# User Manual

## ( WAP-8021)

# Default Settings

| IP Address | 192.168.188.253 |
|---|---|
| Password | admin |
| WiFi SSID | LevelOne 2.4G  /  LevelOne 5.8G |
| Password | 66666666 |

# Attention:

## Check box contents:

1. Power Adapter
2. RJ45 Network Cable
3. Resource CD (User Manual, QIG)
4. Quick Installation Guide
5. Antenna

## 6. Warning:



**Attention**

- Do not use the product in high humidity or high temperatures.
- Do not use the same power source for the Product as other equipment. Only use the power adapter that comes with the package. Using a different voltage rating power adapter may damage the device.
- Do not open or repair the case yourself. If the Product is too hot, turn off the power immediately and have it repaired at a qualified service center.
- Place the Product on a stable surface and avoid using this product and all accessories outdoors.

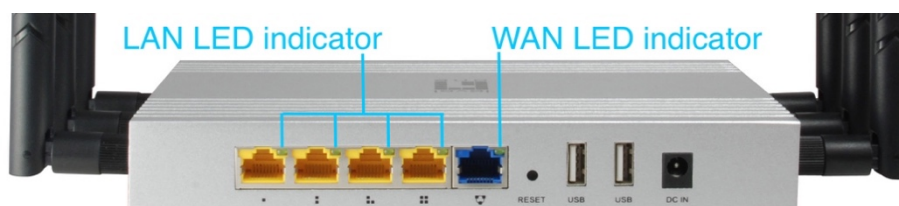# Contents

# Enable the status of Gateway Mode or WISP Mode

# Chapter 1   Hardware and Operation mode Instruction

## 1.1   LED indicator:



▲ Front View of the WAP-8021

| Color | Status | Description |
|---|---|---|
| -- | Off | The WAP-8021 is not receiving power. |
| Green | On | Device Startup state |
| Green | Fast Blinking | Reset to Defaults |
| Blue | Blinking | WIFI SSID Broadcast ON |



▲ Rear View of the WAP-8021

| LED | Color | Status | Description |
|---|---|---|---|
| LAN (10/100/1000Mbps RJ45 Ports) | Green | Fast Blinking | The port is transmitting/receiving packets |
| | Green | Solow Blinking | On LAN is connected |
| | -- | Off | The port has no active network cable connected, or it is not established a link to connected device. |
| WAN (10/100/1000Mbps RJ45 Ports) | Green | Fast Blinking | The port is transmitting/receiving packets |
| | Green | Solow Blinking | On WAN is connected |
| | -- | Off | The port has no active network cable connected, or it is not established a link to connected device. |

## 1.2 AP Interface:
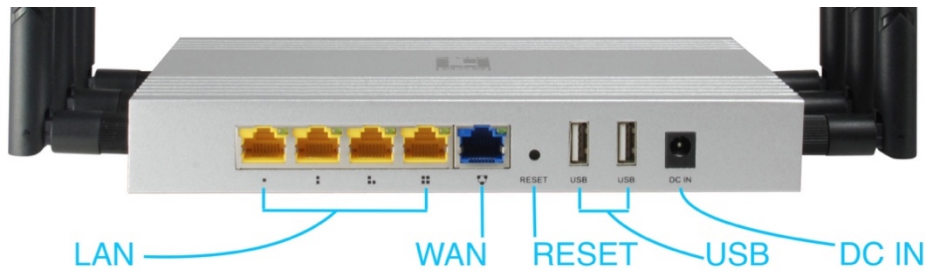


| LED/Button/Interface | Description |
|---|---|
| LAN port<br>(10/100Mbps RJ45 port) | The LAN port is used to connect to network devices, such as a switch or PC / NB |
| WAN port<br>(10/100Mbps RJ45 port) | The WAN port is used to connect to network devices, such as xDSL Modem Router<br>**Note:** The factory default is AP mode. WAN port functionality is available only in Gateway mode. |
| RESET<br>(Reset to Default) | With the AP powered on, press the Reset button for 8~10 seconds until the Signal Strength LED blink faster than ever. The AP will restart itself and reset the device to factory default settings. |
| USB port | To connect with USB storage device. (Recommended Format to **NTFS**) WAP-8021 share the files in USB disk to public users through SAMBA server.<br>**Note:** Storage/server functionality is available only in Gateway mode. |
| DC IN | 12V/1.5A DC input Power Adapter |

# Chapter 2　Login

The necessary information about log in is displayed on the sticker of the product, including the URL, User Name and Pass Word

1.Connect the Ceiling AP with computer

2.Configure the PC's local connection IP address as 192.168.188.X (X is number from 2 to 252), subnet mask is 255.255.255.0, follow P1 and P2 to finish.
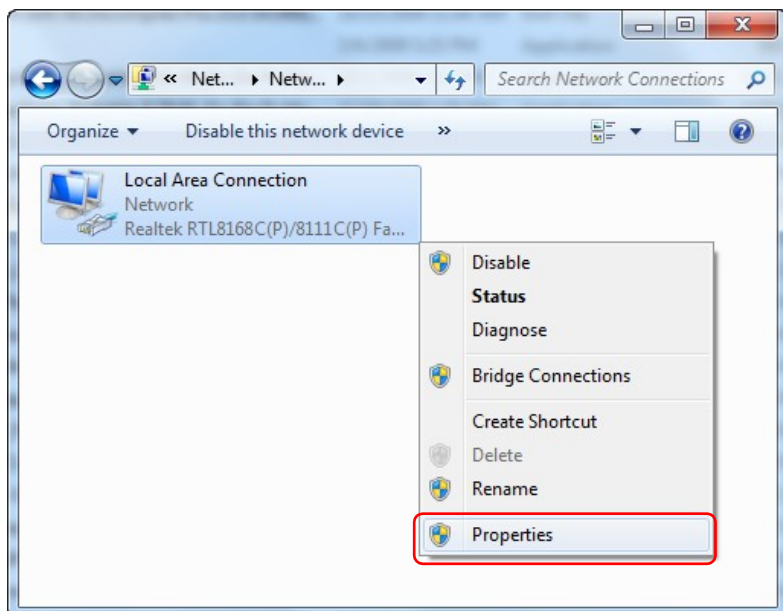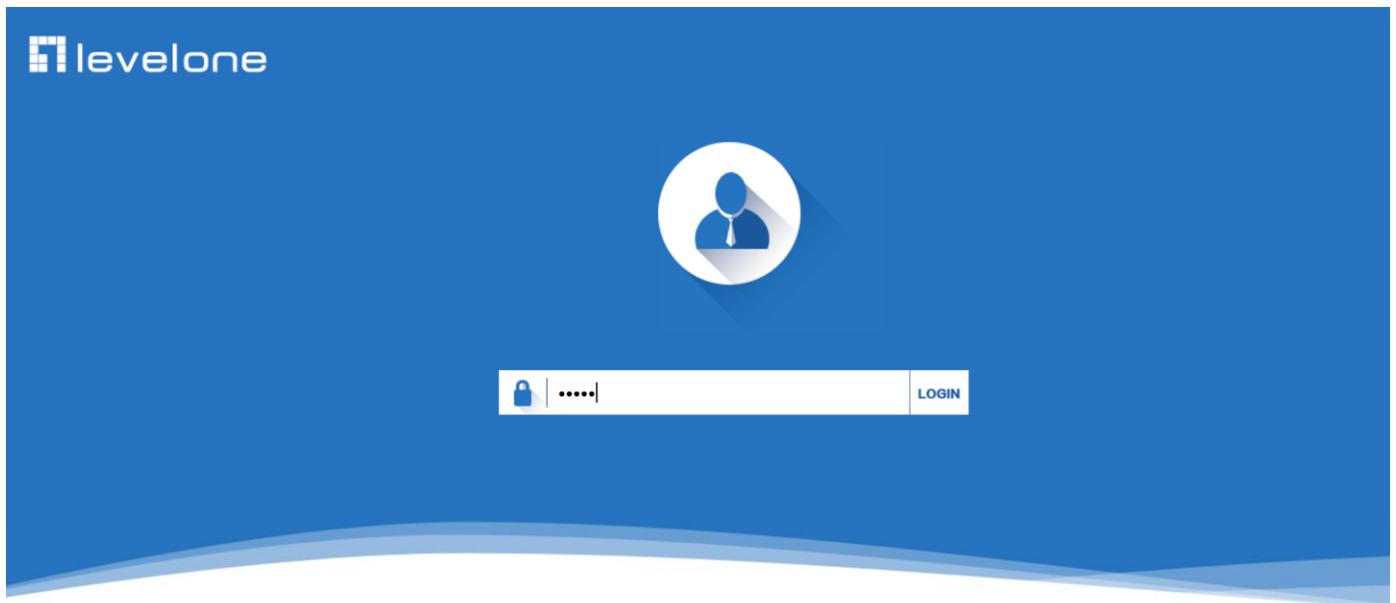
▲ P1 Setting of computer's IP address
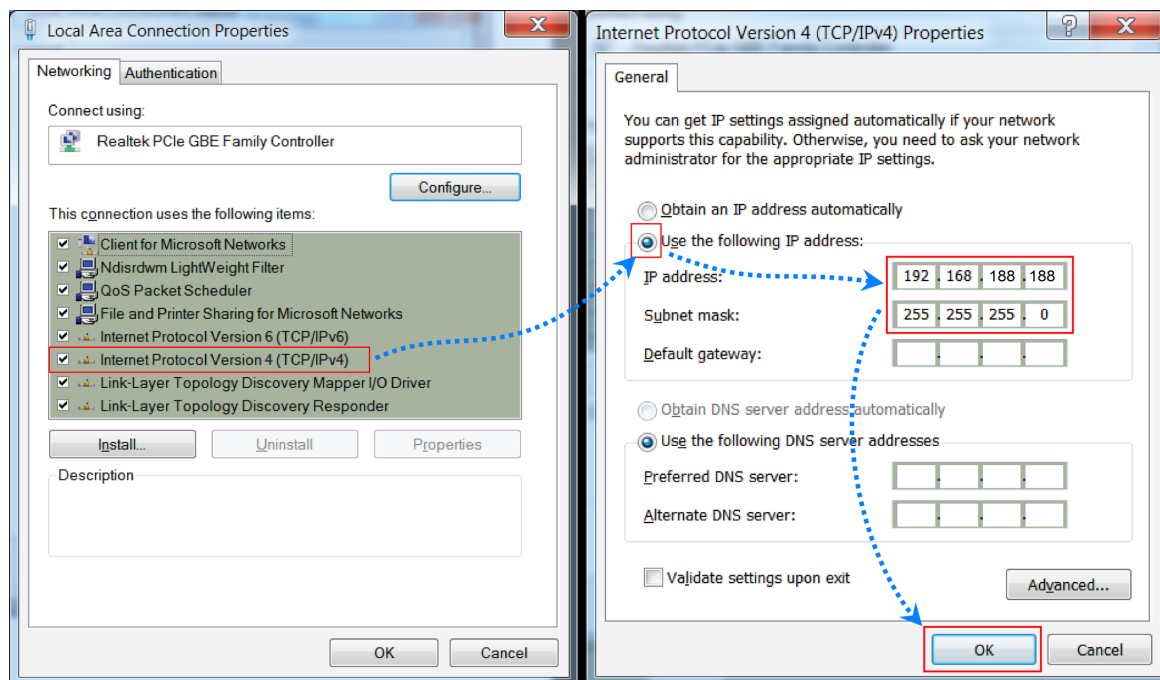
▲ P 2 Setting of computer's IP address

3.Input 192.168.188.253 into browser, then pop up the login page, the default login password: admin, then login,
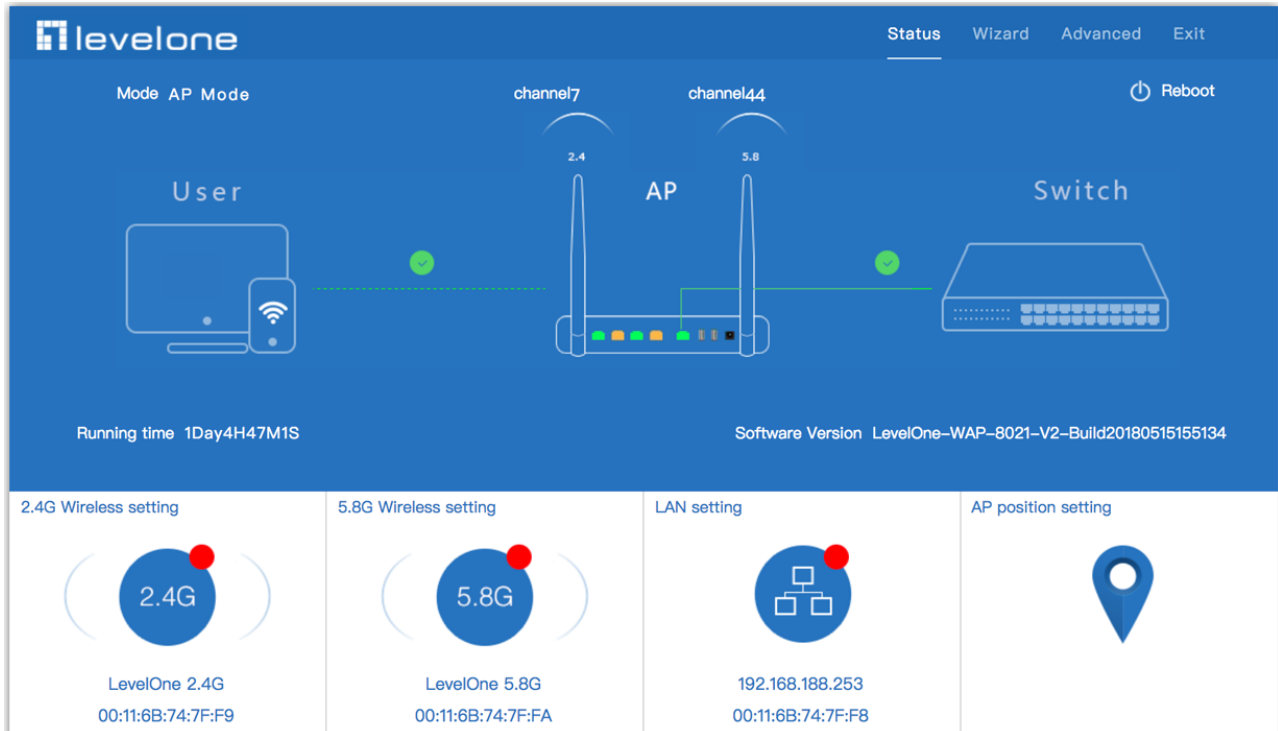


4.After login, then P4 Device Status will be showed;

This page will show the Wireless AP's default operation mode, channel, connection status, CPU usage, Wireless settings, LAN Setting, Wireless AP's Location, hardware/firmware version.
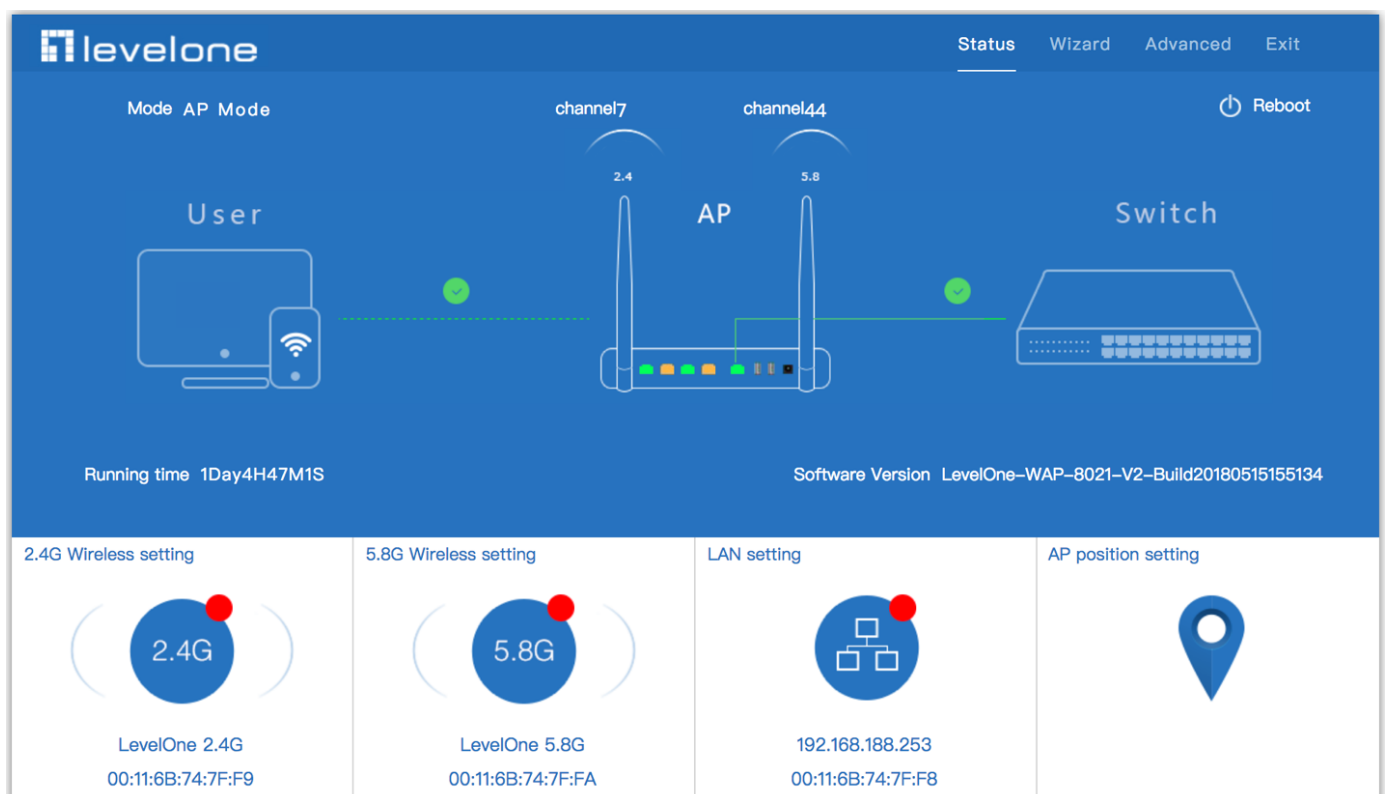
# Chapter 3  WEB GUI interface Setting

## Status:

1.Then in Wireless Setting, GUI configuration page showed as below:



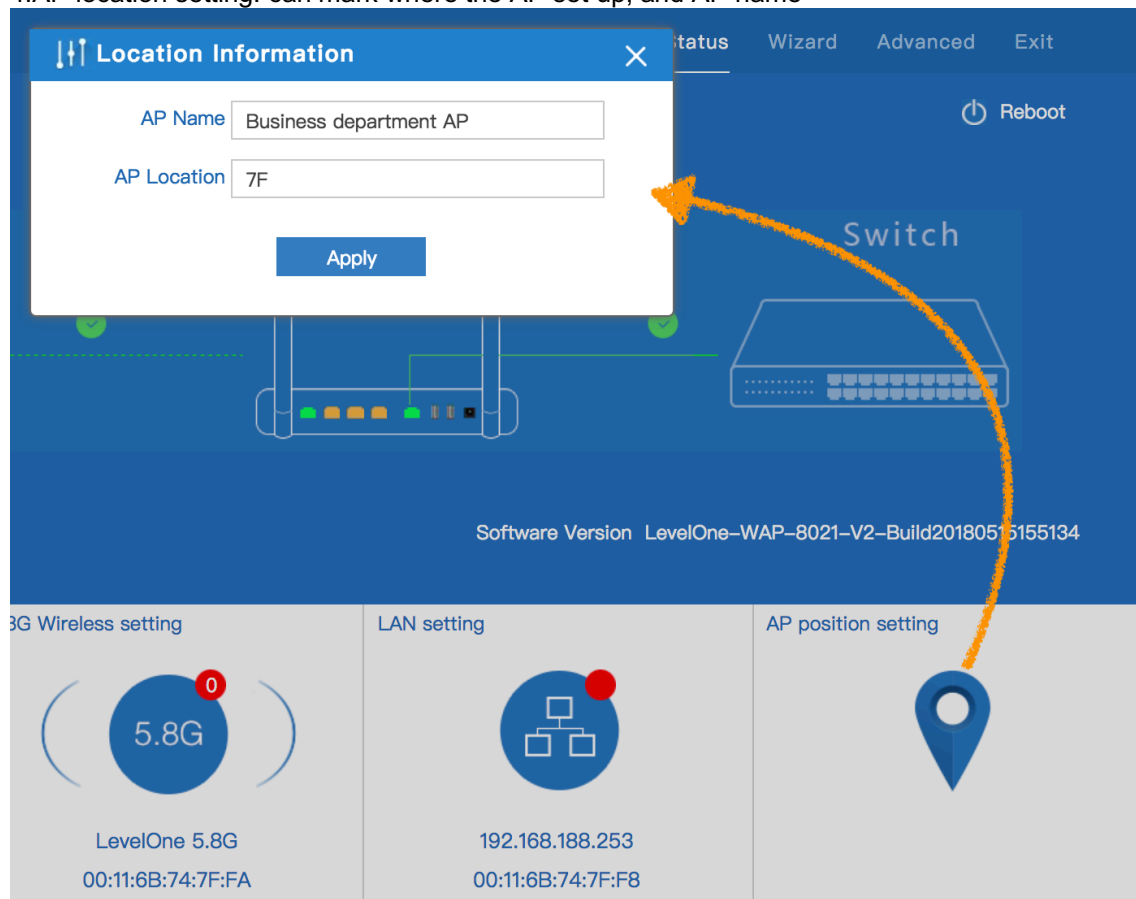2.Then in Wireless Setting, GUI configuration page showed as below:
User can configure the SSID, password, band width, channel here, then Apply to finish.

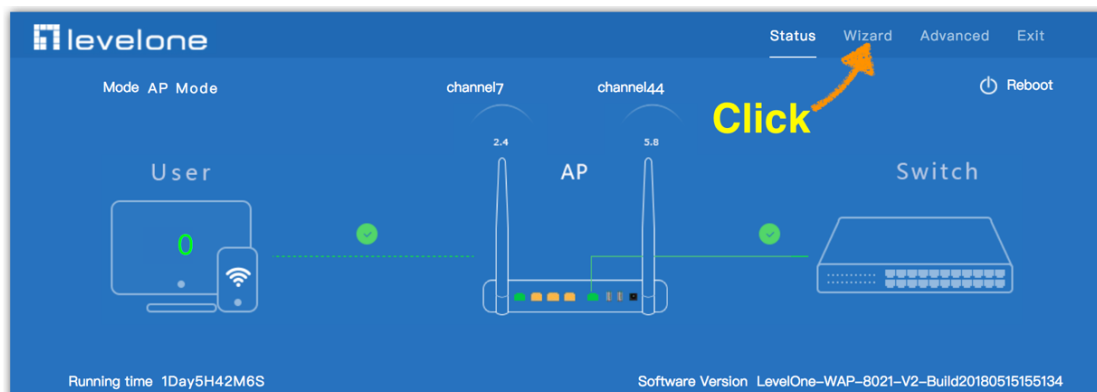3.LAN Setting to configure the Static IP or DHCP from Controller



4.AP location setting: can mark where the AP set up, and AP name

# 3.1 Wizard :

1.Click Wizard in Status page, will pop up following page to configure the operation mode and there are explanation for each operation mode for better application.
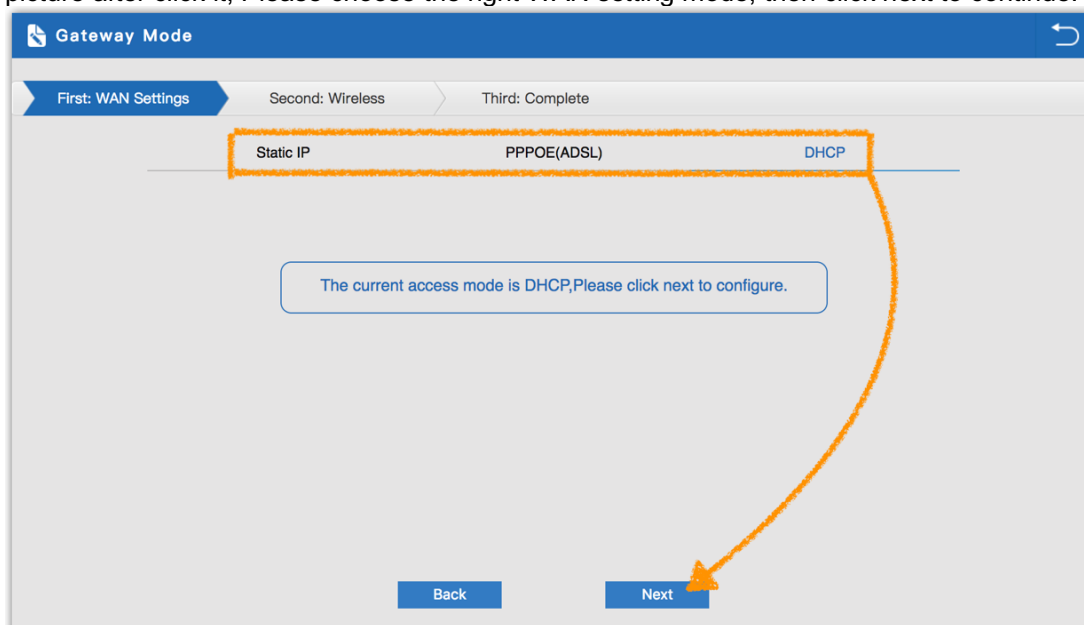


2.Wizard: It instruct users to configure wireless AP's operation mode based on needs: there are four operation mode including gateway, repeater, WISP, Wireless AP. Please confirm the operation mode first before configuration starting.
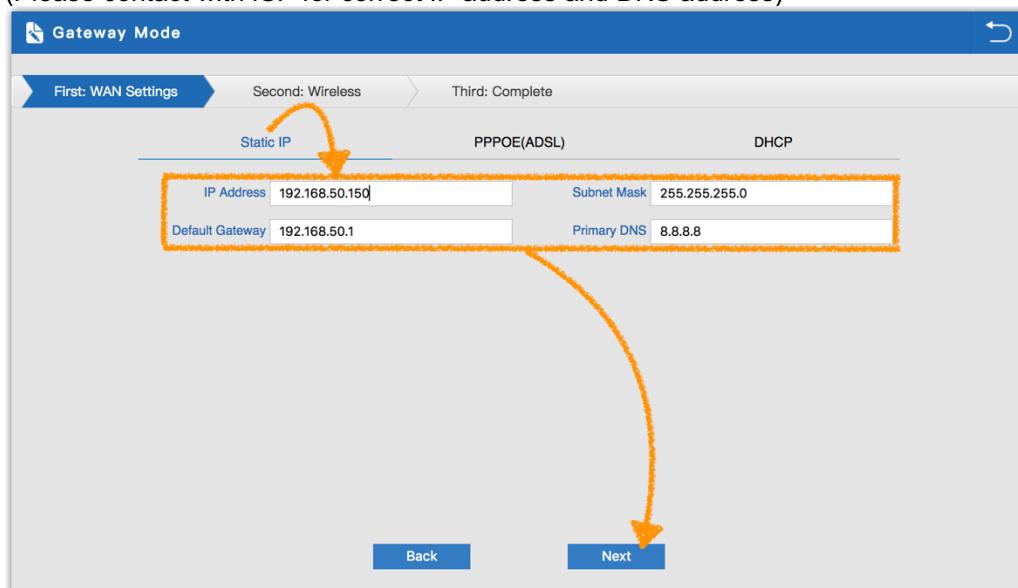


# 3.2 Gateway Mode:
Before Click Gateway mode, confirm your internet will be static IP, PPPoE, or DHCP:   Then will pop up following picture after click it, Please choose the right WAN setting mode, then click next to continue.
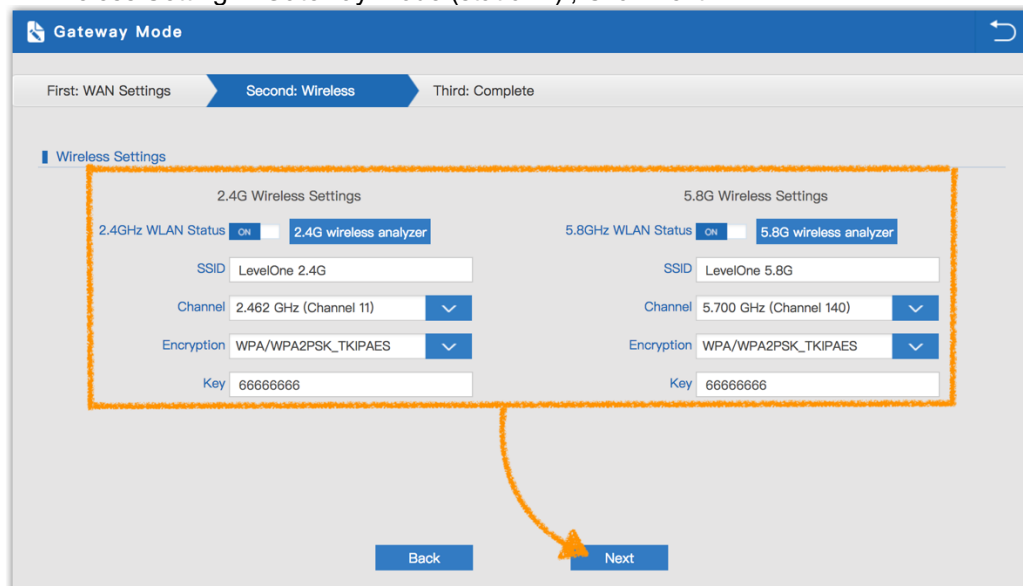
## 3.2.1 Static IP setting in Gateway Mode :

1. Sample Static IP mode setting method, then click next to continue.
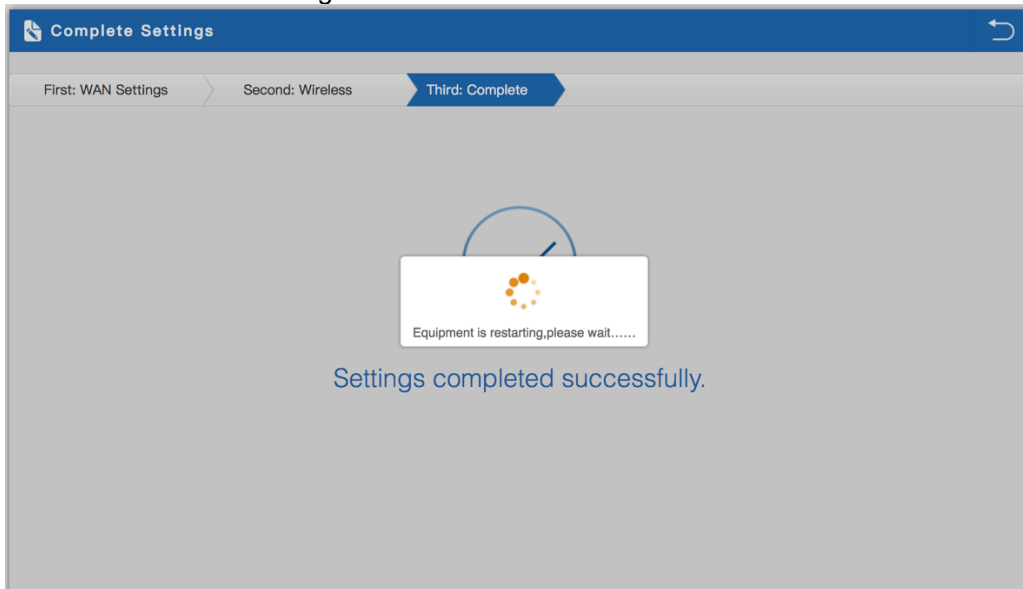(Please contact with ISP for correct IP address and DNS address)



2. Wireless Setting in Gateway Mode (static IP) , Click Next



3. Please wait for the configuration to finish

4. Please log in again ,This page will show the connection Static IP status
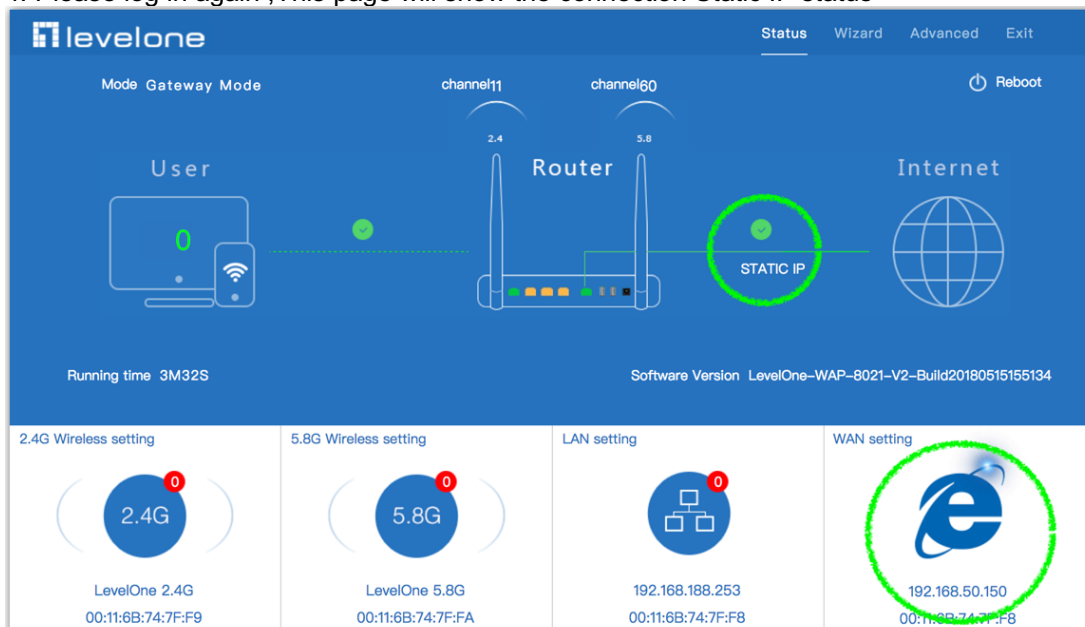


## 3.2.2  PPPoE(ADSL) setting in Gateway Mode :

1. Sample PPPoE mode setting method, then click next to continue.
(Please contact with ISP for correct  PPPoE Name and Password)



2. Wireless Setting in Gateway Mode (PPPoE), Click Next

3. Please wait for the configuration to finish



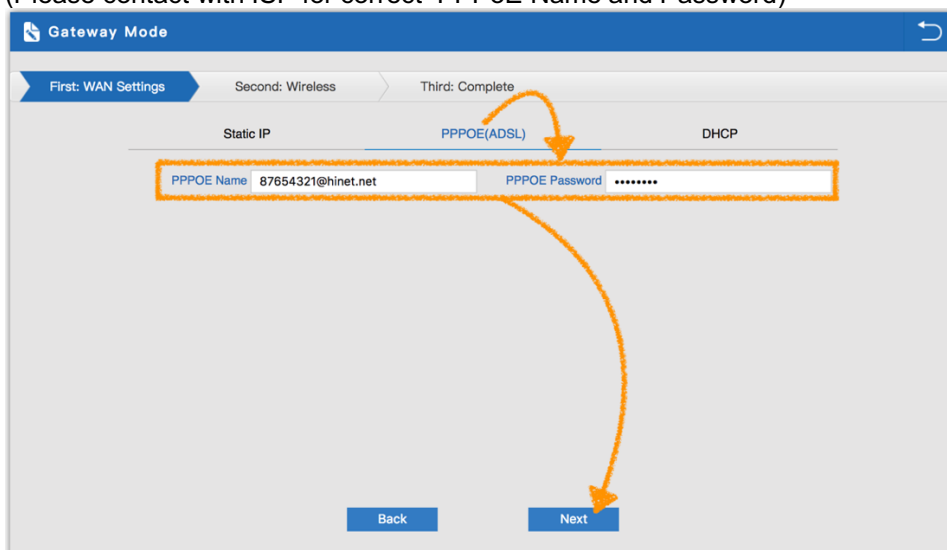4. Please log in again ,This page will show the connection PPPoE status
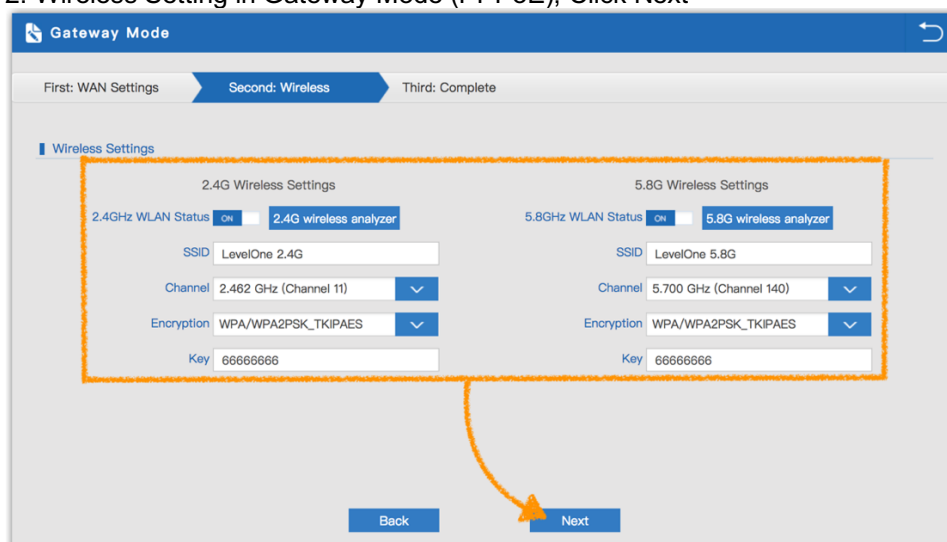
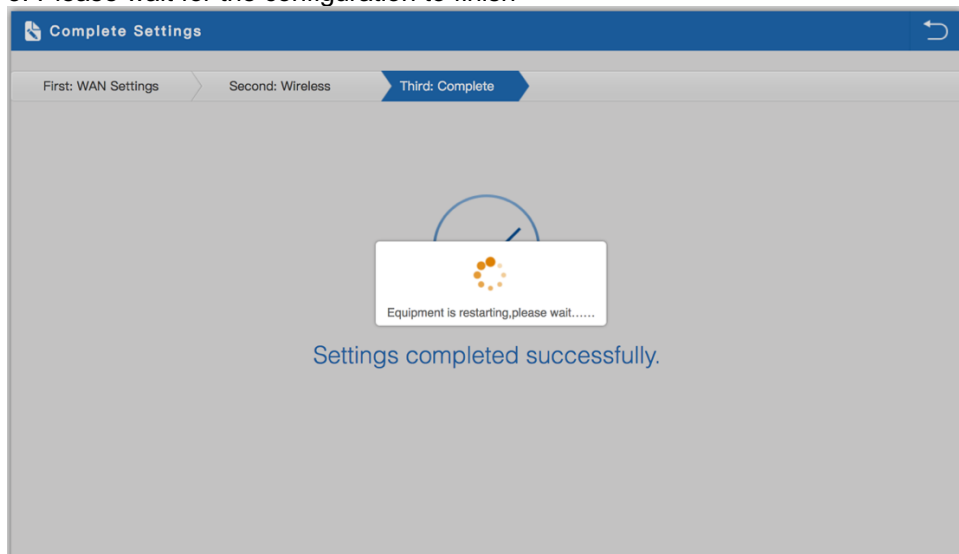## 3.2.3 DHCP setting in Gateway Mode :

1. Sample DHCP mode setting method, then click next to continue.
(Please contact with ISP for correct IP address and DNS address. )
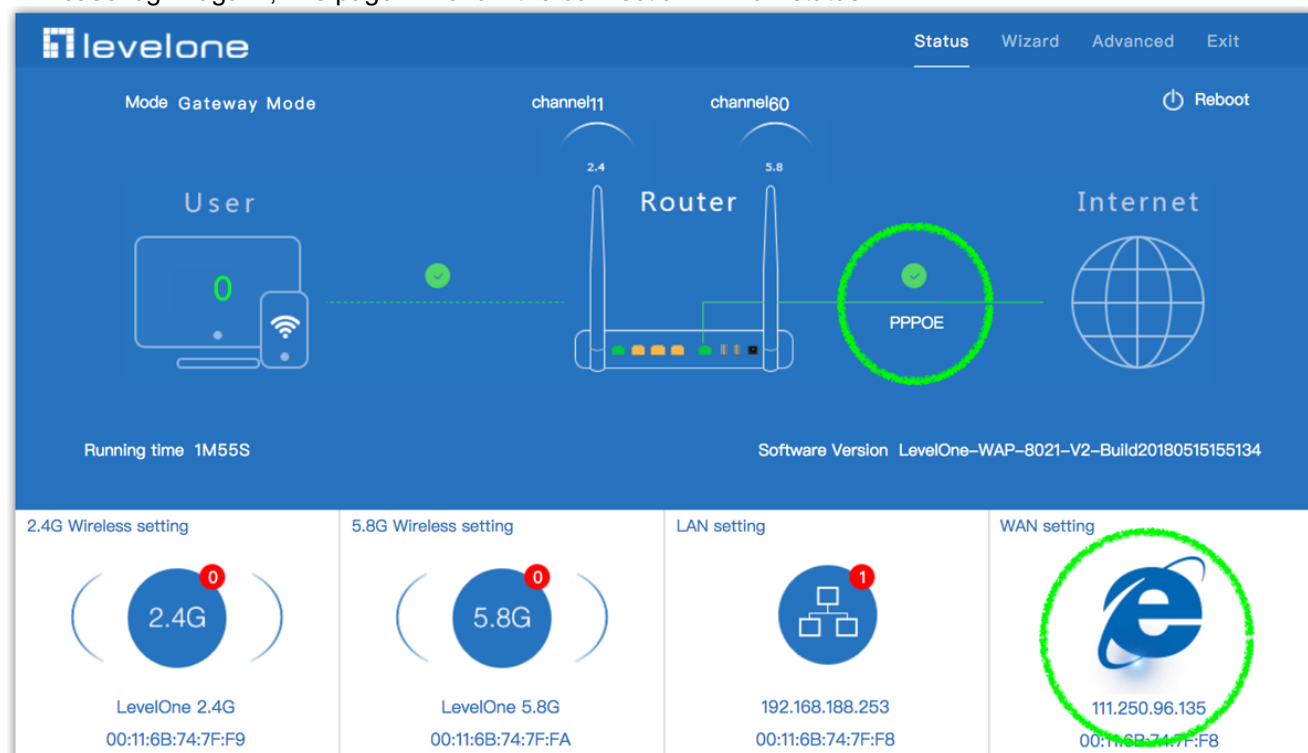


2. Wireless Setting in Gateway Mode (DHCP), Click Next



3. Please wait for the configuration to finish

4. Please log in again ,This page will show the connection DHCP status



levelone

Status    Wizard    Advanced    Exit

Mode  Gateway Mode          channel11        channel60                    ⏻ Reboot

                                2.4              5.8

User                          Router                              Internet

0

                                              DHCP

Running time  2M6S                    Software Version  LevelOne–WAP–8021–V2–Build20180515155134

2.4G Wireless setting      5.8G Wireless setting      LAN setting            WAN setting

2.4G                      5.8G                        🖧                      e

LevelOne 2.4G              LevelOne 5.8G              192.168.188.253        192.168.50.122
00:11:6B:74:7F:F9          00:11:6B:74:7F:FA          00:11:6B:74:7F:F8      00:11:6B:74:7F:F8

## 3.3   Repeater mode :



1. Can choose to relay the front-end 2.4G or 5.8G wireless signal to extend the wireless signal range.

Select the AP's SSID want to bridge, take "wireless 2.4G" for example, then input the AP's key, click Scan AP

**Note:** If the upper wireless device is not the same model (WAP-8021), Don't click to WDS Passthrough.
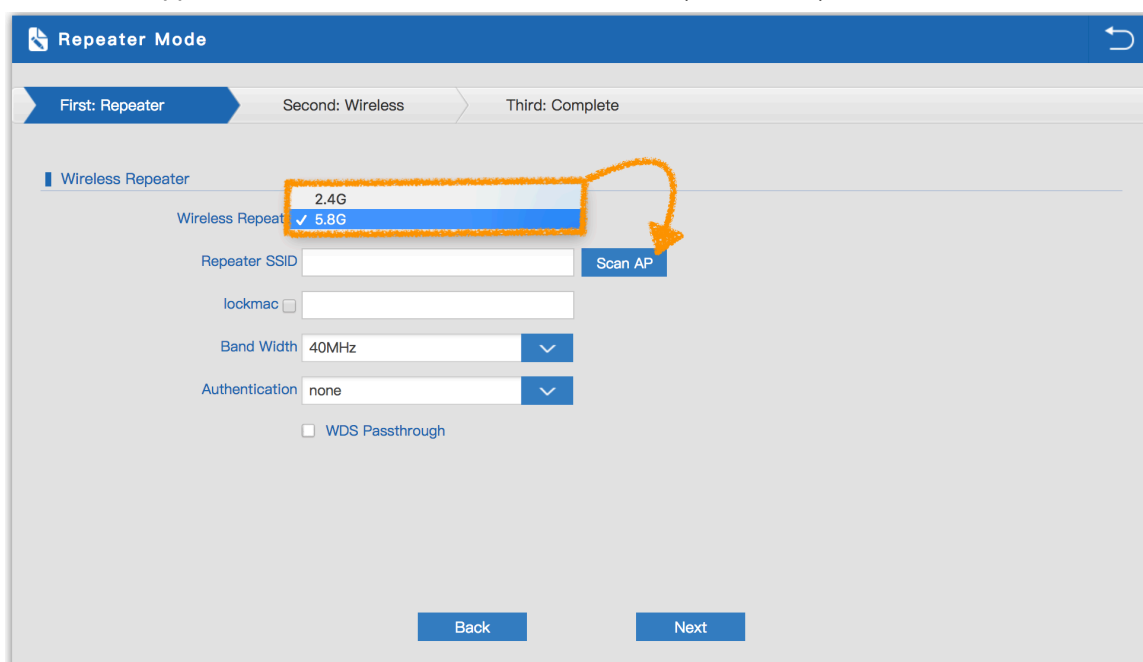


2.Please select WIFI SSID to connect
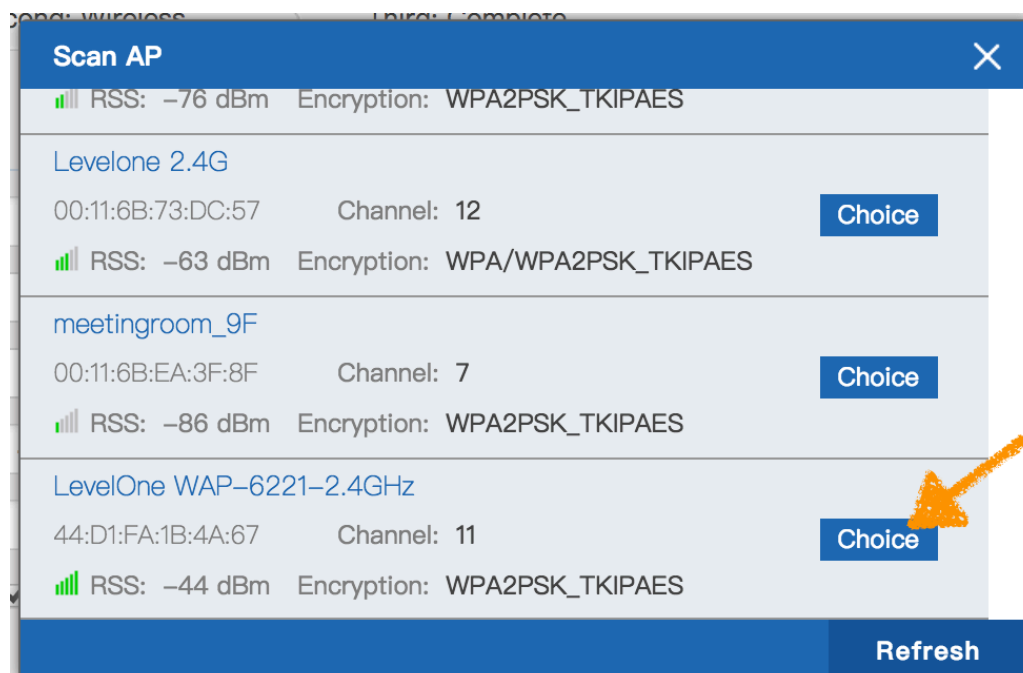
3. Enter the WIFI SSID password to be linked, When click Next

**Note:** If the upper wireless device is not the same model (WAP-8021), Don't click to WDS Passthrough.



4. If choose to relay the front-end 2.4G wireless signal to extend the wireless signal range. Can choose to enable or disable the 5.8G wireless broadcast of the WAP-8021 itself.



5.Click Return button, will back to Status, show Repeater mode data, show fail or success

6.Check WIFI Repeater mode data (**NOTE:** In wifi repeater operation mode, the default is SSID disable.)
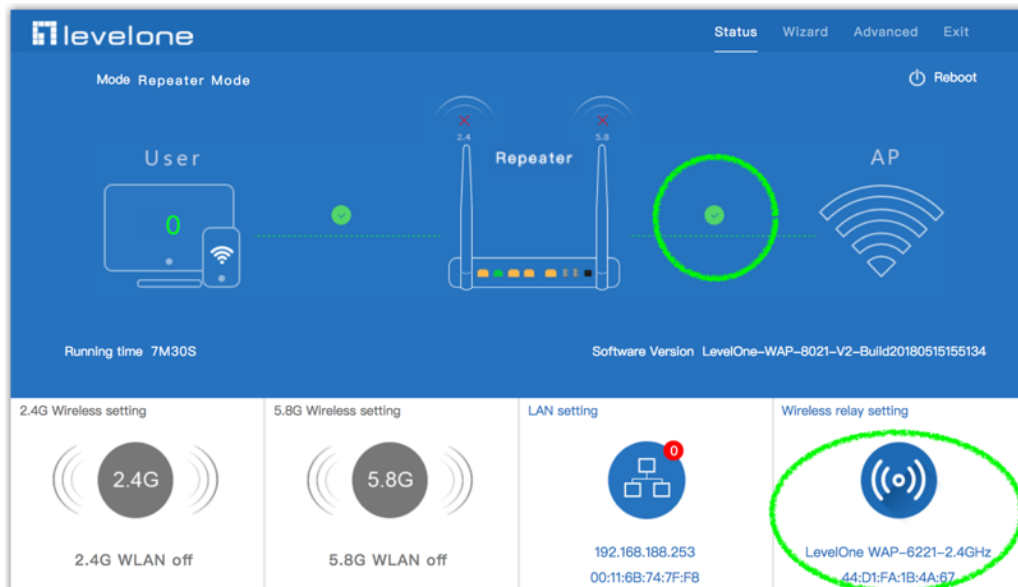


7.Click Status button
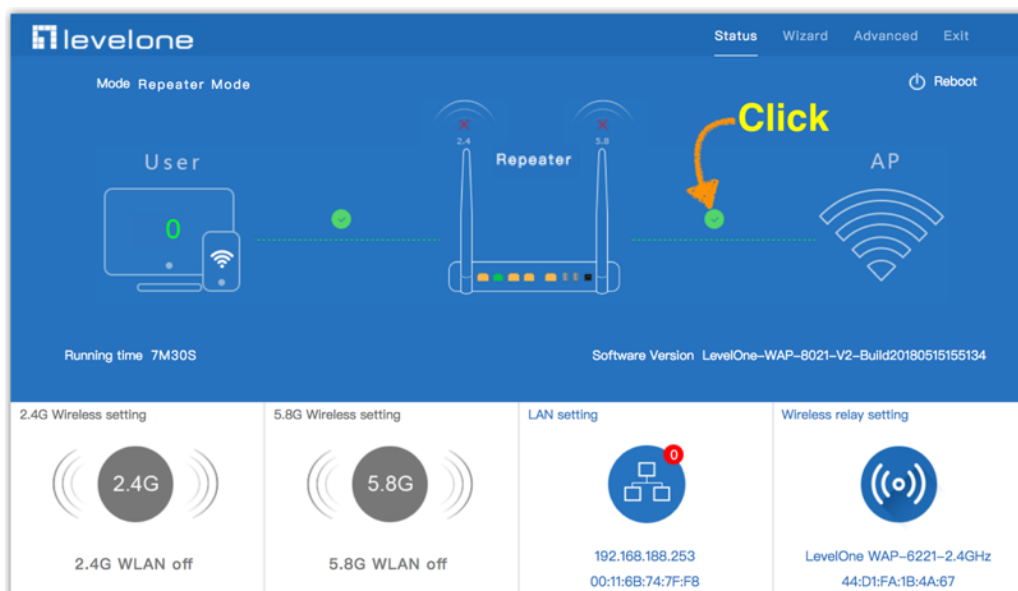


8. Check WIFI Repeater mode data
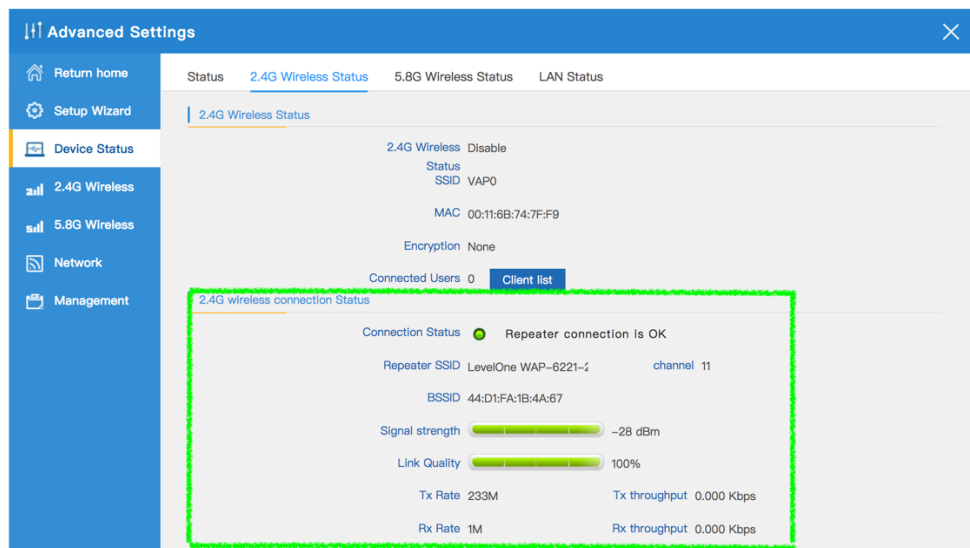
## 3.4 WISP Mode:



1.Select the AP's SSID want to bridge, take "wireless 2.4G" for example,

then input the AP's key, click Scan AP. Enter the WIFI SSID password to be linked, When click Next
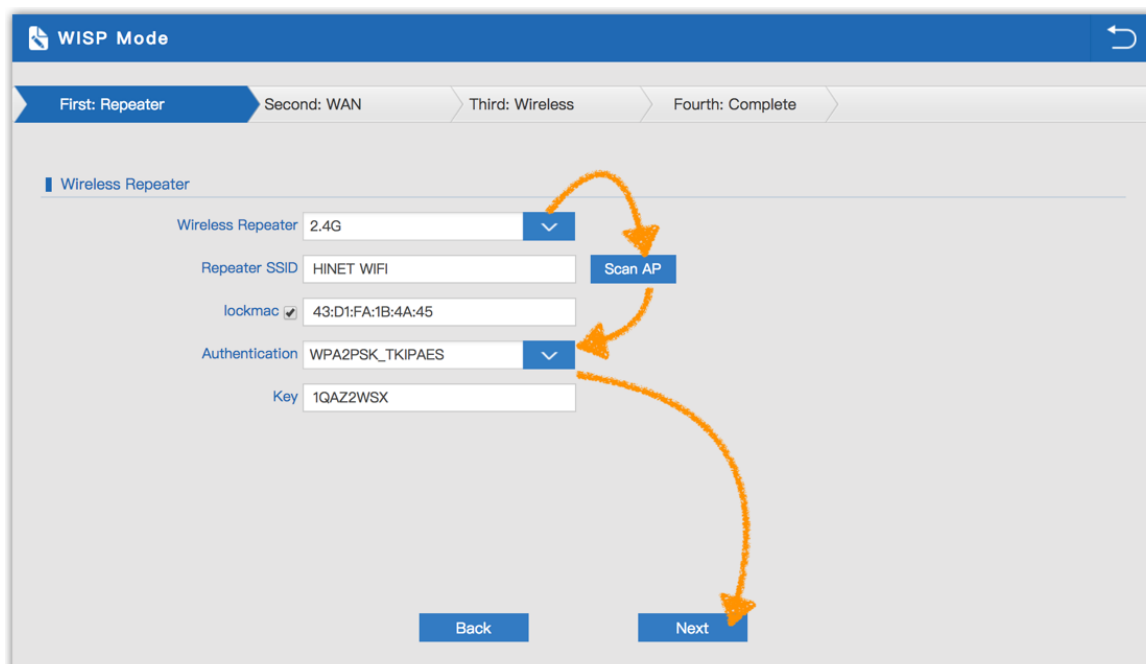


2.Before Click WISP Mode, confirm your ISP WIFI will be static IP, PPPoE, or DHCP:

Then will pop up following picture after click it, Please choose the right WAN setting mode,then click next to continue.

3.take "Static IP" for example. (Please contact with ISP for correct IP address and DNS address)



4. Configure the SSID and password the AP going to broadcast. If you have repeated 2.4G WIFI, in default setting, you are only allowed to broadcast 5.8G WIFI.)



5.Click Return button, will back to Status, show WISP mode data, show fail or success

6.Check WISP Mode Status show fail or success
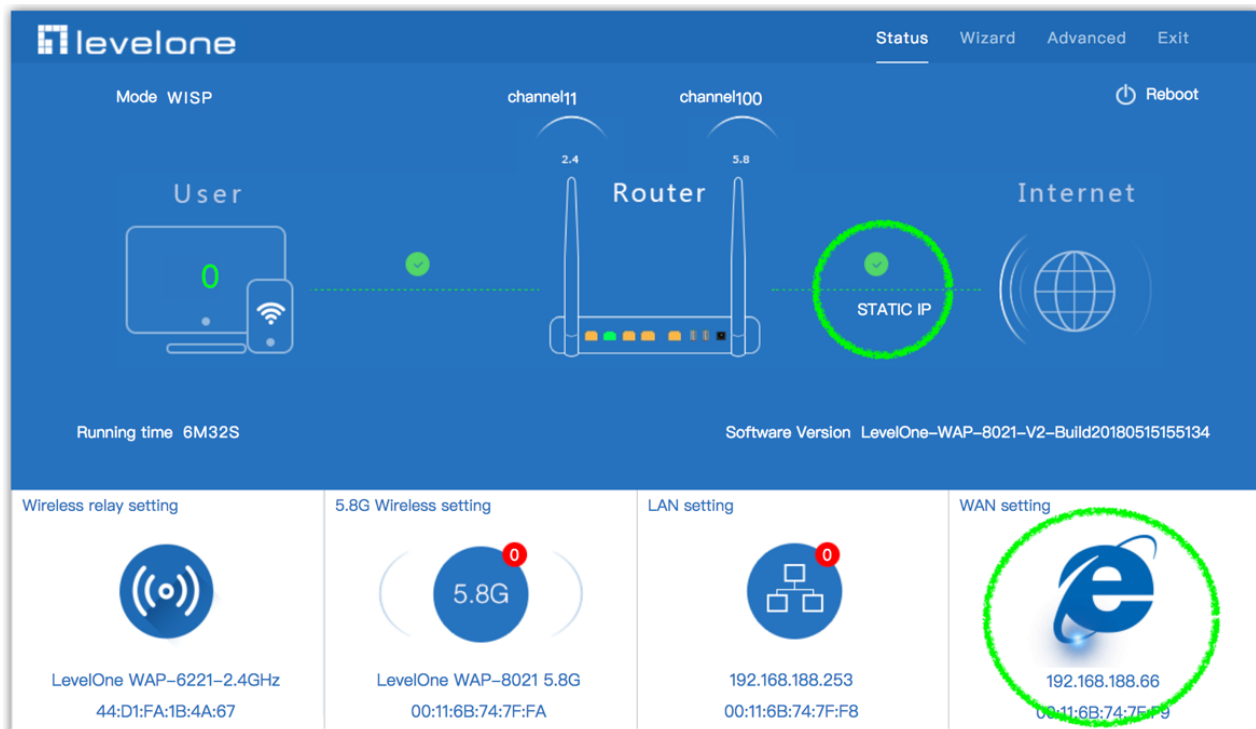
## 3.5 AP mode & Wireless analyzer :



1.To make the WAP-8021 work in some clear channel, user can click wireless analyzer at first. Look for Unoccupied channel, then Wireless performance will be more stable. Picture showed as below.
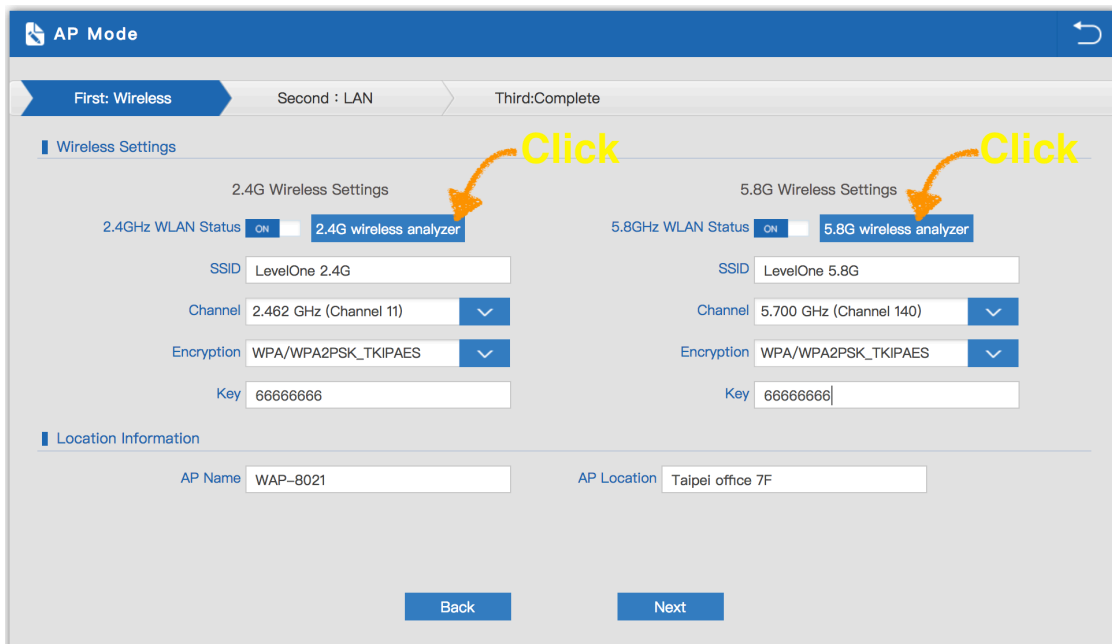


2. Wireless analyzer Look for Unoccupied channel (2.4GHz)
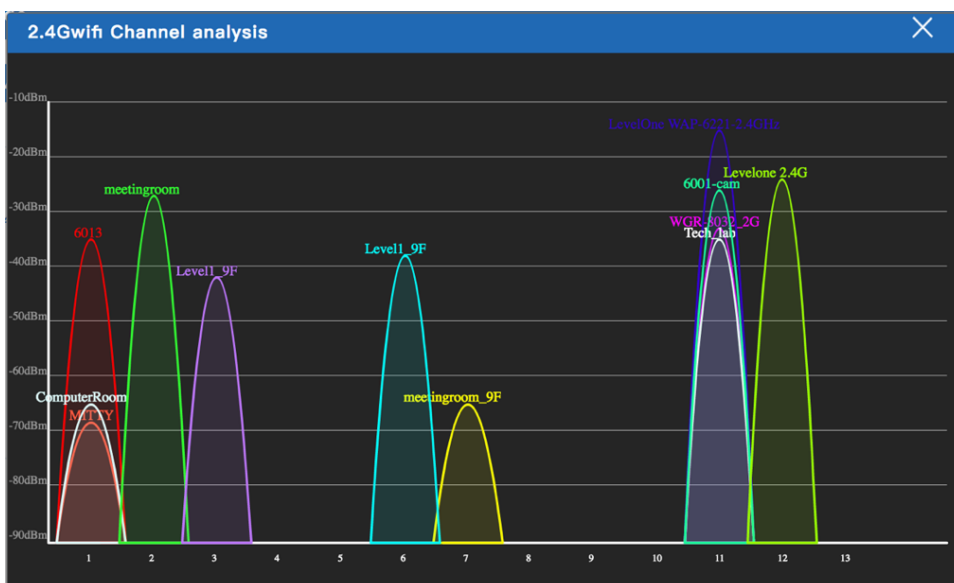
3. Wireless analyzer Look for Unoccupied channel (5.8GHz)
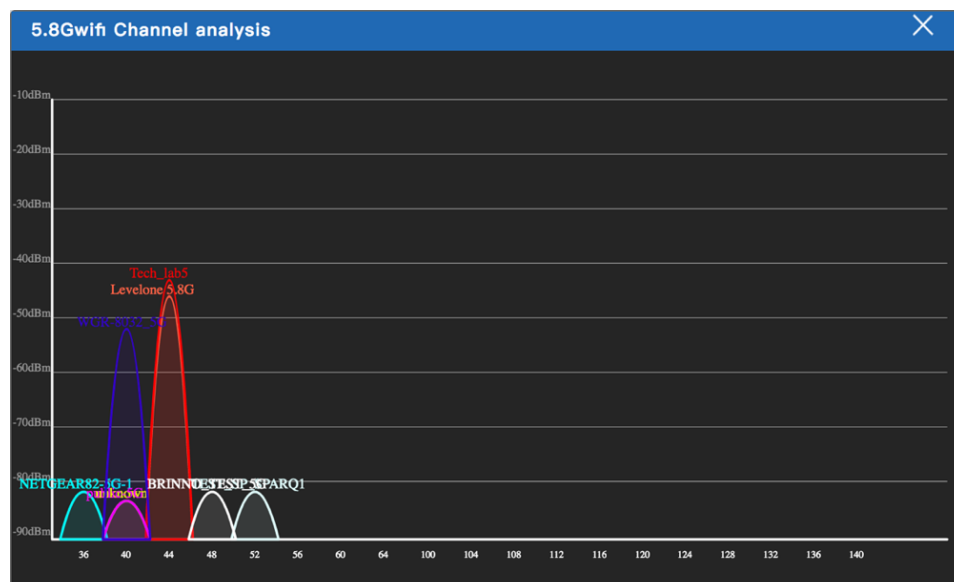


4. Set the wireless data, AP Location info as required, then click next to continue and enter into LAN setting.

After LAN setting, complete the AP mode configuration and back to Status.



5.Set according to environmental requirements.

6.Demo Static IP setting



7.Re-login to WEB UI, Use the Static IP you just set.
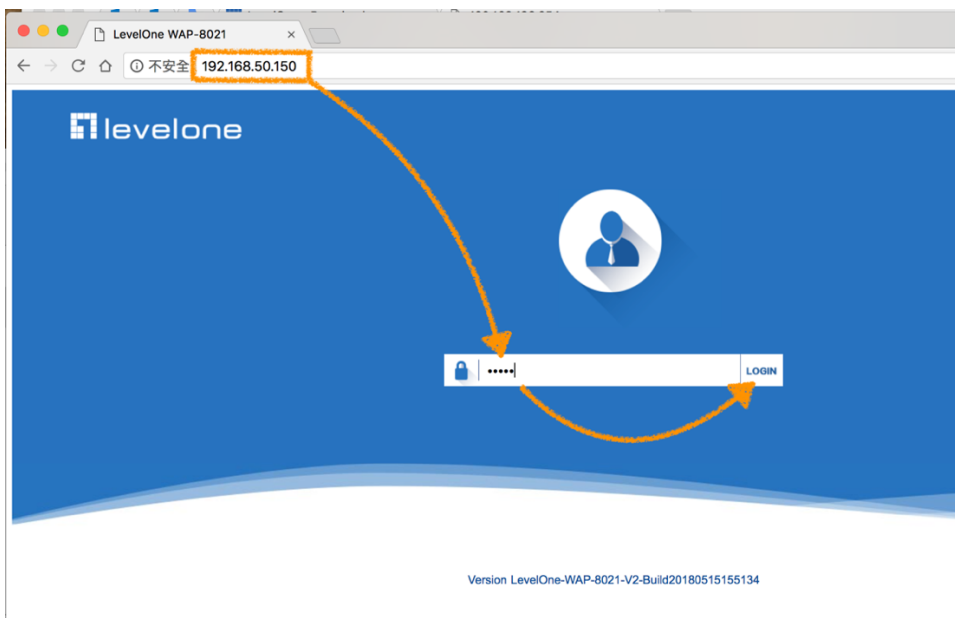


8. Check AP Mode Status show fail or success.

# Chapter 4  Advanced Setting

## 4.1  Device Status

### 4.1.1  Status:
● Mainly to check the wireless AP's firmware version, hardware version, uptime info.
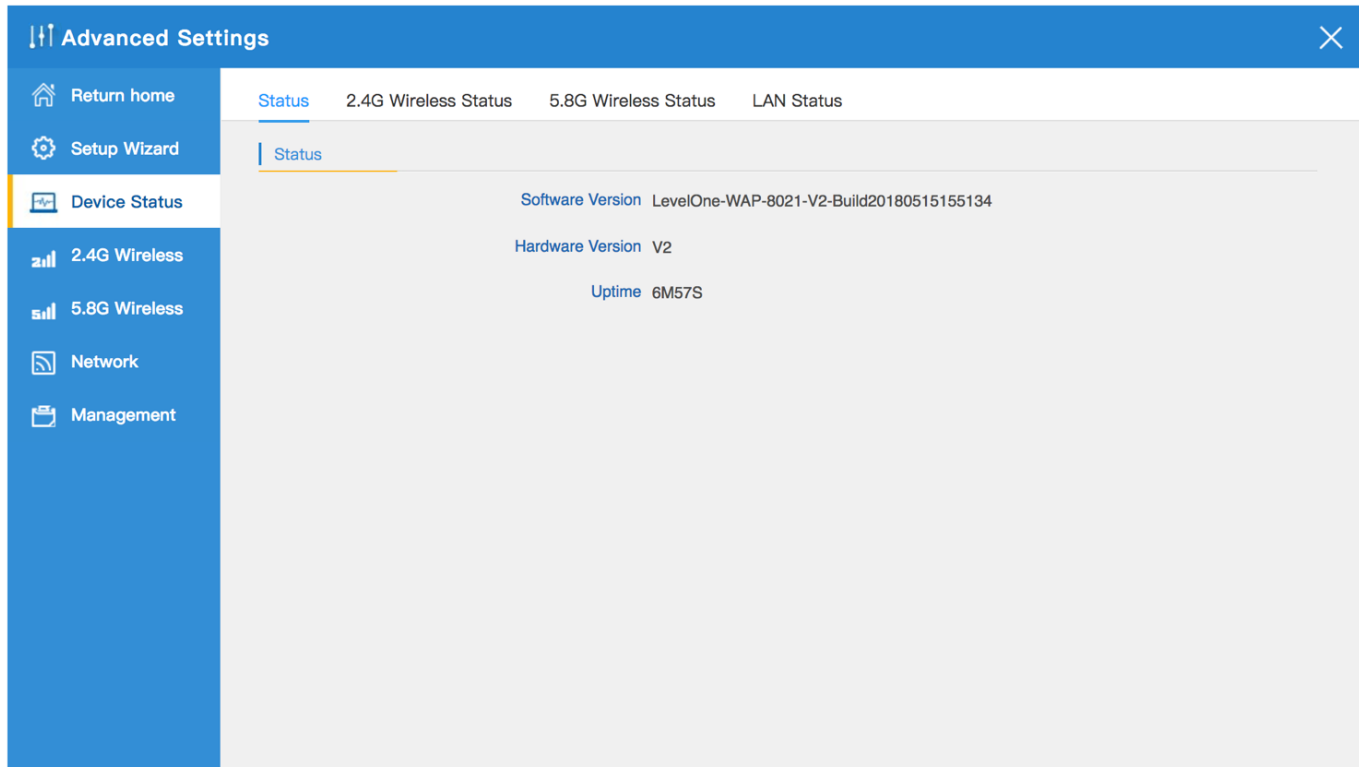


### 4.1.2  2.4G/5.8G wireless status:
● Show wireless AP's SSID, MAC address for WiFi, Channel, Encryption, Client List info.
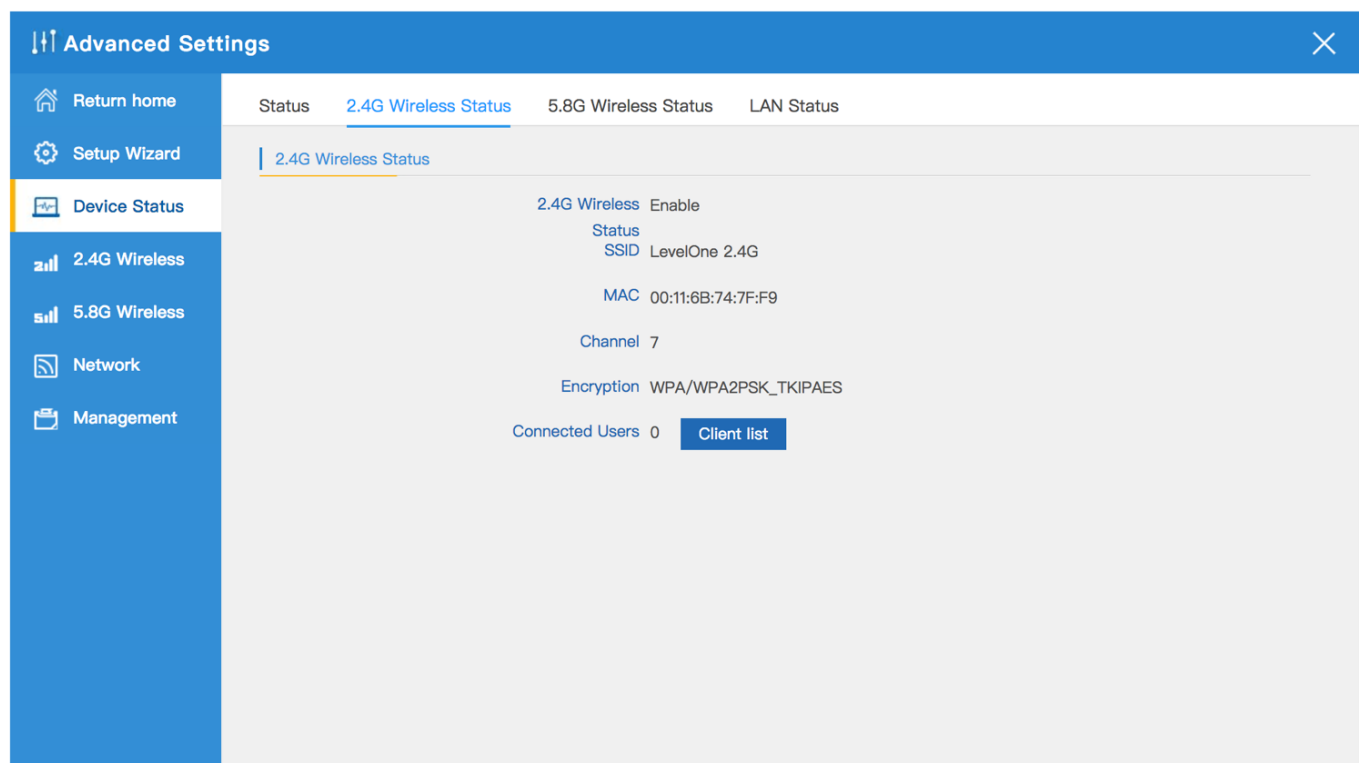
### 4.1.3 LAN Status:

● Check wireless AP's IP address, Subnet Mask, LAN MAC address and other info showed in following picture



## 4.2 2.4G Wireless

### 4.2.1 2.4G Basic Settings :

● Mainly to configure the wireless SSID, password, band width ,encryption, channel, Multi SSID.

## 4.2.2 2.4G Virtual AP :

● There are 3 virtual AP in 2.4G wireless, if need enable multi SSIDs, then users can configure it showed in following picture.



## 4.2.3 2.4G Access Control :

1.Allow or deny the users access into this wireless AP based on MAC address.

2.Allow all the users access into this wireless AP



3.Only users who have joined the MAC address list can access the wireless AP. The following is a demonstration of teaching .  Add the user MAC address in the list to the access control list

4.After the user's MAC address is added to the access control list, Click Apply.  After setting is completed, it will start to allow users access to this wireless AP function.



5.Users who have joined the MAC address list are denied access to the wireless AP. The following is a demonstration of teaching .  Add the user MAC address in the list to the access control list

6.After the user's MAC address is added to the access control list, Click Apply. After setting is completed, it will start to deny users access to this wireless AP function



## 4.2.4  2.4G Advanced Settings :

● In this page, will show the regional, mode, RF Power, Max user access...

# 4.3  5.8G Wireless

## 4.3.1  5.8G Basic Settings :

● Mainly to configure the wireless SSID, password, band width ,encryption, channel, Multi SSID.



## 4.3.2  5.8G Virtual AP :

● There are 3 virtual AP in 5.8G wireless, if need enable multi SSIDs, then users can configure it showed in following picture

## 4.3.3  5.8G Access Control :

1.Allow or deny the users access into this wireless AP based on MAC address.

**Advanced Settings**                                                                                                                    ✕

| | |
|---|---|
| ⌂  Return home | 5.8G Basic Settings    5.8G Virtual AP    5.8G Access Control    5.8G Advanced Settings |
| ⚙  Setup Wizard | Wireless Access Control |
| 🖿  Device Status | Access Contro  ✓ MAC Access All     Apply |
| 📶  2.4G Wireless |                 Allow Listed |
| 📶  5.8G Wireless |                 Deny Listed |
| 🔲  Network | |
| 🛡  Firewall | |
| 💼  Management | |

2.Allow all the users access into this wireless AP

**Advanced Settings**                                                                                                                    ✕

| | |
|---|---|
| ⌂  Return home | 5.8G Basic Settings    5.8G Virtual AP    5.8G Access Control    5.8G Advanced Settings |
| ⚙  Setup Wizard | Wireless Access Control |
| 🖿  Device Status | Access Control    MAC Access All          ⌄     Apply |
| 📶  2.4G Wireless | |
| 📶  5.8G Wireless | |
| 🔲  Network | |
| 🛡  Firewall | |
| 💼  Management | |

3.Only users who have joined the MAC address list can access the wireless AP. The following is a demonstration of teaching . Add the user MAC address in the list to the access control list.



4.After the user's MAC address is added to the access control list, Click Apply. After setting is completed, it will start to allow users access to this wireless AP function

5.Users who have joined the MAC address list are denied access to the wireless AP. The following is a demonstration of teaching . Add the user MAC address in the list to the access control list



6.After the user's MAC address is added to the access control list, Click Apply. After setting is completed, it will start to deny users access to this wireless AP function

## 4.3.4  2.4G Advanced Settings :

- In this page, will show the regional, mode, RF Power, Max user access...



# Enable the status of Gateway Mode or WISP Mode



## 4.4 Network

### 4.4.1 LAN Settings :

1. Set the specified device retention IP for easy management. The following is a demonstration of teaching .

2.Click Choice



3.Add the user MAC address in the list to the access control list . Completed the reserved IP settings

## 4.4.2 VLAN :

- Please confirm before you can use ,Need support IEEE 802.1Q and VLAN Tagging Managed Switch, Specify WiFi SSID or WAN/LAN Port for WAP-8021 , corresponding to the VLAN-ID (3-4094).

### Advanced Settings

Return home | Setup Wizard | Device Status | 2.4G Wireless | 5.8G Wireless | Network | Firewall | Management

LAN Settings    VLAN    WAN Settings    WAN advanced settings

| VLAN |

| VLAN-ID(3-4094) | LAN1 | LAN2 | LAN3 | LAN4 | WAN | 2.4G | | | | 5.8G | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | AP | VAP1 | VAP2 | VAP3 | AP | VAP1 | VAP2 | VAP3 |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ☑ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

Apply

## 4.4.3 WAN Settings :

1. Please check with the ISP first how to access the Internet , The following is a demonstration of Static IP teaching .

### Advanced Settings

Return home | Setup Wizard | Device Status | 2.4G Wireless | 5.8G Wireless | Network | Firewall | Management

LAN Settings    VLAN    WAN Settings    WAN advanced settings

Static IP          PPPOE(ADSL)          DHCP

| Field | Value | |
|---|---|---|
| IP Address | 192.168.50.150 | |
| Subnet Mask | 255.255.255.0 | |
| Default Gateway | 192.168.50.1 | |
| MTU | 1500 | (1400-1500) |
| Primary DNS | 8.8.8.8 | |
| Secondary DNS | 8.8.4.4 | |

Apply

2.The following is a demonstration of PPPoE teaching .



3.The following is a demonstration of DHCP teaching .

## 4.4.4  WAN advanced settings:

Internet security does not recommend enable Ping Access on WAN to prevent interested people from knowing the real IP address



# 4.5   Firewall

## 4.5.1  IP/Port Filtering :

1.Factory default value is disable, Can be set to whitelist or blacklist. The following will begin to introduce how to set the enable function

**2.Black List :** IP Address that can be specified as a separate or range , and then specifies the port range (1~65535) and protocol(TCP/UDP) .



**3.White List :** IP Address that can be specified as a separate or range , and then specifies the port range (1~65535) and protocol(TCP/UDP) , which is set as the status of the allow.

## 4.5.2　MAC Filtering :

1.Factory default value is disable, Can be set to whitelist or blacklist. The following will begin to introduce how to set the enable function
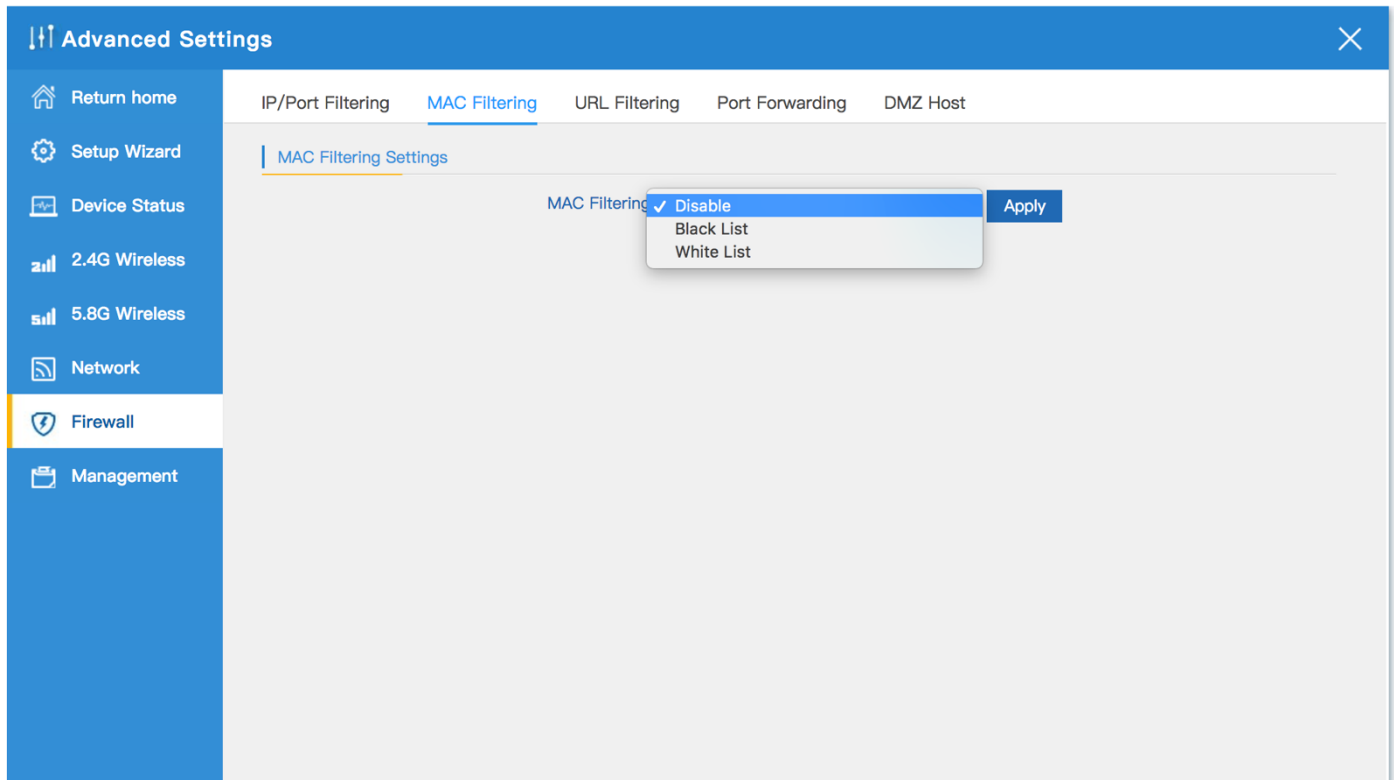


**2.Black List :** Scan specified mode or manual input mode to set, you can block the specified MAC address to connect to the Internet, leaving only  link Regional network  function.
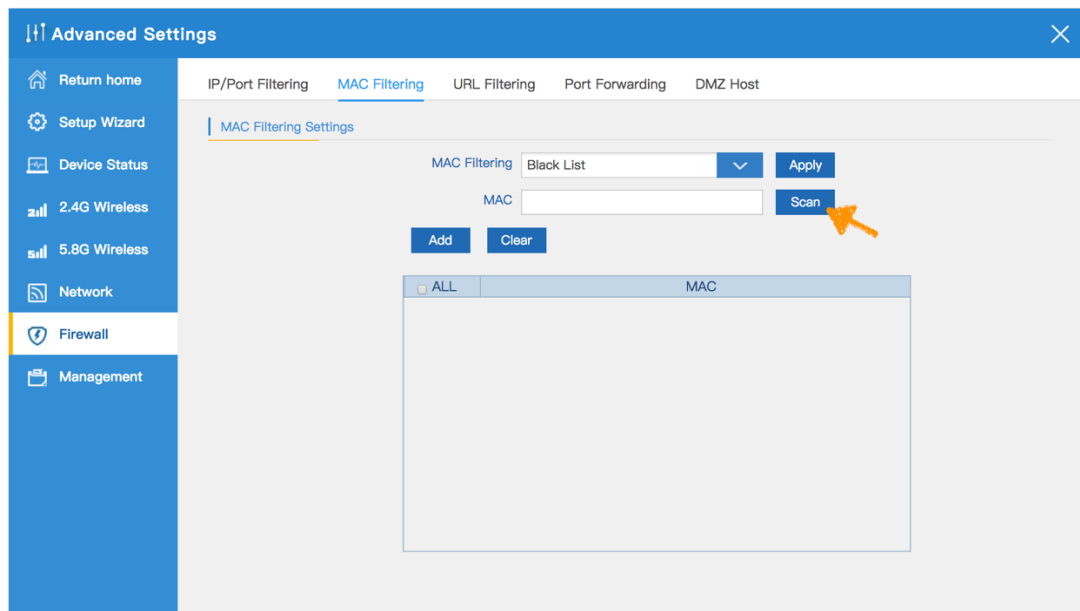
## 3.Click Choice
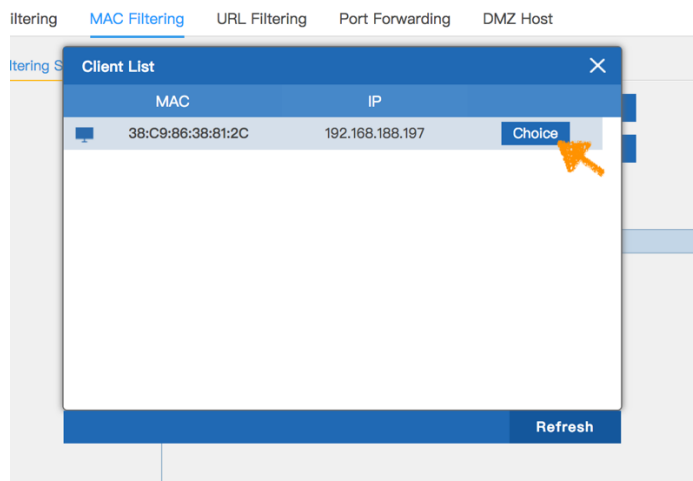


## 4. Added specified MAC address , Click Apply
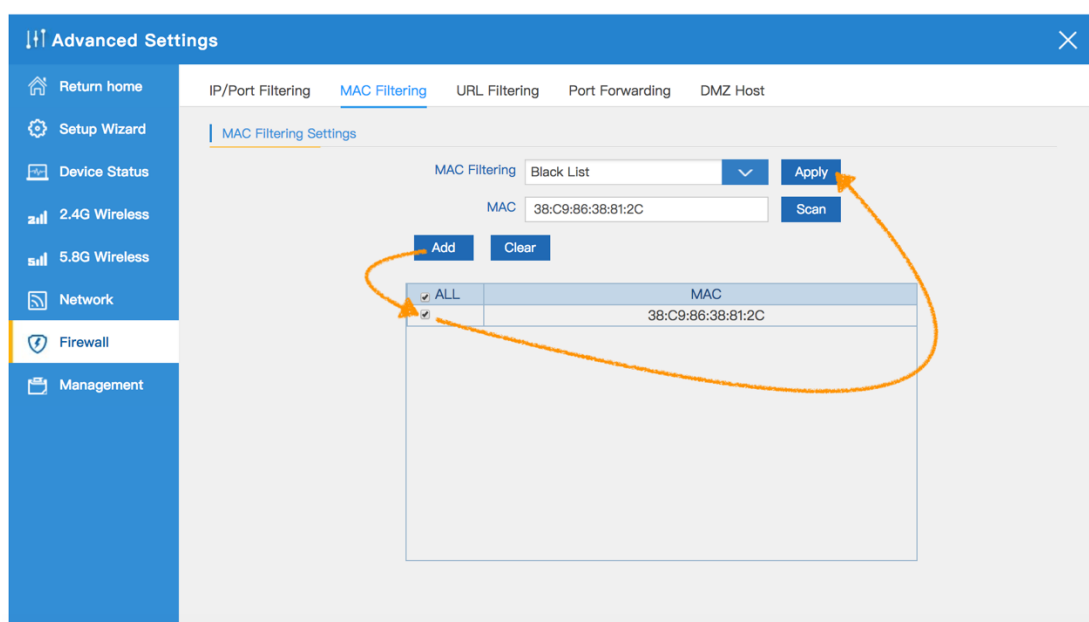


**5.White List :** Scan specified mode or manual input mode is set to allow the specified MAC address to connect to the Internet
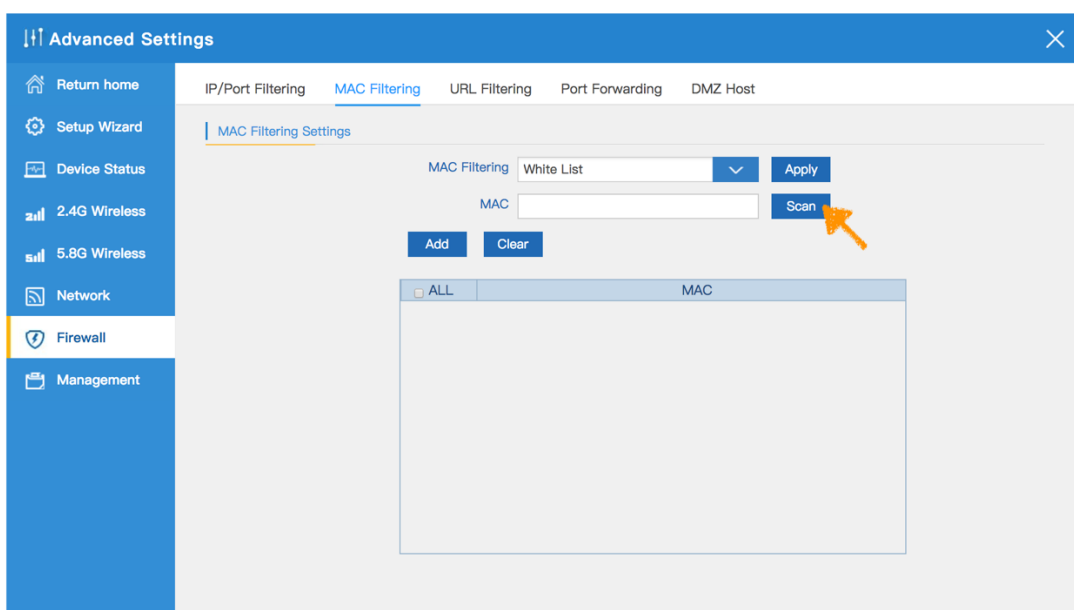
## 6.Click Choice
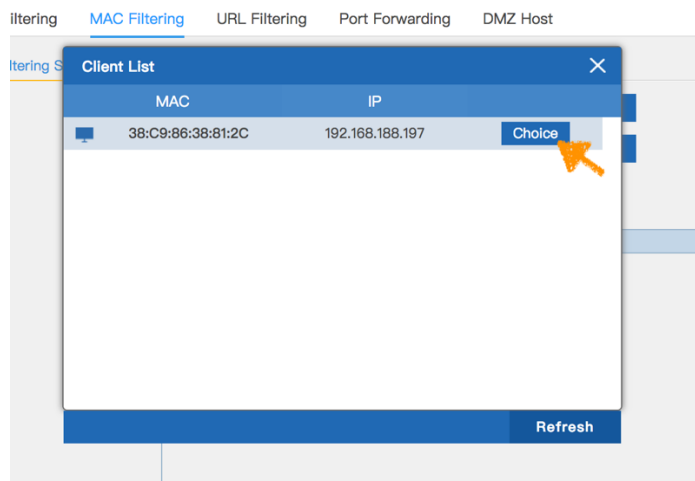


## 7.Added specified MAC address , Click Apply
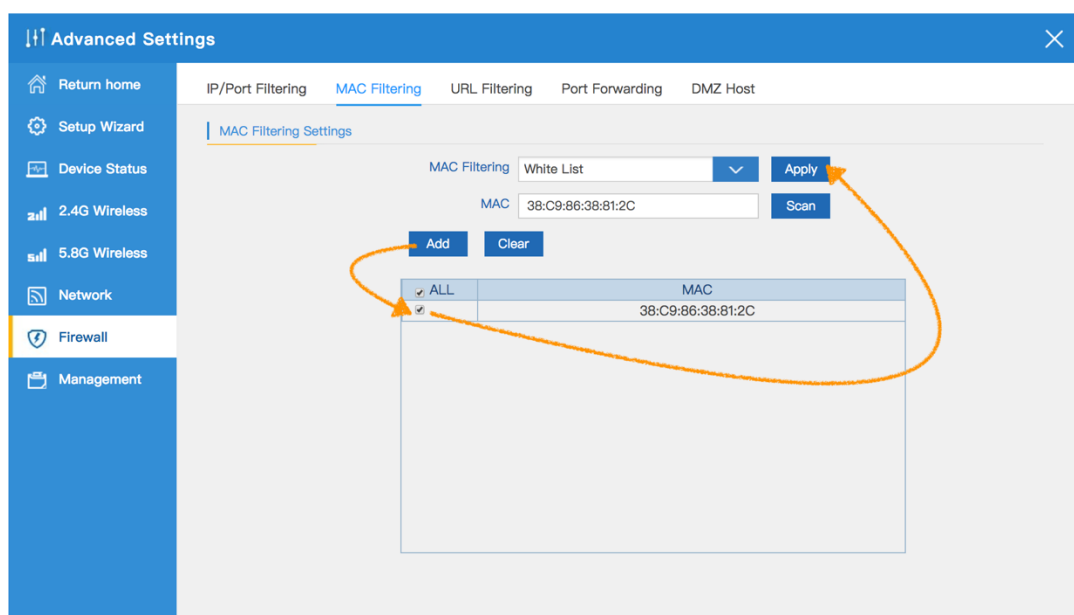


## 4.5.3　URL Filtering :

1.Factory default value is disable, Can be set to Black List. The following will begin to introduce how to set the enable Black List function
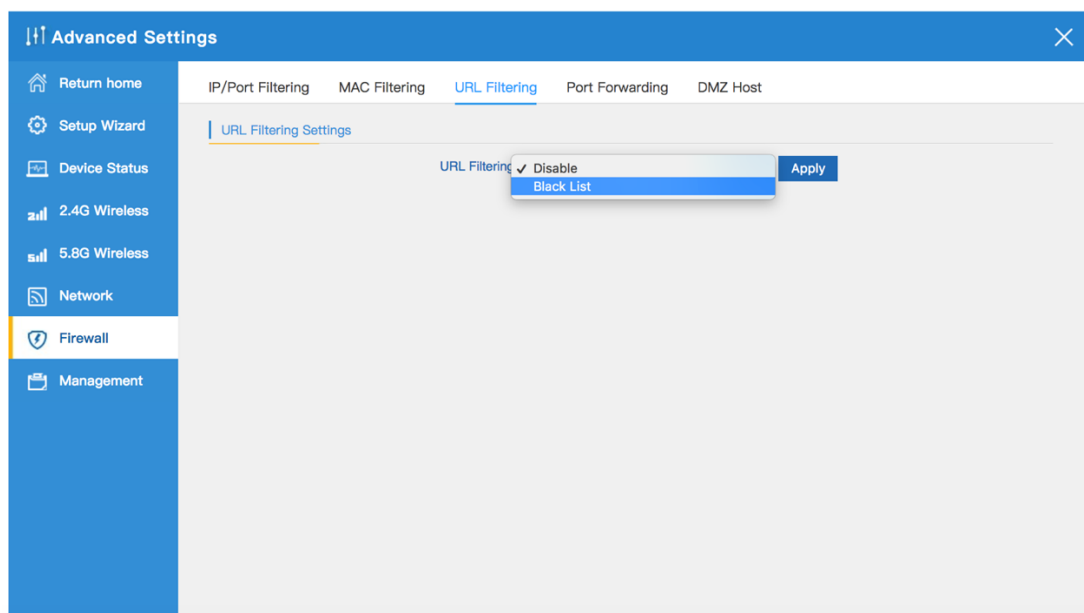
2.**Black List :** Can set the URL refuse to access the list , making all devices unable to connect to the list of websites
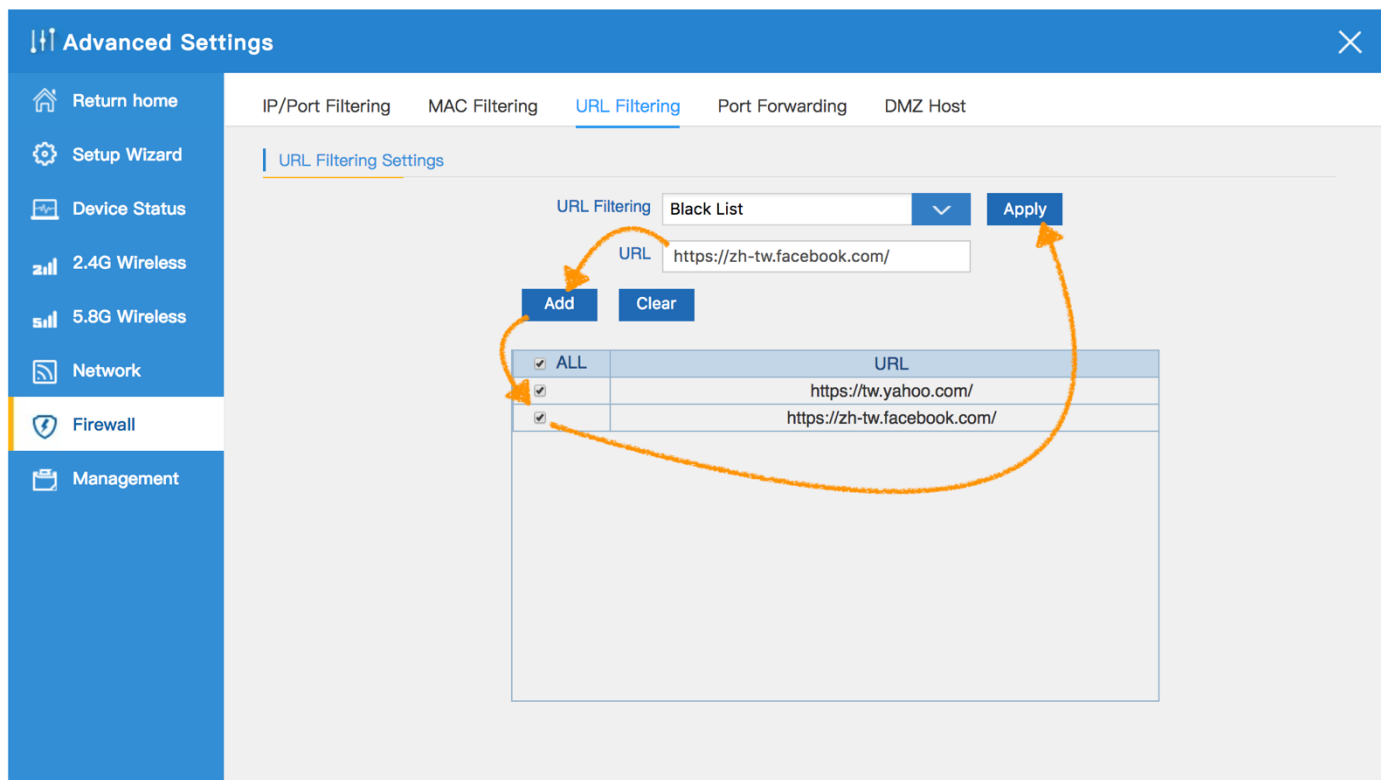


## 4.5.4  Port Forwarding   ( Note: Port Forwarding functionality is available only in Gateway mode.)

● The scan specified mode or manual input mode is set to allow the specified internal IP address of the External / External port so that other users can connect from the remote network to the WAP-8021 internal network equipment (ex: NAS , IP camera)

● After the setting is completed, the real fixed IP address or DDNS mode can be used to remotely connect to the NAS inside the WAP-8021

(ex: Remote user page input http://111.250.96.135:2020 Port Forwarding to NAS IP address:192.168.188.197:80)
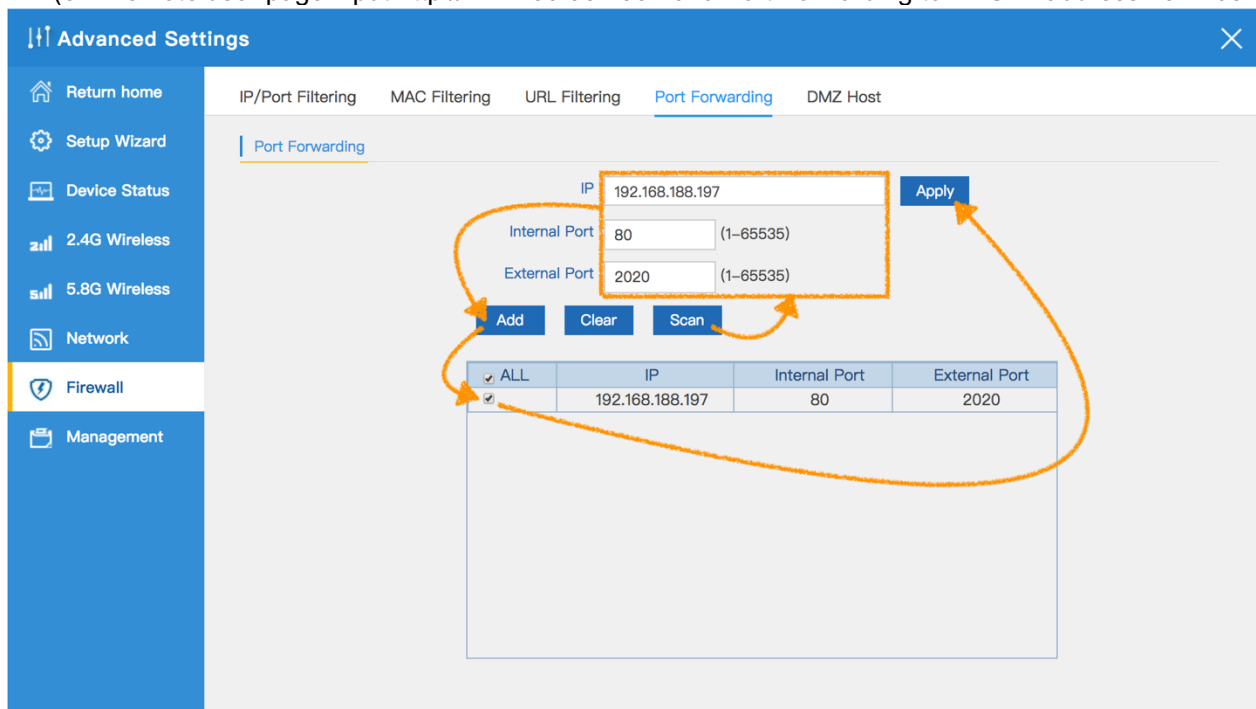
## 4.5.5 DMZ Host

1.Factory default value is disable . The following will begin to introduce how to set the enable DMZ Host function
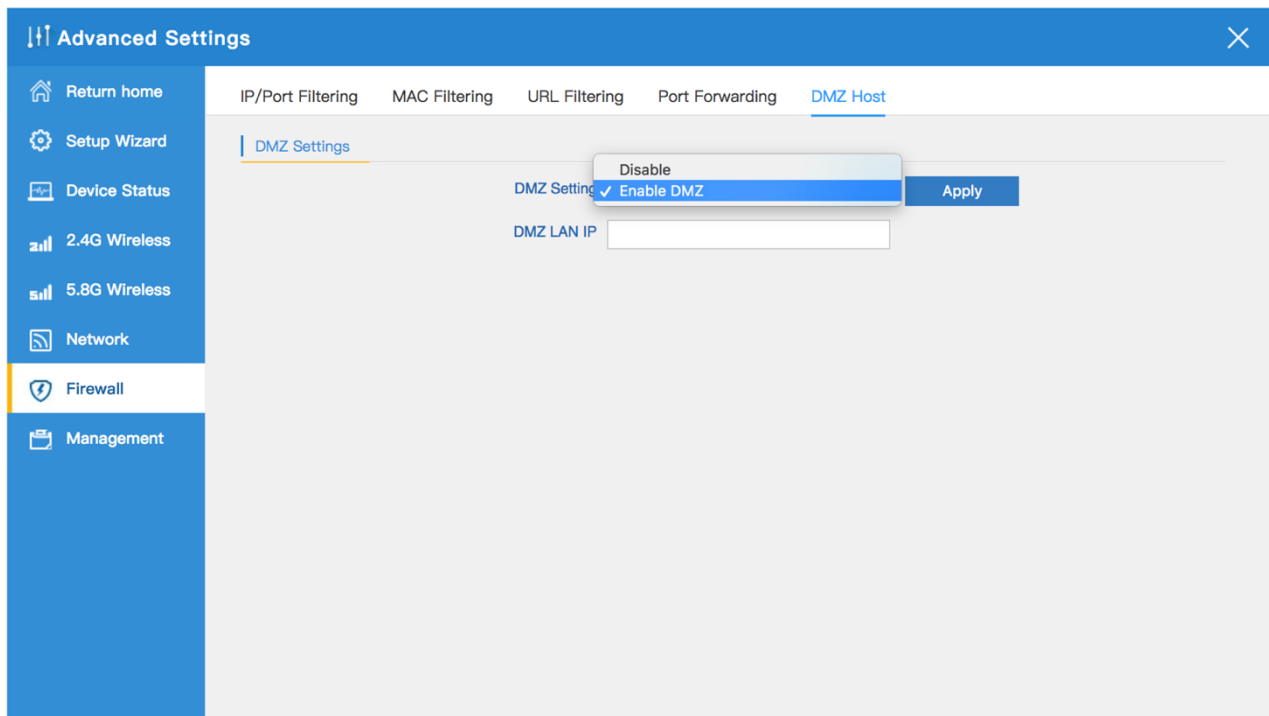


2.When enabled, will independent a non-military block for this ip address device.

**Note :** This device will be directly exposed on the Internet, there will be some risk
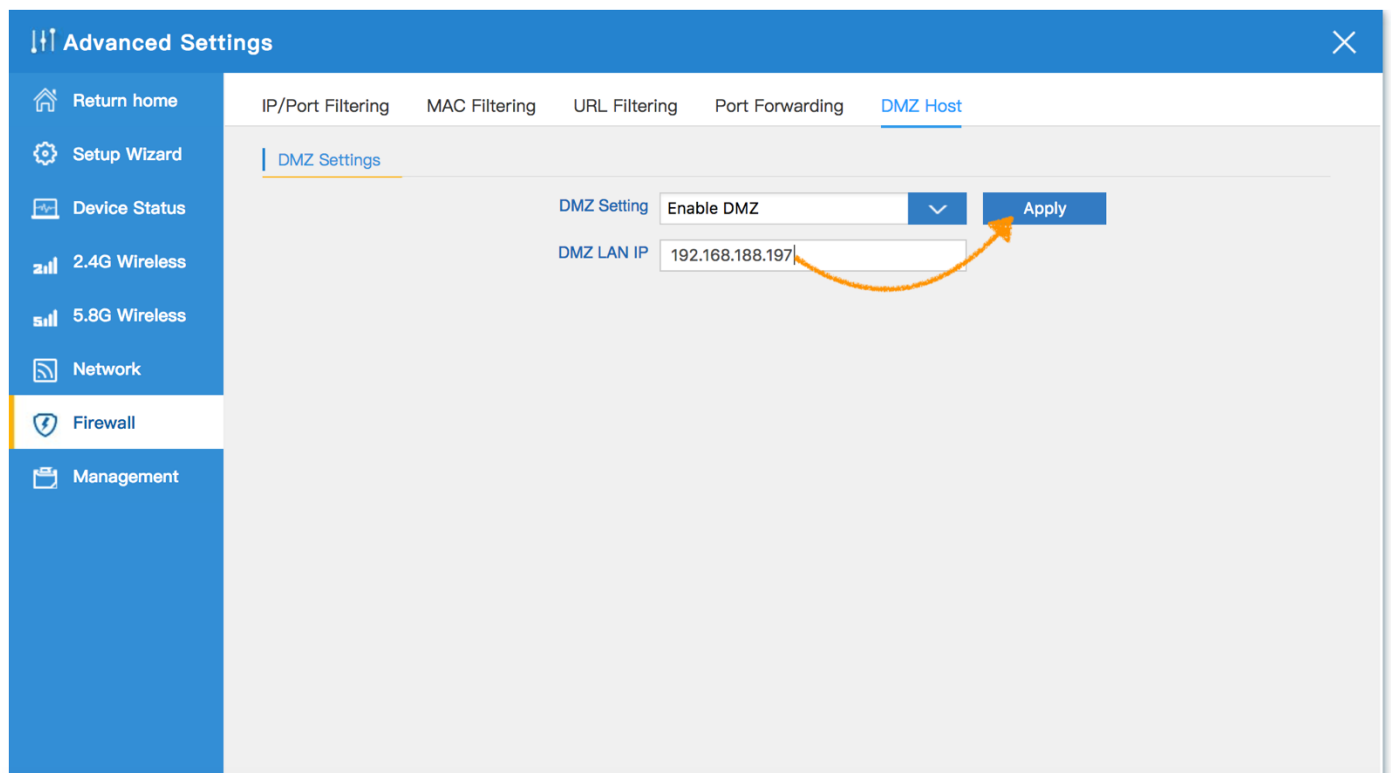
# 4.6 Management

## 4.6.1 System Time :

1.Get time from NTP server can only be available under Gateway and WISP Mode. Before sync with host, please select your Time zone.

**Auto restart :** Define the system reboot time(0:00~23:00) , Can choose every day or every five days or every 10 days , System Reboot Automatically.



2.Can set up the required NAT Server

3.Can add NTP Server yourself (ex: Hinet NTP Server)



## 4.6.2 DDNS settings :

- Factory default value is disable
- **Note:** DDNS settings functionality is available only in Gateway mode , And before setting, first make sure that WAP-8021 has obtained the real IP address first

## 4.6.3  QoS :

● Can manually specify the IP address range of the device to limit the upload and download



## 4.6.4  Logs :

● In Logs part, you can copy the running history of the device to consult the engineers when you have any trouble

## 4.6.5  Upgrade Firmware :

- Allows you to browse the new firmware in your computer and upgrade. Please do not power off the device during upgrade.
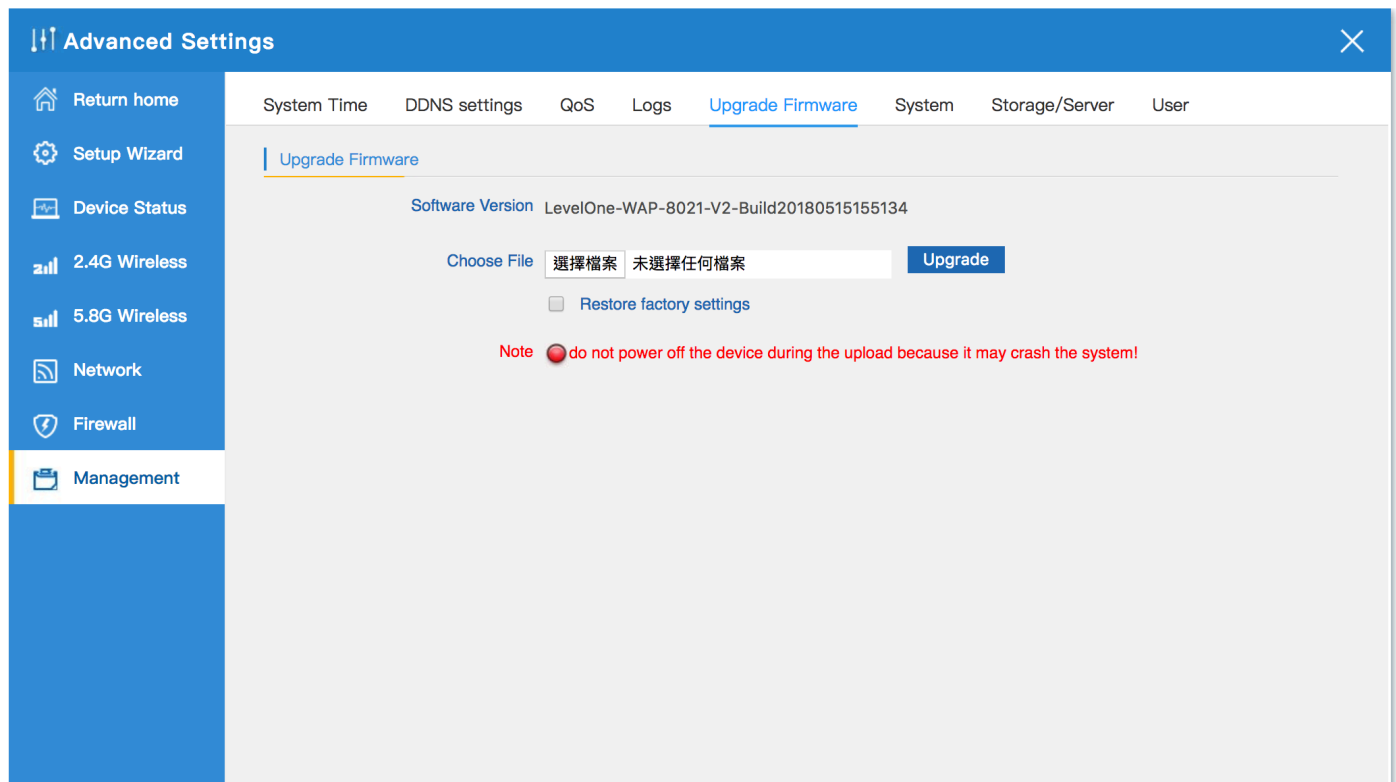


## 4.6.6  System :

You are able to backup the current configuration to your PC and restore by applying the configuration file from your PC. And you can Reset and Reboot the device with just one click
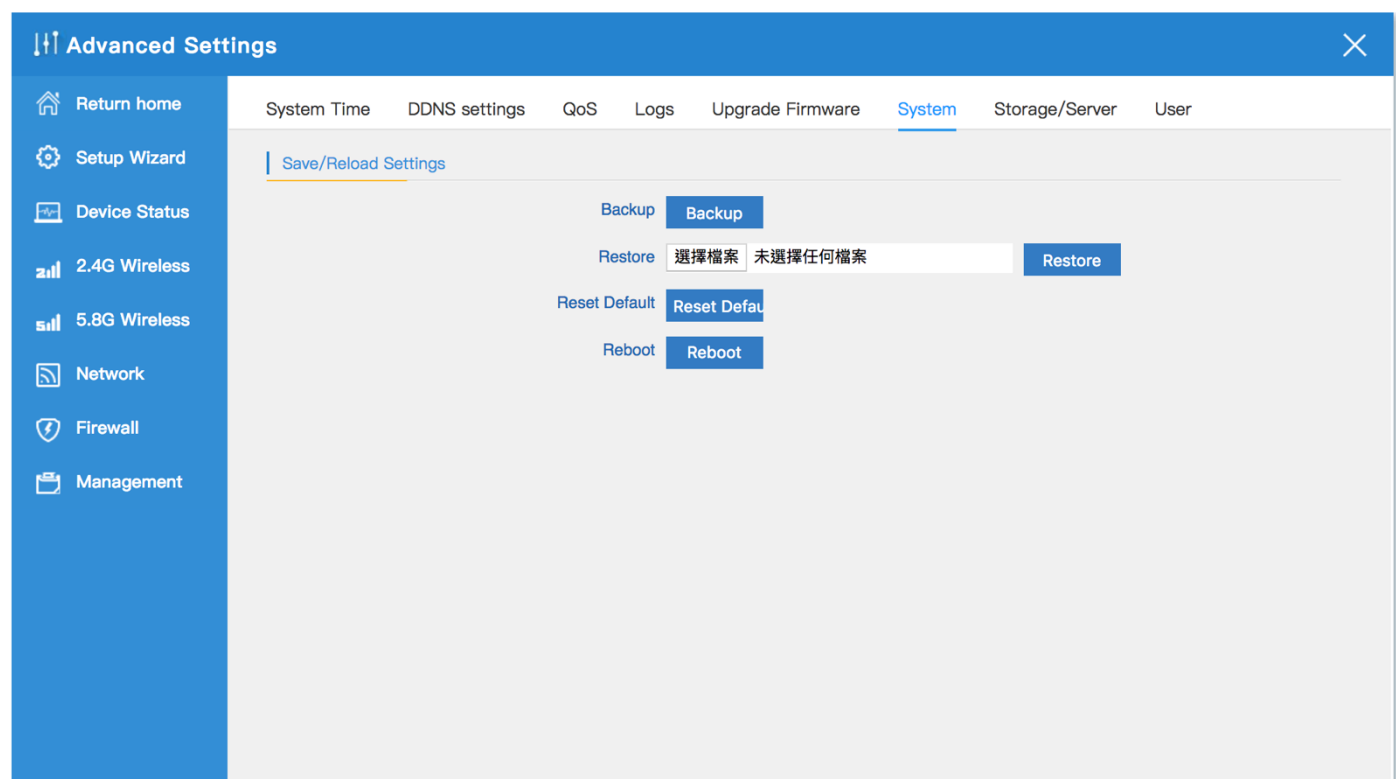
## 4.6.7 Storage / Server :

1. Share the files in USB disk to public users through SAMBA server. Storage/server functionality is available only in Gateway mode.
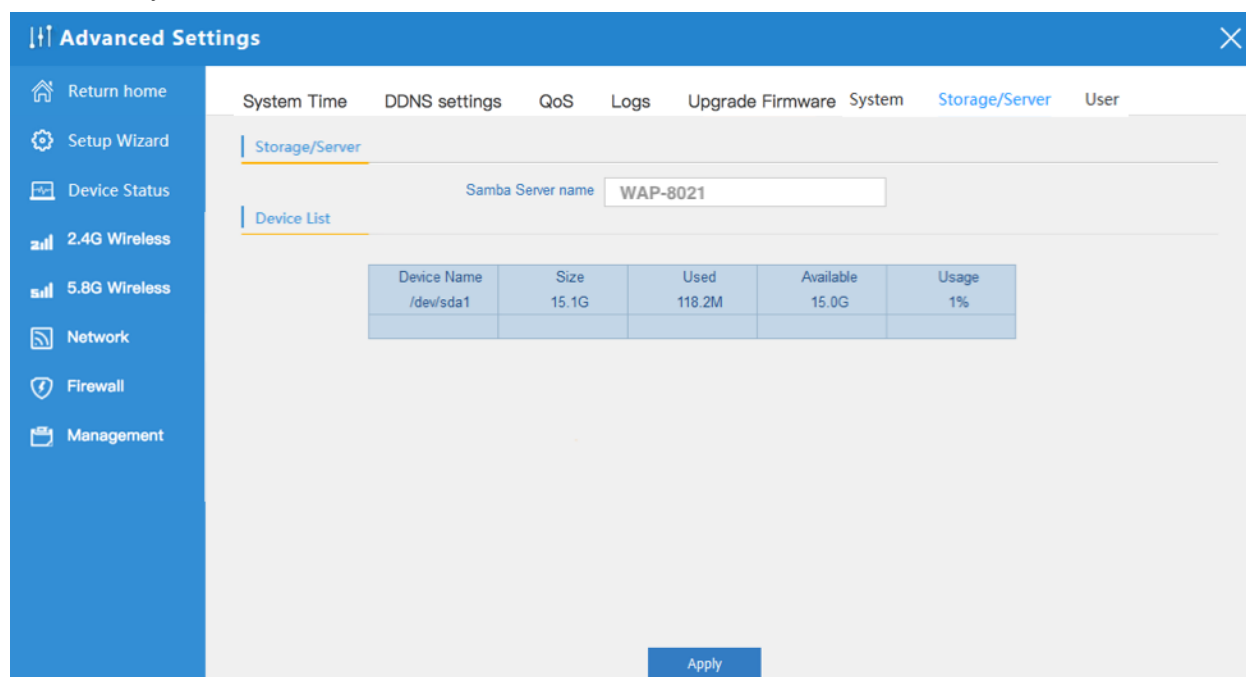


2. The default IP address of SAMBA server is 192.168.188.253, input \\192.168.188.253 in your PC to run and search it, picture showed as follow, click sure to confirm. Please make sure your computer has connected with the router.
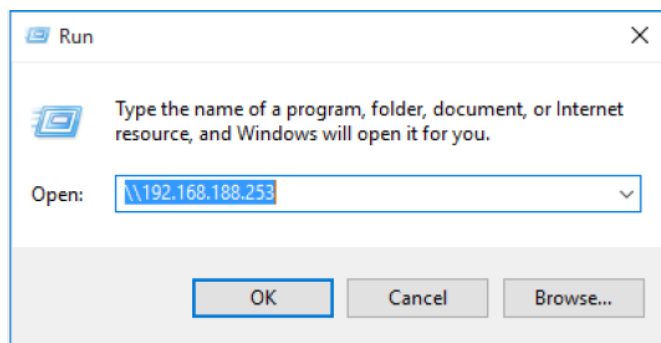


3. following picture will be showed, and then the files completely shared in this network.

# 4.6.8  User :

● Management and change the password for Log in

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