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4G Wireless Routing DTU User Manual

V1.02

Update records

Version	Date	Author	Description
V1.01	2017/8/9	Yuge document group	Initial version
V1.02	2019/3/4	Yuge document group	The hardware revision is V1.3 webUI update

Contents

Chapter 1. Overview

The 920_DTU is a DTU device based on the Qualcomm MDM9x07 platform. Support 4G full Netcom (depending on the configuration, some versions may not support CDMA or some frequency bands), support Wi-Fi AP function, support Ethernet interface, support RS232 and RS485 interface.

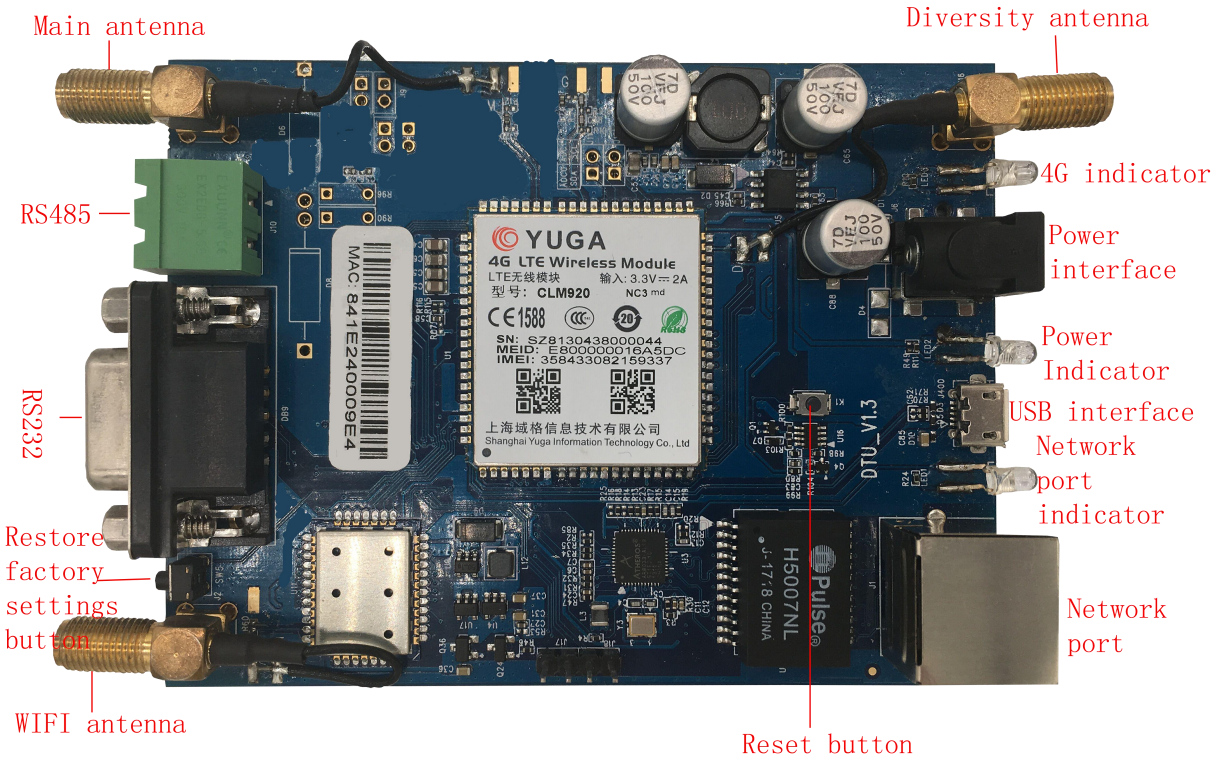
The device provides a 10M/100M1000M adaptive Ethernet interface. The IP address is automatically assigned by default. After the network cable is plugged in, the PC can use this device to bring 4G network functions.

The device provides Wi-Fi AP functionality and supports 802.11b/g/n. The default name of Wi-Fi SSID is DTU_AP_xxxx, and the default password is 12345678.

The device provides RS232 serial port and RS485 serial port, which can be used for DTU transparent transmission data. After RS232 transparent transmission is configured in WEBUI, the data received by the RS232 serial port can be transmitted to the server.

The default address of the device is 192.168.100.1. You can log in to the http://192.168.100.1 WEBUI management page to set various settings. The login account is admin:admin.

The following is the appearance of the device and the motherboard:



Note:

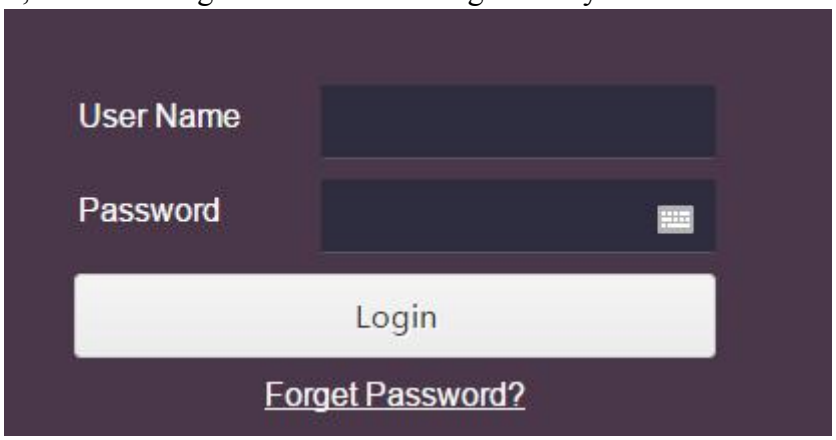
- ✧ The DC power supply voltage range is 5V to 36V. It is recommended to use the power adapter.
- ✧ The 4G indicator is green, and the 4G will always be on when connected to the network.
- ✧ The power indicator is red and is constant after the power is connected.
- ✧ The Ethernet indicator is green. It is always on after the RJ45 interface is connected to the network cable, and blinks during communication.
- ✧ The RS232 jumper cap must be connected, and the AT serial jumper cap cannot be connected.
- ✧ The Restore Factory button is used to delete user data. The reset button only resets the system and reboots.

Chapter 2. WEBUI Management System

The device default settings can work, or you can modify the default settings through the WEBUI management page. The WEBUI management page supports Internet Explorer 11 and higher, Firefox, Chrome, Safari and other major browsers.

2.1 Login

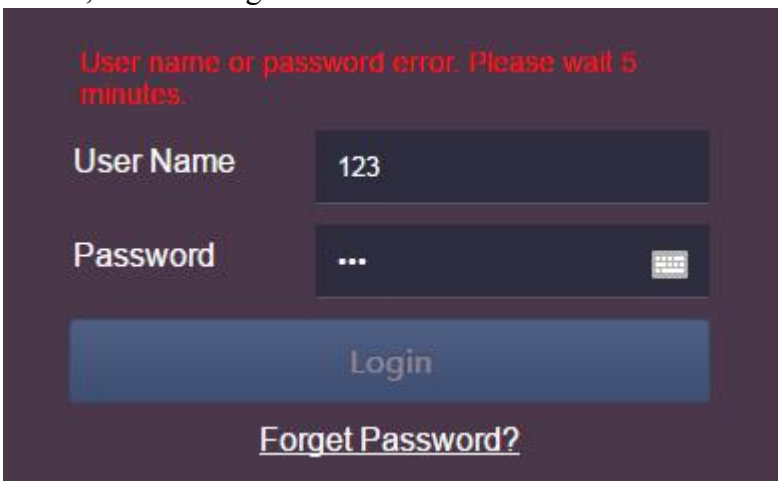
Open the browser, enter the address 192.168.100.1 and press Enter. The browser will display the login interface of the web management system, enter the username admin, password admin, and click Login to enter the management system.



Note:

If you enter the wrong username/password three times in a while, the login function will be locked. You will not be able to log in to the web management system during the lockout period. You can try to enter the password again after the lockout time has elapsed.

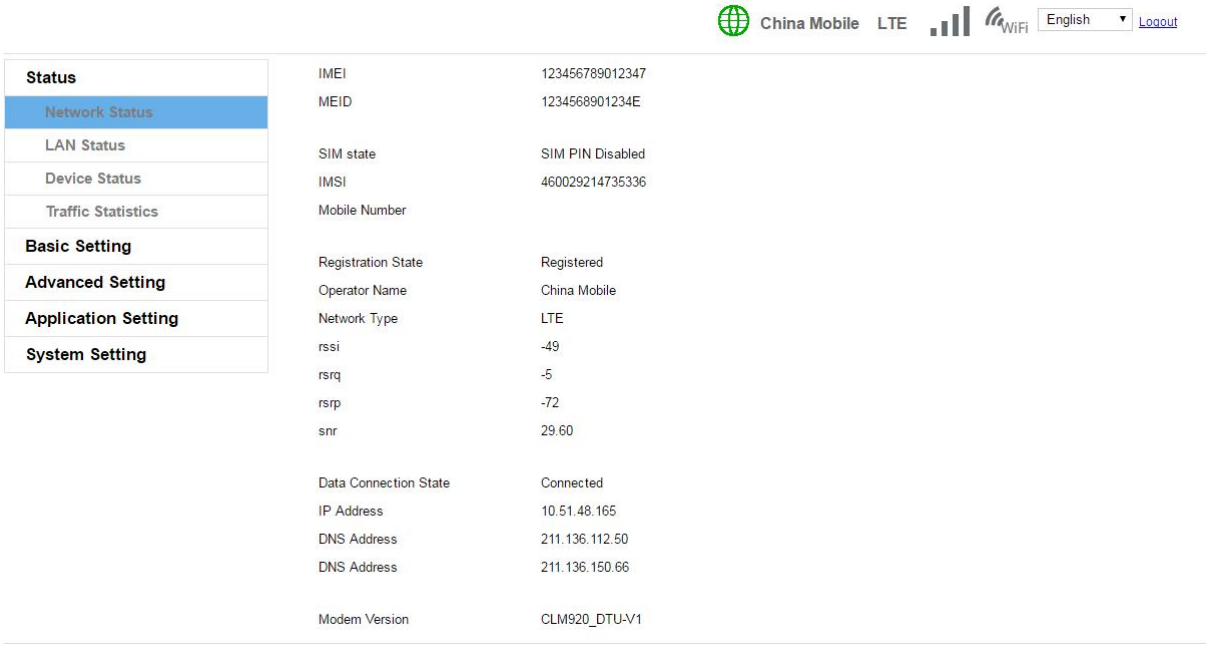
The default username/password is simple. For security reasons, users should change to a more secure username/password after logging in to the system. For details on how to change the username/password, see the "Login Account" section.



2.2 System Status

2.2.1 Network Status

This page displays the current 4G network status and related information, such as the connected network type (LTE, WCDMA, TD-SCDMA, etc.), signal strength value, MCC/MNC, etc.



Note:

If you cannot register the network or cannot access the Internet, you can check the status of this page to check whether the SIM card recognizes the normal, current network type and signal strength.

This page will be refreshed automatically, so it may not match the 4G network indicator or status bar. After the page is automatically refreshed, it can be refreshed manually.

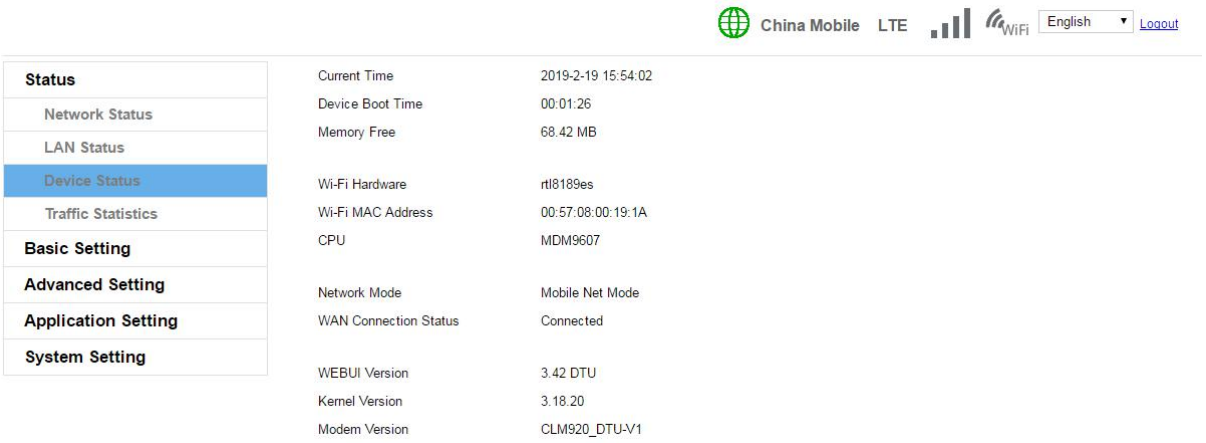
If there is a problem with the network, you can modify the settings by referring to the Mobile Network Settings page.

2.2.2 LAN status

The device functions as a router, Wi-Fi AP and Ethernet are a local area network. This page displays information about the LAN related settings status and the LAN client list.

2.2.3 Device status

This page shows the status of the device, such as system time, boot time, device version number, etc.



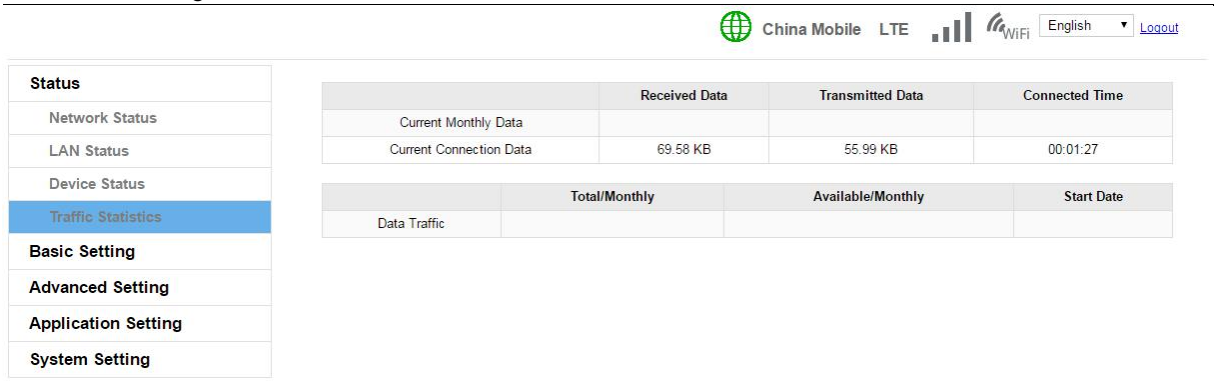
Note:

The current time displayed is the time the device is synchronized from the network. If there is a problem with the network connection, the time may be incorrect. The functions of data flow statistics of this system need to be strictly in accordance with time.

This page can view the version number of WEBUI. You can view this page by general device information.

2.2.4 Traffic Statistics

This page shows 4G traffic statistics



Note:

The data traffic on the device side may be inconsistent with the carrier.

The traffic statistics function depends on the system time. Traffic statistics are not available until the device time is synchronized to the network time.

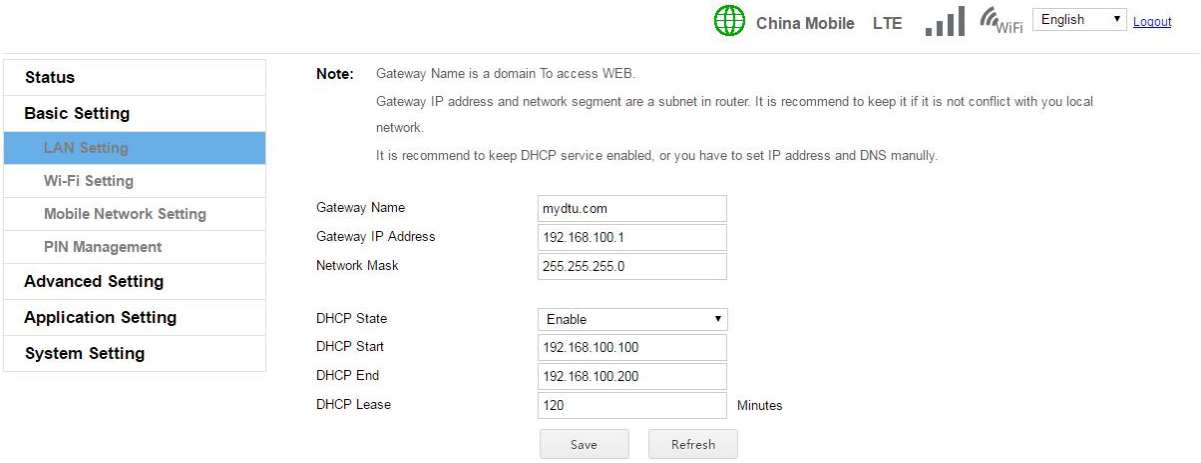
In addition, if the device is often interrupted during use, it may cause inaccurate traffic data.

2.3 Basic settings

2.3.1 LAN Setting

This page can set the LAN gateway address, gateway name, and enable the DHCP service in the LAN. It is recommended to keep the default settings. Modify this setting only if it conflicts with other network segments.

After setting the gateway name, you can log in to the WEBUI management page directly using the gateway name. For example, you can use http://mydtu.com to log in to the WEBUI management page without entering an IP address. The gateway name must be a valid domain name



2.3.2 WI-FI Setting

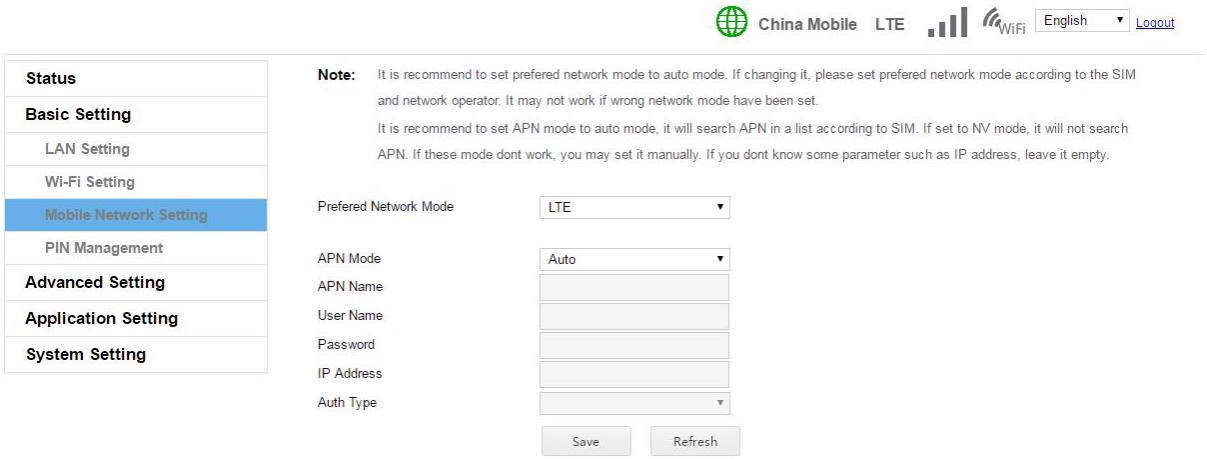
This setting modifies the Wi-Fi AP SSID name, transport channel, security mode and password. After the broadcast network name is set to deactivate, other devices will not be able to search for this Wi-Fi AP.

2.3.4 Mobile network settings

This setting modifies the 4G related parameters. For example, the preferred network type (LTE, GSM, etc.) can be modified. After being set to the AUTO mode, the device will automatically find the optimal network according to the SIM card, for example, look up the LTE network first. If there is no LTE, look for the WCDMA or EVDO network, and then look for the GSM or CDMA 1x network. It is recommended to keep this setting.

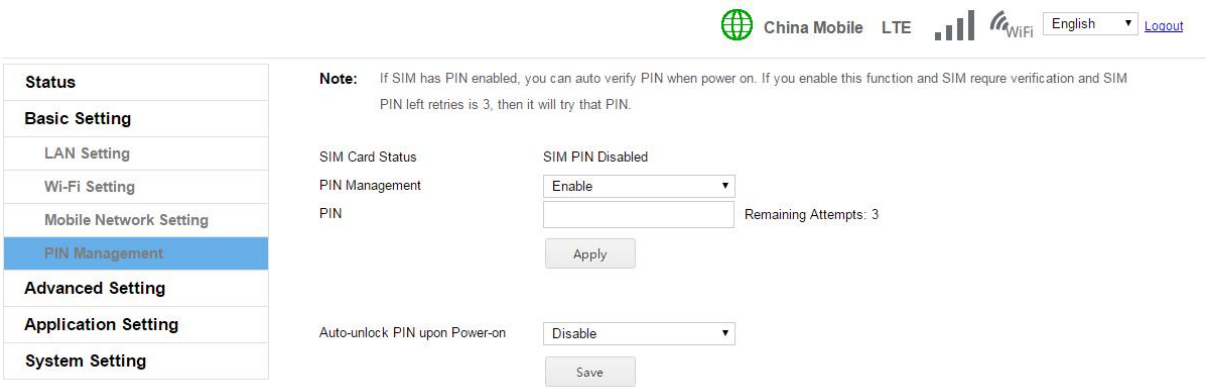
APN setting function, the device presets most of the operator APN related settings, and the APN is set to the automatic selection mode to automatically match. If the SIM card is special, it may not be automatically matched. In this case, you can set the APN manually.

If you can't access the network after setting the APN according to the SIM card operator's requirements, you can try to modify the authentication type. The three authentication types are different. You can try it.。



2.3.5 PIN management

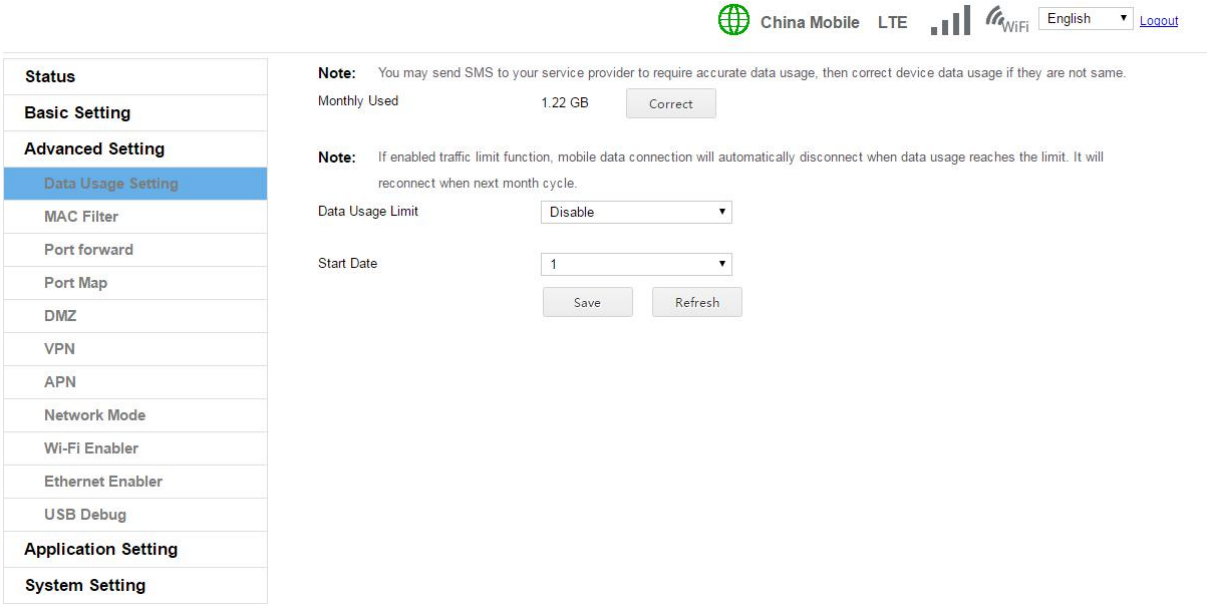
This page can display the SIM PIN status, activate, disable the SIM PIN function, modify the SIM PIN, and unlock the SIM PIN. In addition, if the function of automatically inputting SIM PIN is enabled, and the PIN code verification is enabled on the SIM card, and the PIN code attempts are 3, the device will automatically input the set PIN code to verify.。



2.4 Advanced settings

2.4.1 Data usage setting

The traffic restriction feature limits how much traffic the device can use. If the traffic restriction feature is enabled, the mobile data network will be automatically disconnected when the traffic arrives, and then reconnected automatically after the next month. Frequent power-off restarts may result in data loss and inaccurate statistics. If you need to restart the device, use the restart function of the WEB management page.

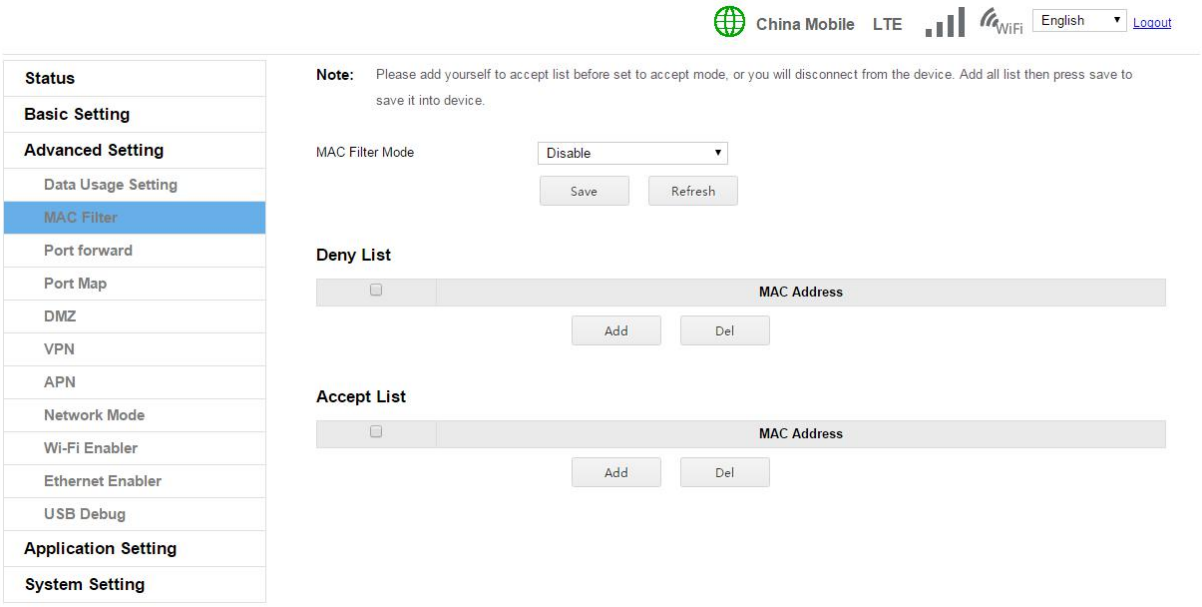


2.4.2 MAC filter

This setting is used to filter the client connected to the WIFI to prevent the illegal client from connecting to the device through WIFI. The default setting is blacklist mode. Under this setting, hosts in the blacklist cannot connect to the device, and other hosts can connect to the device. In whitelist mode, only hosts in the whitelist can connect to the device, and other hosts cannot connect to it.

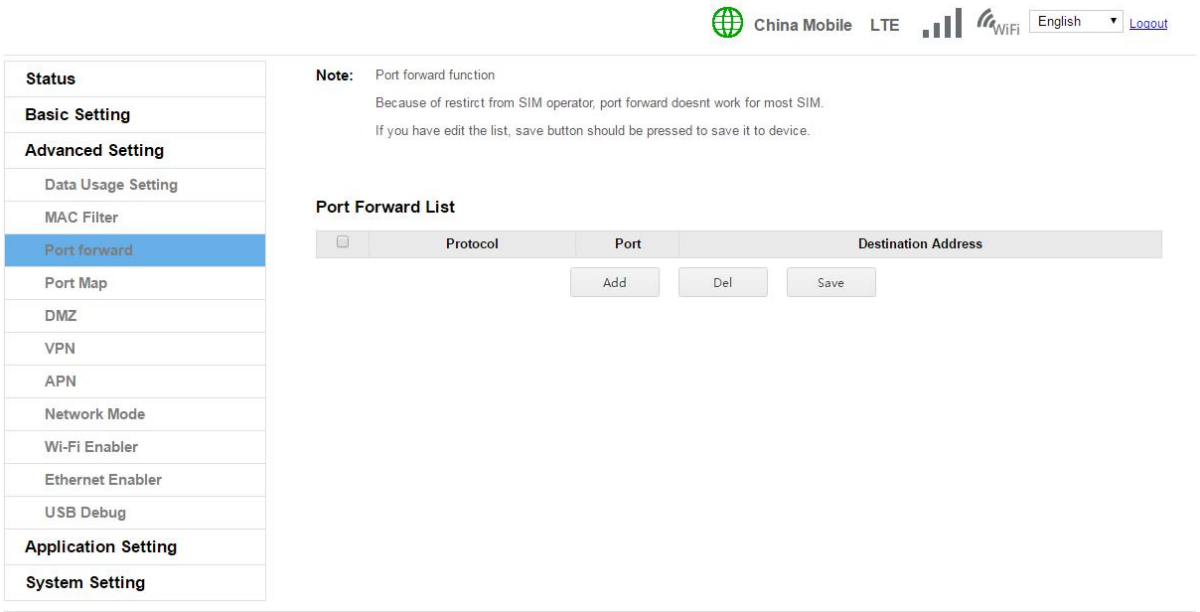
Note:

Before setting to whitelist mode, you must first add yourself to the whitelist, otherwise you may not be able to connect to the device. When this happens, you can try to restore the factory value.。



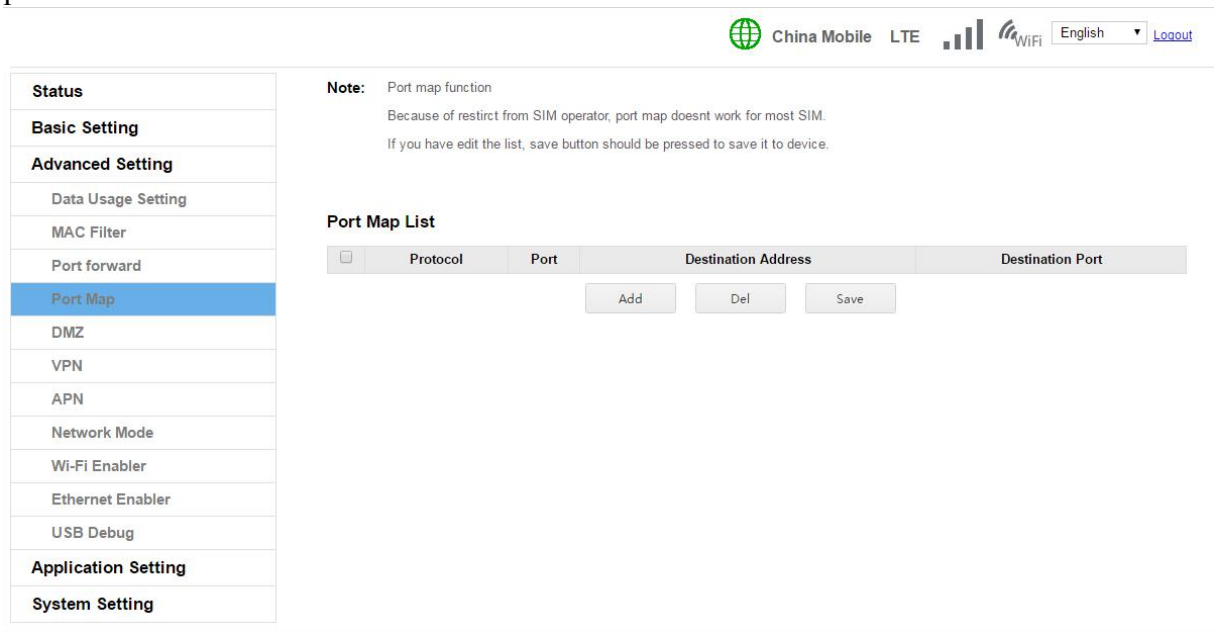
2.4.3 Port forward

Port forwarding is a function of forwarding a port or a range of port packets on a network to a set IP address.



2.4.4 Port Map

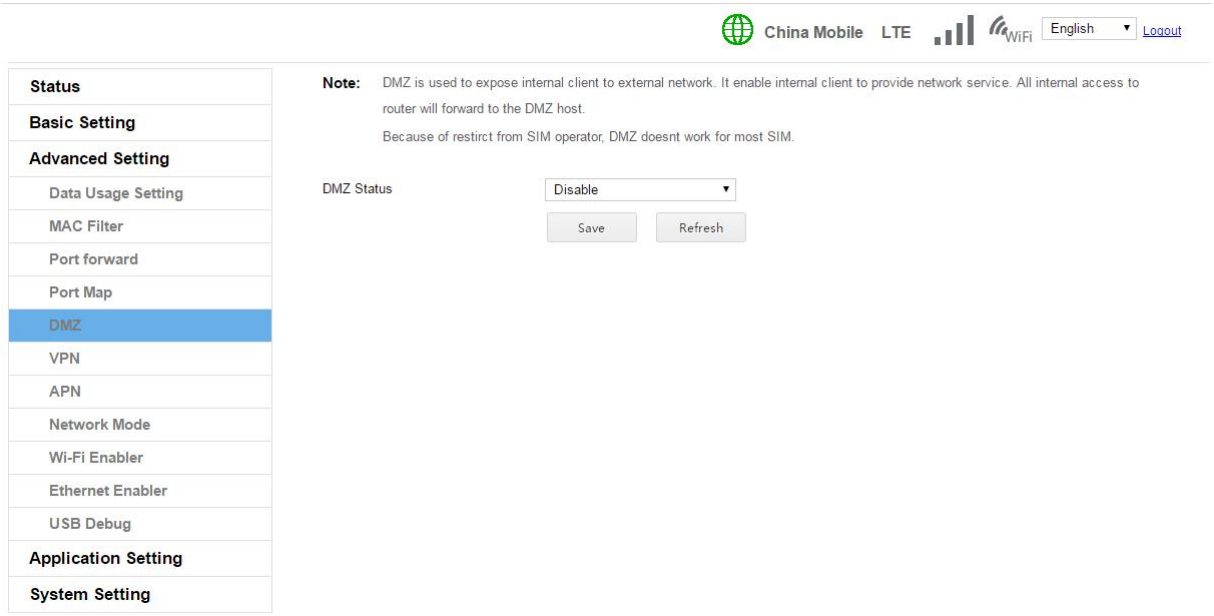
Port mapping is to modify the data packet of one port of the network network to another port and send it to the set IP address.



2.4.5 DMZ

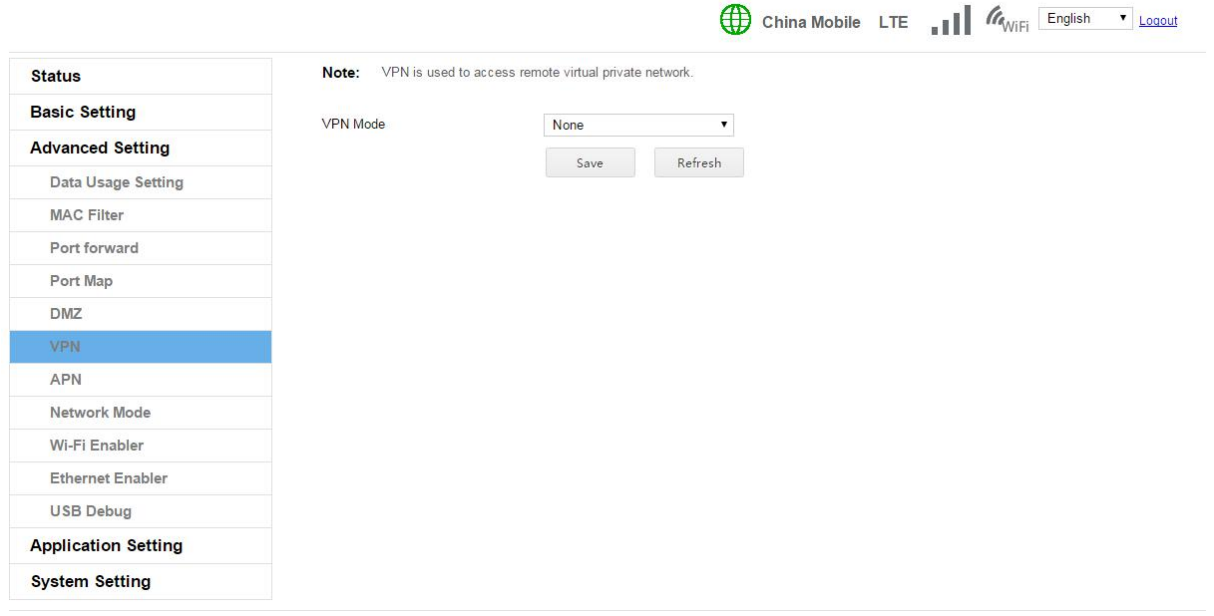
This setting can modify the DMZ host settings. If you need a host on the LAN to use the server, you can set the host IP address as the DMZ host. After being set as a DMZ host, packets sent to the router on the network are automatically forwarded to the DMZ host, and the host is also directly exposed to the Internet. May cause network security issues.

In general, IoT NICs may use this feature.



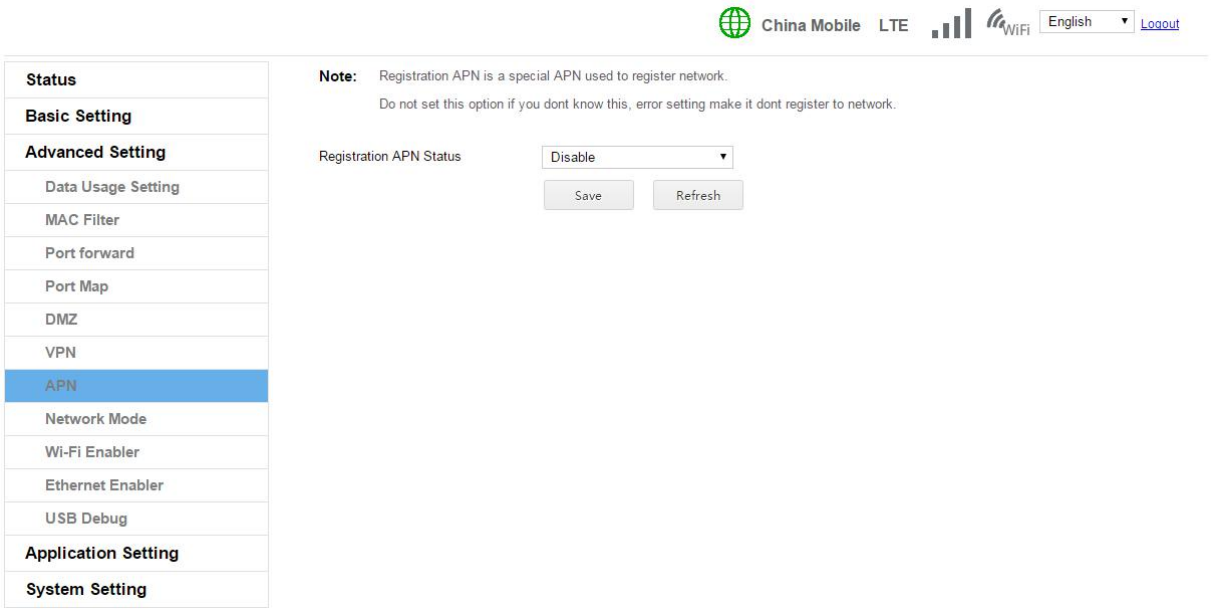
2.4.6 VPN

The VPN function is used to access the virtual private network. Can be used to remotely access corporate LANs, etc. Note that the LAN segment of the router cannot conflict with the remote network segment.



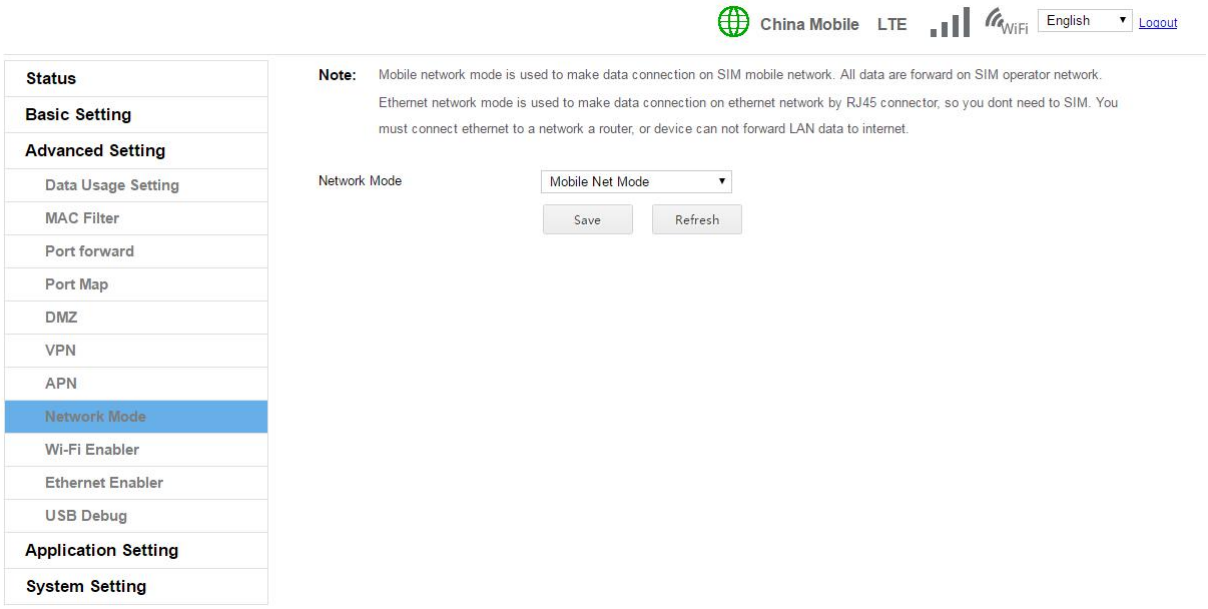
2.4.7 APN

This page sets the APN used to register the network.。



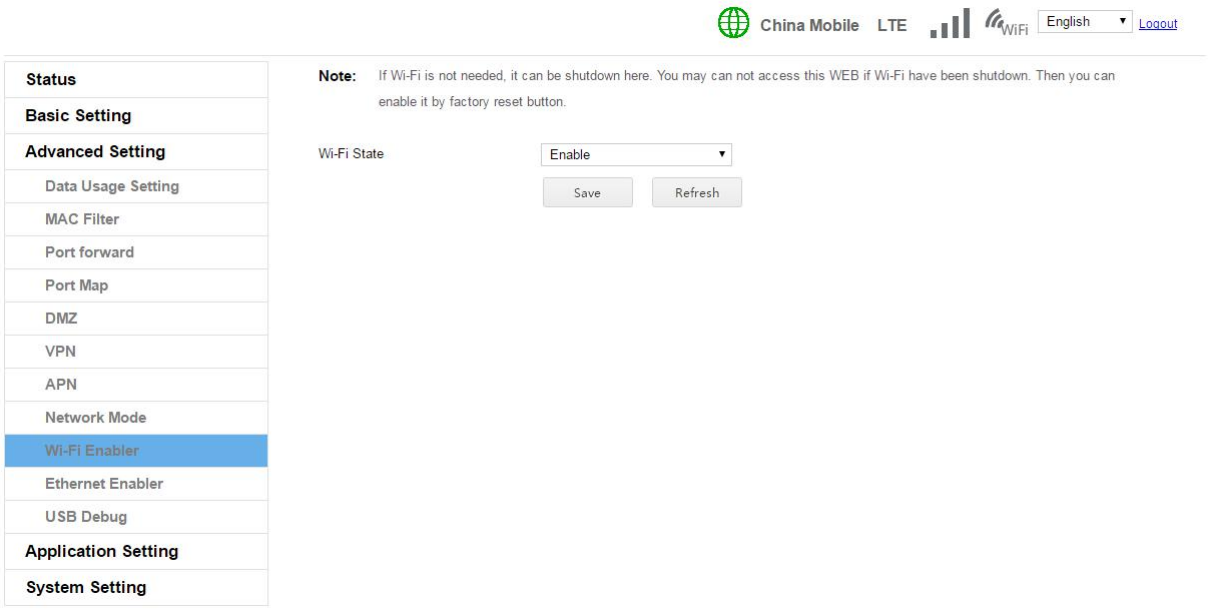
2.4.8 Network Mode

This page is whether the network used by the DTU is a mobile network or an Ethernet network.



2.4.9 WIFI Enable

This page is used to turn off or turn on the wifi function.

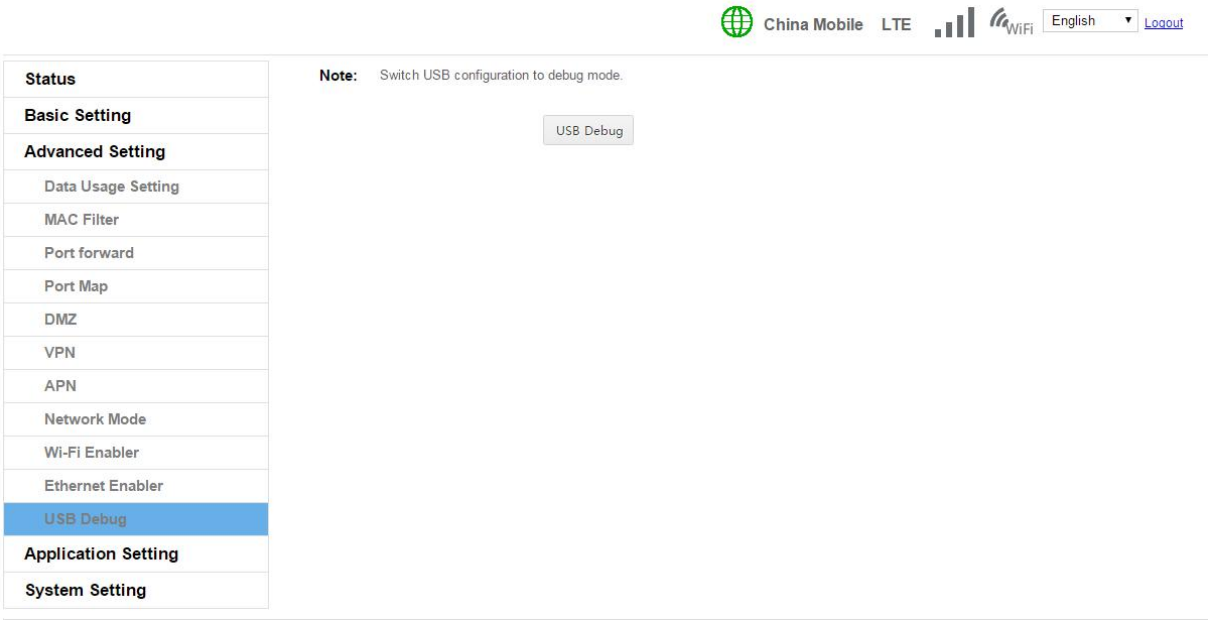


2.4.10 Ethernet Enable

If you do not need the Ethernet function, you can turn off the Ethernet here. After turning off the Ethernet, you may not be able to access this page to open the Ethernet function. You can only restore this function by restoring the factory settings button.

2.4.11 USB debug

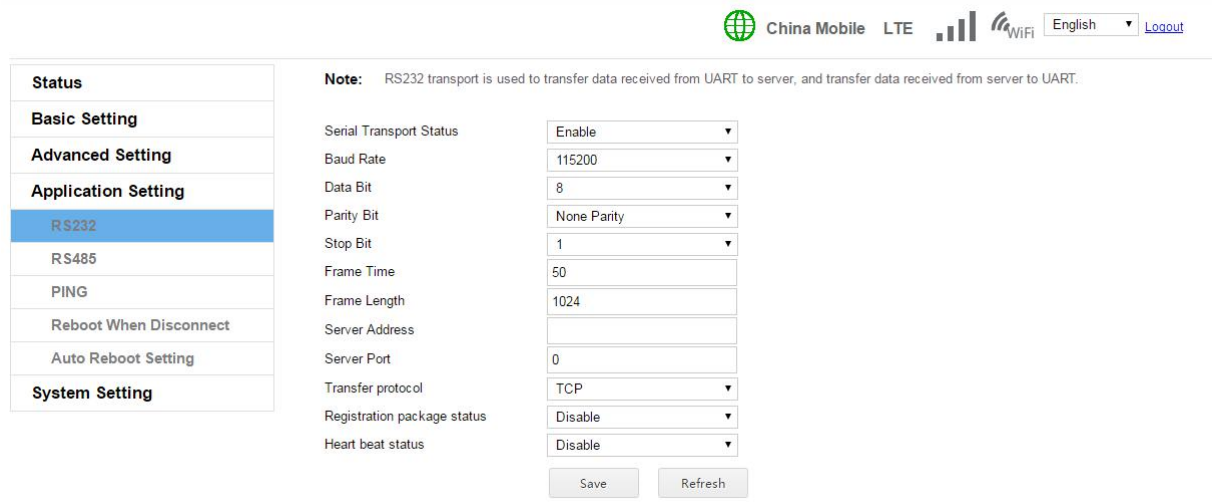
This function switches the USB configuration to debug mode. In debug mode, you can use the adb tool to debug. You can use the DIAG to capture the log of the modem. However, there is no RNDIS configuration in the debug mode, so you cannot provide network functions through USB.



2.5 Application setting

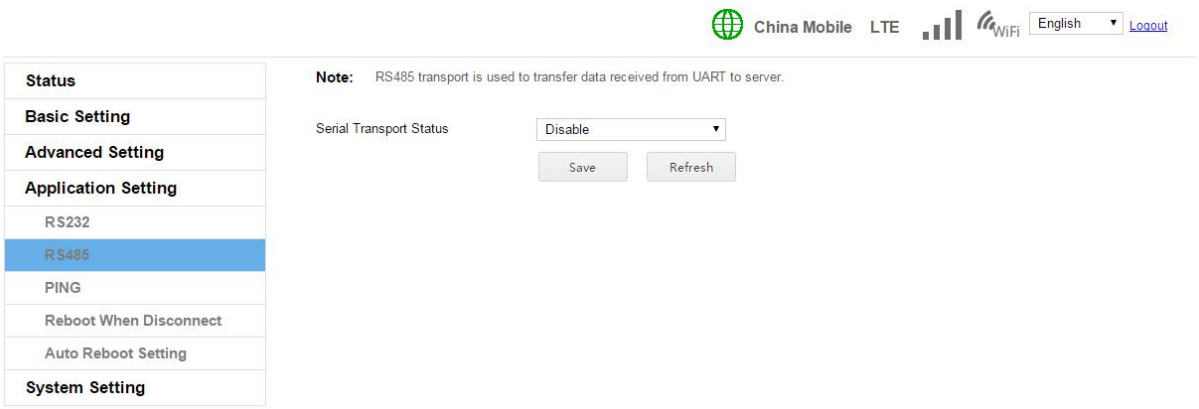
2.5.1 RS232

The main function of DTU is to use TCP to transparently transmit serial data and server data. This function receives the RS232 serial port data, transmits it to the set server, and can receive the data on the server and transfer it to the device on the RS232 serial port.



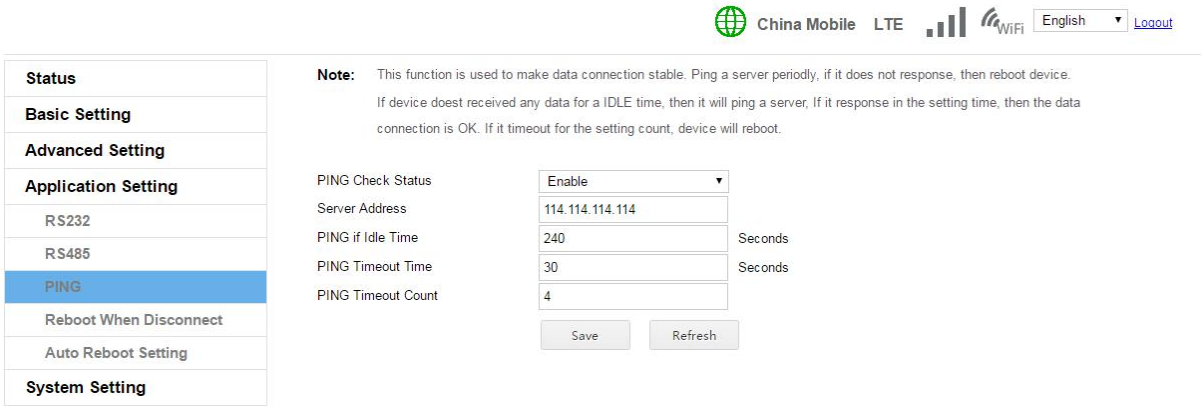
2.5.2 RS485

The RS485 transparent transmission setting function is basically the same as RS232. Since RS485 is half-duplex, it is not possible to transparently pass server data to the serial port. If you need to modify this feature, please contact your supplier.



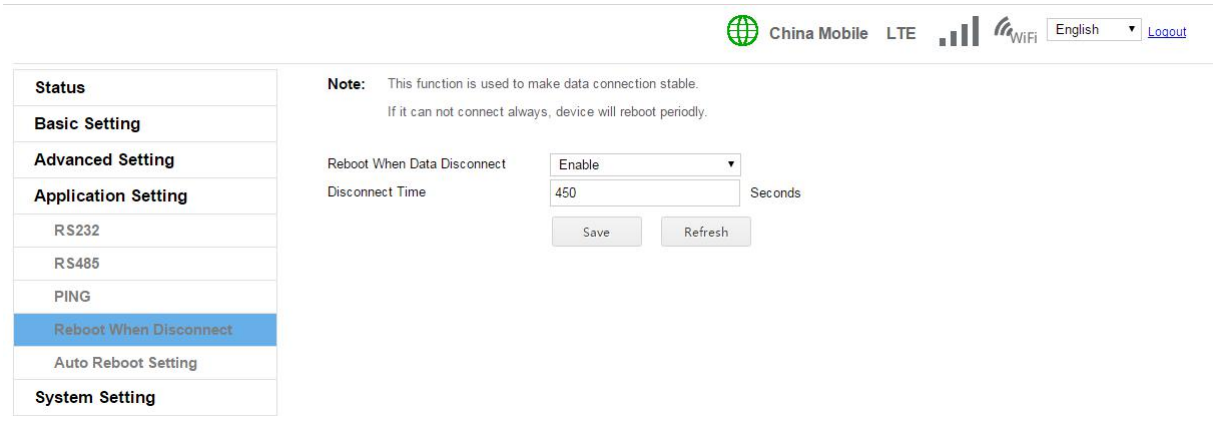
2.5.3 PING check

This function is used to detect whether the device is connected to the Internet. If the device is abnormal and cannot access the Internet, you can restart the device for recovery. Note: This feature consumes 4G mobile data traffic



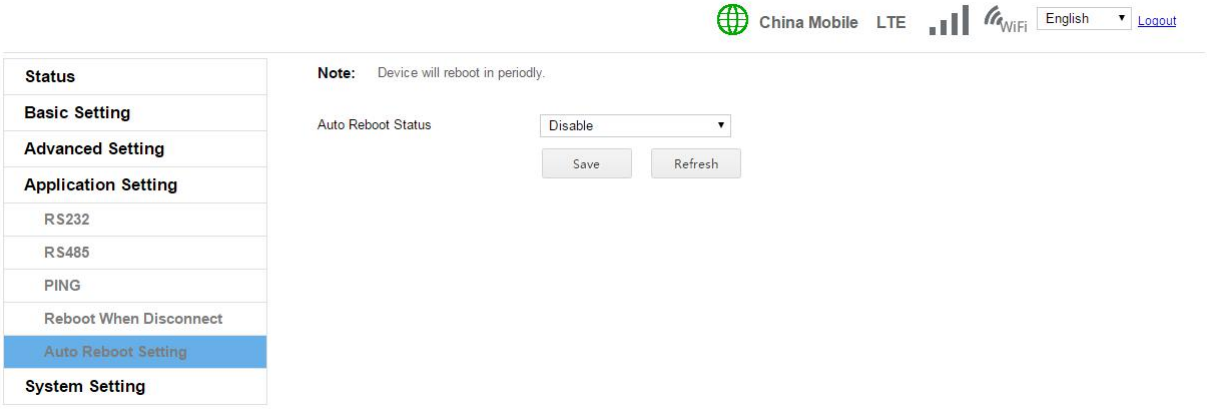
2.5.4 Reboot when disconnect

The disconnection detection function is a function to increase the connection stability of the mobile data network. After detecting that the mobile data connection is disconnected and cannot be reconnected within the set time, the device is restarted to restore the data connection.



2.5.5 Auto reboot setting

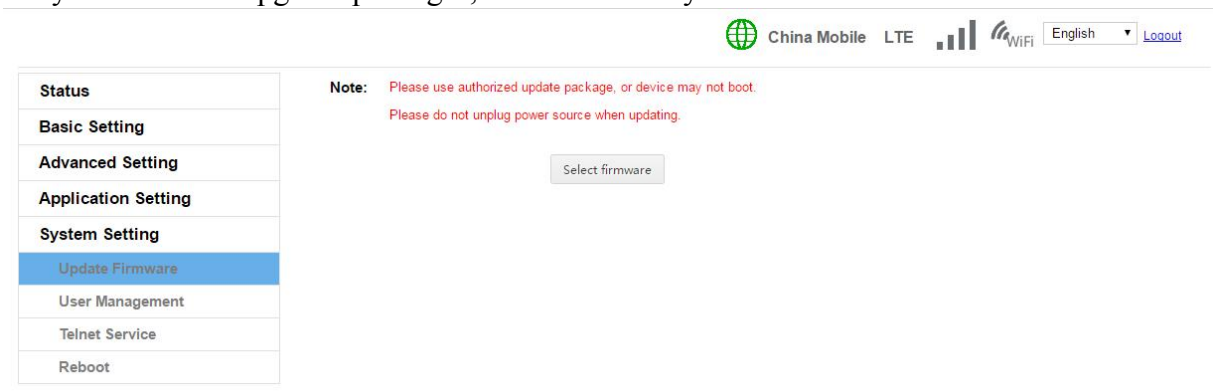
To maintain device stability, you can set the device to automatically restart. It can be set to restart every few hours, for example, every 72 hours. It can also be set to restart at a fixed time every day, such as restarting at 00:00 every day, or restarting at 21:00 every day.



2.6 System setting

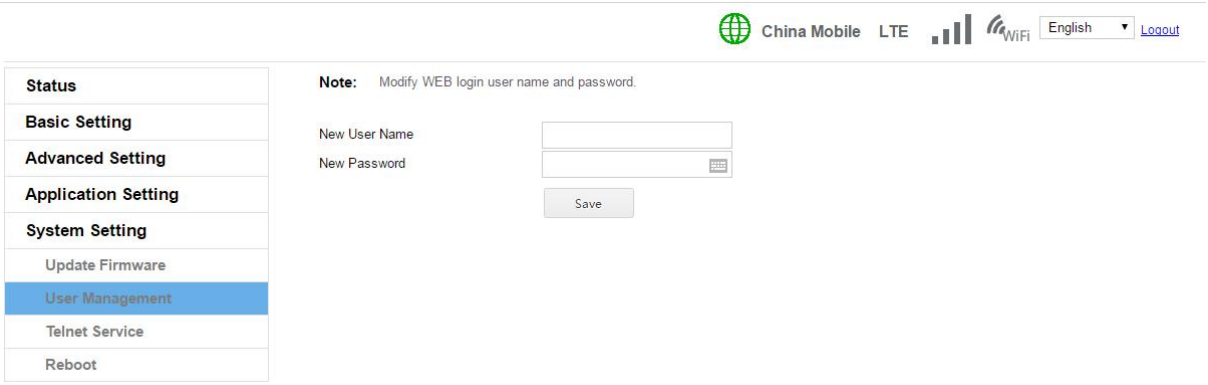
2.6.1 Update Firmware

If there is a bug fix or feature update, you can update the system version with this setting. Only use certified upgrade packages, otherwise it may not boot。



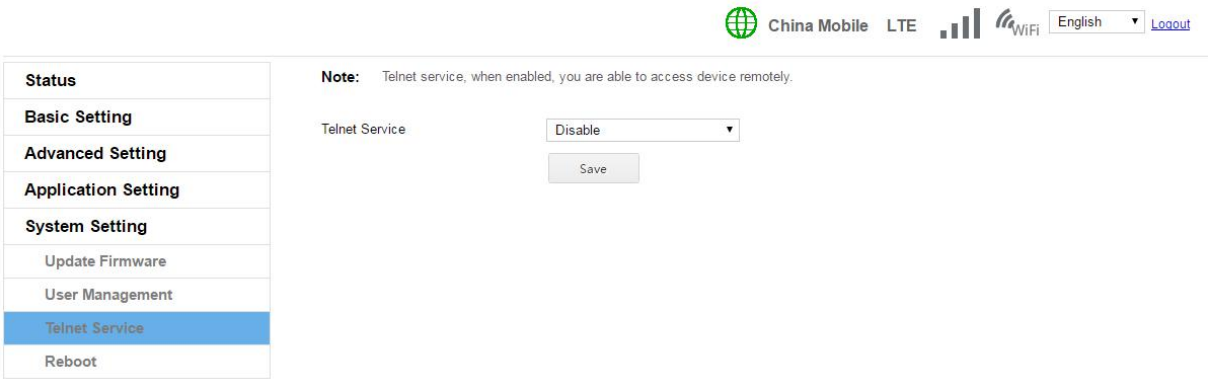
2.6.2 User management

Modify login and password。



2.6.3 Telnet service

Remote access to devices when enabled。



2.6.4 Reboot

Reboot the device and restart the device with this setting to ensure that the data has been saved to the system without losing unsaved data.。