

UC-8540 Series Software User's Manual (MIRF)

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UC-8540 Series Software User's Manual (MIRF)

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Introduction

In this manual, we briefly introduce the MIRF 2.0 tool and show you how to use it on the UC-8540 computer. Moxa's Mobile Intelligent Routing Framework (MIRF) is an open-platform, multiple-WAN management tool that helps provide unbeatable wireless service for train passengers as the train travels through different regions. As a train enters a new region, it must contend with different wireless interfaces such as Wi-Fi, UMTS, HSPA, WiMAX, and LTE. MIRF's full-stack software framework simplifies the coding of multiple-WAN routing applications for wireless computers, speeding up application development processes and significantly shortening custom development times.

2

Basic Configuration

1. Connect your PC/Notebook and UC-8540's LAN2 to the same network.
2. Open a browser and connect to <https://192.168.4.127>.
3. Click **Get Started** to continue and type the default username and password:

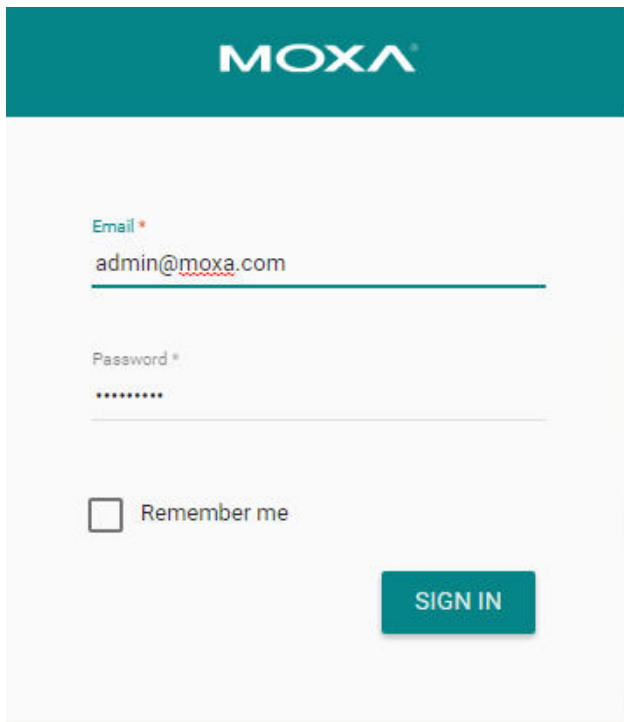
Username: admin@moxa.com

Password: admin1234

For the root account, use the following information:

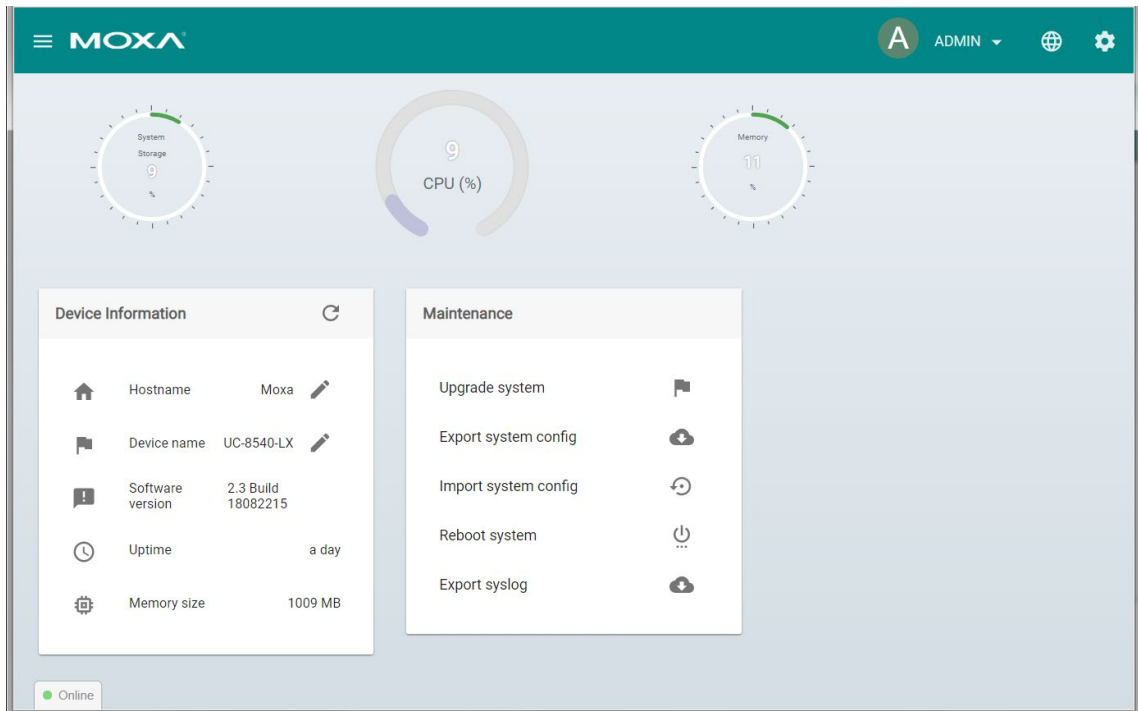
Username: root@moxa.com

Password: root1234



The image shows a screenshot of the Moxa login interface. At the top, there is a teal header with the 'MOXA' logo in white. Below the header, the form is on a light gray background. It features two input fields: 'Email *' with the text 'admin@moxa.com' and 'Password *' with a masked password '*****'. Below the password field is a checkbox labeled 'Remember me'. At the bottom right of the form is a teal button with the text 'SIGN IN' in white.

4. Click **Sign In** to continue. The MIRF 2.0 dashboard and configuration page is displayed.



Dashboard Component	Description
System	Indicates how the system storage capacity is used
CPU	Indicates the current CPU usage
Memory	Indicates the current system memory usage

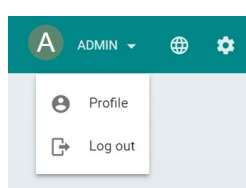
3

Editing User Profiles

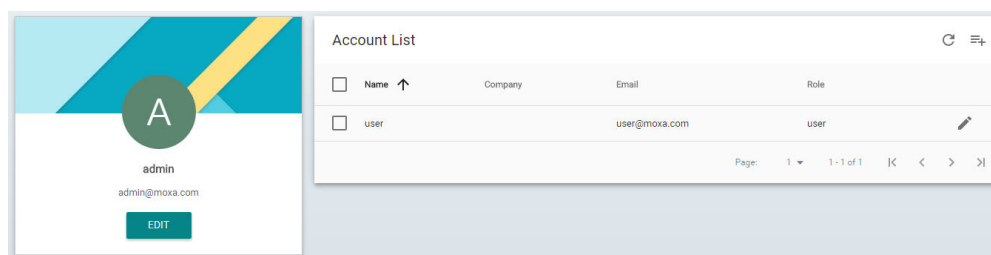
After you have successfully connected to the UC-8540, you can start configuring the MIRF 2.0 functions. You might first want to update your user profile.

To update your profile:

1. Click on the ADMIN box on the upper-right corner of the main page and select **Profile**.



2. Click on **EDIT** to edit the profile.



3. Click **SAVE** to save the changes.

Account Profile ×

Email *
admin@moxa.com

Name *
admin

Company

Role *
Administrator

Change Your Password

Old Password

New Password

To add new users, click the add icon on the top right corner of the screen.



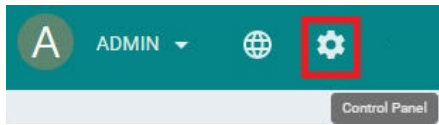
Using the Control Panel

The following topics are covered in this chapter:

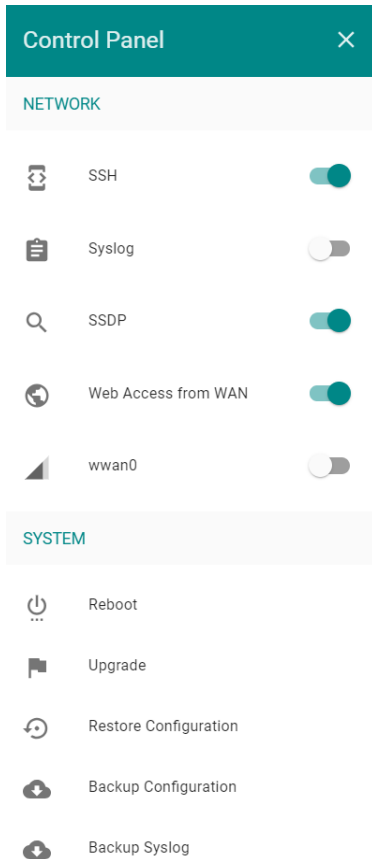
- ❑ **Using the Control Panel**
- ❑ **Device Information**
- ❑ **Editing the Hostname**
- ❑ **Editing the Device Name**
- ❑ **Checking the Software Version**
- ❑ **Checking the System Uptime**
- ❑ **Checking the System Memory Size**

Using the Control Panel

MIRF 2.0 provides a control panel that you can use to view, enable, or disable specific system settings. Click the Control Panel icon on the main page to access the panel.



You can view the current status of the settings or enable/disable the settings directly from the Control Panel page.

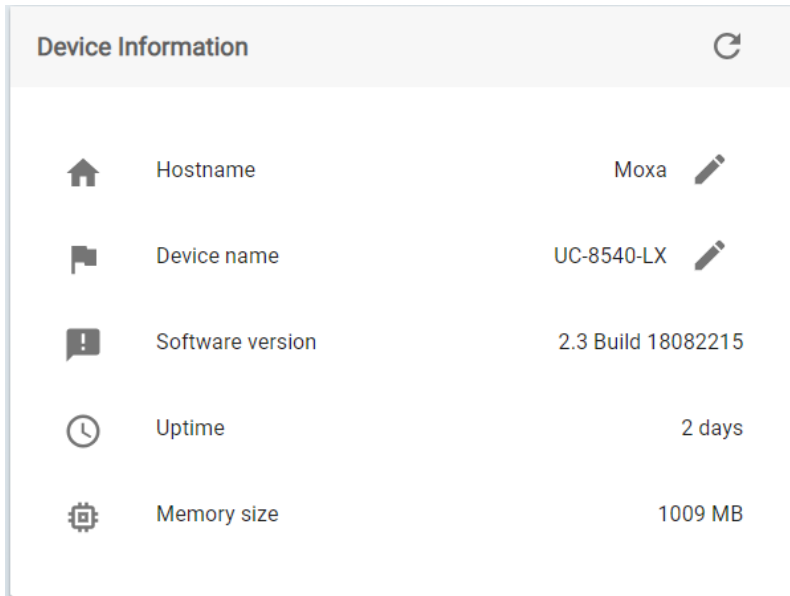


WARNING

Turning off the **Web Access from WAN** setting will disconnect MIRF 2.0 from the Server.

Device Information

This function allows users to update system hostname and device name, and view the system status, such as software version, system uptime, and system memory size.

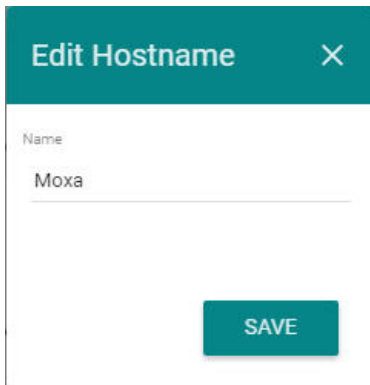


Editing the Hostname

On the **Device Information** page, click the edit icon to edit the hostname.



Provide the hostname in the field. When finished, click **SAVE**.

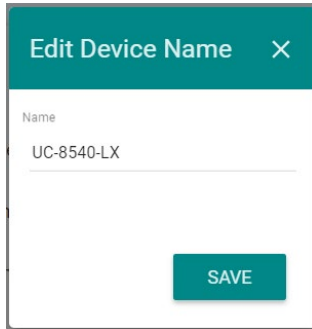


Editing the Device Name

In **Device Information**, click the edit icon, and edit the device name



Provide the device name in the field. When finished, click **SAVE**.

A screenshot of a modal dialog box titled 'Edit Device Name' with a close button (X) in the top right corner. The dialog contains a text input field labeled 'Name' with the value 'UC-8540-LX' entered. Below the input field is a teal 'SAVE' button.

Checking the Software Version

You can check the software version from the control panel.



Checking the System Uptime

You can check the system uptime from the control panel.



Checking the System Memory Size

You can check the system memory size from the control panel.



5

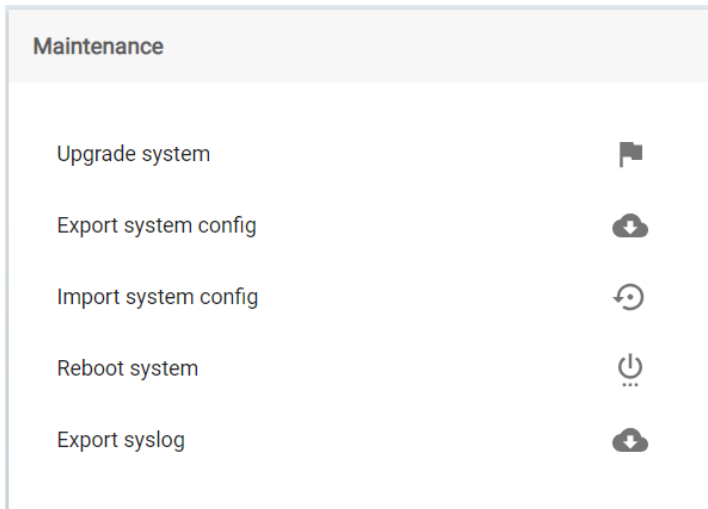
Maintenance

The following topics are covered in this chapter:

- ❑ **Maintenance**
- ❑ **Upgrading the Firmware**
- ❑ **Exporting the System Configuration File**
- ❑ **Importing a System Configuration File**
- ❑ **Rebooting the System**
- ❑ **Exporting the System Log Files**

Maintenance

This function allows users to update various system settings.

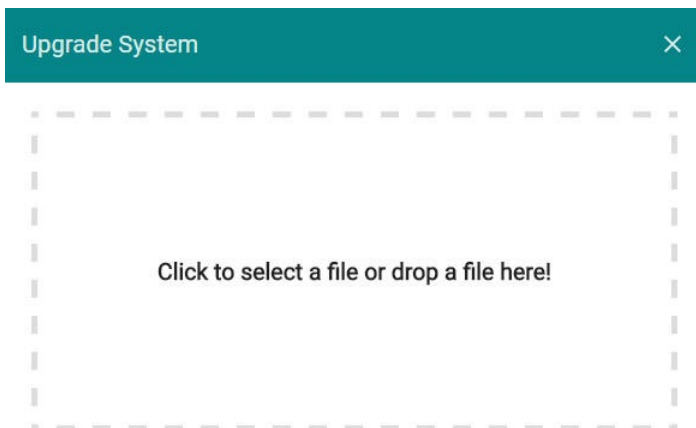


Upgrading the Firmware

On the **Maintenance page**, click the icon next to **Upgrade system** to use the firmware provided by Moxa.



Select the firmware file (*.frm) or drop the file into the upgrade page.



Wait for a few minutes for the system to upgrade.



ATTENTION

A system upgrade that uses an incorrect firmware file can cause system damage or failure. Contact Moxa technical support before upgrading your system.

Exporting the System Configuration File

On the **Maintenance** page, click the icon next to **Export system config**.

Export system config



A system configuration file in the **tar.gz** format will be downloaded to your computer.

Importing a System Configuration File

On the **Maintenance** page, click the icon next to **Import system config**. This function can help restore your system to a previous status.

Import system config



You can select the specific items you want to recover or select **All** to recover the whole system.

Import System Config ✕

<input type="checkbox"/> All	<input type="checkbox"/> Ethernet	<input type="checkbox"/> Cellular
<input type="checkbox"/> System	<input type="checkbox"/> DNS	<input type="checkbox"/> Serial
<input type="checkbox"/> DHCP Server	<input type="checkbox"/> Port Forwarding	<input type="checkbox"/> OpenVPN Client
<input type="checkbox"/> Time	<input type="checkbox"/> Applications	<input type="checkbox"/> User Programs
<input type="checkbox"/> Data Logger (Overwrite Only)		
<input type="checkbox"/> CS Remote Control		

Click to select a file or drop a file here!

Rebooting the System

On the **Maintenance** page, click the icon next to **Reboot system**.

Reboot system



Click **Yes** to reboot the system.

Would you like to reboot the system ?

You will need to wait a few minutes while the system restarts.

CANCEL

YES

The following screen will appear,

Wait for the reboot process to finish.

Connection is down because system is rebooting.

Wait for the system to reboot before reconnecting, and please note that the IP address may change.

Exporting the System Log Files

On the **Maintenance** page, click the icon next to **Export syslog**.

Export syslog



A system log file in the **tar.gz** format will be downloaded to your system.

Configuration Menu

The following topics are covered in this chapter:

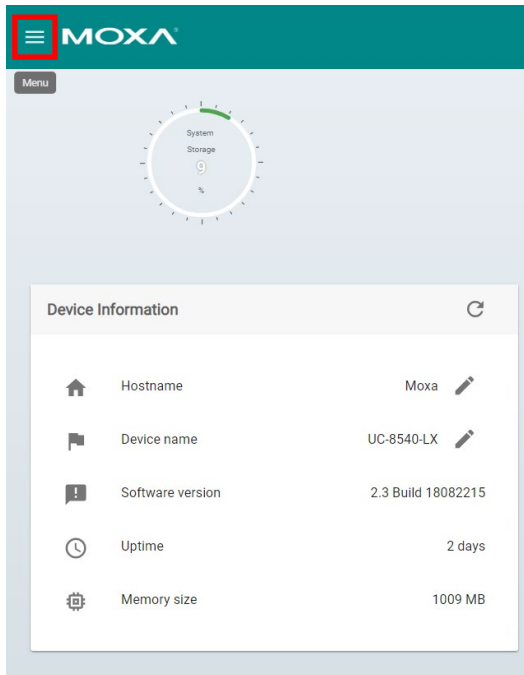
- ❑ **Configuration Menu**
- ❑ **Configuring MIRC 2.0**
- ❑ **Configuring a Gateway**
- ❑ **Configuring Network Settings**
- ❑ **Configuring WAN Settings**
- ❑ **Configuring LAN Settings**
- ❑ **Configuring Wi-Fi Settings**
- ❑ **Configuring Cellular Settings**
- ❑ **Configuring Routing Client Settings**
- ❑ **Configuring OpenVPN Client Settings**
- ❑ **Configuring SSH Settings**
- ❑ **Configuring QoS Settings**
- ❑ **Configuring Load Balance Settings**
- ❑ **Configuring SNMP Settings**
- ❑ **Configuring VRRP Settings**
- ❑ **Configuring Firewall Settings**
- ❑ **Configuring System Settings**
- ❑ **Configuring Serial Settings**
- ❑ **Configuring the System Time**
- ❑ **Configuring Admin Settings**
- ❑ **Configuring GPS Settings**
- ❑ **Configuring Remote Control Settings**

Configuration Menu

You can use the configuration menu for various MIRF 2.0 settings.

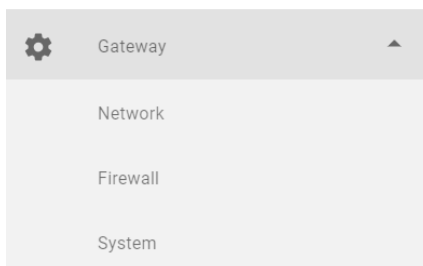
Configuring MIRF 2.0

This section helps you configure your MIRF 2.0. Click the menu bar icon to continue.



Configuring a Gateway

Click **Gateway** to configure settings such as Network, Firewall, and System.



Configuring Network Settings

This function includes various settings, including LAN, Wi-Fi, Cellular, DHCP Server, DNS, OpenVPN Client, and SSH.

Configuring WAN Settings

Click **WAN** to view the current WAN settings.

To configure the WAN interface settings:

1. Click **Edit**.

2. Specify the necessary information, such as IP address, Netmask, Gateway, Primary DNS, and Secondary DNS for the WAN interface.

The default **WAN Type** is **Static**. To change it, select **DHCP** for **WAN Type** and slide the scroll bar to **Enable option 61**. Select the condition for based on which the DHCP server should assign IPs.

NOTE Specify the IP address of the UC-8540 device in the **IP Address** field and the IP address of the router that the UC-8540 will connect to in the **Gateway** field.

ETH0

Wan Type

Static

IP Address *

10.123.13.151

Netmask *

255.255.254.0

Gateway *

10.123.12.1

DNS 1

10.123.12.152

DNS 2

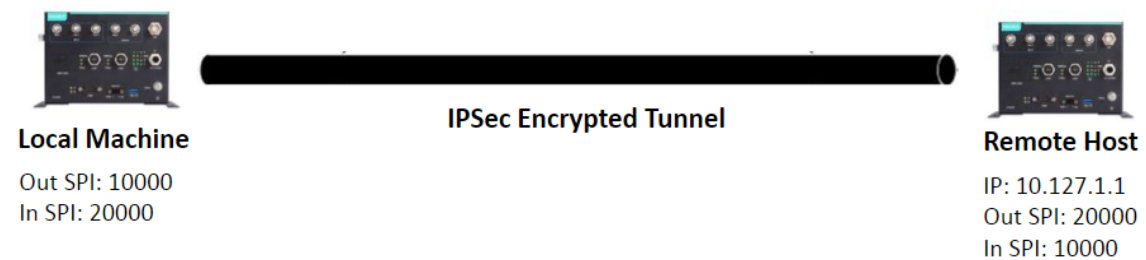
127.0.0.1

3. Click **SAVE**.

Configuring the IPSec Mode

You can select from two IPSec modes: **Transport** mode and **Tunnel** mode.

Transport Mode



To Configure Transport mode, do the following:

1. Select the **Transport** option.
2. Specify the necessary information: **Remote Host IP**, **Out SPI**, and **In SPI**.
3. **Enable Authentication** and **Enable Encryption** if you want these functions to be activated
4. Select a **WAN IP Type**.
5. Click **SAVE** to apply the changes.

NOTE The **Out SPI** of the local machine should be the same as the **In SPI** of the remote Host and vice versa.

NOTE The Authentication key for the local machine should be the same as the remote host. The same applies to the Encryption key.

ETH0

Wan Type

IPSec

IPSec Mode

Transport

Tunnel

Remote Host IP *

10.127.1.1

Out SPI *

10000

In SPI *

20000

Authentication

Authentication Key *

0123456789123456

Encryption

Encryption Key *

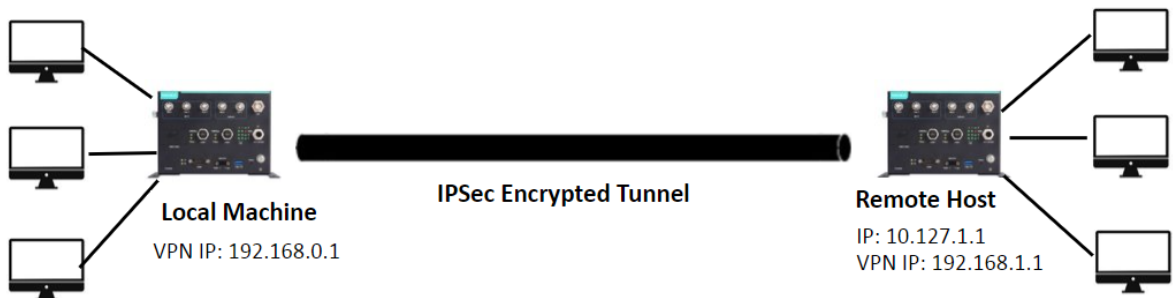
123456789012345678901234

WAN IP Type

DHCP

Static

Tunnel Mode



To configure Tunnel mode, do the following:

1. Select the **Tunnel** option.
2. Specify the necessary information: **Remote Host IP, Local VPN IP, Local VPN Netmask, Remote VPN IP,** and **Remote VPN Netmask.**
3. Specify the **Pre-shared Key.**
4. Select the hash and encryption algorithm
5. Select a **WAN IP Type.**
6. Click **SAVE** to apply the changes.

Configuring LAN Settings

Click **LAN** to view the current LAN settings on the main page. Edit to configure the settings

The screenshot shows the 'Network Settings' interface. On the left, a sidebar contains 'Network Overview', 'WAN', 'LAN' (highlighted with a red box), and 'WIFI'. The main area is titled 'LAN' and shows settings for interface 'ETH1'. The IP address is '192.168.4.127' and the Netmask is '255.255.255.0'.

Check **Enable** if you want DHCP Server to be activated

DHCP Server

DHCP Server Enable

Configure the DHCP server for **ETH1**. Provide the necessary information, such as **Start IP, End IP, Lease time, Primary DNS, Secondary DNS,** and **Domain name.**

DHCP Server

DHCP Server Enable

Start IP *
192.168.4.200

End IP *
192.168.4.250

Primary DNS *
8.8.8.8

Secondary DNS
8.8.4.4

Domain name

Lease time
3600

Configure all settings. When finished, click **SAVE**.

Configuring Wi-Fi Settings

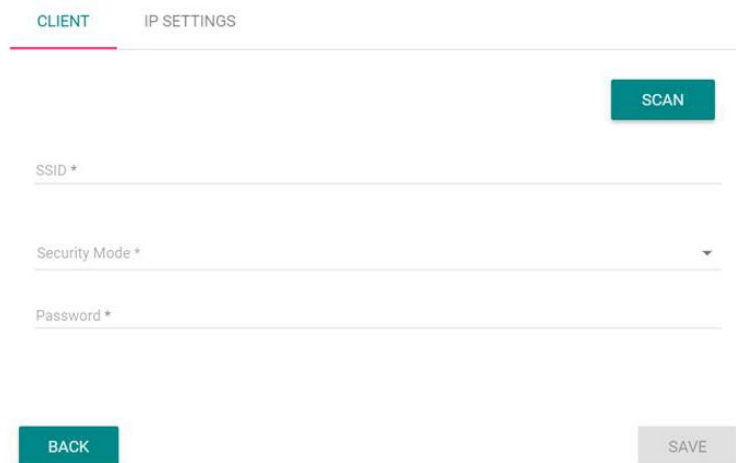
The UC-8540 can support both Wi-Fi AP and client modes.

To configure the Wi-Fi Client mode, do the following:

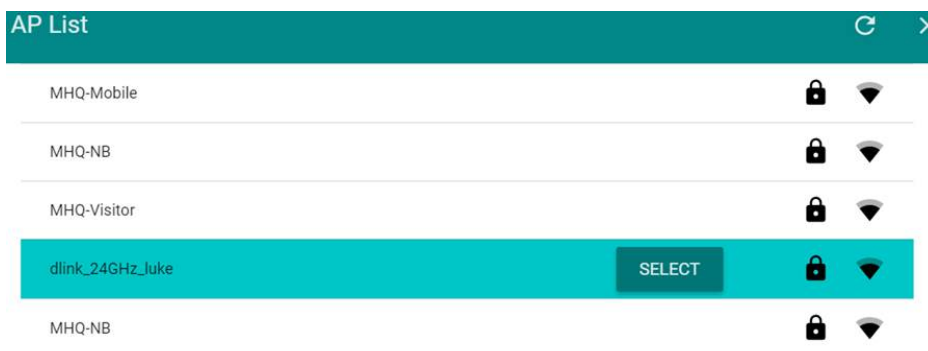
1. Select the **Wifi Client** operation mode and click **Add a Wi-Fi Network**



2. Click **SCAN**



3. Select a Wi-Fi AP from the AP List



4. Configure Security mode and Password and then Click Save

CLIENT IP SETTINGS

SCAN

SSID *
dlink_24GHz_Luke

Security Mode *
WPA/WPA2 Personal

Password *

BACK SAVE

WIFI

CLIENT NETWORK

DHCP

Static IP

IP *
127.0.0.1

Netmask *
127.0.0.1

Gateway
127.0.0.1

DNS 1
127.0.0.1

DNS 2
127.0.0.1

SAVE

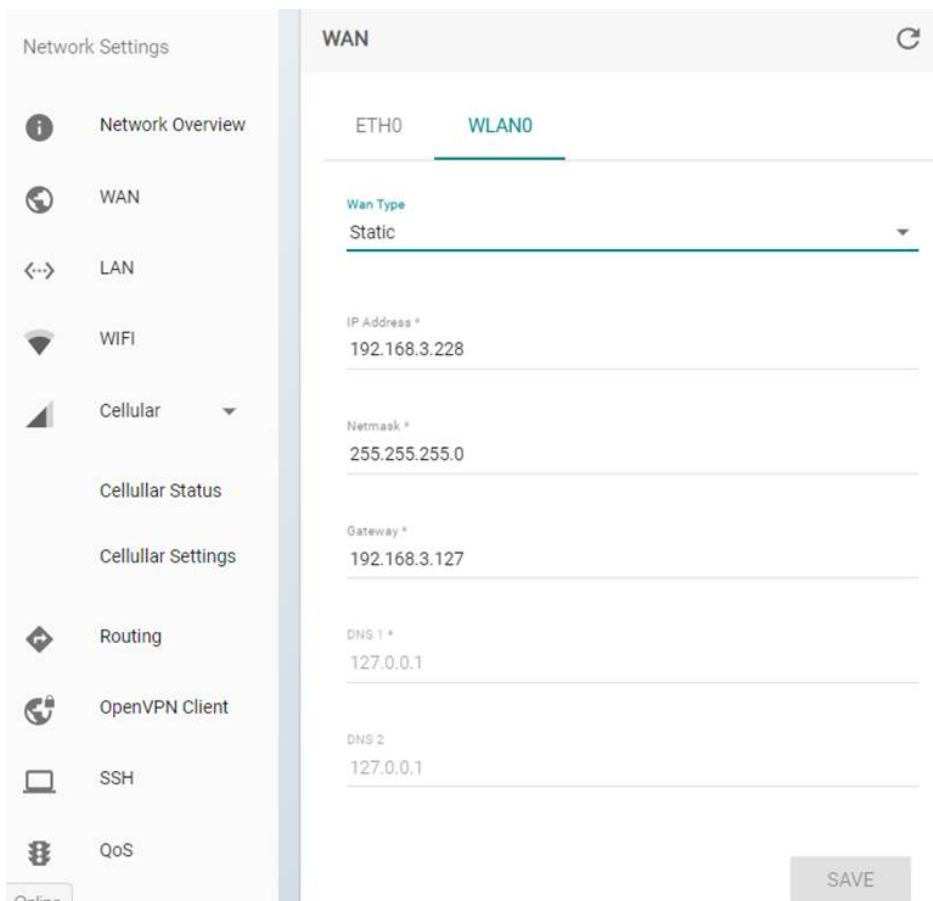
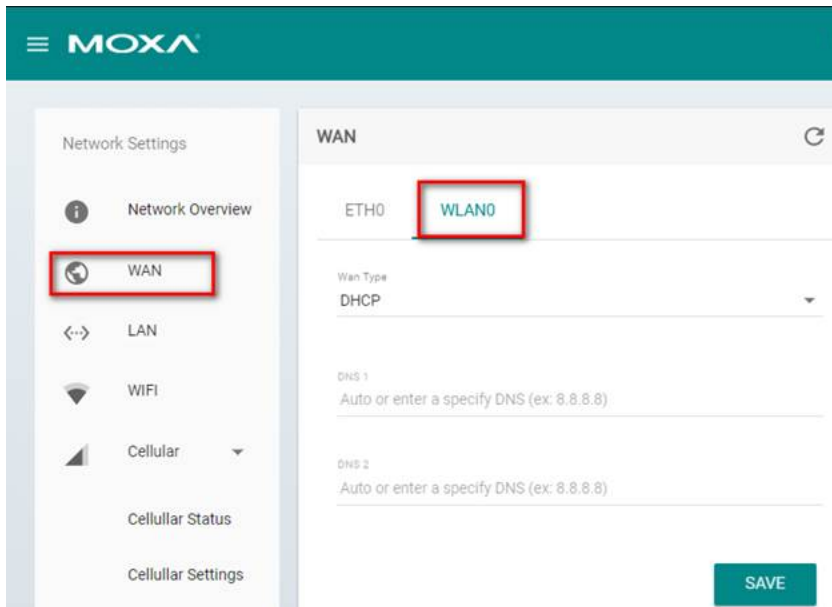
5. Check **Enable** if you want this function to be activated and then Click Save

Enable Wireless Client

dlink_24GHz_Luke WPA/WPA2 Personal

SAVE

- 6. Click on the **WAN** link and go to the **WLAN0** tab to configure the IP settings. You may choose to set your IP using **DHCP** or **Static**. If you select **Static**, enter all the necessary information, and click **SAVE**.



7. Click on the **Network Overview** link and go to the **WLANO** tab to check wireless client status.

The screenshot shows the 'Network Overview' page in a configuration interface. On the left is a 'Network Settings' sidebar with 'Network Overview' highlighted in a red box. The main content area has tabs for 'WAN' and 'LAN', with 'WLANO' selected and highlighted in a red box. Below the tabs is a 'Wireless Client' section featuring a bar chart with a callout for '-57 dBm'. Below the chart is a table of network details:

SSID	dlink_24GHz_Luke
Security Mode	WPA/WPA2 Personal
BSSID	70:62:b8:64:21:10
Network Status	
IP	192.168.3.228
Netmask	255.255.255.0
Gateway	192.168.3.127
DNS 1	8.8.8.8

To configure the Wi-Fi AP mode, do the following:

1. Select the **Access Point** operation mode and configure the SSID and Password.

Wi-Fi ↻

WLAN0

Select Operation mode: *
Access Point

Enable Access Point

SSID *
moxa-test1

Password

SHOW ADVANCE

2. If you need to configure advanced options of Wi-Fi Access point, Click **Show ADVANCE**.

The default Security mode is WPA/WPA2 Personal

SHOW ADVANCE

Security Mode *
WPA/WPA2 Personal

Band *
2.4GHz

802.11 Mode *
802.11 b/g/n

Channel
Auto

Bandwidth
20/40 MHz

Broadcast SSID

SAVE

3. Click **SAVE**.

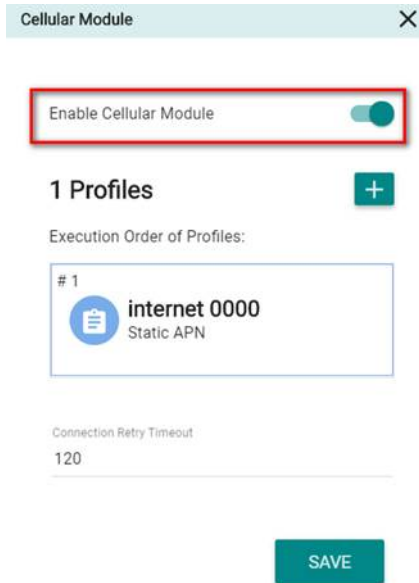
Configuring Cellular Settings

Click **Cellular Status** to view the current cellular settings, including basic information, IP information and data usage.

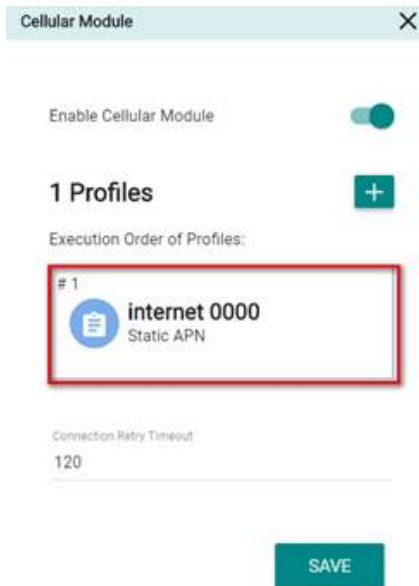
To configure the cellular settings, do the following:

1. Click on the **Cellular Settings** link and click on the edit icon.

- a. Turn on **Enable Cellular Module** to enable the WWAN0 interface.



- b. Click on the default cellular profile and configure cellular settings



NOTE UC-8540 supports dual SIM slots for one cellular module allows you to use the same or different cellular providers for redundancy. To use dual SIM for redundancy, you need to create second Cellular profile.

- c. Select the **Static APN** option (default), Configure APN settings, select the **SIM** slot, and configure **Pin Code**.
- d. Click **SAVE**.

Profile Settings

Profile Name *
internet 0000

Static APN
 Dynamic APN

Authentication Type
none

APN
internet

PDP CID
1

SIM
1

Pin Code
0000

Carrier

SAVE

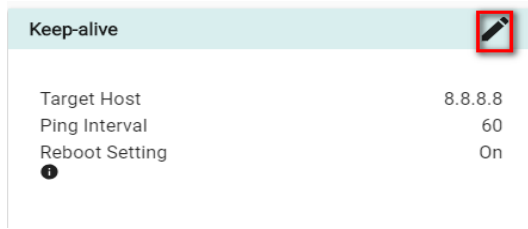
e. Click on **Cellular Status** to check the connection status.

The screenshot shows the 'Network Overview' page with a sidebar menu. The 'Cellular Status' option is highlighted with a red box. The main content area displays 'WWAN0' and 'Basic Information' including a 'SIGNAL STRENGTH' bar chart showing -83 dBm. Below this, 'Connection Information' shows the status as 'connected' (highlighted with a red box), along with RSSI (-83), ECIO (-6), Operating Mode (umts), and Operator Name (Chunghwa). At the bottom, 'Network Information' is also highlighted with a red box, listing IP (10.39.166.197), Netmask (255.255.255.252), Gateway (10.39.166.198), DNS 1 (168.95.1.1), and DNS 2 (168.95.192.1).

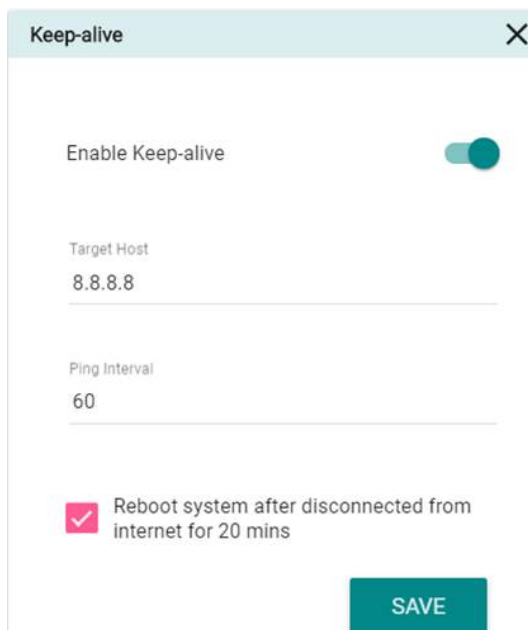
2. Configure the **Keep-Alive** function.

Sometimes cellular connection may be terminated abnormally. Enable Keep-Alive function to set the UC-8540 to check the cellular the connection by performing remote host Ping. If the connection check fails after 3 retries, the UC-8540 starts the connection recovery process.

a. To enable the keep-alive function, click on the edit icon.

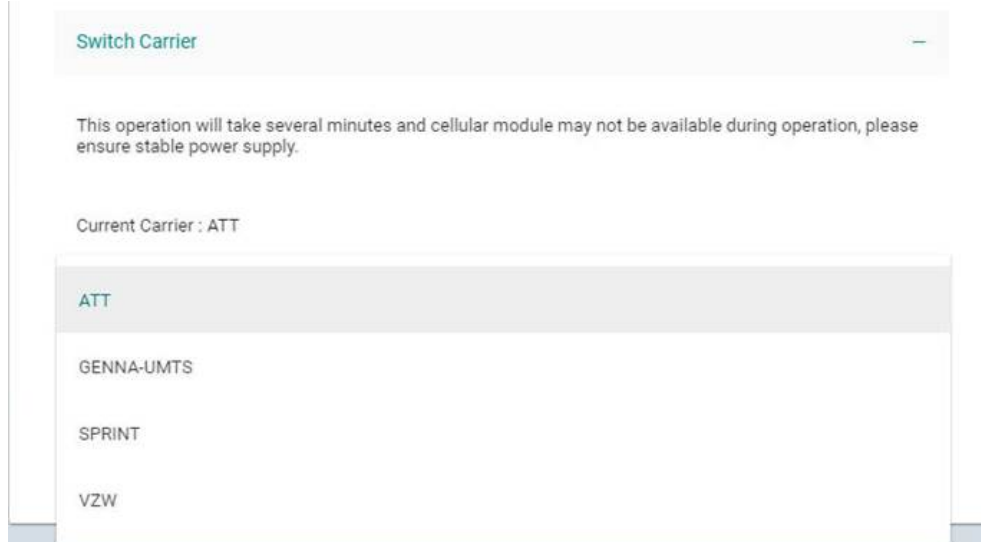


b. Slide the **Enable Keep-alive** scroll bar and specify the Target Host and Ping Interval. You can also choose to **Reboot system after disconnected from Internet for 20 min**. When finished, click **SAVE**.



3. Configure **Switch Carrier**

If you use a North American telecommunication provider, you can select a provider from the drop-down list.



When finished, click **Save**.

Switch Carrier ✕

Enable Switch Carrier

This operation will take several minutes. Ensure that the power supply to the device is stable. The cellular module may not be available during the operation.

Carrier
ATT

SAVE

Configuring Routing Client Settings

Click on the **Routing** link to view the current routing settings.

The screenshot shows the 'Routing' configuration page. On the left is a sidebar with 'Network Settings' and various options: Network Overview, WAN, LAN, WIFI, Cellular, Routing (highlighted with a red box), OpenVPN Client, SSH, and QoS. The main area is titled 'Routing' and contains a 'Default Route' table. The table has columns for 'Priority', 'Default gateway', and 'Interface'. The 'eth0' interface is selected with a green checkmark. A 'SAVE' button is at the bottom right.

Priority	Default gateway	Interface
<input type="checkbox"/> 0		tun0
<input type="checkbox"/> 1		wlan0
<input type="checkbox"/> 2		wwan0
<input type="checkbox"/> 3	<input checked="" type="checkbox"/>	eth0

Select an interface and click the up or down arrows to change the routing priority. Click **SAVE**.

Set routing priority

Priority	Default gateway	Interface
<input type="checkbox"/> 0		tun0
<input type="checkbox"/> 1		wlan0
<input checked="" type="checkbox"/> 2		eth0
<input type="checkbox"/> 3		wwan0

SAVE

Configuring OpenVPN Client Settings

Click **OpenVPN Client** to view the current OpenVPN settings.

Network Settings

- Network Overview
- WAN
- LAN
- WIFI
- Cellular
- Routing
- OpenVPN Client**
- SSH

OpenVPN

Connection status

Local IP n/a

Remote IP n/a

To configure the settings, click the edit icon.

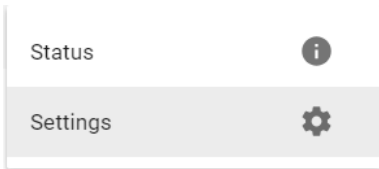
OpenVPN

Connection Status

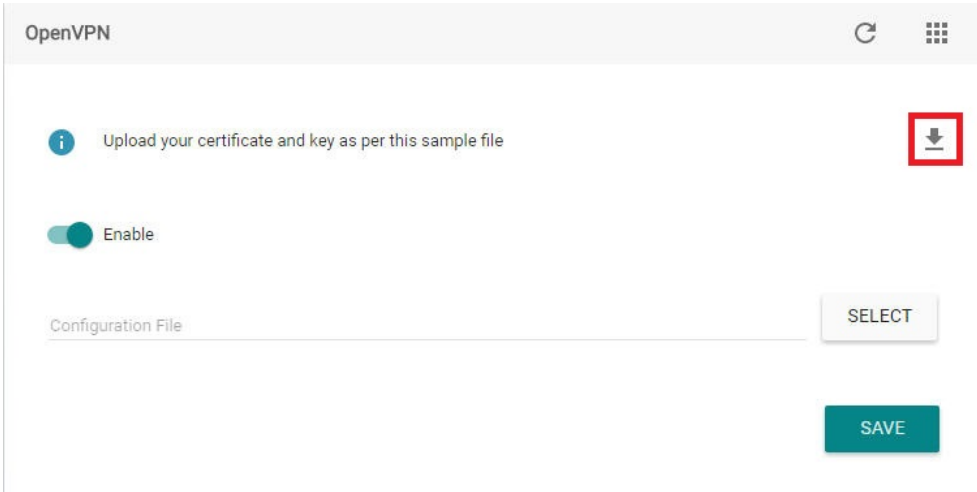
Local IP n/a

Remote IP n/a

Select **Settings**.

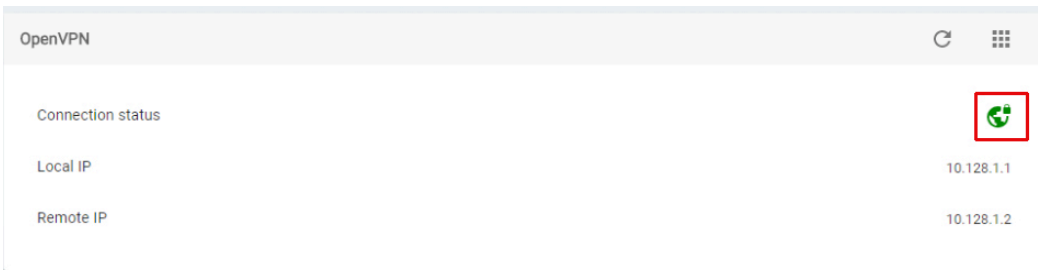


You can download an OpenVPN setting sample file by clicking on the download icon.



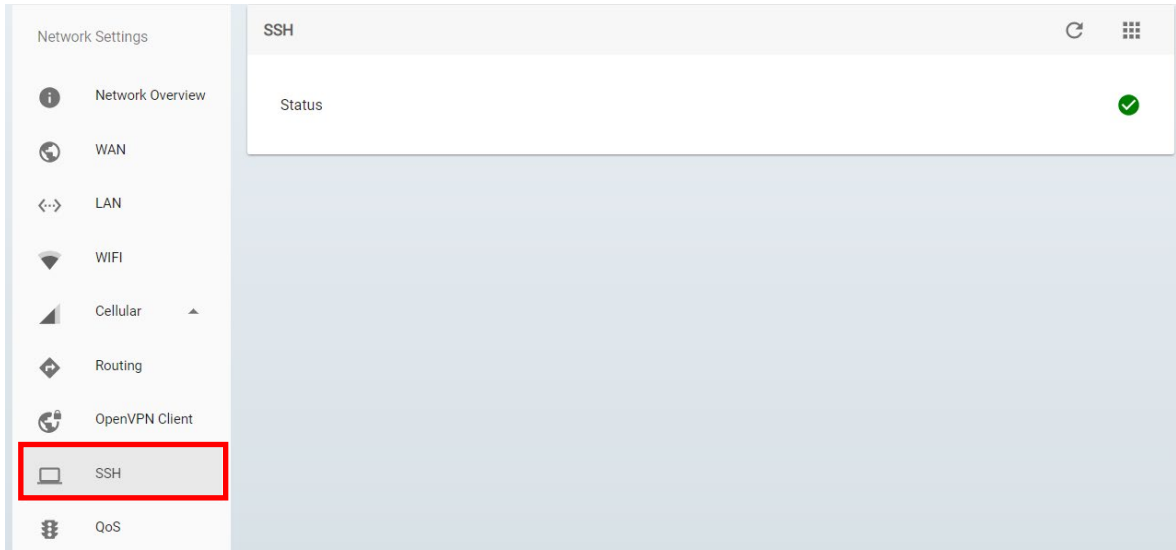
Select **Enable**, and then select the file from your computer, and then upload to the MIRF 2.0. When the file upload is complete (as indicated by the status bar), click **SAVE**.

Check the **Connection status** icon. If the icon is green, the OpenVPN client is connected. If the icon remains gray, the client is not connected.

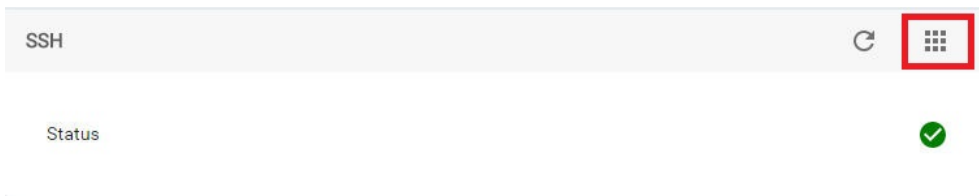


Configuring SSH Settings

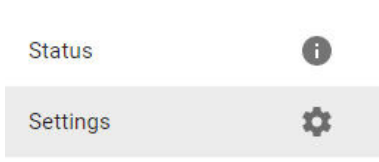
Click **SSH** to view the current SSH settings.



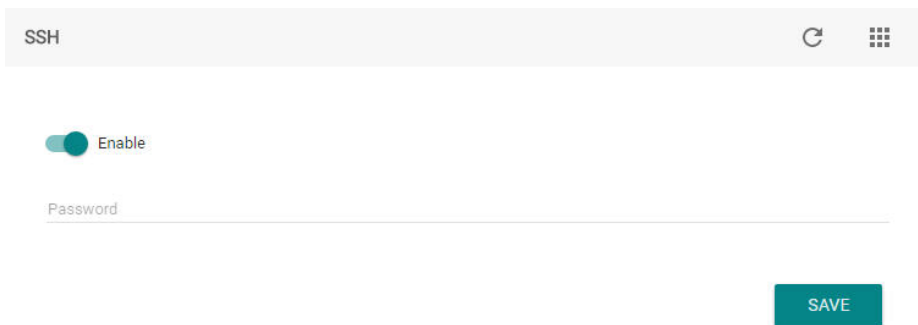
To configure the settings, click the edit icon.



Select **Settings** to continue.

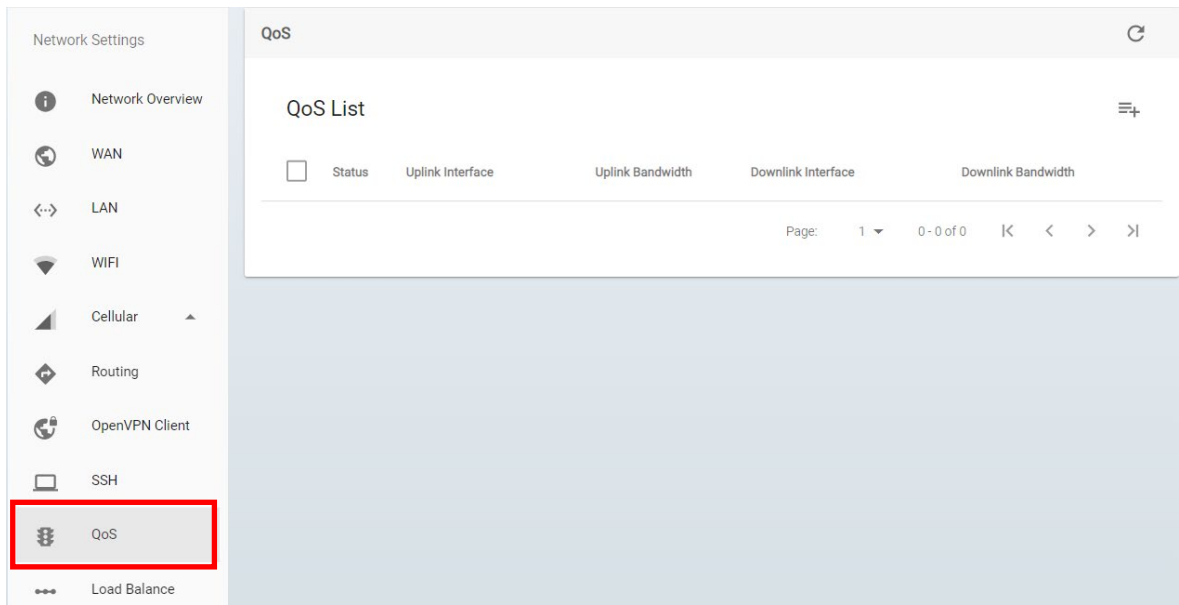


Select **Enable** and provide password. When finished, click **SAVE**.

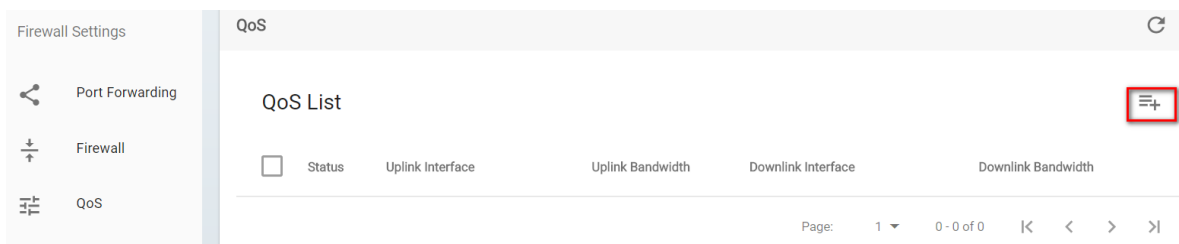


Configuring QoS Settings

Click **QoS** to view the current QoS settings.



To add a new rule for QoS List, click the icon.



Select **Enable**, and then provide the necessary information. When finished, click **SAVE**.

Create New Rule
✕

Enable

Enable Default Rule

Uplink

Interface * ▼

Bandwidth (kbps) *

Downlink

Interface * ▼

Bandwidth (kbps) *

SAVE

Configuring Load Balance Settings

Click **Load Balance** to view the current Load Balance settings.

Network Settings

- ⓘ Network Overview
- 🌐 WAN
- ↔ LAN
- 📶 WIFI
- 📶 Cellular
- ⬇ Routing
- 🌐 OpenVPN Client
- 💻 SSH
- 📶 QoS
- ⚙ Load Balance
- 📶 SNMP

Load Balance ↻

Load Balance

	Priority	Active	Interface	Weight
<input type="checkbox"/>	0		tun0	0 ○ —————
<input type="checkbox"/>	1		wlan0	0 ○ —————
<input type="checkbox"/>	2		wwan0	0 ○ —————
<input type="checkbox"/>	3	<input checked="" type="checkbox"/>	eth0	0 ○ —————

↑ ↓

SAVE

6-21

Select specific interface and click arrow to set load balance priority. Scroll the Toggle bar to set the weight of specific interface, click **SAVE**

The screenshot shows the 'Load Balance' configuration interface. At the top, there is a 'Set priority' button. Below it is a table with the following columns: Priority, Active, Interface, and Weight. The table contains four rows:

Priority	Active	Interface	Weight
<input type="checkbox"/> 0		tun0	0
<input type="checkbox"/> 1		wlan0	0
<input checked="" type="checkbox"/> 2	<input checked="" type="checkbox"/>	eth0	3
<input type="checkbox"/> 3		wwan0	0

Below the table are up and down arrow buttons. A 'SAVE' button is located at the bottom right of the interface.

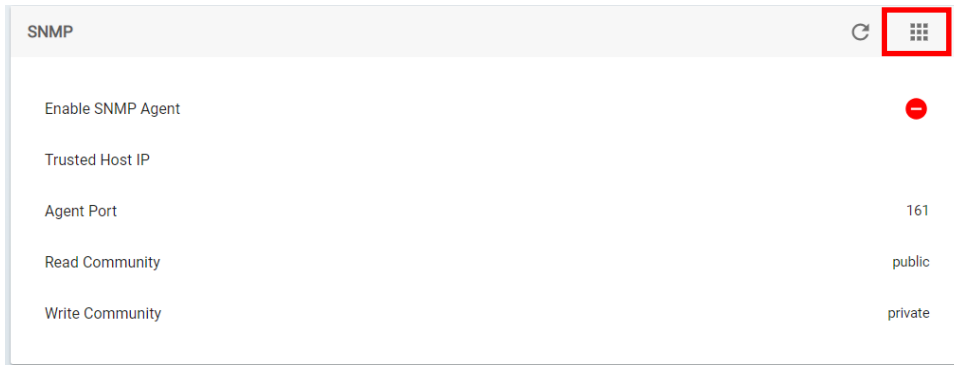
Configuring SNMP Settings

Click **SNMP** to view the current SNMP settings.

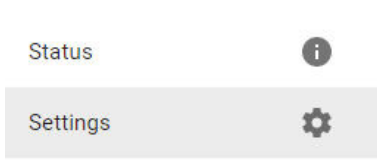
The screenshot shows the 'Network Settings' menu on the left, with 'SNMP' selected and highlighted with a red box. The main panel displays the 'SNMP' configuration page. The settings are as follows:

Setting	Value
Enable SNMP Agent	<input type="checkbox"/>
Trusted Host IP	
Agent Port	161
Read Community	public
Write Community	private

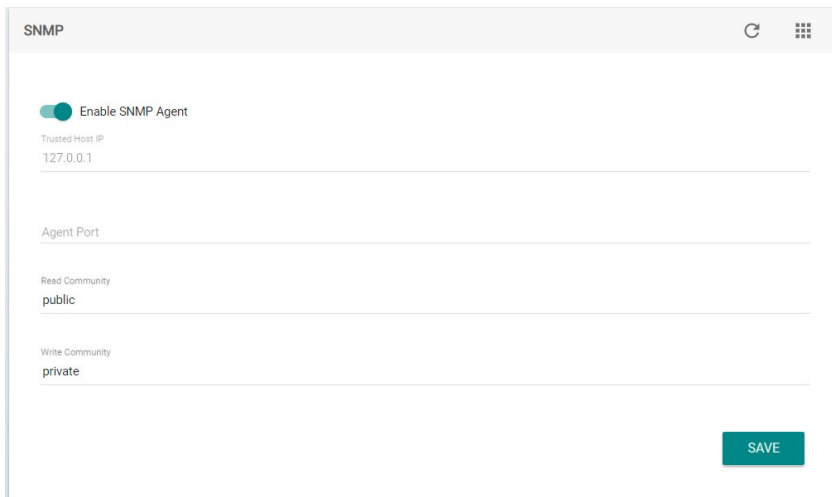
To configure the settings, click the edit icon.



Select **Settings** to continue.



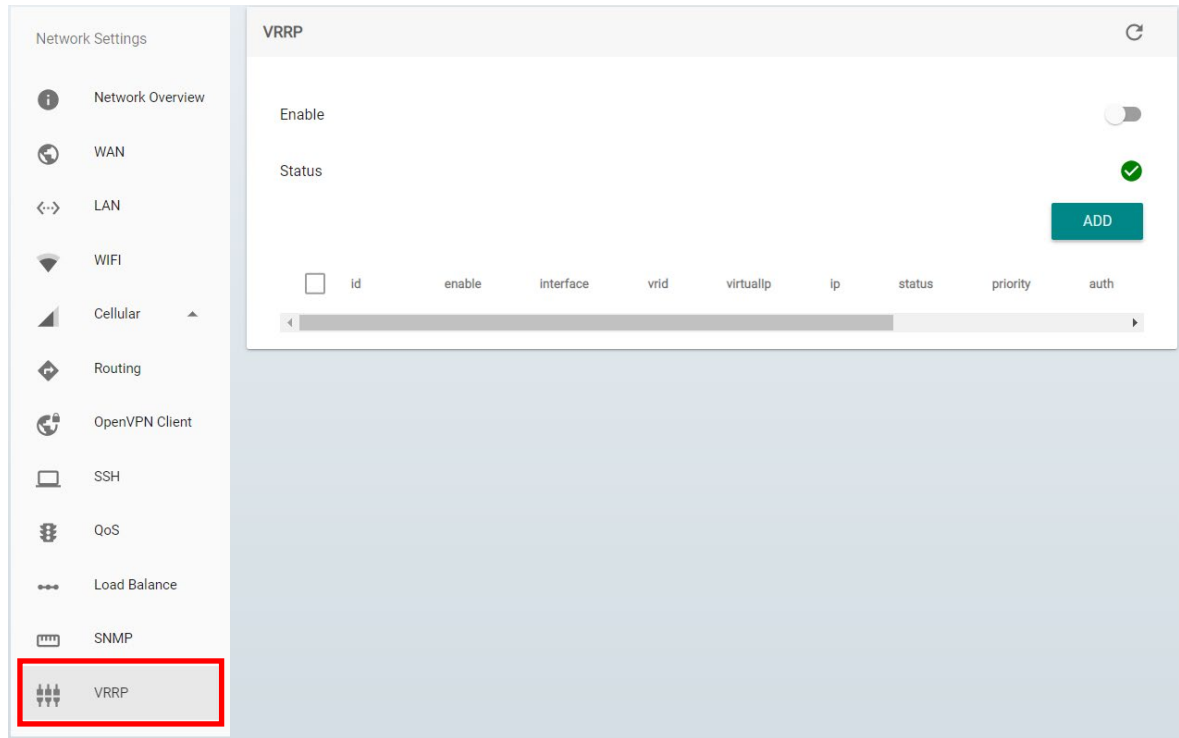
Select **Enable SNMP Agent**. Edit **Trusted Host IP** and **Agent Port**, click **SAVE**.



Configuring VRRP Settings

The Virtual Router Redundancy Protocol (VRRP) enables a group of routers to form a single virtual router with a virtual IP address. The LAN clients can then be configured with the virtual router’s virtual IP address as their default gateway. The virtual router is the combination of a group of routers, also known as a VRRP group

Click **VRRP** to view the current VRRP settings.



To configure the settings, click the **ADD** icon.



Check **Enable Entry** to create VRRP entry and configure **Virtual IP & Priority**.

Determines priority in a VRRP group. The priority value range is 1 to 245, with 245 the highest priority and default priority is 100. If several settings have the same priority, the router with higher IP address will have the higher priority. The usable range is "1 to 254".

Set authority for current entry and input password if necessary

Set Advertisement Interval for from 1 to 255 seconds, with default 1 second.

Check to enable Preemption Mode

NOTE Enabling **Preemption Mode** allows the primary router to be preempted by a backup router with a higher priority.

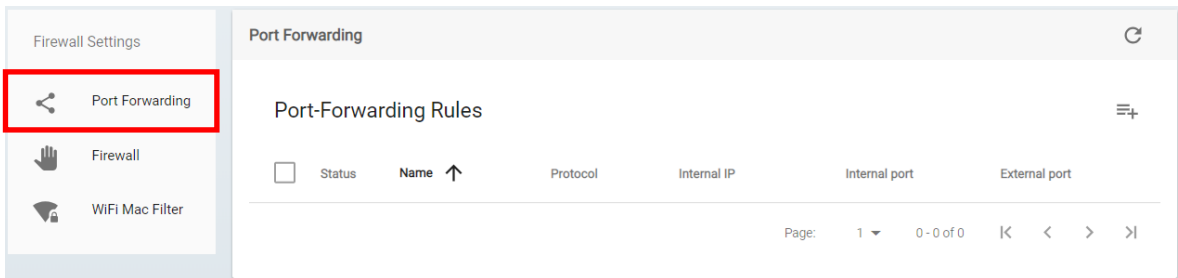
Select **Enable** after adding all VRRP entries.

Configuring Firewall Settings

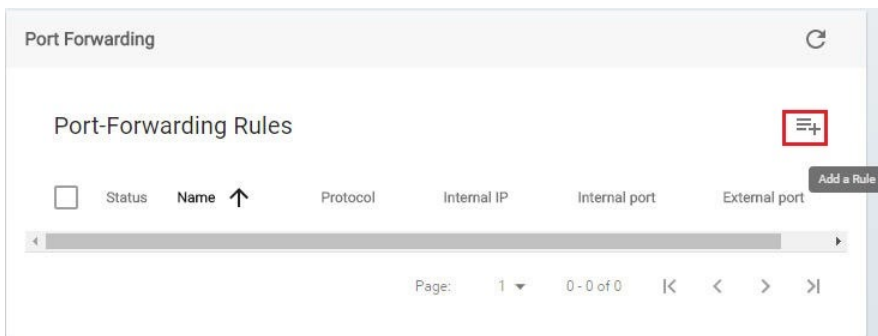
To configure firewall settings, select **Firewall** from the main menu.



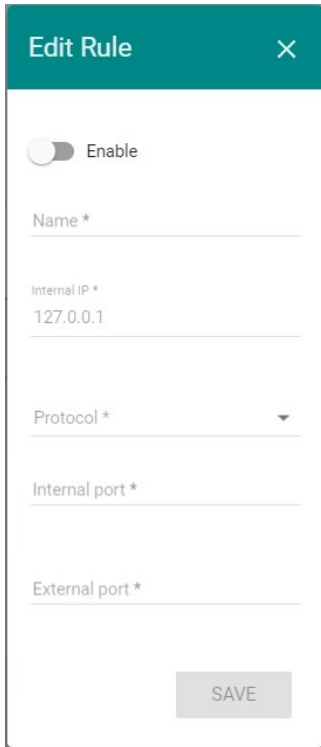
Select **Port Forward** to view the current firewall settings.



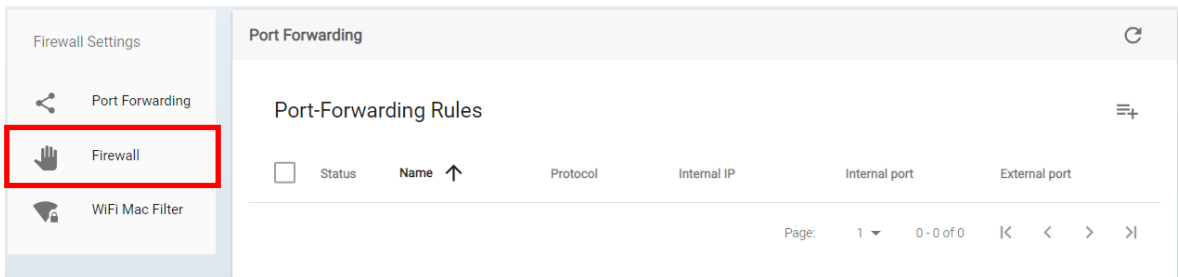
To add a new rule for port forward, click the icon.



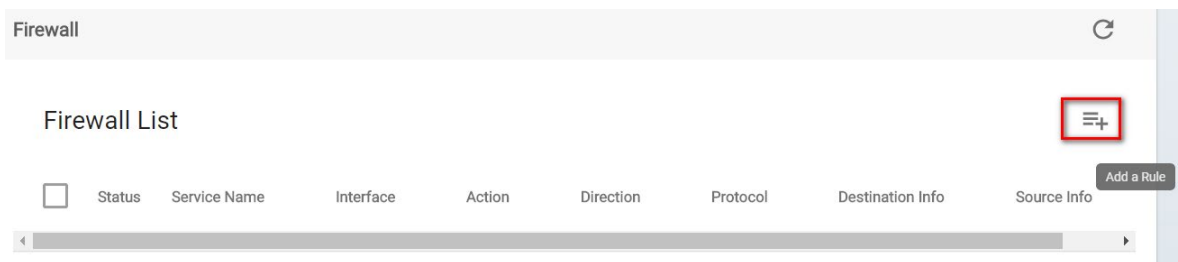
Select **Enable**, and then provide the necessary information. When finished, click **SAVE**.



Select Firewall to view the current firewall settings.



To add a new rule for Firewall, click the icon.



Select **Enable**, and then provide the necessary information. When finished, click **SAVE**.

Create Firewall Rule ✕

Enable

Service Name *

Interface * ▼

Protocol * ▼

Action * ▼

Direction * ▼

Destination

Destination IP/Mask

Select **WiFi Mac Filter** to view the current MAC Filter settings.

Firewall Settings

- Port Forwarding
- Firewall
- WiFi Mac Filter**

Port Forwarding

Port-Forwarding Rules

<input type="checkbox"/>	Status	Name ↑	Protocol	Internal IP	Internal port	External port
--------------------------	--------	--------	----------	-------------	---------------	---------------

Page: 1 0 - 0 of 0

To add a new rule for MAC Filter, click the edit icon.

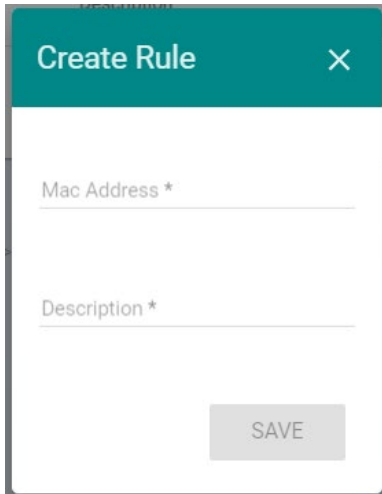
WiFi Mac Filter

WiFi Mac Filter Rules

<input type="checkbox"/>	Mac Address	Description	Action
--------------------------	-------------	-------------	--------

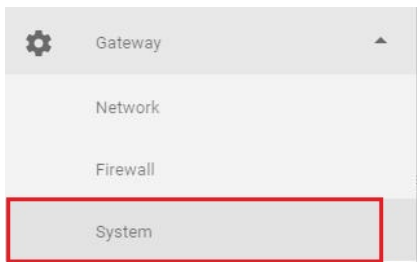
Page: 1 0 - of

Edit MAC Address and related description, click **SAVE**.

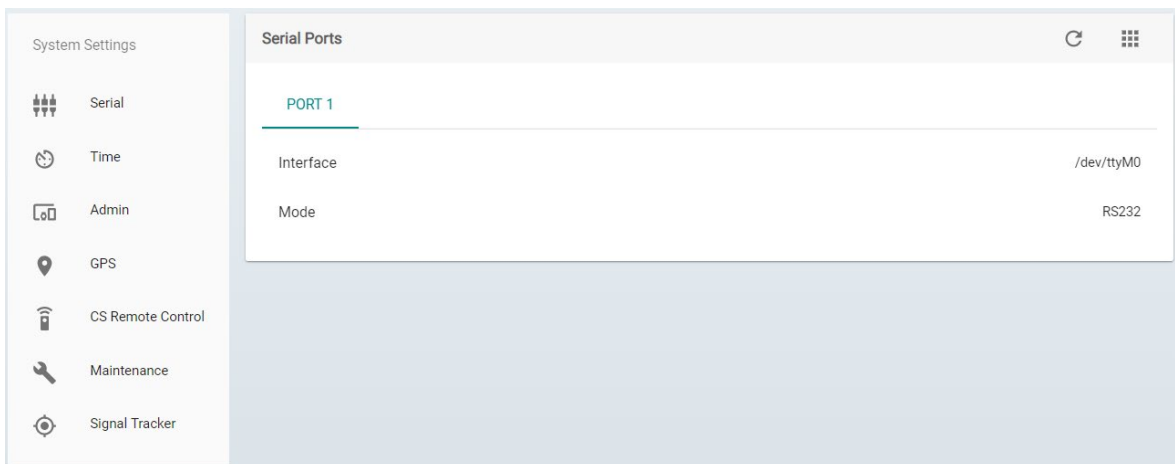


Configuring System Settings

Select **System** from the menu.

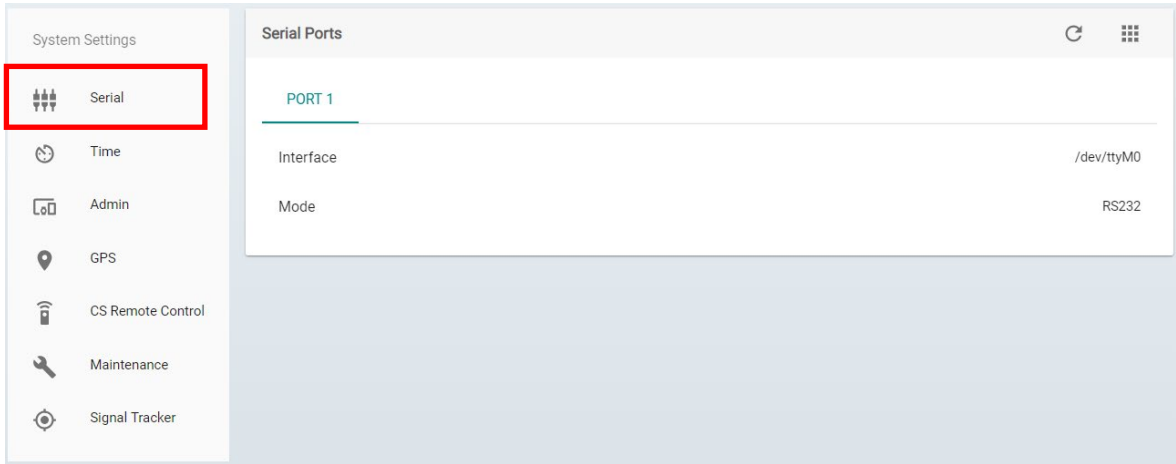


System settings include various options, such as **Serial, Time, Admin, GPS, CS Remote Control, Maintenance** and **Signal Tracker**.

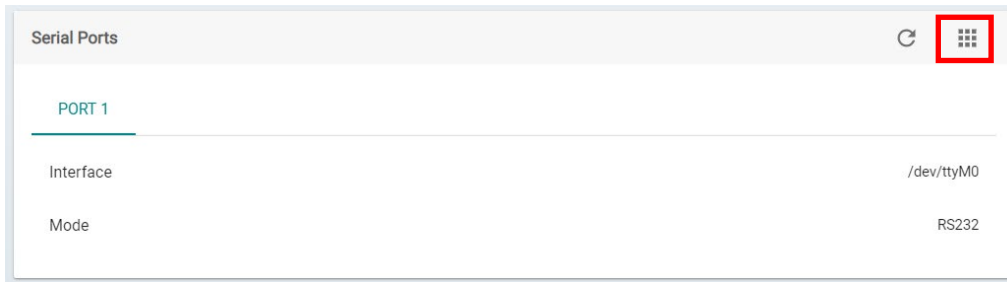


Configuring Serial Settings

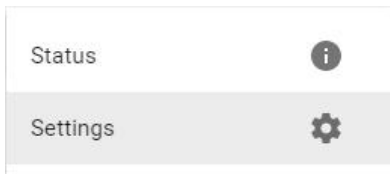
Select **Serial** to view the current serial settings.



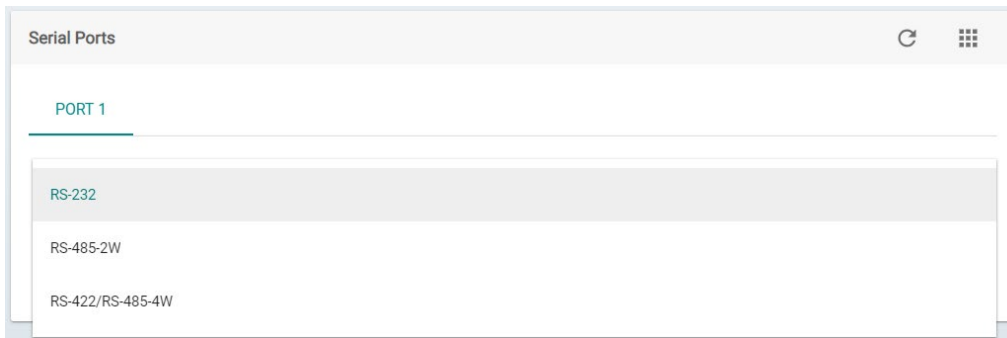
To configure the serial settings, click the edit icon.



Select **Settings**.

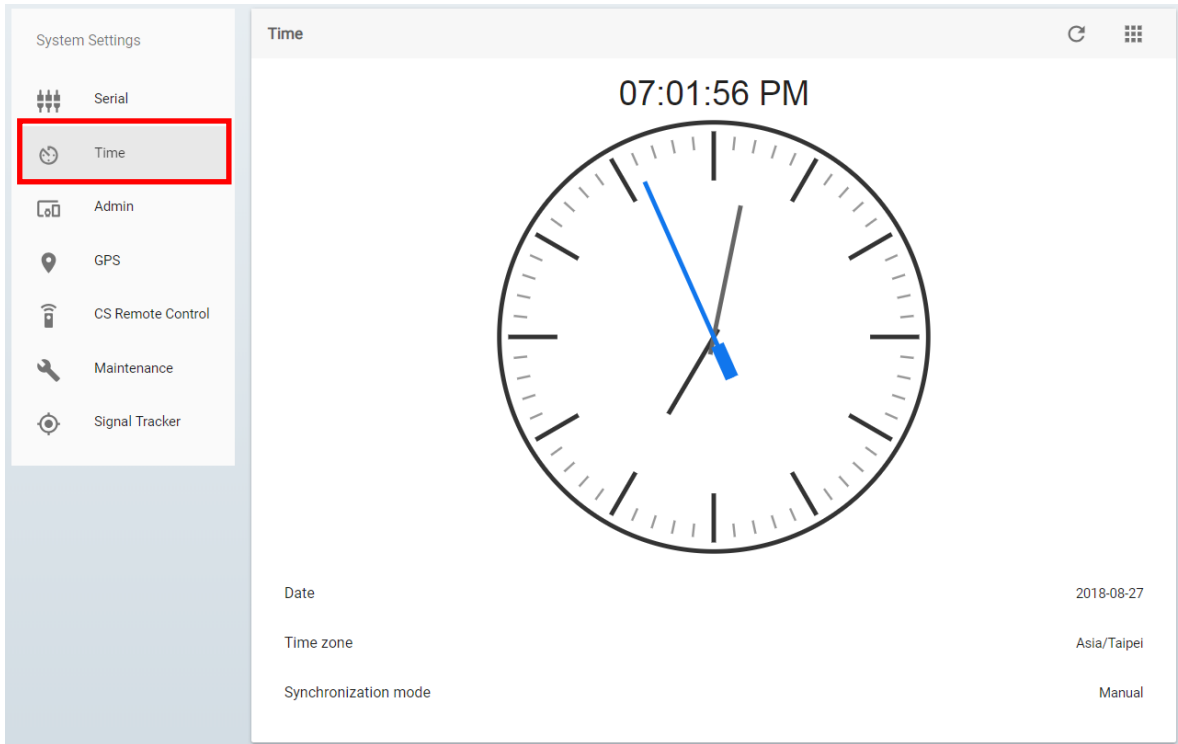


Configure the serial port interface by selecting from the drop-down list. When finished, click **SAVE**.

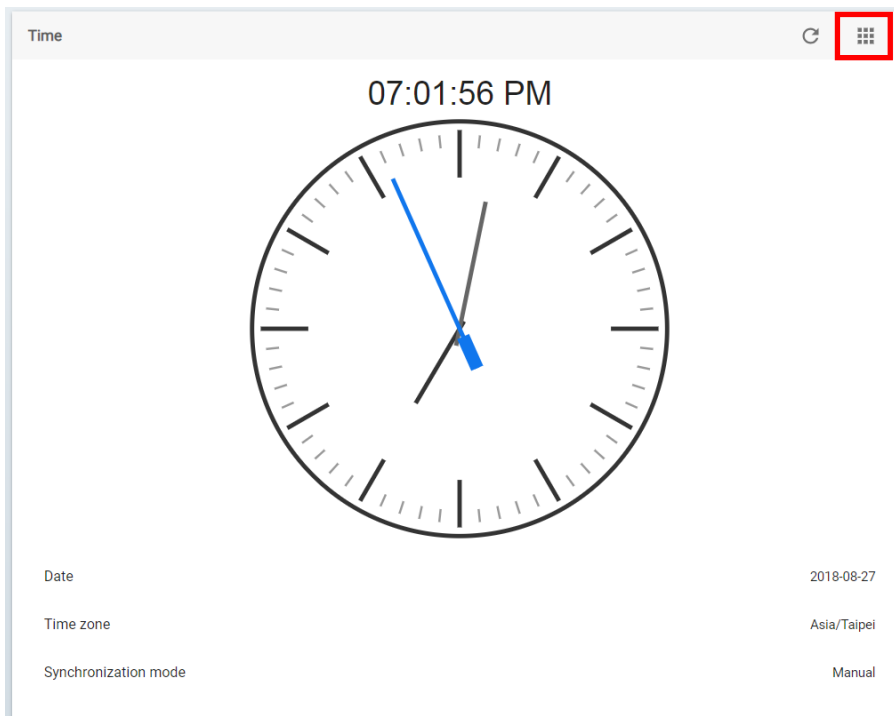


Configuring the System Time

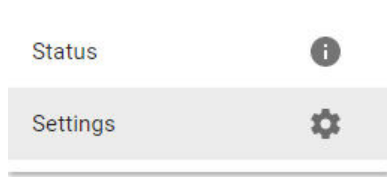
Select **Time** to view the current system time.



To configure the system time, click the edit icon.



Select **Settings**.



Select **Synchronization Mode** if you want to specify the **Time Server** name and **Time Interval** values. When finished, click **SAVE**.

Time
↻
☰

Time Zone *
Asia/Taipei

Synchronization Mode

Time Server *
pool.ntp.org

Time Interval *
3600

SAVE

Configuring Admin Settings

Select **Admin** to view the current HTTP/HTTPS services settings and corresponding port number.

System Settings

- ⌵ Serial
- 🕒 Time
- 🔑 Admin
- 📍 GPS
- 📶 CS Remote Control
- 🔧 Maintenance
- 👁️ Signal Tracker

Admin
↻
☰

HTTP Server

Enabled ⊘

Port 80

HTTPS Server

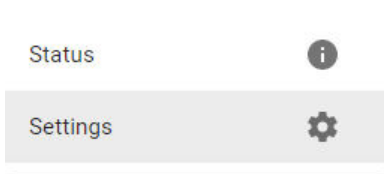
Enabled ✔

Port 443

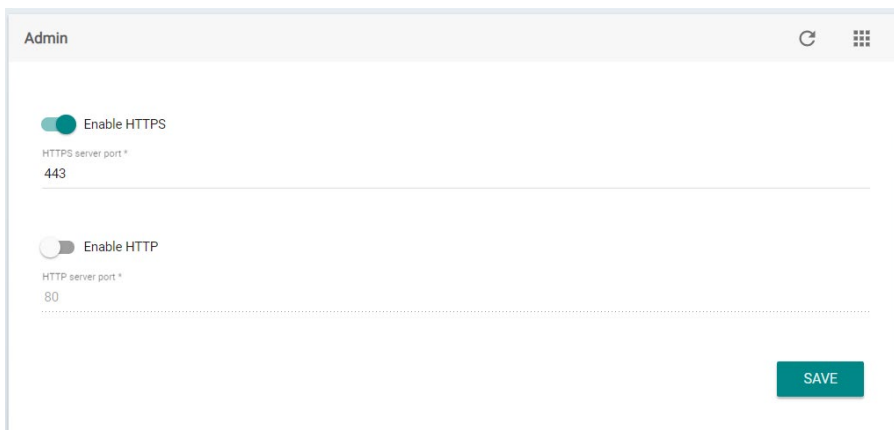
To configure the settings, click the edit icon.



Select **Settings**.



Use the Toggle bars to enable/disable HTTPS and HTTP services for the current ThingsPro Gateway. You can assign a port to each of these two services. When finished, click **SAVE**.



Configuring GPS Settings

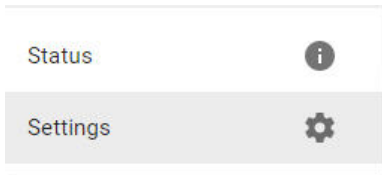
Select GPS to view the current GPS settings.



To configure the GPS settings, click the edit icon.

GPS	
Latitude	11
Longitude	22

Select **Settings**.



Select **Enable** to automatically receive GPS data. Specify the allocated interface for the major GPS module and set the data refresh interval. Click **SAVE**.

GPS ↻ ⋮

i Find out your location : <http://www.latlong.net/>

Enable

Interface *
/dev/ttyS1

Interval (sec.)
60

SAVE

If you don't enable the GPS function, you can manually enter the Latitude and Longitude values in the fields. When finished, click **SAVE**.

GPS ↻ ⋮

i Find out your location : <http://www.latlong.net/>

Enable

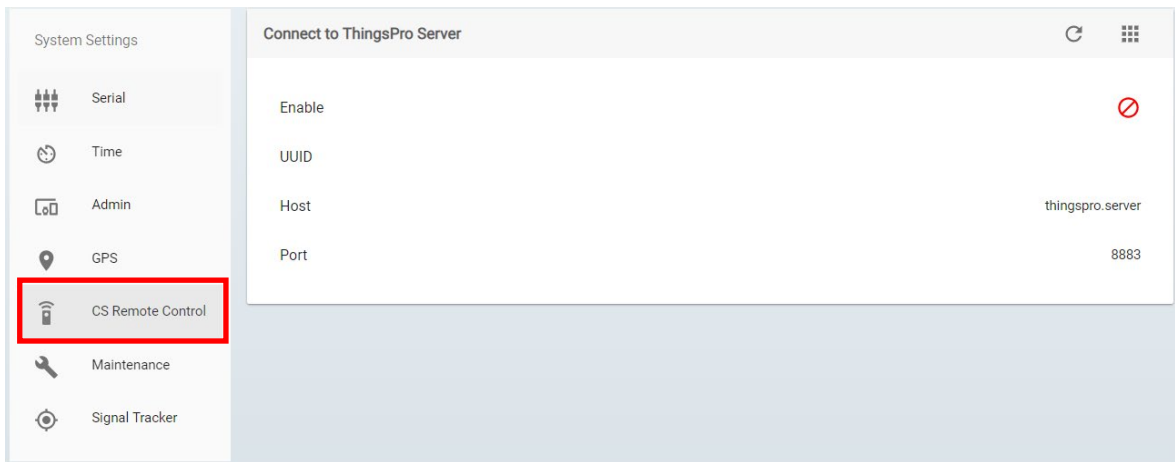
Latitude *
0

Longitude *
0

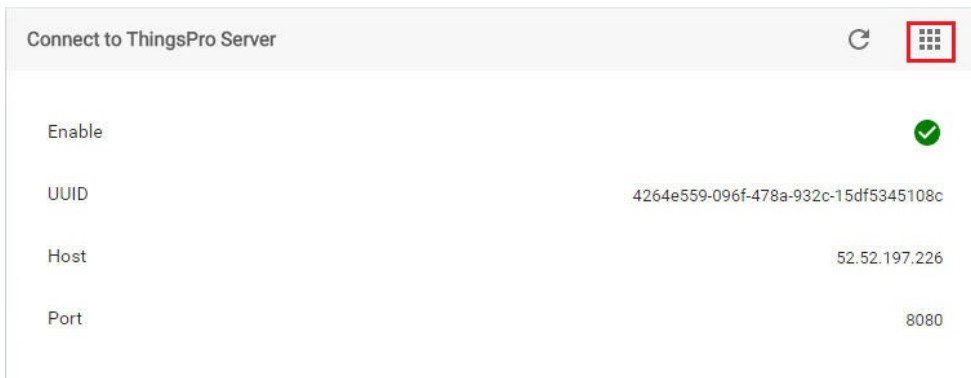
SAVE

Configuring Remote Control Settings

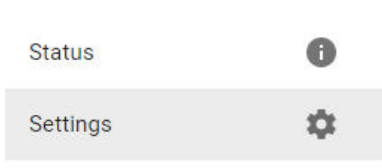
Select **CS Remote Control** to view the current settings. This allows you to remotely connect to ThingsPro Server. You can get this information during the Enablement Utility registration process.



To configure, click the edit icon.



Select **Settings**.



Select **Enable**, and provide the values for **Host**, **Port**, and **PSK**.

Connect to ThingsPro Server

Enable

UUID
4264e559-096f-478a-932c-15df5345108c

Host *
52.52.197.226

Port *
8080

PSK
11676888a2a67545e9b50f1191b9c063b15ea2a8b88e289196a6e83cd252e29d

TEST CONNECTION SAVE

You can click **TEST CONNECTION** or **SAVE** to finish.

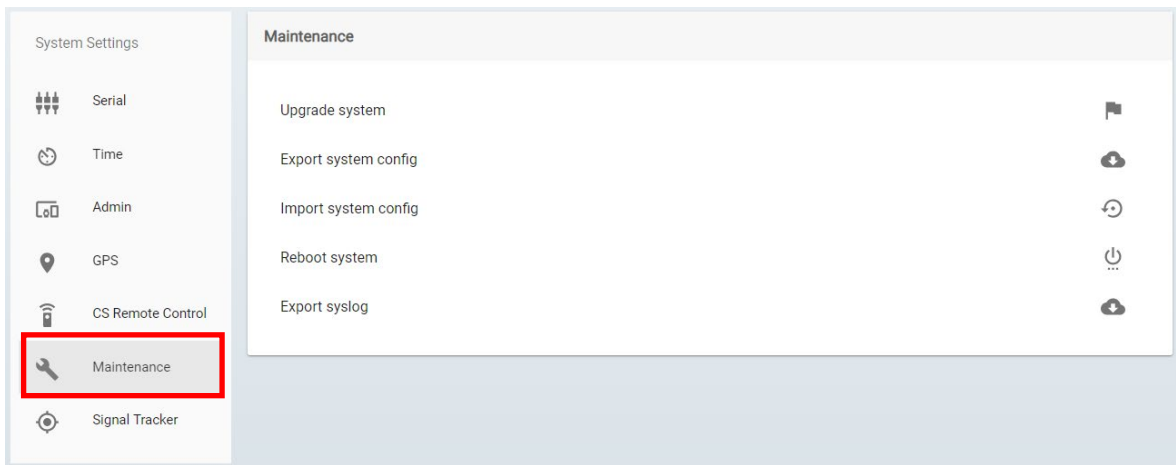
System Maintenance

The following topics are covered in this chapter:

- ❑ **System Maintenance**
- ❑ **Configuring Signal Tracker Settings**
- ❑ **Managing User Accounts**
- ❑ **Creating a New Account**
- ❑ **Editing the Administrator Information**
- ❑ **Updating User Account Information**
- ❑ **Deleting a User Account**
- ❑ **Managing User Programs**

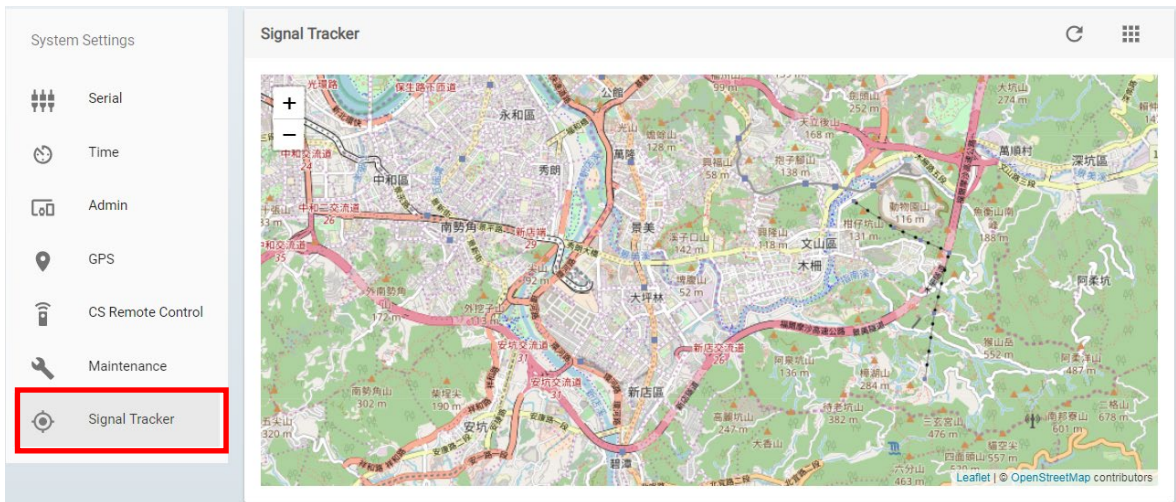
System Maintenance

This section is the same as the procedure in Maintenance in the main menu section. Refer to **Maintenance** section.

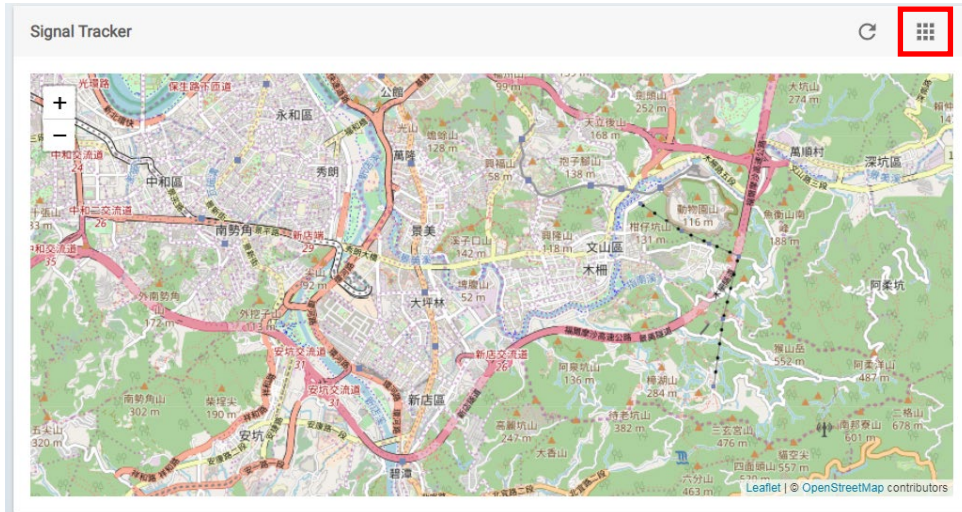


Configuring Signal Tracker Settings

Select Signal Tracker to view the current GPS location from map.



To configure, click the edit icon.



Check **Enable** to active Signal Tracker function.

Set **Interval in minutes** from 1 to 60 minutes, with default 1 minute.

Set **Max records** from 100 to 10000, with default 100.

Signal Tracker

Enable

Interval in minutes *
1

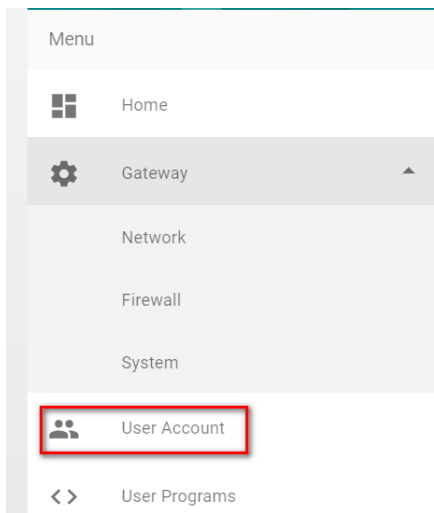
Max records *
100

SUBMIT

Click **SUBMIT** while you complete the configuration.

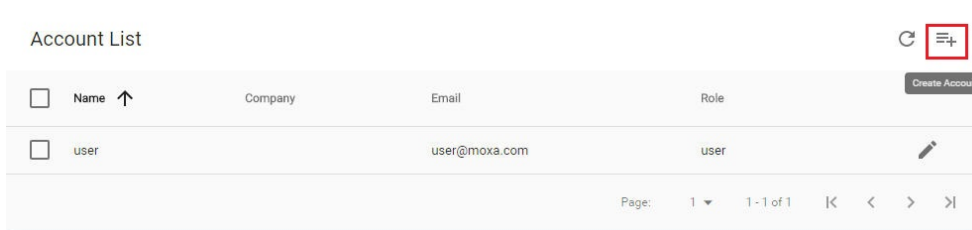
Managing User Accounts

This section describes how to add a new account and manage an existing account. Select **User Account** from the menu.

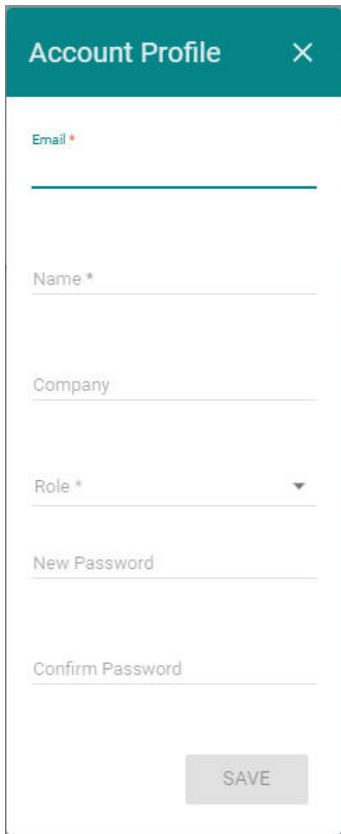


Creating a New Account

To create a new account, select the icon.



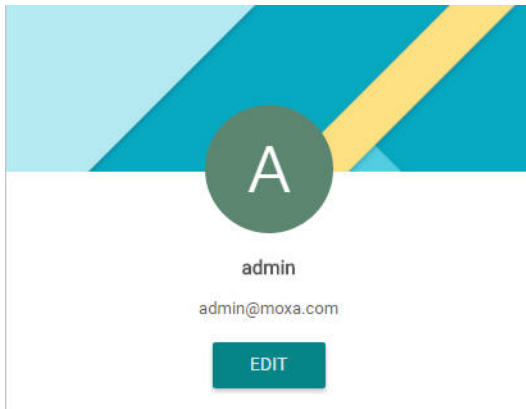
Provide the necessary information for the new account. When finished, click **SAVE**.



The image shows a mobile application form titled "Account Profile" with a close button (X) in the top right corner. The form contains several input fields: "Email *" (with a red asterisk), "Name *" (with a red asterisk), "Company", "Role *" (with a red asterisk and a dropdown arrow), "New Password", and "Confirm Password". A "SAVE" button is located at the bottom center of the form.

Editing the Administrator Information

To edit the administrator information, click **Edit**.



Edit the information in the specific fields. When finished, click **SAVE**.

Updating User Account Information

To update an existing user, check the user, and then select the edit icon.

For access rights of the root, admin, and user, refer to the following table.

	Configuration	API Token
root	read/write	write
admin	read/write	N/A
user	read	N/A

Edit the information in the specific fields. When finished, click **SAVE**.

Account Profile
✕

Name*
user

Company

Role*
User

New Password

Confirm Password

SAVE

Deleting a User Account

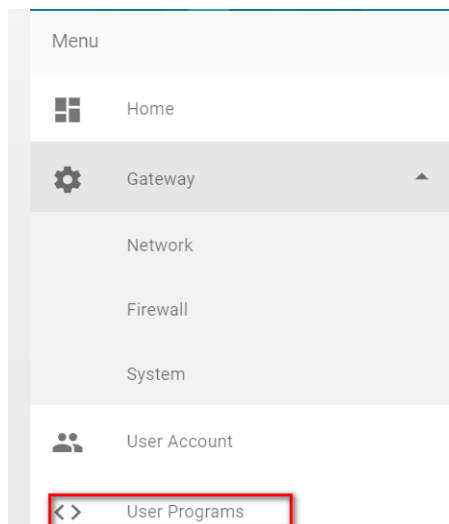
To delete an account, select the account, and then click the delete icon.

1 is selected					
<input checked="" type="checkbox"/>	Name ↑	Company	Email	Role	Remove Account
<input checked="" type="checkbox"/>	user		user@moxa.com	user	

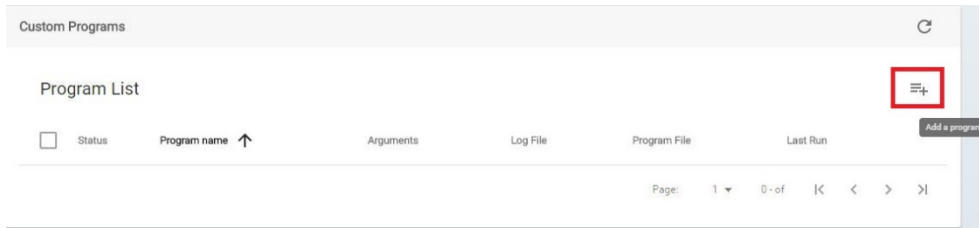
Page: 1 ▾ 1 - 1 of 1 ⏪ ⏩

Managing User Programs

MIRF 2.0 allows developers to develop their own programs or applications and upload them to MIRF 2.0 . Select the **User Programs** tab from the main menu.



To add a program, click the add icon.



Select **Enable**, provide the name of the program, and select the file from a specific location (refer to the following example to create the file you want to upload). You can also specify when the program should run. For example, whenever the system starts up or at a periodic interval. When finished, click **SAVE**.

Example

Scenario: Synchronize system time with network time server every minute.

Follow the steps below to create the script file and upload it to MIRF 2.0:

1. Connect to the UC-8540 computer through the console port or via an Ethernet cable. Log in to the computer.
2. Create a working directory on the MIRF 2.0.

```
moxa@Moxa:~$ mkdir myproject
```

3. Enter this working directory and create a shell script file in this folder. The name of this file must be "exec".

The content of this example shell script is:

```
#!/bin/sh
ntpdate $1
```

NOTE The UC-8540 computer generally supports C, C++, Python, shell script, and JavaScript. You may use these programming languages to develop your program.

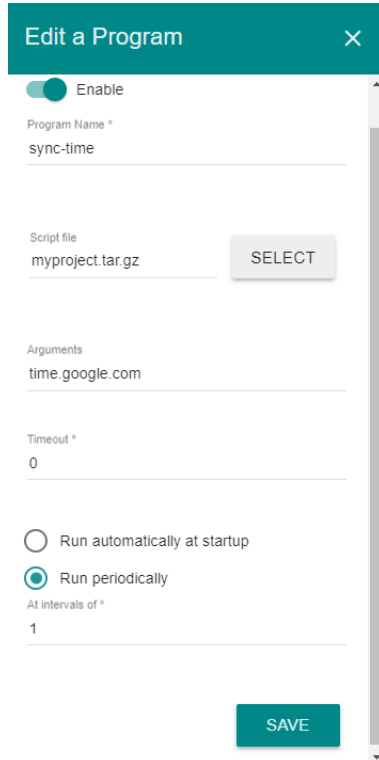
4. When you finish developing the program, set the "exec" file to have execution permissions.

```
moxa@Moxa:~/myproject$ chmod +x exec
```

5. Use the tar command to compress all files created in this folder.

```
moxa@moxa:~/myproject$ tar cvzf myproject.tar.gz .
```

Enter a name for the program, then click **Select** to upload the compressed file. The shell script needs an argument to specify the network time server. MIRF 2.0 will terminate the user program after the "timeout" value expires. If the timeout value is set to 0, then MIRF 2.0 will leave the user program running permanently.



The screenshot shows a dialog box titled "Edit a Program" with a close button (X) in the top right corner. The dialog contains the following fields and options:

- Enable:** A toggle switch that is currently turned on.
- Program Name *:** A text input field containing "sync-time".
- Script file:** A text input field containing "myproject.tar.gz" and a "SELECT" button to the right.
- Arguments:** A text input field containing "time.google.com".
- Timeout *:** A text input field containing "0".
- Run automatically at startup:** A radio button that is unselected.
- Run periodically:** A radio button that is selected.
- At intervals of *:** A text input field containing "1".
- SAVE:** A teal button at the bottom right of the dialog.

6. After clicking the **SAVE** button, the program will be available under the **User Programs** section of the main menu.