

# 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>

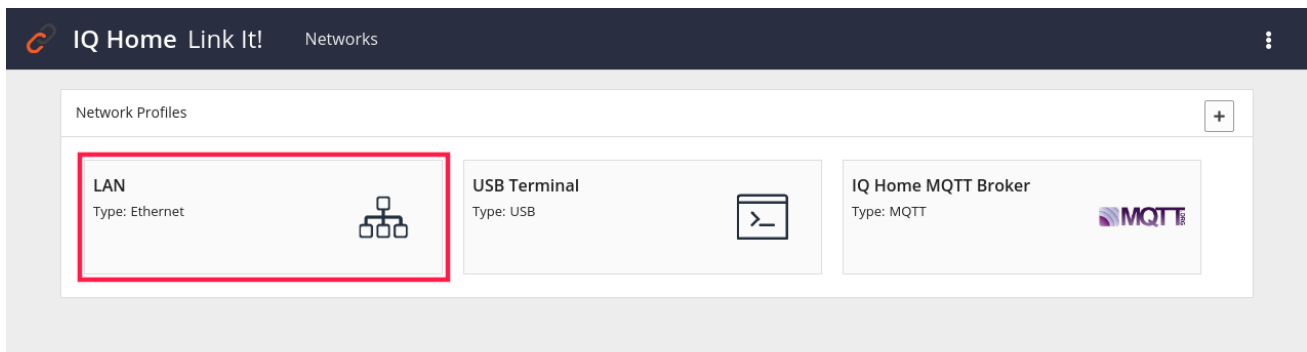
## 3 Connect with IP address on LAN


The LinkIt! software can discover gateways in the same local network automatically. In case the gateway is not in the same network with the computer running LinkIt! or have any IT infrastructure restrictions the gateway can be added with its IP address.

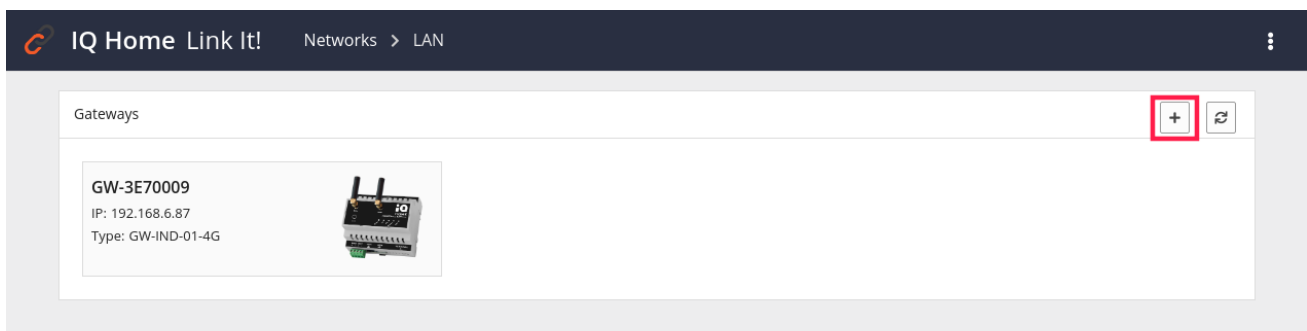
Connecting to a gateway on LAN the following ports have to be enabled:

- 1313 UDP
- 13013 TCP

1. Select LAN network



2. Click on the  button

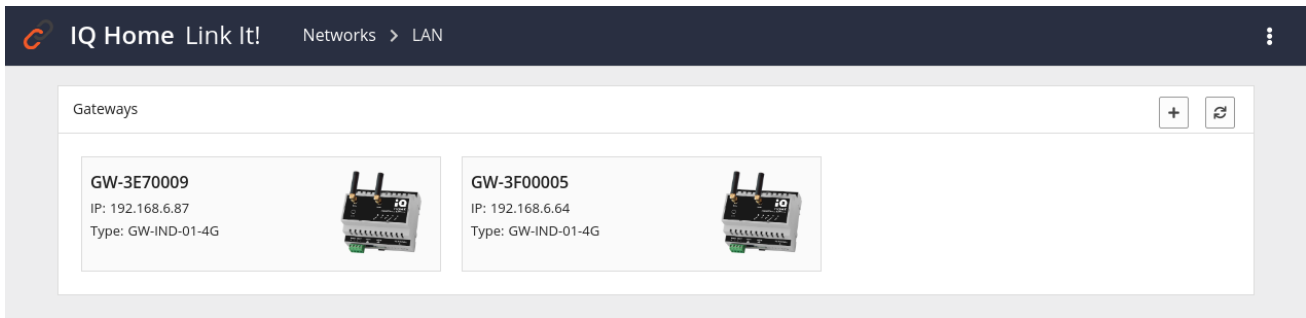


### 3. Set the IP address of the gateway and click on ADD button

Add new gateway ×

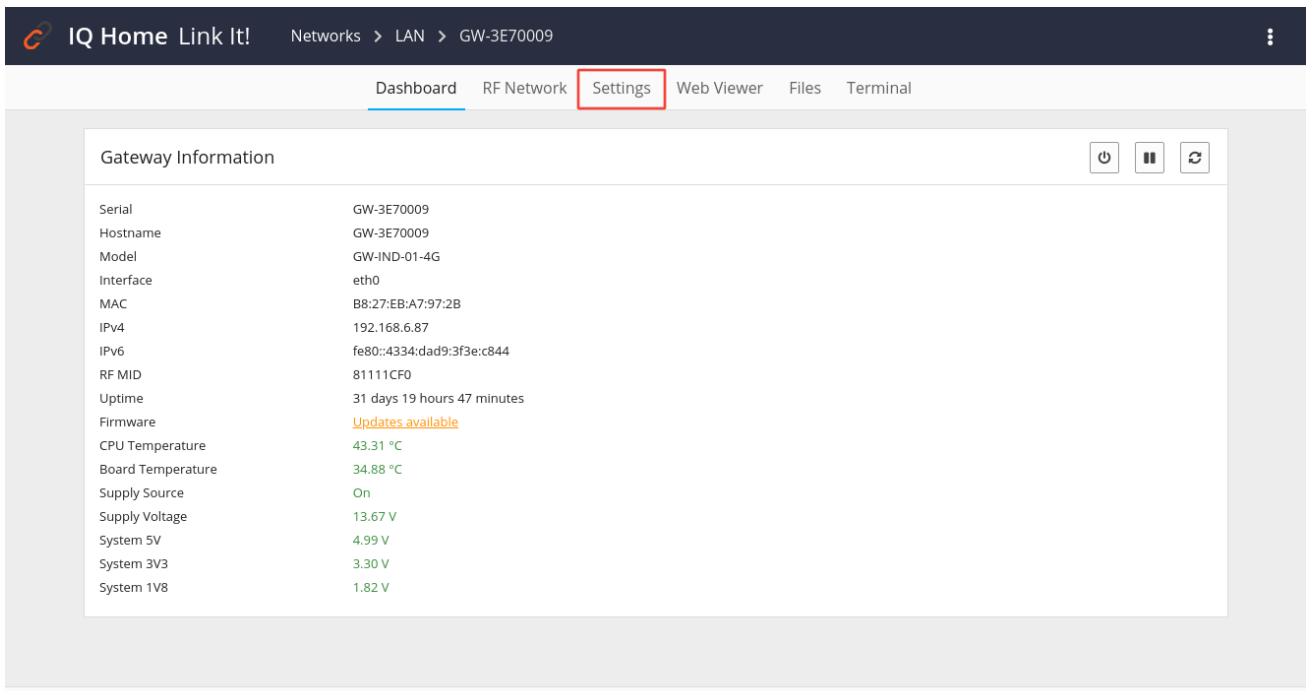
IP/Hostname

### 4. The new gateway should appear in the list of the gateways



## 4 Configure MQTT settings

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



### 3. Modify MQTT Settings.

The screenshot shows the 'Gateway Settings' page for a device (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 'Scheduler' section is partially visible at the bottom.

- 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 (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
- UPLOAD button: Upload new configuration files.
- 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:

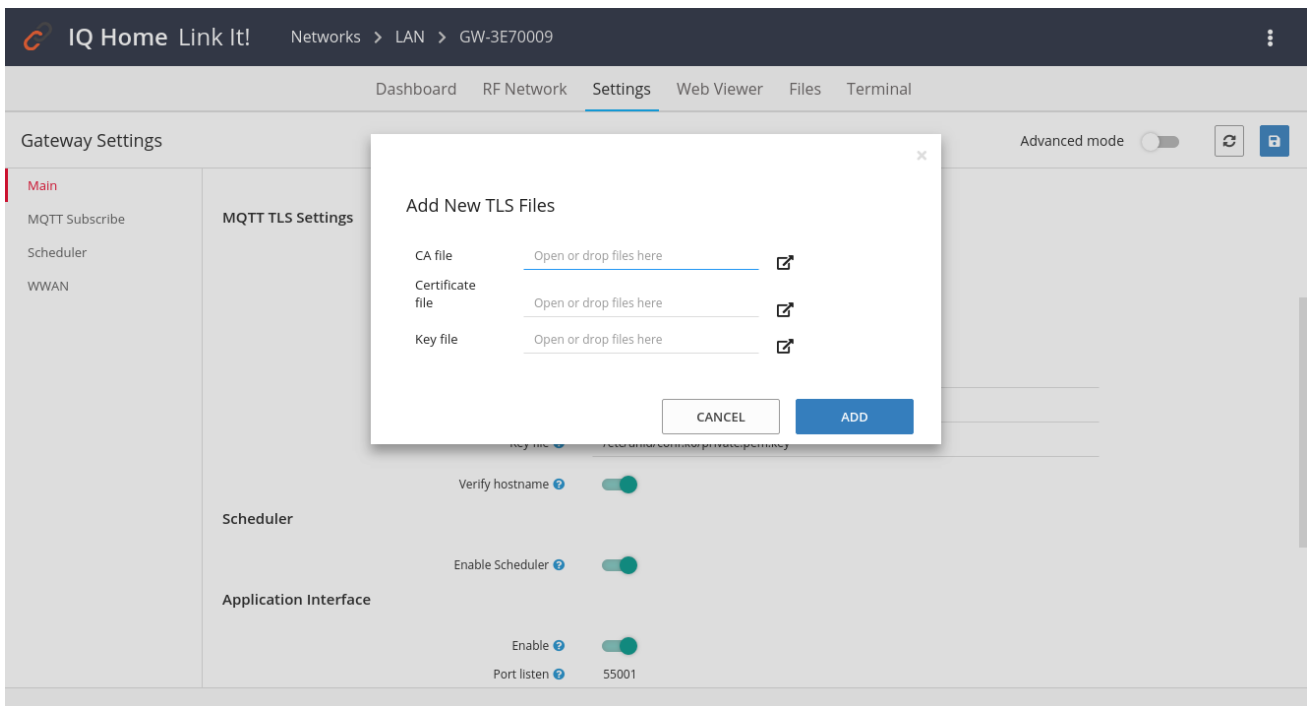
The 'Scheduler' section is partially visible at the bottom, with the following configuration:

- Enable Scheduler:

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

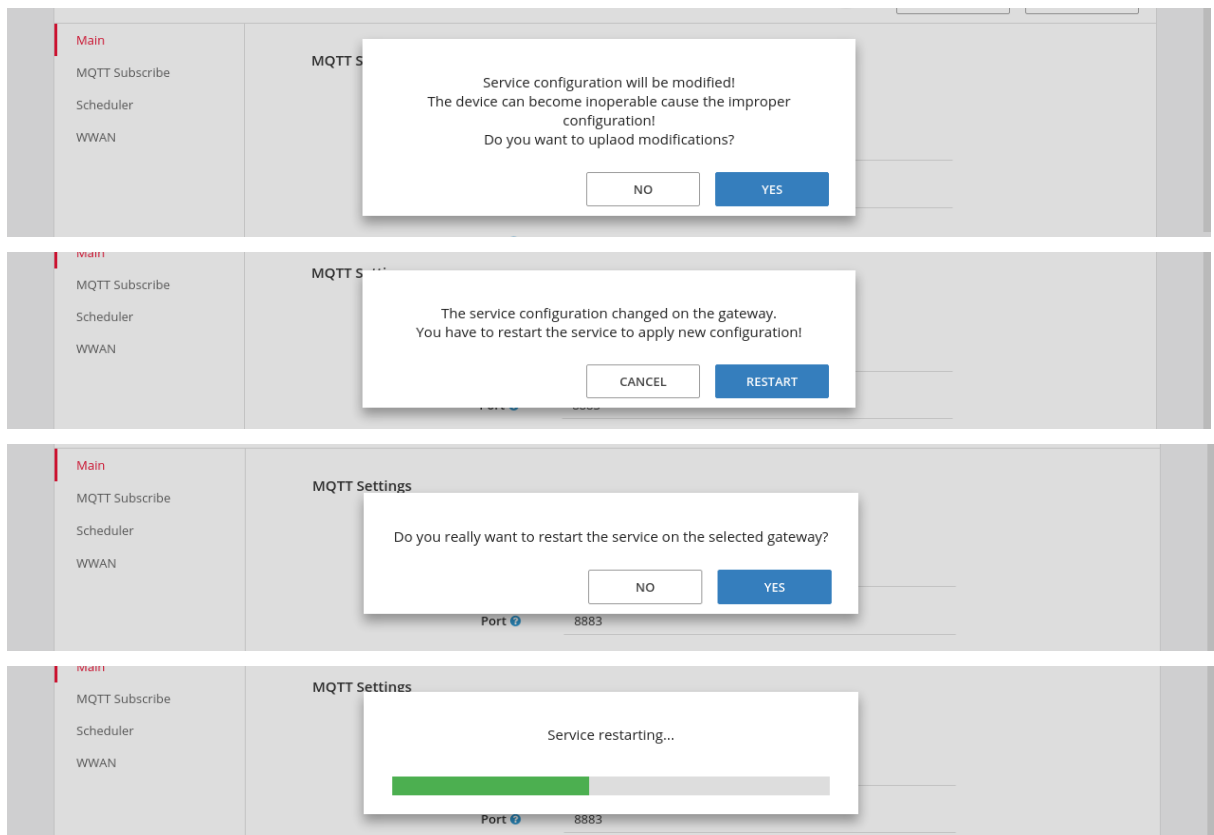
- Enable:
- Port listen: 55001

- 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:



## 5 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 screenshot displays the 'Gateway Settings' page for a device named 'GW-3E70009'. The 'Settings' menu is selected, and the 'MQTT Subscribe' option is highlighted in the left sidebar. The main configuration area is divided into two sections: 'Subscribe topic' and 'Publish Topic'. The 'Subscribe topic' section includes fields for 'Subscribe topic' (iqhome/gateway/%c/network/request), 'Subscribe QoS' (1 - at least once), 'Message topic' (\$GW/iqhome), 'Broadcast request topic', and 'Broadcast response topic'. The 'Publish Topic' section includes fields for 'Publish topic' (iqhome/gateway/%c/network/response), 'Publish QoS' (1 - at least once), and a 'Retain' toggle switch. A green '+ ADD PUBLISH TOPIC' button is located at the bottom right of the 'Publish Topic' section. A red box highlights the 'SAVE' button in the top right corner of the settings panel.

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>

## 6 Configure scheduler

To configuring the automatic gateway scheduler with the Scheduler Wizard please follow the video tutorial:

[https://www.youtube.com/watch?v=TztJF3jg\\_A&list=PLN9Mt98EPzN30TyGCDs-M0s0zSJRZdNpY&index=5](https://www.youtube.com/watch?v=TztJF3jg_A&list=PLN9Mt98EPzN30TyGCDs-M0s0zSJRZdNpY&index=5)

## 7 Configure Ethernet interface

### 7.1 DHCP configuration

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

### 7.2 Static/Fixed IP address

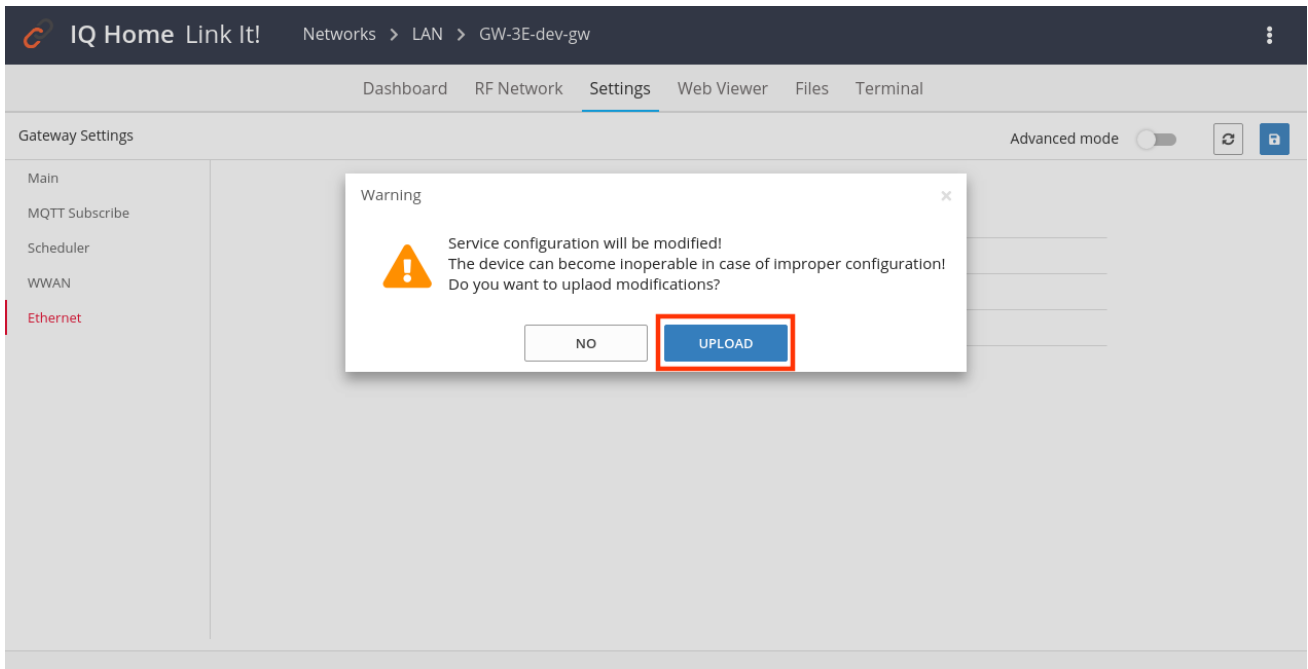
The gateway supports setting up a static IP address or as known as fixed IP address.

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

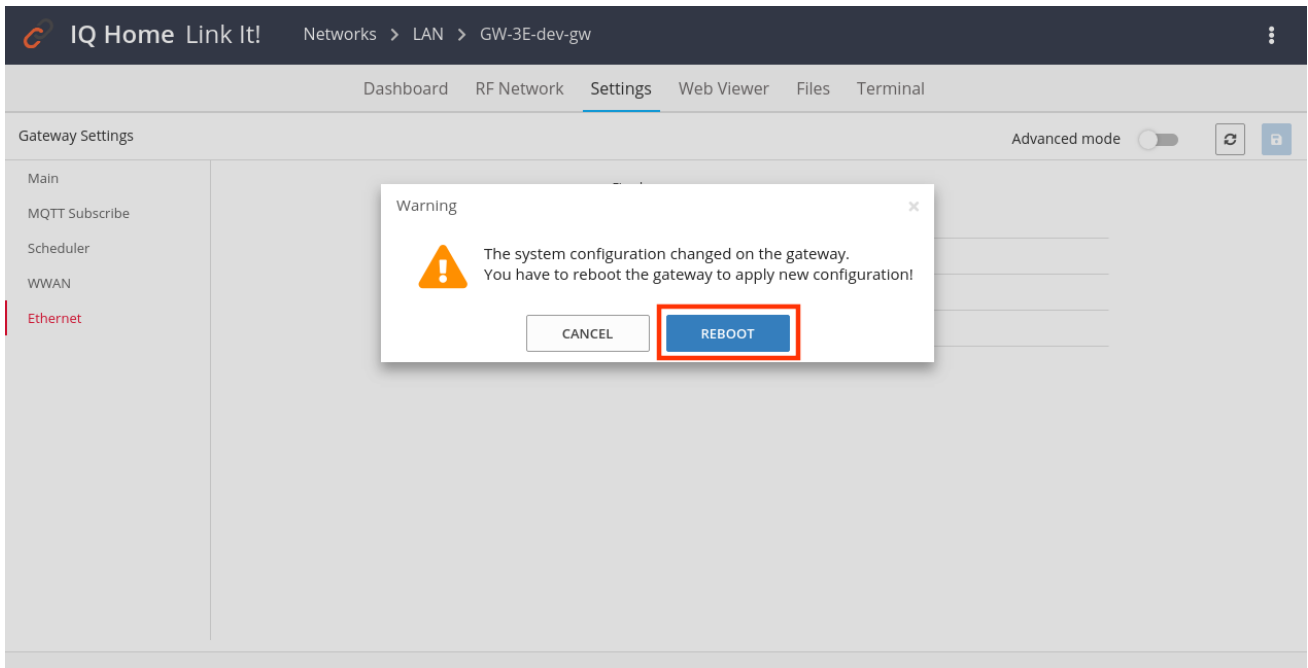
The screenshot displays the IQ Home Link It! web interface for configuring the Ethernet interface. The top navigation bar shows the 'Settings' tab selected (1). The left sidebar has the 'Ethernet' tab selected (2). The main content area shows the 'Gateway Settings' for the Ethernet interface. The 'Mode' dropdown menu is set to 'Fixed' (3). The 'Advanced mode' toggle is turned on (4). The IP address is 192.168.0.100, Subnet mask is 255.255.255.0, Default gateway is 192.168.0.1, and DNS Name Servers are 192.168.0.1, 8.8.8.8, 8.8.4.4.



## 5. Confirm configuration upload



## 6. Confirm to reboot the gateway



## 8 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

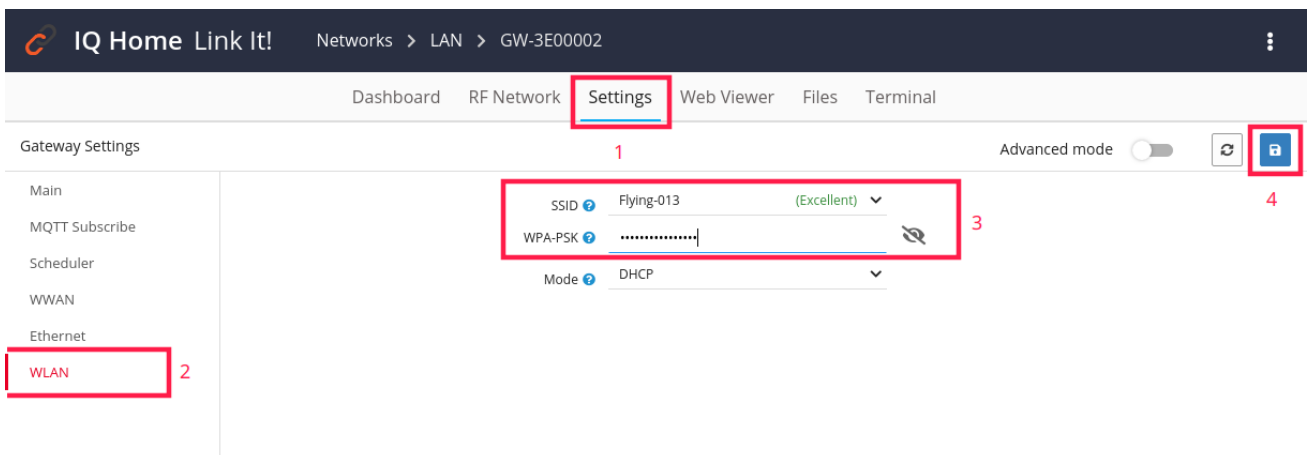
PSK: iqhomesetup

### 8.1 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.

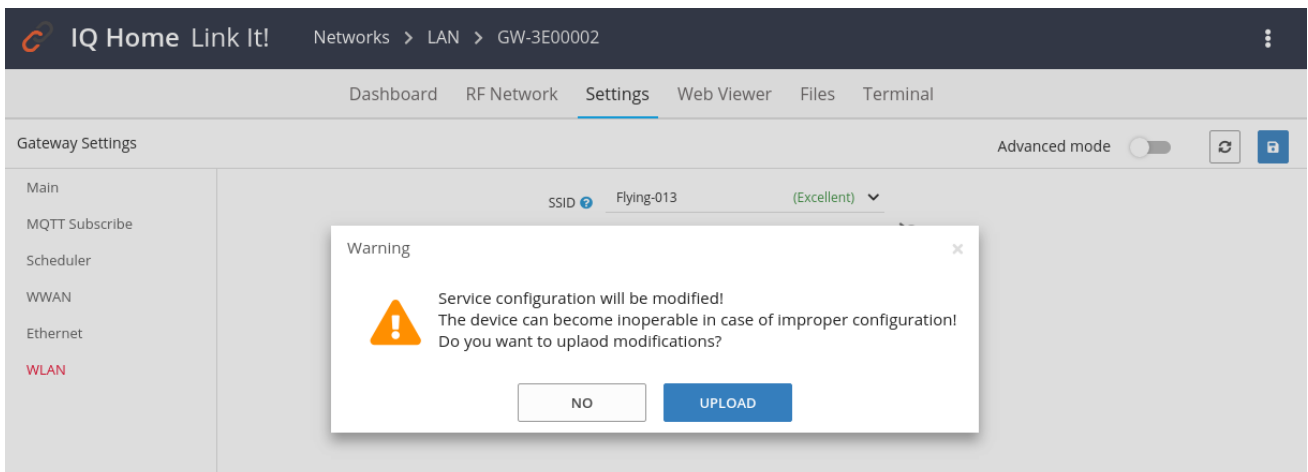
If the SSID not appear on the list try to reload the settings 

4. Save new settings



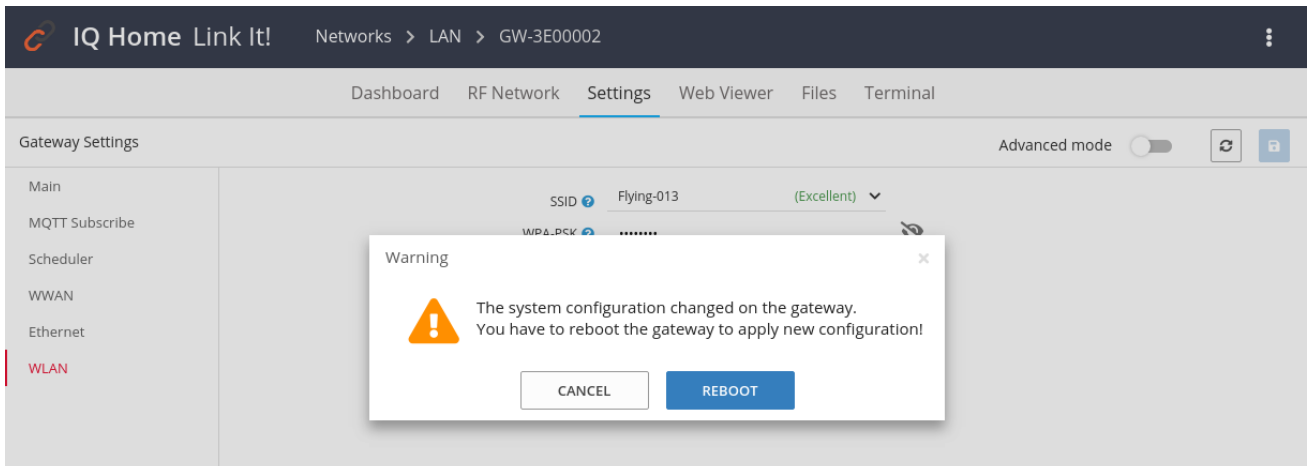
The screenshot shows the 'Settings' page for the WLAN interface. The 'Settings' menu is highlighted with a red box and labeled '1'. The 'WLAN' option in the left sidebar is highlighted with a red box and labeled '2'. The SSID 'Flying-013' and WPA-PSK password field are highlighted with a red box and labeled '3'. The 'Advanced mode' toggle and the save icon are highlighted with a red box and labeled '4'.

5. Upload new configuration settings



The screenshot shows the 'Settings' page for the WLAN interface. A warning dialog box is displayed in the center of the screen. The dialog box contains a warning icon and the text: "Warning: Service configuration will be modified! The device can become inoperable in case of improper configuration! Do you want to upload modifications?". There are "NO" and "UPLOAD" buttons at the bottom of the dialog box.

## 6. Reboot the gateway

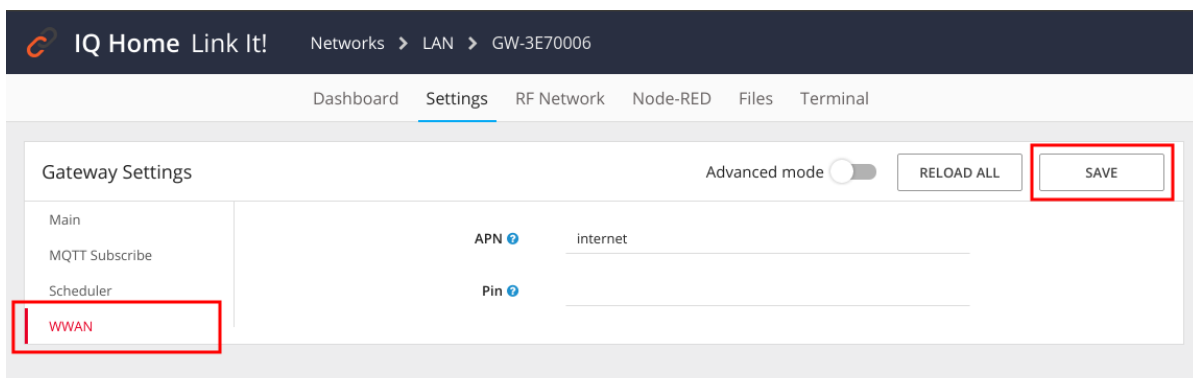


The screenshot displays the 'Gateway Settings' page for a device identified as 'GW-3E00002'. The 'Settings' tab is active, showing configuration for the SSID 'Flying-013' with a signal strength of '(Excellent)'. A 'Warning' dialog box is overlaid on the screen, containing the text: 'The system configuration changed on the gateway. You have to reboot the gateway to apply new configuration!'. The dialog box has a close button (X) in the top right corner and two buttons at the bottom: 'CANCEL' and 'REBOOT'.

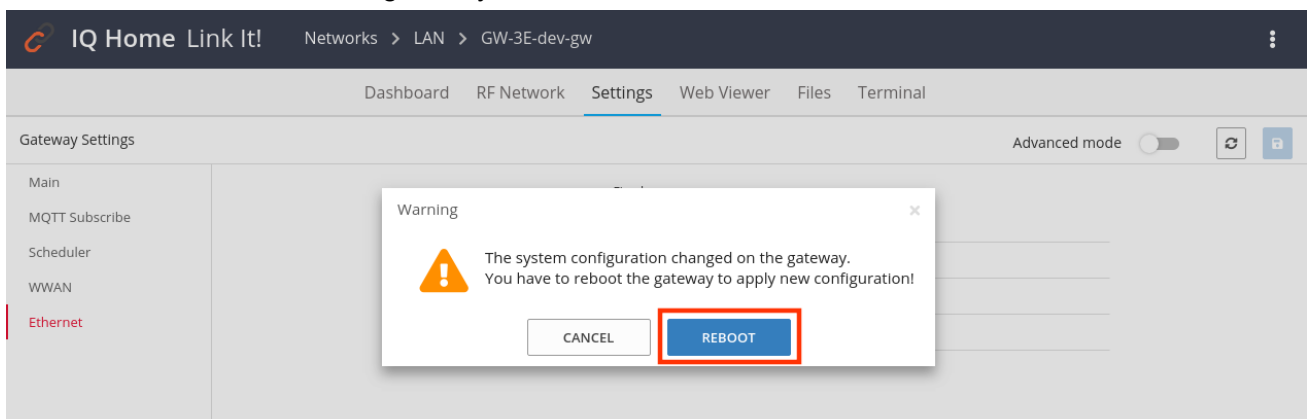
## 9 Configure WWAN/LTE interface

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
  1. 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
  2. Click on the SAVE button in the toolbar
  3. Reboot the gateway to apply WWAN configuration



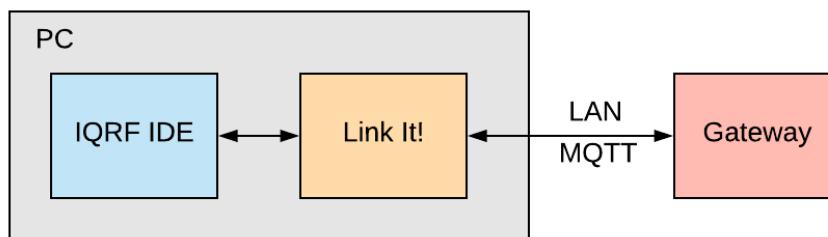
7. Confirm to reboot the gateway



# 10 Advanced configurations

## 10.1 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](#).




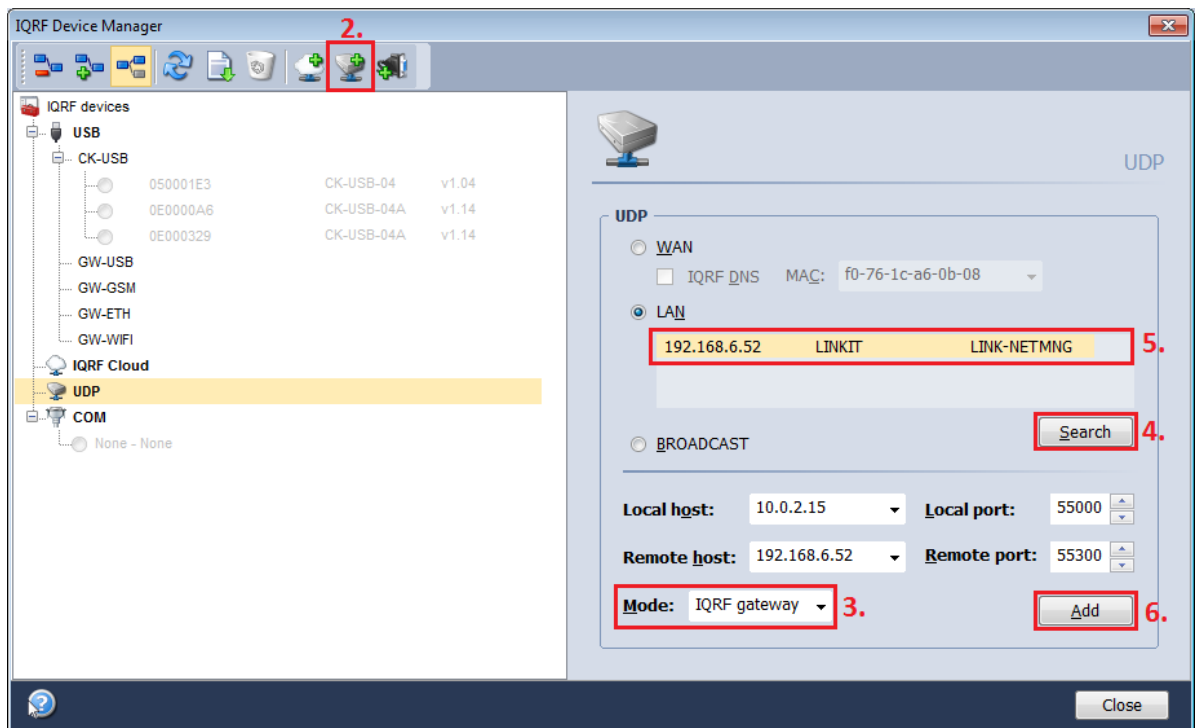
*System architecture of how can connect and configure IQ Home gateways*

### CAUTION!

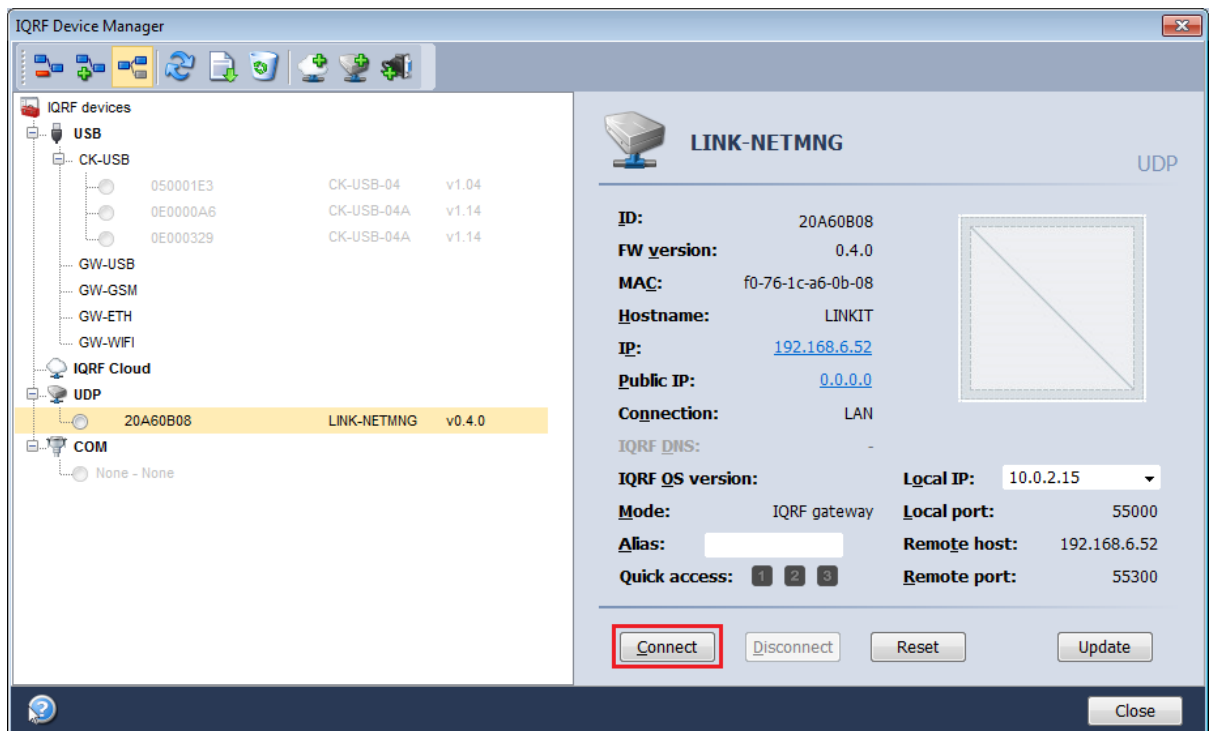
The IQRF IDE can connect to the gateway only via the Link It! by default for security reasons! For development and/or debugging you can enable in gateway configuration but it is not recommended in production use!

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.

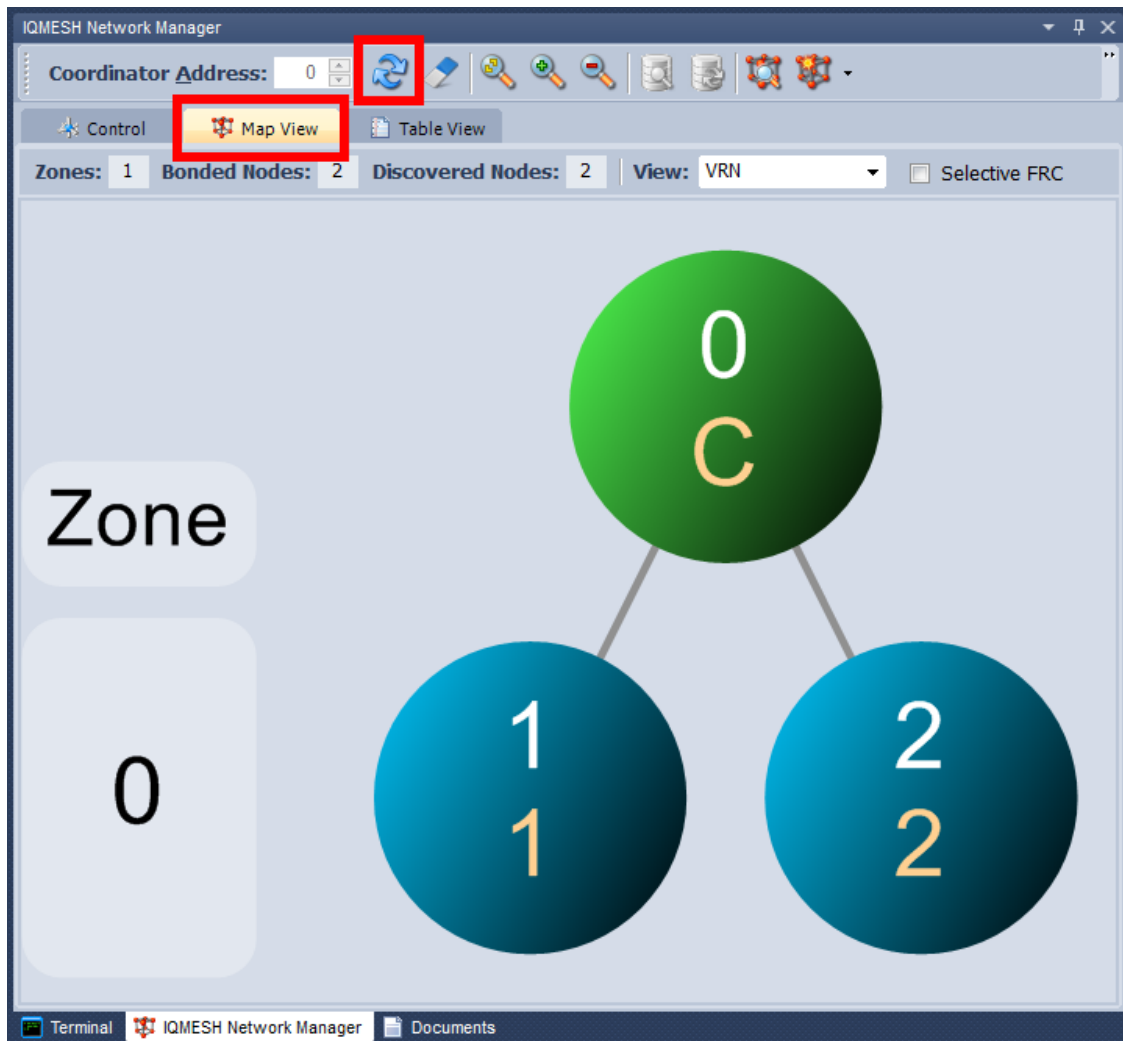
## 10.2 Modify TR configuration of IQRF coordinator

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*.

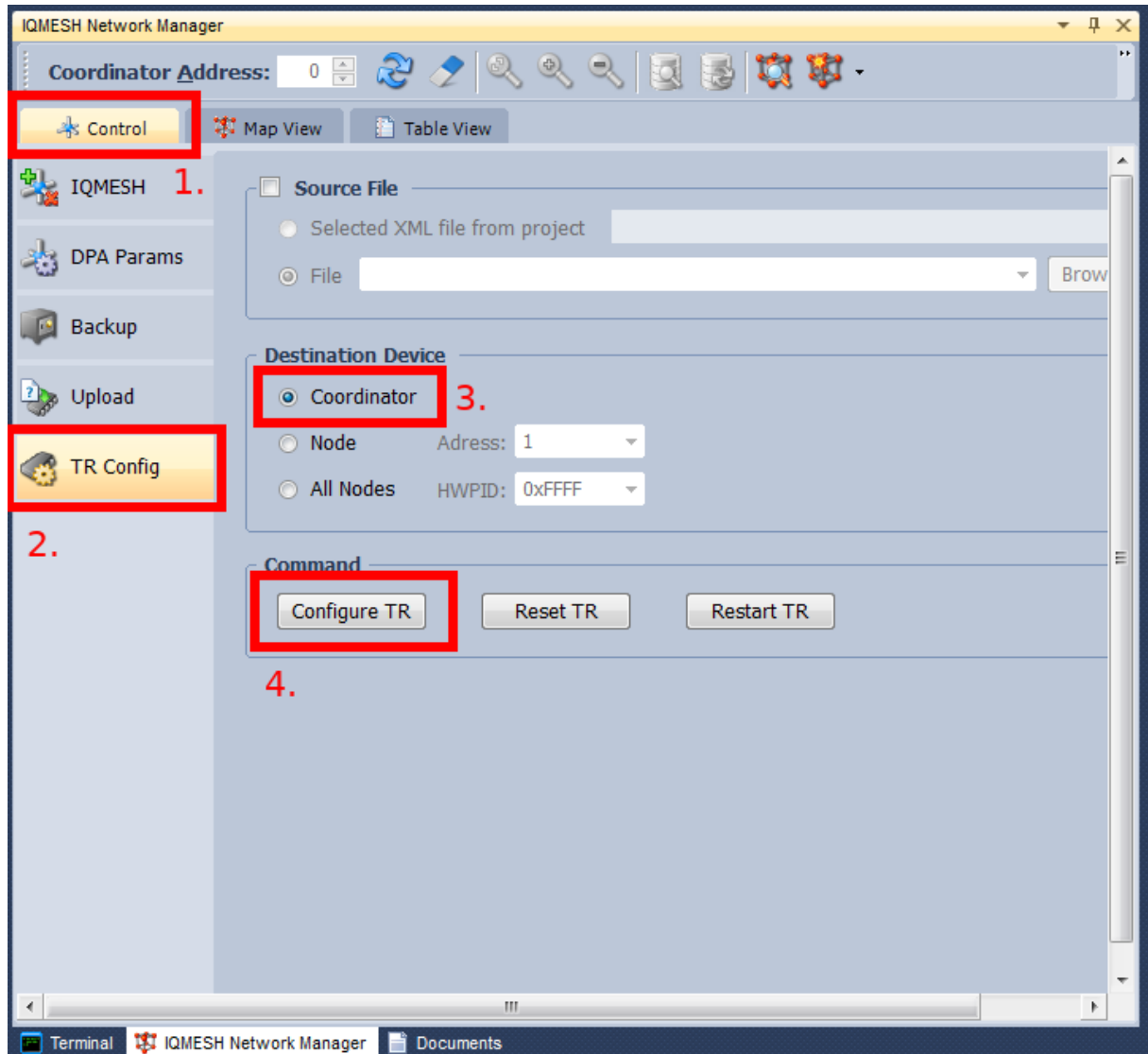


3. In the *IQHMESH Network manager* window update the network information by click on the *Update Data* icon in the *Map View* tab.

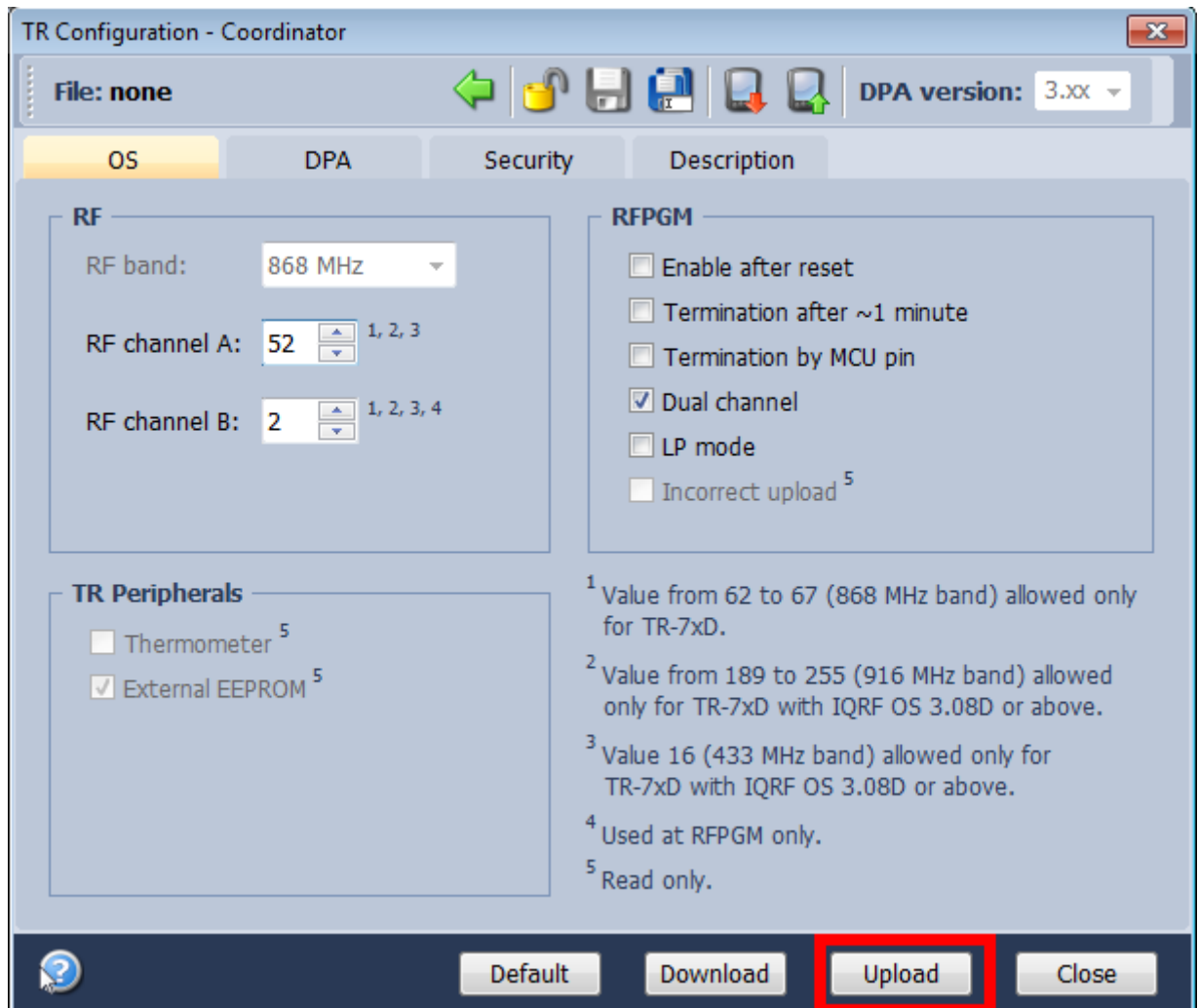




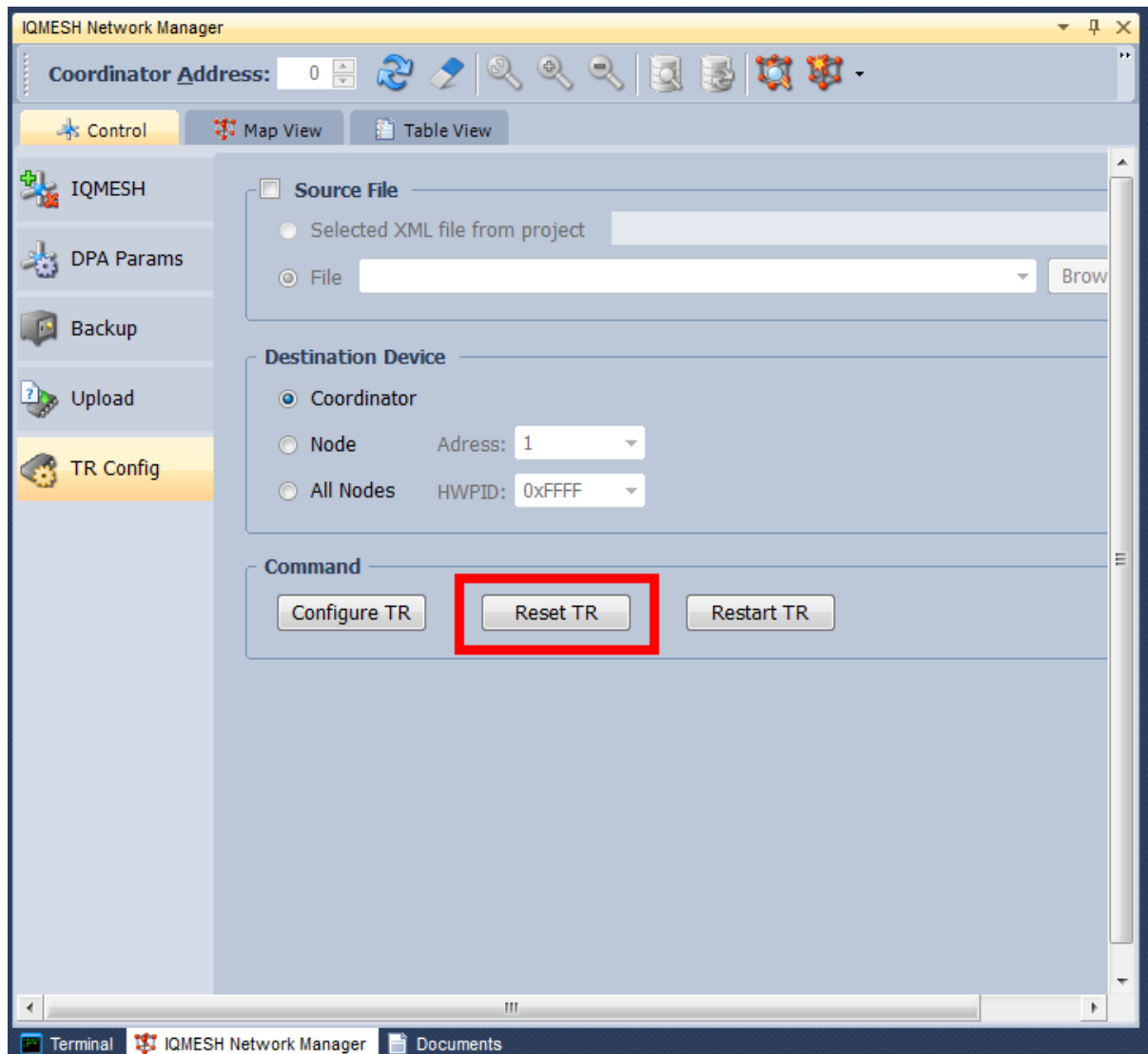
4. After the network information updated:
  1. Click on the *Control* tab
  2. Click on *TR Config*
  3. Select *Coordinator*
  4. Open TR configuration by click on the *Configure TR* button



- 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.



## Acknowledgement

This content was created with the support of the Ministry of Foreign Affairs and Trade of Hungary.