

LoRa gateway setup instructions (version 2, October 2019)

BroWan IOT Femto Gateway

Model name: WLRGFM-100

Step 1. Connect and login to the gateway administration area.

Connect antenna and connect wall adapter power. The USB connector only supports power, there is no communication supported via USB.

The gateway takes about 1 minute to boot up.

1.1 Open Admin GUI

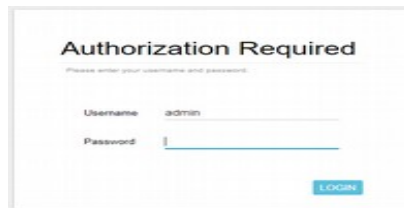
Connect your PC to the gateway via the WiFi network name starting with “AP-” (SSID: AP-last 6 digits of mac address)

For example: “**AP-457456**”

This is an “Open” unsecured connection. Ignore the warnings for now, you can secure the WiFi later.

After connecting to the gateway WiFi, open your web browser and access the gateway WebUI via address “**192.168.55.1**”. Default username is “**admin**” and password is “**admin**”.

Login with Username: admin, Password: admin



Authorization Required

Please enter your username and password.

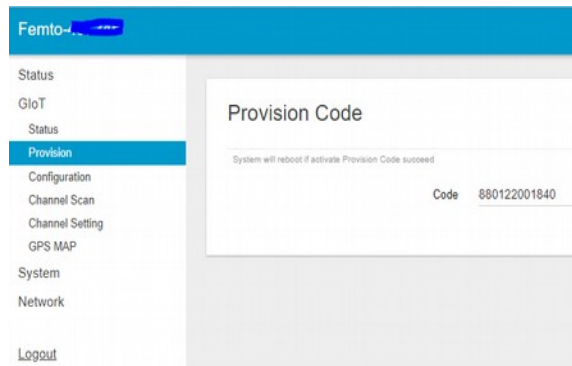
Username: admin

Password:

LOGIN

Only if this is a new installation, or after doing a reset to factory default settings, provide the provision code. The provision code for the USA is **880122001840**.

Click “apply”. The gateway will reboot.



Femto-100

- Status
- GloT
- Status
- Provision**
- Configuration
- Channel Scan
- Channel Setting
- GPS MAP
- System
- Network
- Logout

Provision Code

System will reboot if activate Provision Code succeed

Code: 880122001840

After reboot, connect your PC again to the gateway WiFi , and login.
 This will bring you to the status Overview screen

Femto-
AUTO REFRESH ON

- Status
- Overview
- Routes
- System Log
- Kernel Log
- Processes
- Realtime Graphs
- System
- GIoT
- Packet Forward
- Network
- Logout

Status

System

Hostname	Femto-
Model	GIOT InDoor FemtoCell
Firmware Version	Version 3.02.35 Wed May 23 14:11:22 CST 2018
Kernel Version	3.10.14
Local Time	10/14/19 02:45:00
Uptime	0h 6m 29s
Load Average	0.74, 0.47, 0.23

Memory

Total Available	<div style="width: 99%; background-color: #0070c0; height: 10px;"></div> 229470 kB / 255332 kB (89%)
Free	<div style="width: 78%; background-color: #0070c0; height: 10px;"></div> 201208 kB / 255332 kB (78%)
Cached	<div style="width: 8%; background-color: #ccc; height: 10px;"></div> 22316 kB / 255332 kB (8%)
Buffered	<div style="width: 2%; background-color: #0070c0; height: 10px;"></div> 5952 kB / 255332 kB (2%)

Network

IPv4 WAN Status	🚫 ? Not connected
Active Connections	<div style="width: 2%; background-color: #0070c0; height: 10px;"></div> 400 / 16384 (2%)

Need Help? <https://www.vinduino.com/support/>

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Step 2 Set up Internet communication

The Gateway can be connected to the Internet in two ways:

1. With an Ethernet cable (blue connector in the back) that connects the gateway to your Internet router (use the WiFi connection for setup first, or find the gateway's IP address on your Internet router)
2. Using WiFi
Select the **Network** menu, **WAN** option, **Wireless Extender**

Set **Extender mode** to “**enable**”

Scan for available networks and select the one (**SSID**) you want the gateway connected with.

Note that SSID names with special characters and punctuation marks (like: Jim's network) are not supported by the gateway.

Most wireless networks have access security. Select **Security**: WPA2-PSK-AES

Enter the network password for your WiFi network (**KEY**)

Click **SAVE**. The gateway will save the new information and restart wireless. Refresh your screen.

IMPORANT

As the gateway acts as a WiFi network extender, you can get Internet access by connecting to the gateway WiFi. To **protect access**, go to the **Network** menu, **Wireless** sub-menu, **2.4G Interface Configuration**, and change **encryption** from “None” to “WPAWPPA2-PSK”.

Enter a password under **Key**.

Click **Apply**

Step 3, Setup LoRa networking on the gateway

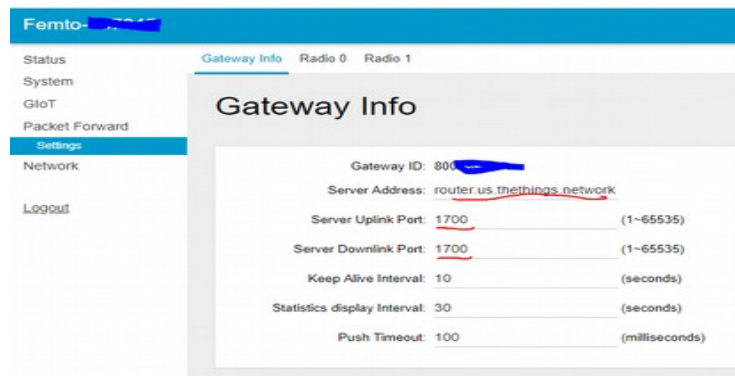
In the Packet Forward, Settings menu:

Select Gateway Info.

Change the server address to: **router.us.thethings.network**

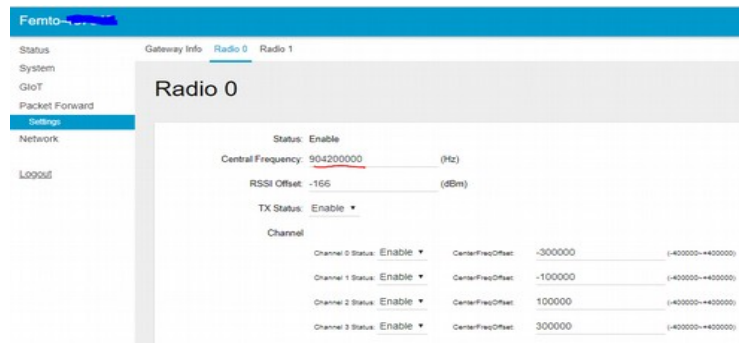
Change Server uplink and downlink ports to **1700**

Click Apply



In the Packet Forward, Settings menu:

Select **Radio 0**, and change the central frequency to **904200000**



In the Packet Forward, Settings menu:

Select **Radio 1**, and change the central frequency to **905000000**

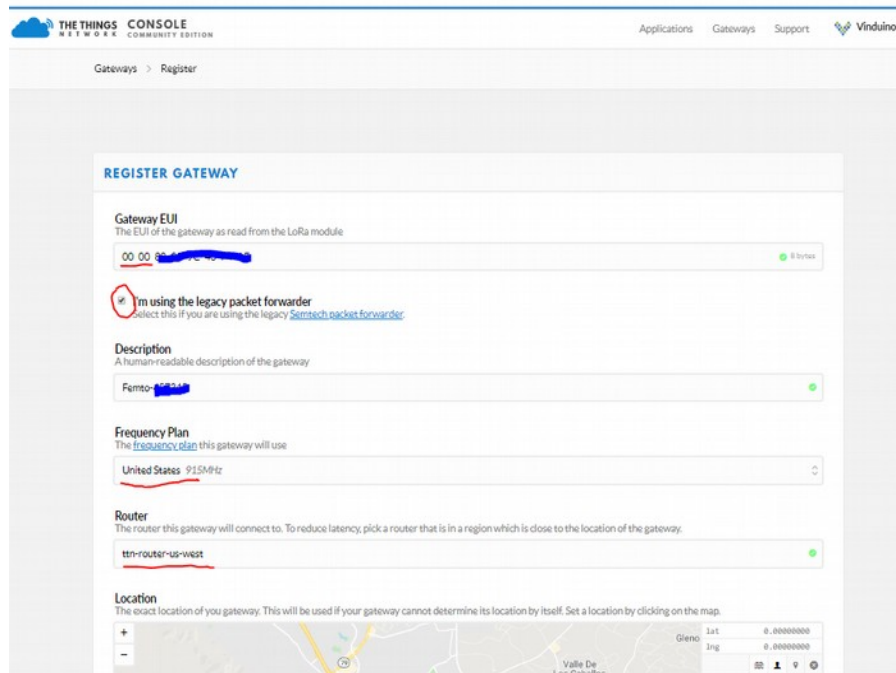
In the Packet Forward, Settings menu:

Select Gateway Info and **copy the gateway ID**. You need this to register your gateway at TheThingsNetwork.

Step 4, Register the gateway at The Things Network

Create an account on TTN <https://www.thethingsnetwork.org/>

1. Login and go to Console
 2. In Console - Click Gateways
 3. Register gateway
- check **Packet forwarder**
 Add **0000** in front of the Gateway ID obtained from Step 3
 Description, a human readable description
 Frequency Plan: **United States 915MHz**
 Router: **ttn-router-us-west**
 Location is optional (Lat/long).



With the Gateway Overview you can check if your gateway connected and working.

