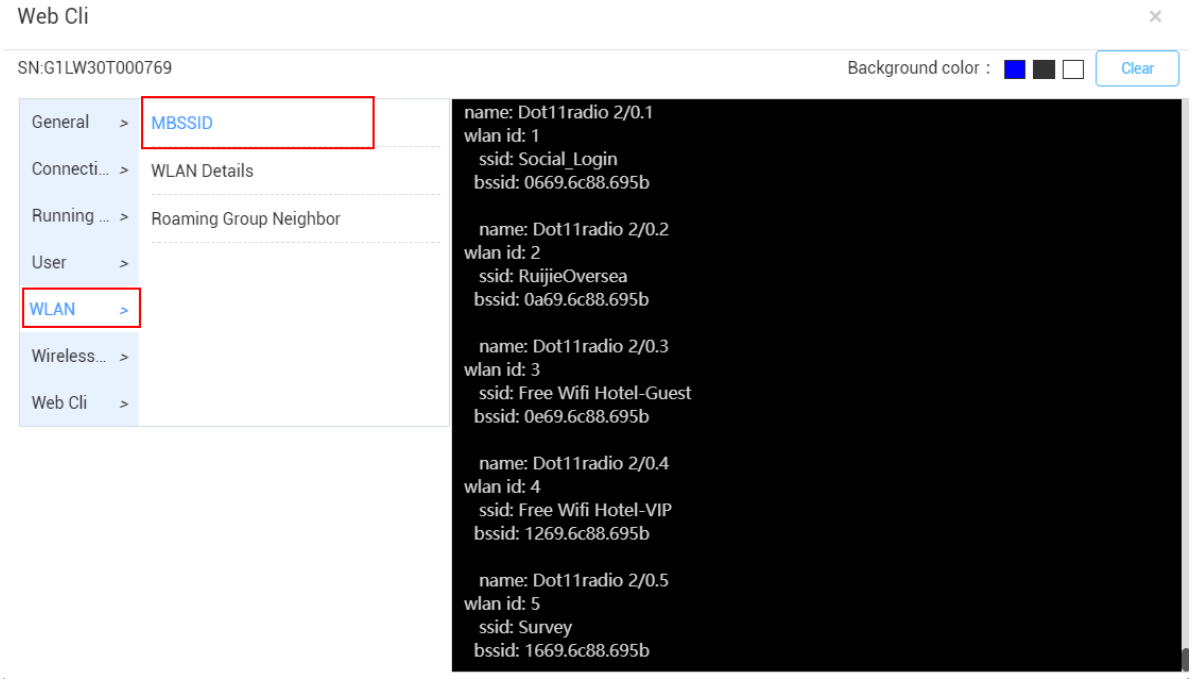
2) Use “General->Running Config” to verify the AP setting.



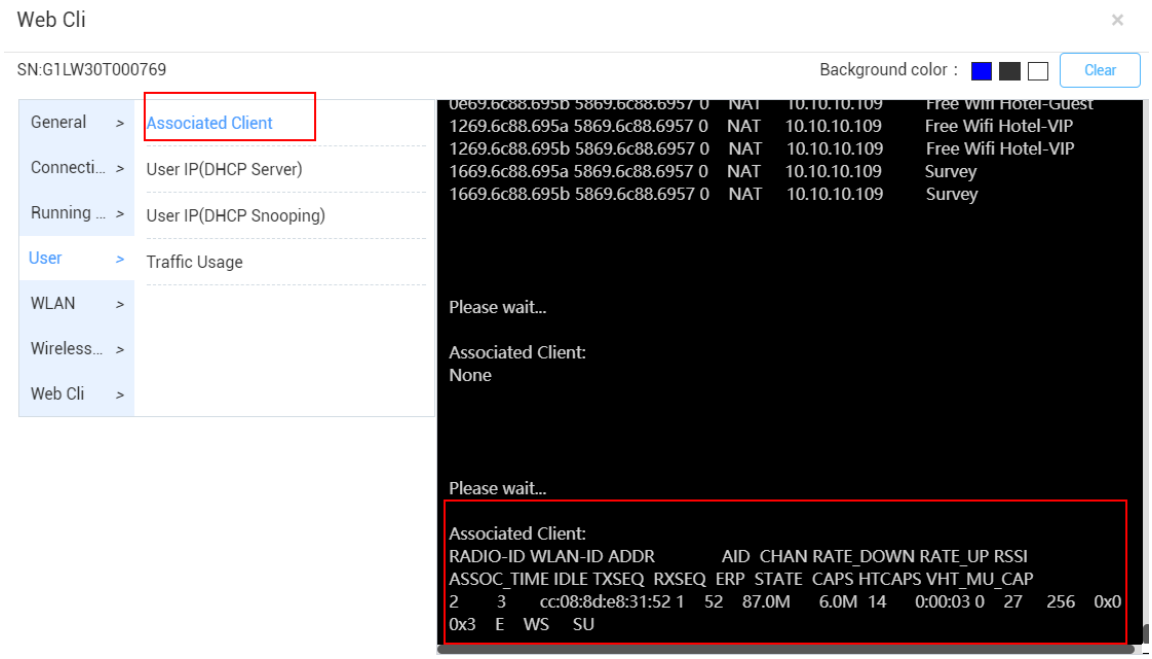
3) Use “Connection->Ping tool” to check the Internet connectivity.



4) Use “WLAN->MBSSID” to verify the broadcast SSID



5) Use “User->Associated Client” to check the online user.

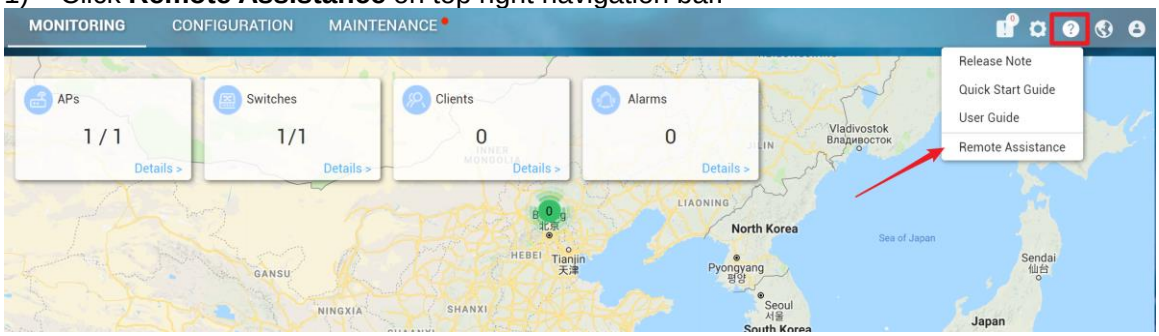


5.7. Remote Assistance Tool

Remote Assistance Tool aims to provide a quick access for Ruijie Support to login your Ruijie Cloud for configuration and troubleshooting. Ruijie will not change your setting without your permission.

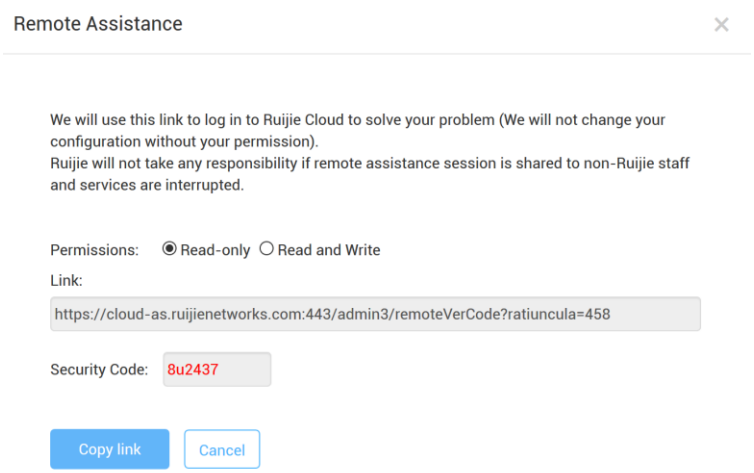
Configuration Steps

1) Click **Remote Assistance** on top right navigation bar.



2) Copy and share this link and password to Ruijie Support.

Note: Ruijie will not take any responsibility if remote assistance session is shared to non-Ruijie staff and services are interrupted.


Remote Assistance
We will use this link to log in to Ruijie Cloud to solve your problem (We will not change your configuration without your permission).
Ruijie will not take any responsibility if remote assistance session is shared to non-Ruijie staff and services are interrupted.
Permissions: Read-only Read and Write
Link:
https://cloud-as.ruijienetworks.com:443/admin3/remoteVerCode?ratiuncula=458
Security Code: 8u2437
Copy link
Cancel

6. FAQ-Frequency Asked Questions

6.1 Quick Start

6.1.1 What can I do if the device shows offline status on Ruijie Cloud

1) There are several steps needed to be checked, the contents are shown as below:
   - Network Connectivity
   - Device Running Mode(Wireless only)
   - Ruijie Cloud Hosting(Asia or Europe)
   - Device Firmware
   - Serial Number

Network Connectivity

1) Whether your device's IP address, gateway, DNS server are configured:

```
Ruijie-Switch#conf t
Ruijie-Switch (config)#ip name-server 8.8.8.8
```

For how to configure those basic network settings, you can refer Ruijie Cloud Cookbook: https://www.ruijienetworks.com/support/documents/slide_73922

2) Verify the connectivity between Ruijie device and Ruijie Cloud. Execute **ping cloud.ruijienetworks.com** on device CLI.

3) Following ports are used for Ruijie Cloud management. Ensure these ports are available and data stream is permitted.

DST.IP	DST.TCP	DST.UDP
cloud-as.ruijienetworks.com	80,443	3478,3479
cloud-eu.ruijienetworks.com	80,443	3478,3479
portal.ruijienetworks.com(Captive Portal) portal-eu.ruijienetworks.com(Captive Portal)	80	

Note: AP and SMB switch have default CWMP setting which allows devices can look for Ruijie Cloud automatically. But for enterprise switch (RG-S29 series), it needs to configure CWMP URL on CLI manually. For more details, please refer Ruijie Cloud Cookbook: https://www.ruijienetworks.com/support/documents/slide_73922.

Device Running Mode (Wireless only)

Verify whether the AP is running in FAT mode, if the device is working in FAT mode, it needs to switch AP into macc mode on WEB or CLI for Ruijie Cloud registration. **Command is shown as below:**

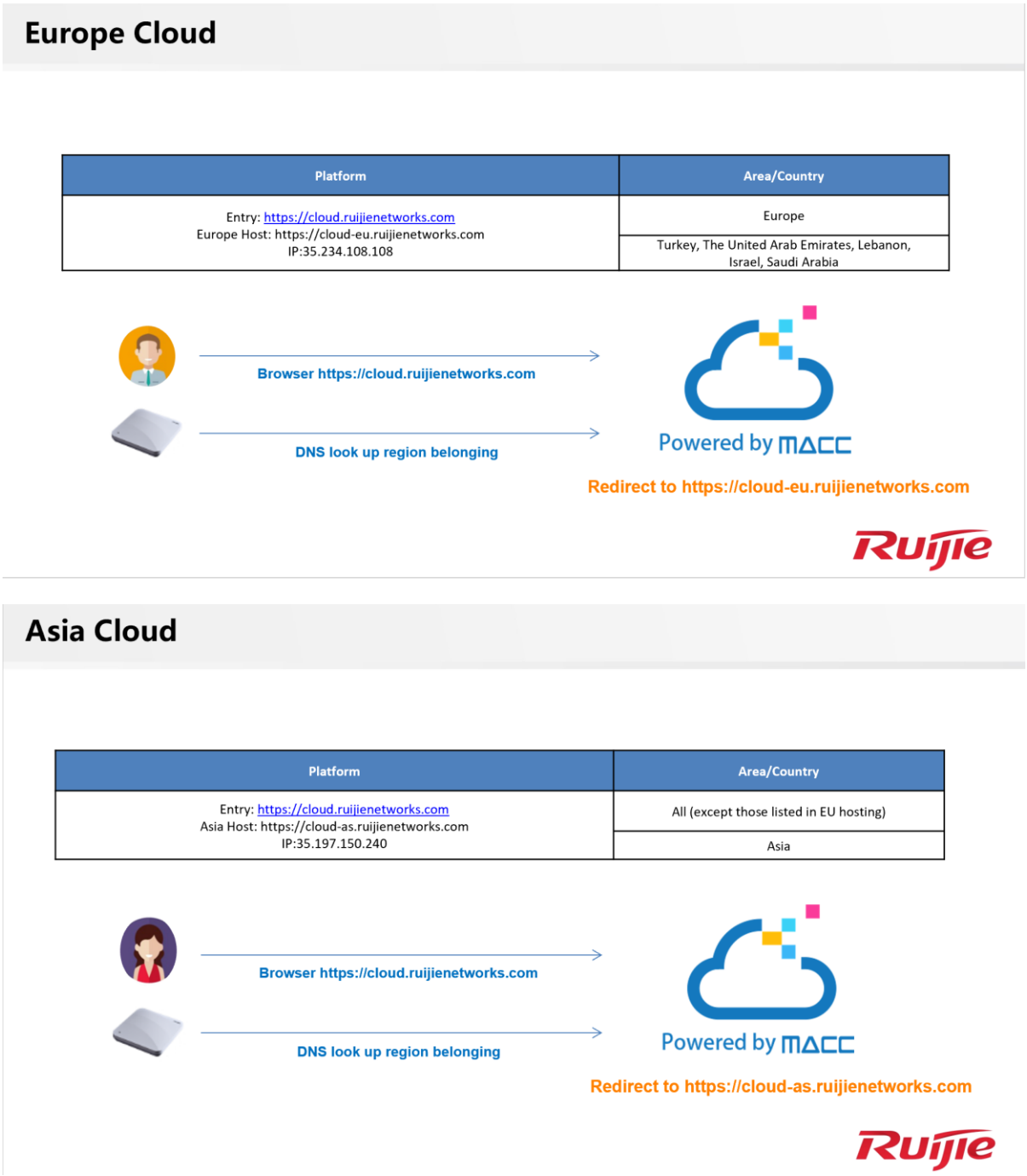
```
Ruijie-Switch#ap-mode macc
```

Note: By default AP is running in FIT Mode and will convert MACC mode automatically once it has Internet access.

Ruijie Cloud Hosting (Asia or Europe)

1) In order to provide smooth access and reduce Internet latency for users in Ruijie Cloud solution. There are 2 Ruijie Cloud hosting installed for global service. The dynamic hosting selection for regions or countries shows as below:

Domain	Area/Country	Hosting
Cloud.ruijienetworks.com Asia:35.197.150.240 Europe:35.234.108.108	Default	Asia
	Aisa	Asia
	Europe	Europe
	Asia_Turkey	Europe
	Russian	Asia
	Aisa_Cambodia	Asia
	Asia_Israel	Europe
	Asia_Lebanon	Europe
	Asia_The United Arab Emirates	Europe
	Aisa_Saudi Arabia	Europe



2) As 2 hosting databases are isolated, if the serial number you input on and the device DNS resolution is not the same hosting, device will not show online. First, verify which hosting you are accessing in browser. Simply login your Ruijie Cloud account, and check the URL link.Cloud-as represents Asia cloud and cloud-eu is Europe Cloud. Then, login device's cli and execute **ping cloud.ruijienetworks.com** and check which IP address is resolved. (Asia-35.197.150.240, Europe-35.234.108.108). Please the cloud hosting you are accessing is same as the one device registered.

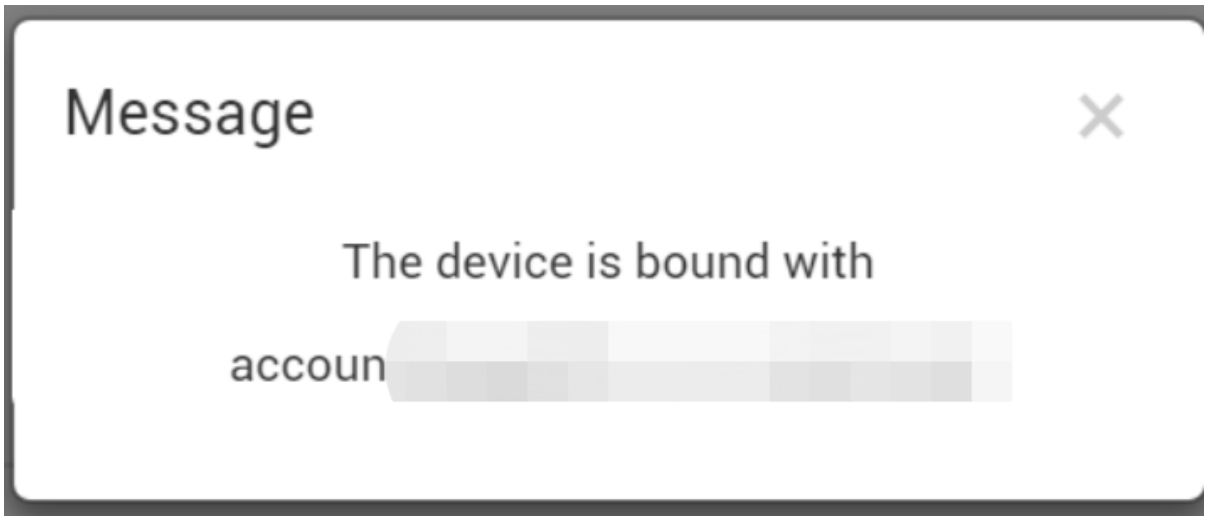
Device Firmware

Whether the device is running the latest firmware as Ruijie Cloud recommended, if the firmware version is too old, it may not be compatible with Ruijie Cloud. User can login device's web or cli and upgrade to latest firmware version. Please refer Ruijie Cloud Supported Model and Recommended Firmware Version: https://www.ruijienetworks.com/support/documents/slide_73633

Serial Number

Whether the device's serial number is matched with the one displayed on Ruijie Cloud. The serial number can be found on device back panel or exec "show version" on CLI.

6.1.2 What can I do if Ruijie Cloud shows “AP was bound by other account" while adding new AP.



Solution:
If you are facing devices bound /used by others account issue. Please Ruijie Online technical support at Skype: service_rj@ruijienetworks.com and list down which **SN and MAC** need to be unbound, and the device's pictures (back panel) should be attached. We will help you to fix this within one workday.

6.1.3 What can I do if The AP is online but stuck on “Not Synced” status

There are several steps needed to be checked, the contents are shown as below:

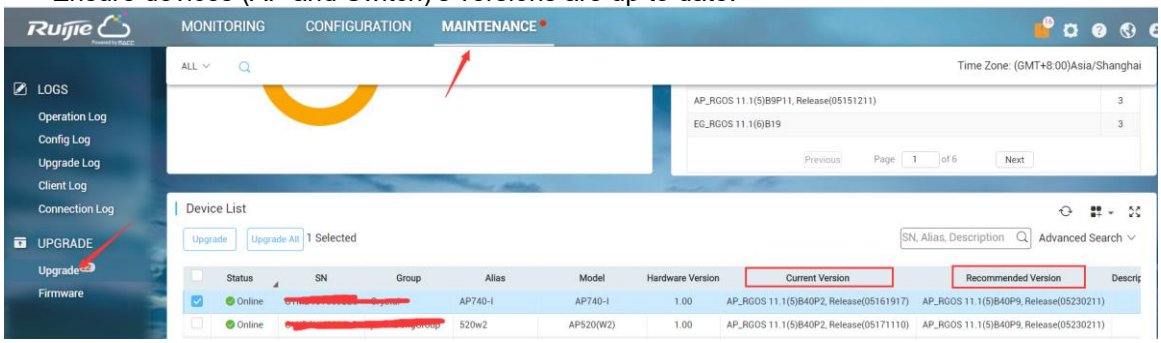
Device Firmware

CWMP Configuration

Config Status

Device Firmware

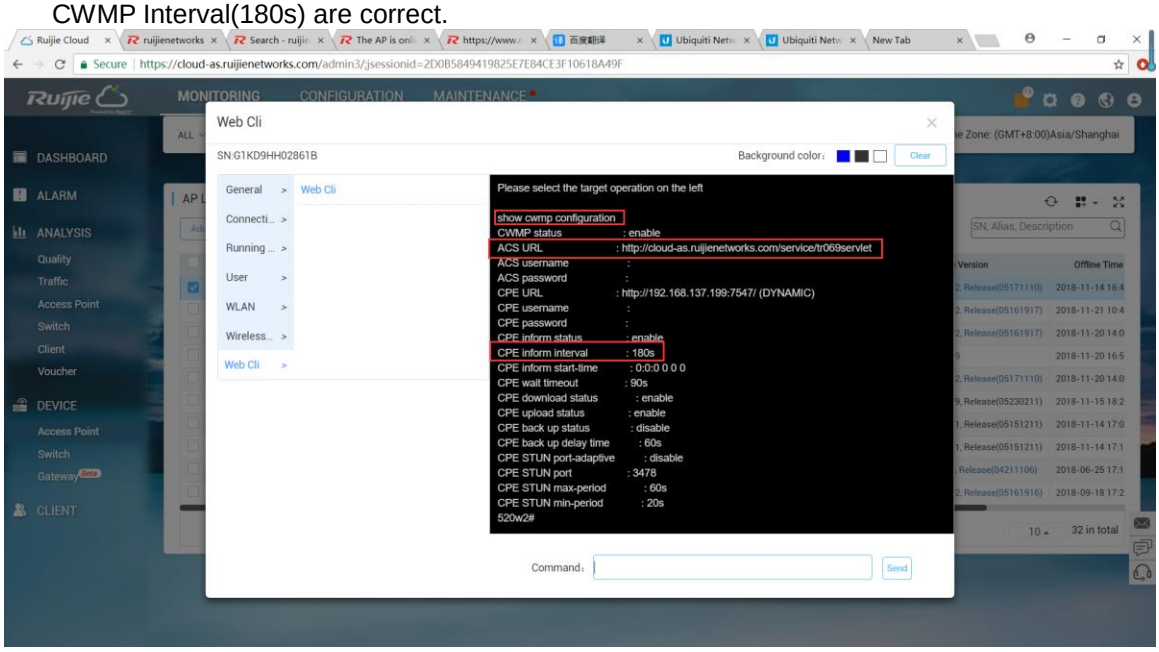
Ensure devices (AP and Switch)'s versions are up to date.



Notes: Cloud configure Facebook Auth or external portal auth with HTTPS URL, this requires to upgrade AP firmware to B40P9 or later.

CWMP Configuration

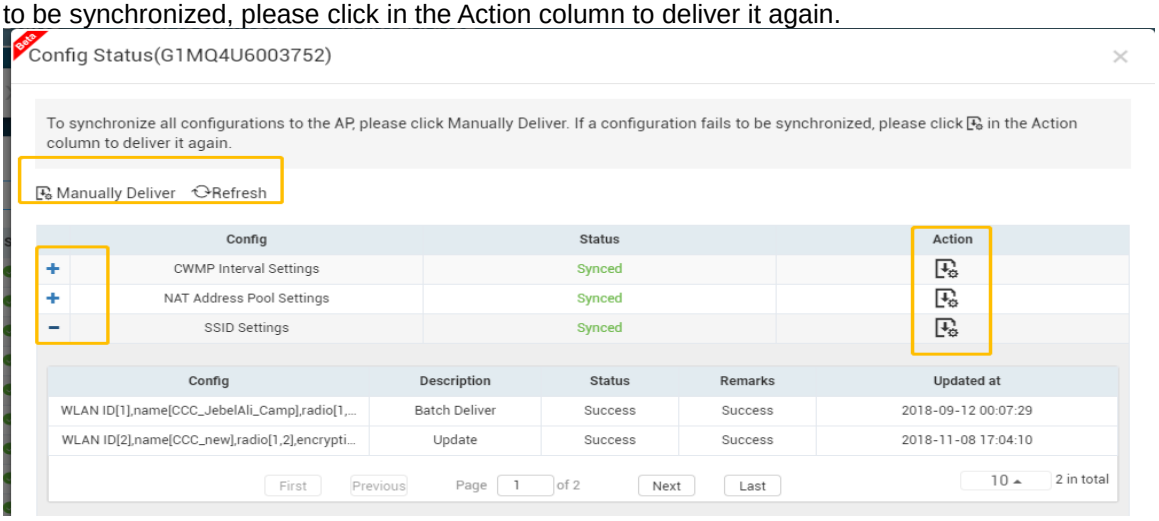
Use command "show cwmp config" on device's CLI and check whether the CWMP URL and CWMP Interval(180s) are correct.



Config Status

Go to MONITORING -> DEVICE ->Access Point, select the device which showing synced fail, click "synced fail" to check the details.

To synchronize all configurations to the AP, please click Manually Deliver. If a configuration fails to be synchronized, please click in the Action column to deliver it again.



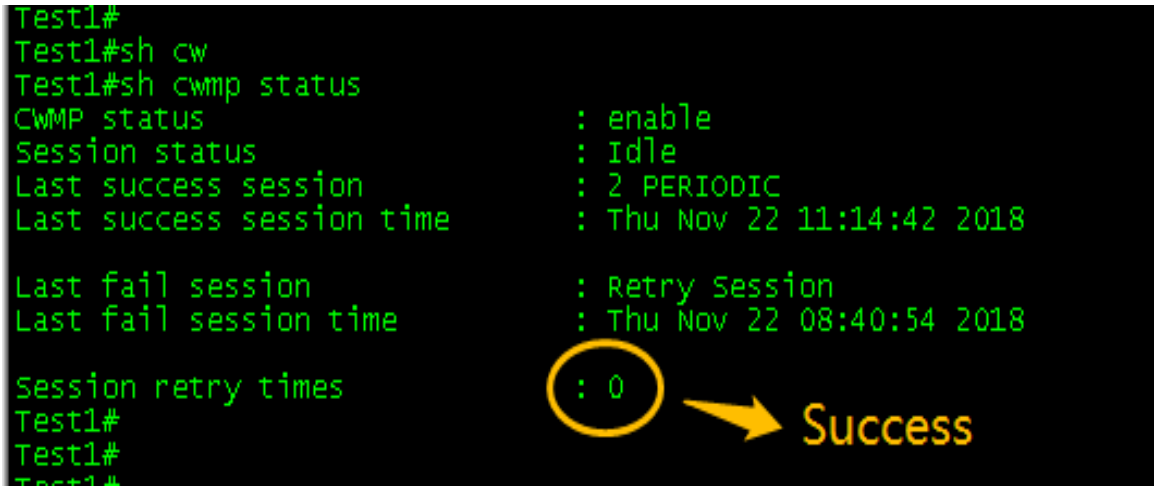
If above steps cannot solve the problem, you can use command perform factory-reset for testing.

Command:

AP(config)#apm factory-reset

6.1.4 What can I do if Gateway always in unauthorized list

- Ensure user input correct WEB password and Gateway access cloud successfully (CWMP and Config Status OK), until Gateway online then Ruijie Cloud will check SN and Password whether correct.
- If WEB password is not correct, please re-input password again at un-authorized list.
- Try Ping and check CWMP Cloud at EG eWEB status as below:



6.2 Configuration

Ruijie Cloud 3.1 can manage wireless and switch device as listed in release note. And this chapter will introduce configuration examples for each function.

6.2.1 What can I do if PPSK Authentication fails?

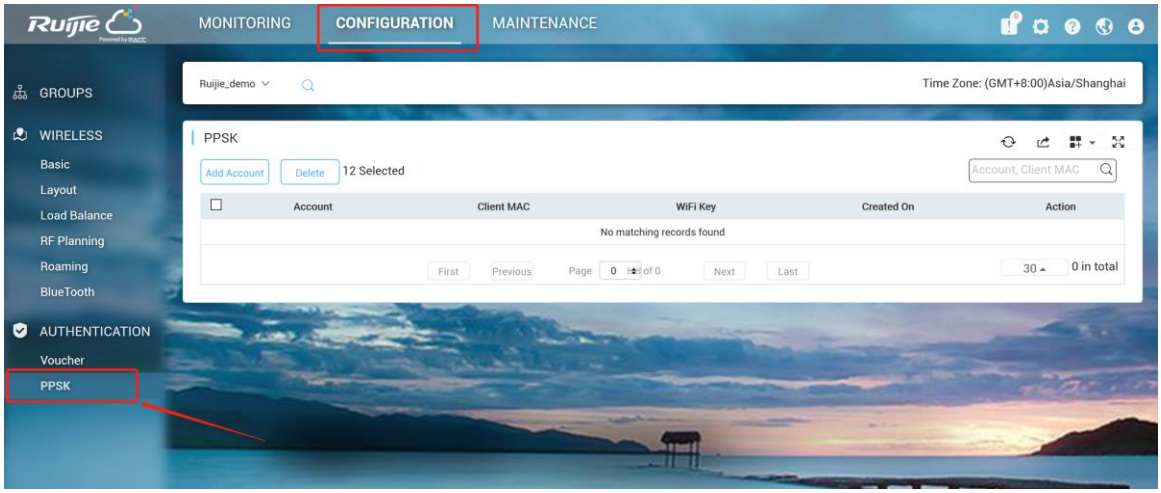
PPSK provides high security by using different passwords for each user and device at individual SSID. The PPSK consists with 2 components:

There are several steps needed to be checked, the contents are shown as below:

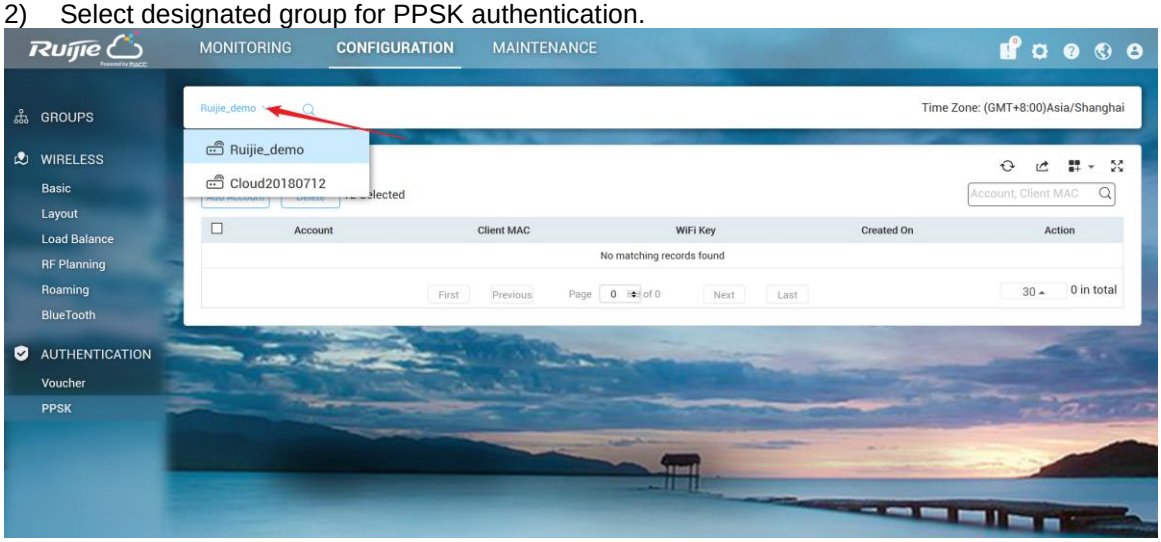
- Baisc Configuration
- Function Limitation
- Further Troubleshooting

Basic Configuration

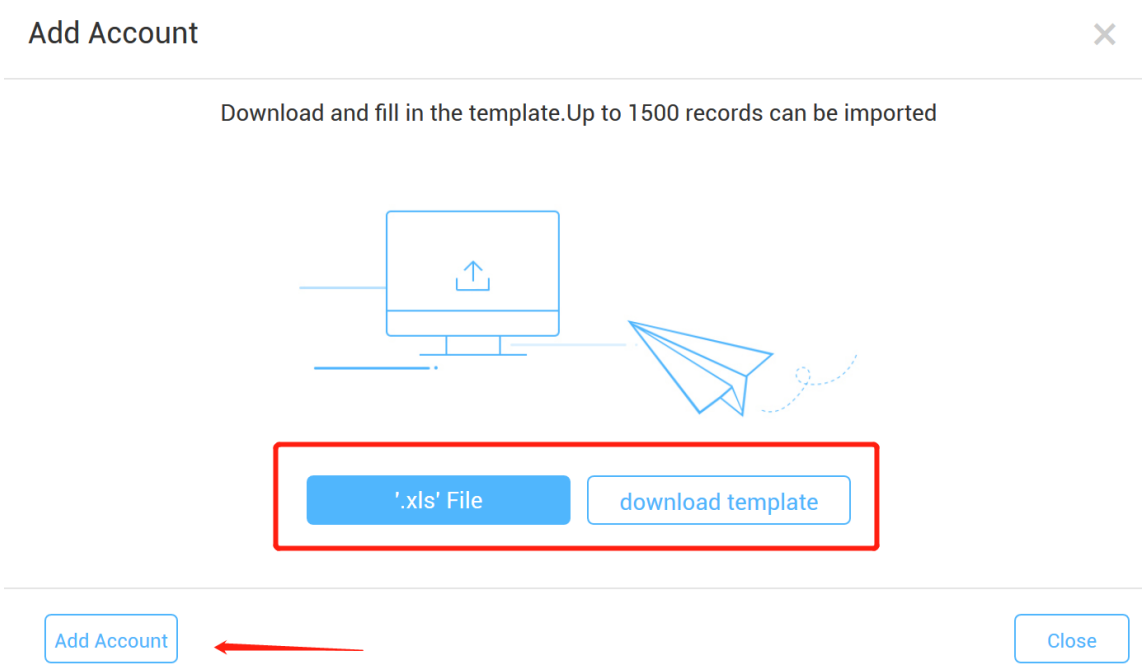
1) Choose CONFIGURATION->PPSK.



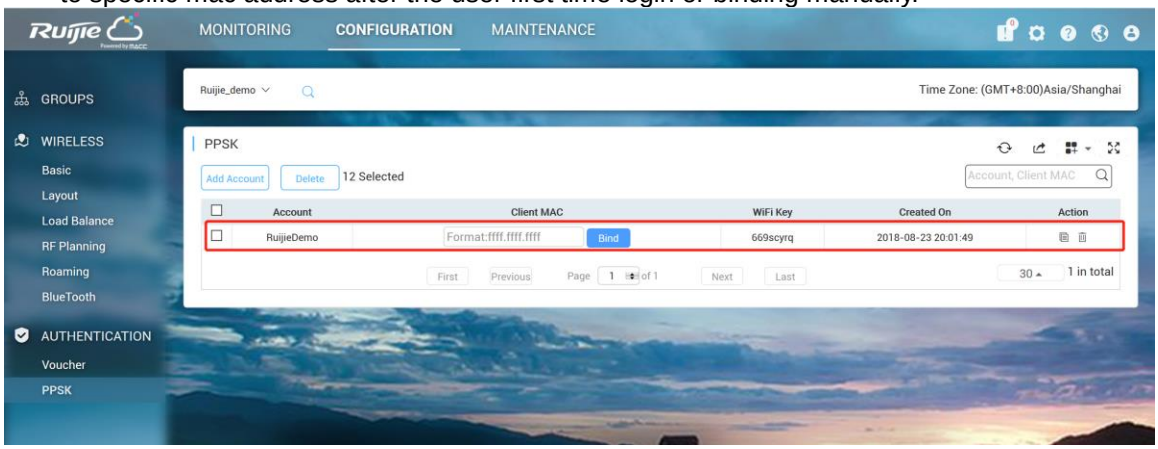
2) Select designated group for PPSK authentication.



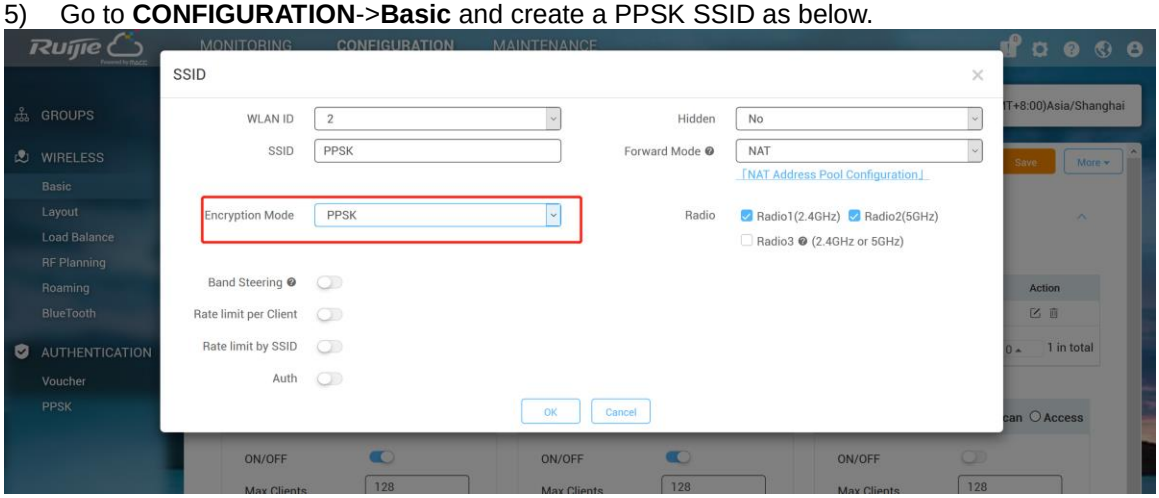
3) Click **Add Account** to initialize Wi-Fi keys for your guest to login your network.



4) After Wi-Fi keys are generated, you can view all the keys for your users. And it will be mapped to specific mac address after the user first time login or binding manually.



5) Go to **CONFIGURATION**->**Basic** and create a PPSK SSID as below.

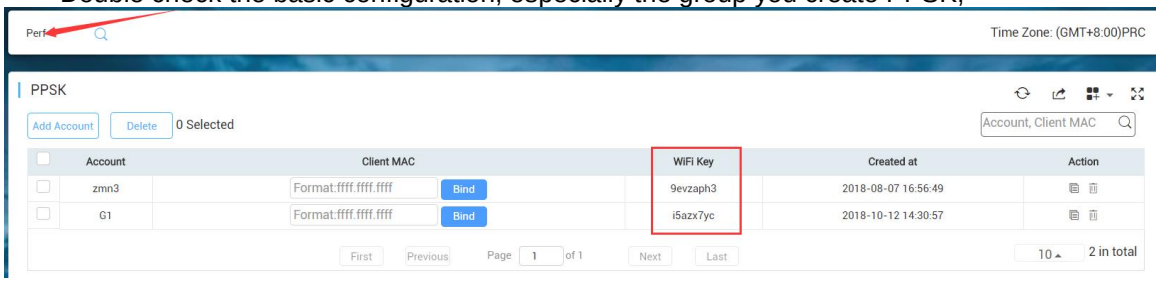


Function Limitation

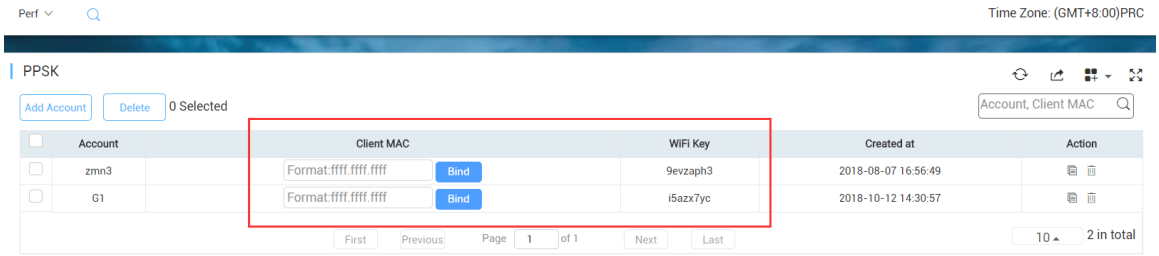
- The PPSK function only supports importing **1500** passwords.
- PPSK is based on MAC address binding of terminals, and multiple devices under the same user also need to login with different passwords.
- Each AP can only configure **a PPSK authentication SSID**.
- The PPSK password is generated randomly and does not support custom password format.
- The AP can support PPSK only after upgrade to **B40P2** or later version.
- There is no validity date for PPSK, which could be used all the time once created.
- The PPSK could be created manually or by batch import;
- The AP130(L) does not support PPSK;
- Only the Sub account user who is assigned with the root group is able to configure PPSK.

Further Troubleshooting

- Double check the basic configuration, especially the group you create PPSK;



- Check if the WIFI key has been occupied by other terminals, if yes, the client mac should be bind.



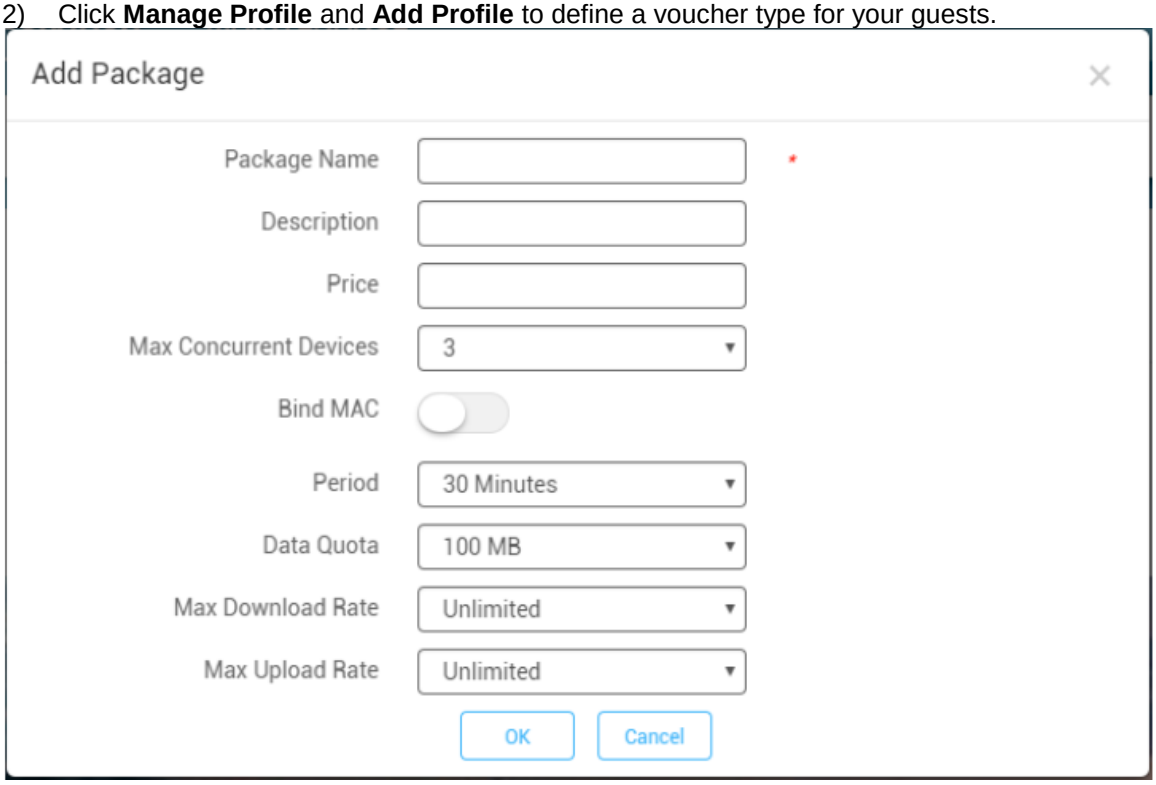
- Check if the WIFI key has been removed or deleted from Ruijie cloud.

6.2.2 How to configure the Voucher Authentication

Voucher authentication on Ruijie Cloud allows you to charge users for wireless network access using access codes. Concurrent users, time period and data quota limit can be customized and offer to your guests.

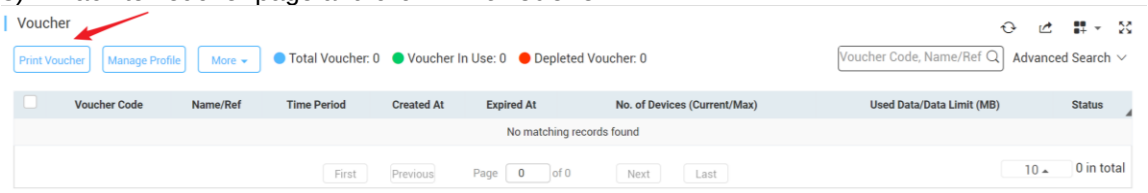
Configuration Steps

1) Navigate to **CONFIGURATION**->**AUTHENTICATION**->**Voucher.**
2) Click **Manage Profile** and **Add Profile** to define a voucher type for your guests.

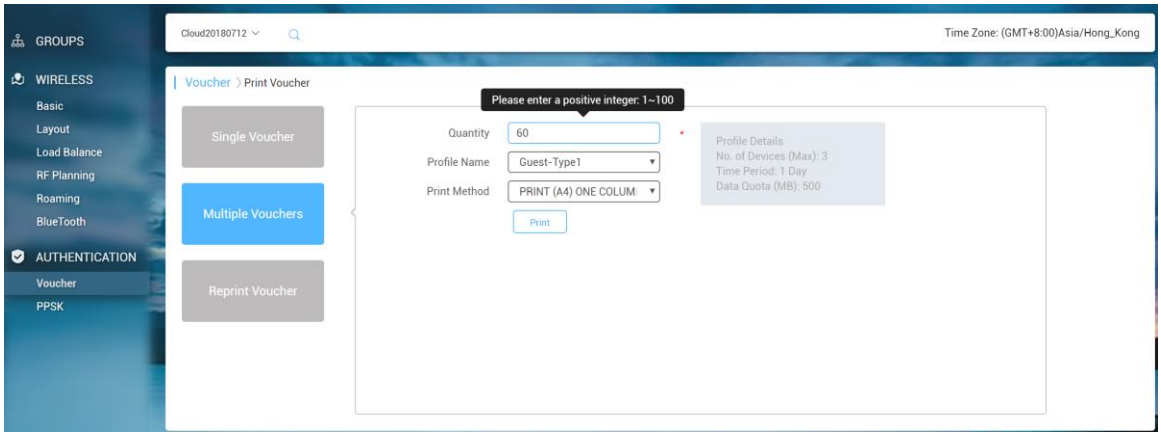


Note: Max Concurrent Devices: If disabled bind MAC, means MAX concurrent online mobiles; if enabled bind MAC, means MAX bound mobile MAC address even user offline also counted. MAC will be bound at first time login in with Voucher.

3) Back to voucher page and click **Print Voucher**

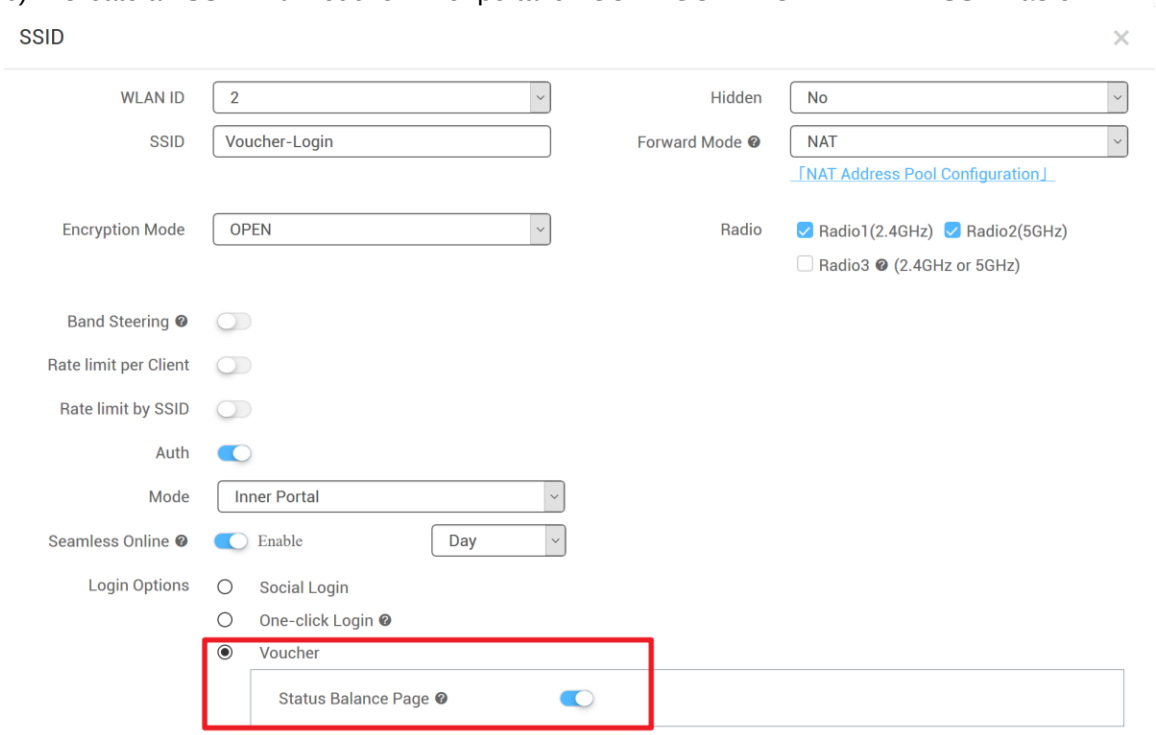


4) Select the way you want to print voucher codes and fill the quantity if you are selecting Multiple Vouchers.

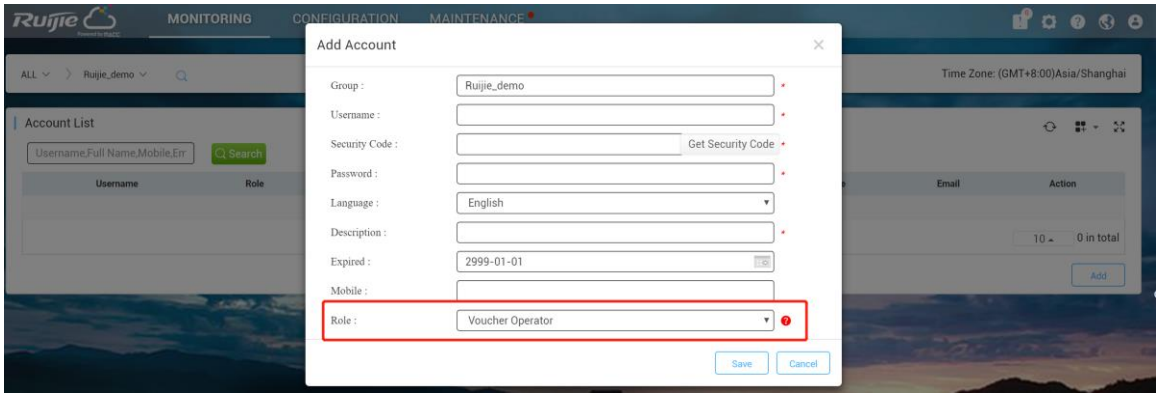


5) Click the **Print** button

6) Create an SSID with voucher inner portal on **CONFIGURATION**->**WIRELESS**->**Basic**



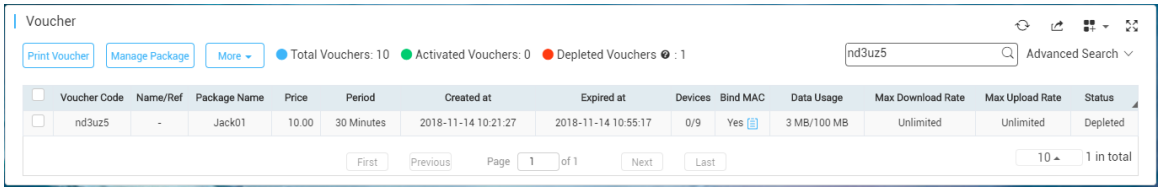
7) *(Optional)* Click **Sub Account** on top right corner and create an account as voucher operator role who can only view the voucher page.

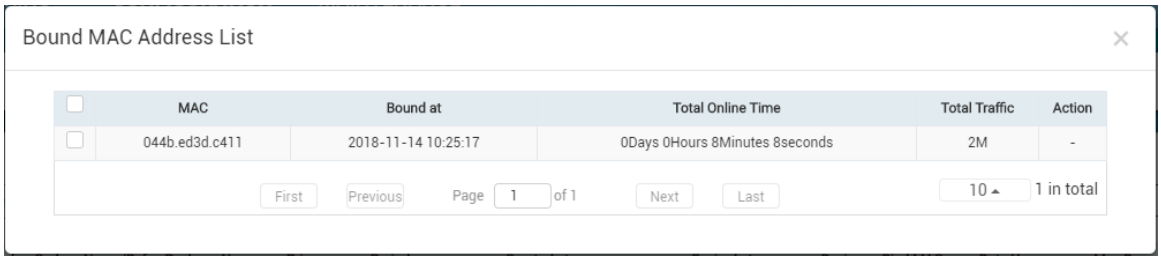


8) *(Optional)* Bind/Unbind MAC

If **Bind MAC** is enabled for the package, the voucher code used by a device will be bound with its MAC address. The number of bound MAC can be set in **Max Concurrent Devices**. When the **Status** is **Activated** or **Depleted**, you can click

in the **Bind MAC** column to unbind MAC addresses.



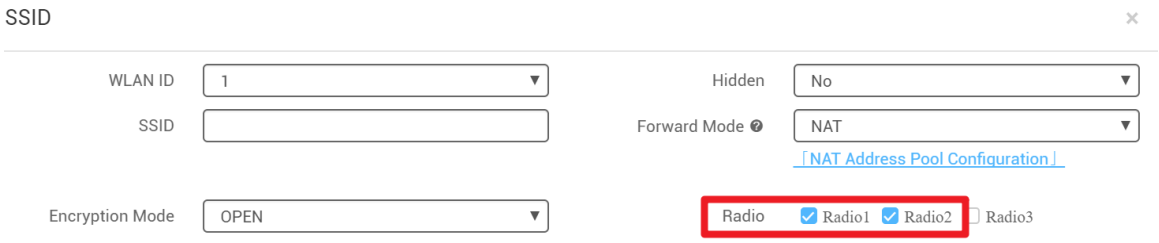


6.2.3 What can I do if Wireless STA shows IP address “0.0.0.0” on Client List

There are 2 possibilities may cause this problem:

- No traffic flow upload to AP after client connected
- It will take around 5 minutes to refresh the data on Ruijie Cloud

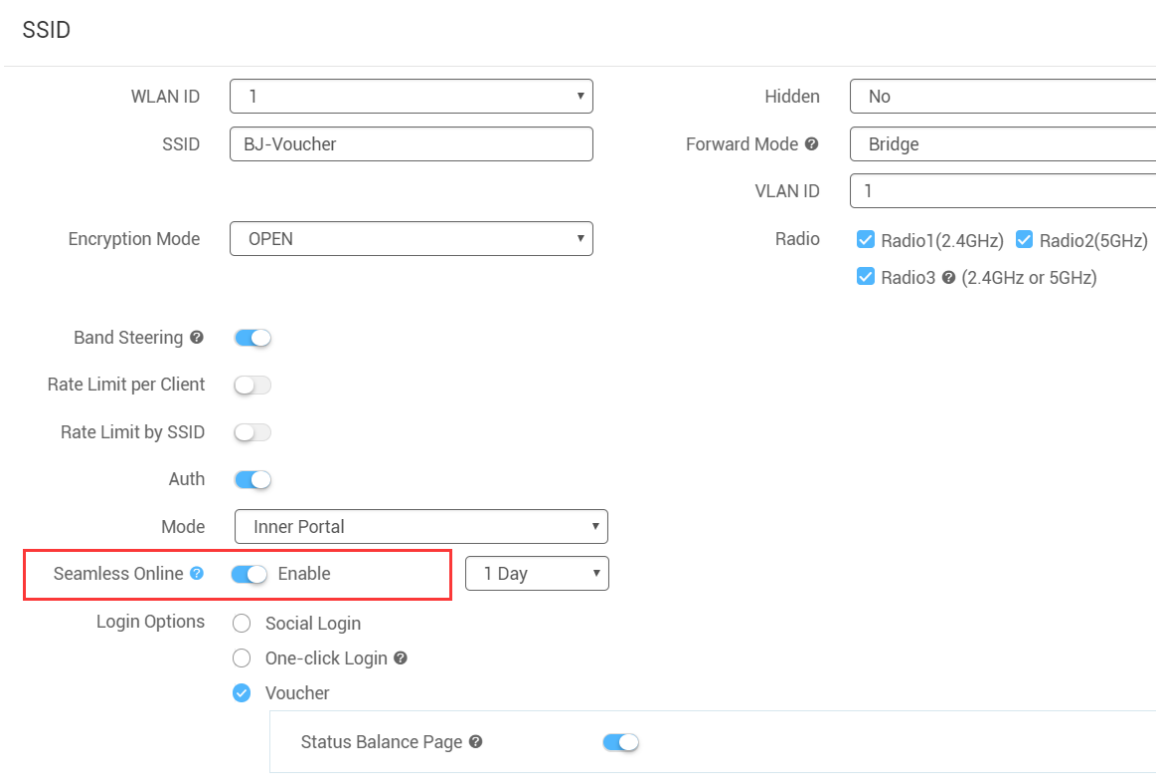
6.2.4 How to choose 2.4GHz and 5GHz Radio interface for Access Point?



- Radio 1 represent 2.4GHz
- Radio 2 represent 5GHz

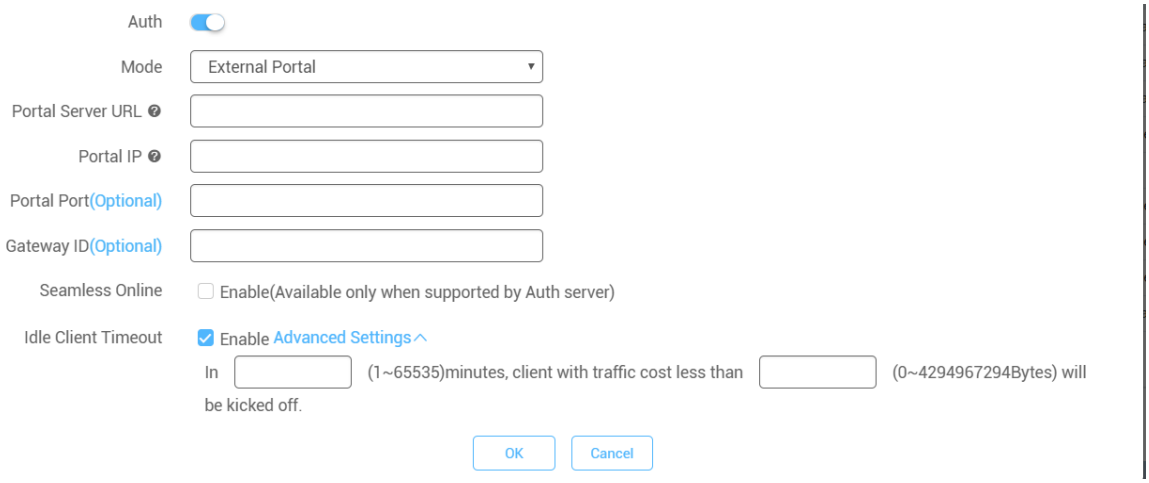
6.2.5 How to disable WEB portal page after user roaming to other APs?

In WEB authentication scenario, user can enable “Seamless Online” function on SSID page for seamless roaming.



6.2.6 How to configure idle-timeout on Ruijie cloud

- If the auth mode is external portal, you could go to CONFIGURTION -> Basic, edit SSID, and set the idle client timeout on advanced setting;



- If your auth mode is inner portal, you could execute command on CLI page, the example is shown as below:

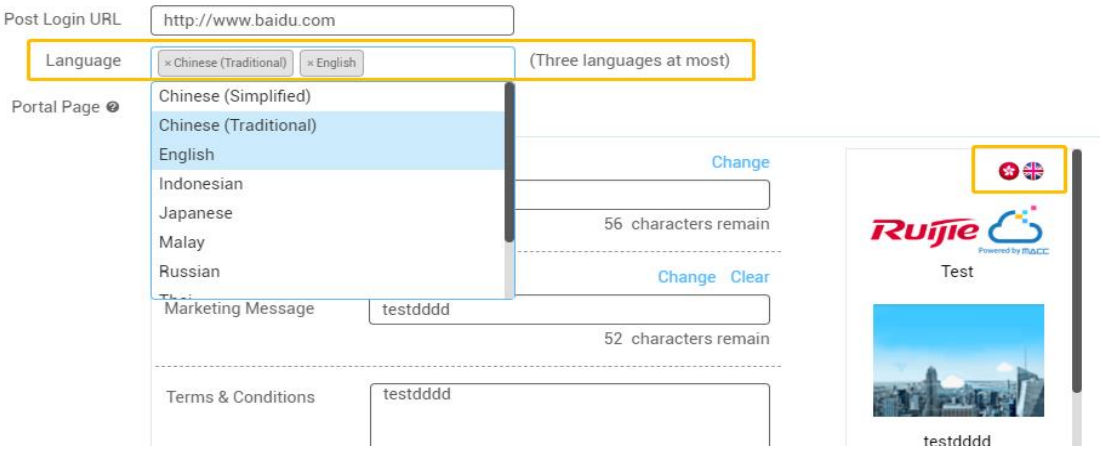
  AP(config)#wlansec 1

  AP(config-wlansec)#web-auth offline-detect interval ?

  <1-65535> In Minutes, default 15

6.2.7 How many language supported on portal page?

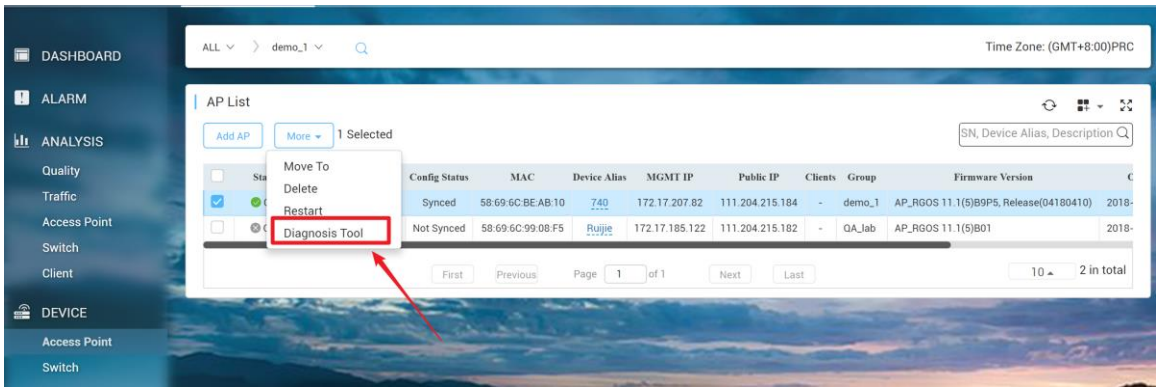
- 10 Languages Supported: English, Indonesia, Malay, Thai, Turkish, Vietnamese, Russian, etc.
- 3 Languages Selected at Each Time: can select 3 language for one portal page.



6.3 Maintenance

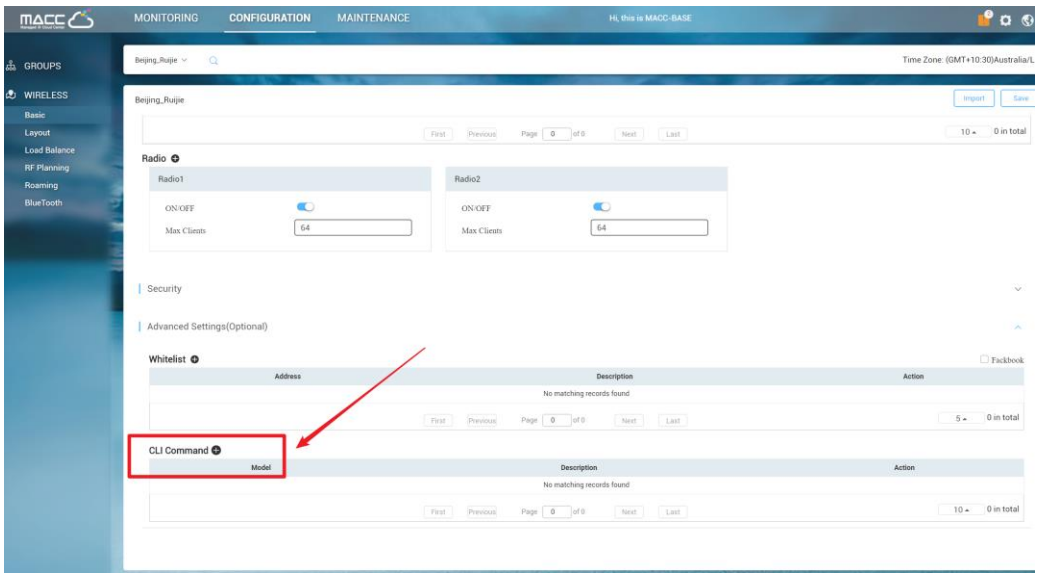
6.3.1 How to use WEB CLI for device on Ruijie Cloud?

Choose designated device and click **More**->**Diagnosis Tool**



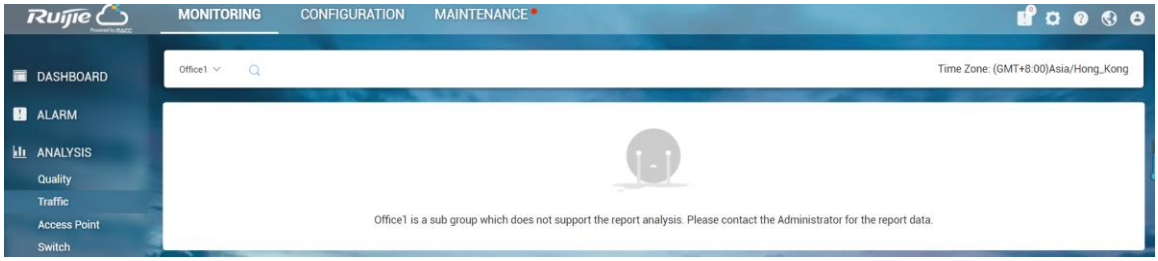
6.3.2 How to configure the function which Ruijie Cloud doesn't support?

Click **CLI Command** on **CONFIGUATION**–>**Basic** and add the command that needs to be configured.



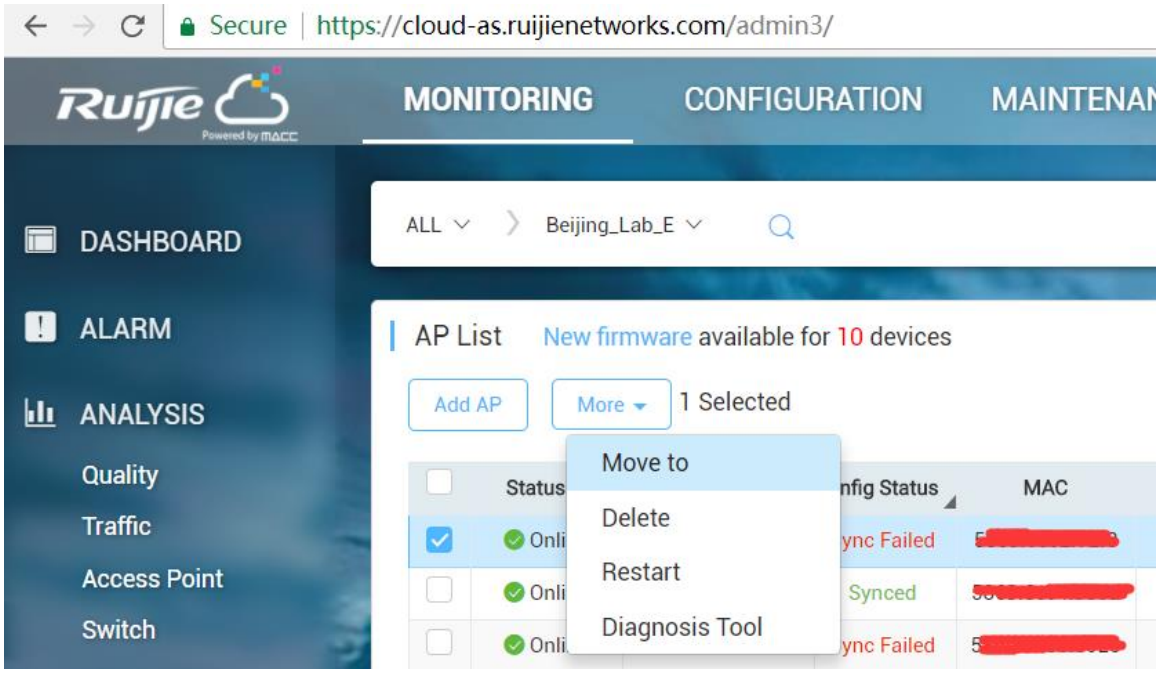
6.3.3 Why there is no traffic displaying on analysis->traffic page?

Only the sub account of layer-1 group can view statistics in Analysis.



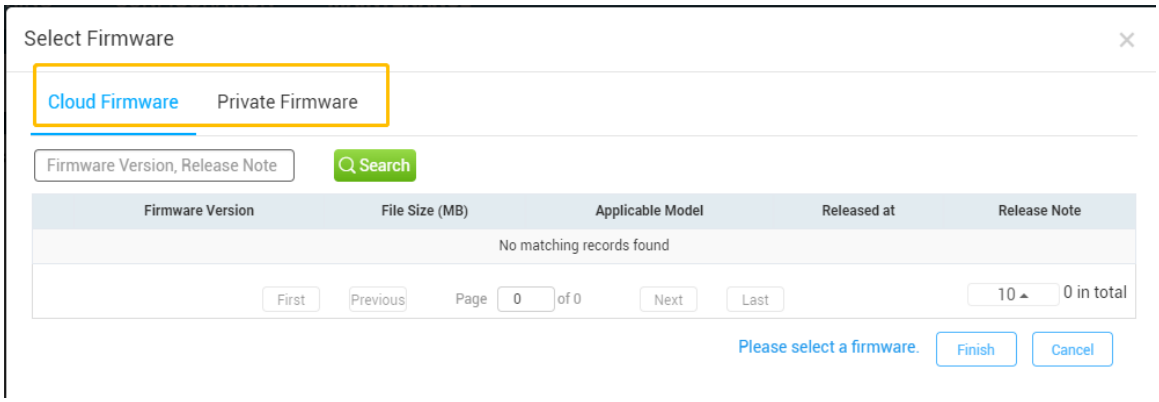
6.3.4 How to move AP from group 1 to other group?

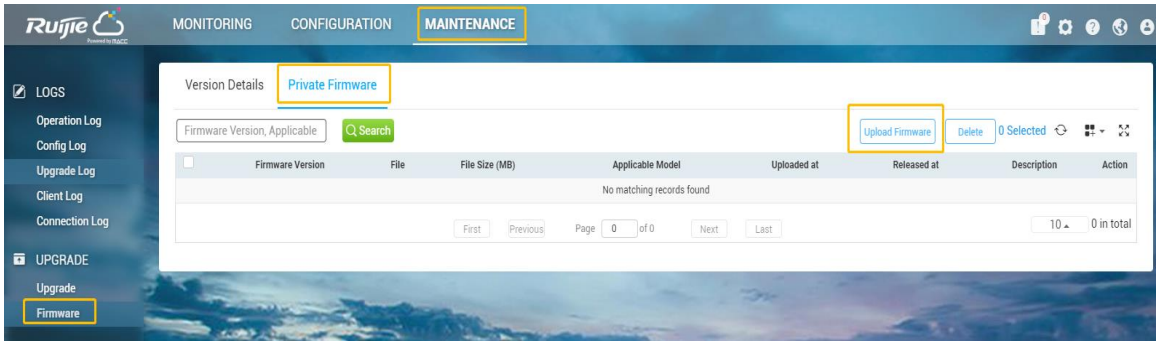
Go to MONITORING -> DEVICE ->Access Point page, select AP, click More, choose move to on the dropdown list to move the AP to the other group as required.



2.3.5 Why Cannot See Recommended Firmware?

- Every day 4:00 AM (Aisia Cloud UTC+8 4:00AM, Europe Cloud UTC+1 4:00 AM) cloud will check latest firmware and recommend to upgrade.
- If urgently need upgrade the AP, please download the firmware from official website or get from TAC team, then upload firmware by yourself to upgrade.





6.4 Appendix-- Common Troubleshooting & Debugging Command

6.4.1 Check STA Traffic on AP: *show wqos control flow sta ipv4*

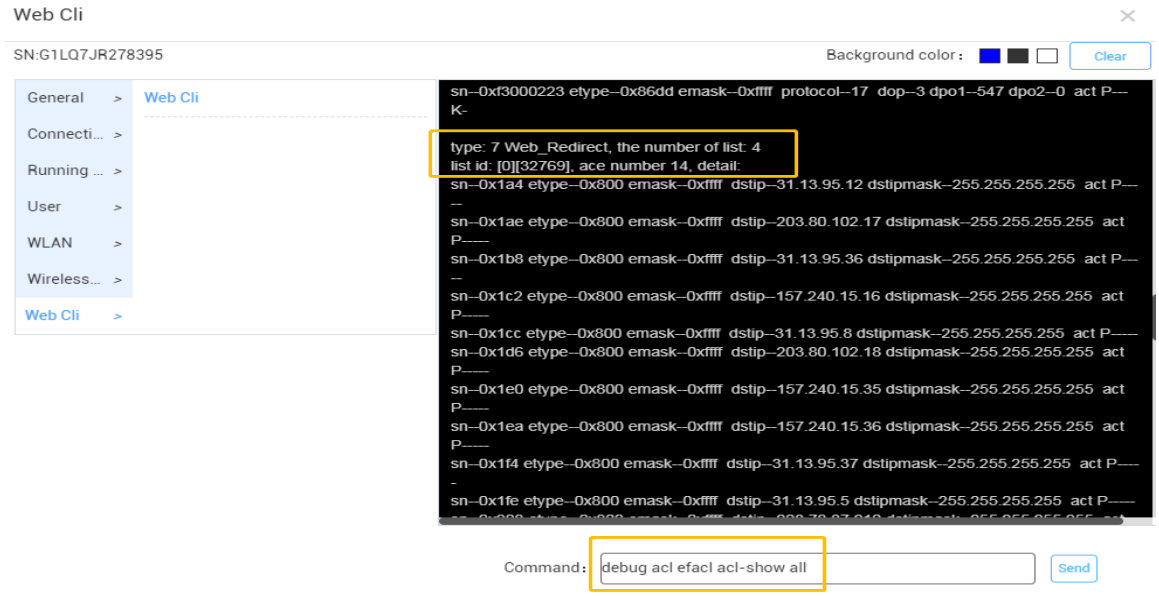
```
520w2#sh wqos control flow sta ipv4
wqos fs sta cnt: 1

mac             up/down last sec<pkts,bytes> last min<pkts,bytes> total<pkts,bytes>
--------------- ------- -------------------- -------------------- --------------------
8C85.90B2.0D21 up       <        0, 0       > <       35, 4500    > <      612, 72488   >
               down     <        0, 0       > <       27, 9214    > <      435, 76404   >
520w2#
```

6.4.2 AP not traffic display on Cloud: *debug macc log info*

6.4.3 Debug WiFidog Authentication Interaction: *debug web wifidog*

6.4.5 Debug Print More: debug syslog limit numbers 0 time 0 > y

6.4.6 Check STA Speed Limit Status: show wqos con rate-limit sta-info

```
520W2#show wqos con rate-limit sta-info
wqos rl sta cnt: 1
  mac address  wlan online rate-limit-type up-avg     up-burst   down-avg   down-burst
-------------- ---- ------ --------------- ---------- ---------- ---------- ----------
8C85.90B2.0D21 1    1      static          0          0          0          0
                           dynamic         640        640        640        640
520W2#
520W2#
```

6.4.7 Check Root Cause of Facebook Login fail: *debug acl efacl acl-show all*