

Gateway Quick Start Guide



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1 Overview

In this guide you will learn about the first steps on how to use IQ Home gateways.

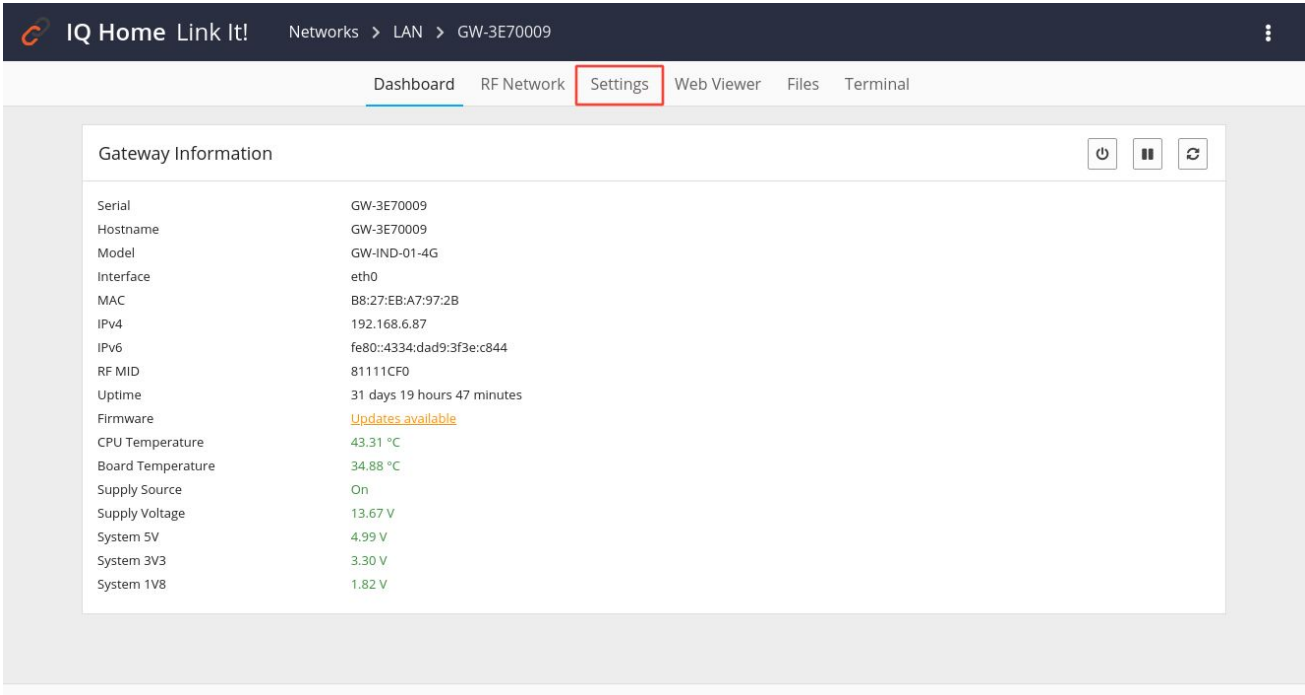
2 Basic setup

You can find video tutorials for at the following link:

<https://www.youtube.com/playlist?list=PLN9Mt98EPzN30TyGCDs-M0s0zSJRZdNpY>

3 Configure MQTT settings

1. At first connect to the gateway as describe in section [2.2](#)
2. Click on the *Settings* menu.



The screenshot shows the IQ Home Link It! web interface. The top navigation bar includes "Networks > LAN > GW-3E70009". Below the navigation bar, there are tabs for "Dashboard", "RF Network", "Settings" (highlighted with a red box), "Web Viewer", "Files", and "Terminal". The main content area displays "Gateway Information" with a table of system details and three control icons (power, stop, refresh) in the top right corner.

Gateway Information	
Serial	GW-3E70009
Hostname	GW-3E70009
Model	GW-IND-01-4G
Interface	eth0
MAC	B8:27:EB:A7:97:2B
IPv4	192.168.6.87
IPv6	fe80::4334:dad9:3f3e:c844
RF MID	81111CF0
Uptime	31 days 19 hours 47 minutes
Firmware	Updates available
CPU Temperature	43.31 °C
Board Temperature	34.88 °C
Supply Source	On
Supply Voltage	13.67 V
System 5V	4.99 V
System 3V3	3.30 V
System 1V8	1.82 V

3. Modify MQTT Settings.

The screenshot shows the 'Gateway Settings' page for a device labeled 'GW-3E70009'. The 'MQTT Settings' section is active, showing the following configuration:

- Enable MQTT:
- Hostname: mqtt.iqhome.org
- Port: 8883
- Username: cbee754a11a792cb9eaa0fa8a66a68d3
- Password: (empty)
- Client ID source select: Auto
- Client ID: Serial number

The 'MQTT TLS Settings' section is also visible, with the following configuration:

- Enable MQTT TLS:
- TLS type: CA signed server certificates
- CA path: /etc/ssl/certs
- Verify hostname:

The left sidebar shows 'Main' selected, with other options like 'MQTT Subscribe', 'Scheduler', and 'WWAN'. The top navigation bar includes 'Dashboard', 'RF Network', 'Settings', 'Web Viewer', 'Files', and 'Terminal'.

- To setup MQTT TLS settings *Enable MQTT TLS* in the configuration. In case you need CA signed or self signed certificate can be uploaded by click on the *UPLOAD* button.

The screenshot shows the 'Gateway Settings' page for a device labeled 'GW-3E70009'. The 'MQTT TLS Settings' section is active, showing the following configuration:

- Client ID: Serial number
- Enable MQTT TLS:
- TLS type: Self-signed certificates
- CA file: /etc/unid/conf.k0/rootCA.pema
- Certificate file: /etc/unid/conf.k0/certificate.pem.crt
- Key file: /etc/unid/conf.k0/private.pem.key
- Verify hostname:

The 'Scheduler' section is also visible, with the following configuration:

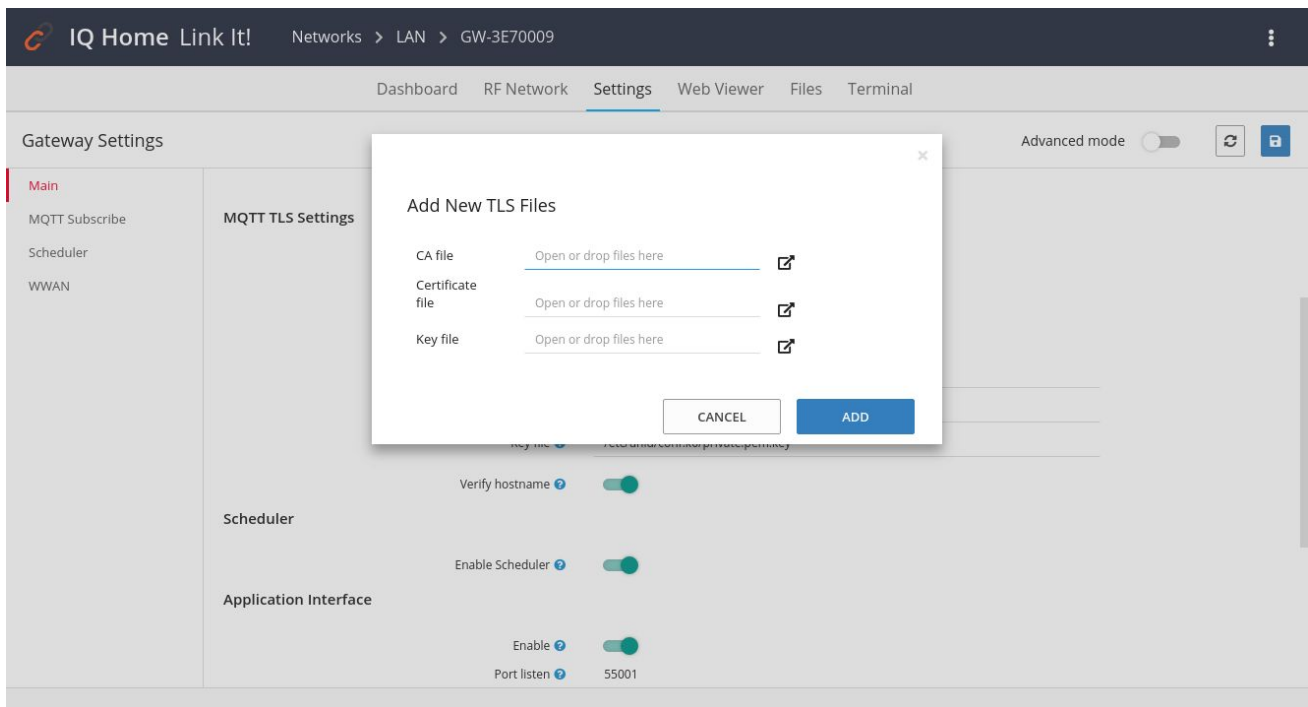
- Enable Scheduler:

The 'Application Interface' section is also visible, with the following configuration:

- Enable:
- Port listen: 55001

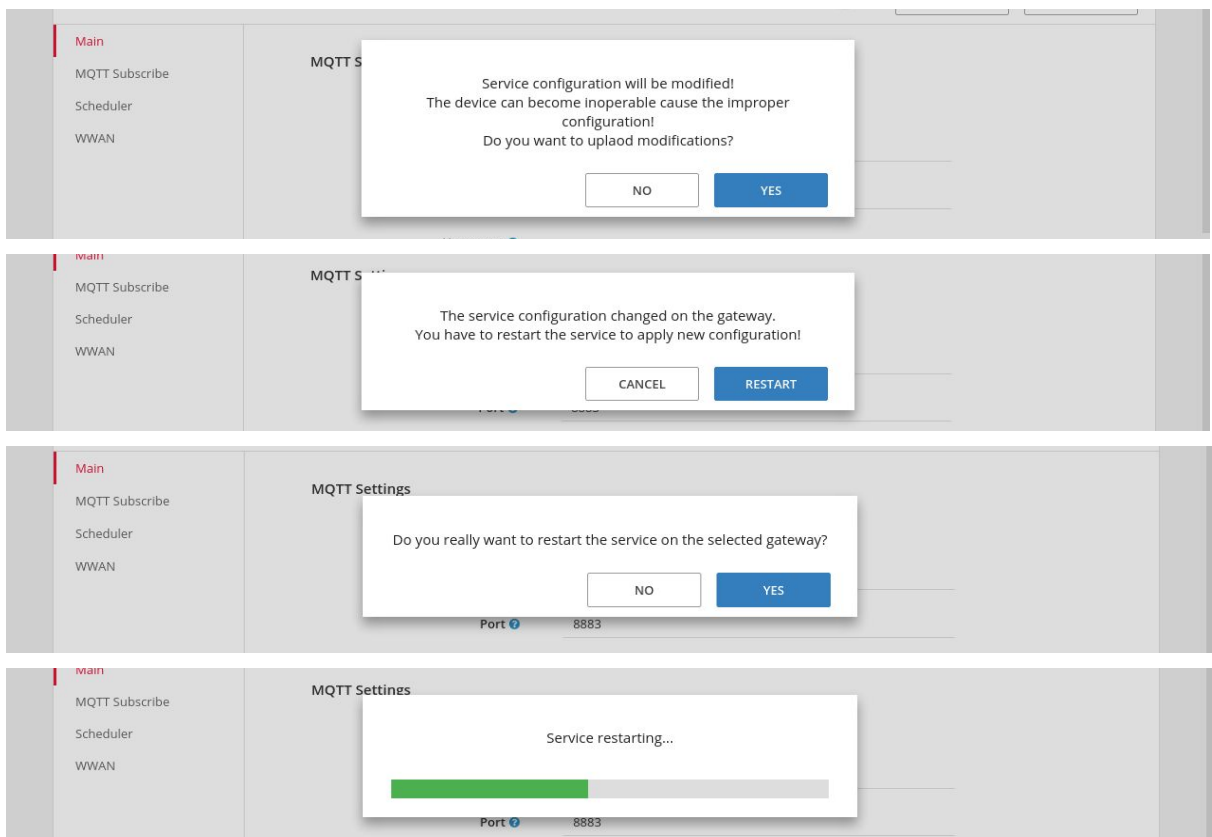
The 'UPLOAD' button is highlighted with a red box, and the text 'Upload new configuration files.' is visible next to it. The left sidebar shows 'Main' selected, with other options like 'MQTT Subscribe', 'Scheduler', and 'WWAN'. The top navigation bar includes 'Dashboard', 'RF Network', 'Settings', 'Web Viewer', 'Files', and 'Terminal'.

- Open or Drag and Drop certificate and/or key files in the *Add New TLS Files* popup window and click on the *UPLOAD* button.



6. After modified the configuration scroll down to the end of the screen and click on the **SAVE** button.

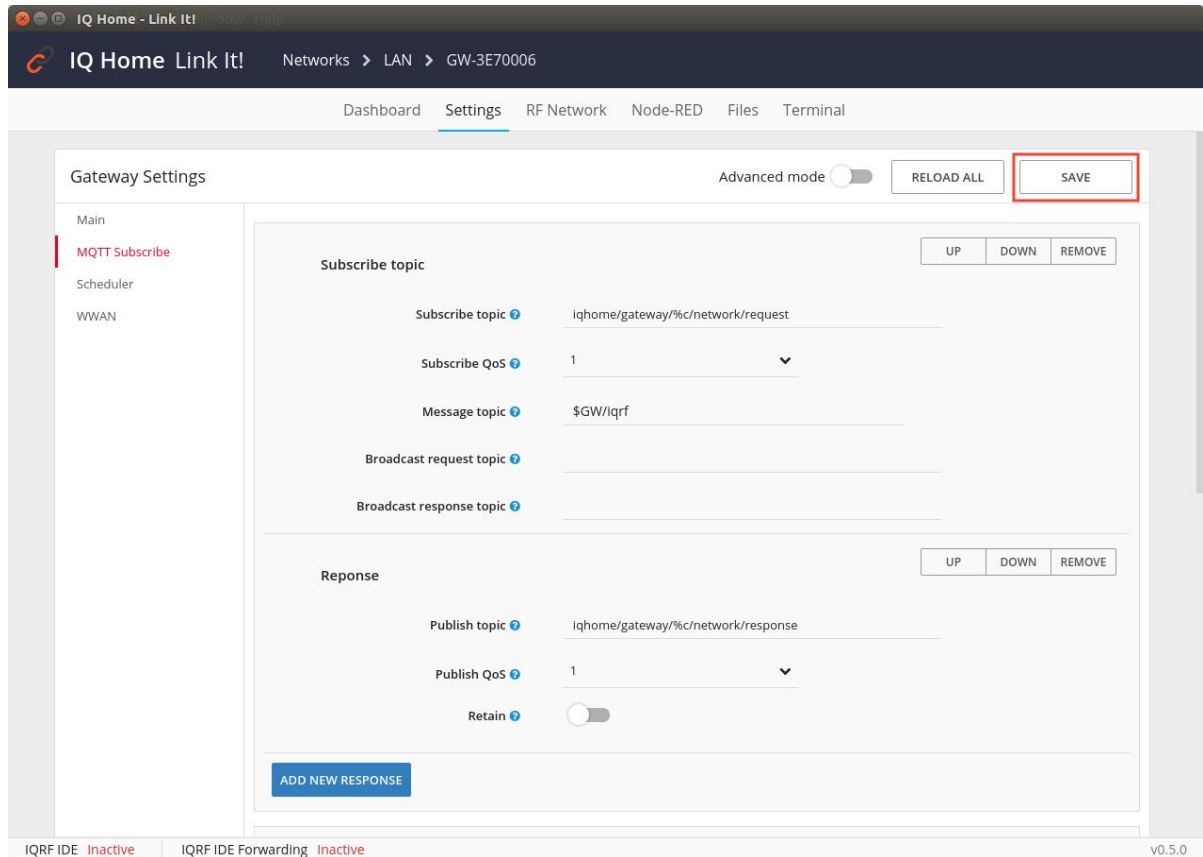
The saving process:



4 Configure MQTT subscribe settings

The MQTT subscribe configuration can be done in the *Files* menu.

1. Click on the *Settings* menu.
2. Click on the *MQTT Subscribe* on the left sidebar.
3. Modify the configuration and click on the SAVE button in the toolbar.

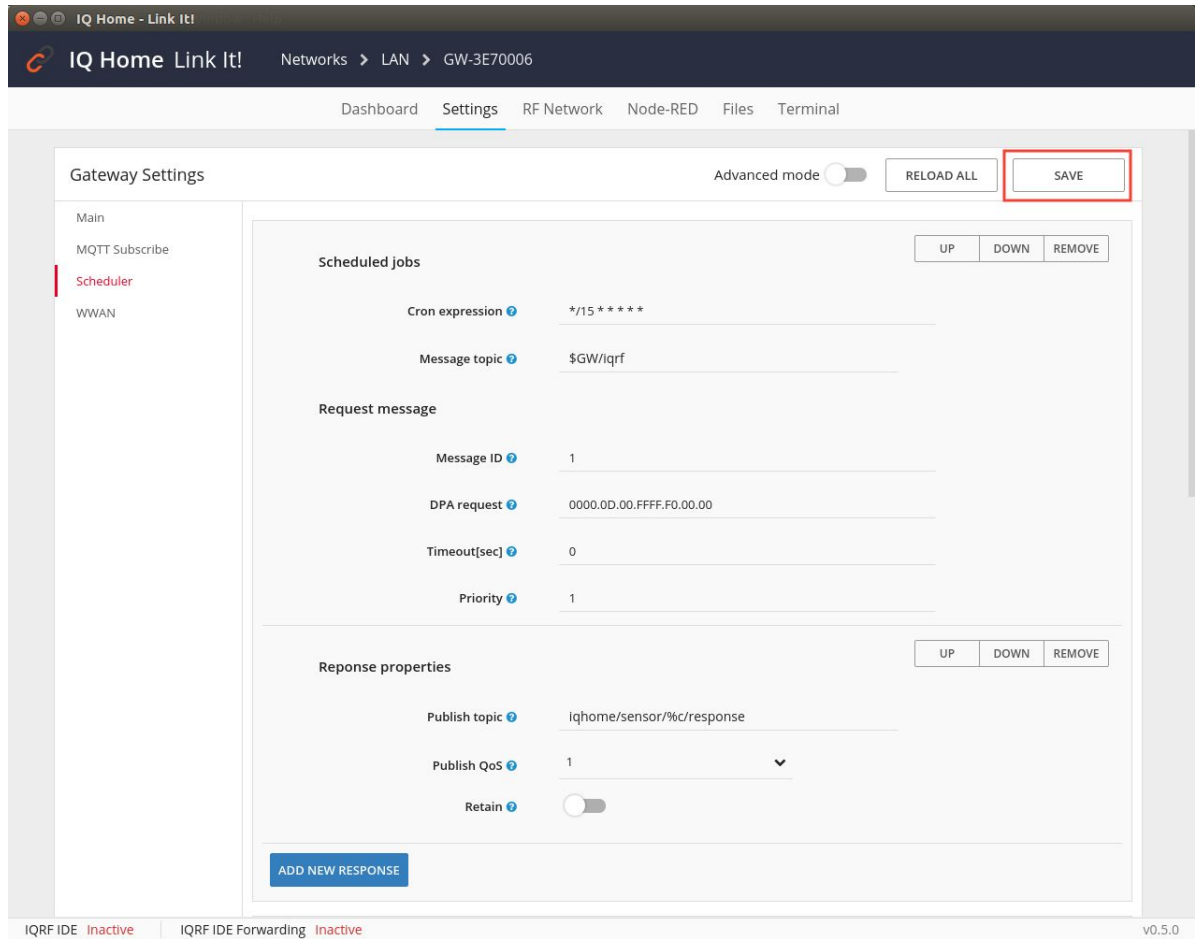


The documentation of the subscribe configuration can be found in the *Reference Manual* on the IQ Home website: <https://www.iqhome.org/gateway-reference-manual>

5 Configure scheduler

The MQTT scheduler configuration can be done in the *Files* menu.

1. Click on the *Settings* menu.
2. Click on the *Scheduler* on the left sidebar.
3. Modify the configuration and click on the SAVE button in the toolbar.



The documentation of the scheduler configuration can be found in the *Reference Manual* on the IQ Home website: <https://www.iqhome.org/gateway-reference-manual>

The scheduler configuration automatically reloads on the gateway after successful save.

Tip:

You can use \$GW/iqhome message topic to receive preprocessed IQ Home sensor data.

6 Configure Ethernet interface

6.1 DHCP configuration

As a default configuration the gateway uses DHCP settings and can be selected DHCP mode in Ethernet settings.

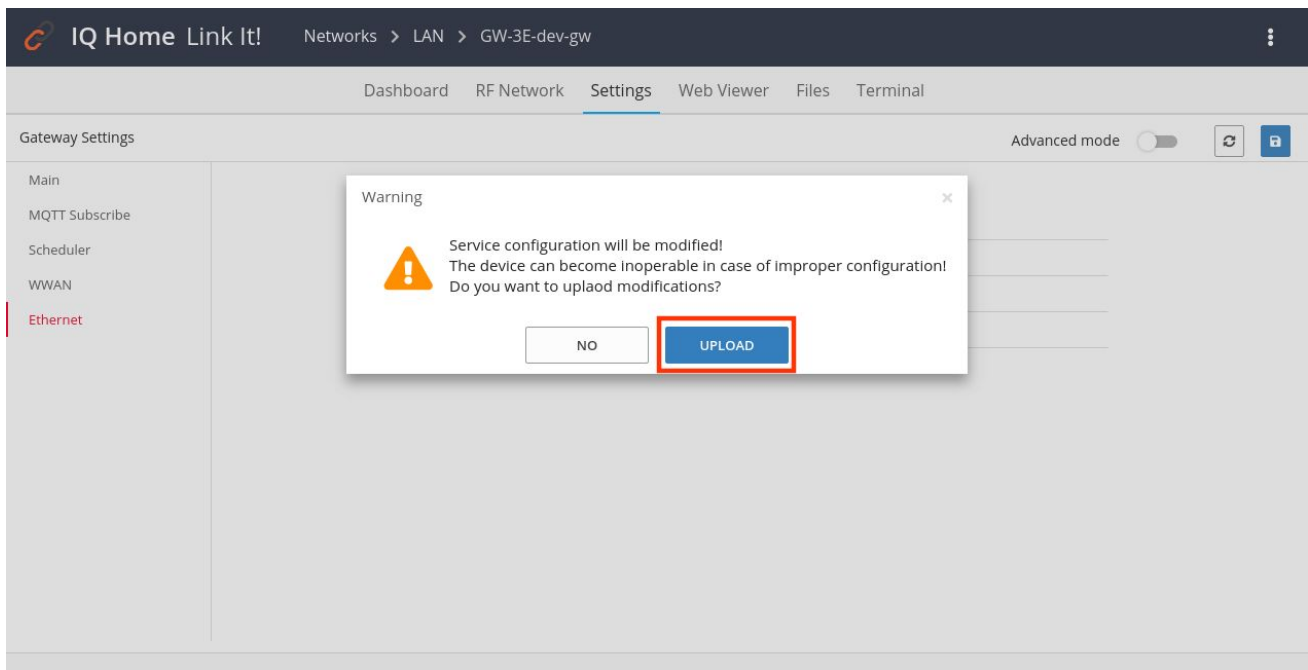
6.2 Static/Fixed IP address

The gateway supports setting up a static IP address or as known as fixed IP address.

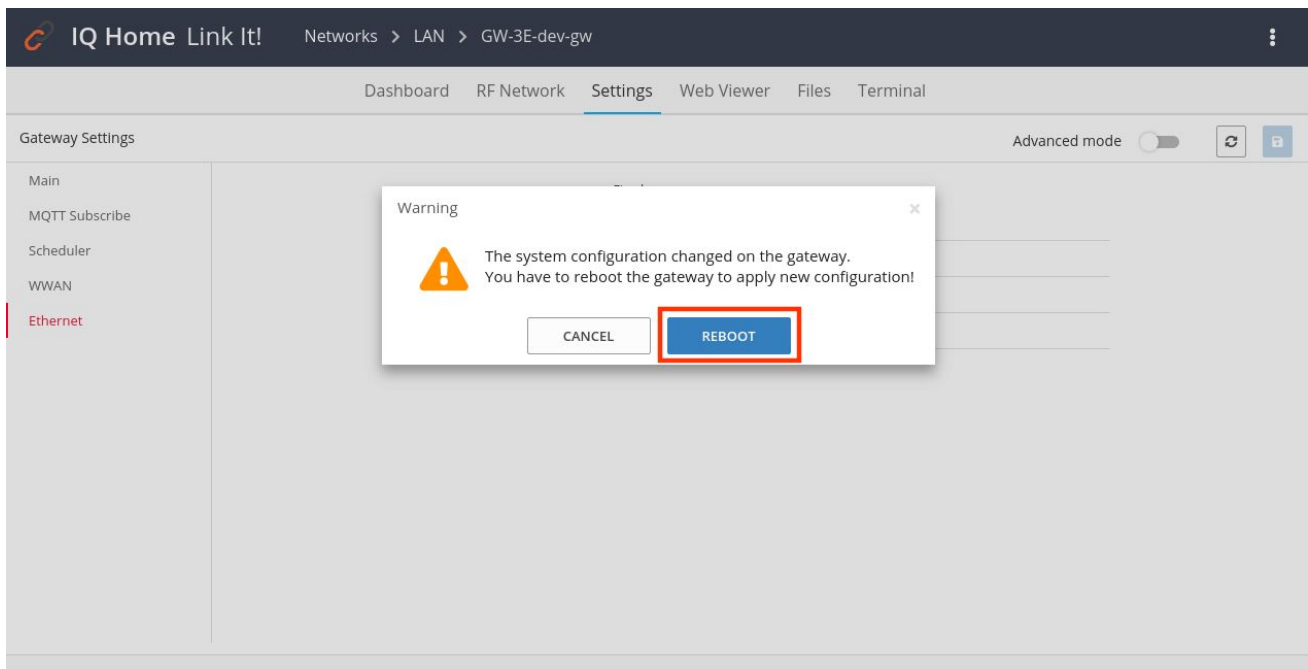
1. Click on the Settings tab
2. Click on the "Ethernet" tab on the left sidebar
3. Select Fixed option from the drop down menu and set IP properties
4. Save the configuration

The screenshot shows the IQ Home Link It! web interface. The breadcrumb navigation is "Networks > LAN > GW-3E-dev-gw". The top navigation bar includes "Dashboard", "RF Network", "Settings" (highlighted with a red box and labeled '1'), "Web Viewer", "Files", and "Terminal". On the left sidebar, "Ethernet" is highlighted with a red box and labeled '2'. The main content area shows the "Gateway Settings" for the Ethernet interface. The "Mode" dropdown menu is set to "Fixed" (highlighted with a red box and labeled '3'). Other settings include: IP address: 192.168.0.100, Subnet mask: 255.255.255.0, Default gateway: 192.168.0.1, and DNS Name Servers: 192.168.0.1,8.8.8.8,8.8.4.4. In the top right corner, the "Advanced mode" toggle is off, and a save icon (a blue square with a white 'S') is highlighted with a red box and labeled '4'.

5. Confirm configuration upload



6. Confirm to reboot the gateway



7 Configure WLAN interface

Power on the gateway and connect with LinkIt! and follow the instructions how to connect to the gateway:

<https://www.youtube.com/playlist?list=PLN9Mt98EPzN30TyGCDs-M0s0zSJRZdNpY>

CAUTION!


The **GW-IOT** series gateways can connect to the LinkIt! via USB terminal or have to setup a temporary hotspot for the predefined factory settings:

SSID: IQHome

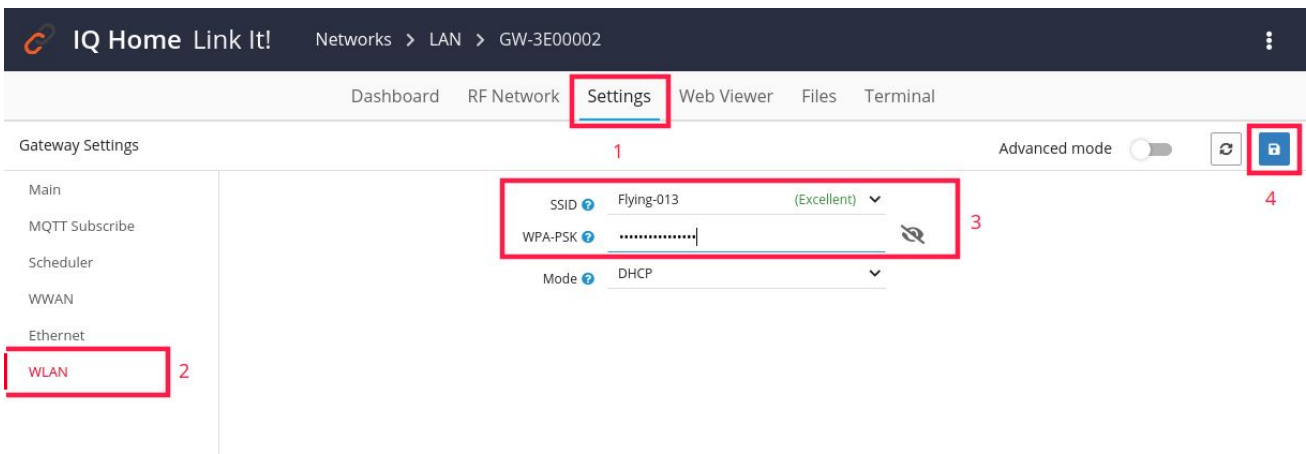
PSK: iqhomesetup

7.1 Connect to WiFi hotspot

1. Click on the *Settings* menu in Link It!
2. Select WLAN settings
3. Select the preferred hotspot SSID and type the password (PSK) for the selected SSID.

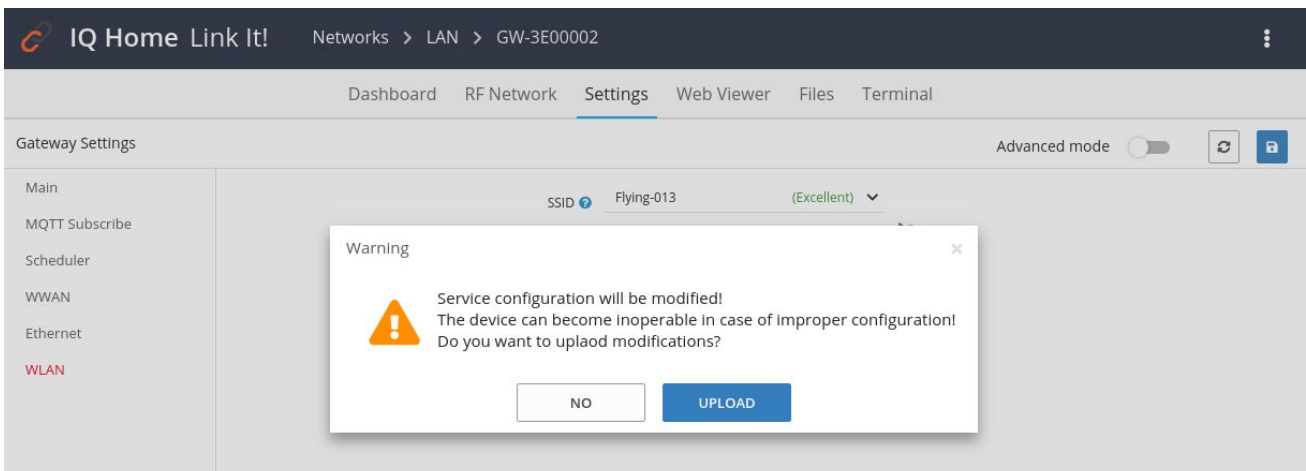
If the SSID not appear on the list try to reload the settings 

4. Save new settings



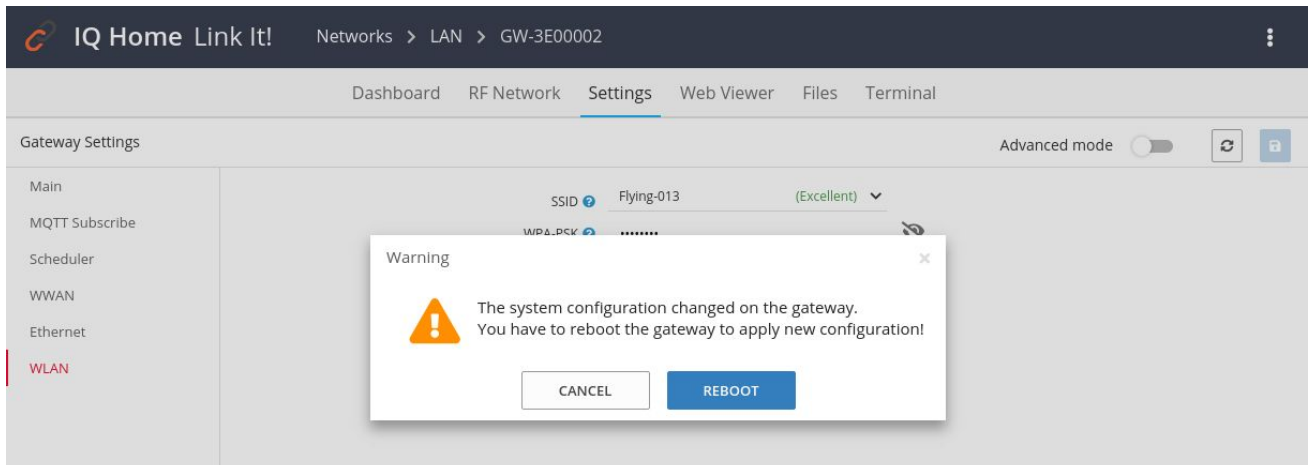
The screenshot shows the 'Settings' page for the gateway. The 'Settings' menu item is highlighted with a red box and labeled '1'. In the left sidebar, the 'WLAN' option is highlighted with a red box and labeled '2'. The main content area shows the WLAN configuration fields: SSID (Flying-013), WPA-PSK (masked with dots), and Mode (DHCP). These fields are highlighted with a red box and labeled '3'. In the top right corner, the 'Advanced mode' toggle is turned on and the save icon is highlighted with a red box and labeled '4'.

5. Upload new configuration settings



The screenshot shows the same 'Settings' page as above, but with a warning dialog box displayed in the center. The dialog box has a warning icon and the following text: "Warning: Service configuration will be modified! The device can become inoperable in case of improper configuration! Do you want to upload modifications?". At the bottom of the dialog box, there are two buttons: "NO" and "UPLOAD".

6. Reboot the gateway

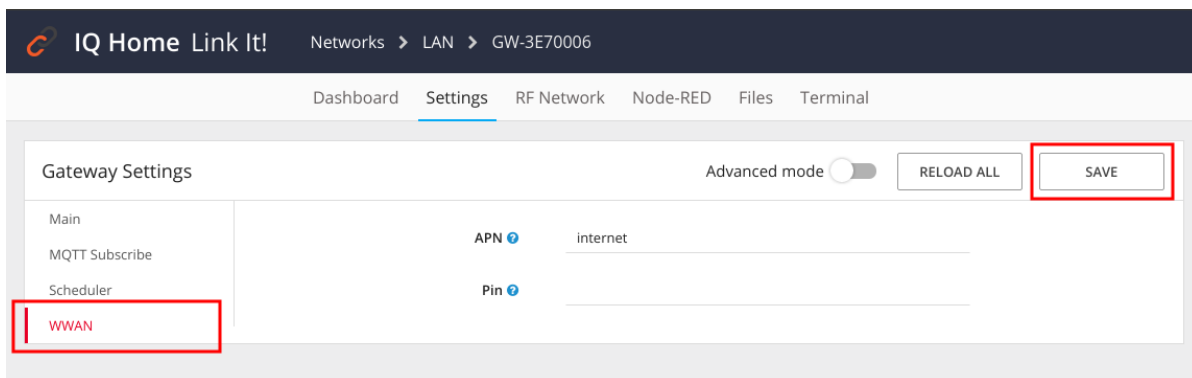


The screenshot displays the 'Gateway Settings' page in the 'IQ Home Link It!' web interface. The breadcrumb navigation shows 'Networks > LAN > GW-3E00002'. The 'Settings' tab is active, and the 'WLAN' section is selected in the left sidebar. A warning dialog box is centered on the screen, containing an orange warning icon and the text: 'Warning: The system configuration changed on the gateway. You have to reboot the gateway to apply new configuration!'. The dialog has two buttons: 'CANCEL' and 'REBOOT'.

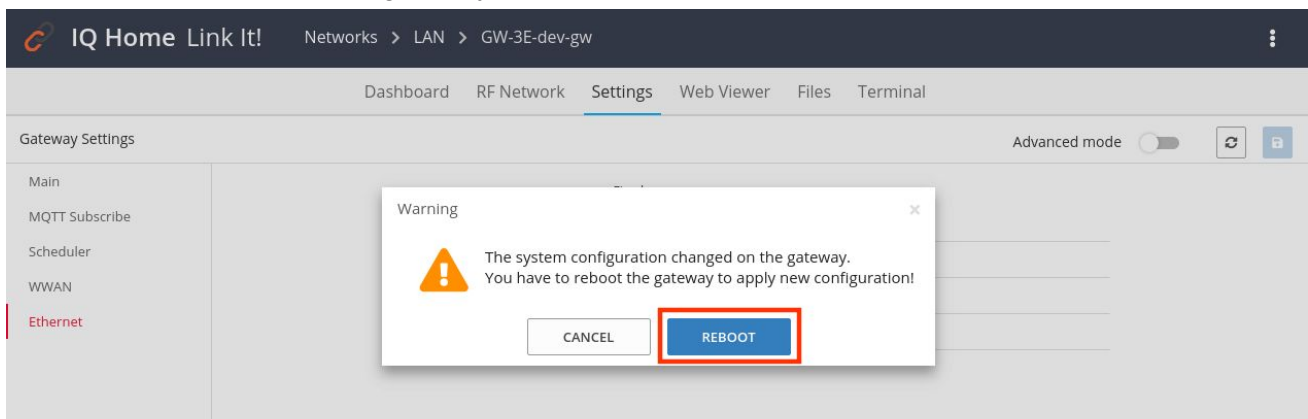
8 Configure WWAN/LTE interface

The 4G/LTE capable gateways can be configured by Link It!.

7. Insert the SIM card into the slot of the gateway
8. Click on the *Settings* menu in Link It!
9. Click on the *WWAN* menu on the left sidebar
4. Modify the configuration
 - a. Set the APN of your service provider
 - b. Set PIN code or leave it blank if it is disabled in the SIM card
 - c. To further configuration enable Advanced mode in the header
5. Click on the SAVE button in the toolbar
6. Reboot the gateway to apply WWAN configuration



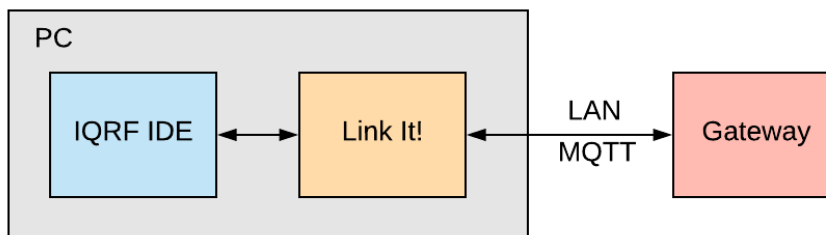
7. Confirm to reboot the gateway



9 Advanced configurations

9.1 IQRF IDE

The configuration of the gateway's IQRF coordinator and the IQRF network with IQRF IDE is possible via the Link It! management tool. The IQRF IDE can connect to the gateways via Link It!. At first you should connect to the gateway with Link It! Described in section [2.2](#). After that you can connect to the IQRF coordinator with IQRF IDE as described in section [2.3](#).




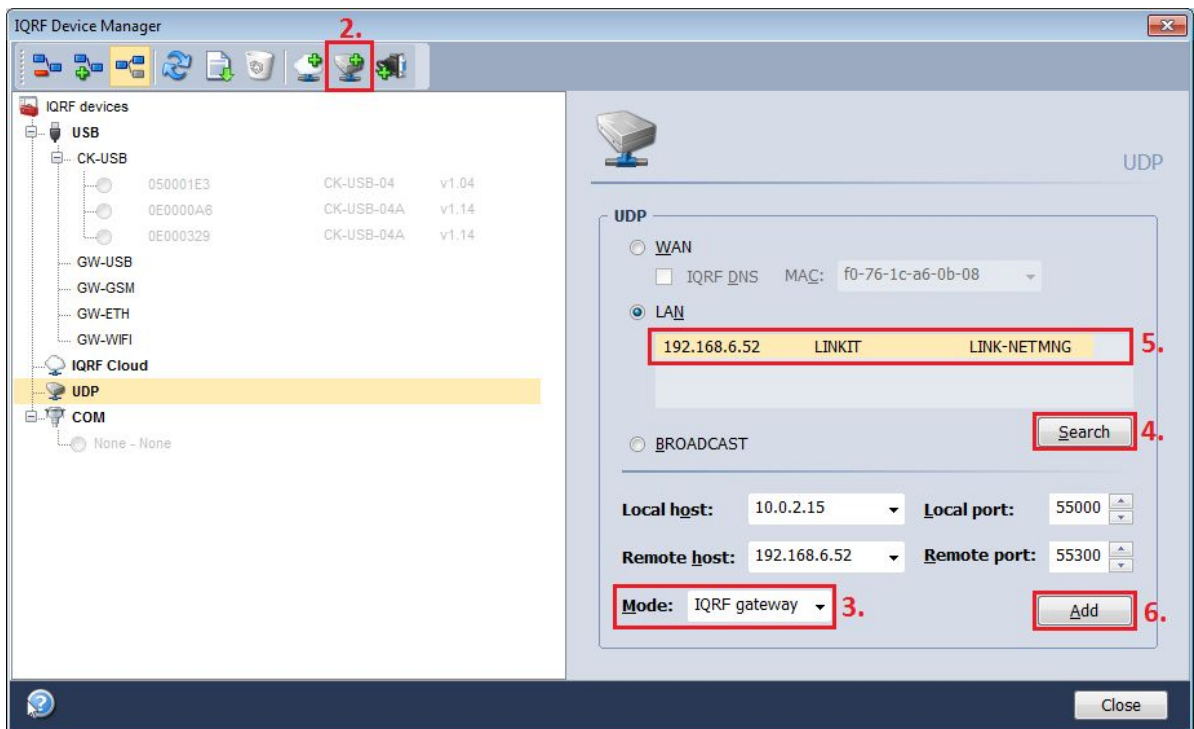
System architecture of how can connect and configure IQ Home gateways

CAUTION!

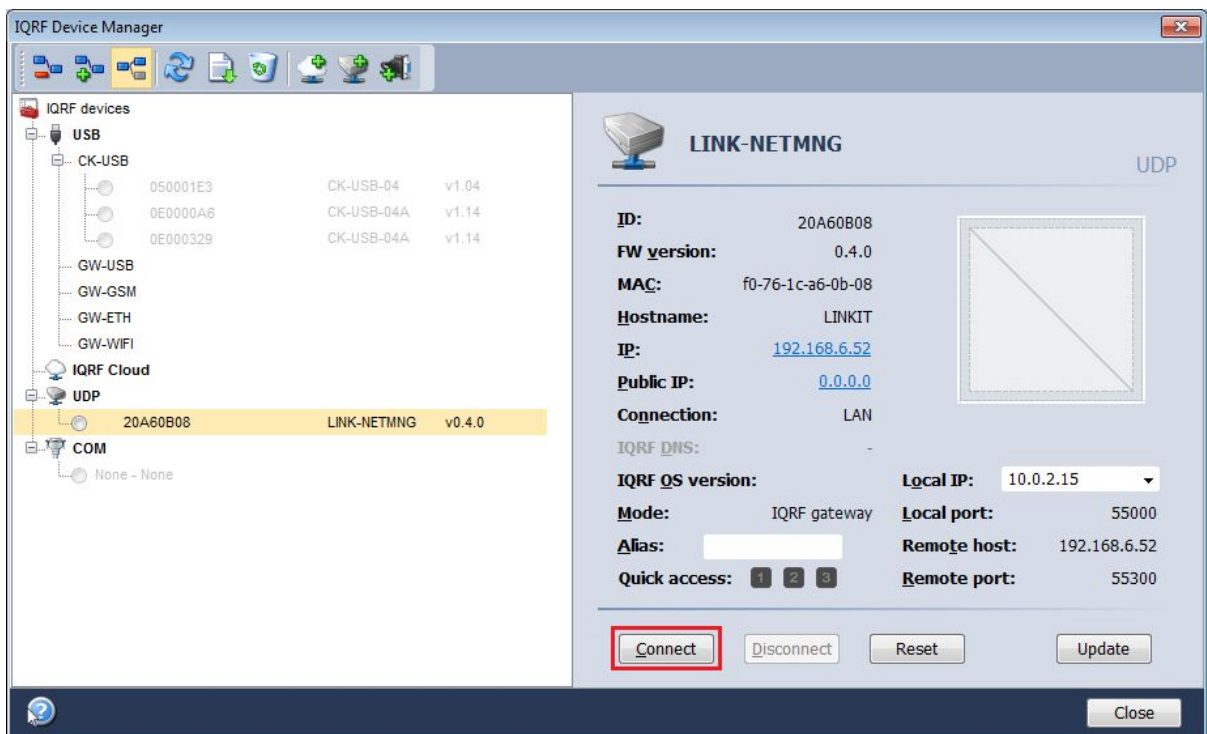
The IQRF IDE can connect to the gateway only via the Link It! by default for security reasons! For development and/or debugging you can enable in gateway configuration but it is not recommended in production use!

Follow the few steps below to connect to the IQ Home Gateway:

1. Open the IQRF IDE, open a project and choose "IQRF Device Manager" from the "Tools" menu or press F9
2. Select Add UDP device icon  in "IQRF Device Manager" (or press Shift+Ctrl+D)
3. Select *Mode: IQRF gateway*
4. Click on the „Search” button
5. Select your gateway from the list. If the list still empty check your network settings
6. Click on the *Add* button



7. After add gateway click on the *Connect* button and close the “IQRF Device Manager” window.



8. The connection indicator displays the status in the left bottom corner.



9. In the bottom status bar of the Link It! now you can see the IQRF IDE status. If you connected to a selected gateway the *IQRF IDE Forwarding* status should be *Active*.

IQRF IDE Network Management Mode | IQRF IDE Forwarding Active

10. Now you can use IQRF IDE to configure the IQRF coordinator and the IQRF network.

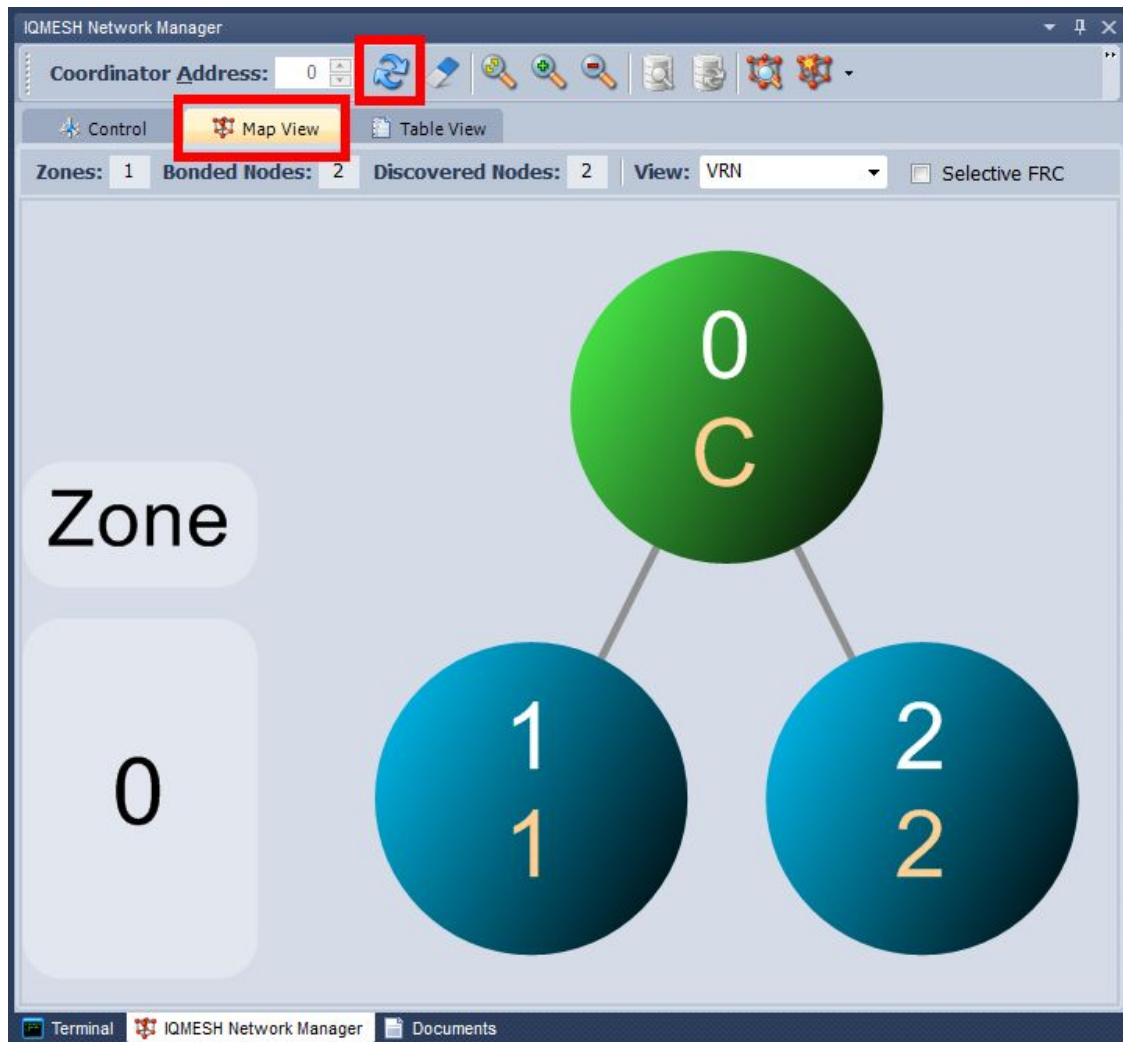
9.2 Modify TR configuration of IQRF coordinator

The TR configuration of IQRF coordinator module in the IQ Home gateways can be modified with IQRF IDE.

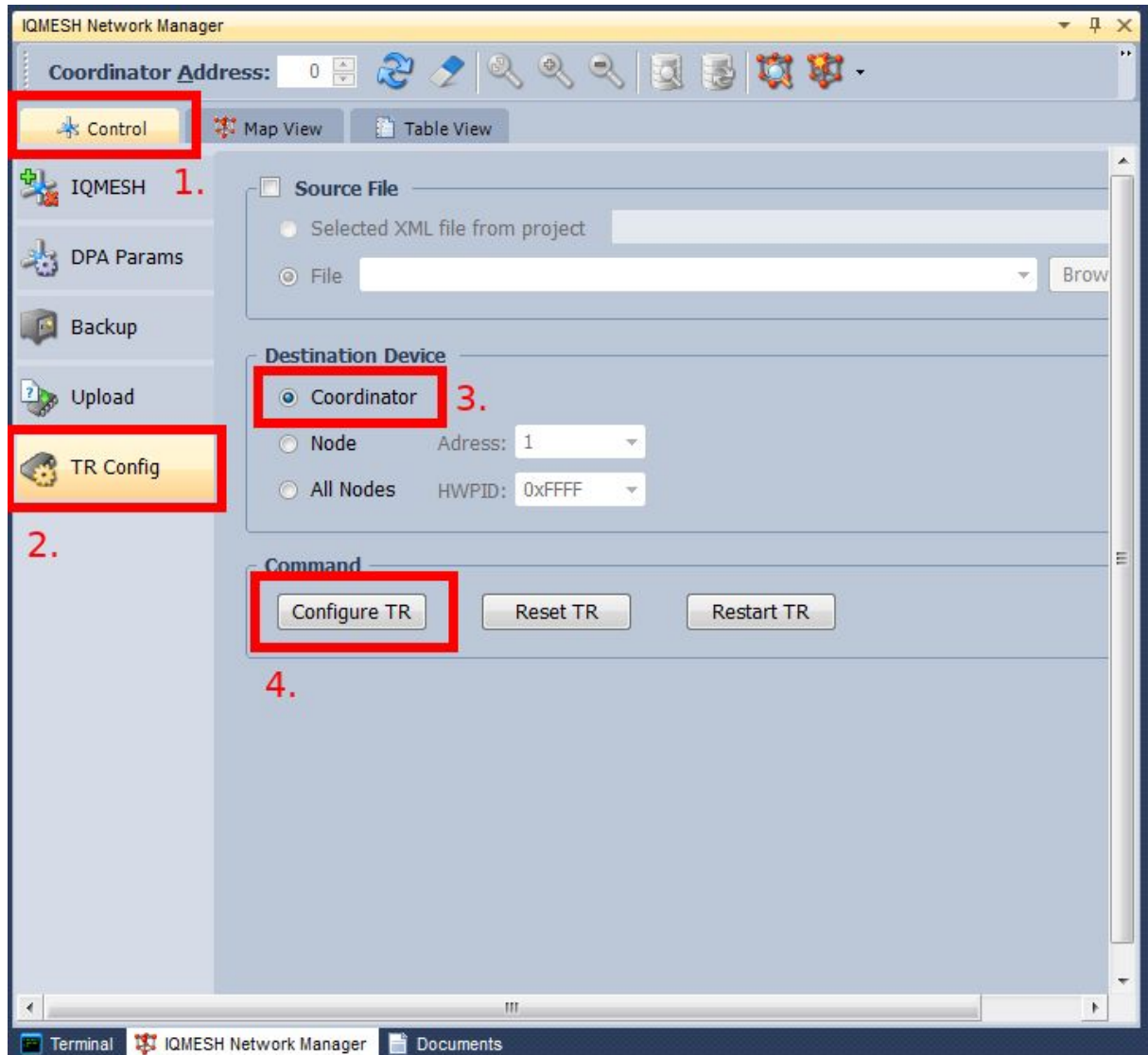
1. Connect to the gateway in IQRF IDE as described in [2.3. IQRF IDE](#).
2. Open IQMESH Network Manager in *Tools>QMESH Network Manager*.



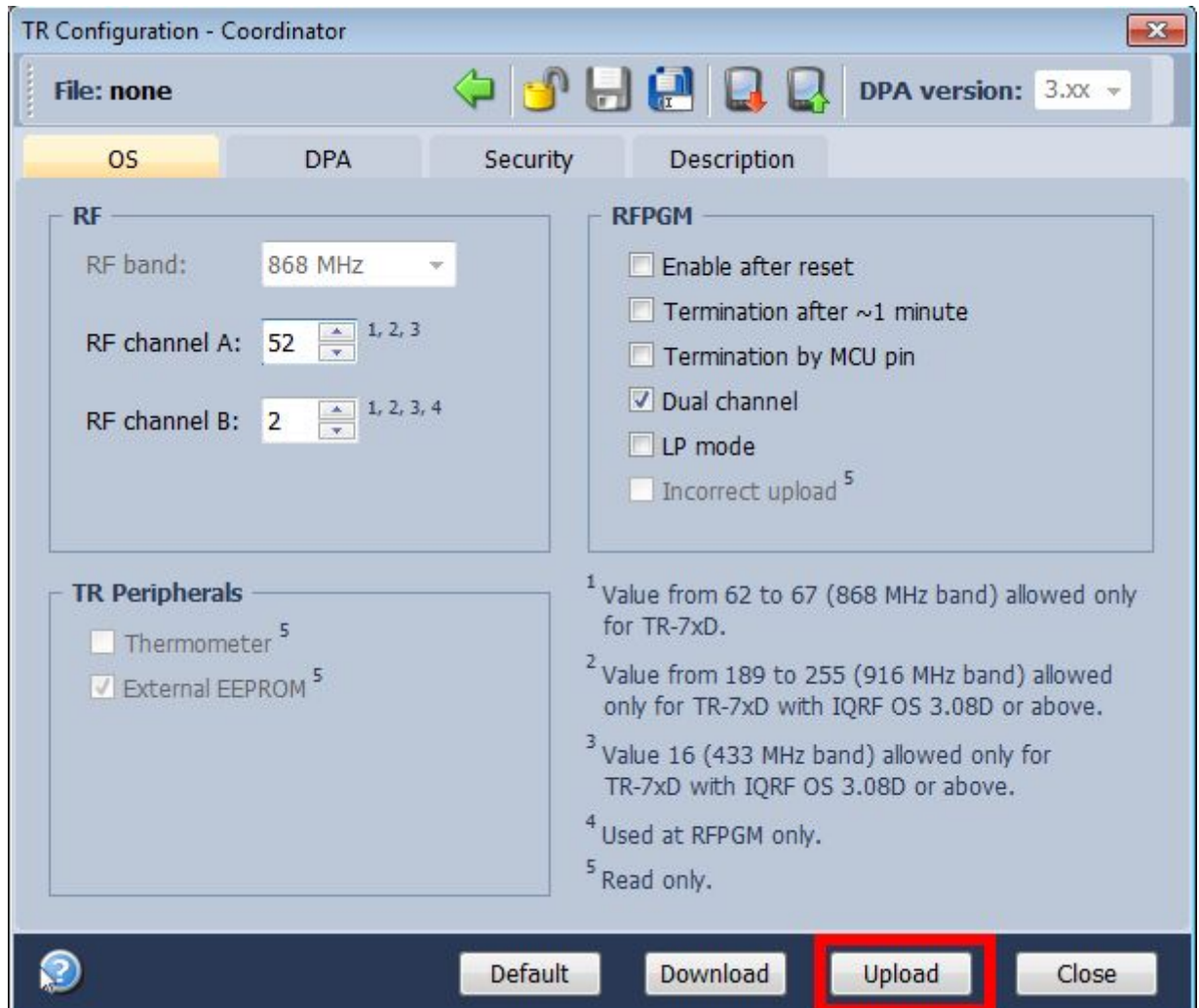
3. In the *IQHMESH Network manager* window update the network information by click on the *Update Data* icon in the *Map View* tab.



4. After the network information updated:
 1. Click on the *Control* tab
 2. Click on *TR Config*
 3. Select *Coordinator*
 4. Open TR configuration by click on the *Configure TR* button



- When the TR configuration window opens the coordinator TR configuration will be downloaded. Modify configuration and upload to the coordinator by click on the *Upload* button.



6. Close the TR configuration window and reset the coordinator module by click on the *Reset TR* button. The RX and TX LEDs on the gateway blinking after the TR reset.

