

USR-G806 User Manual

File version: V1.0.5



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1. Quick Start

Product link:

<http://www.usriot.com/p/wifi-4g-lte-router/>



Figure 1 Download Page

If user has any question, please submit it back to customer center: <http://h.usriot.com>

1.1. Communication Test

USR-G806 supports WAN, LAN, WLAN and 4G interface. User can access to 3G/4G network by WLAN interface or Ethernet interface.



Figure 2 test

1.2. Net Connection

- Insert SIM card
- Install WIFI antenna, M2M antenna
- Connect PC to the LAN port of G806
- Set PC to get dynamic IP
- Power on G806
- Wait for about a minute, and the 2/3G indicator lights up, indicating that the router's 4G network is successful and can be connected to the Internet.

1.3. Router Initial Value

Table 1 router initial value

Parameter	Initial value
Account	root
Password	root
IP address	192.168.1.1

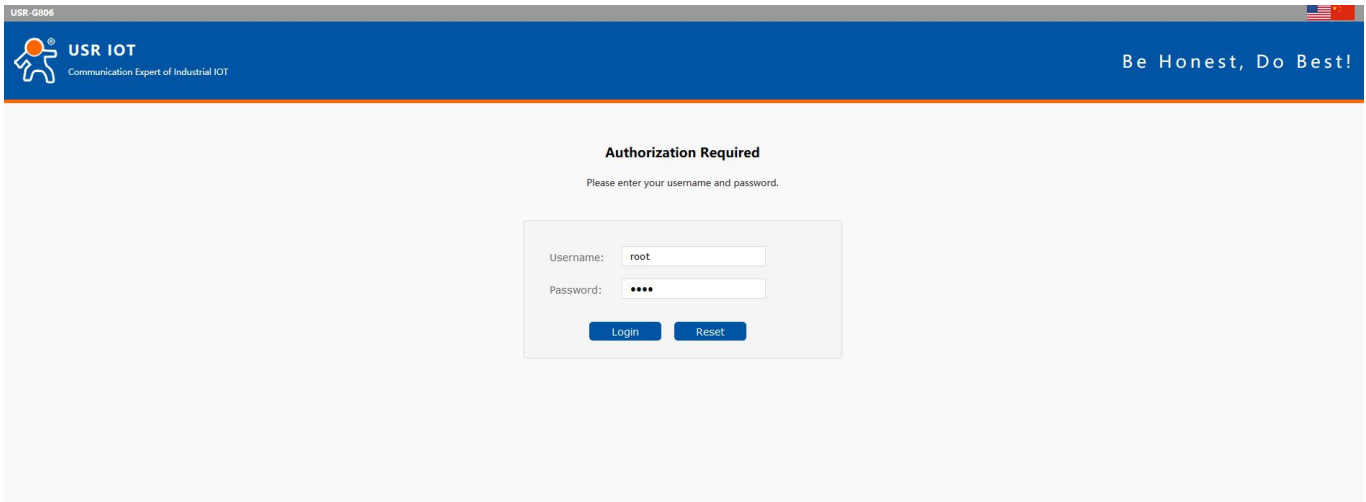


Figure 3 webpage

2. Product Overview

2.1. Product feature

- One RJ45 for WAN/LAN port. 1 RJ45 for LAN port only.
- Support 1 WLAN
- Support Web Server
- Support multiple LED communication indicators
- Support Reload button to restore default settings by hardware way
- The wired net ports support 10/100Mbps rate
- Support VPN Client (PPTP/L2TP/IPSEC/GRE/OPENVPN/SSTP) and supports VPN encryption and static IP functions.
- Support APN special network card.
- Support for wired wireless multi network simultaneous online and multi network intelligent switching backup function
- Support remote upgrade and remote monitoring
- Support Dynamic Domain Name System (DDNS)
- Support mandatory portal (WIFIDOG), this function needs to be customized according to customer needs.
- Support SMS AT command

2.2. Hardware introduction

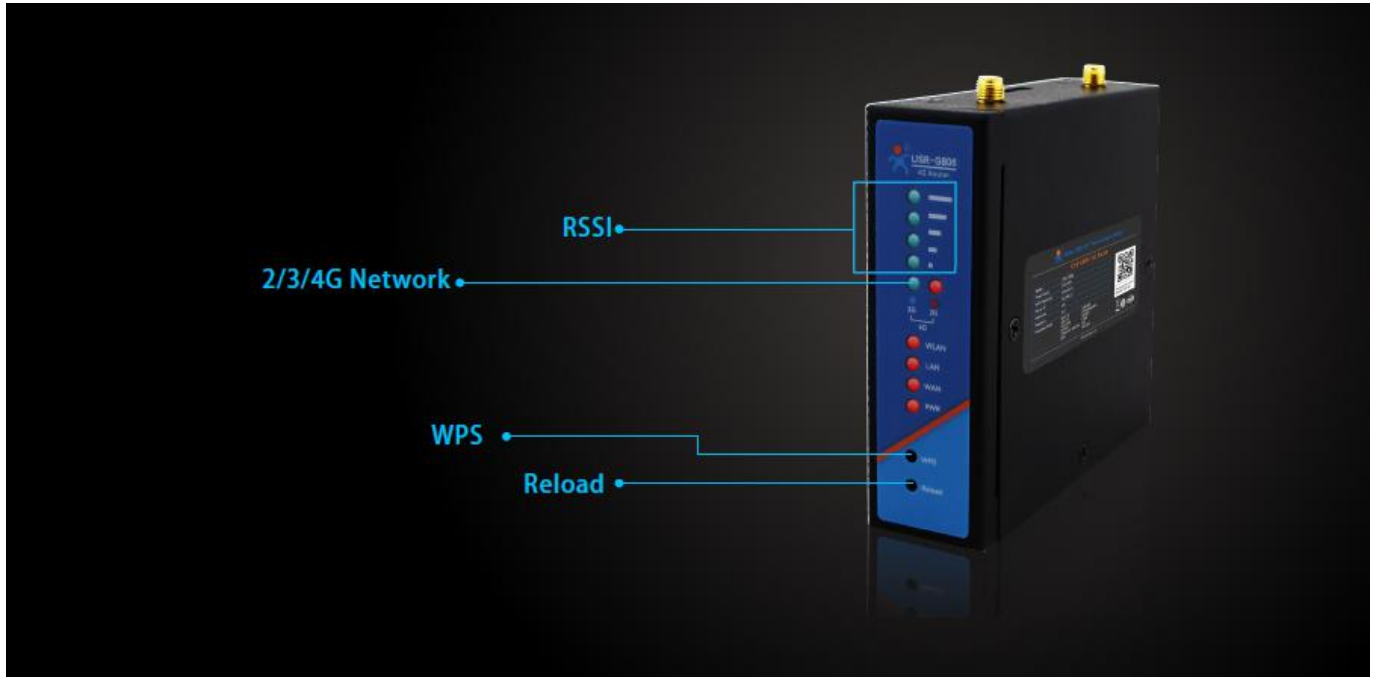


Figure 4 LED

LED	Function	
RSSI	The more green LEDs lighten, the signal is stronger.	
2G	2G:On 3G:Off	2G network accessing
	2G:Off 3G:On	3G network accessing
3G	2G:On 3G:On	4G network accessing
WLAN	On: Wi-Fi enabled	Off: Wi-Fi disabled
LAN	Blink: LAN port working	Off: LAN port not working
WAN	Blink: WAN/LAN port working	Off: WAN/LAN port not working
PWR	On: Power on	Off: Power off
Button	Function	
WPS	Reserved	
Reload	Restore default settings	

Unit:mm

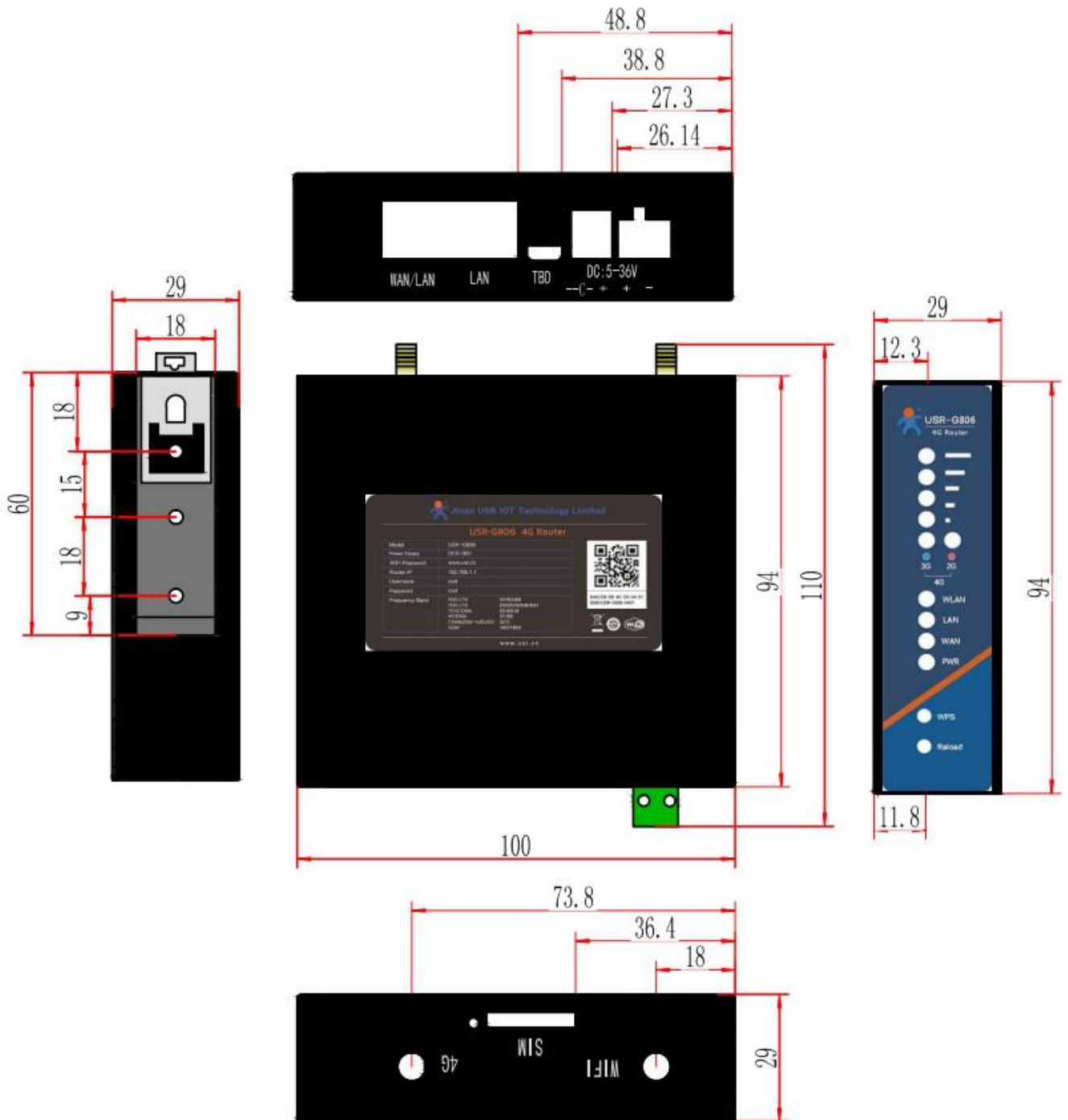


Figure 5 size

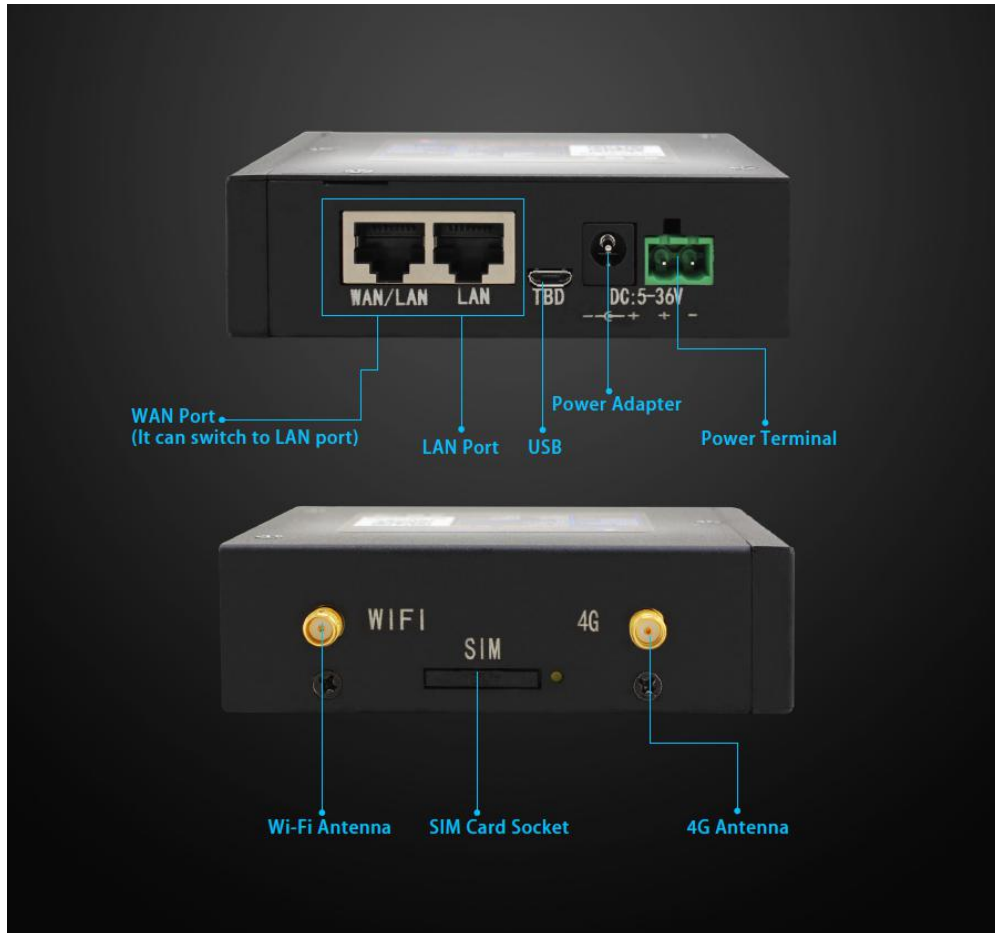


Figure 6 Interface

2.3. Band

USR-G806 has different band model to support different area. To check whether the USR-G806 works in specific country, please check which 3G/4G technology and band is used in this country and operator. Then please contrast our form of different model.

G806	Asia
G806-E	Europe
G806-A	America AT&T
G806-AU	Australia

G806-43 Operating Band	
FDD-LTE	1
	3
	8
TDD-LTE	38
	39
	40
	41
WCDMA	1
	8
CDMA1X	800MHz
CDMA2000-EVDO	
GPRS	3
	8

G806-E Operating Band	
FDD-LTE	1
	3
	5
	7
	8
	20
TDD-LTE	38
	40
	41
WCDMA	1
	5
	8
GPRS	3
	8

G806-A Operating Band	
FDD-LTE	2
	4
	12
WCDMA	2
	4
	5

G806-AU Operating Band	
FDD-LTE	1
	2
	3
	4
	5
	7
	8
	28
TDD-LTE	40
WCDMA	1
	2
	5
	8
GPRS	2
	3
	5
	8

3. Product Functions

This chapter introduces the functions of USR-G806, as the following diagram shown, you can get an overall knowledge of it.



Figure 7 Product function

3.1. Configuration Process

- (1) Connect the 4G antenna and Wi-Fi antenna to the router. (Longer one is 3G/4G antenna and Shorter one is Wi-Fi antenna.)
- (2) Plug the SIM card in G806.
- (3) Power on the module by power adaptor and check the LED status.
- (4) Connect PC or mobile to the G806 router via LAN interface or Wi-Fi interface. Wi-Fi password is "www.usr.cn".

- (5) Log in Web Server of router. (Default IP address of router is 192.168.1.1, either the username and password is "root".)
- (6) Configure APN parameters according to SIM card. Some SIM card APN can be recognized automatically.(Network->APNSET)
- (7) Configure other parameters according to user applications.

3.2. Interconnection

3.2.1 WAN+4G



Figure 8 WAN+4G

This networking mode has two WAN ports (WAN ports of Ethernet port and 4G ports of M2M network) that can be connected to WAN simultaneously. The two channels form complementary and backup. At the same time, WAN ports of Ethernet port are preferred to ensure data fluency and save the traffic of 4G. When WAN ports are abnormal, they can't be connected to WAN. The router can also connect to the server through the 4G network port. In this way, the router doesn't need any settings to connect to the network line, plug in 4G SIM card, and supply power to the router. The process of setting up customers is reduced to the greatest extent. Under this networking mode, the WIFI function of router can also work at the same time to maximize the number of LAN access. This method is mainly used in the stably network, Such as factory buildings, intelligent buildings, smart cities and other related industries.

3.2.1 Double LAN+4G

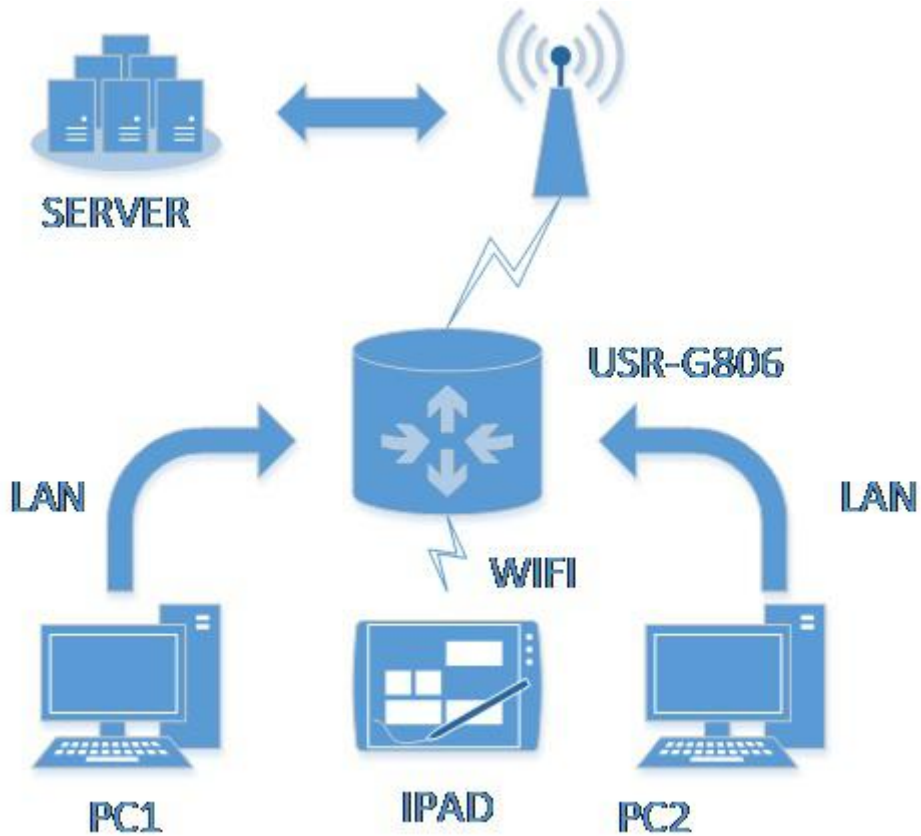


Figure 9 Double LAN+4G

Set the two Ethernet port work as LAN port, the webpage is as follow,

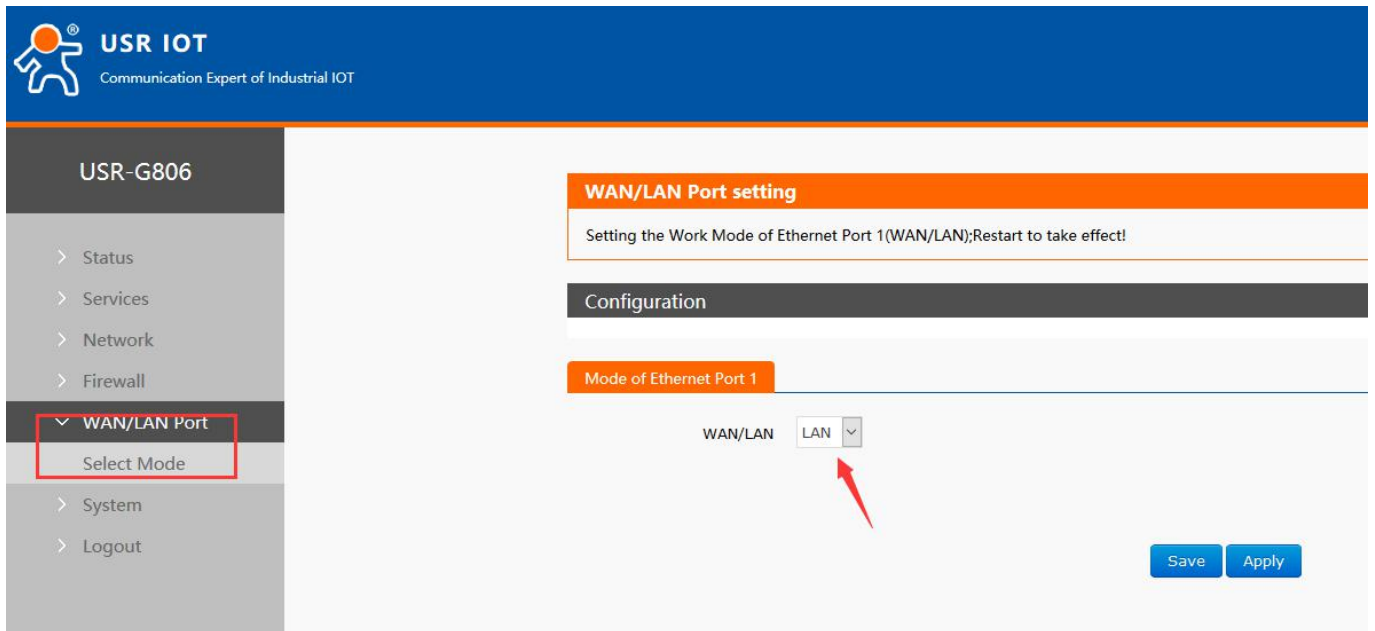


Figure10 Webpage

3.3. Basic Function

3.3.1 Network Diagnostic Function

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

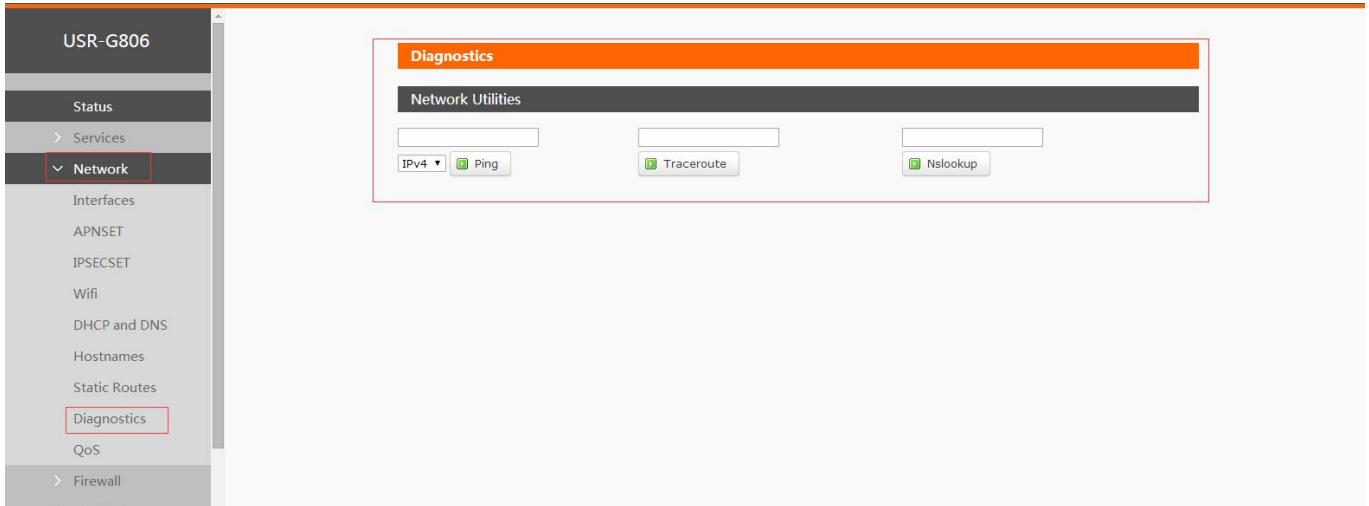


Figure 11 network diagnosis

- Ping is a Ping tool, which can directly test Ping at a specific address on the router side.
- Traceroute is the routing parsing tool, which can get the routing path when accessing an address.
- Nslookup is a DNS view tool, which can resolve domain names to IP addresses.

3.3.2 Host Name and Time Zone

G806 default module name is USR-G806 and default Time Zone is Beijing time zone.

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

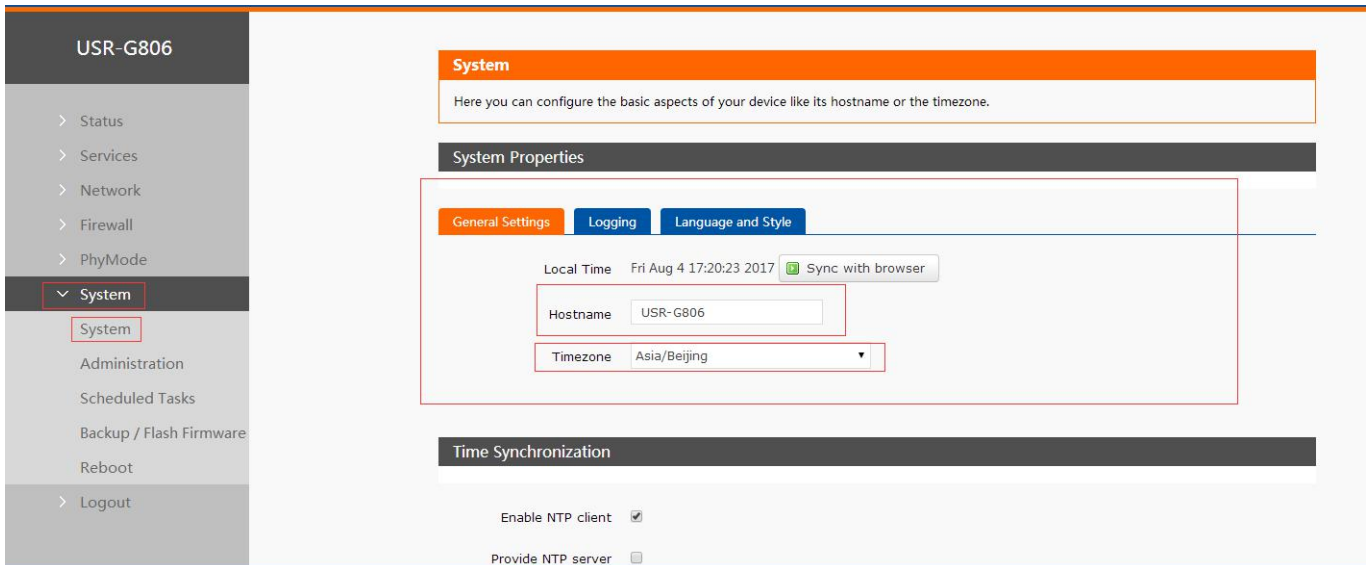


Figure 12 hostname and time zone

3.3.3 Password

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

User can change password by Web Server as follow:

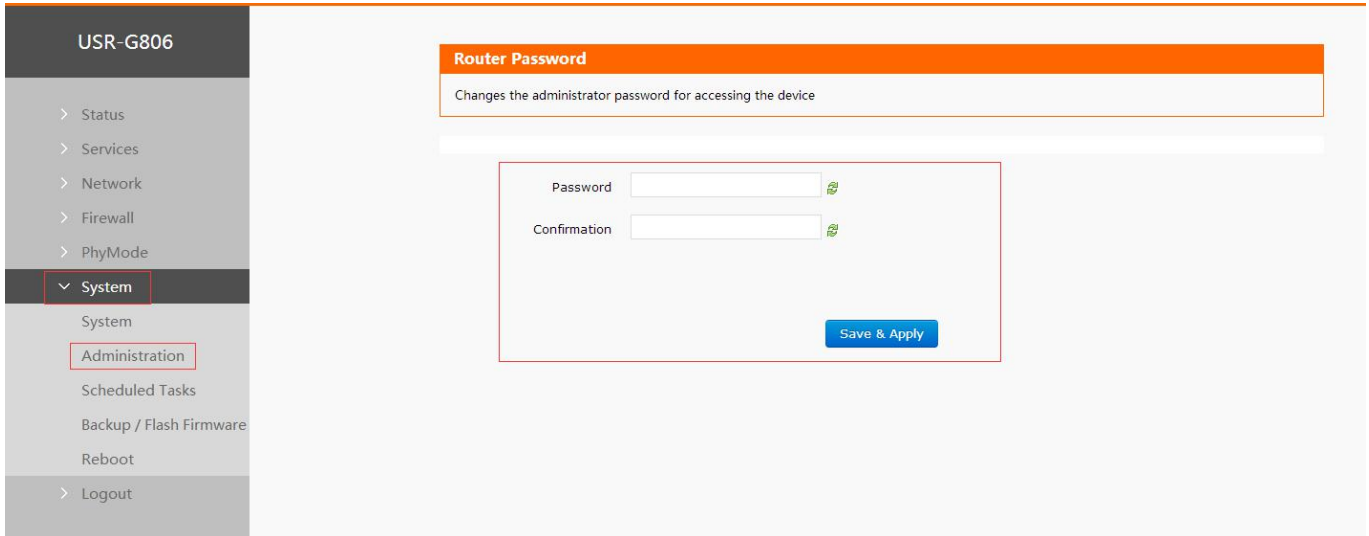


Figure 13 change web server password

3.3.4 Restore to Factory Setting

Hardware restore: Press Reload button over 5 seconds and release, G806 will restore default settings and reset.

User can restore default settings by Web Server as follow:

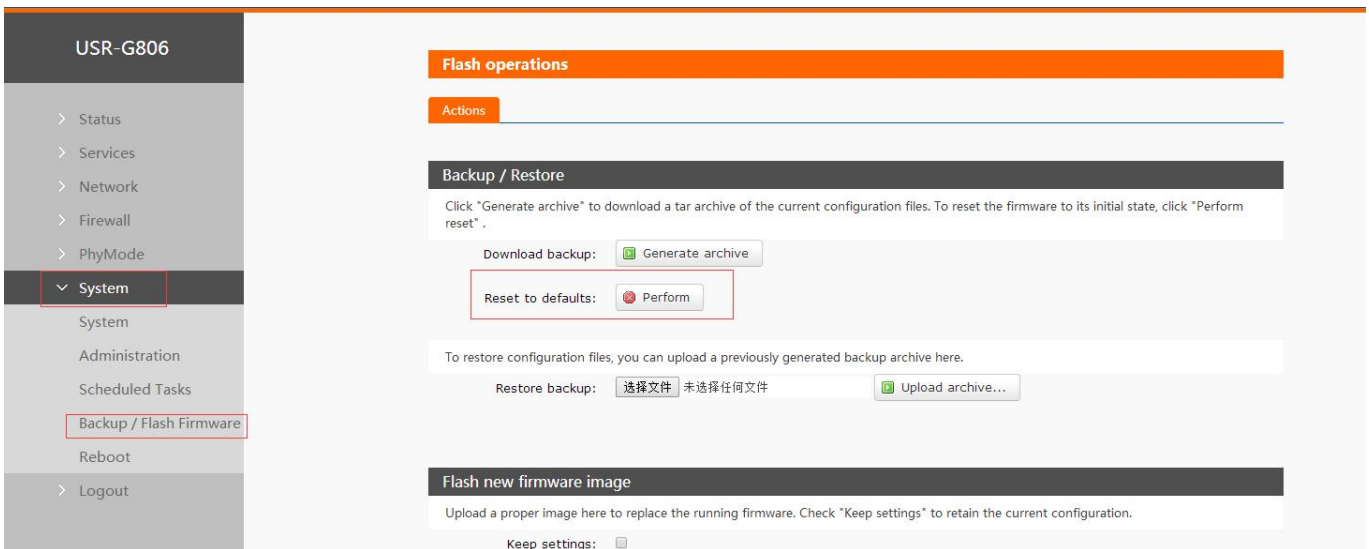


Figure 14 restore default settings

3.3.5 Indicator Light

Name	Intro
Power	On when power on
WAN	On when use the WAN port, flicker when data

	transmission
LAN	On when use the LAN port, flicker when data transmission
WLAN	On when use WI-FI
2G indicator light	On when work on 2G
3G indicator light	On when work on 3G
Signal intensity (1-4)	The more, the stronger the signal is.

< Description >

- The working conditions of WAN and LAN are indicated by WAN and LAN indicators.
- The corresponding WAN/LAN indicator flashes when the network line is connected and the network device working.
- The power lamp will always be bright.
- When the LTE module works at 4G, the 2G indicator and the 3G indicator light are all on.

3.3.6 Upgrade Firmware Version

Upgrade by Web Server as follow:

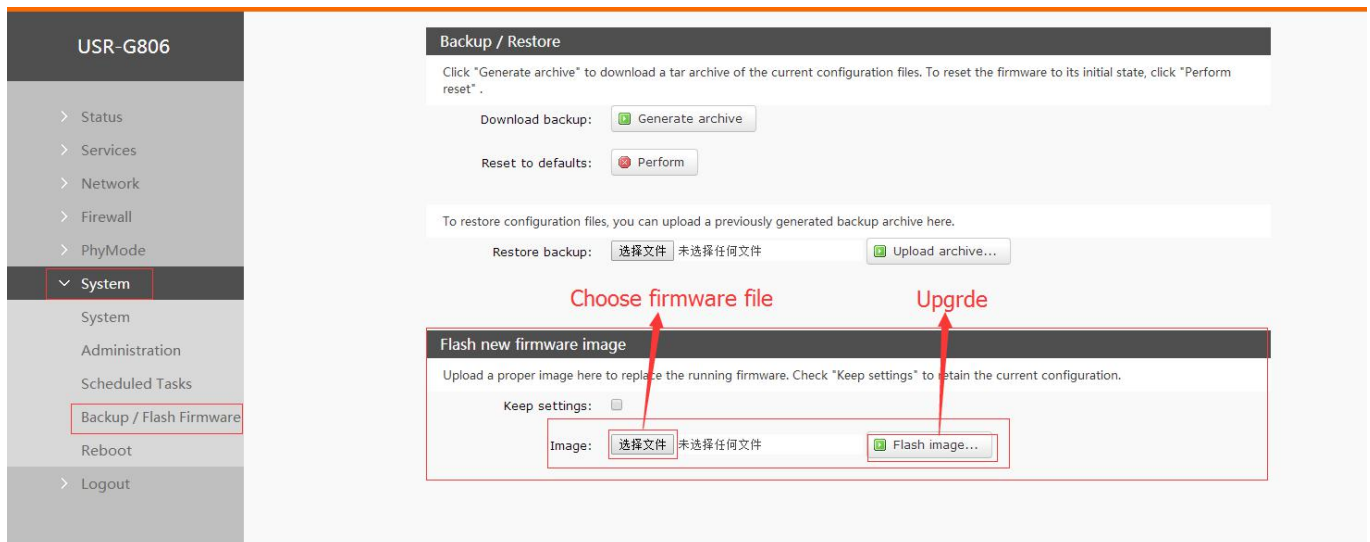


Figure 15 upgrade firmware

Note:

- The whole upgrade process will last about one minute , user can enter Web Server after about 1 minute.
- User can choose saving settings.
- User should keep powering up and LAN/WIFI connection during the whole upgrade process.

3.3.7 Reset

Reset time is about 40~60 seconds.

Reset by Web Server as follow:

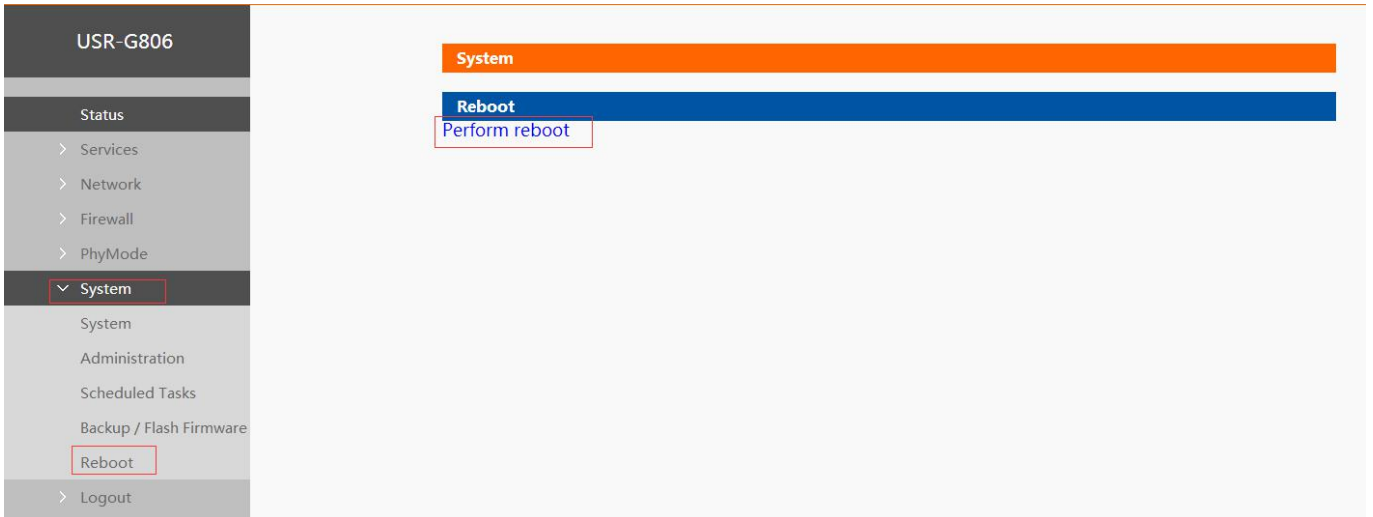


Figure 16 reset

3.4. Advanced Function

3.4.1 DDNS

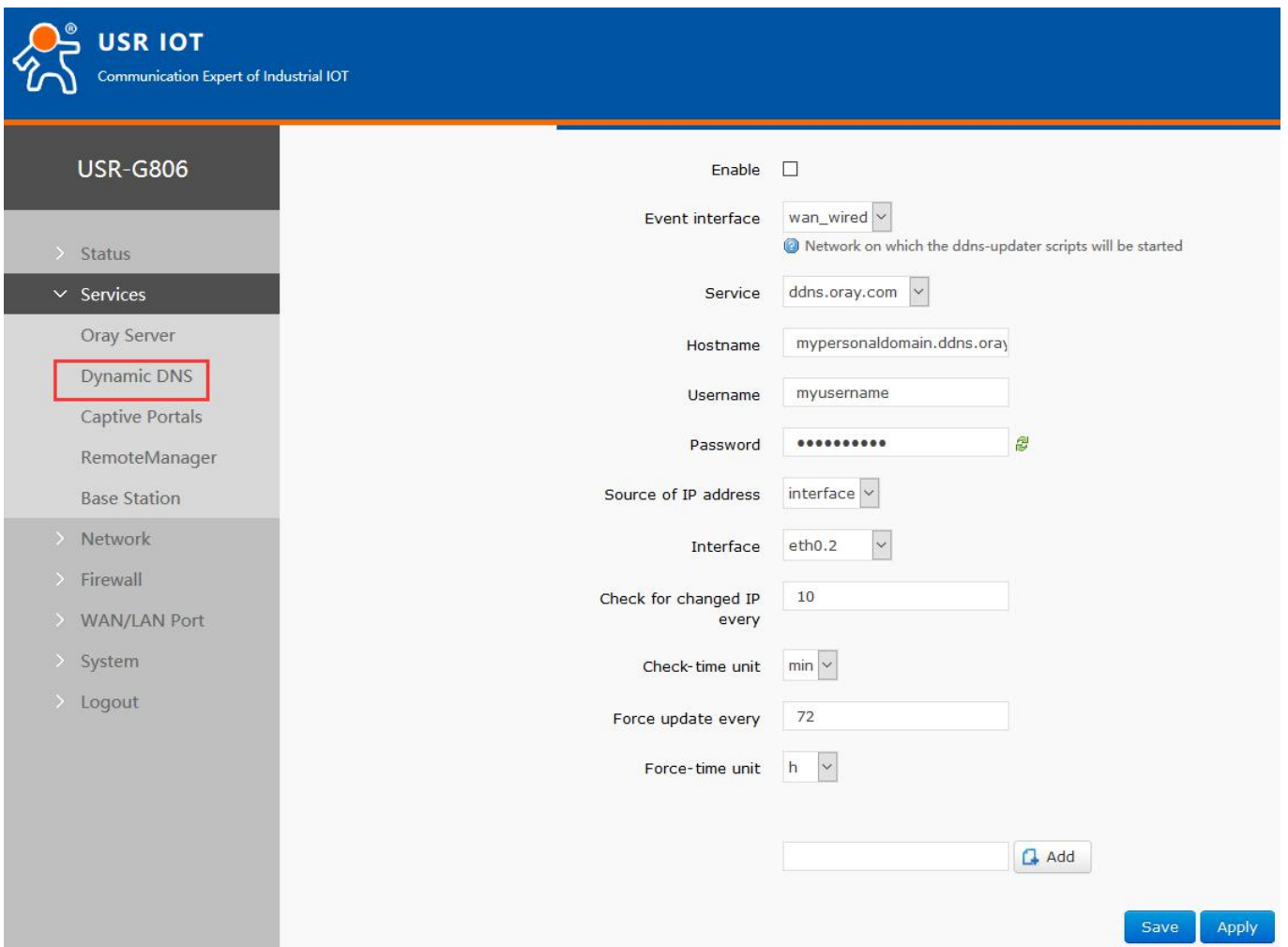


Figure 17 DDNS

Function	Intro	Note
Enable	Enable/disable DDNS function	Default disable
Event interface	Choose the WAN port	e.g. choose wan_wired
Service/URL	Fill in the service address of DDNS.	e.g. http://ouclihuibin123:ouclihu uibin1231@ddns.oray.com /ph/update?hostname=1a5 16r1619.iask.in
Hostname	Fill in the domain name	e.g. 1a516r1619.iask.in
User name	Fill in account name	e.g. ouclihuibin123
Password	Fill in password	e.g. ouclihuibin1231
Source of IP address	Choose the interface	
Interface	Choose the interface name	e.g. choose eth0.2
Check for changed IP/check-time unit	The interval between detecting IP address changes, domain name pointing to the IP may change frequently, the smaller the value, the more frequent the detection.	e.g. 1 min
Force update time /force-time unit	Mandatory update interval	e.g. 72 h

3.4.2 WIFI-Dog

After clicking on open and save, the router needs to be restarted, and the authentication server needs to be customized.

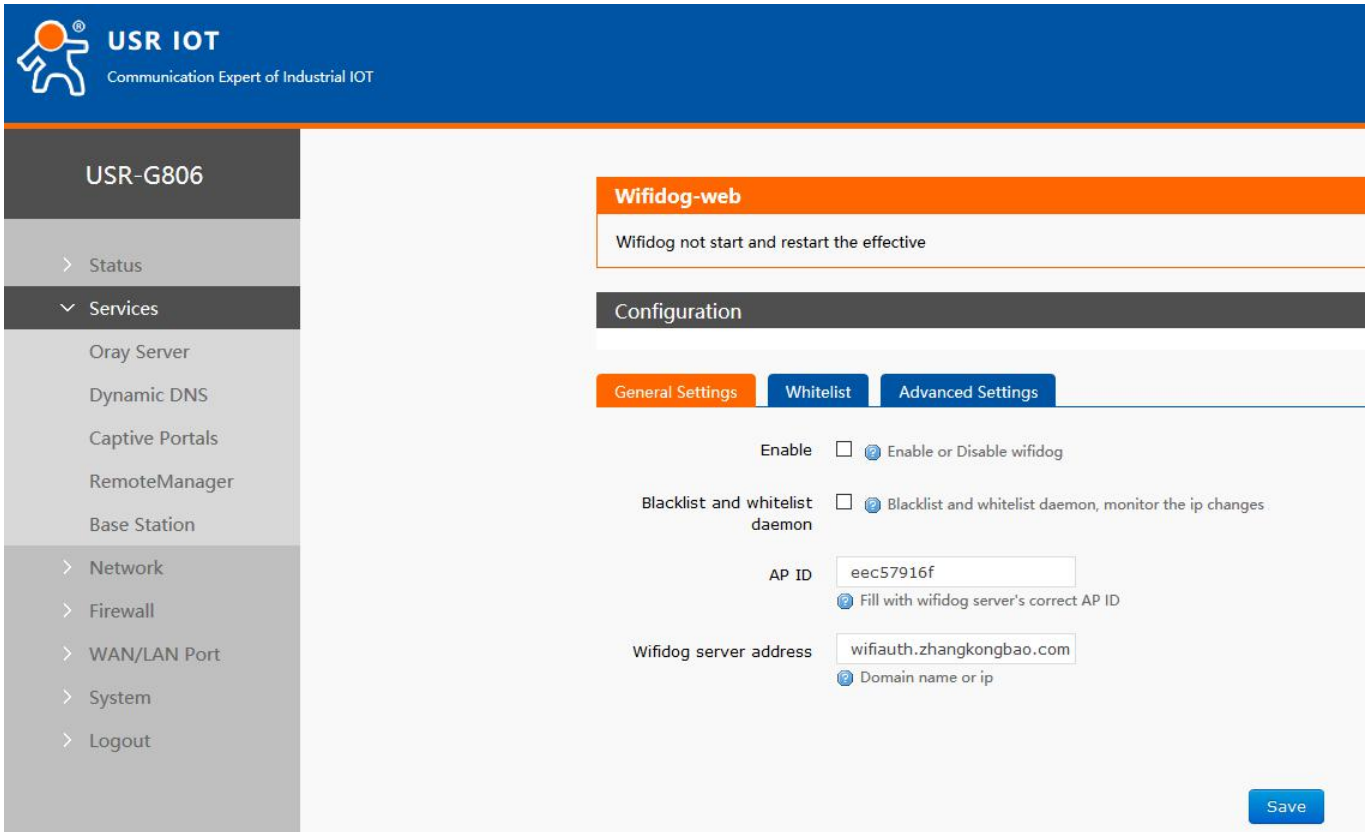


Figure 18 wifi-dog

3.4.3 SMS AT Commands

You should send SMS in this format: root#AT+COMMAND

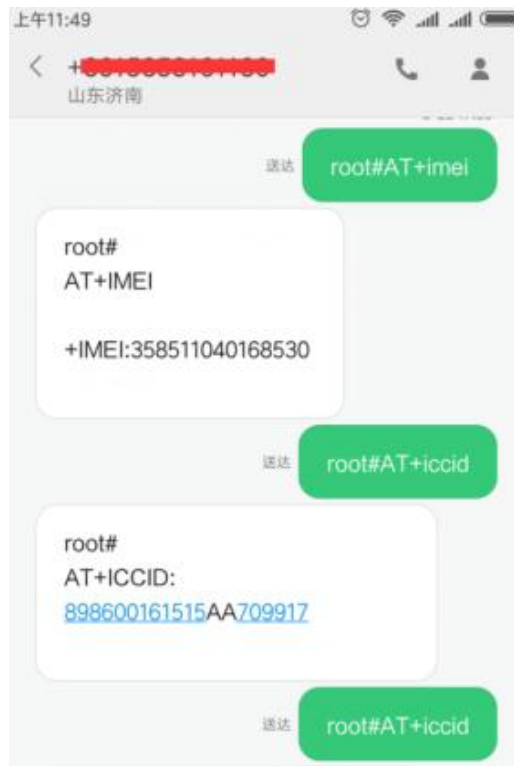


Figure 19 SMS AT commands

3.4.4 LAN Interface

G806 supports two LAN interface (one is WAN/LAN interface).

Default settings: One LAN interface (WAN/LAN used as WAN interface; IP address: 192.168.1.1; Subnet mask: 255.255.255.0; Open DHCP function).

User can configure LAN interface by webpage as follow:

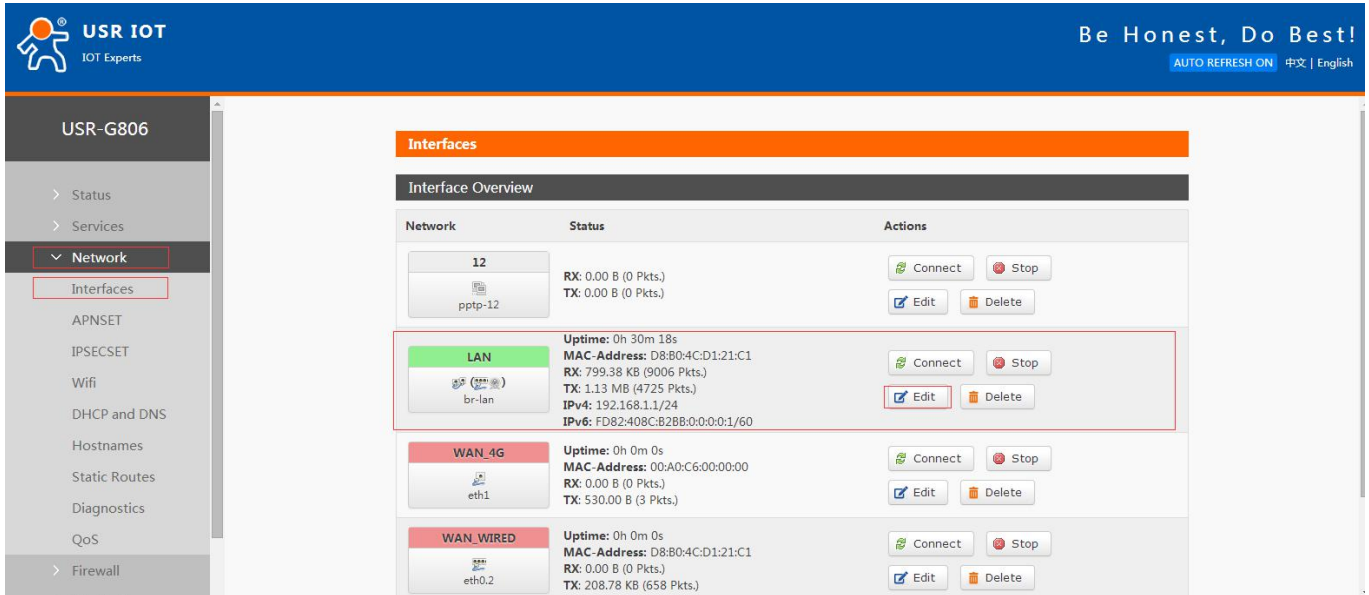


Figure 20 LAN interface

3.4.4.1 DHCP Function

DHCP 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 you enter Web Server LAN interface, you can find 'DHCP Server' on Web Server as follow:

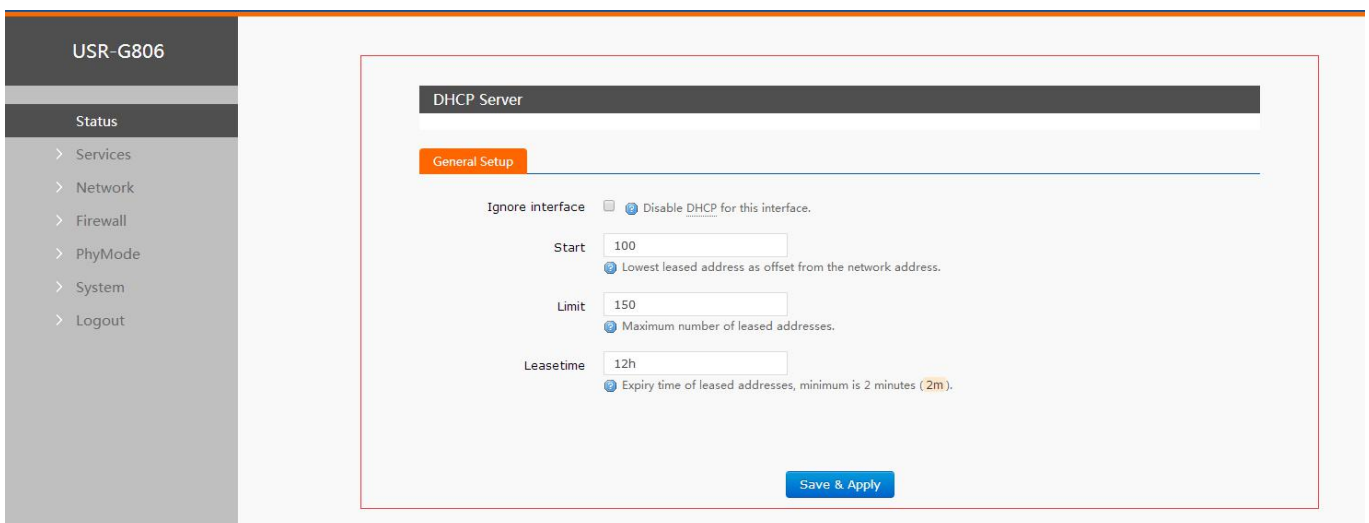


Figure 21 DHCP function

3.4.5 WAN Interface

G806 supports one WAN interface and WAN interface can switch between WAN/LAN interface. WAN interface supports DHCP and Static IP, and default setting is DHCP.

User can configure WAN interface by Web Server as follow:

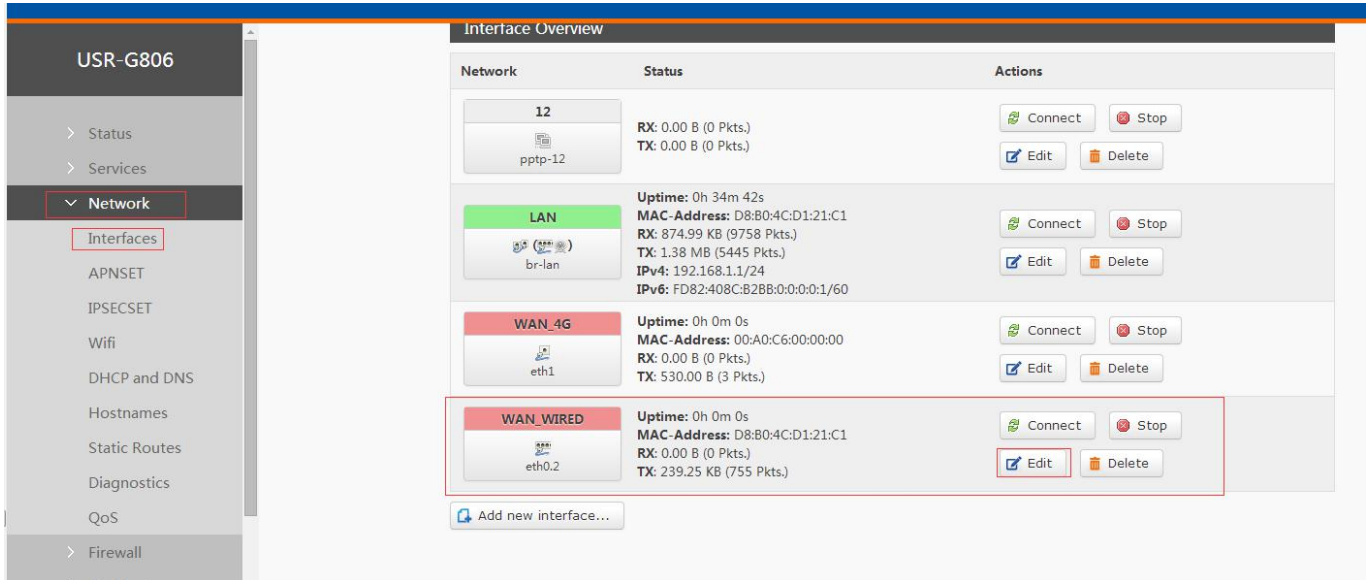


Figure 22 WAN interface

3.4.6 WLAN Function

G806 supports at most 24 STA devices connected. The maximum coverage of WIFI is 180m

Default parameters as follows:

SSID	USR-G806-XXXX(XXXX is MAC)
Password	www.usr.cn
Channel	Auto
Bandwidth	40MHz
Encryption Mode	WPA2-PSK

WLAN interface on Web Server as follow:

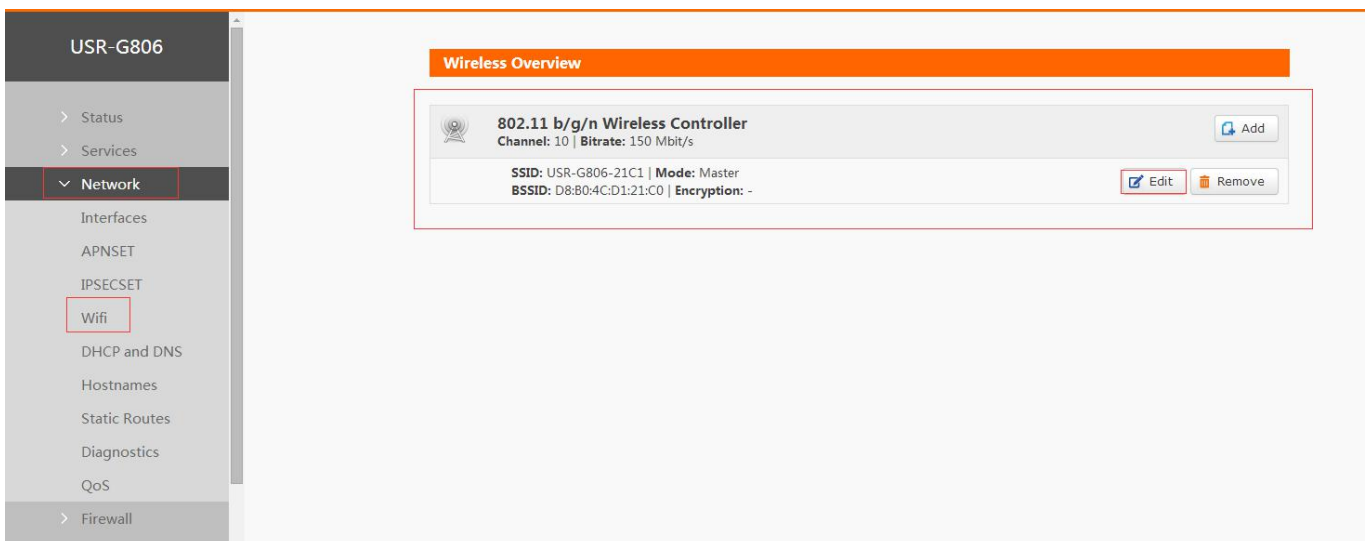


Figure 23 WLAN interface

After clicking “Edit” and entering WLAN interface configuration web, user can change follow parameters. User can configure SSID on Web Server as follow:

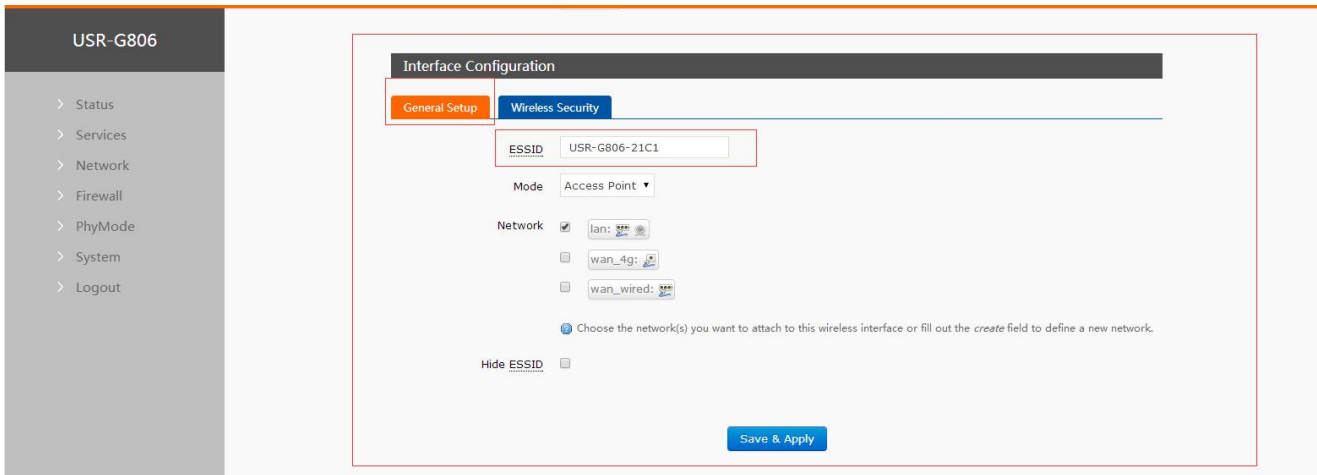


Figure 24 Configure SSID

User can configure password on Web Server as follow:

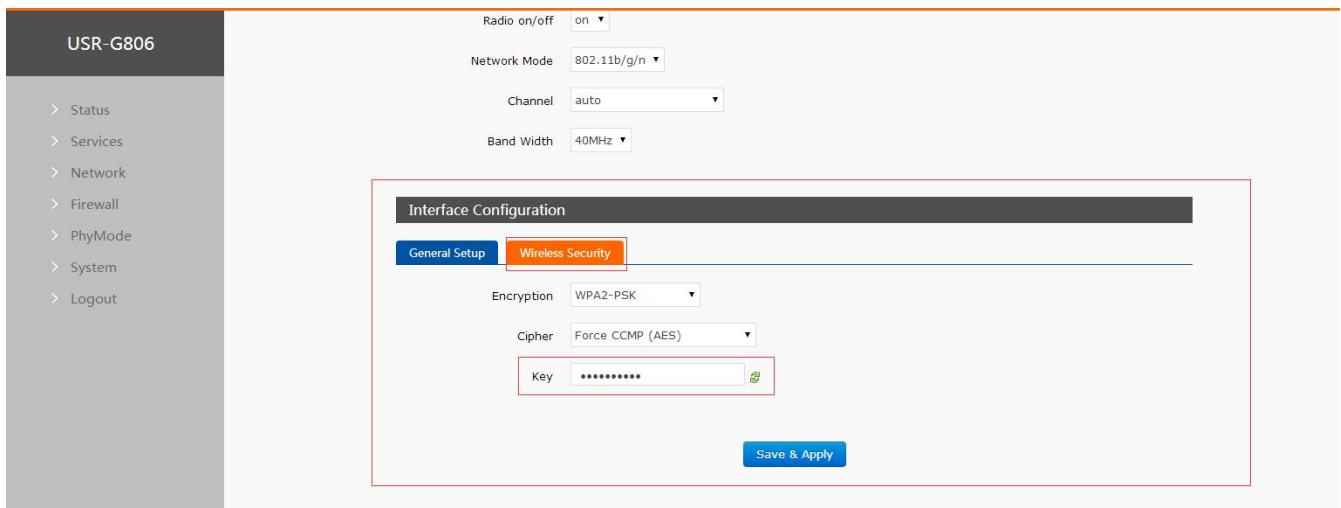


Figure 25 Configure password

Other settings on Web Server as follow:

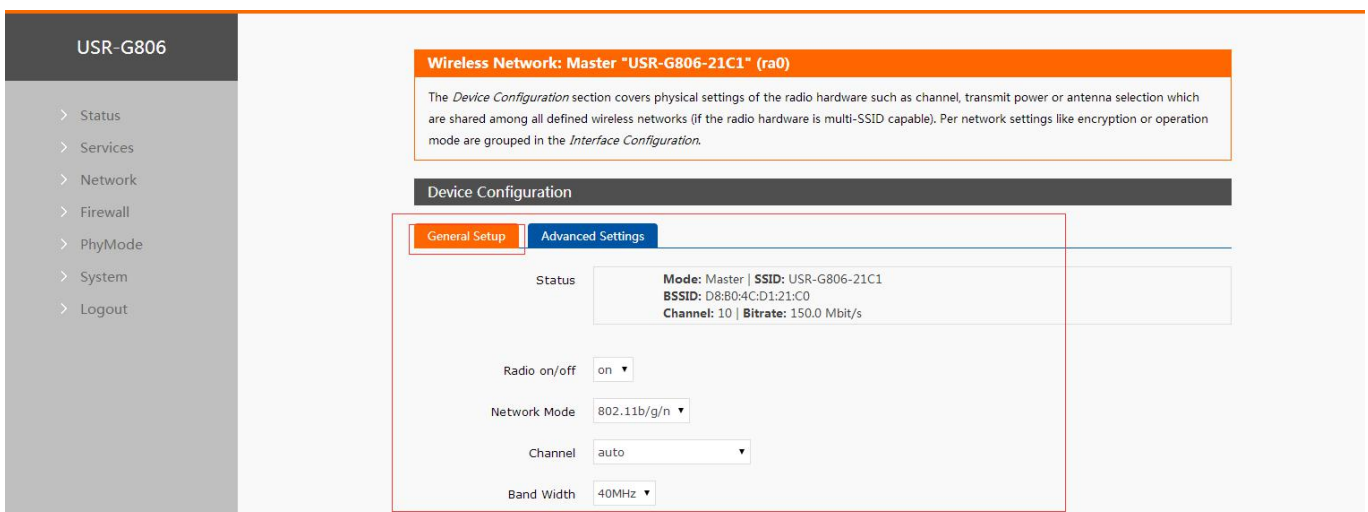
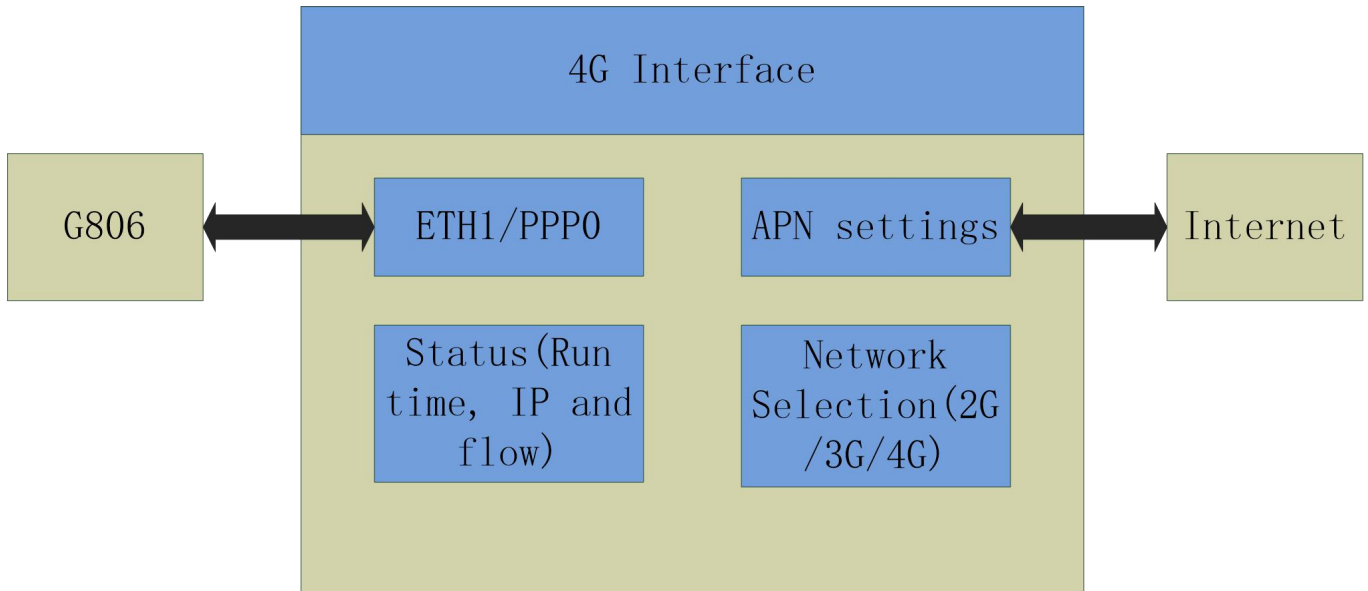


Figure 26 Other settings

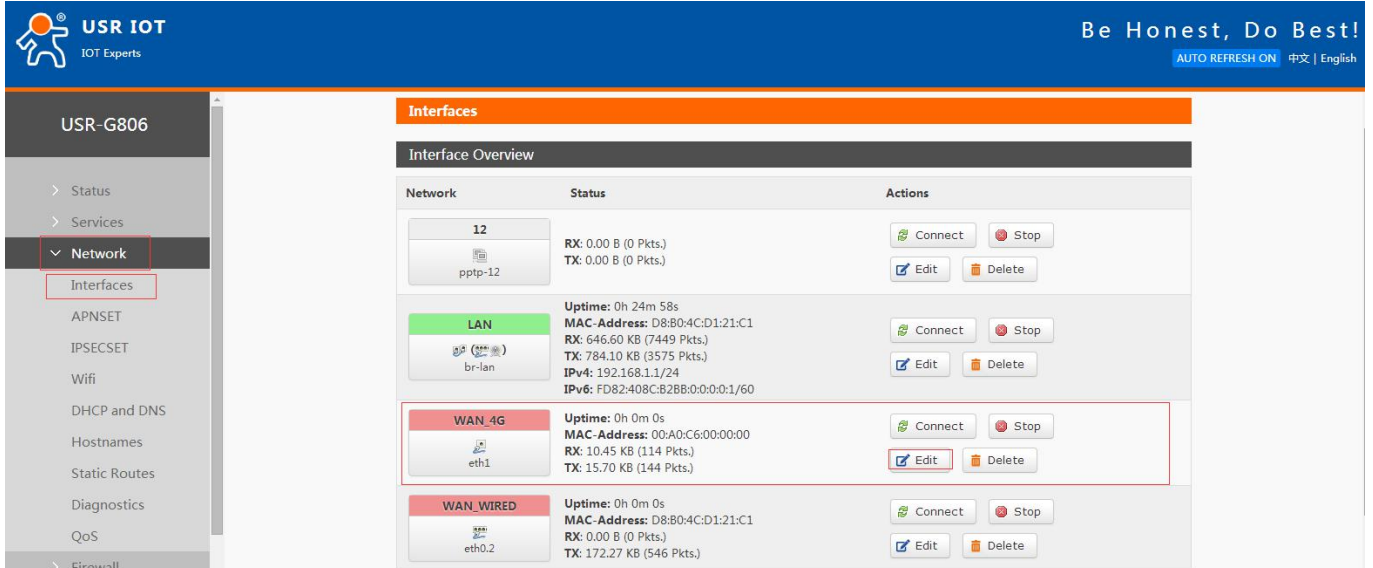
User can close WLAN interface by changing 'Radio on/off' to off.

3.4.7 4G Interface

G806 supports one 4G interface to access internet. Functional diagram as follow:


Figure 27 4G interface

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



Network	Status	Actions
12 pptp-12	RX: 0.00 B (0 Pkts.) TX: 0.00 B (0 Pkts.)	Connect Stop Edit Delete
LAN br-lan	Uptime: 0h 24m 58s MAC-Address: D8:B0:4C:D1:21:C1 RX: 646.60 KB (7449 Pkts.) TX: 784.10 KB (3575 Pkts.) IPv4: 192.168.1.1/24 IPv6: FD82:408C:B28B:0:0:0:1/60	Connect Stop Edit Delete
WAN_4G eth1	Uptime: 0h 0m 0s MAC-Address: 00:A0:C6:00:00:00 RX: 10.45 KB (114 Pkts.) TX: 15.70 KB (144 Pkts.)	Connect Stop Edit Delete
WAN_WIRED eth0.2	Uptime: 0h 0m 0s MAC-Address: D8:B0:4C:D1:21:C1 RX: 0.00 B (0 Pkts.) TX: 172.27 KB (546 Pkts.)	Connect Stop Edit Delete

Figure 28 4G interface

3.4.8 APN

APN configuration by Web Server as follow:

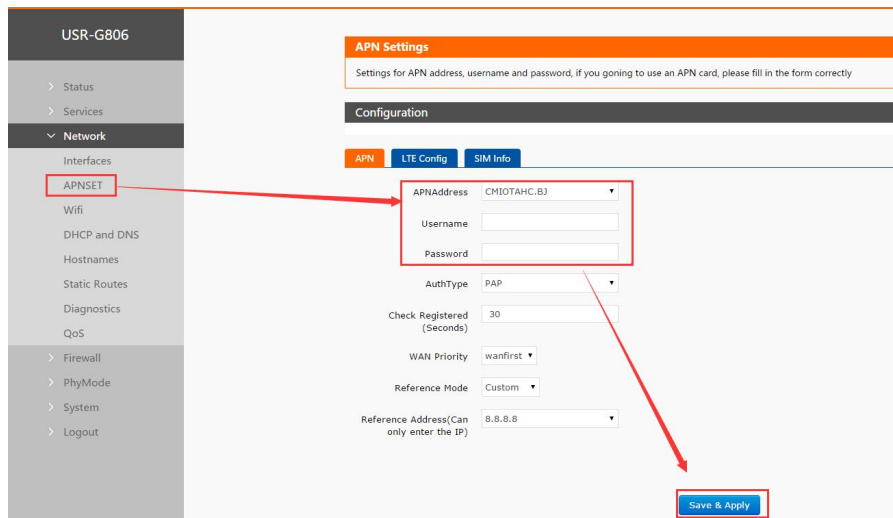


Figure 29 APN configuration

To choose the network type, please configure the LTE.

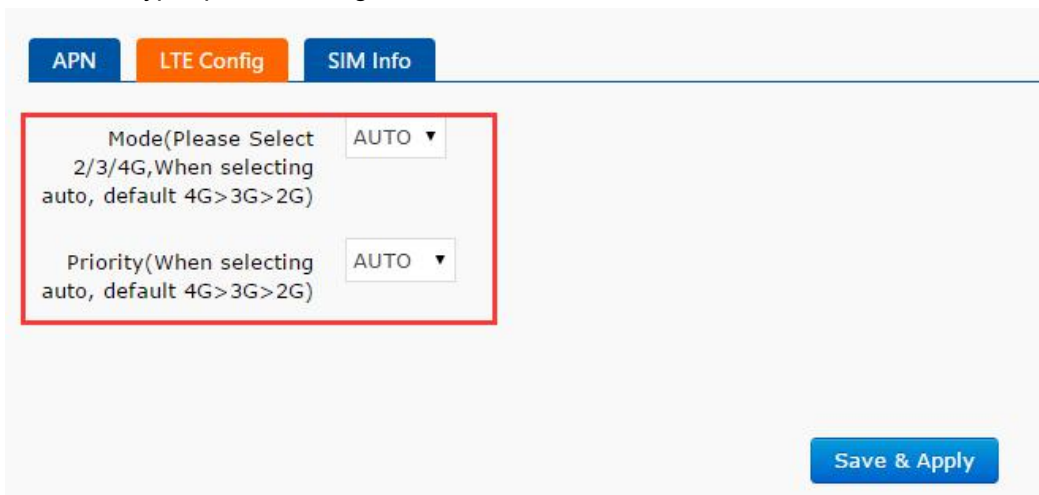


Figure 30 LTE configuration

3.4.9 VPN Client

3.4.9.1 PPTP Client

We first create VPN Server on the server.

Open the network connection page on the server (remote server) and click File -> New incoming connection. Then, select Add account, please enter user name, password and other information..

Click Next and check through Internet to connect to this computer.

Then, select "Internet Protocol Version 4" to set the properties of the incoming IP, IP address assignment select "Specify IP Address", then select "OK" and "Allow Access".

Now we create a VPN server.

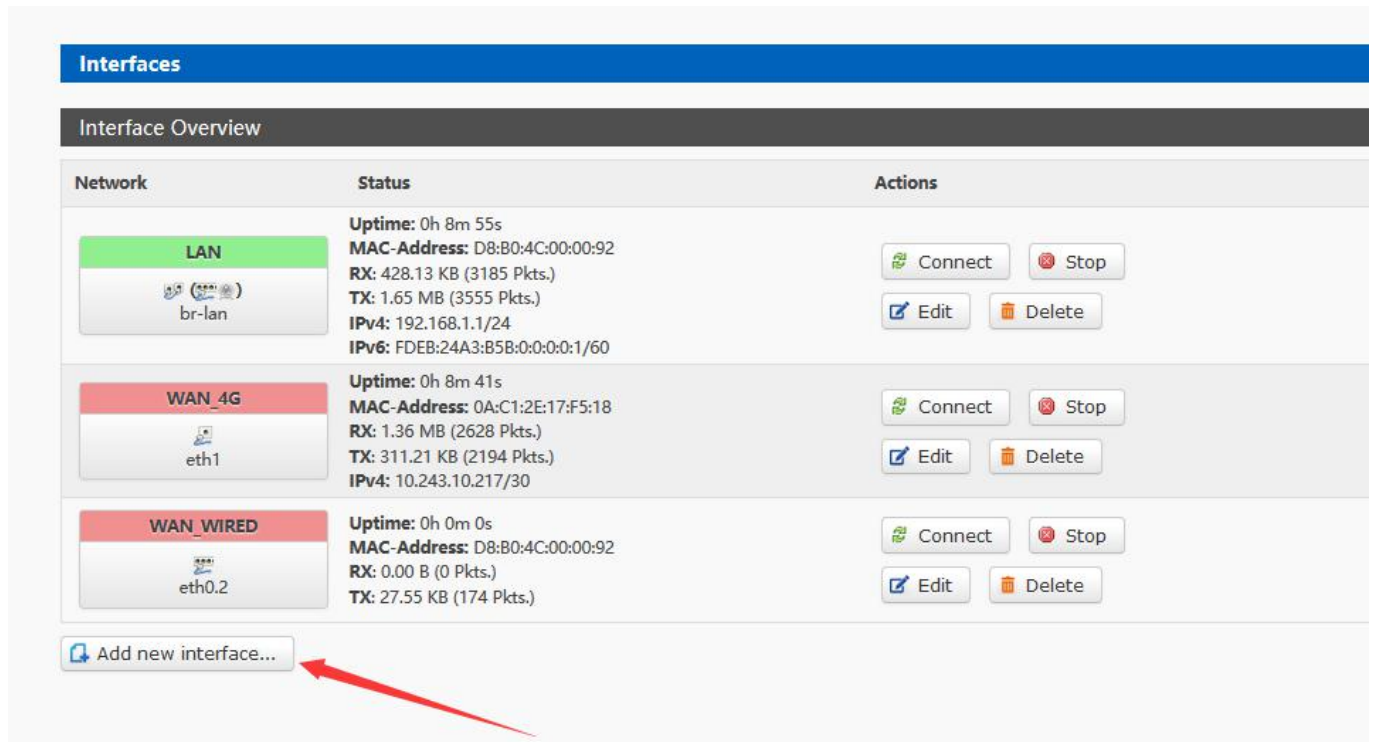
Let's talk about the use of VPN Client. We are looking for a computer in the LAN to ensure that it can access the server above. Then create a new VPN connection.

In the connection box, click "Properties", the tab can set the target address (the address of the VPN server), security options to select "PPTP protocol", after the point is determined, enter the username, password.

Click the "Connect" button, after the connection is successful, you can see the VPN network card connection, from grey to bright color, representing the VPN connection has been successfully established.

Next we use the PPTP Client on the router to replace the way of computer dialing.

Assuming that the user has obtained the VPN server address, account and password, we create an interface, select the PPTP protocol, and write the other parameters in turn.



The screenshot shows the 'Interfaces' section of a router's web interface. It features a table with three columns: 'Network', 'Status', and 'Actions'. There are three rows representing different network interfaces: LAN, WAN_4G, and WAN_WIRED. Each row includes details such as Uptime, MAC-Address, RX/TX data, and IPv4/IPv6 addresses. Below the table is a button labeled 'Add new interface...' with a red arrow pointing to it.




Network	Status	Actions
LAN  br-lan	Uptime: 0h 8m 55s MAC-Address: D8:B0:4C:00:00:92 RX: 428.13 KB (3185 Pkts.) TX: 1.65 MB (3555 Pkts.) IPv4: 192.168.1.1/24 IPv6: FDEB:24A3:B5B:0:0:0:1/60	<input type="button" value="Connect"/> <input type="button" value="Stop"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>
WAN_4G  eth1	Uptime: 0h 8m 41s MAC-Address: 0A:C1:2E:17:F5:18 RX: 1.36 MB (2628 Pkts.) TX: 311.21 KB (2194 Pkts.) IPv4: 10.243.10.217/30	<input type="button" value="Connect"/> <input type="button" value="Stop"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>
WAN_WIRED  eth0.2	Uptime: 0h 0m 0s MAC-Address: D8:B0:4C:00:00:92 RX: 0.00 B (0 Pkts.) TX: 27.55 KB (174 Pkts.)	<input type="button" value="Connect"/> <input type="button" value="Stop"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>

Figure31 the webpage1 of VPN

Create Interface

Name of the new interface:
The allowed characters are: A-Z, a-z, 0-9 and _

Protocol of the new interface: Static address ▼

Static address

DHCP client

Unmanaged

DHCPv6 client

PPP

PPPoE

PPPoATM

UMTS/GPRS/EV-DO

L2TP

GRE

TUN

TAP

SSTP

Relay bridge

Create a bridge over multiple interfaces:

Cover the following interface:

Ethernet Adapter: "teql0"
 Wireless Network: Master "GW-R4513-0092" (lan)
 Custom Interface:

Figure32 the webpage2 of VPN

Select WAN, because it is dialing at WAN port, then save and apply.

Interfaces - 123TEST

On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridged network interfaces separated by spaces. You can also use VLAN notation INTERFACE.VLANNR (e.g.: eth0.1).

Common Configuration

General Setup
Advanced Settings
Firewall Settings

Status	<div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid #ccc; padding: 2px 5px; margin-right: 5px;">pptp-123test</div> <div style="font-size: 0.8em; margin-left: 10px;"> RX: 0.00 B (0 Pkts.) TX: 0.00 B (0 Pkts.) </div> </div>
Protocol	<input type="text" value="PPTP"/>
VPN Server	<input type="text" value="REDACTED"/>
PAP/CHAP username	<input type="text" value="REDACTED"/>
PAP/CHAP password	<input type="password" value="REDACTED"/>

Save
Apply

Figure33 the webpage3 of VPN

Wait a minute or restart the router, when you see the "VPN" interface in the router page, there is a run time (not 0), indicating that the current VPN has been successfully started.

Note:

- Currently PPTP supports MPPE encryption and a variety of authentication methods. Specific settings can be viewed in advanced settings for authentication.
- Only MSChapV2 indicates that MPPE encryption is only supported.
- MSChapV2 EAP PAP CHAP supports MPPE encryption and multiple authentications.
- Other means do not handle, default status, only CHAP authentication by default.

3.4.9.2 L2TP Client

L2TP is a layer 2 tunneling protocol, similar to PPTP. At present, G806 supports various authentication methods such as tunnel password authentication, CHAP, etc., supporting encryption methods of MPPE and pre-shared key encryption methods of L2TP OVER IPSEC.

Interfaces

Interface Overview

Network	Status	Actions
LAN br-lan	Uptime: 0h 8m 55s MAC-Address: D8:B0:4C:00:00:92 RX: 428.13 KB (3185 Pkts.) TX: 1.65 MB (3555 Pkts.) IPv4: 192.168.1.1/24 IPv6: FDEB:24A3:B5B:0:0:0:1/60	Connect Stop Edit Delete
WAN_4G eth1	Uptime: 0h 8m 41s MAC-Address: 0A:C1:2E:17:F5:18 RX: 1.36 MB (2628 Pkts.) TX: 311.21 KB (2194 Pkts.) IPv4: 10.243.10.217/30	Connect Stop Edit Delete
WAN_WIRED eth0.2	Uptime: 0h 0m 0s MAC-Address: D8:B0:4C:00:00:92 RX: 0.00 B (0 Pkts.) TX: 27.55 KB (174 Pkts.)	Connect Stop Edit Delete

[Add new interface...](#)

Figure34 create interface

Interfaces - TEST

On this page you can configure the network interfaces. You can bridge several interfaces by tickin network interfaces separated by spaces. You can also use VLAN notation INTERFACE.VLANNR (e.g

Common Configuration

General Setup **Advanced Settings** Firewall Settings

Auth Type: No Authby (dropdown menu open with options: No Authby, Only MSChapV2, MSChapV2 EAP PAP CHAP, L2TP OVER IPSEC)

Tunnel Auth Password: Enable

Set Static Ip:

Enable IPv6 negotiation on the PPP link:

Use default gateway: If unchecked, no default route is configured

Use gateway metric:

Custom Subnet Mask: If unchecked, default Subnet Mask is 255.255.255.255

Figure35 auth type

Interfaces - TEST

On this page you can configure the network interfaces. You can bridge several interfaces by tick network interfaces separated by spaces. You can also use VLAN notation INTERFACE.VLANNR (e

Common Configuration

General Setup | **Advanced Settings** | Firewall Settings

Auth Type

Tunnel Auth Password Enable

Tunnel Auth Password
character: 1-16

Set Static Ip

Enable IPv6 negotiation on the PPP link

Use default gateway If unchecked, no default route is configured

Use gateway metric

Custom Subnet Mask Enabled If unchecked, default Subnet Mask is 255.255.255.255




Figure36 tunnel auth password

Interfaces - TEST

On this page you can configure the network interfaces. You can bridge several ir network interfaces separated by spaces. You can also use VLAN notation INTERE

Common Configuration

General Setup **Advanced Settings** Firewall Settings

Auth Type: L2TP OVER IPSEC

IPSEC CONNECT NAME:

IKE Algorithm: 3DES-SHA1

SA Type: ESP

ESP Algorithm: 3DES-SHA1

PSK:

Tunnel Auth Password Enable

Tunnel Auth Password:
character: 1-16

Figure37 L2TP OVER IPSEC auth type

3.4.9.3 IPSEC

IPSEC Settings

Please fill in below settings correctly if you want to use IPSEC

Configuration

General Setup

Advanced Settings

Connect Log

Connect Type

Transport Type

Function Type

Connect Name

Local Interface

Local Subnet
Subnet expressed as network/netmask, e.g. 10.10.10.0/24

Local ID
ID expressed as IPv4 address e.g. 10.10.10.10, or as fully-qualified domain name preceded by @ e.g. @domain

Remote Address
IPv4 Address: A.B.C.D

Figure38 IPSEC setting

Selection of application modes: Net-to-Net mode (site-to-site or gateway-to-gateway), Road Warrior mode (end-to-site or PC-to-gateway)

- Transmission mode selection: tunnel mode and transmission mode. It can be selected in the transport type.
- Functional types: VPN client and VPN server.
- Connection name: indicate the name of the connection, must be unique.
- Local interface: wan_wried, wan_4g.
- Remote address: IP/ domain name.
- Local Subnet: IPSEC Local Protected Subnet and Subnet Mask. If you choose the Road Warrior client, you do not need to fill in.
- For terminal network: IPSEC end protection subnet and subnet mask.
- Local terminal identifier: the channel local identifier can be IP or domain name. Note that when the domain name is customized, add @

- End terminal identifier: the channel end identifier, it can be IP or domain name. Note that when domain name is customized, add @

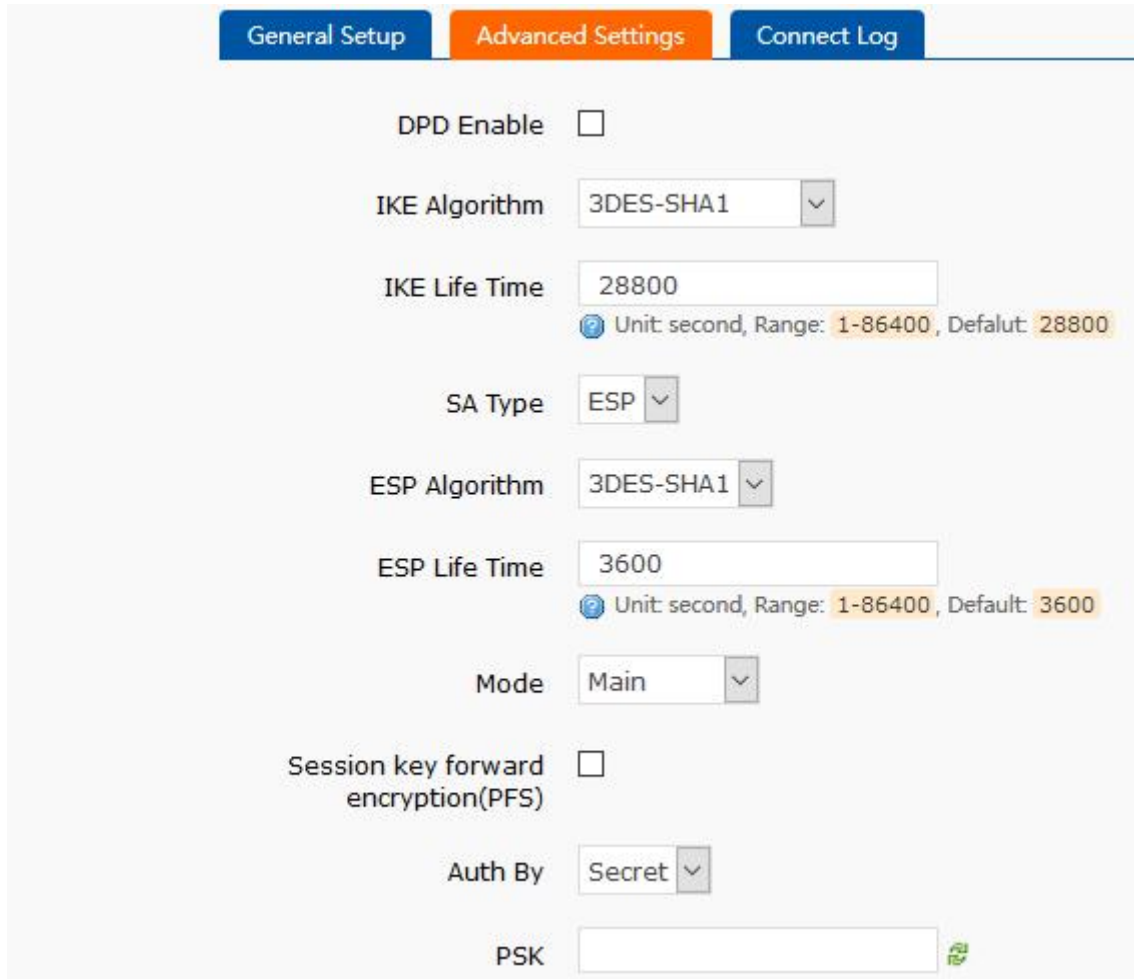


Figure39 IPSEC advance setting

Start DPD detection: whether to enable this function, hook is indicated to enable.

DPD interval: set the time interval of connection detection (DPD).

DPD timeout time: set up the timeout time of connection detection (DPD).

DPD operation: sets the operation of connection detection.

IKE encryption: the first phase includes encryption, integrity and DH switching in the IKE stage.

IKE life cycle: set the life cycle of IKE, in seconds, default: 28800.

SA type: ESP and AH can be selected in the second stage.

ESP encryption: select the corresponding encryption mode and integrity scheme.

ESP life cycle: set ESP life cycle, unit: s, default: 3600

Mode: negotiation mode default main mode, agrmode can be selected.

Session secret key forward encryption (PFS): if hook is activated, PFS will enable.

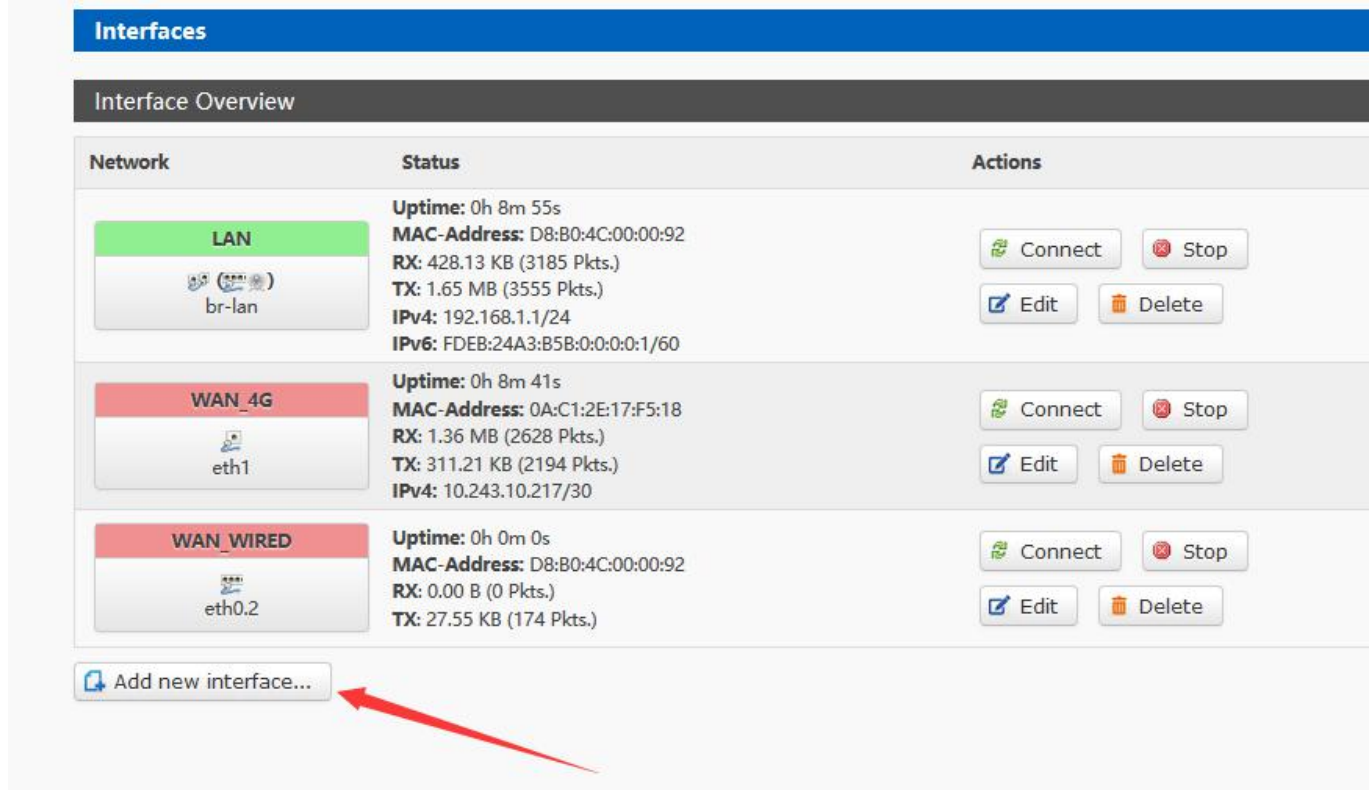
Authentication method: currently supports the pre shared key authentication method.

Note

After the configuration, the ISAKMP SA established flag in the connection log indicates that the IPSEC VPN was created successfully.

3.4.9.4 OPENVPN

Add one interface, choose TUN or TAP mode:



Interfaces

Interface Overview

Network	Status	Actions
LAN br-lan	Uptime: 0h 8m 55s MAC-Address: D8:B0:4C:00:00:92 RX: 428.13 KB (3185 Pkts.) TX: 1.65 MB (3555 Pkts.) IPv4: 192.168.1.1/24 IPv6: FDEB:24A3:B5B:0:0:0:1/60	Connect Stop Edit Delete
WAN_4G eth1	Uptime: 0h 8m 41s MAC-Address: 0A:C1:2E:17:F5:18 RX: 1.36 MB (2628 Pkts.) TX: 311.21 KB (2194 Pkts.) IPv4: 10.243.10.217/30	Connect Stop Edit Delete
WAN_WIRED eth0.2	Uptime: 0h 0m 0s MAC-Address: D8:B0:4C:00:00:92 RX: 0.00 B (0 Pkts.) TX: 27.55 KB (174 Pkts.)	Connect Stop Edit Delete

[Add new interface...](#)

Figure40 add new interface

Create Interface

Name of the new interface:
The allowed characters are: A-Z, a-z, 0-9 and _

Protocol of the new interface: Static address v

Static address

DHCP client

Unmanaged

DHCPv6 client

PPP er: "apcli0"

PPtP er: "apcli1"

PPPoE n: "eth0"

PPPoATM "eth0.1" (lan)

UMTS/GPRS/EV-DO "eth0.2" (wan_wired)

L2TP er: "eth1" (wan_4g)

GRE er: "ip6gre0"

TUN er: "ip6tnl0"

TAP er: "ra0"

SSTP

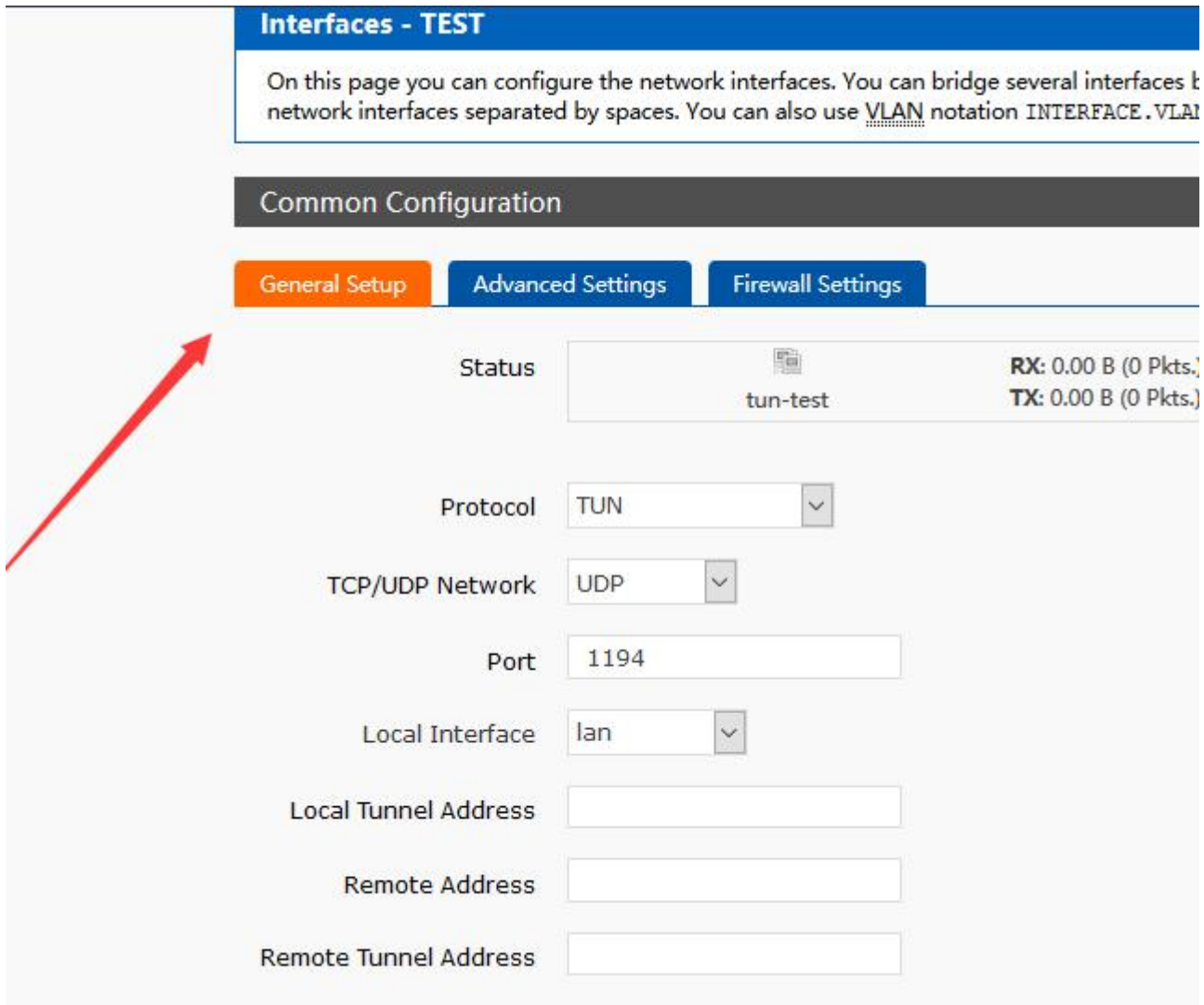
Relay bridge

Ethernet Adapter: "teql0"

Wireless Network: Master "GW-R4513-0092" (lan)

Custom Interface:

Figure41 add OPENVPN interface



The screenshot shows the 'Interfaces - TEST' configuration page. A red arrow points to the 'General Setup' tab. The configuration details are as follows:

Field	Value
Status	tun-test (RX: 0.00 B (0 Pkts.), TX: 0.00 B (0 Pkts.))
Protocol	TUN
TCP/UDP Network	UDP
Port	1194
Local Interface	lan
Local Tunnel Address	
Remote Address	
Remote Tunnel Address	

Figure42 general setting

Protocol: TUN (routing mode) or TAP (bridge mode).

Channel protocol: UDP or TCP

Port: the listening port of the OPENVPN client.

Interface of this terminal: it can be wan_wired and wan_4g.

Remote address: the IP/ domain name of the server.

Local tunnel address: set the local tunnel address, such as 192.168.10.1, otherwise the default server automatically allocates.

Remote Tunnel Address: set the tunnel address on the opposite side, such as 192.168.10.1, otherwise the default server automatically allocates.

Common Configuration

General Setup
Advanced Settings
Firewall Settings

Encryption Standard Blowfish CBC ▼

Use LZO Compression

Keepalive Set

Tun MTU Set

TCP MSS

TLS Auth Key

Public Server CA Certificate

Public Client Certificate

Figure43 advance setting

Encryption Standard: Blowfish CBC, AES-128 CBC, AES-192 CBC, AES-256 CBC, AES-512 CBC

LZO compression: enable or disable transmission data using LZO compression.

Keep-alive settings: default is 10120.

TUN MTU settings: set the MTU value of the channel.

TCP MSS : maximum segment size of TCP data

TLS authentication key: authentication key of secure transport layer

Public service CA certificate: CA certificate of server and client public

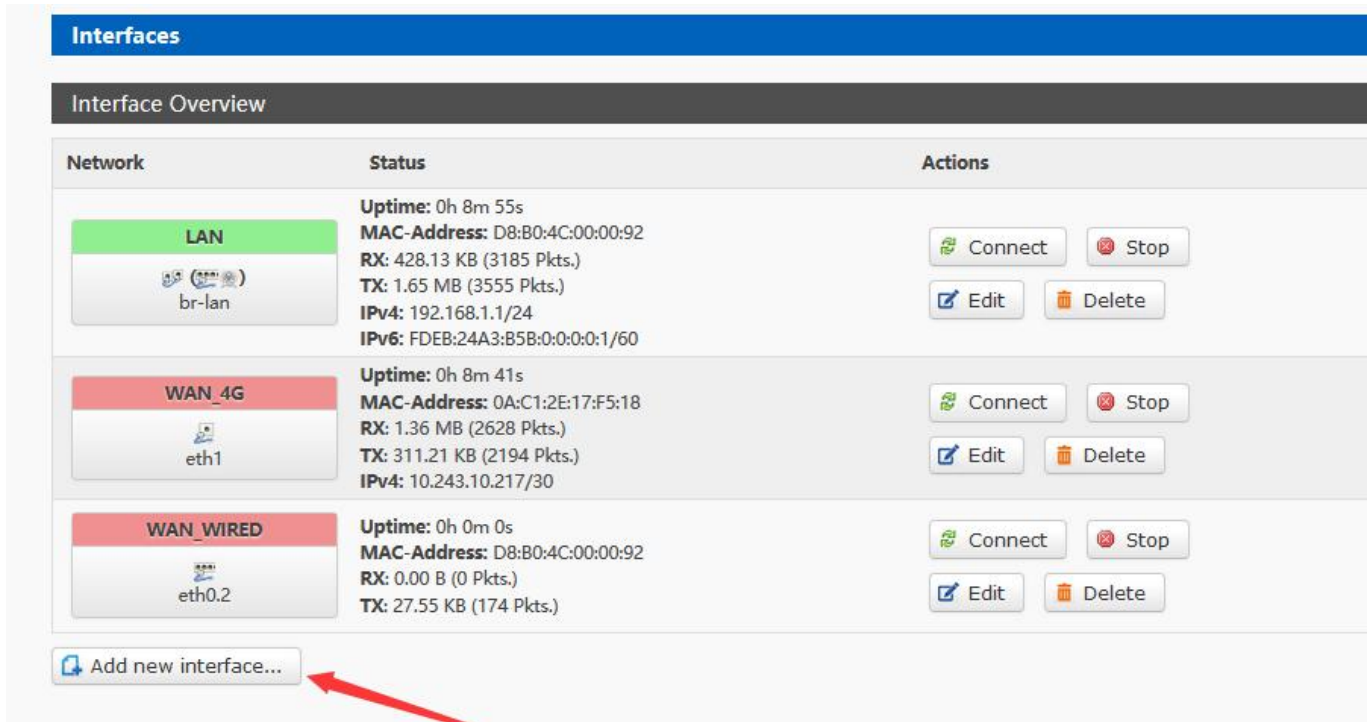
Public client certificate: client certificate

Client private key: client key

Note

1. Before the client connects to the server, the Ca certificate, the client certificate, the client key, the TLS authentication key, these need to be provided by the server.
2. After obtaining the certificate file, copy the different certificate contents into the edit box corresponding to the configuration interface.

3.4.9.5 GRE



Interfaces

Interface Overview

Network	Status	Actions
LAN br-lan	Uptime: 0h 8m 55s MAC-Address: D8:B0:4C:00:00:92 RX: 428.13 KB (3185 Pkts.) TX: 1.65 MB (3555 Pkts.) IPv4: 192.168.1.1/24 IPv6: FDEB:24A3:B5B:0:0:0:1/60	Connect Stop Edit Delete
WAN_4G eth1	Uptime: 0h 8m 41s MAC-Address: 0A:C1:2E:17:F5:18 RX: 1.36 MB (2628 Pkts.) TX: 311.21 KB (2194 Pkts.) IPv4: 10.243.10.217/30	Connect Stop Edit Delete
WAN_WIRED eth0.2	Uptime: 0h 0m 0s MAC-Address: D8:B0:4C:00:00:92 RX: 0.00 B (0 Pkts.) TX: 27.55 KB (174 Pkts.)	Connect Stop Edit Delete

[Add new interface...](#)

Figure44 add new interface

Create Interface

Name of the new interface:
The allowed characters are: A-Z, a-z, 0-9 and _

Protocol of the new interface: Static address ▼

Static address

DHCP client

Unmanaged

DHCPv6 client

PPP er: "apcli0"

PPtP er: "apcli1"

PPPoE n: "eth0"

PPPoATM "eth0.1" (lan)

UMTS/GPRS/EV-DO "eth0.2" (wan_wired)

L2TP er: "eth1" (wan_4g)


GRE er: "ip6gre0"


TUN er: "ip6tnl0"

TAP er: "ra0"

SSTP

Relay bridge

 Ethernet Adapter: "teql0"

 Wireless Network: Master "GW-R4513-0092" (lan)


 Custom Interface:


Figure45 add GRE interface

Interfaces - TEST

On this page you can configure the network interfaces. You can bridge several interfaces by ticking network interfaces separated by spaces. You can also use VLAN notation INTERFACE.VLANNR (e.g.:

Common Configuration

General Setup
Advanced Settings
Firewall Settings

Status	 gre-test	RX: 0.00 B (0 Pkts.) TX: 0.00 B (0 Pkts.)
Protocol	GRE <input type="button" value="v"/>	
Remote Address	<input type="text"/>	
Local Address	<input type="text"/>	
Remote Tunnel Address	<input type="text"/>	
Local Tunnel Address	<input type="text"/>	

Save
Apply

Figure46 GRE general setting

Remote address: IP address for WAN port of terminal GRE

Local address: the local address of wan_wried and wan_4g, users need fill in one of them according to need.

Remote Tunnel Address: the opposite GRE tunnel IP.

Local Tunnel Address: the local GRE tunnel IP.

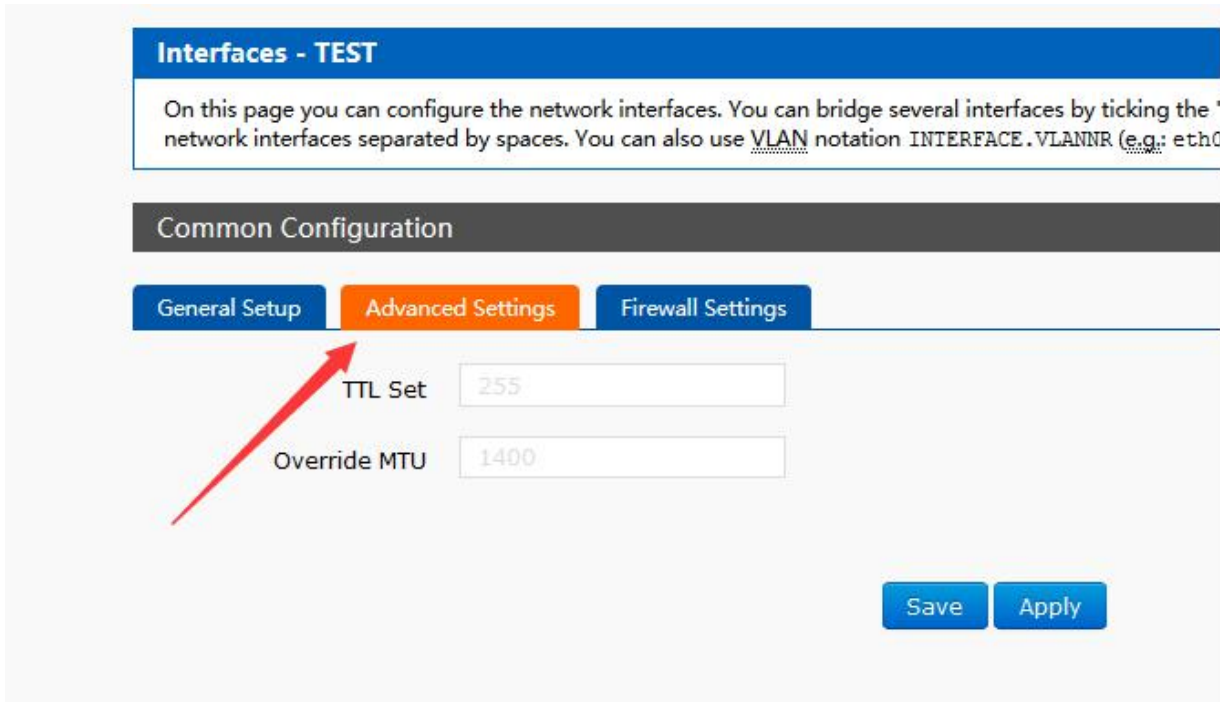


Figure47 GRE advance setting

TTL settings: set the TTL of the GRE channel, by default 255

Set MTU: set the MTU of the GRE channel, by default 1400

3.4.9.6 SSTP Client

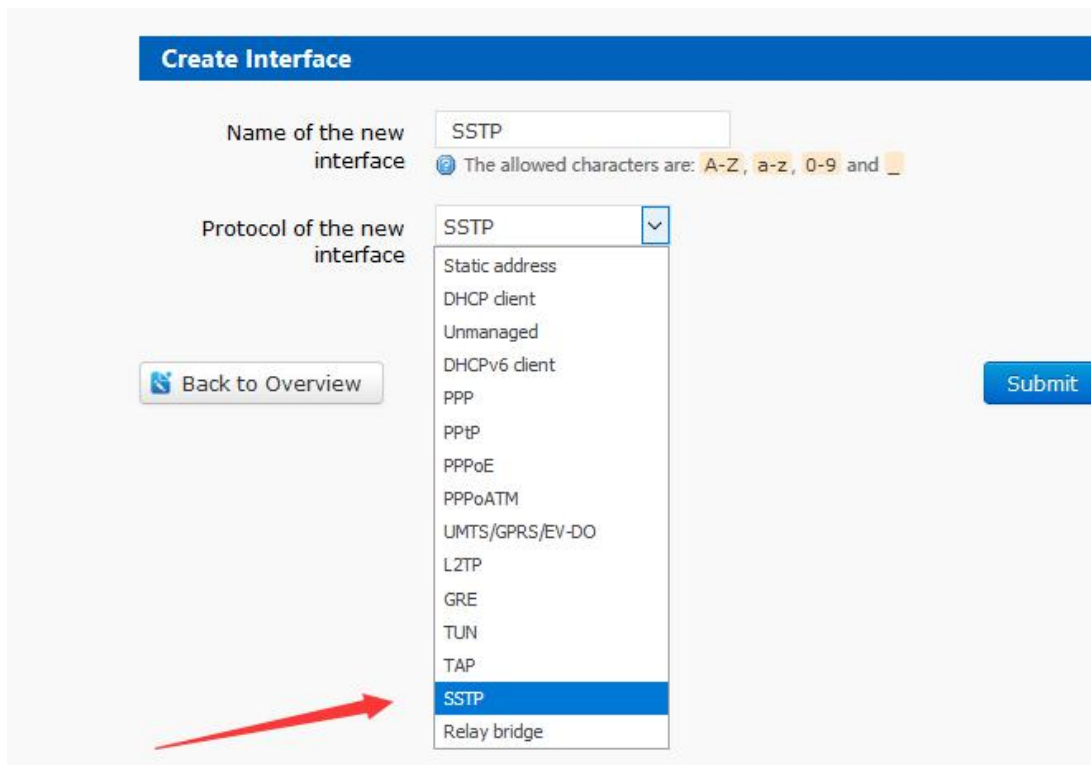
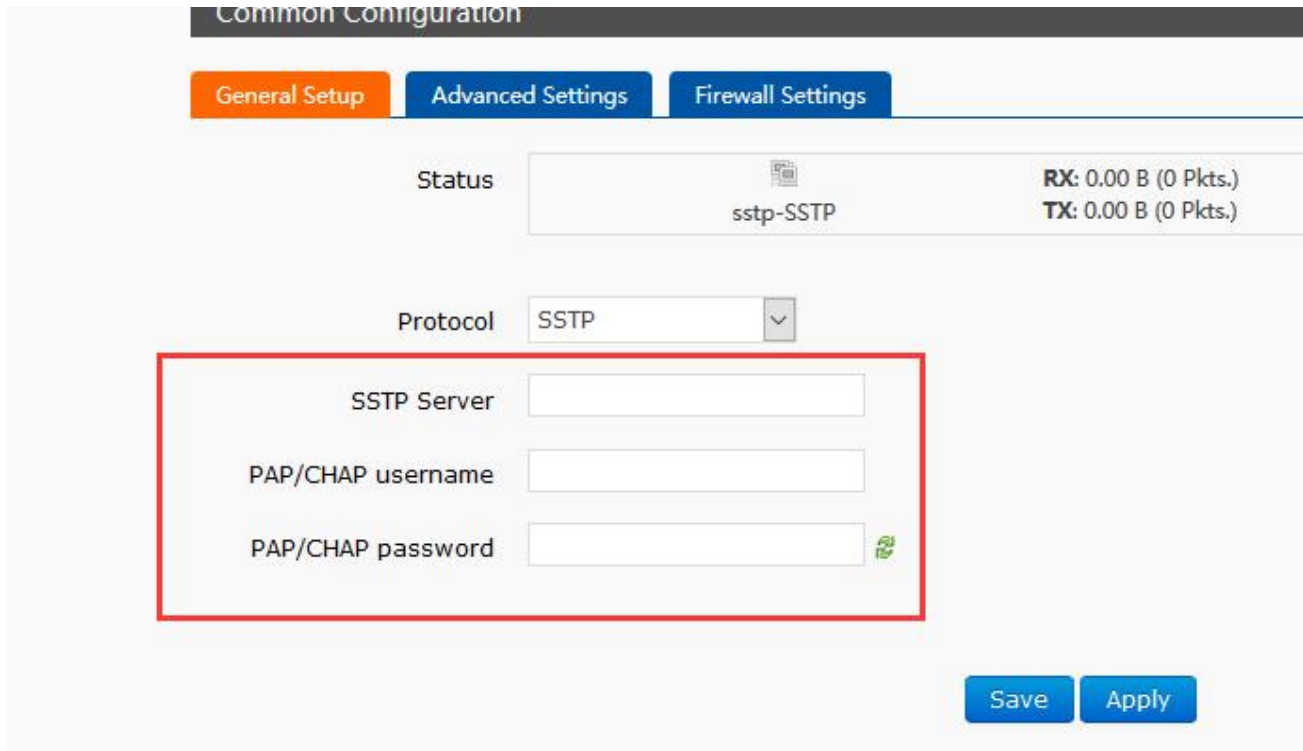


Figure48 add new interface



Common Configuration

General Setup | Advanced Settings | Firewall Settings

Status: sstp-SSTP RX: 0.00 B (0 Pkts.) TX: 0.00 B (0 Pkts.)

Protocol: SSTP

SSTP Server:

PAP/CHAP username:

PAP/CHAP password:

Save Apply

Figure49 SSTP general setting

SSTP server: the IP or domain name of the SSTP server.

PAP/CHAP Username: user name of SSTP

PAP/CHAP password: the password of SSTP

Note

Advanced settings can refer to advanced settings of PPTP.

3.4.10 Static Router

Static routing describes the routing rules of Ethernet packets.

3.4.11 NAT Function

3.4.11.1 MASQ

MASQ, MASQUREADE, address masking, will leave the packet source IP into a router interface IP address, such as check IP dynamic masking, the system will flow out of the router packet source IP address changed to WAN port IP address.

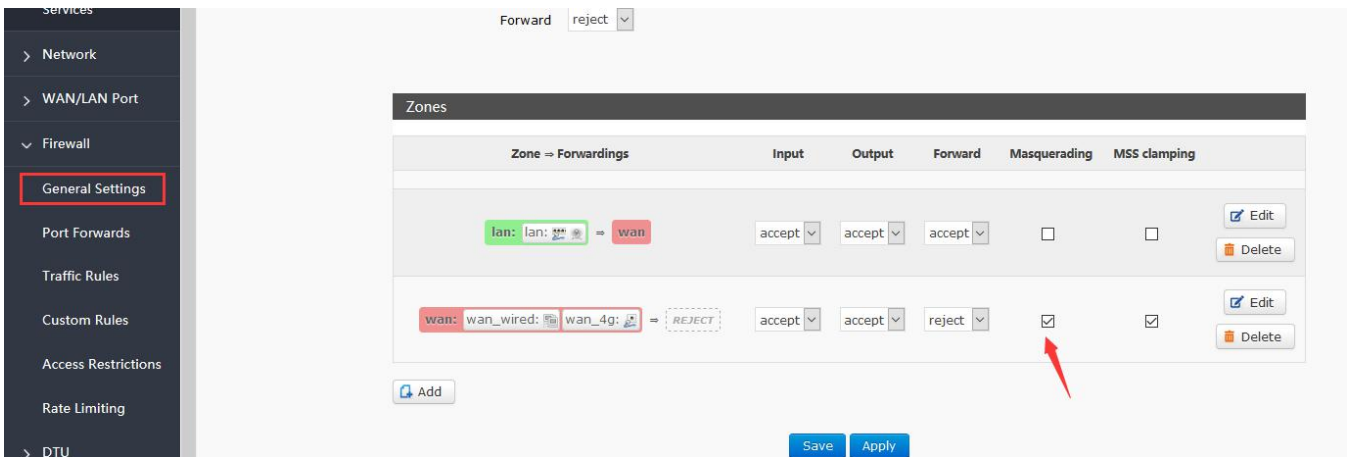


Figure50 MASQ setting

3.4.11.2 SNAT

Source NAT changes the source address of the packet leaving the router, closing the IP dynamic camouflage of the WAN port first when used.

Then setup SourceNAT.

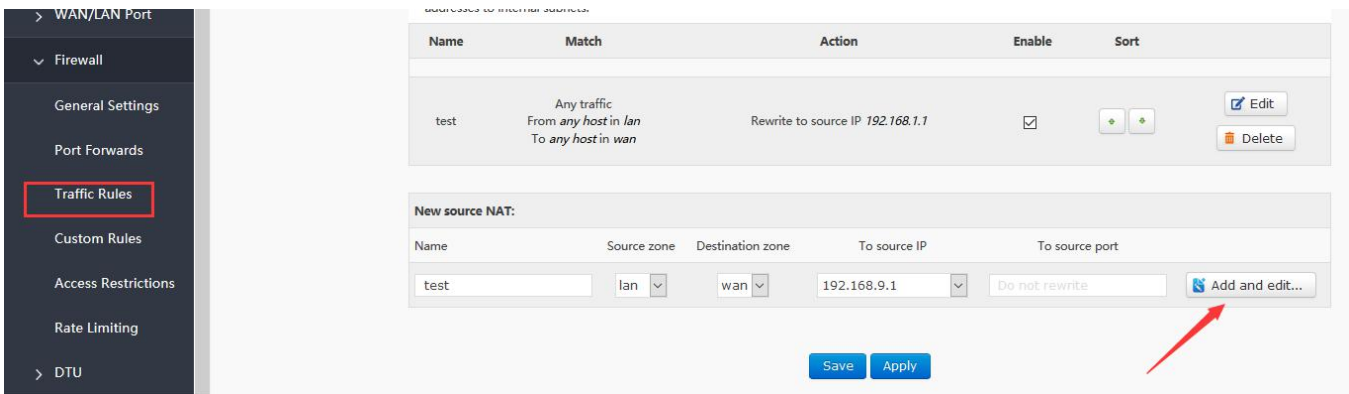


Figure51 NAT setting1



Figure52 NAT setting2

Keep the source IP, port, the remote IP, port by default, then save.

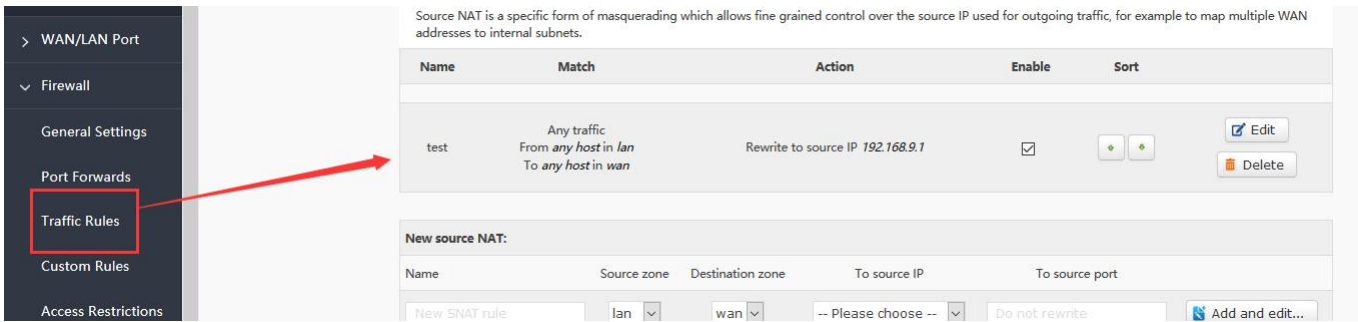


Figure53 NAT setting3

3.4.11.3 DNAT

DNAT is the replacement of destination addresses, replacing the destination IP address of packets that enter the router with the destination IP address of the WAN port IP with the user-set IP address

3.4.11.3.1 Port Forward

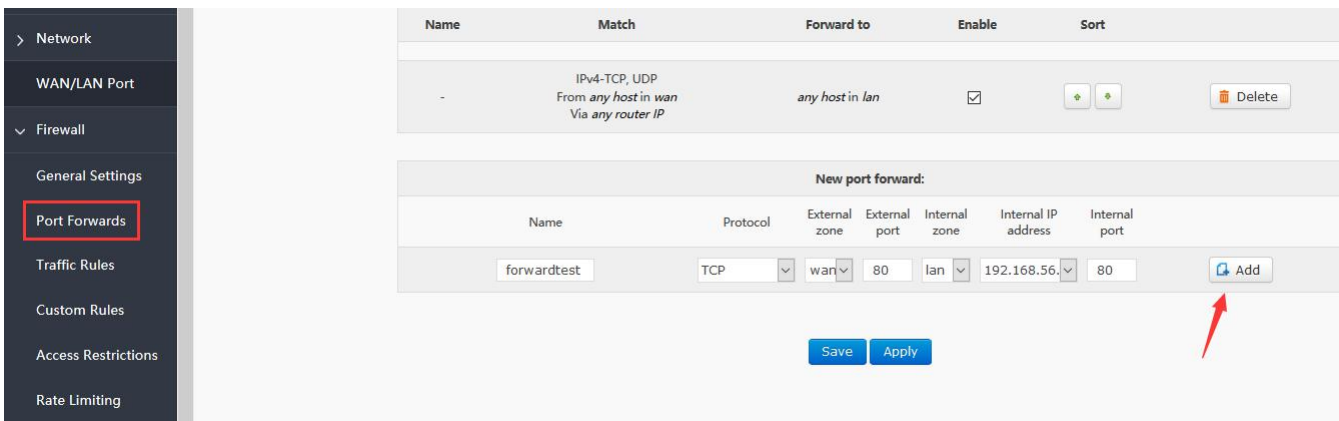


Figure54 port forward setting1

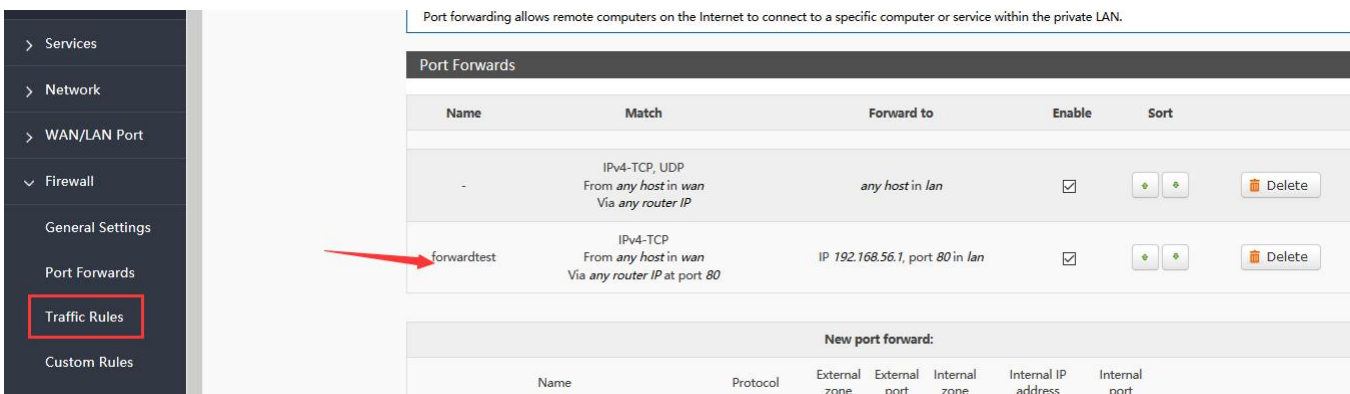


Figure55 port forward setting2

Then save the settings.

192.168.1.1:80 is the web server of routers. If we want to access a device in the LAN from the outside network,

we need to set the mapping from the outside network to the inside network, such as setting the outside network port to 81, the inside network IP 192.168.1.1, and the inside network port to 80.

When we access the 81 port from the WAN port, the access request will be transferred to 192.168.1.1:80.

3.4.11.3.2 NAT DMZ

Port mapping is to map a specified port of WAN port address to a host in the intranet. DMZ function maps all ports of WAN port address to a host. Setting interface and port forwarding are in the same interface. When setting up, the external port is not filled in.

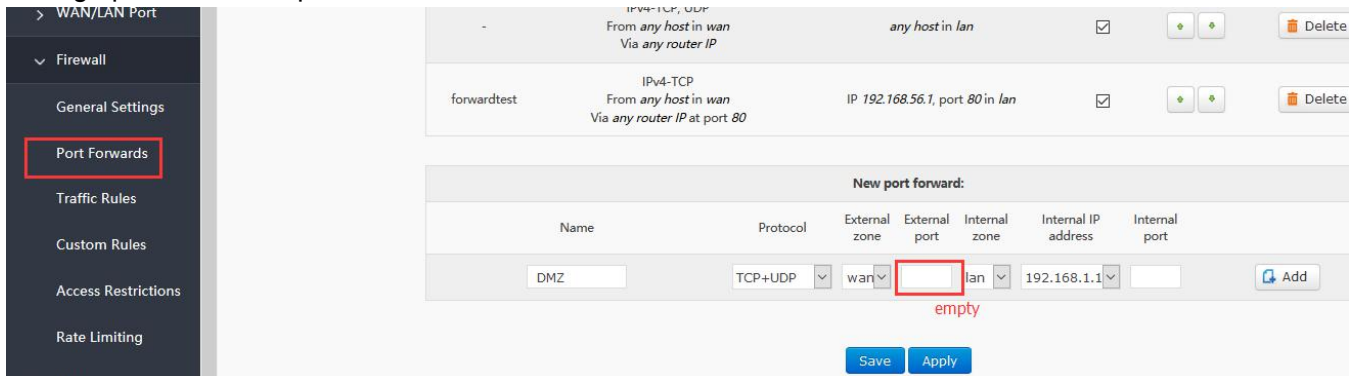


Figure56 DMZ setting1

Then add and save.

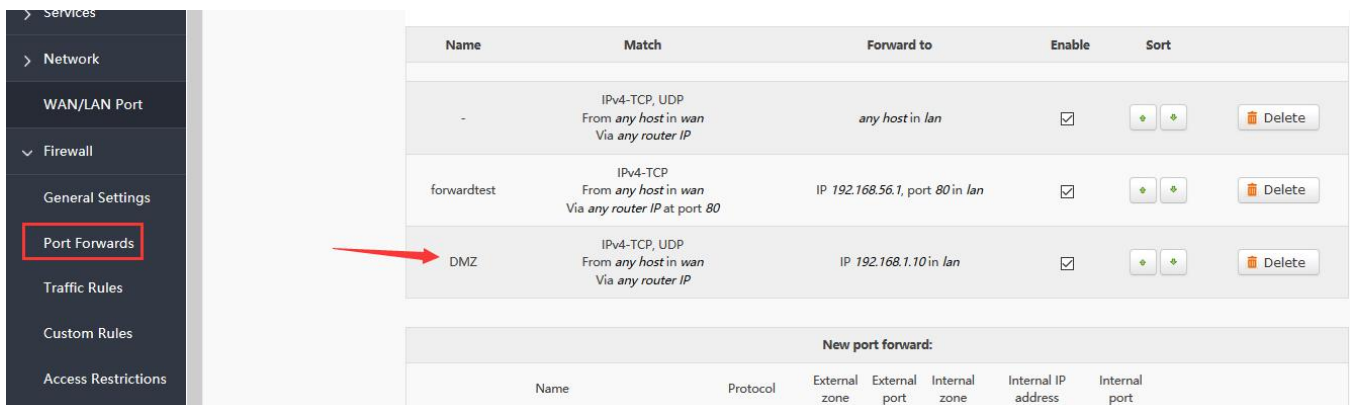


Figure58 DMZ setting2

As shown, all ports of the WAN address are mapped to the host 192.168.1.10 of the intranet.

Note

Port mapping and DMZ functions can't be used at the same time.

3.4.11.2 Access Restrictions

Access restriction implements the access restriction to the specified domain name, supports the blacklist and whitelist settings of domain name addresses. When a blacklist is selected, the device connecting the router can't access the domain name of the blacklist, and other domain name addresses can be accessed normally. When a whitelist is selected, the device connecting the router can access the domain name of the whitelist only.

3.4.11.2.1 Domain Blacklist

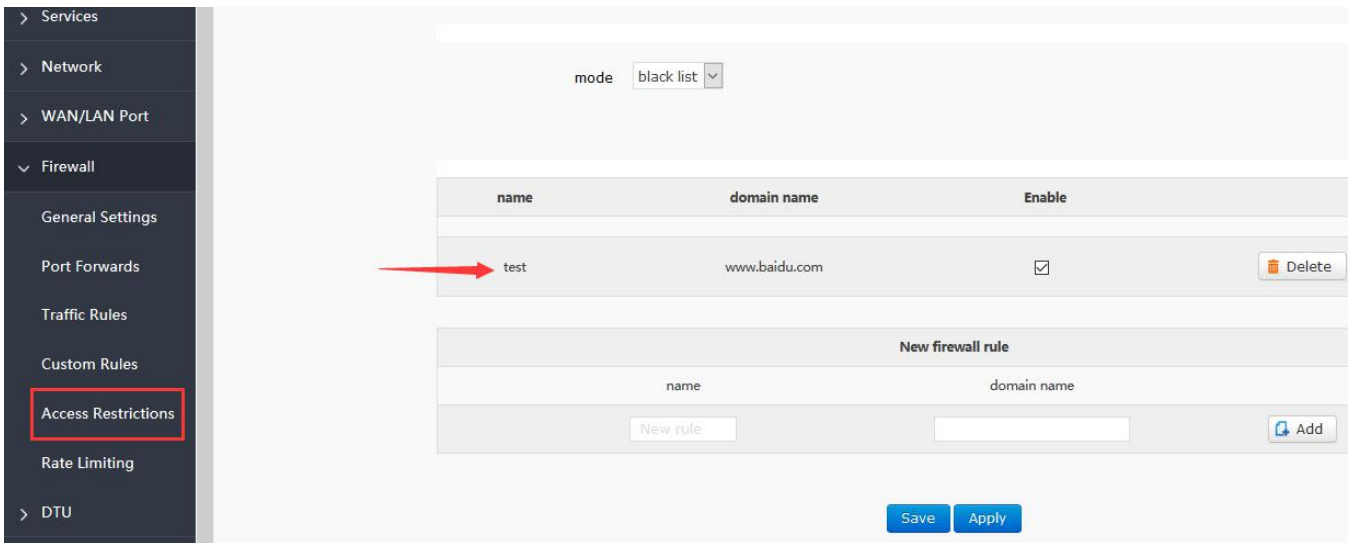


Figure59 blacklist

3.4.11.2.2 Whitelist

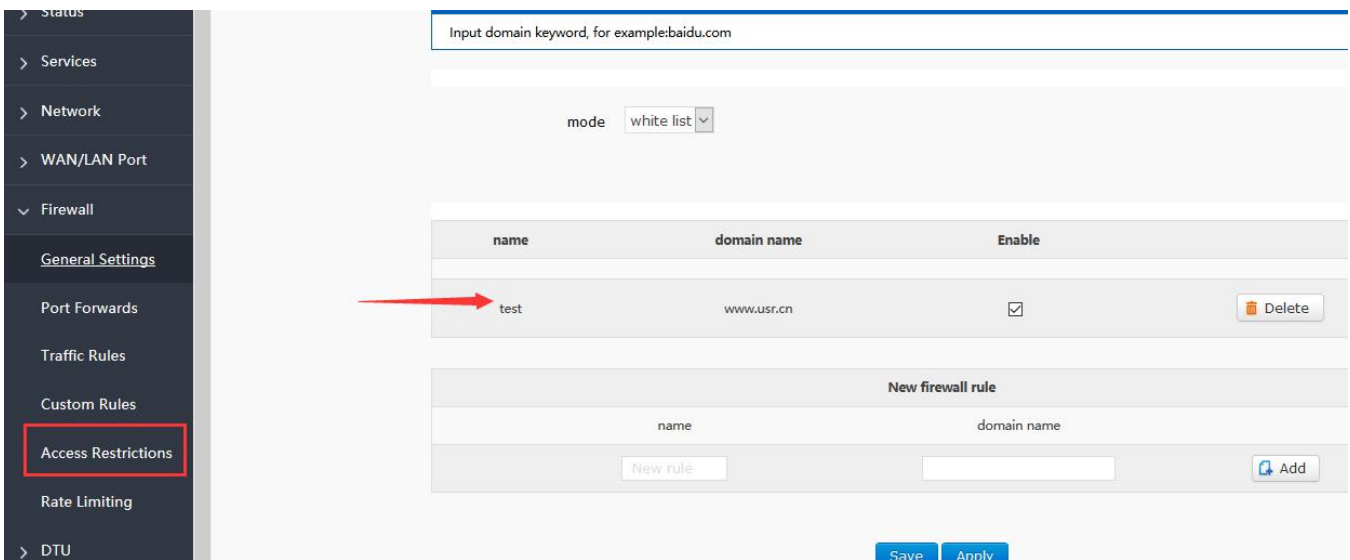


Figure60 whitelist

3.4.11.3 Rate Limiting

Network speed control can limit the speed of devices connecting to routers, support IP segment address speed limit and MAC address speed limit, and rules can be added at the same time.

Restrict access to the Internet speed of ip

start ip	end ip	downstream (KB/S)	upstream (KB/S)
This section contains no values yet			

New firewall rule

start ip	end ip	downstream (KB/S)	upstream (KB/S)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Add"/>			

Restrict access to the Internet speed of mac

MAC	downstream (KB/S)	upstream (KB/S)
This section contains no values yet		

New firewall rule

Figure61 rate limiting

4. AT Commands

No.	Command	Function
Version		
1	AT+VER	Query version information
2	AT+MAC	Query the MAC
3	AT+ICCID	Query ICCID code
4	AT+IMEI	Query IMEI code
4G		
5	AT+SYSINFO	Query the net info of device
6	AT+APN	APN address
7	AT+CSQ	Signal quality
8	AT+TRAFFIC	Query traffic information
System		
9	AT+UPTIME	Query running time
10	AT+WWAN	Query the IP of device
11	AT+LANN	Query/set the LAN of IP
12	AT+WEBU	Query/set the webpage account and password
13	AT+PLANG	Query/set the default language
14	AT+RELD	Recover to factory setting
15	AT+Z	Restart
16	AT+DHCPEN	Open/close DHCP Server
System shell command		
20	AT+LINUXCMP	Execute system shell command

5. Contact us

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7. Updated History

2017-08-02 V1.0.4.1 established based on Chinese version V1.0.4.

2017-11-09 V1.0.4.2 updated. Modified some words to standards and corrected spelling/grammatical mistakes. Optimized whole manual arrangement. Changed related pictures to new G806 pictures.

2018-01-05 V1.0.4.3 updated. Changed related pictures to normal G806 version pictures. Optimized whole manual arrangement. Divided G806 user manual into normal version and G806-A version.

2019-2-17 V1.0.5 supplement the missing instructions.