

# **HJ8300 Web Configuration User Manual**

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## Version Information

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## 1. Overview

HJ8300 industrial grade 4G router adopts embedded Linux OS, industrial grade low power consumption processor and industrial grade communication modules. It supports 1 WAN port, 3 LAN ports, 1 WiFi, 4G and 1 serial port (RS232 or RS485).

HJ8300 is a high performance-price ratio 4G industrial router. Industrial grade design ensures performance stability of the device. It supports 7x24 hours continuous working, supports VPN, NAT and unique SmartLINK technology. You can easily manage devices in different places in LAN by remote controlling.



Picture 1. HJ8300 4G Industrial Router

## 2. Typical Applications

1. Security and protection monitoring
2. Traffic monitoring
3. Financial ATM/ Query terminal application
4. Machine room monitoring
5. The public security monitoring
6. Road monitoring
7. Oil field monitoring
8. Remote meter reading
9. Street Lamp Wireless monitoring
10. Environment monitoring

11. Weather monitoring
12. Hydro-logical monitoring
13. Heating Network monitoring
14. Electric meter monitoring
15. Coal monitoring
16. Earthquake monitoring
17. Vehicle guidance
18. Water supply monitoring
19. Highway performance monitoring
20. Noise real-time monitoring
21. Environmental protection key pollution sources monitoring
22. Water supply pipe network monitor real-time transmission
23. Power distribution network automation remote control system
24. Industrial automation
25. Realize wireless data transmission of various PLC and RTU with Ethernet

### 3. Functions and Features

- ◆ Support VPN secure tunnel function including PPTP, L2TP
- ◆ Unique SmartLINK technology to set up remote LAN
- ◆ Support 4G/Ethernet/ WiFi automatic failover, no need disconnect the network
- ◆ Support SSL data encryption
- ◆ Support transparent transmission
- ◆ Support port mapping
- ◆ All metal case with high level protection
- ◆ Hardware watchdog design to ensure stable performance
- ◆ Ethernet ports have built-in 1.5KV electromagnetic isolation protection
- ◆ Support timer switch
- ◆ Support online detection, online maintaining, automatic redial to ensure device always online
- ◆ Support various 3G and 4G LTE frequency bands
- ◆ Support IPTABLES firewall, filtrated-packets function
- ◆ Support various protocols: TCP/IP, UDP, ICMP, SMTP, HTTP, POP3, OICQ, TELNET, FTP, etc
- ◆ Support Dynamic IP and static IP
- ◆ Support DHCPD/DHCP
- ◆ Support NAT function such as SNAT, DNAT
- ◆ Support DMZ mainframe
- ◆ Support routing forward, serial port data transmission, data center management
- ◆ Support APN/VPDN network
- ◆ Friendly WEB configuration, support WEB remote management
- ◆ Support telnet management, easy use console shell interactive environment
- ◆ Support multiple terminals sharing router ppp WAN port
- ◆ IP Support multiple wireless dial modes: automatic allocation, specific IP, specific

- local end IP
- ◆ Support working as PPP server, multiple authentication method and bidirectional authentication
- ◆ Support real-time clock sntp, updating time online
- ◆ Support DTU function
- ◆ Easy COM and SYSLOG system diagnosis and debugging function
- ◆ Support log viewing
- ◆ Support serial port software local upgrading, support TFTP software remote upgrading, support configurations output and input, support WEB online updating firmware

#### 4. Hardware Parameters

Model		HJ8300
System	OS	Embedded LINUX
	CPU	MIPS 580MHz
	RAM	128MBytes DDR2
	Flash	32MBytes
Interface	WAN	1*10/100M Ethernet
	LAN	3*10/100M Ethernet
	Serial port	1*RS232 or 1*RS485
	Power supply	DC 9-27V
	SIM card	1*SIM card slot
	Antenna	2*SMA(female) 4G 1*SMA(male) Wi-Fi
Physical property	Dimension(mm)	120*105*28.5
	Installation	wall-hung type, location hole, DIN rail
	Outer shell	Metal
	Protection Class	IP30
	heat dissipation	No need fan
Power consumption	Standby mode	
	Working	5-6W
	Peek value	
Environment temperature	Humidity	5-95% without condensation
	Storage	-40-85° C
	Working	-20-70° C
LED indicator	Red	Power
	Green	System running
	Blue	4G and WiFi connection status

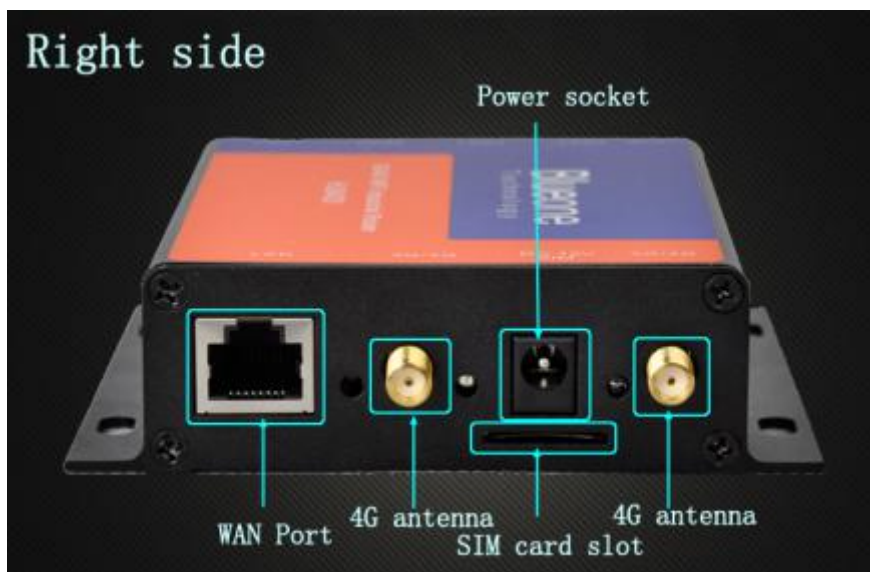
#### 5. Software Parameters

	Network access	APN VPDN
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Network	Authentication method	CHAP/PAP
	3G/4G	Various frequency bands and customizable
	LAN	ARP
	WAN	PPPOE,static IP, DHCP server
	IP	PING,Trace, DHCP server, DHCP, DDNS,DNS Telnet
	IP router	Static routing
Wi-Fi	Standard	IEEE 802.11b/g/n
	Mode	AP,Client,Bridge
	Safety certificate	Support open system
		WEP/WPA/WPA2 encryption
Safety	Network safety	
	Data safety	PPTP/L2TP IPSEC
	Management	
Stability	Connection state detection	Automatic reconnection after disconnection
	Self-recovery	Hardware encryption dog

## 6. Hardware Instructions





### 6.1. LED Indicator

After the device is powered on, the red power light will be solid on, green system running light will be flashing, blue network light will be on for a while and then be off. The blue light will be solid on when 3G/4G is connected.

Red light-----Power indicator, be solid on

Green light-----System running light, be flashing

Blue light-----WiFi connection status indicator, keep flashing every two seconds, be solid on after 3G/4G dialing successfully

### 6.2. Reset Button

Press “Reset” button for 1 ~ 3 seconds, you will see green LED and blue LED flashing quickly, release “Reset” button and the router will reboot automatically.

### 6.3. Antenna

WiFi Antenna: 1x 5dBi omni glue stick antenna or 1x 1.5meter Sucker antenna

4G: 2x 3dBi glue stick antennas or 1.5meter Sucker antenna

(3G only has one antenna)

## 7. Common Networking Issues

4G cannot be connected

1. SIM card is not connected correctly, try to reconnect it
2. SIM card is in arrearage
3. 4G antenna is not connected or connected well
4. There is no 4G network in the area





## 8. Software Operation

### 8.1 Log in Web Configuration Page

HJ8300 WiFi factory configuration:

SSID: blueone

No password

Default IP: 192.168.98.1

Search for the blueone wifi hotspot on your PC or mobile phone to connect and select it as job network. Next open your browser and input 192.168.98.1 in the address bar to access the configuration page. The initial log in password is 888888.

The screenshot shows a web configuration page with a light blue background. At the top left, there is a black button with yellow text that says "登录 / LOGIN IN". Below this, there are two input fields. The first is labeled "Login Code / 登录码:" and contains the text "888888". The second is labeled "Language / 登录语言:" and has two radio buttons: "English" (which is selected) and "中文". At the bottom center, there is an orange button with the text "Login".



Click “Setting” to enter the configuration page.

The screenshot displays the configuration interface for a Blueone device, organized into three main sections: Base, WAN/LAN, and WiFi. A sidebar on the left contains navigation options such as WAN/LAN, WiFi, 3G/4G, SmartLink, LAN2, Server, VPN, Port Map, UART Channel, I/O, WiFi Channel, BT Channel, AD, Bluetooth, IP LIST, Reboot, Login Code, 中文, English, Device Info, and Login Out.

- Base Section:** Device Name is set to HJ8300, and the WAN Interface is set to Ethernet.
- WAN/LAN Section:** Mode is DHCP. IP Address is 192.168.2.98, Mask is 255.255.255.0, and Gateway is 192.168.2.98. DNS Type is Auto DNS, with DNS1 at 192.168.2.98 and DNS2 at 8.8.8.8. Start IP is 192.168.2.100 and End IP is 192.168.2.200. User and Password fields are empty, and Interval and Times are both set to 0.
- WiFi Section:** The 'Enable WiFi Network' checkbox is unchecked. WiFi Mode is Bridge To SmartLin, SSID is jiashao, and Password is 12345678. Password Type is ASCII and Encryption Type is Auto.

A green 'Save' button is located at the bottom center of the configuration area.

## 8.2 Basic Configuration

Configure WAN port. Select the way of connecting to the Internet. There are multiple options.

**Ethernet:** connected by Ethernet cable.

**WiFi:** connected by WiFi.

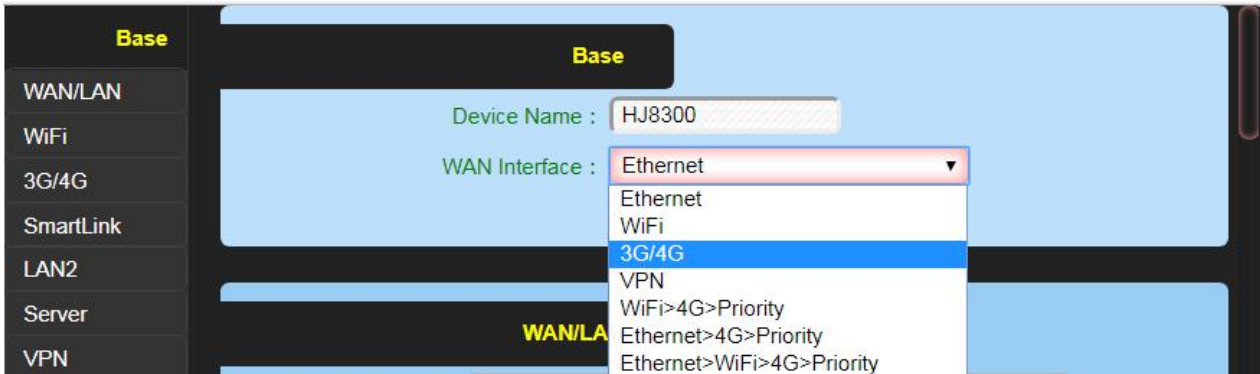
**3G/4G:** connected by 3G/4G sim card.

**WiFi>4G>Priority:** connected by WiFi and 3G/4G simultaneously. It is WiFi and 3G/4G hot switch. When WiFi is not working, it will switch to 3G/4G from WiFi network automatically. When WiFi recovers to work, it will switch to WiFi from 3G/4G again.

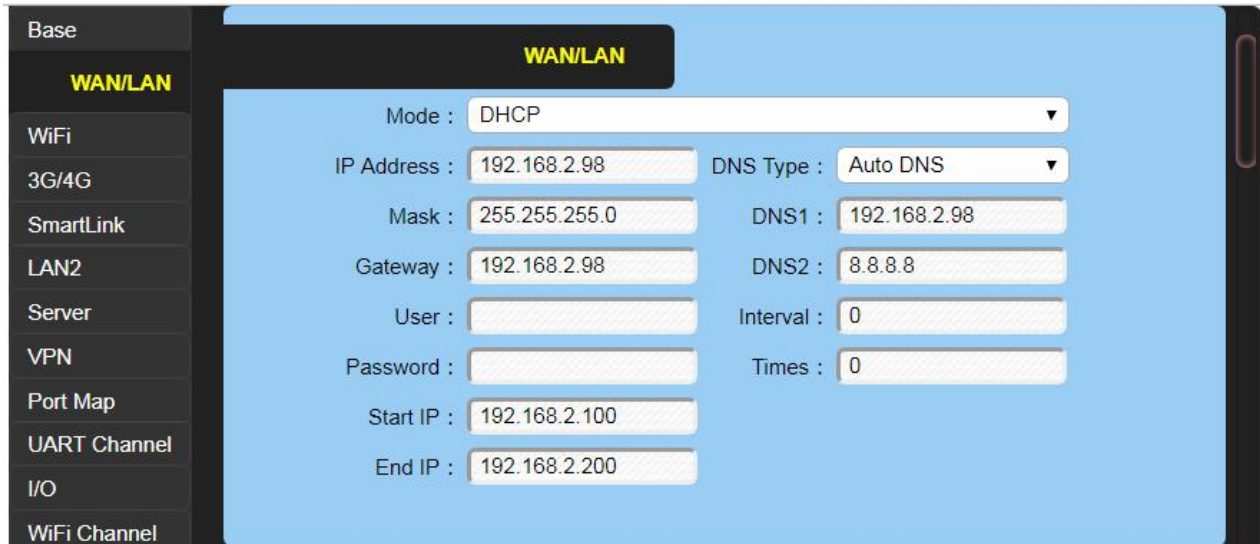
**Ethernet>4G>Priority:** connected by Ethernet cable, 3G/4G simultaneously. It is Ethernet and 3G/4G hot switch. When Ethernet is not working, it will switch to 3G/4G from Ethernet

automatically. When the Ethernet recovers to work, it will switch to Ethernet from 3G/4G again.

**Ethernet>WiFi>4G>Priority:** connected by Ethernet cable, WiFi and 3G/4G simultaneously. It supports hot switch among Ethernet, WiFi and 3G/4G.



### 8.3 WAN Port Configuration



### 8.4 WiFi Configuration

#### 8.4.1 AP mode

Input hotspot SSID and password

The screenshot shows the WiFi configuration page with the following settings:

- WiFi Mode:** AP
- SSID:** blueone
- Password:** blueone888
- Password Type:** ASCII
- Encryption Type:** Auto
- WiFi Channel:** 3
- Enable WiFi Network:**
- Start DHCP Server:**
- Start IP:** 192.168.98.2
- End IP:** 192.168.98.100
- Bridge To MAC:** 00:00:00:00:00:00
- Bridge To Password:** (empty)
- Enable WiFi Wexin Portal:**
- DHCP Mode:** DHCP
- IP Address:** 192.168.98.1
- Mask:** 255.255.255.0
- Gateway:** 192.168.98.1
- DNS1:** 192.168.98.1
- DNS2:** 0.0.0.0

### 8.4.2 Station mode

Fill in SSID and password of the WiFi network you want to connect.

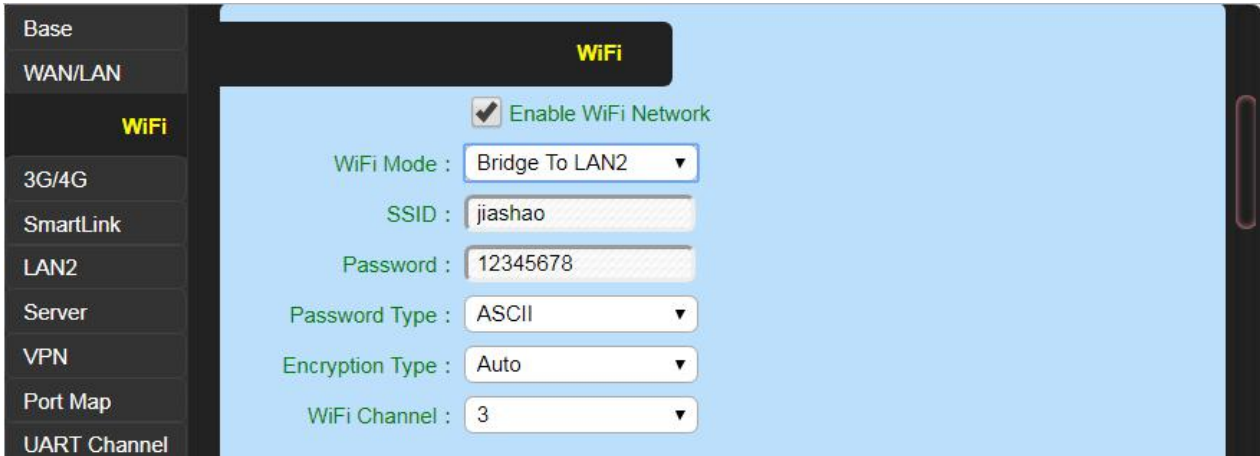
The screenshot shows the WiFi configuration page with the following settings:

- WiFi Mode:** STATION
- SSID:** jiashao
- Password:** 12345678
- Password Type:** ASCII
- Encryption Type:** Auto
- WiFi Channel:** 3
- Enable WiFi Network:**
- Start DHCP Server:**
- Start IP:** 192.168.98.2
- End IP:** 192.168.98.100
- Bridge To MAC:** 00:00:00:00:00:00
- Bridge To Password:** (empty)
- Enable WiFi Wexin Portal:**
- DHCP Mode:** DHCP
- IP Address:** 192.168.98.1
- Mask:** 255.255.255.0
- Gateway:** 192.168.98.1
- DNS1:** 192.168.98.1
- DNS2:** 0.0.0.0



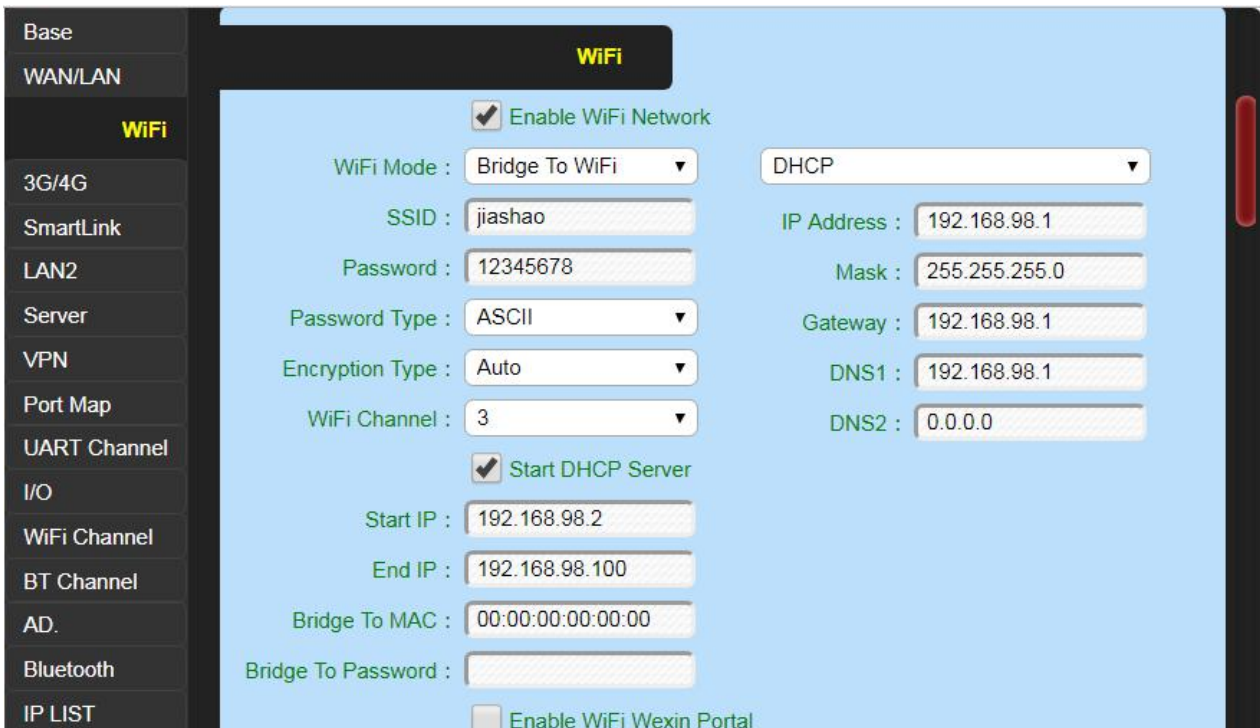
### 8.4.3 Bridge to LAN2 Mode

The devices joined by WiFi and devices joined by LAN ports will be connected to a same LAN.



### 8.4.4 Bridge to WiFi Mode

If you want to extend the coverage of WiFi Hotspot, you can select “Bridge to WiFi” demo. As there is proprietary protocol for bridge mode, the objects to bridge must be the products from the same solution. HJ8300 adopts MTK solution, so the objects to bridge must be MTK solution.



### 8.4.5 Bridge to SmartLINK

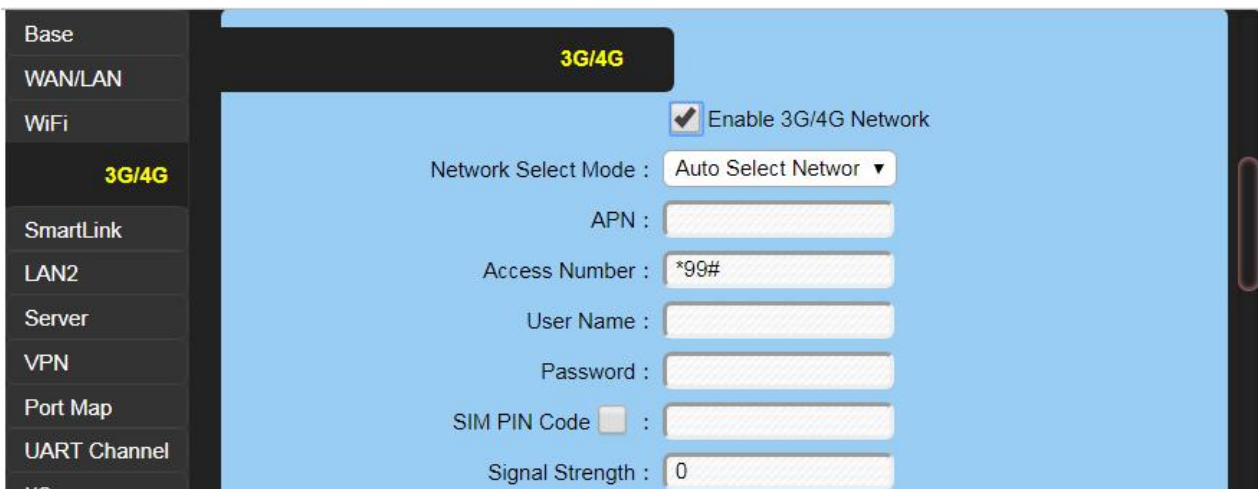
SmartLINK is a long-distance cross domain networking software technology. It is suitable for remotely managing equipment such as PLC, touch screen, etc. “Bridge to SLINK” is to connect the devices joined by WiFi to SmartLINK network. For more details about SmartLINK, please refer

to SmartLINK remote LAN document.

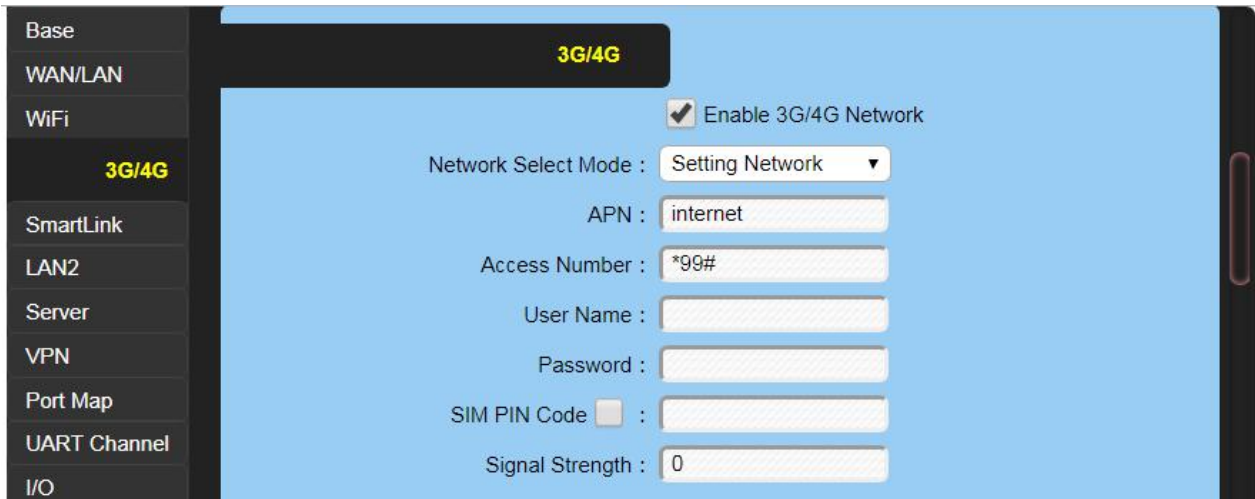


### 8.5 3G/4G Configuration

If you need to use 3G/4G, please select “Enable 3G/4G Network” . If you do not use 3G/4G, please do not “Enable 3G/4G Network” , otherwise the router will try to detect 3G/4G network and cause frequently rebooting.

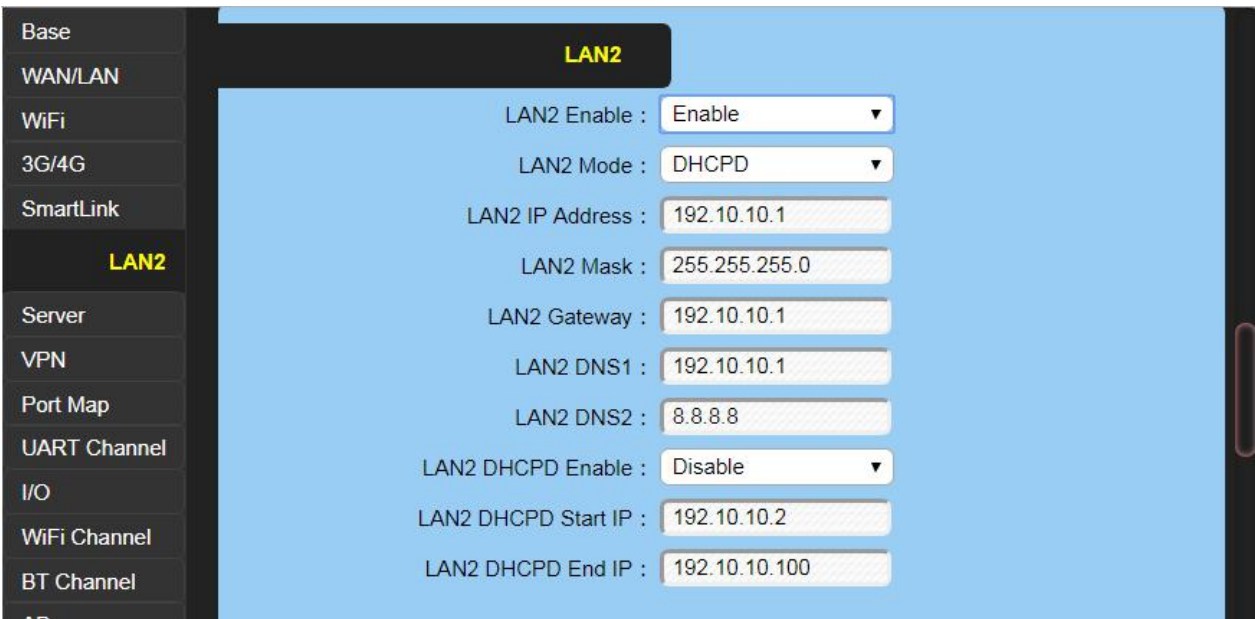


After confirming the APN and access number with your Operator, please set network and fill in the APN information.



### 8.6 LAN2 Configuration

LAN2 configuration is to configure LAN1, LAN 2, LAN3, LAN4. Please select to enable.



Bridge to SmartLINK is to connect devices joined by LAN1, LAN2, LAN3, LAN4 to SmartLINK network.



Base	
WAN/LAN	
WiFi	
3G/4G	
SmartLink	
<b>LAN2</b>	
Server	
VPN	
Port Map	
UART Channel	
I/O	
WiFi Channel	
BT Channel	
AD	

**LAN2**

LAN2 Enable :

LAN2 Mode :

LAN2 IP Address :

LAN2 Mask :

LAN2 Gateway :

LAN2 DNS1 :

LAN2 DNS2 :

LAN2 DHCPD Enable :

LAN2 DHCPD Start IP :

LAN2 DHCPD End IP :

## 8.7 Server Configuration

If you want to configure devices through Webserver, you need to enable server function first.

### 8.7.1 Remote Server Configuration

If you need to remotely configure router, you will need to fill in IP/domain and port of the remote server. After the router is connected to the network, it will be registered with the server.

Base	
WAN/LAN	
WiFi	
3G/4G	
SmartLink	
LAN2	
<b>Server</b>	
VPN	
Port Map	

**Server**

Enable Server Function :

Enable Setting Server :

Setting Server Port :

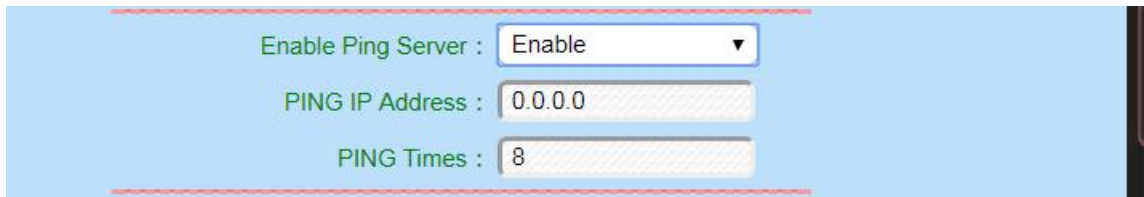
Setting Server Address Type :

Setting Server Address :

Setting Server Domain :

### 8.7.2 PING Function

If you need to PING user's server, you need to fill in the server's IP. Enable PING function and fill in PING IP address. Default setting of PING times is 8. If it is disconnected, the router will PING 8 times continuously. If it still cannot PING, the router will reboot and try to PING again.



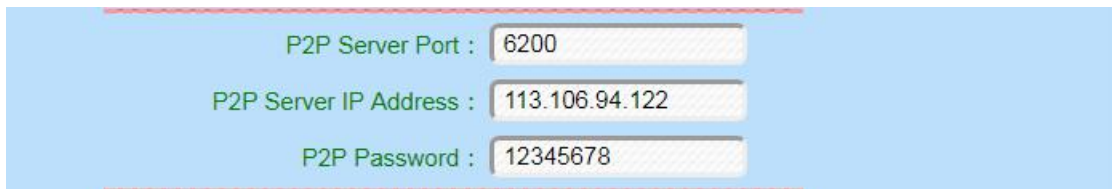
Enable Ping Server :

PING IP Address :

PING Times :

### 8.7.3 P2P

P2P is to use Blueone's server as remote tunnel IP penetrating and to realize COM port data remote cross domain networking transmitting. Blueone's server is only used to provide static IP to do penetrating but COM port data will not be transmitted through Blueone's server.



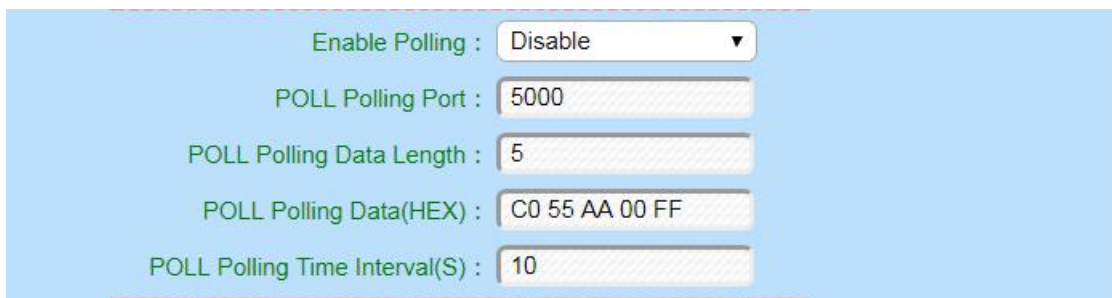
P2P Server Port :

P2P Server IP Address :

P2P Password :

### 8.7.4 POLL Function

It is to send special character string to server. It can be maximum 32 bytes.



Enable Polling :

POLL Polling Port :

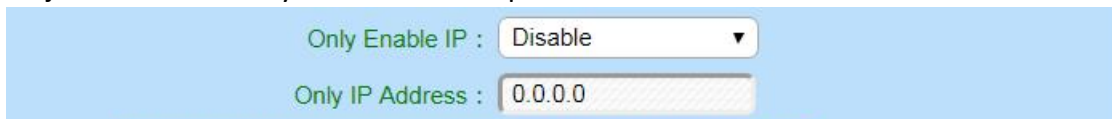
POLL Polling Data Length :

POLL Polling Data(HEX) :

POLL Polling Time Interval(S) :

### 8.7.5 Specific IP Function

All joined devices only can access the specific IP.



Only Enable IP :

Only IP Address :

### 8.7.6 GPS Function

Enable GPS function, configure GPS port and GPS server, then the router will send GPS data to the GPS server periodically.

Enable GPS :

GPS Port :

GPS Sample Interval :

GPS Address IP/Domain :

GPS Server Domain :

GPS Server IP :

### 8.8 VPN Configuration

HJ8300 can work as VPN client. VPN work modes support PPTP, L2TP/IPSEC.

VPN

Enable PPTP/L2TP :

PPTP/L2TP :

VPN Address Type :

VPN Serer IP :

VPN Server Domain :

VPN Port :

VPN Name :

VPN Password :

VPN IP Assigned :

VPN Address :

VPN Mask :

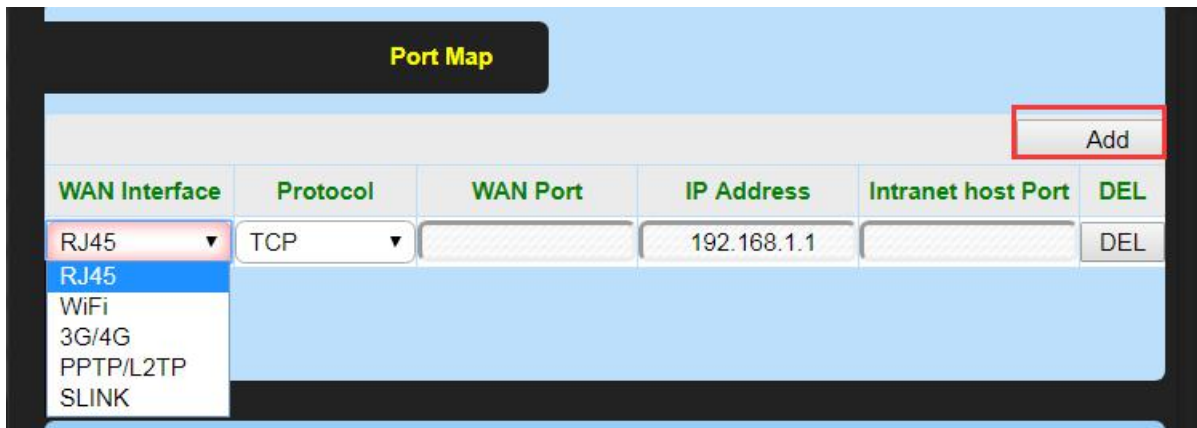
IPSEC Shared Key :

VPN Static Route 1 :  /

VPN Static Route 2 :  /

VPN Static Route 3 :  /

### 8.9 Port Mapping Configuration

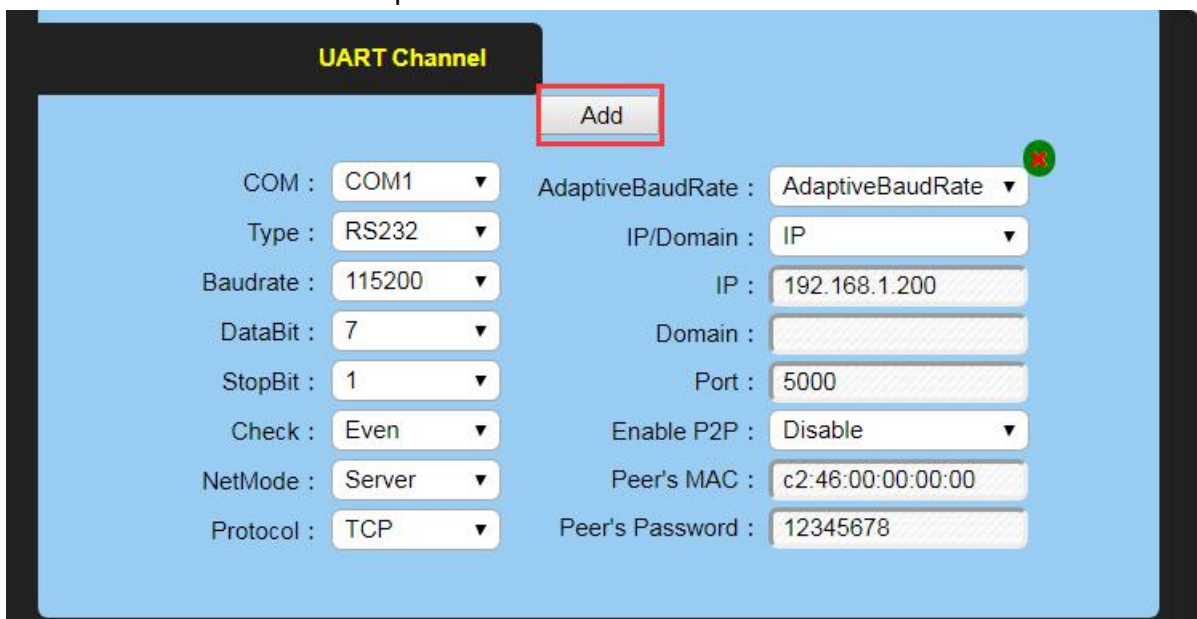


### 8.10 UART Channel Configuration

HJ8300 supports RS485 or RS232. Click “Add” to add a COM port. Select COM port type, configure Baudrate, Databit, Stopbit and Check. If the serial port device Baudrate is self adaptive, please select .

If HJ8300 works as Client mode, please fill in IP/Domain and port of data receiving terminal. If HJ8300 works as Server mode, you do not need to fill in IP/Domain but just the port.

P2P is to use Blueone’s server to do remote tunnel IP penetrating and to realize COM port data remote cross domain network transmitting. This function need to be used with the P2P function of 8.7.3 server setting together. If the router works as Client mode, you need to fill in MAC address and password of remote end. If HJ8300 works as Server mode, you need to fill in HJ8300’s MAC address and password.



### 9. Save Configuration and Reboot Device

When all parameters are configured, please click “Save” and then click “Reboot”. After the device is rebooted, the configurations will be effective.

