USR-G808 User Manual

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1. Overview

Product link:
http://www.usriot.com/p/industrial-4g-dual-sim-dual-lte-modules-wireless-router/

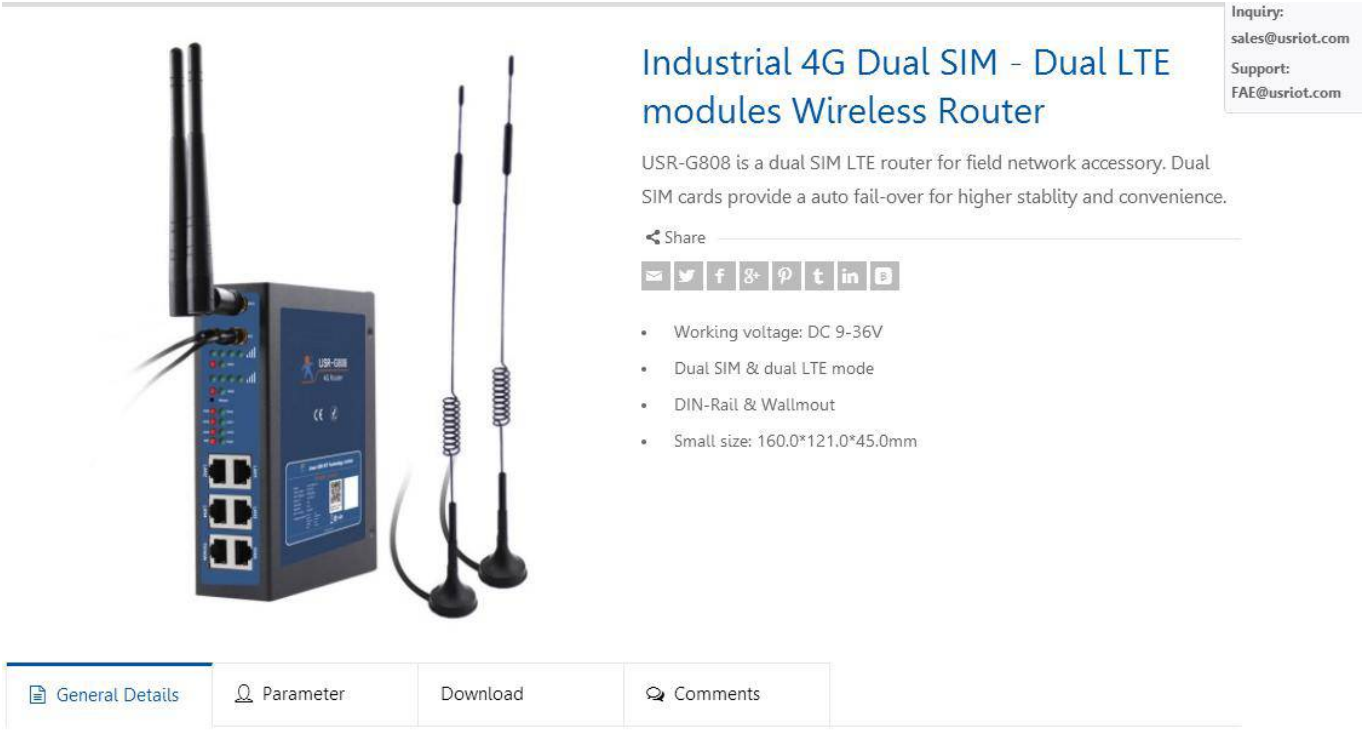


Figure 1 Download Page

If you have any question, please submit it back to customer center: http://h.usriot.com

1.1. Brief introduction

USR-G808 supports WAN, LAN, WLAN and dual 4G interface. User can access to 4G network by WLAN interface or Ethernet interface.

1.2. Product feature

- Support 4 LAN interface, 1 WAN interface. All Ethernet interface support 10/100Mbps
- Support 1 command serial port
- Support 1 WLAN(802.11b/g/n)
- Support serial port, ssh, telnet and Web Server to manage and configure
- Support LED to show work status
- Support Reload button to restore default settings by hardware way
- Support VPN Client(PPTP, L2TP, IPSEC, OPENVPN, GRE, SSTP) and VPN encryption function
- Support load balancing
- Support firewall, NAT, DMZ host
- Support QOS, flow service and limiting speed according to interface

- Support DDNS and port forwarding
- Support WIFIDOG, this function need user custom according to own needs
- Support static routes, PPPOE, DHCP/static IP
- Support NTP, internal RTC
- Support watchdog to guarantee the system stability

1.3. Hardware introduction

1.3.1.Hardware dimension

G808 dimension is 160*121*45 mm.

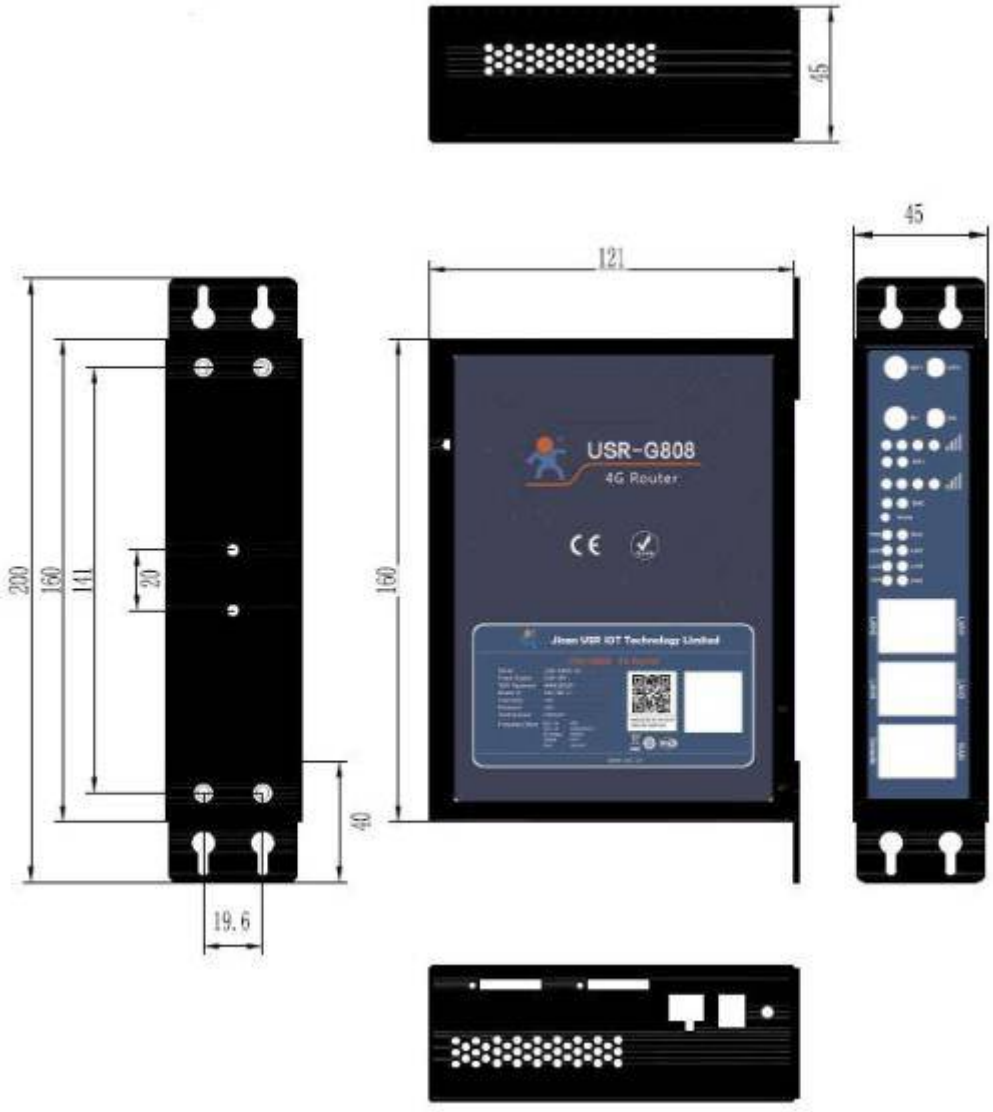


Figure 2 Hardware dimension

2. Product Functions

This chapter introduces the functions of USR-G808, as the following diagram shown, you can get an overall knowledge of it.

Figure 3 Product function

2.1.Application procedure

1.Power off the G808 and insert SIM card.
2.Connect WIFI antenna and 4G antenna.
3.Power on the G808 by 12V power supply.

Application diagram as follow, user can access internet through LAN interface or WLAN interface of G808:

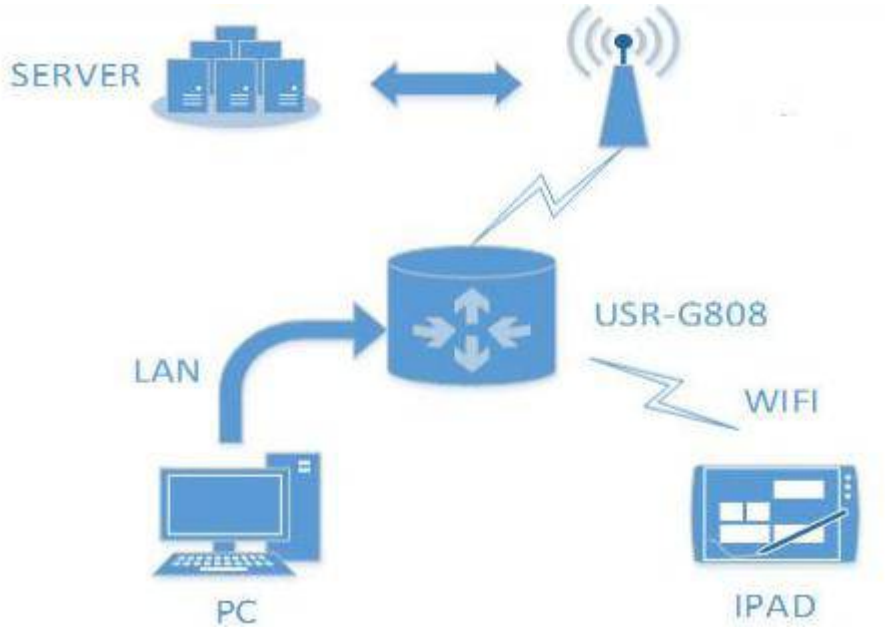


Figure 4 Application diagram

2.1.1.APN

When user want to configure and use G808, the first and most important step is to configure APN settings. Different operator have different APN(access point name). If user uses the SIM card from the operator, must know the APN. User can ask SIM card operator for APN information. There are three main parameters about APN. Those are APN address, username and password. Sometimes only configuring APN address is enough.

APN configuration by Web Server as follow:

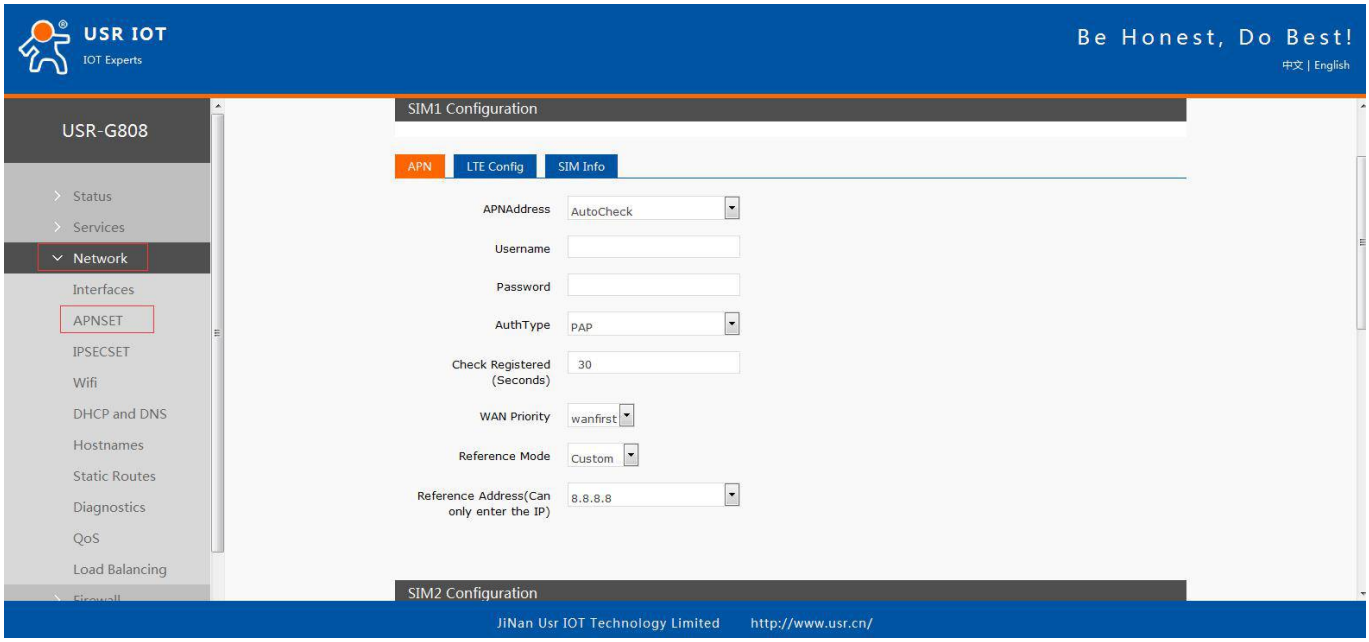


Figure 5 APN configuration

APNAddress: Default is AutoCheck, user can choose '--custom--' and write correct SIM card APN address. And user can keep AuthType and Check Registered (Seconds) as default settings.

After user configuring successfully, user can click 'SIM Info' above to check SIM card 1 and SIM card 2 information.

2.2.Common functions

2.2.1.DDNS

There are two situations to adopt DDNS function:

- G808 supports, user can choose one service provider on 'Service'.
- G808 doesn't support, user need choose '--custom--' on 'Service' and write correct service provider.

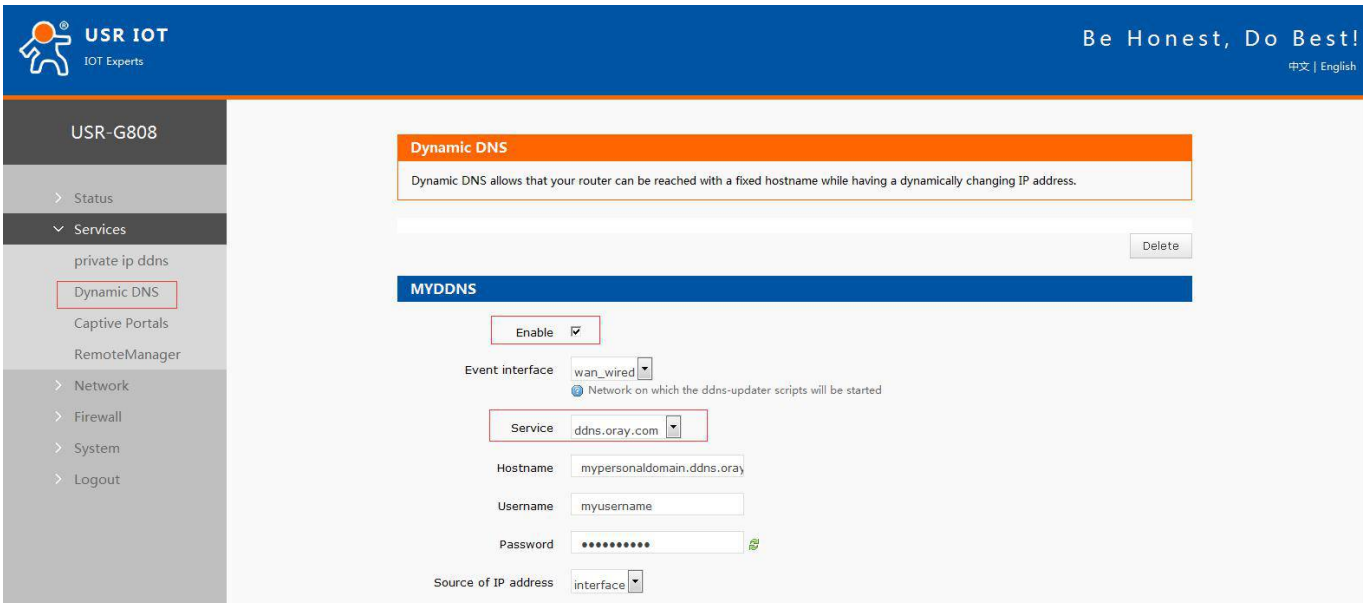


Figure 6 DDNS configuration

User should choose ‘Enable’ on above figure to enable DDNS function firstly and also need to reset G808 to make new parameters take effect. If user wants to enable this function, the network that G808 belongs to must be distributed independent public network IP.

2.2.2.WIFIdog

User can enter Web Server and configure WIFIdog parameters as follow:

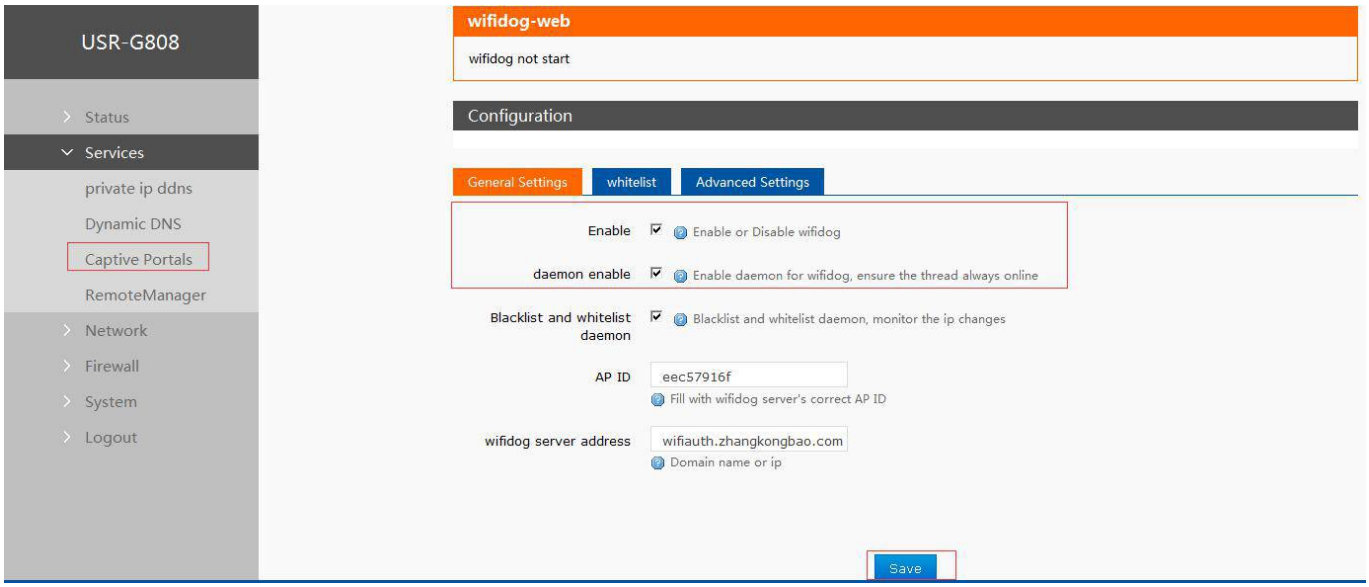


Figure 7 WIFIdog configuration

User need choose ‘Enable’ and ‘daemon enable’ to use WIFIdog function. After configuring and clicking ‘Save‘, user need reset G808 to make changing take effect.

2.2.3.RemoteManager

2.2.3.1.Remote Firmware Upgrade

User can configure this function by Web Server as follow:

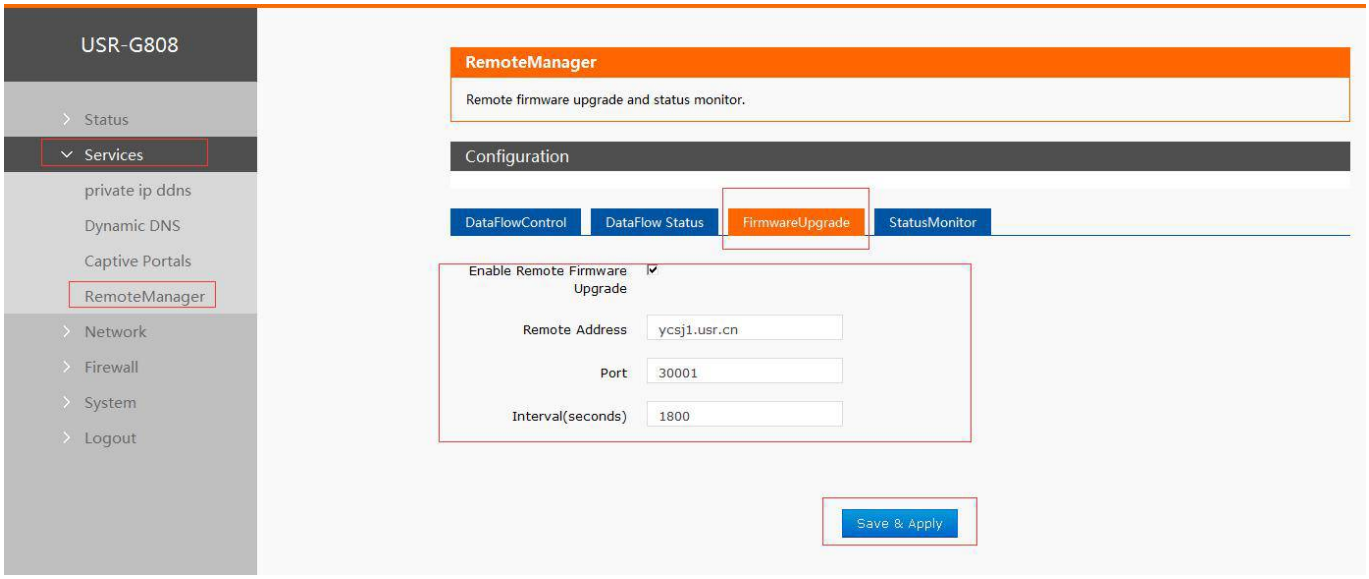


Figure 8 Remote Firmware Upgrade

2.2.3.2.Remote Monitor

This function can realize reporting G808 information(Such as flow, firmware version, RSSI, IMEI) to Remote Monitor server and Remoter Monitor server can also send commands to control G808. User can configure this function by Web Server as follow:

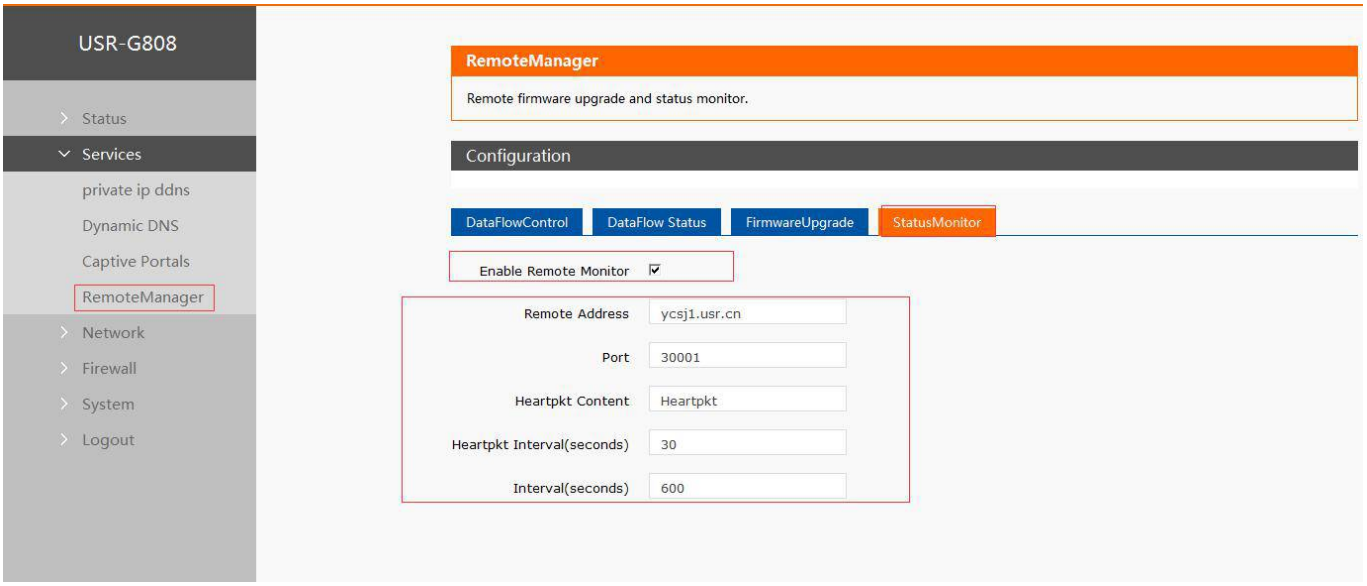


Figure 9 Remote Monitor

2.2.4.LAN interface

G808 supports four wired LAN interfaces(LAN1~LAN4). WIFI interface also belongs to LAN interface(wireless LAN interface).

Default settings: Static IP (IP address: 192.168.1.1); Subnet mask: 255.255.255.0; Enable DHCP Server function. LAN interface functional diagram as follow:

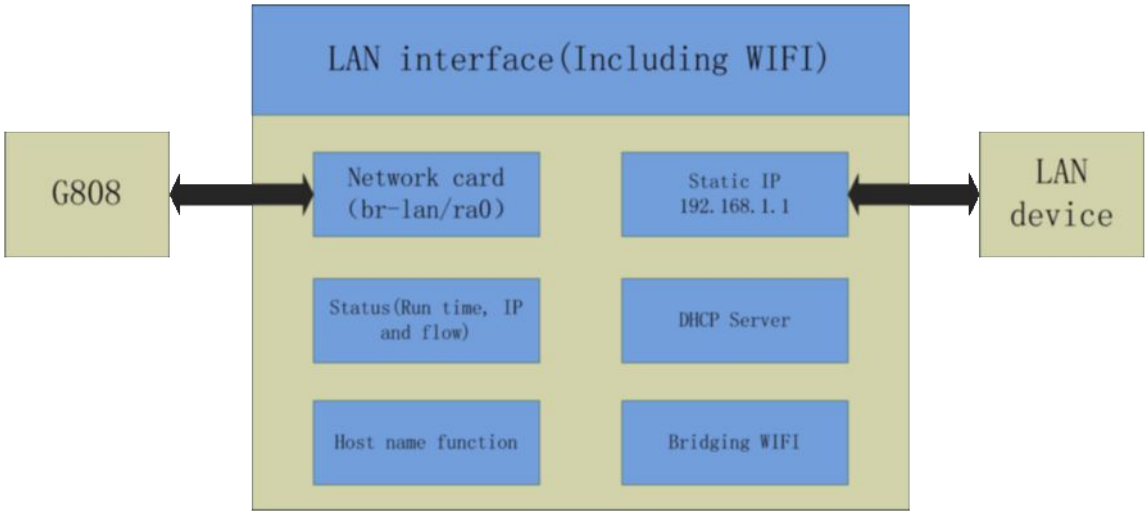
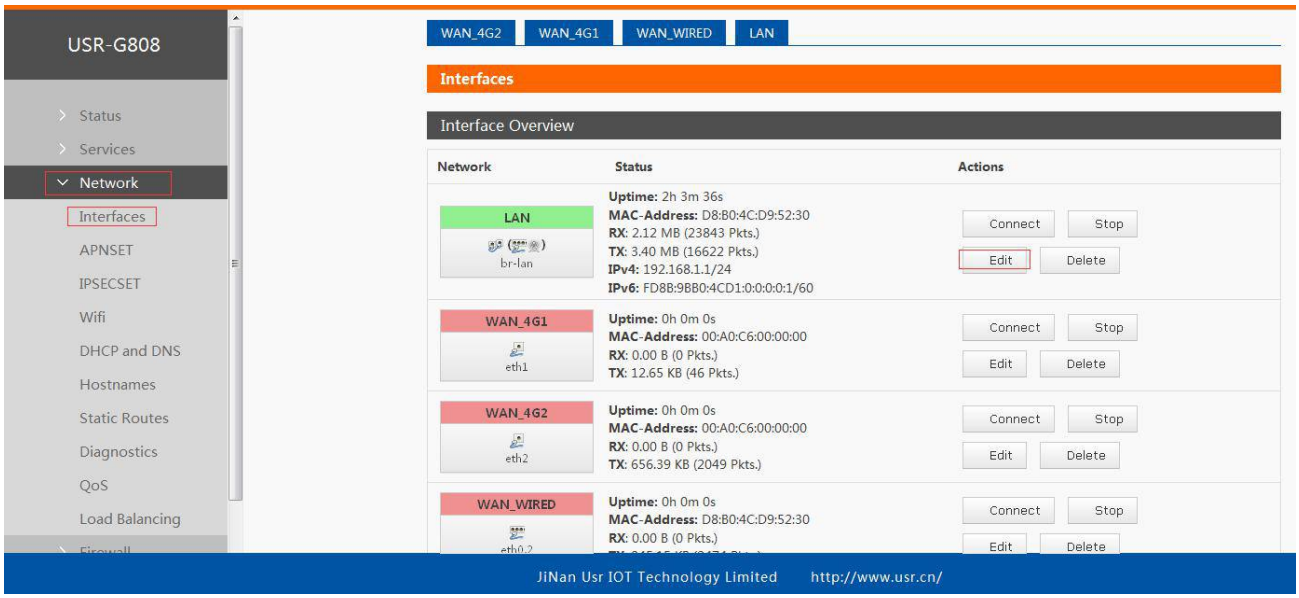


Figure 10 LAN interface functional diagram

User can configure LAN interface as follows:



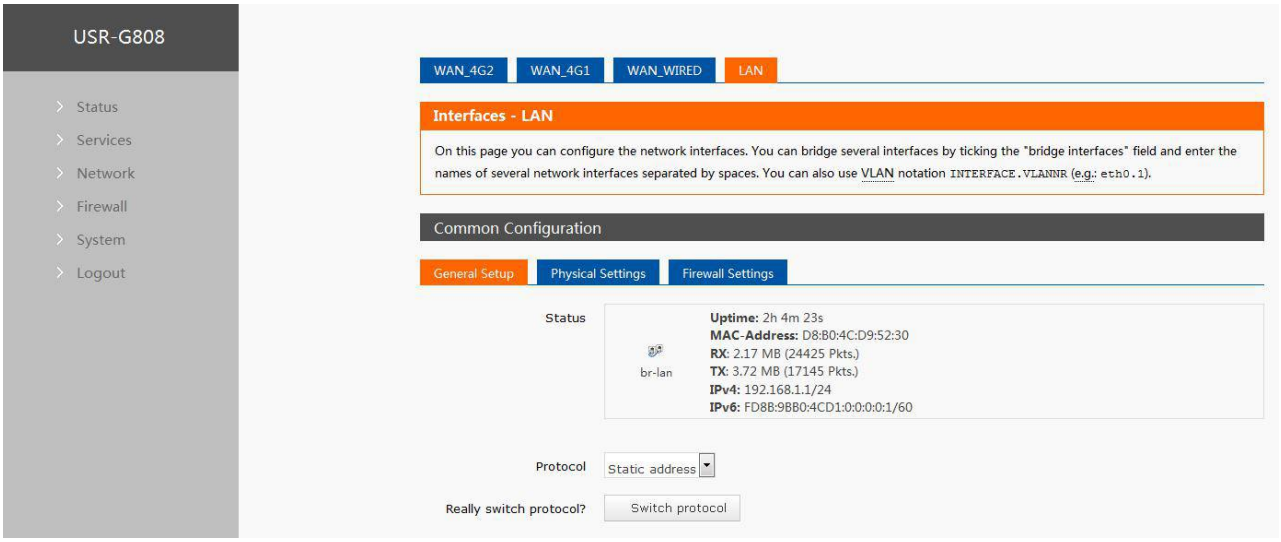


Figure 11 LAN interface configuration

2.2.4.1.DHCP

DHCP Server default range of distribution is from 192.168.1.100 to 192.168.1.250 and default address lease time is 12 hours. Address range and lease time can be changed.

After entering Web Server LAN interface configuration web page, user can find 'DHCP Server' on Web Server as follow:

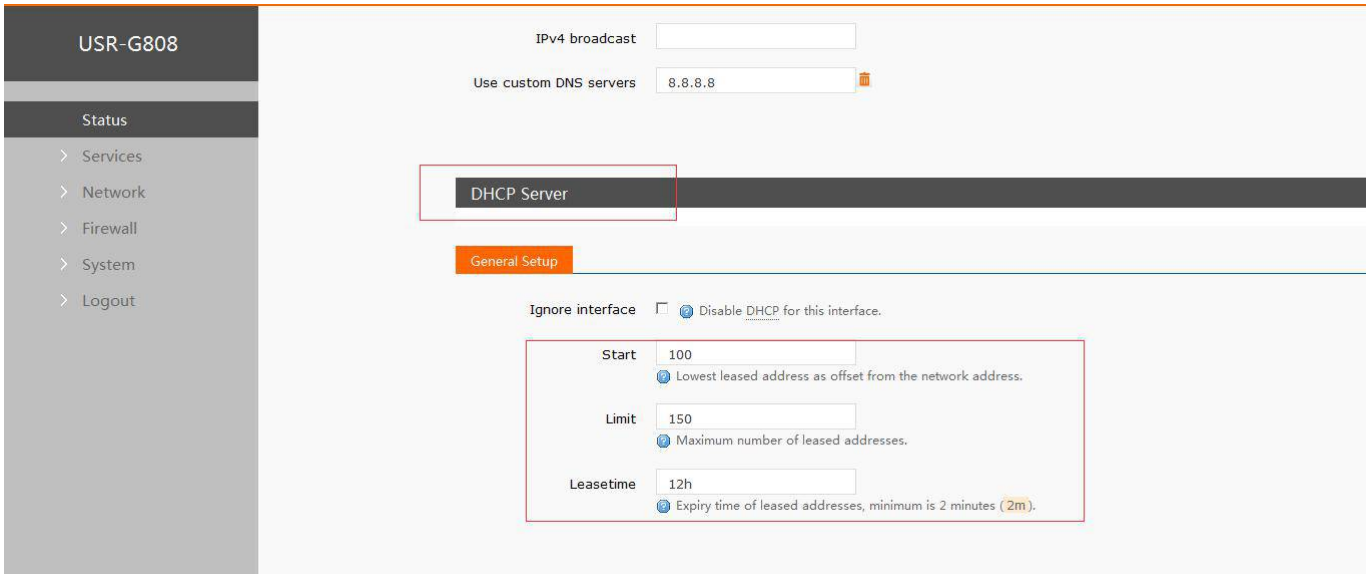
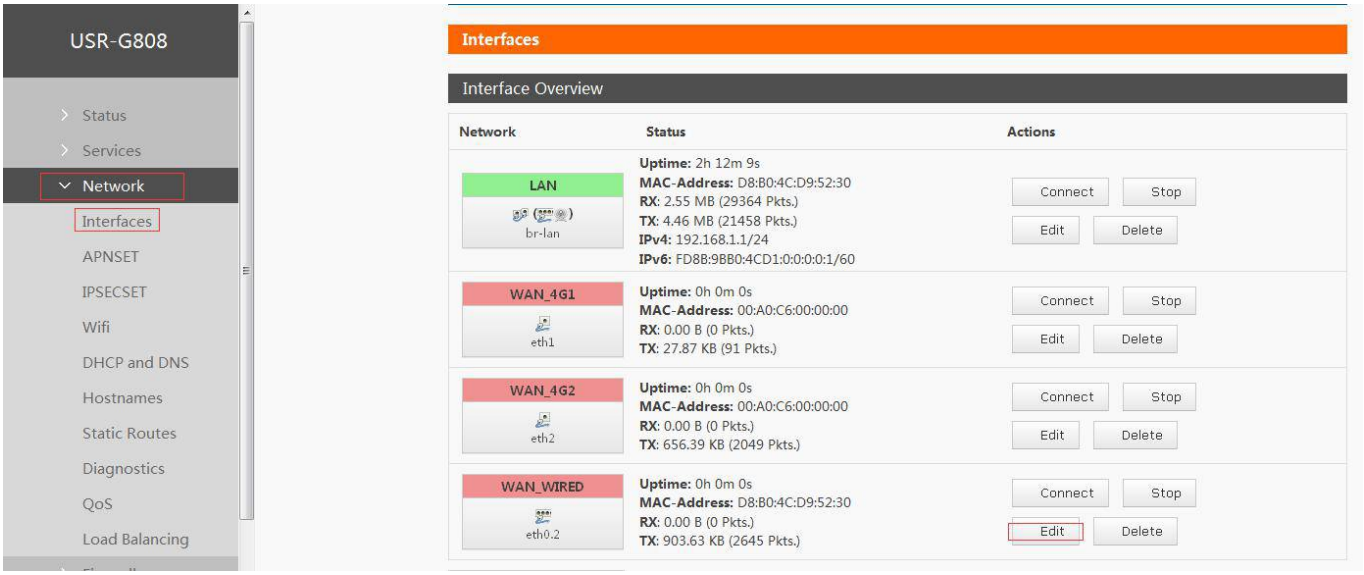


Figure 12 DHCP Server configuration

2.2.5.WAN interface

G808 supports one wired WAN interface. WAN interface supports DHCP Client, static IP and PPPOE mode. And default setting is DHCP Client mode. User can configure WAN interface as follows:



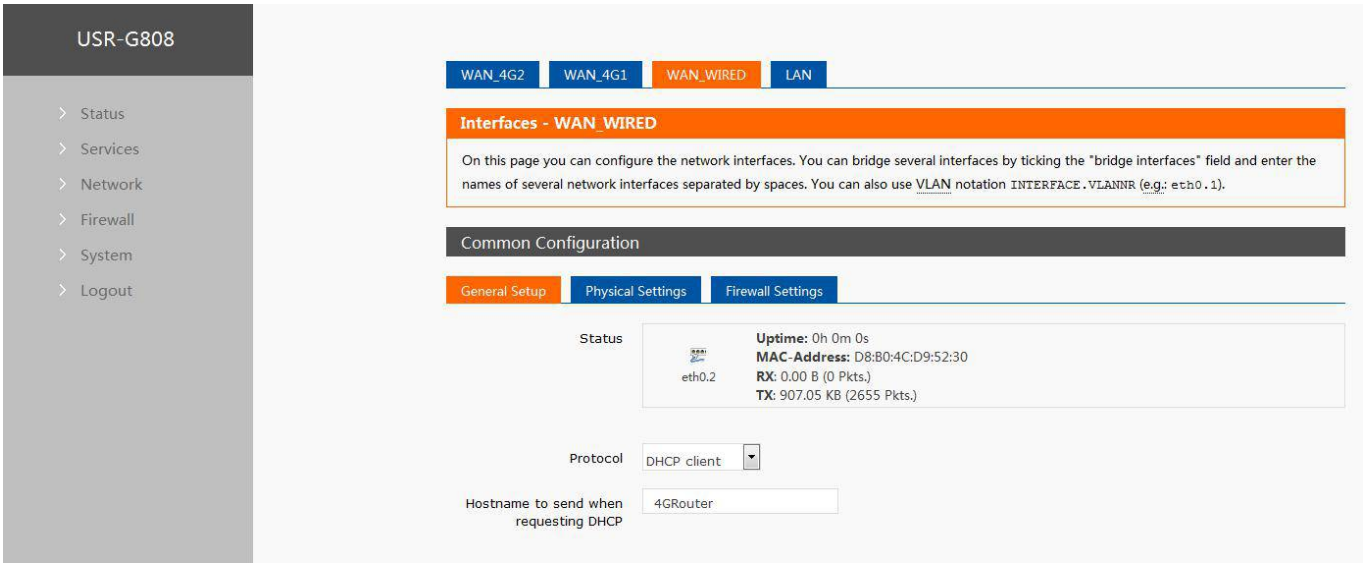


Figure 13 WAN interface configuration

2.2.6.WIFI interface

G808 is a AP actually and supports other STA devices connecting to. G808 supports at most 24 STA devices to connect and about 150 meters WIFI coverage area in open field. WIFI interface functional diagram as follow:

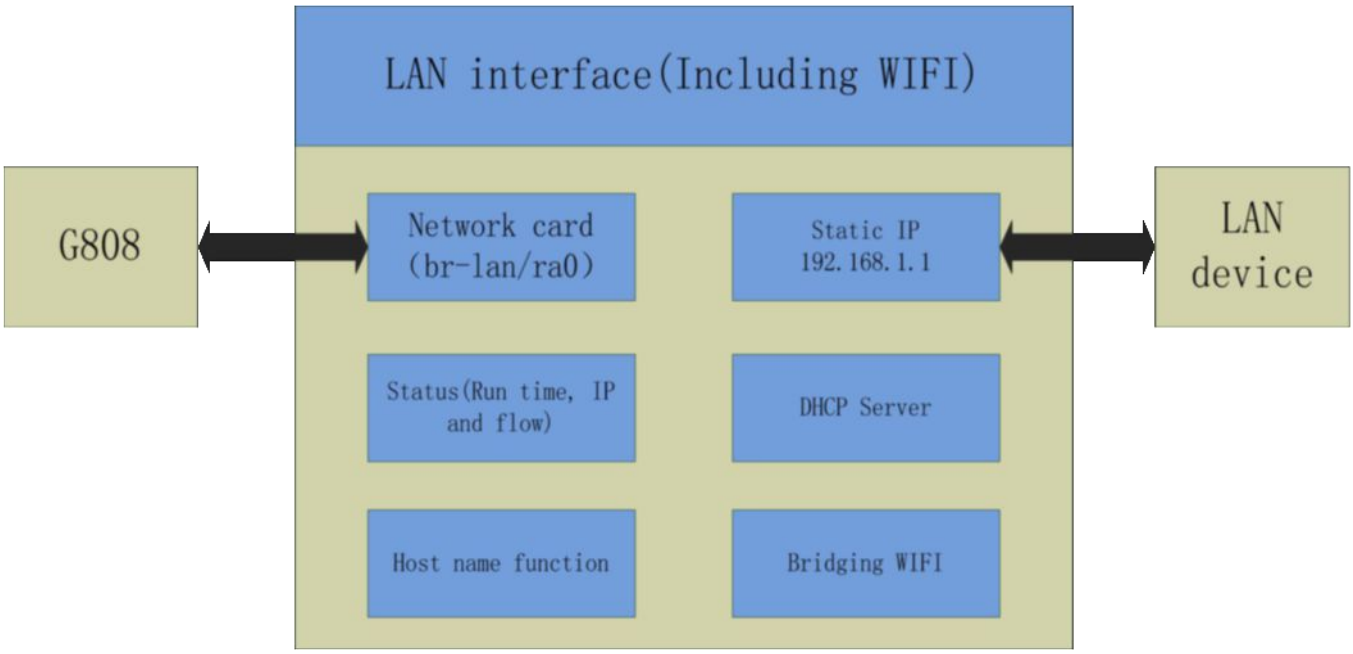


Figure 14 WIFI interface functional diagram

Default settings of WIFI interface as follows:

Parameters	Default setting
SSID	USR-G808-XXXX(XXXX is MAC address)
Password	www.usr.cn
Channel	Auto
Bandwidth	40MHz
Encryption method	WPA2-PSK

Figure 15 WIFI interface default settings

User can configure WIFI interface as follow:

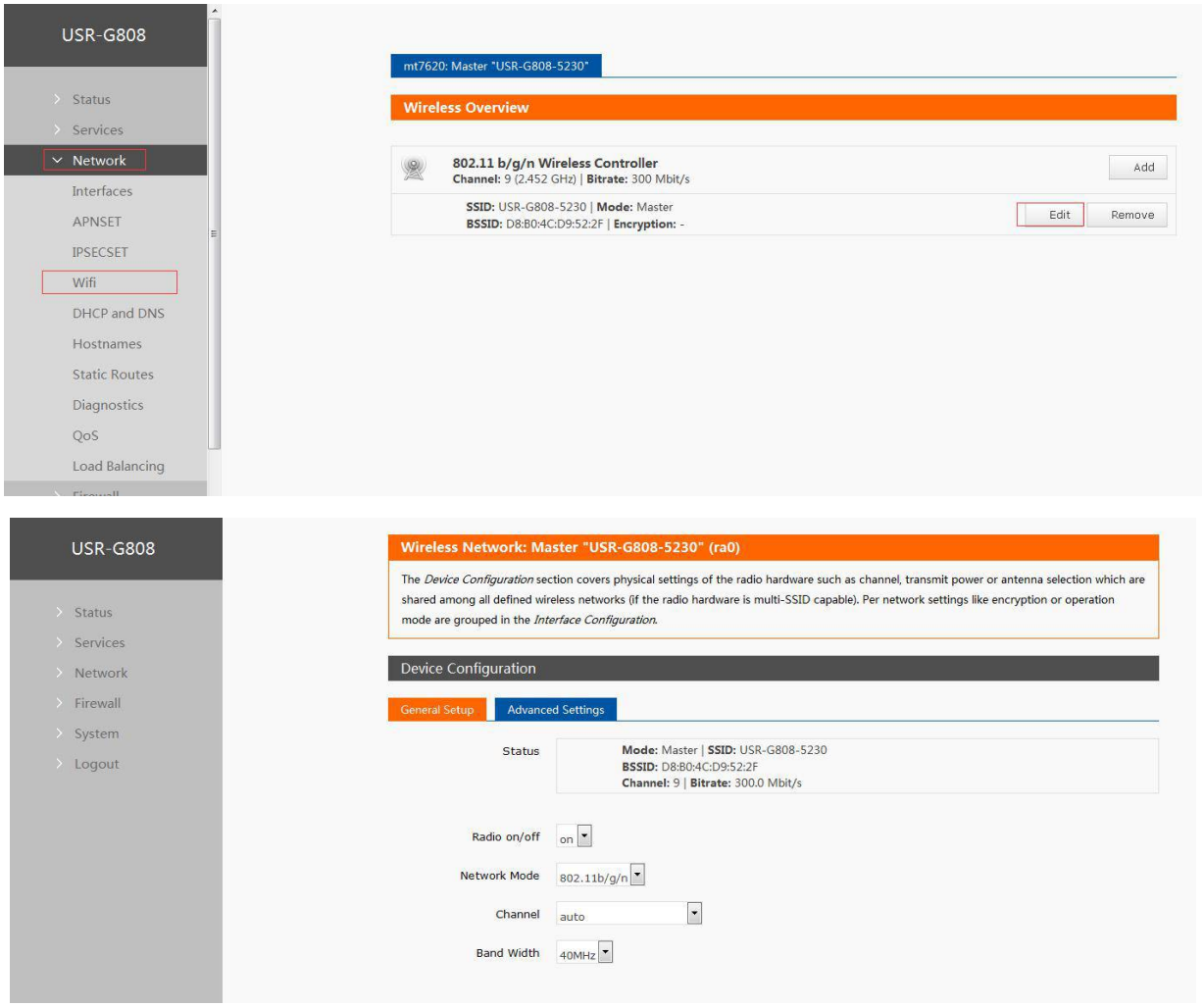


Figure 16 WIFI interface configuration

User can change Radio on/off to off to close WIFI interface.

2.2.7.Dual 4G interface

G808 supports dual 4G interfaces to access internet. 4G interface functional diagram as follow:

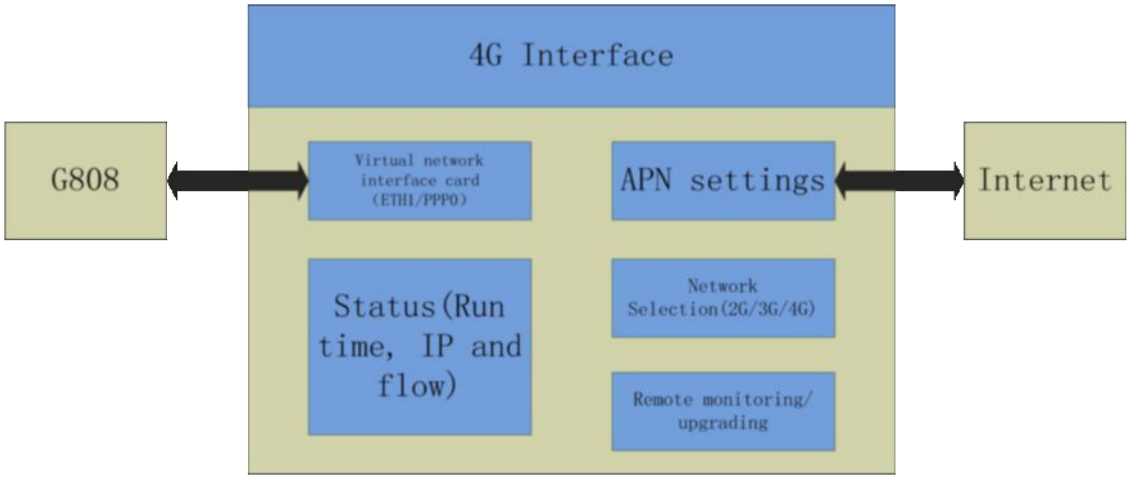


Figure 17 4G interface functional diagram

User can configure 4G interfaces by Web Server as follow:

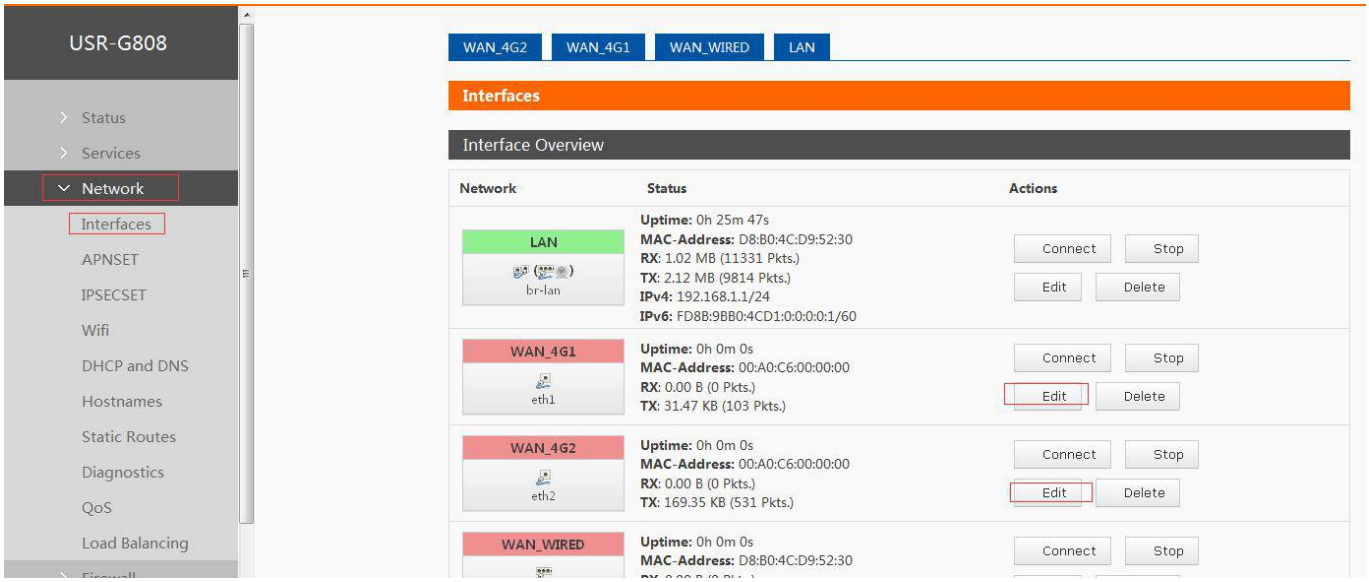


Figure 18 4G interface configuration

2.2.8.Load balancing

Load balancing function will configure dual 4G interfaces to realize dual 4G interfaces load balancing. User can configure this function by Web Server as follow:

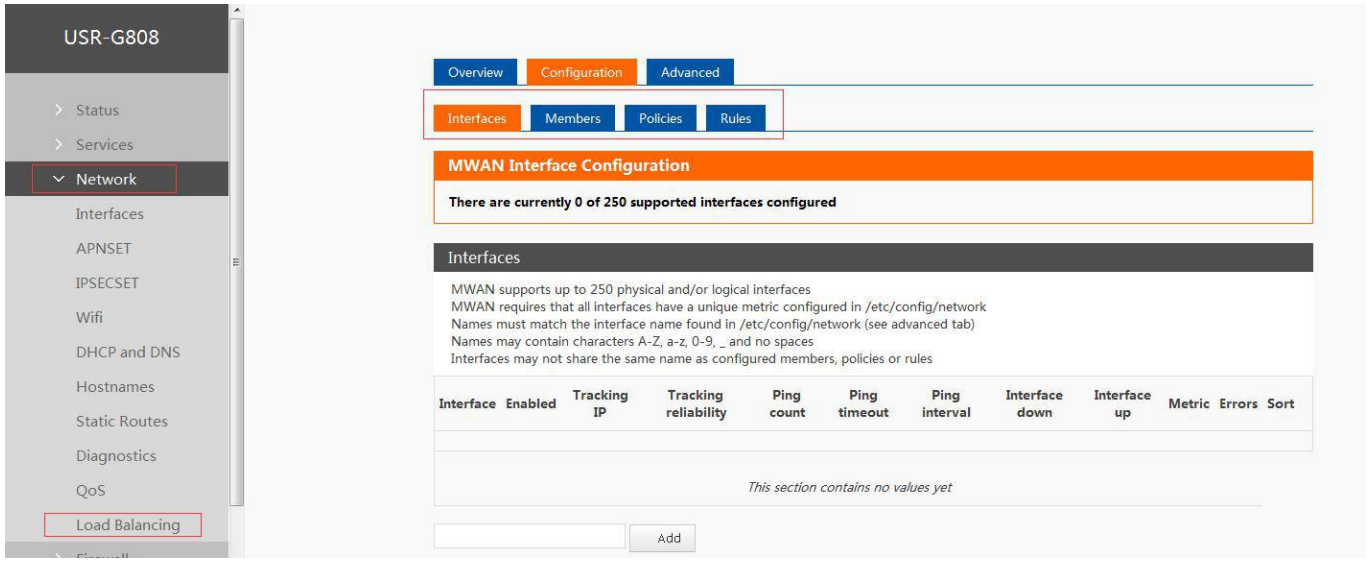


Figure 19 Load balancing configuration

2.2.9.VPN Client

VPN(Virtual Private Network) has Client and Server two parts and protocols includes PPTP, L2TP, ipsec, openvpn, gre, sstp.

2.2.9.1.PPTP Client

PPTP is point-to-point tunnel protocol which uses one TCP connection(port 1723) to maintain tunnel. PPTP protocol will use GRE technology to encapsulate data into PPP data and transmit through tunnel, then encrypt or compress the PPP data.

If PPTP Server has been established, user can configure PPTP Client by Web Server as follows:

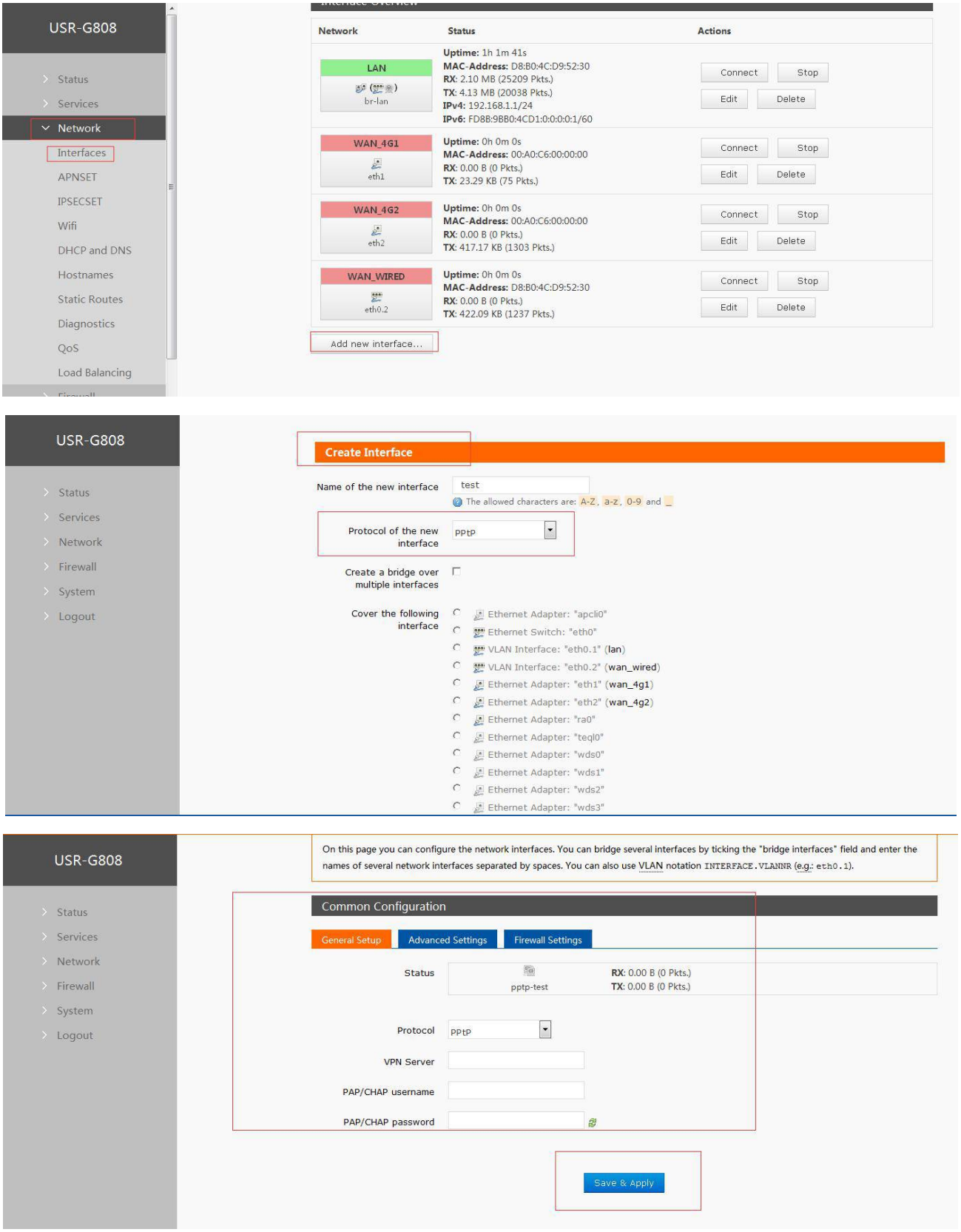


Figure 20 PPTP Client configuration

User can choose only MSChapV2 encryption in ‘Advanced Settings’ according to whether PPTP Server only supports MPPE encryption. And in Firewall Settings, user can choose WAN or LAN according to dialing way.

2.2.9.2.L2TP Client

L2TP is Layer 2 Tunneling Protocol which is similar to PPTP protocol. G808 supports multiple authentication methods such as tunnel password authentication and CHAP, and supports MPPE and L2TP OVER IPSEC encryption way.

User can add a new interface with L2TP protocol by **2.2.9.1.PPTP Client** way and configure by Web Server as follow:

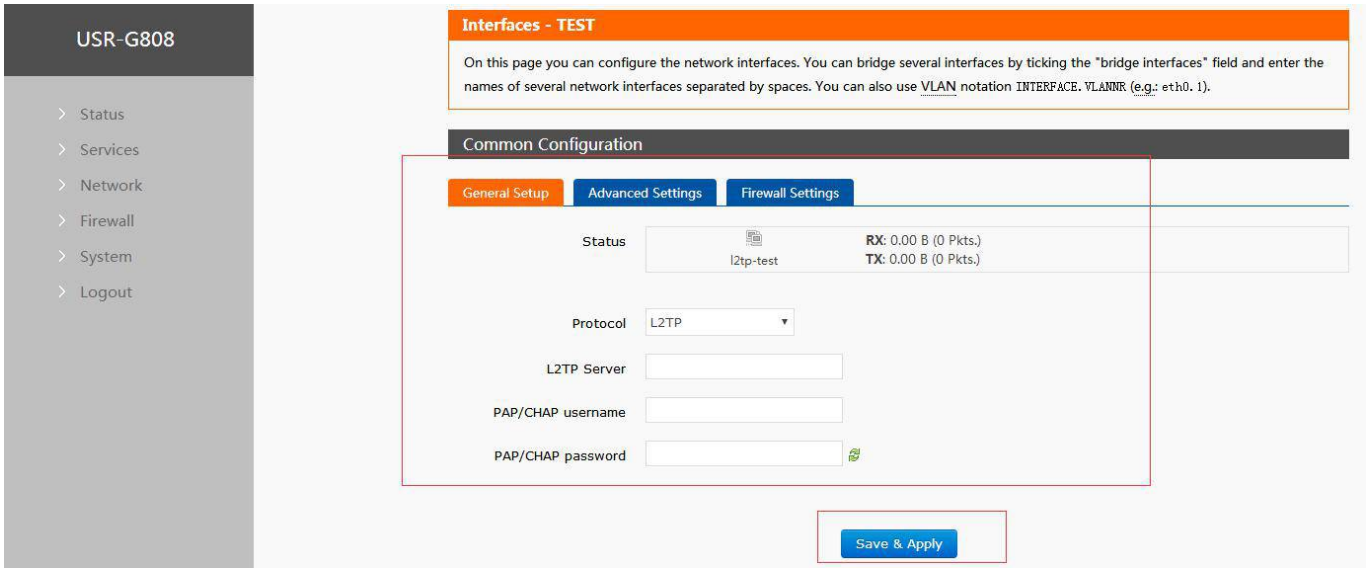


Figure 21 L2TP Client configuration

2.2.9.3.IPSEC

IPSEC protocol isn't a separate protocol. It gives a complete architecture of network data security on the IP layer and application layer which includes Network Authentication Protocol AH, ESP, IKE and some algorithms for network authentication/encryption. AH protocol and ESP protocol are used to provide security service, IKE protocol is used to key exchange.

User can configure IPSEC by Web Server as follow:

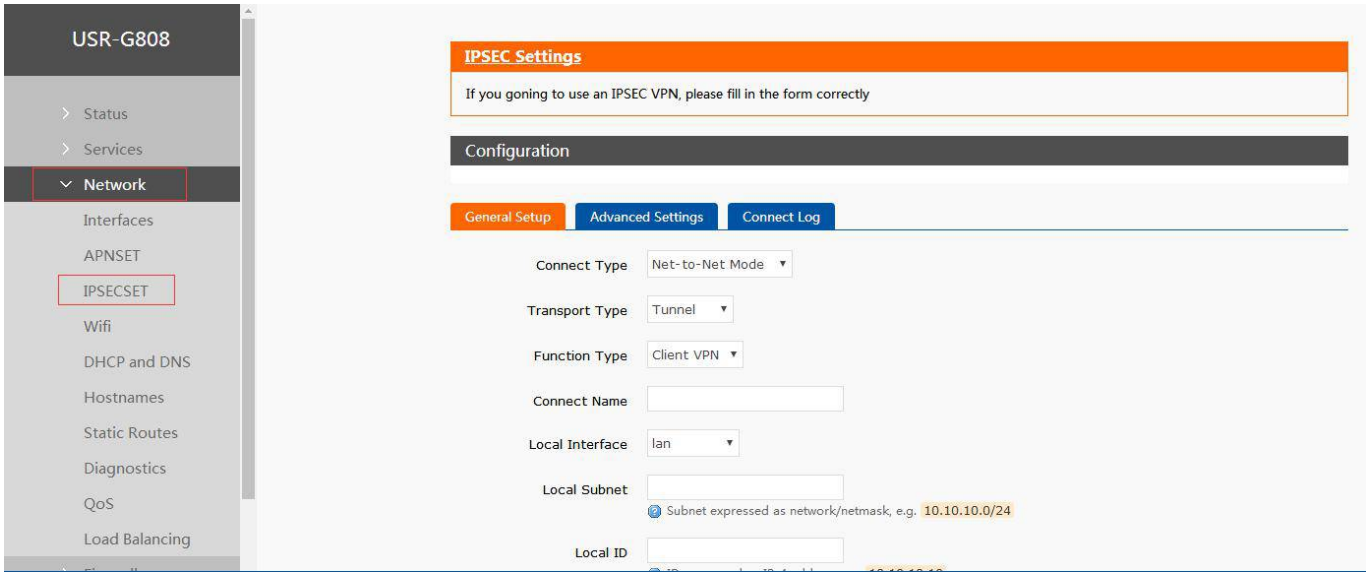


Figure 22 IPSEC configuration

2.2.9.4.OPENVPN Client

OPENVPN is based on Openssl library. It supports bidirectional authentication based on certificate, that's to say Client needs to certificate Server and Server needs to certificate Client.

User can add a OPENVPN interface and configure it by Web Server as follow. Protocol can choose TUN(route mode) or TAP(bridge mode).

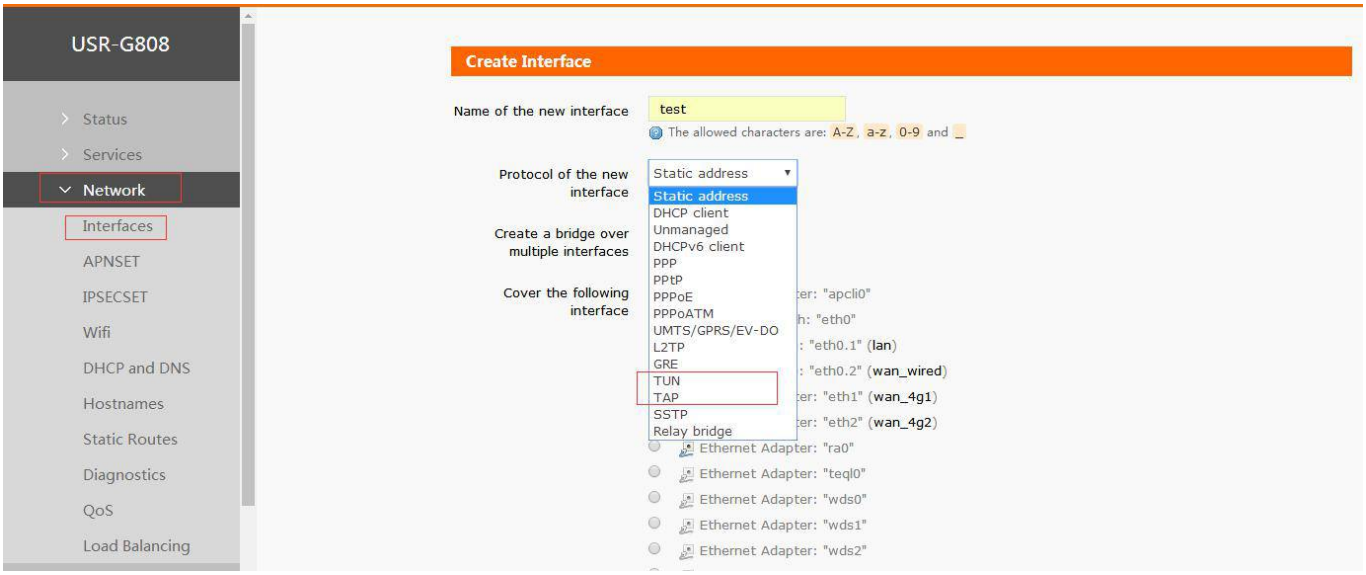


Figure 23 OPENVPN Client configuration

2.2.9.5.GRE

GRE(Generic Routing Encapsulation) protocol is the third layer tunnel protocol of VPN which adopts Tunnel technology. It can encapsulate some network layer protocols data(such as IP, IPX) to transmit on another network layer protocol. User can add a GRE interface and configure by Web Server as follow:

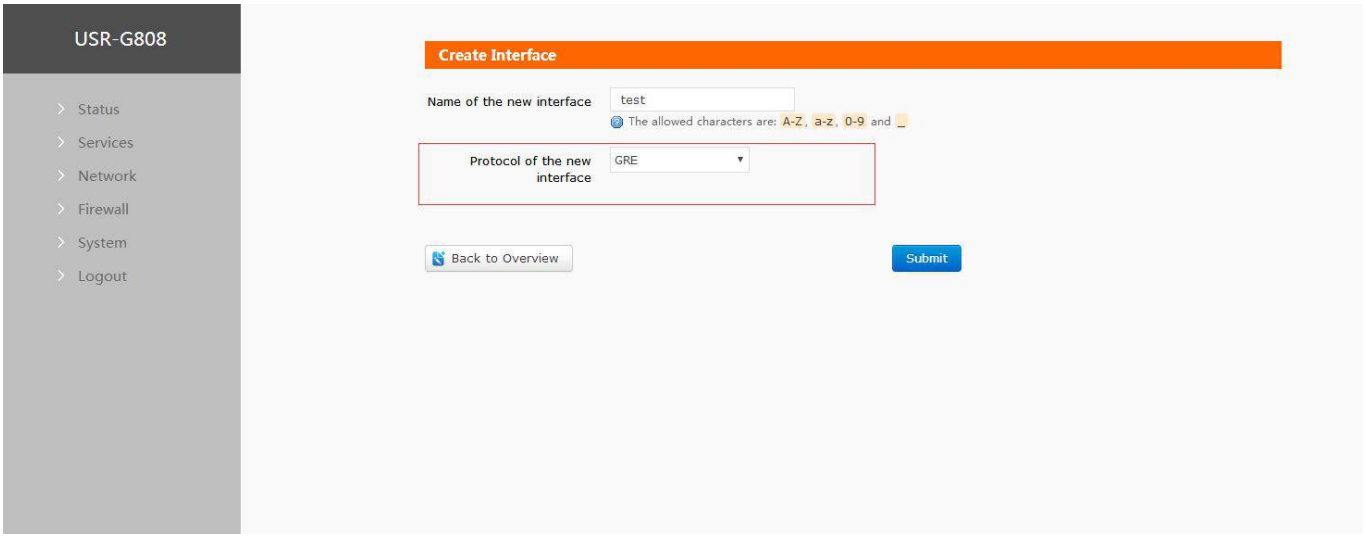


Figure 24 GRE configuration

2.2.9.6.SSTP Client

SSTP(secure socket tunnel protocol) is protocol which is applied for internet. It can create a VPN tunnel which can transmit on HTTPS. STTP can only used to remote access and doesn't support site-to- site VPN tunnel.

User can add a SSTP interface and configure by Web Server as follow:

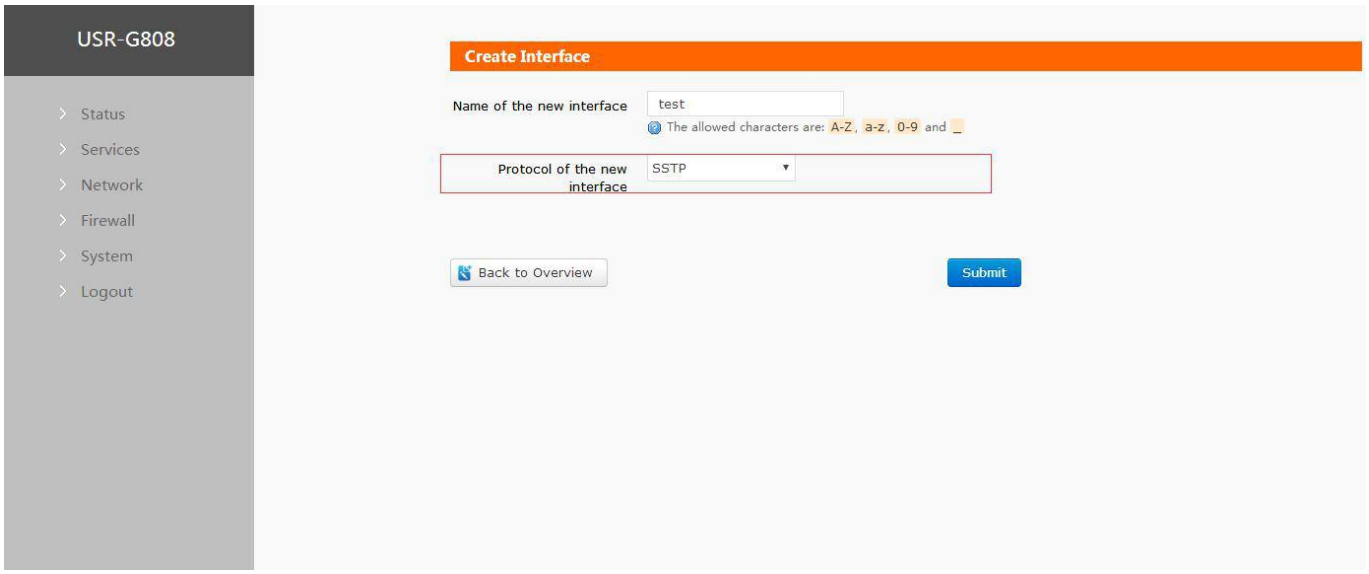


Figure 25 SSTP Client configuration

2.2.10.Static Routes

This function can realize communication between two different network segment. For example, there are two G808(G808a and G808b) and they have parameters as follows:

- G808a: WAN interface IP is 192.168.4.47, LAN interface IP is 192.168.1.1.
- G808b: WAN interface IP is 192.168.4.11, LAN interface IP is 192.168.2.1.

If user want to realize PC connected to G808a's LAN interface can access to PC connected G808b's LAN interface, user can add a static route and configure it as follow:

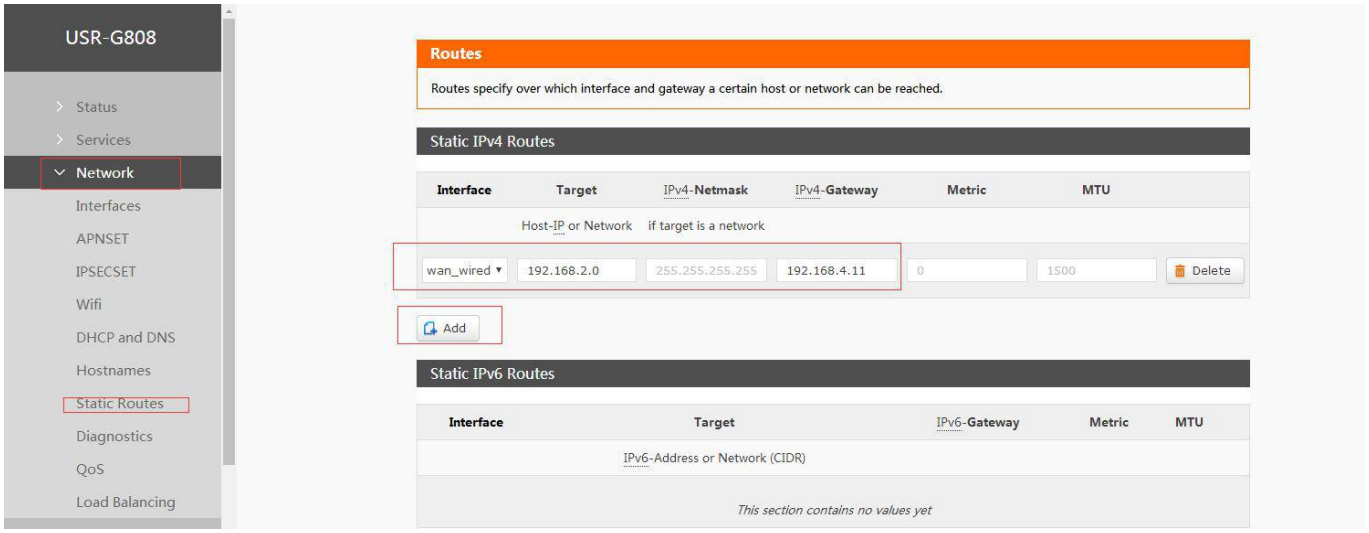


Figure 26 Static routes configuration

2.2.11.Firewall

2.2.11.1.Port Forwards

This function can allow PC from internet access PC or service in private LAN. User can configure this function by Web Server as follow:

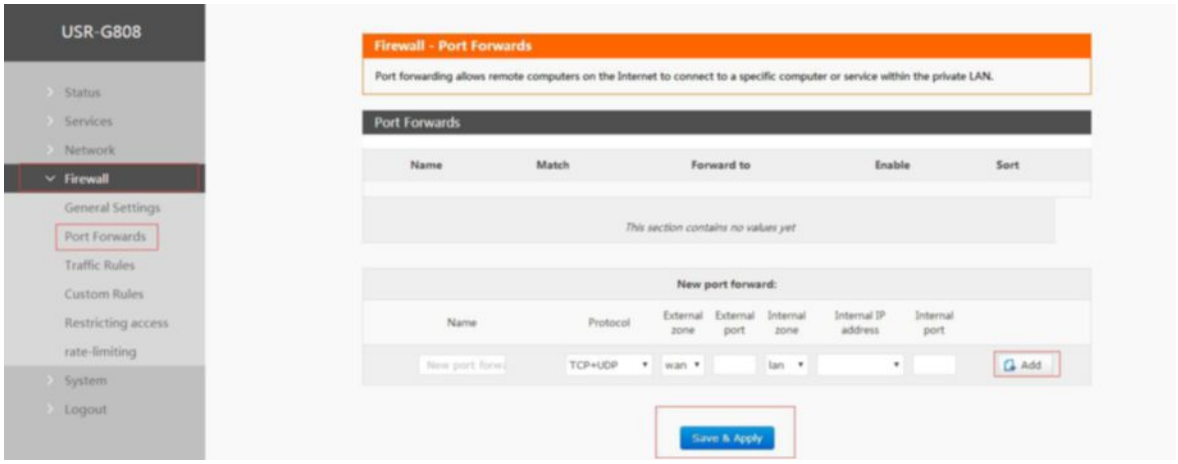


Figure 27 Port forwards configuration

2.2.11.2.Restricting access

This function can set specified domain name into black list or white list. User can configure this function by Web Server as follow:

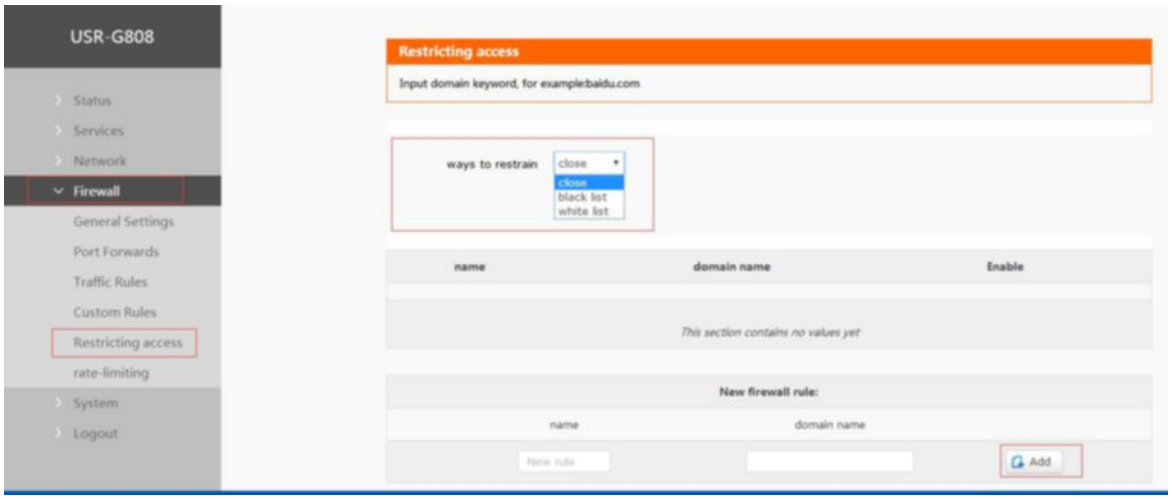


Figure 28 Restricting access configuration

2.2.11.3.Rate-limiting

This function can do network speed control for specified IP and MAC. User can configure this function by Web Server as follow:

Figure 29 Rate-limiting configuration

2.3.Basic Functions

2.3.1.Network Diagnosis

User can use network diagnosis function by Web Server as follow:

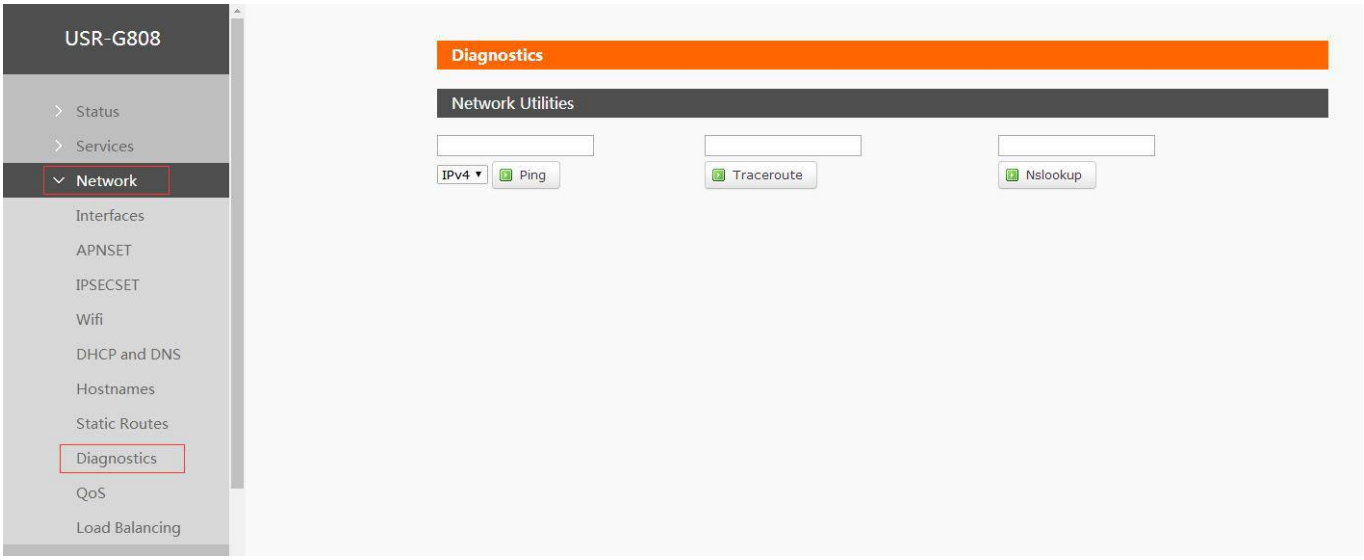


Figure 30 Network diagnosis configuration

- Ping: User can do PING test to a specific address in G808.
- Traceroute: Can acquire routing path to visit a specific address.
- Nslookup: Can analyse DNS into IP address

2.3.2.Host Name and Time Zone

G808 default host name is USR-G808 and default Time Zone is Beijing time zone.

User can configure host name and Time Zone by Web Server as follow:

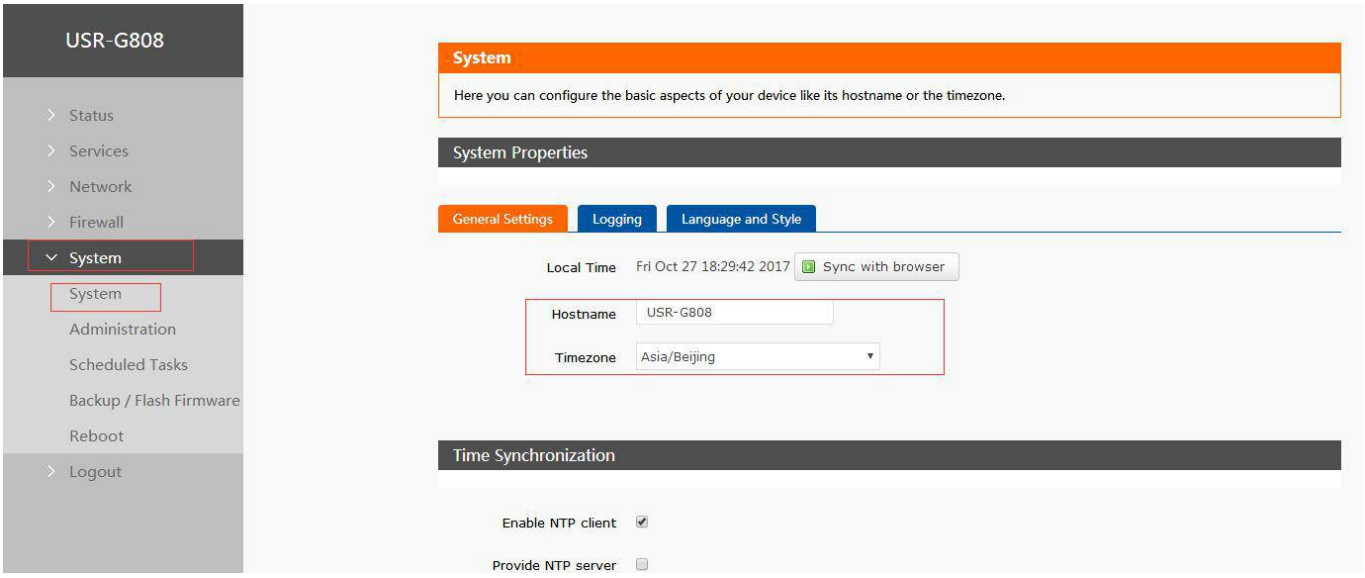


Figure 31 Host name and Time Zone configuration

2.3.3.Web Server Password

Default password is root, this password is used to enter Web Server.

User can change password by Web Server as follow:

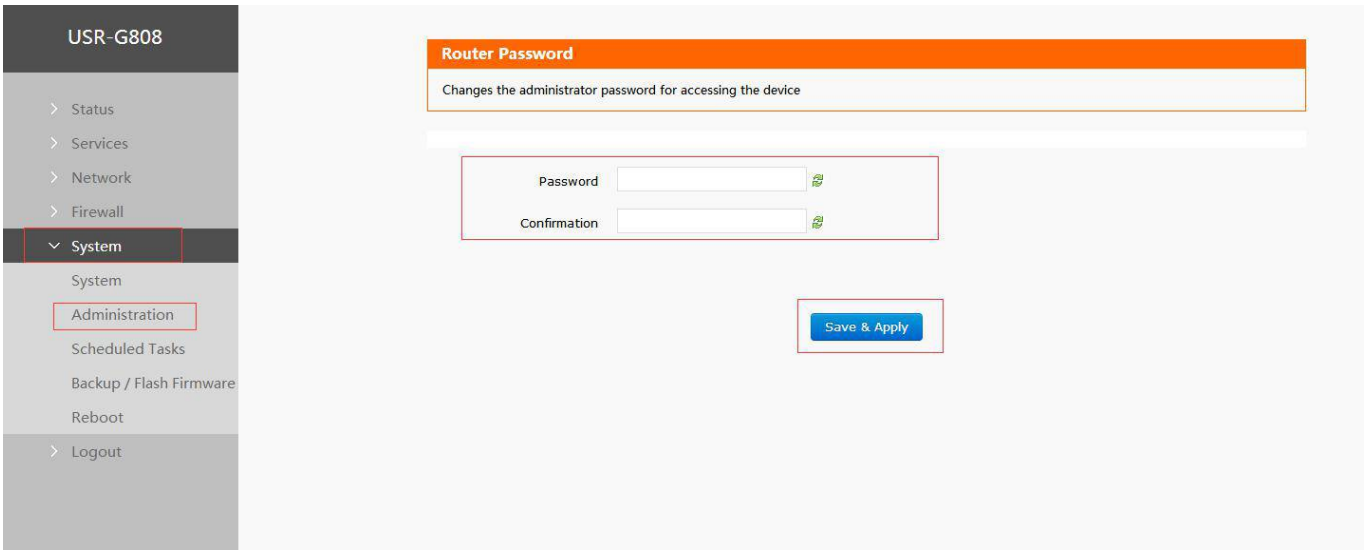


Figure 32 Web Server password configuration

2.3.4.Restore default settings

Hardware restore: Press Reload button over 5 seconds and release, G808 will restore default settings and reset.

User can also restore default settings by Web Server as follow:

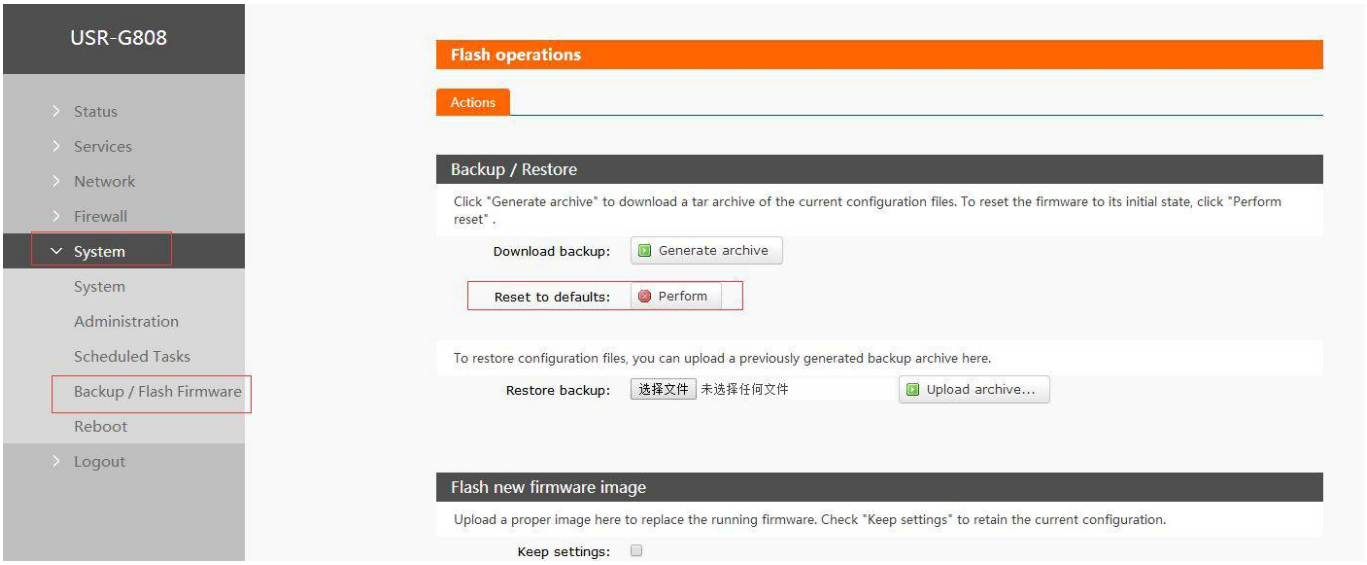


Figure 33 Restore default settings

2.3.5.Upgrade Firmware Version

Upgrade by Web Server as follow:

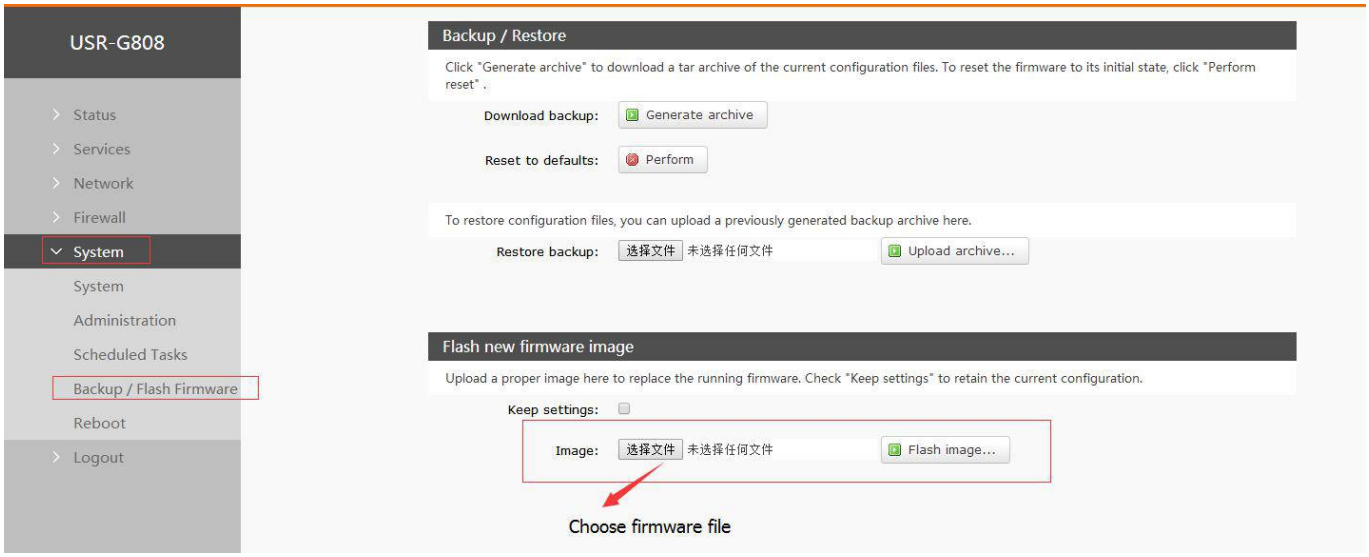


Figure 34 Upgrade firmware version

Note:

- The whole upgrading process will last about 2 minutes, user can enter Web Server after about 2 minutes.
- User can choose saving settings.
- User should keep powering up and LAN/WIFI connection during the whole upgrading process.

2.3.6.Reset

Reset time is about 40~60 seconds.

Reset by Web Server as follow:

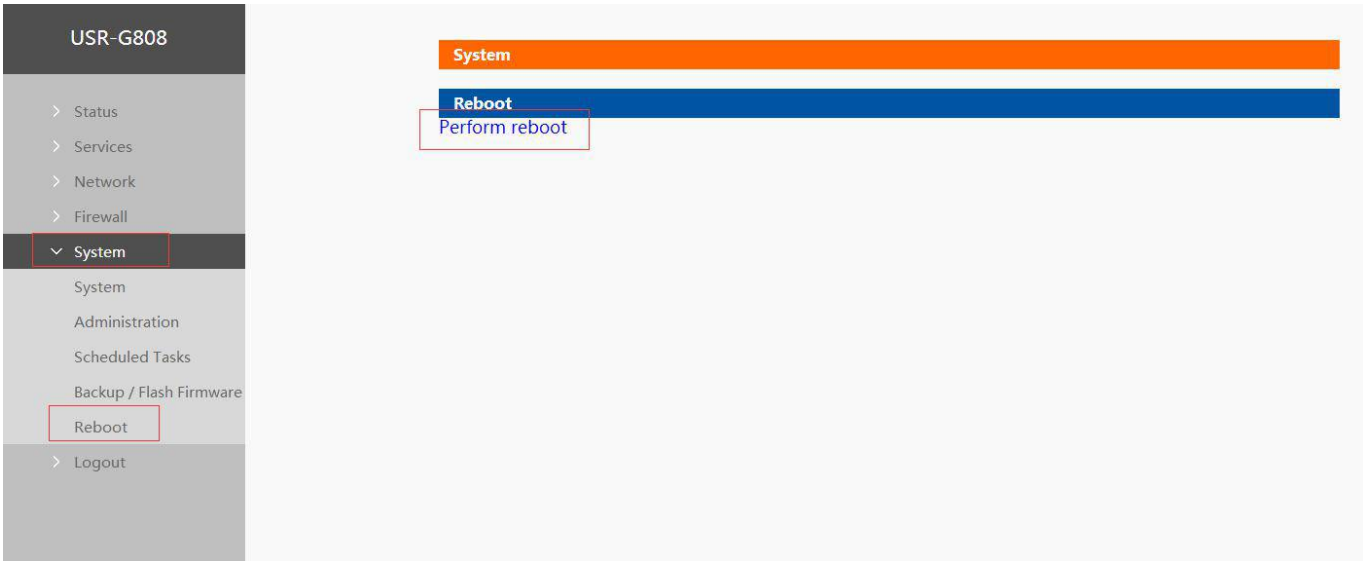


Figure 35 Reset function

3. Web Server

When user need to configure the G808, user can connect PC to USR-G808 through LAN interface or WLAN, then open Web Server.

Default parameters of G808 as follows:

Parameters	Defaults settings
SSID	USR-G808-XXXX
LAN interface IP Address	192.168.1.1
User name	root
Password	root
WLAN Password	www.usr.cn

Figure 36 G808 Default parameters

Take default parameters as example: User can connect PC to SSID USR-G808-XXXX. Then open browser and enter 192.168.1.1, log in with User name and Password(both are root), user can enter Web Server.

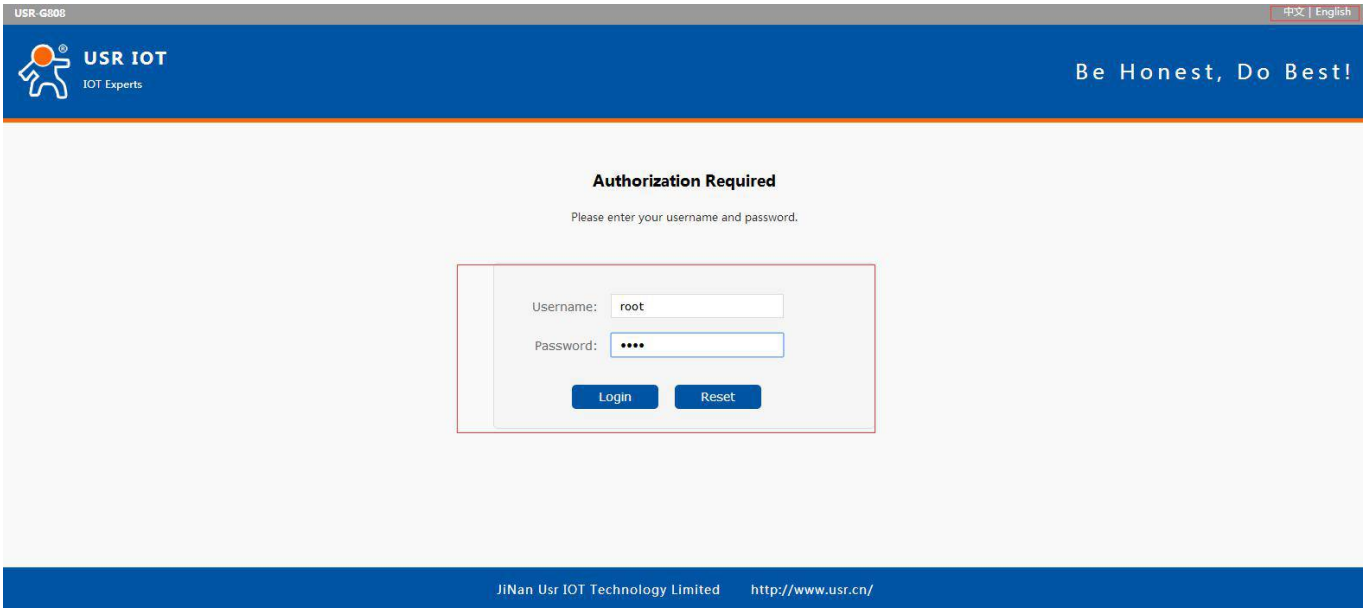


Figure 37 Web Server login web

User can change the language between Chinese/English in the top right corner.

4. Contact us

Company: Jinan USR IOT Technology Limited

Address: Floor 11, Building 1, No. 1166 Xinluo Street, Gaoxin District, Jinan, Shandong, 250101, China

Web: www.usriot.com

Support: h.usriot.com

Email: sales@usr.cn

Tel: 86-531-88826739

5. Disclaimer

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6. Update History

2017-11-20 V1.0.4.1 established based on Chinese version V1.0.4.