Model: BD-R211W-AC5

2LAN+WiFi(Dual Band)MESH ROUTER

USER MANUAL

Version V1.0

Release Date 2021-8-4

Contents

Chapter 1 Product Introduction

1.1 Product Description

Thank you for choosing the 2LAN+WiFi MESH ROUTER Unit .The V-SOL Dual Band 802.11ac wireless router devices the mesh router delivers high performance wireless connectivity for Small Office and Home(SOHO) deploymensts and support dual band concurrent operation at 2.4GHz and 5GHz with combined throughput of 1.2Gbps(300Mbps at 2.4GHz and 867Mbps at 5GHz). The mesh router support Wi-Fi EasyMesh that brings a standards-based approach to Wi-Fi networks that utilize multiple access points (APs), combining the benefits of easy to use, self-adapting Wi-Fi with greater flexibility in device choice that comes with interoperable Wi-Fi EasyMesh devices.

Figure 1-1-1: 2LAN+WiFi(Dual band) MESH Router

1.2 Special features

- WAN Function: PPPoE,DHCP Client,Static IP
- QoS:WMM
- Support UPnP, Port forwarding, Guest network
- Support Wi-Fi CERTIFIED EasyMesh
- Support 802.11n WiFi(2T2R) and 802.11ac(2T2R) function.
- Support NAT, Firewall function.
- Support IPv4

1.3 Technical parameters

Technical items	Descriptions
LAN interface	1*10/100/1000Mbps auto adaptive Ethernet interfaces, 1*10/100Mbps auto adaptive Ethernet interfaces, Full/Half, RJ45 connector
WiFi interface	Compliant with IEEE802.11b/g/n/ac 2.4GHz Operating frequency: 2.400-2.483GHz (WiFi 4) 5.0GHz Operating frequency: 5.150-5.825GHz (WiFi 5 wave 2) WiFi: MIMO 2×2 For 2.4GHz,MIMO 2×2 For 5.0GHz, 4×5dBi external antenna, rate up to 1.166Gbps,Multiple SSID TX power: 11n--22dBm/11ac--24dBm
LED	3, For Status of SYS,LAN1,LAN2
Operating Enviroment	Temperature: 0℃～+50℃ Humidity: 10%～90%（non-condensing）
Storing Enviroment	Temperature: -30℃～+60℃ Humidity: 10%～90%（non-condensing）
Power Supply	DC 12V/1A,10W
Dimension	115mm×115mm×180m(L×W×H)
Net weight	560g

1.4 Application chart

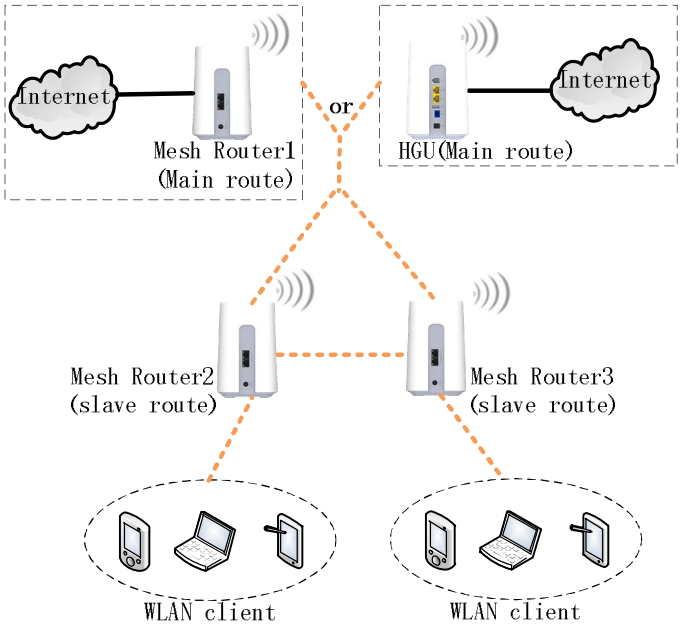

Figure 1-4-1: Application chart

1.5 Panel description

Interface panel

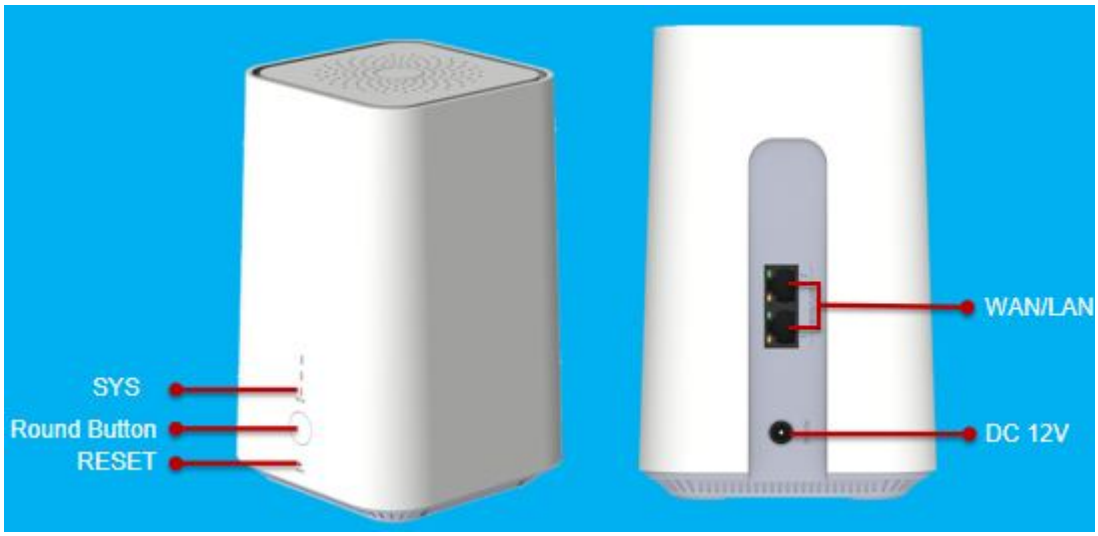

Figure 1-5-1: Interface panel

Name	Function
WAN/LAN	Connect PC or other devices with Ethernet port by Cat5 cable, RJ-45 connector.
DC 12V	Connect with power adapter. DC 12V, 1.5A.

Round button	Press button quickly to form a network with other mesh devices.
RST	Press RST button over 10 seconds to restore router to factory default.

Indication Panel

Figure 1-5-2: Indication panel

LED	Mark	Status	Description
System	SYS	Off	The device is not running.
		On	Green: WAN connected or mesh connected.
			Orange: The device is on slave route mode.
			Red: The device is starting.
		Blink	Green: Mesh is not connected or connecting.
			Orange: WAN is connecting.
Ethernet	WAN /LAN	On	Port is connected properly.
		Off	Port connection exception or not connected.
		Blink	Port is sending or/and receiving data.

Chapter 2 Quick Installation

2.1 Standard Packing Contents

When you receive our products, please check carefully to make sure that our products whether have some defects or not. If something wrong with shipping, please contact carrier; other damage or lack of some parts, please contact with dealer.

Contents	Description
2LAN+WiFi Router	1 pc
Power Adapter	1 pc
Installation Guide	1 pc

2.2 Quick Installation

1. Apply power to the unit. Push the power button.
2. After the Router is power ON, Indicators should light up as for normal operation. Please refer to the Layout Description section of this installation manual for normal LED activity.
3. Check all signal levels and services on all the Router communication ports.

Unit Installation Adjustment

Installing the wireless router on a horizontal surface (Bench top)

Put the wireless router on a clean, flat, sturdy bench top. You must keep the clearance for all sides of the unit to more than 10cm for heat dissipation.

2.3 Set up Connection

Set up wired connection

Connect PC with wireless router Ethernet port by RJ-45 CAT5 cable.

Set up wireless connection

Choose the wireless network name (SSID) "VSOL_5G_xxxxxx", default security mode is WPA2 mixed, password is *12345678*.

As master router

You need to configure WAN to connect to the Internet.You can decide whether to turn on the mesh function of route according to your needs.

As slaver router

You just need to press the round button to connect to the master router.

Chapter 3 Configuration

After finishing the basic connection configuration, you can use its basic function. In order to satisfy individuation service requirements, this chapter provides you parameter modification and individuation configuration description.

3.1 Login

The device is configured by the web interface. The following steps will enable you to login:

1. Conform "2.2 Quick Installation" to install;
2. The device default IP is 192.168.1.254;
3. Open web browser, type the device IP in address bar;
4. Entry of the username and password will be prompted. Enter the default login User Name and Password:

The default login User Name of administrator is "admin", and the default login Password is "system".

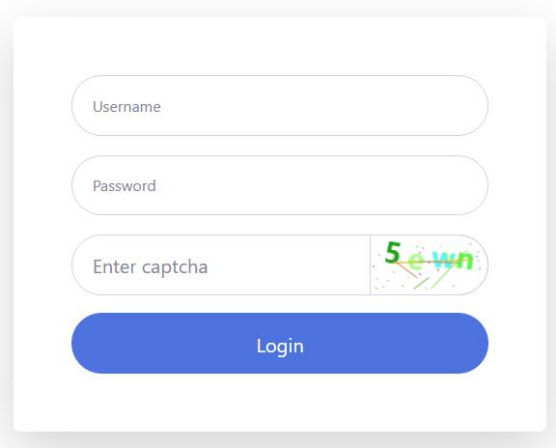

Figure 3-1-1: Login

3.2 Status

This part shows the main information of product.

3.2.1 Device Info

This page shows the device basic information, such as device model, device MAC, hardware version, and firmware version and so on.

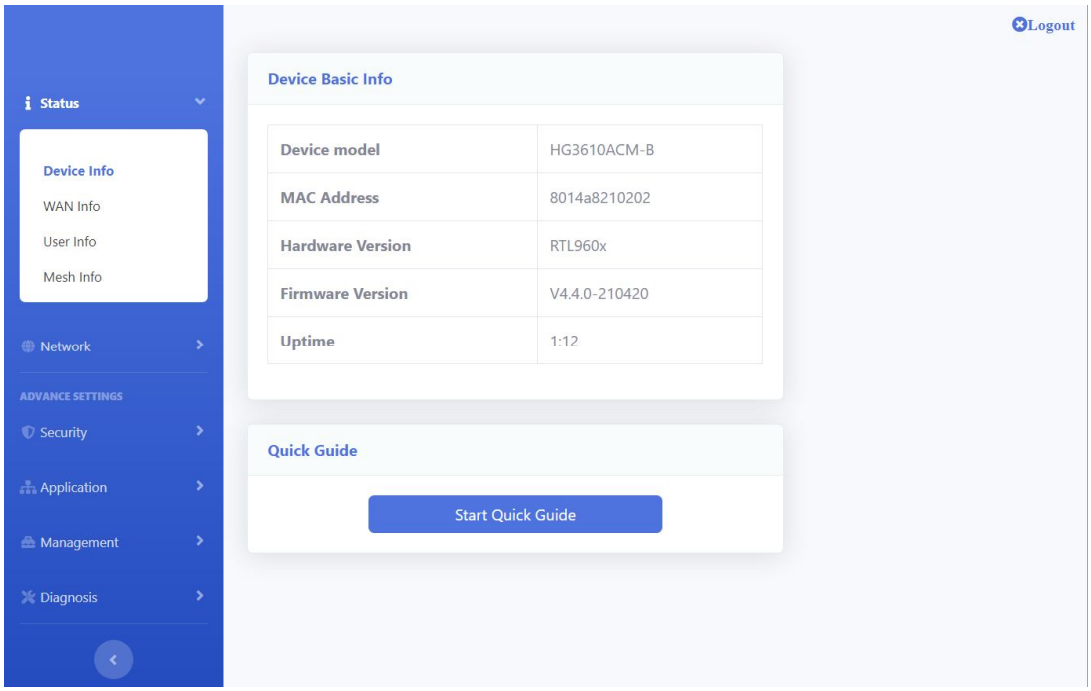

Figure 3-2-1: Device Information

3.2.2 WAN Connection Info

This page shows IPv4/IPv6 WAN connection information that you have configured.

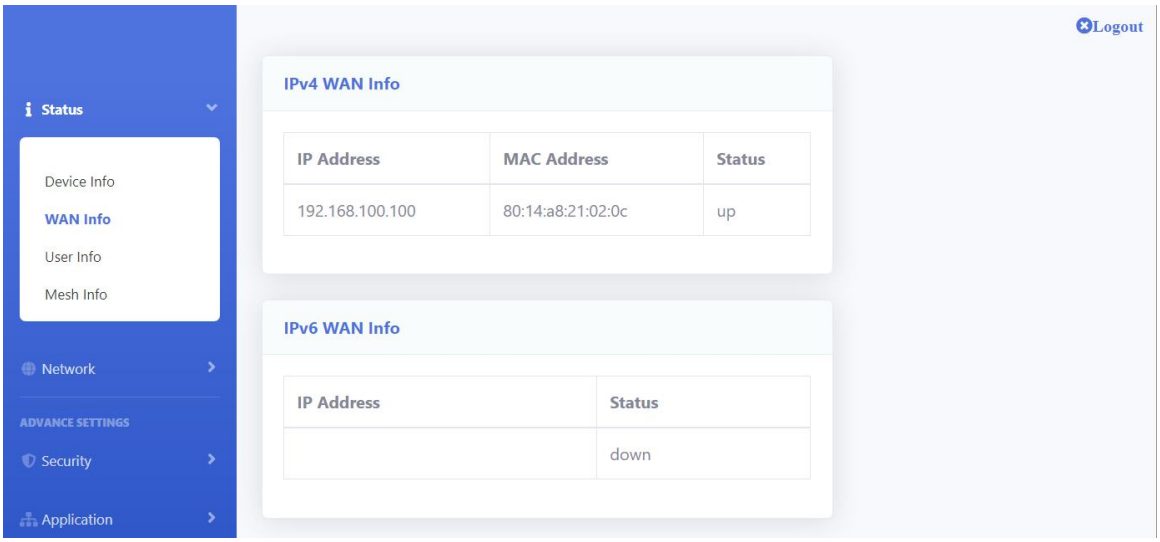

Figure 3-2-2: WAN Information

3.2.3 User Information

This page shows information of DHCP clients, including client name, MAC address, IP address, lease time.

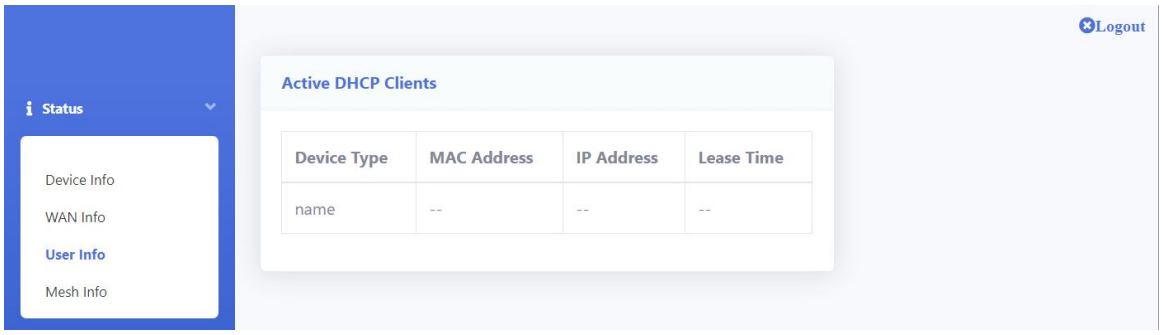

Figure 3-2-3: User info

3.2.4 Mesh Information

This page shows mesh information.

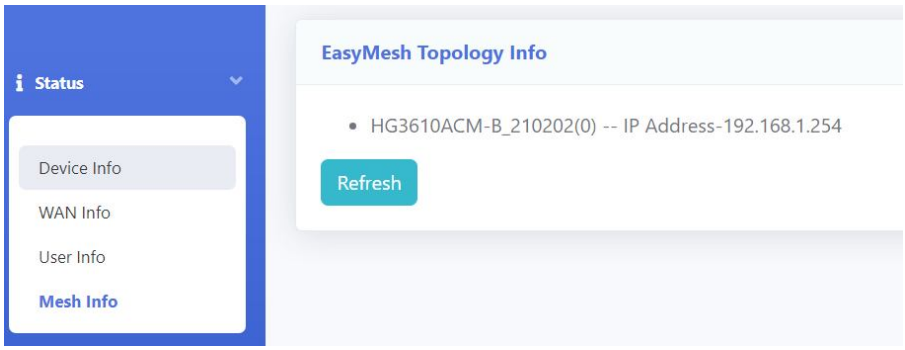

Figure 3-2-4: Mesh Info

3.3 Network

3.3.1 WAN

This page allows you to select WAN connections.

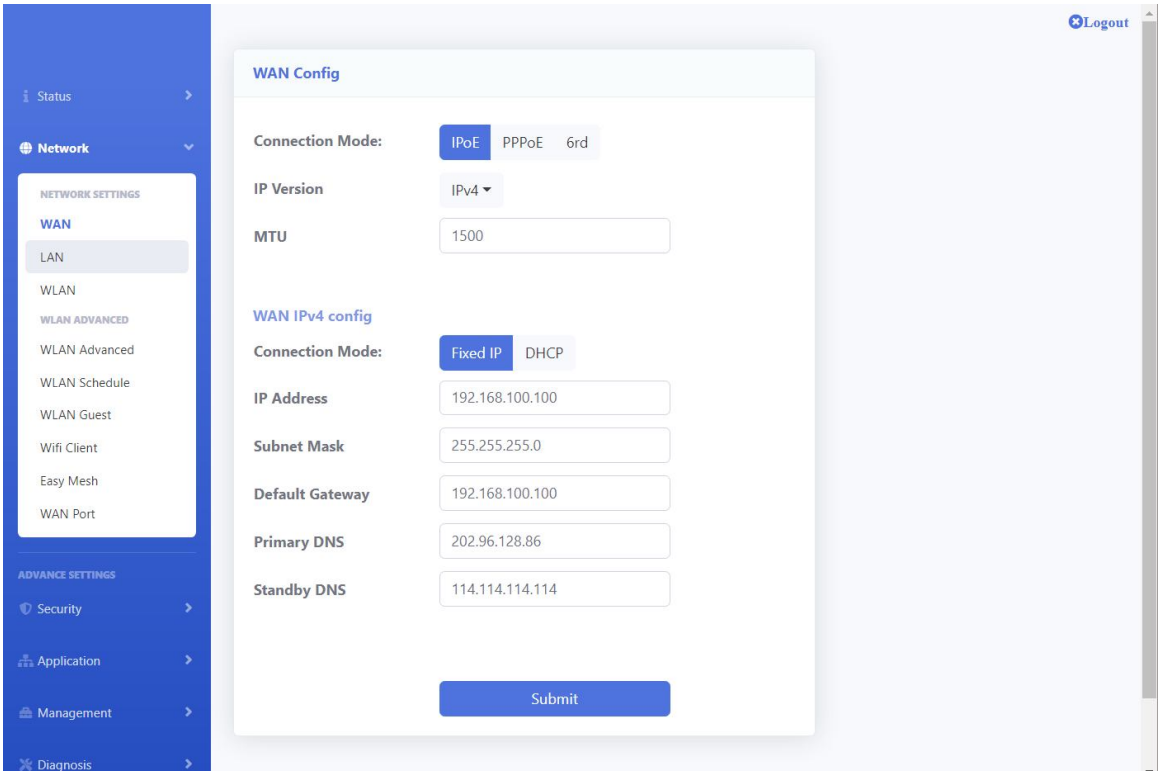

Figure 3-3-1: WAN

Parameters	Illustration
Connection Mode	**IPoE**: Set the IP address manually or automatically obtain an IP address from your ISP. **PPPoE**: Select this option if your ISP uses PPPoE. **6rd**: IPv6 over IPv4.
IP Version	**IPv4**: WAN connections use IPv4 protocol. **IPv6**: WAN connections use IPv6 protocol. **IPv4 & IPv6**: WAN connections use both IPv4 and IPv6 protocol.
MTU	MTU: max transfer unit. Default Value: 1500 in bridge mode, 1492 in route mode.
Request DNS	**Enable**: DHCP server assigns DNS. **Disable**: set DNS manually.

3.3.2 LAN Settings

3.3.2.1 IPv4

This page allows you to do some LAN settings, such as LAN IP address, DHCP server.

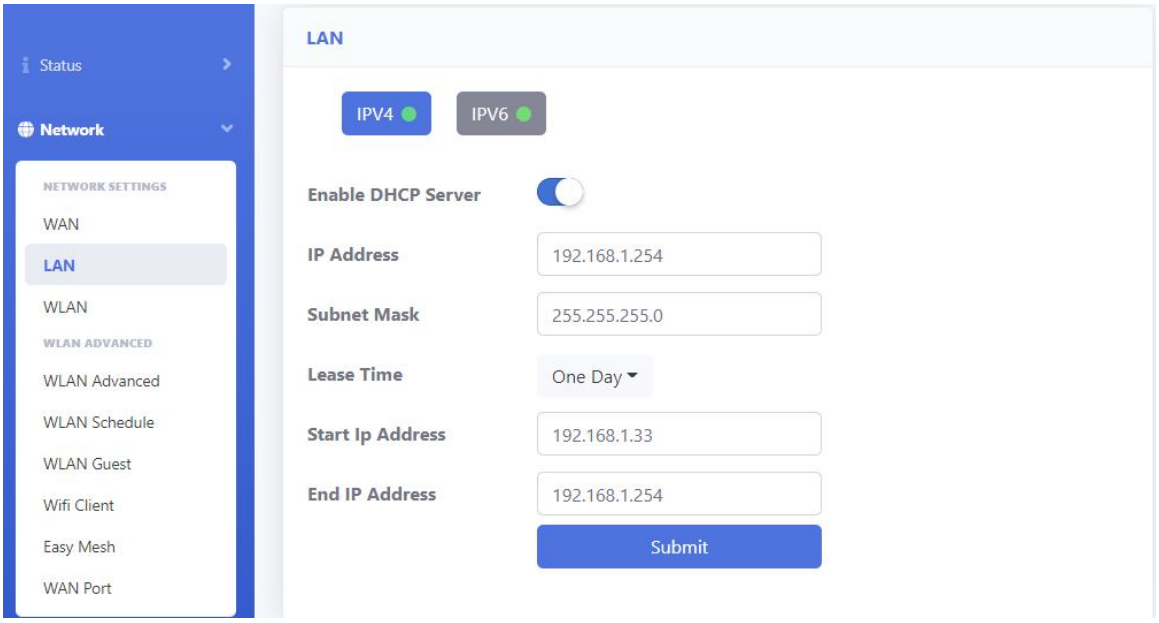

Figure 3-3-2: IPv4 configuration

Parameters	Illustration
IP Address	LAN IP address.
Subnet Mask	LAN IP mask.
Disable DHCP Server	DHCP Server is disabled.
Enable DHCP Server	Enable DHCP server. **Start IP Address:** The start IP address of address pool. **End IP Address:** The end IP address of address pool. **Lease Time:** Lease time of the IP address.

3.3.2.2 IPv6

This page allows you to configure LAN IPv6 address, LAN IPv6 DNS and IPv6 prefix.

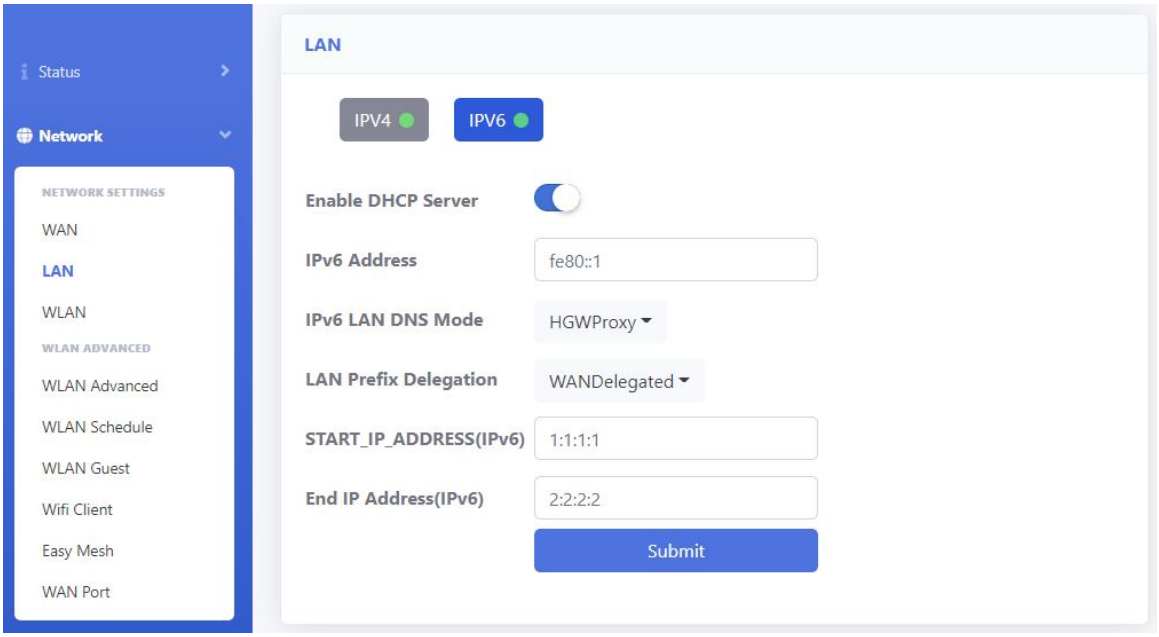

Figure 3-3-3: IPv6 configuration

Parameter	Illustration
IPv6 address	LAN IPv6 address.
LAN DNS	Choose how to get IPv6 DNS.
LAN IPv6 prefix	LAN IPv6 address prefix.

3.3.3 WLAN

This page allows you to configure wireless basic settings,including wireless switch, SSID, encryption and password.

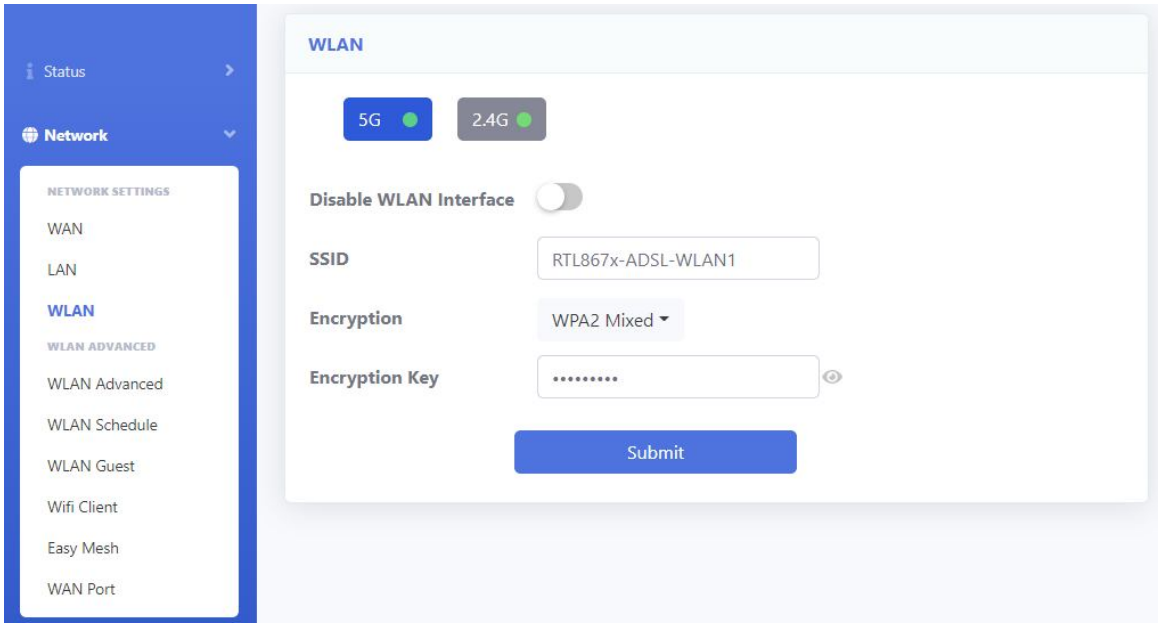

Figure 3-3-4:WLAN configuration

3.3.4 WLAN Advanced

This page allows you to configure wireless advanced settings, including band, channel width, channel number and so on.

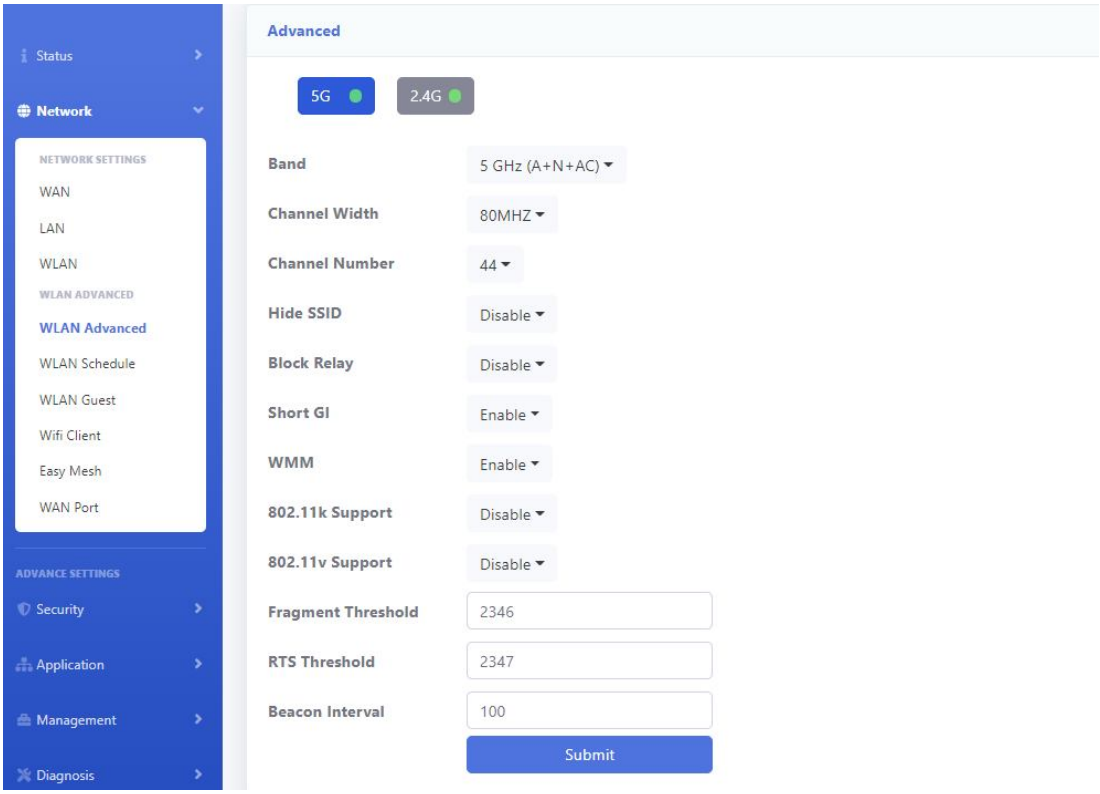

Figure 3-3-5: WLAN Advanced

Parameter	Illustration
Band	Choose 5G WiFi band.
Channel width	WLAN channel width.
Channel Number	WLAN channel, default value is auto.
Hide SSID	Disable or Enable transmit broadcast in WLAN
Block Relay	Disable or Enable isolate WLAN clients
SGI	Short Guard Interval. The Guard Interval is used to ensure that distinct transmissions occur between the successive data symbols transmitted by a device. To increase data rates, the 802.11n standard added optional support for a 400 nsec guard interval. This would provide an 11% increase in data rates.
WMM	WiFi MultiMedia. Video and audio traffic will have higher priority when WMM is enabled.
802.11k	This option will be enabled when the mesh function is enabled.. The 802.11k protocol can inform the client of the information of the nearby nodes and guide the client to connect from the slow node to the fast node.

802.11v	This option will be enabled when the mesh function is enabled. The 802.11v protocol allows terminal devices to exchange network topology information, including the RF environment.And balance the load of nodes.

3.3.5 WLAN Schedule

This page allows you setup the wireless schedule rule. Do not forget to configure the system time before enabling this feature.Supports two timing modes, default 'timing close'.

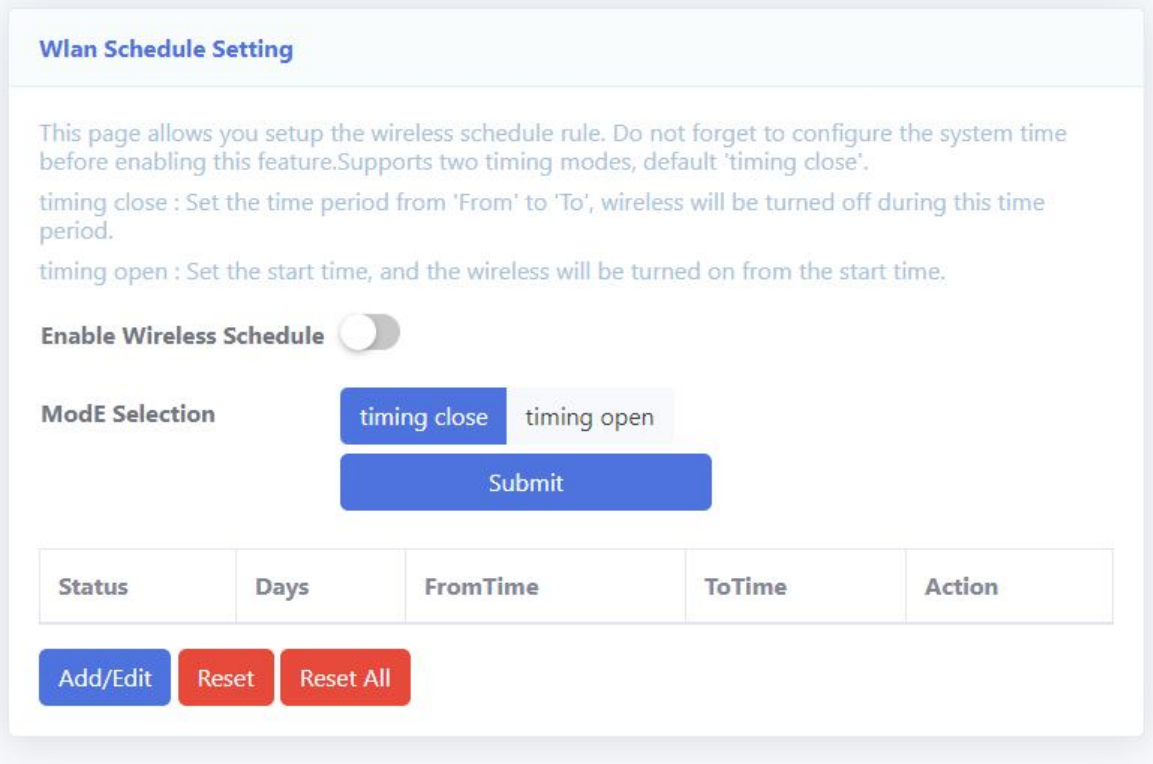

Figure 3-3-6: WLAN Schedule

3.3.6 WLAN Guest

This page allows you to configure the guest network.

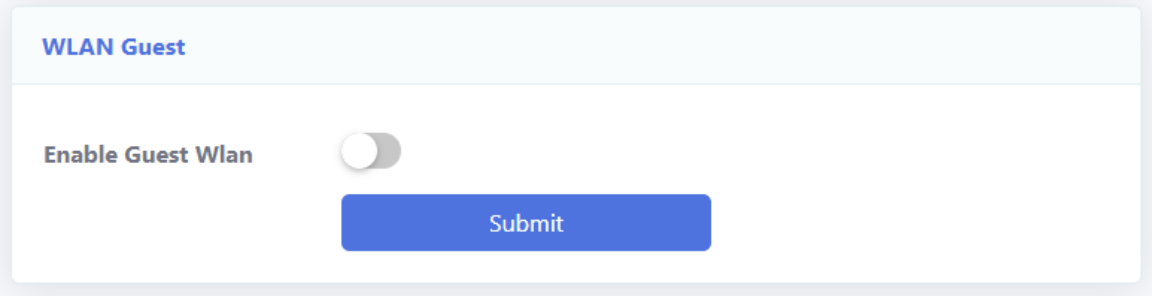

Figure 3-3-7: WLAN Guest

3.3.7 WLAN Client

This page displays the clients connected to the wireless network. You can enter keywords in the search box in the upper right corner to search the client.

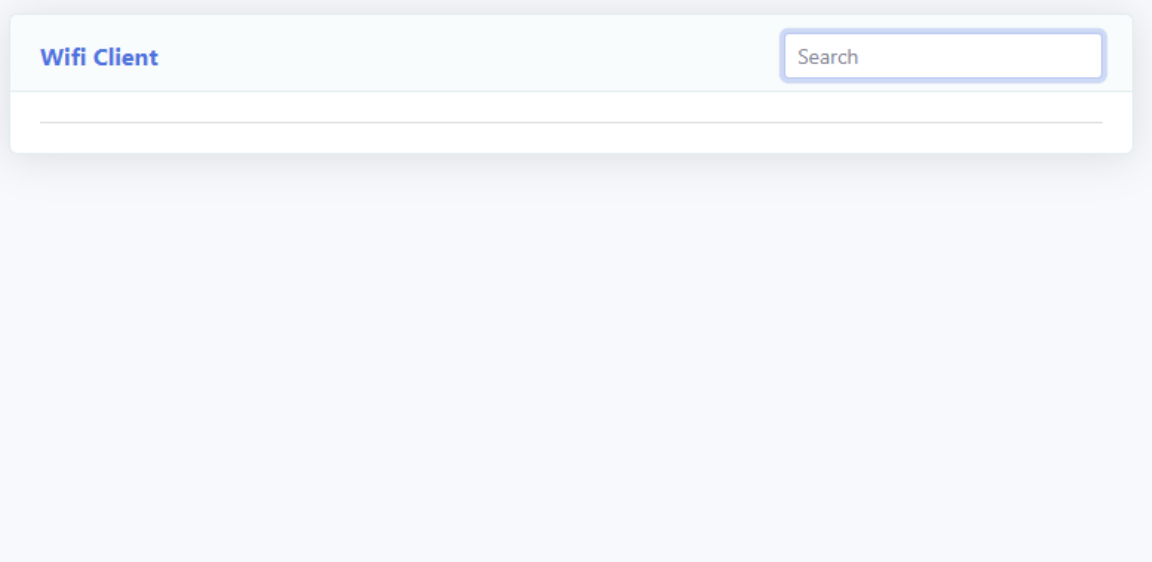

Figure 3-3-8: WLAN Client

3.3.7 Easy Mesh

This page allows you to enable or disable mesh function of wireless router and select mesh network interface.

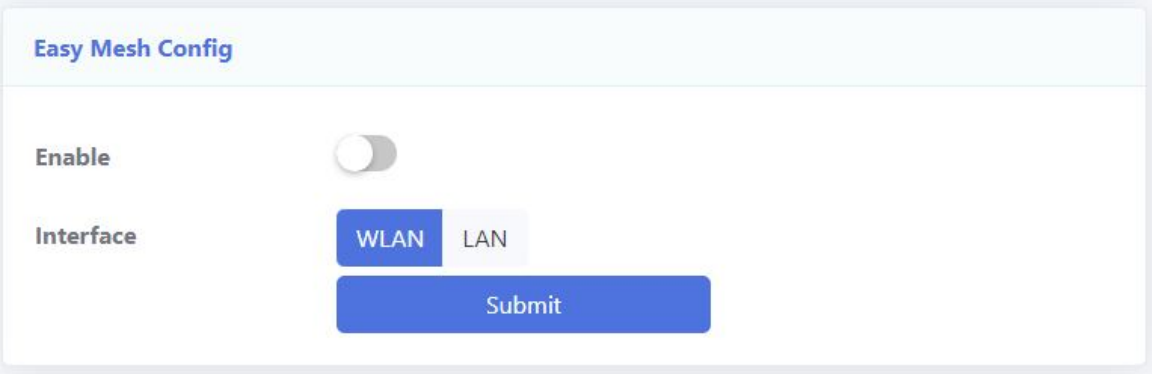

Figure 3-3-9: Easy Mesh

3.3.8 WAN port

The WAN interface is the only network used to connect to the Internet. When you select Port 1, this port will be set as WAN interface.And when you select AUTO, the wireless routing will automatically select a port as WAN interface according to your network environment.

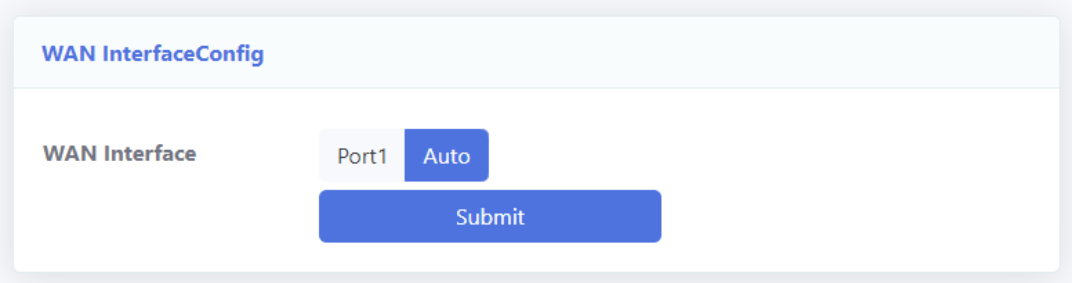

Figure 3-3-10: WAN port

3.4 Security

3.4.1 URL Filtering

This page allows you to configure URL filter.

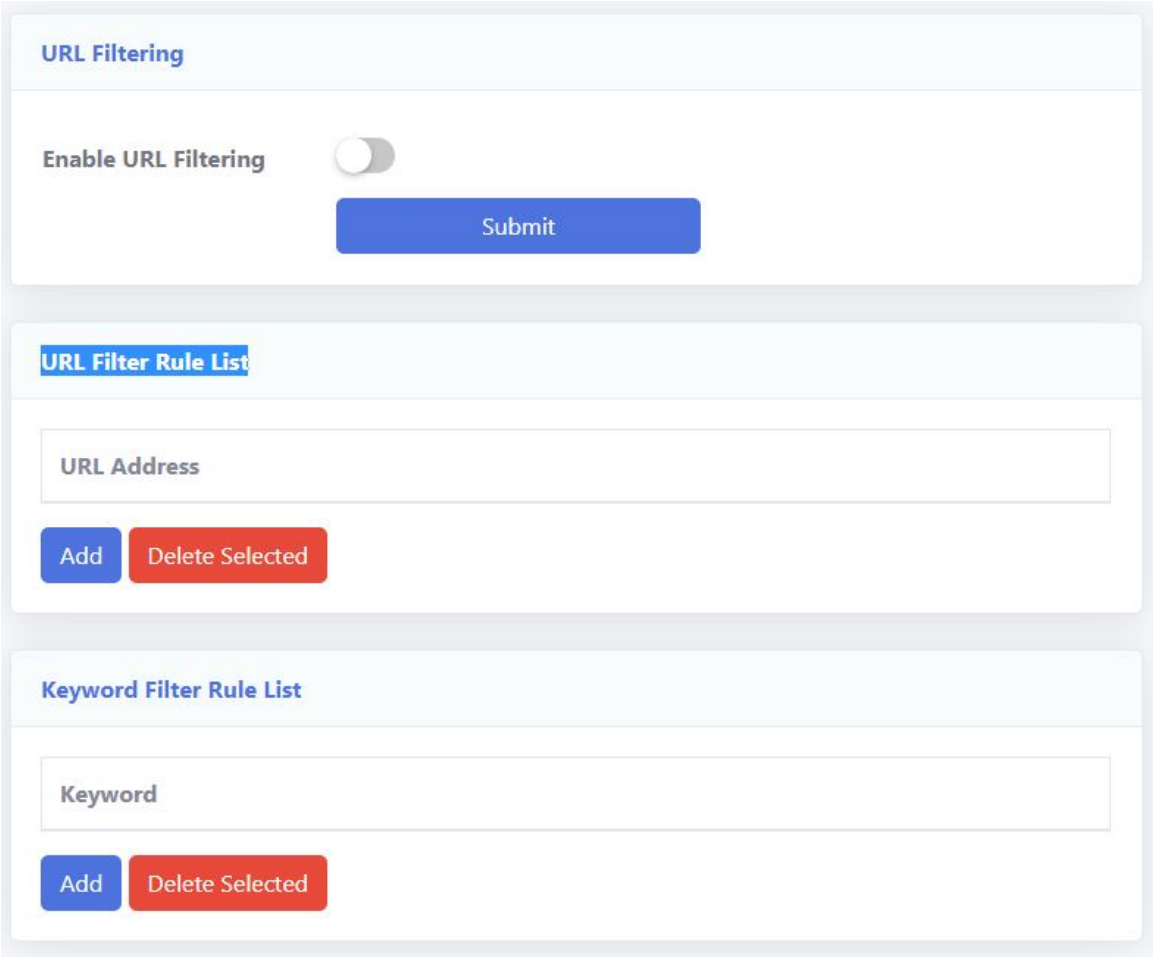

Figure 3-4-1: URL Filtering

Parameter	Illustration
URL Filtering	Enable or Disable URL Filter
URL Filter Rule List	URL List you want to deal with. Click “Add” button to add URL item to the list. Select URL Address and then click “Delete selected” button to remove URL items from the list.
Keyword Filter Rule List	URL List you want to deal with. Click “Add” button to add Keyword to the list. Select Keyword and then click “Delete selected” button to remove Keyword items from the list.

3.4.2 Firewall

This page allows you to configure firewall level and attack protection function.

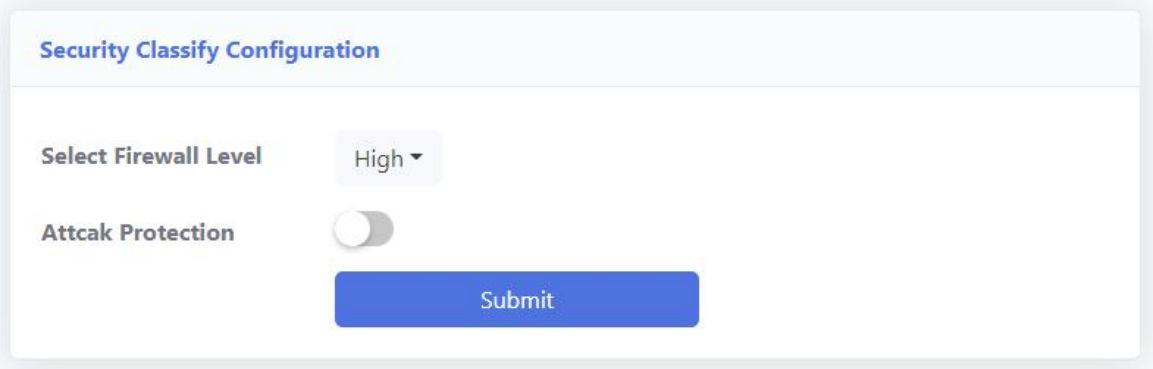

Figure 3-4-2: Firewall Level

Parameter	Illustration
Firewall Level	**Low**: Protect nothing. **High**: Forbid telnet service, Forbid Port Scan, No access to devices from WAN port, Denial of Service protections.

3.4.3 Login Privilege

This page is used to configure the access control and common ports on the upstream and downstream directions. By default, the wireless router can't be accessed from WAN side by telnet, web and so on.

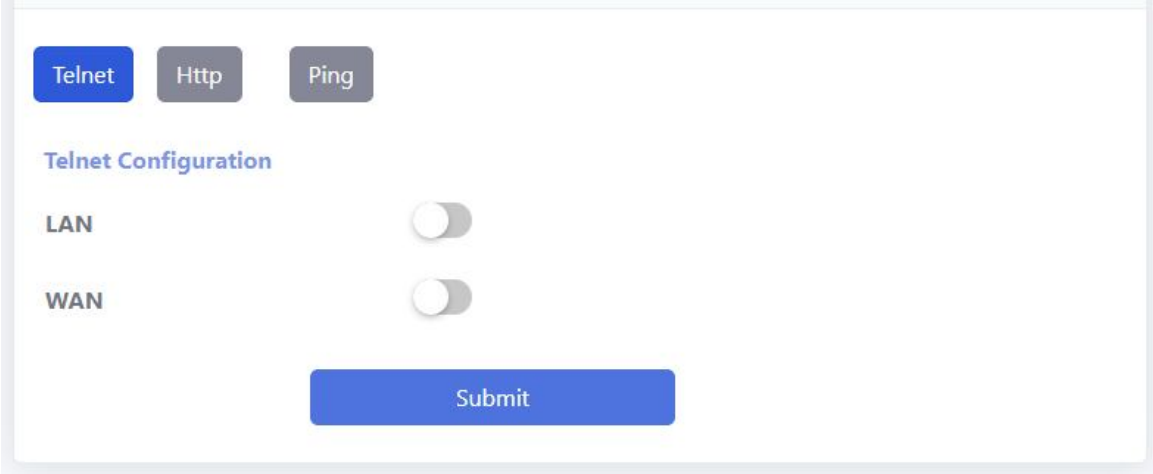

Figure 3-4-3: Login Privilege

3.5 Application

3.5.1 NAT

This page allows you to configure virtual server. You should create a wan connection with

NAT function enabled before you configure the virtual server. After you click the "Add/Edit" button, you will see the page show as in Figure 3-48.You can select the rule and then click the "delete" button to remove service items from the service table.

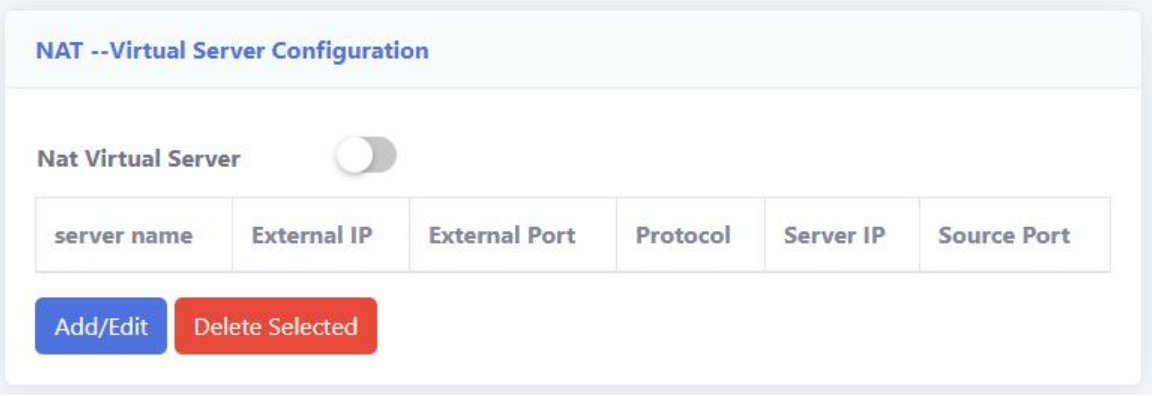

Figure 3-5-1: Virtual Server Configuration

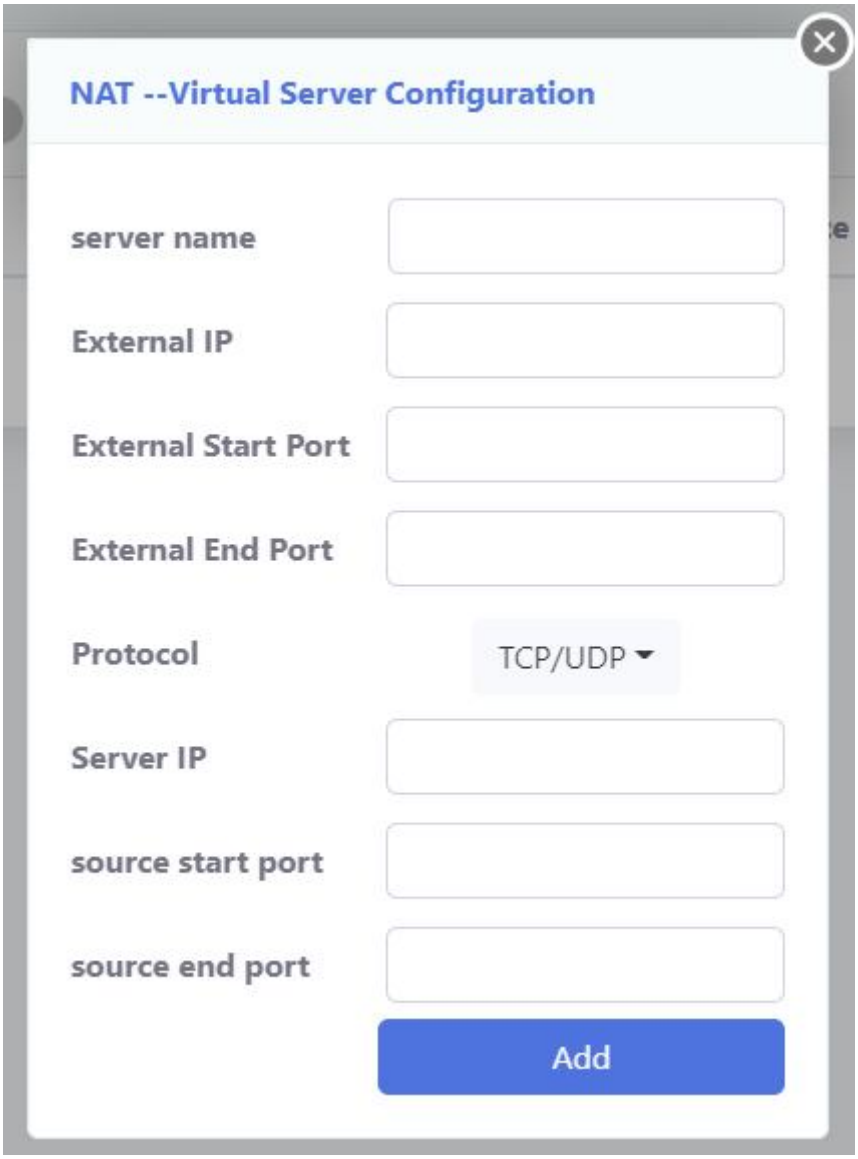

Figure 3-5-2: Virtual Server configuration

3.5.2 DMZ

This page allows you to configure DMZ server.

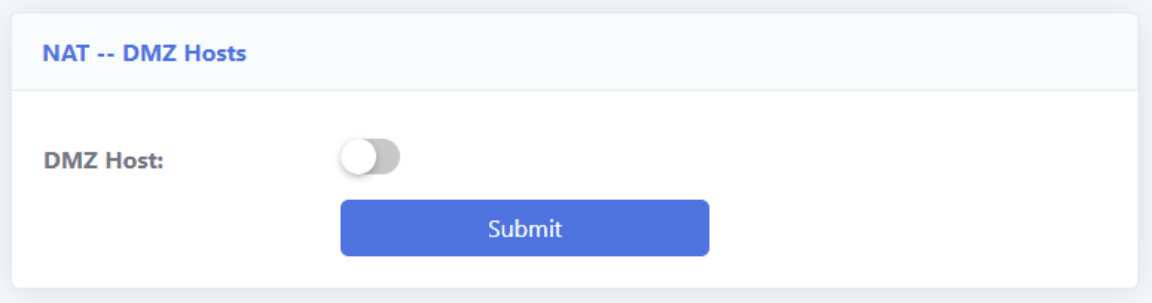

Figure 3-5-3: DMZ configuration

3.5.3 DDNS

Dynamic DNS services allow you to change a dynamic IP address to a static host name in any multiple domains, allowing your router to be more easily accessed from different locations on the Internet.

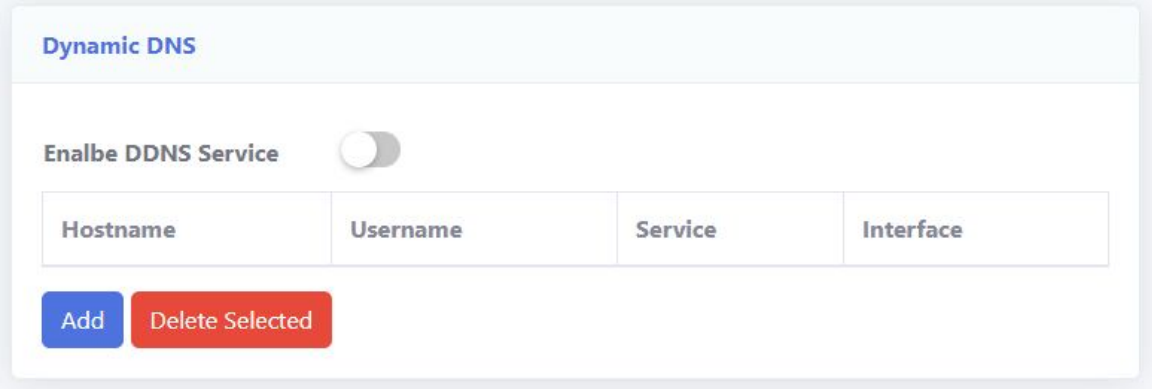

Figure 3-5-4: DDNS

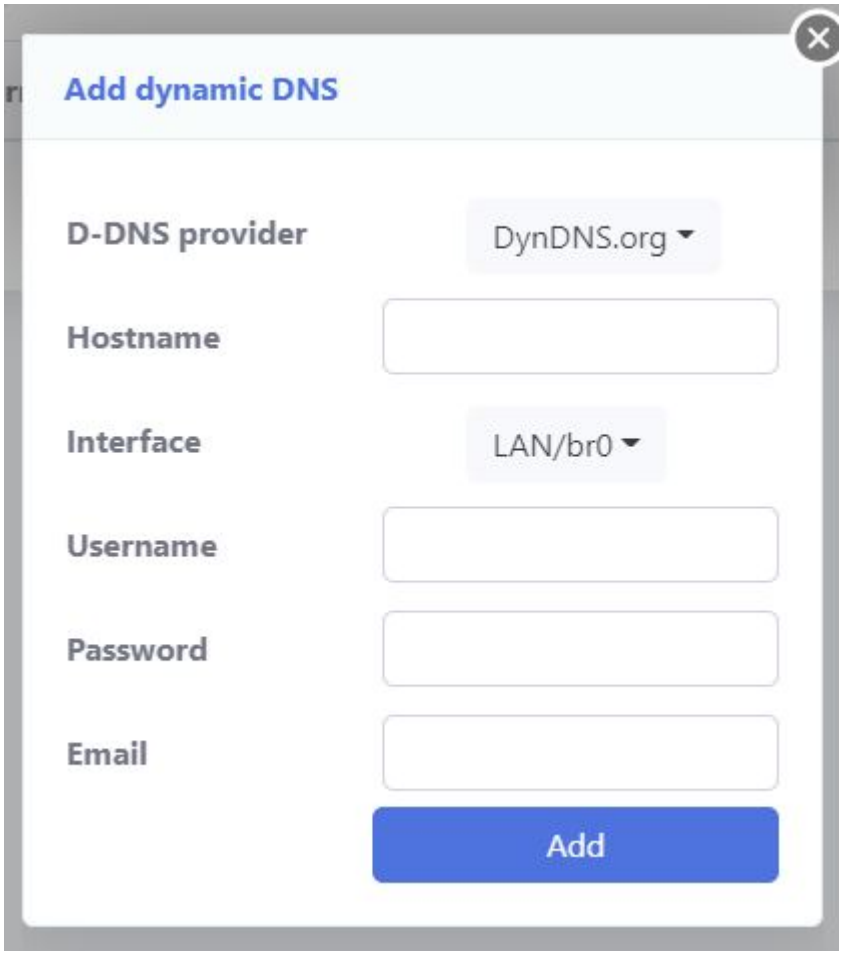

Figure 3-5-5: Add DDNS

Parameter	Illustration
D-DNS Provider	Choose DDNS service provider.
Host name	Set host name of the device.
Interface	The interface of accessing by DDNS
Username	The username which is used to access DDNS server.
Password	The password which is used to access DDNS server.

3.5.4 UPNP

This page is used to configure UPNP.When the router opens UPnP, if the software in the the user's device also supports UPnP protocol, the router will open the corresponding virtual server port according to the requirements of the user software.

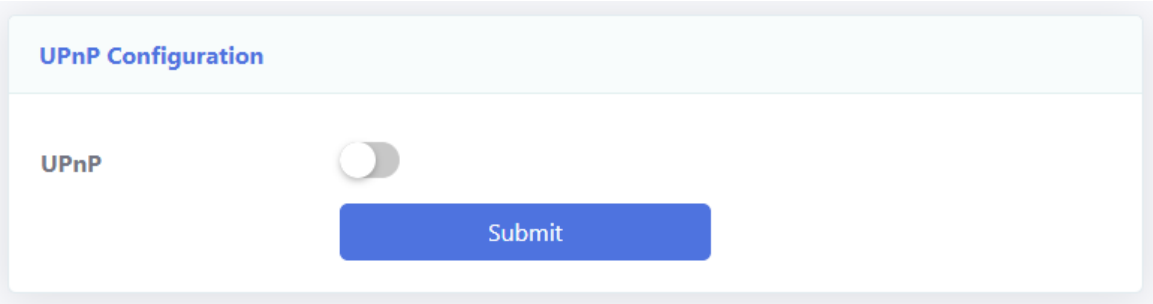

Figure 3-5-6: UPNP configuration

3.5.5 MQTT

This page allows you to to configure MQTT.

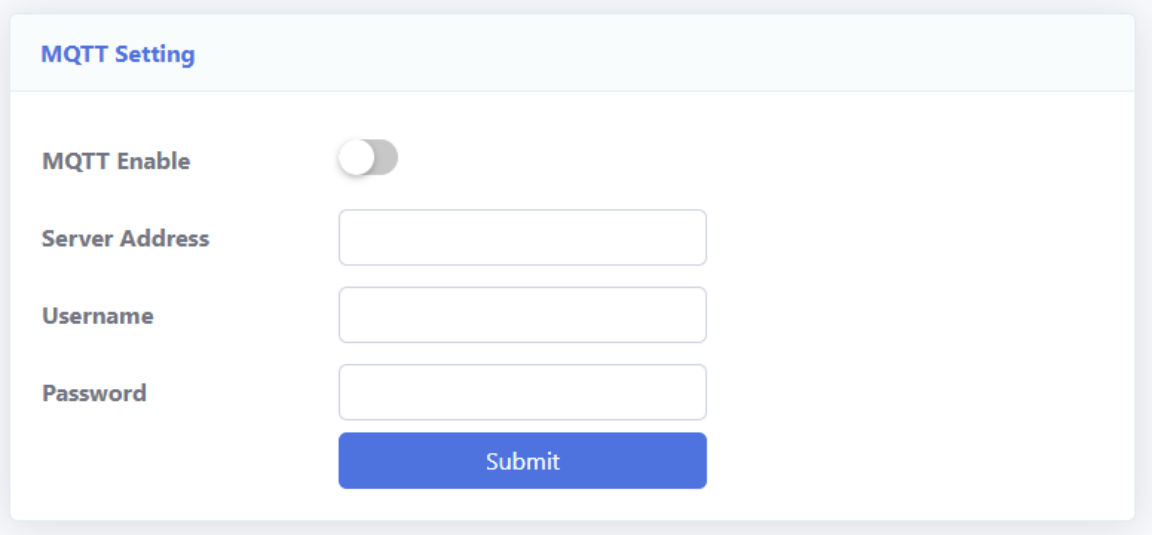

Figure 3-5-7: MQTT Configuration

3.5.6 VPN

This page allows you to configure VPN.You can choose PPTP or L2TP to connect to VPN.

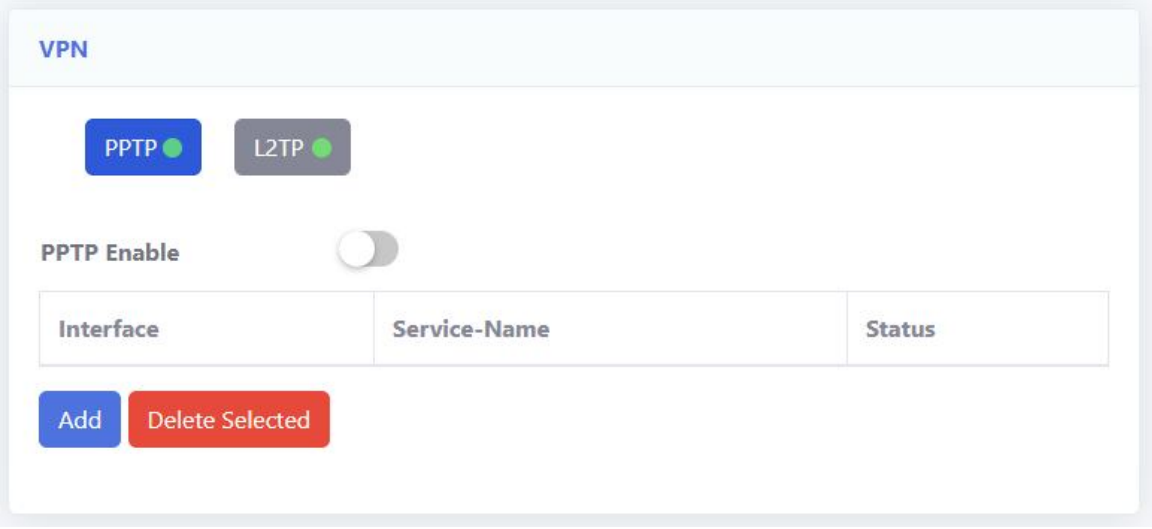

Figure 3-5-8: PPTP Configuration

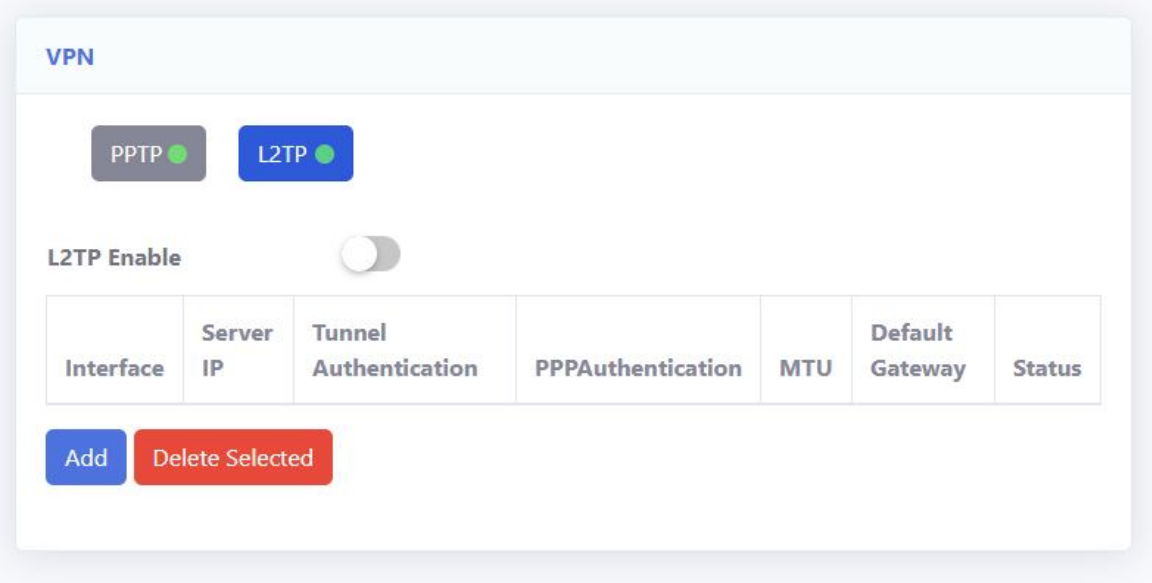

Figure 3-5-9: L2TP Configuration

3.5.7 Time

This page allows you to configure NTP parameters.The router can synchronize the time according to your configuration

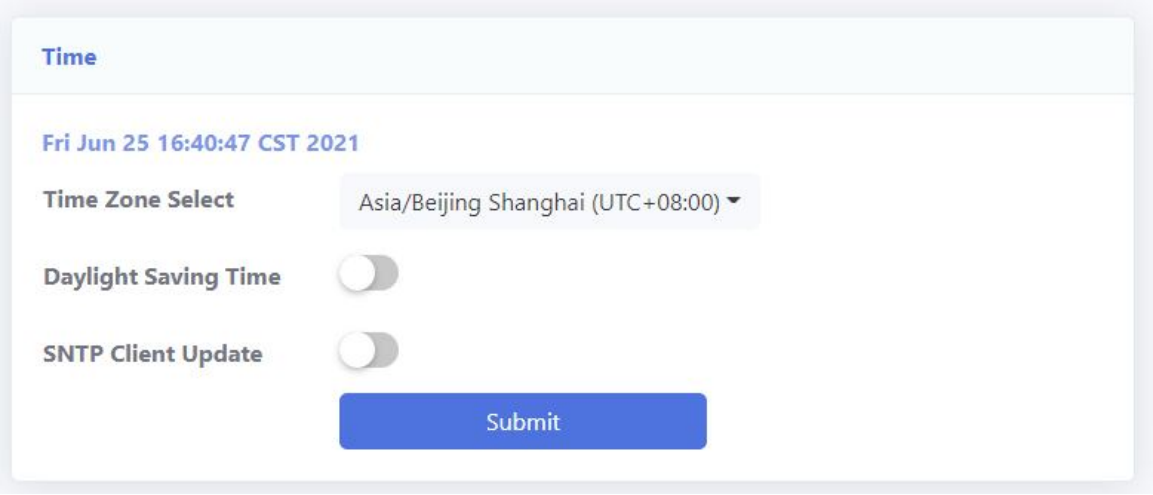

Figure 3-5-10: Time

3.6 Management

3.6.1 User Management

This page allows you to change login password of current user.

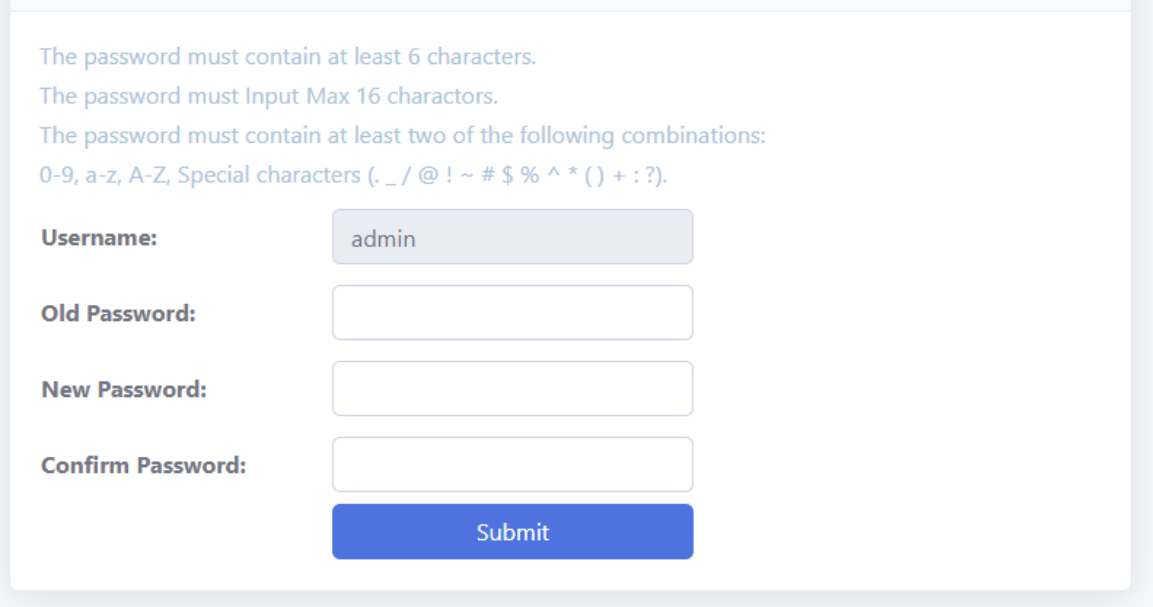

Figure 3-6-1: User management

3.6.2 Configuration Management

On this page, you can click "Reset" button to Restore factory default of the device. After restored, it will restart automatically.You can click "Download" to backup the current configuration of the route.And You can select the file and click "upload" to restore the configuration.

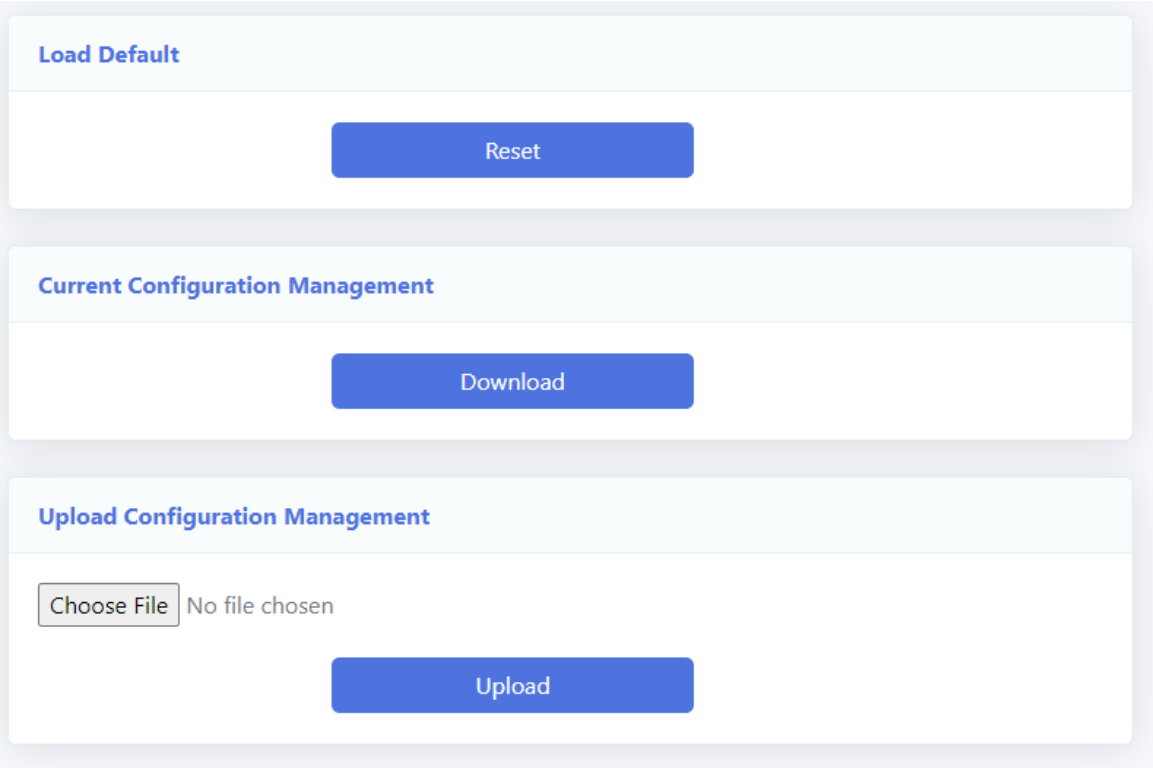

Figure 3-6-2: Configuration management

3.6.3 Upgrade

This page allows you to upgrade the device. You can select the upgrade firmware and click "Upgrade" to upgrade device. Please keep the power on, otherwise this device will be damaged. It will reboot automatically when finish upgrade.

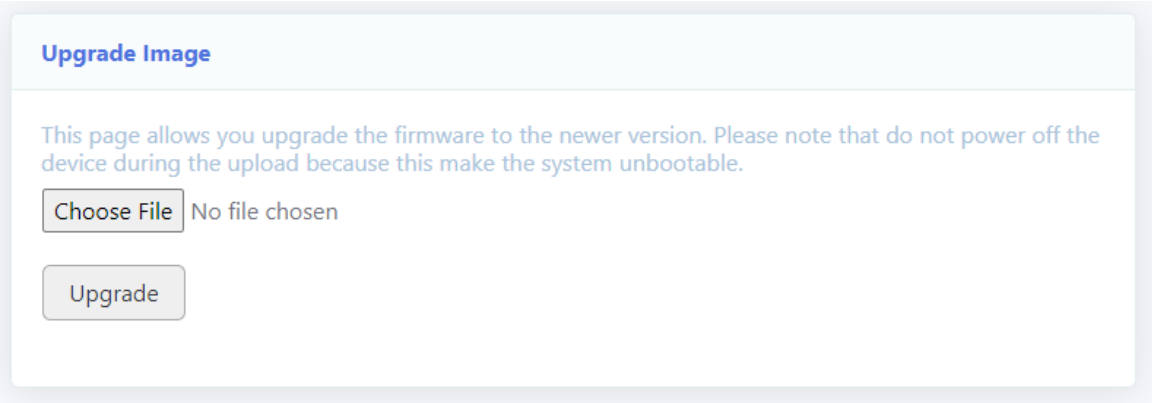

Figure 3-6-3: Device upgrade

3.6.4 Reboot

This page allows you to reboot the device. The process of reboot will take several minutes.

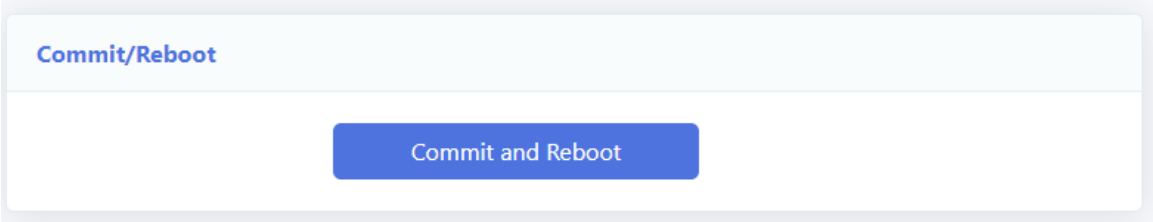

Figure 3-6-4:Reboot

3.7 Diagnose

3.7.1 Self-diagnosis

On this page, you can click " Diagnosisto star" to diagnose whether the network connection is normal.

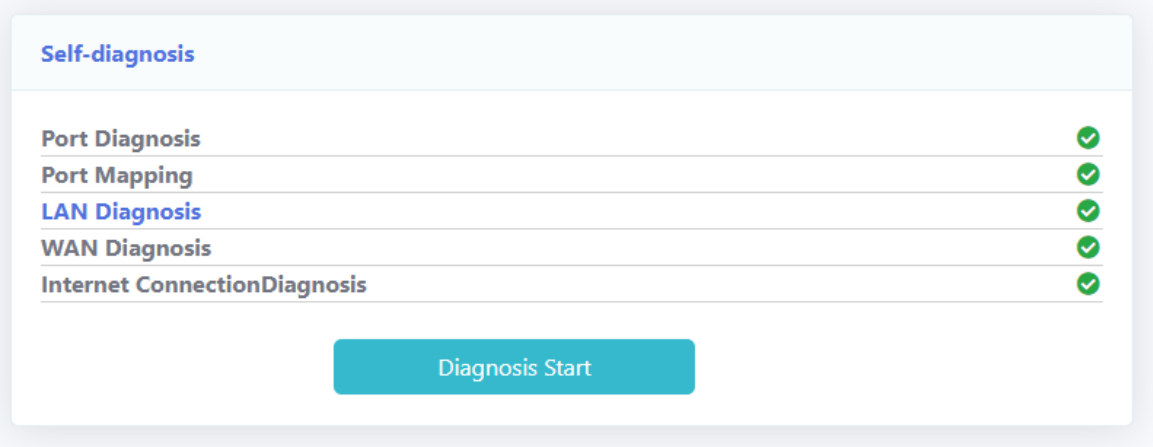

Figure 3-7-1: Self-diagnosis

Chapter 5 FAQ

1. **Q:** All indicators are not lit?

   A: (1) Power is off or power adapter is bad.

   (2) Indicator LED switch is turned off.

2. **Q:** LAN indicators are not lit?

   A: (1) Indicator LED switch is turned off.

   (2) The cable breaks down or connection loosened.

   (3) The cable type incorrect or too long.

3. **Q:** PC can't visit web UI?

   A: (1) PC and HGU are not in the same network fragment. By default, LAN IP is 192.168.1.254/24.

   (2) The cable breaks down.

   (3) IP conflict or have loopback.

4. **Q:** User can't surf the Internet normally.

   A: (1) PC has set a wrong IP and gateway or network is bad.

   (2) There is loopback or attack in network.

   (3) Route mode WAN connection doesn't get an IP or DNS is disabled.

5. **Q:** Unsuccessful MESH, Slave Router indicators always blinking.

   A: (1) 'Easy MESH' function is not turned on

   (2) Slave Router had MESH before, factory reset Slave router and reconfigure

6. **Q:** HGU stops to work after working for some time.

   A: (1) Power supply is not working properly.

   (2) The device overheats.