

Step by step installation

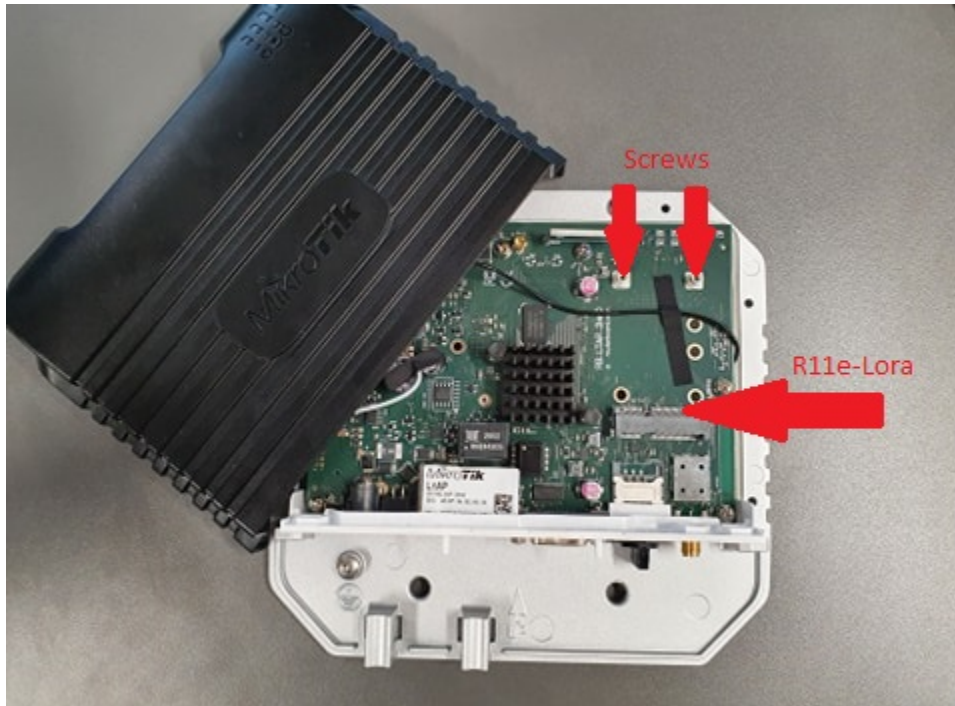
LoRa card installation

LtAP LTE kit will be used as example in this section.

Open your routers case. Once you have removed all the screws carefully move the upper case to the left side, as the LTE antennas are attached to the inner side of it.

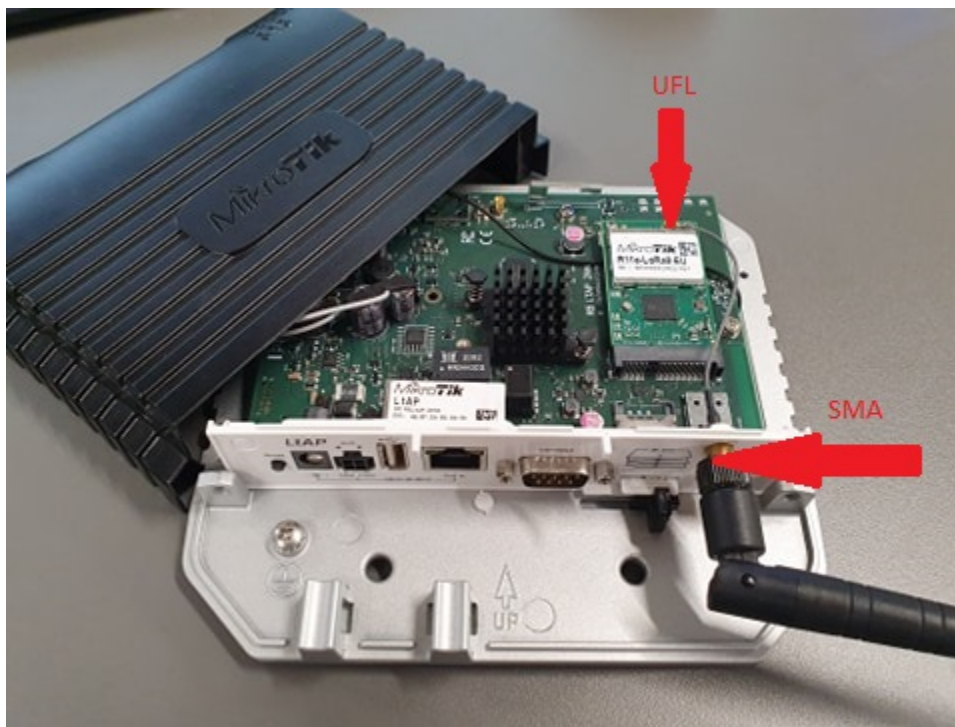


Insert R11e-LoRa card into the mini-PCle slot and apply two screws to the threaded inserts.



Attach antenna to the card (UFL connector)

In this case UFL → SMA cable is also used, as the LTAP's case has a specific slot for it.



Once the previous steps are done, you can close the routers case and move on to configuration.

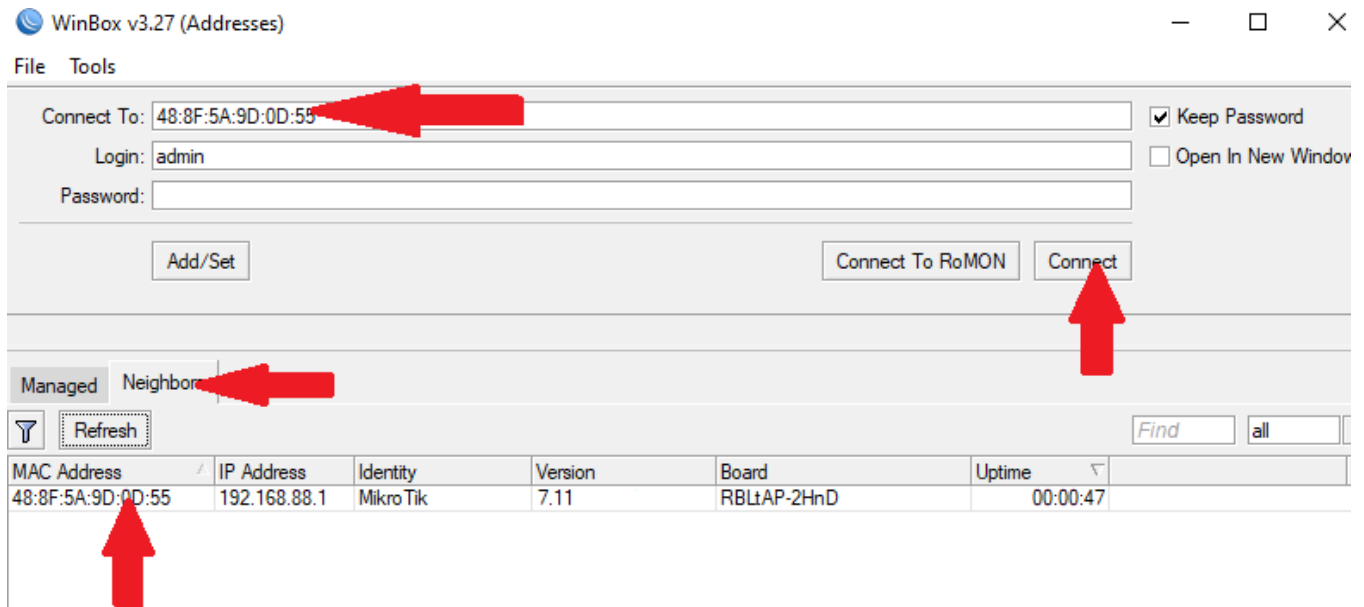
Configuration

GUI setup

Connect to your router via Winbox or WebFig.

Winbox can be downloaded in the link given below:

<https://mikrotik.com/download>



WinBox v3.27 (Addresses)

File Tools

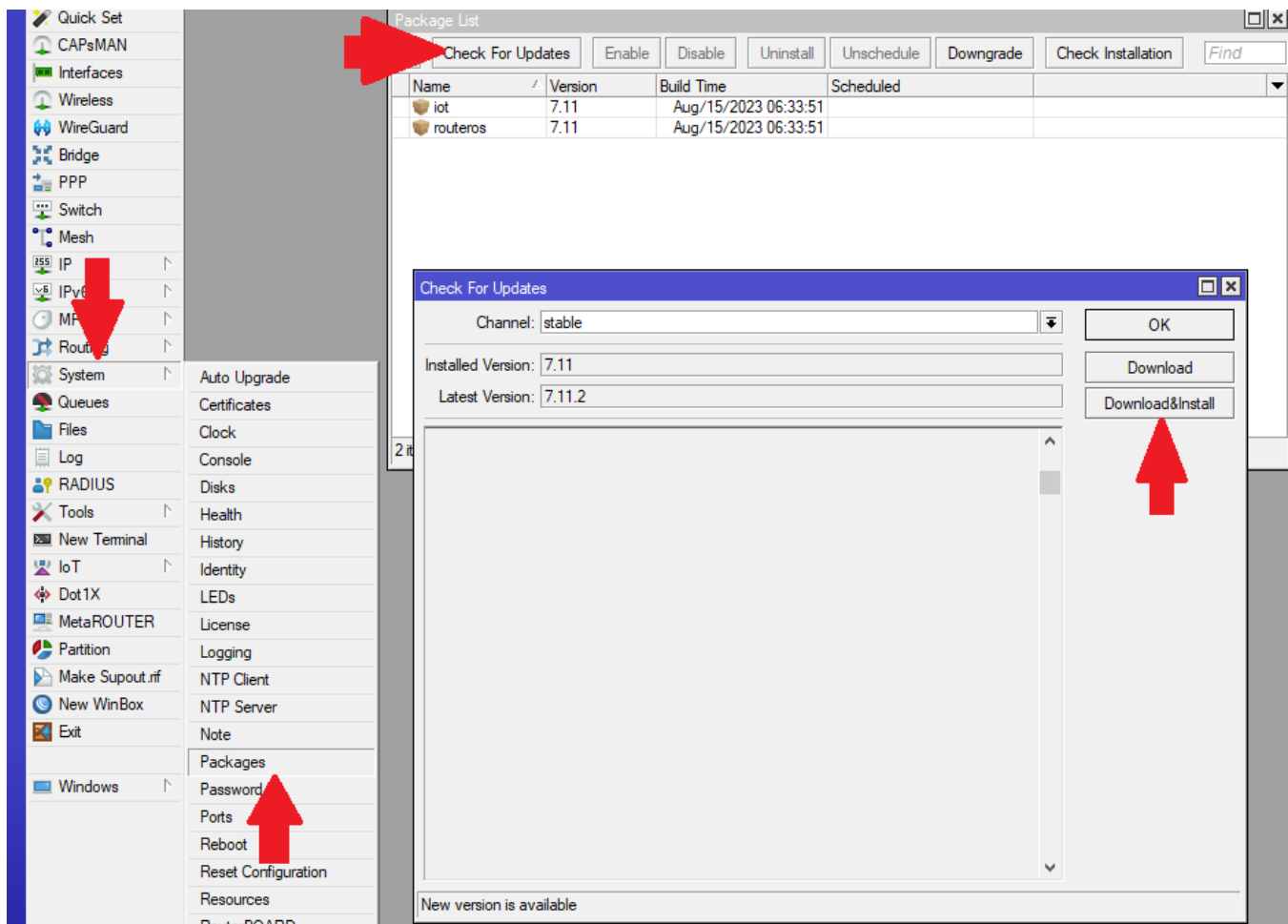
Connect To: 48:8F:5A:9D:0D:55 ☒ Keep Password
Login: admin ☐ Open In New Window
Password:
Add/Set Connect To RoMON Connect

Managed Neighbors

Find all

MAC Address	IP Address	Identity	Version	Board	Uptime
48:8F:5A:9D:0D:55	192.168.88.1	MikroTik	7.11	RBLtAP-2HnD	00:00:47

It is Highly recommended to upgrade your RouterOS version to the latest available. Installing the version will perform a reboot:



If your device does not have **IoT>LoRa** menu, download "**Extra packages**" specifically for your routers architecture and rOS version. You can see the type of your routers architecture at the top of Winbox window or in System → Resources → Architecture Name.

















<https://mikrotik.com/download>

Software

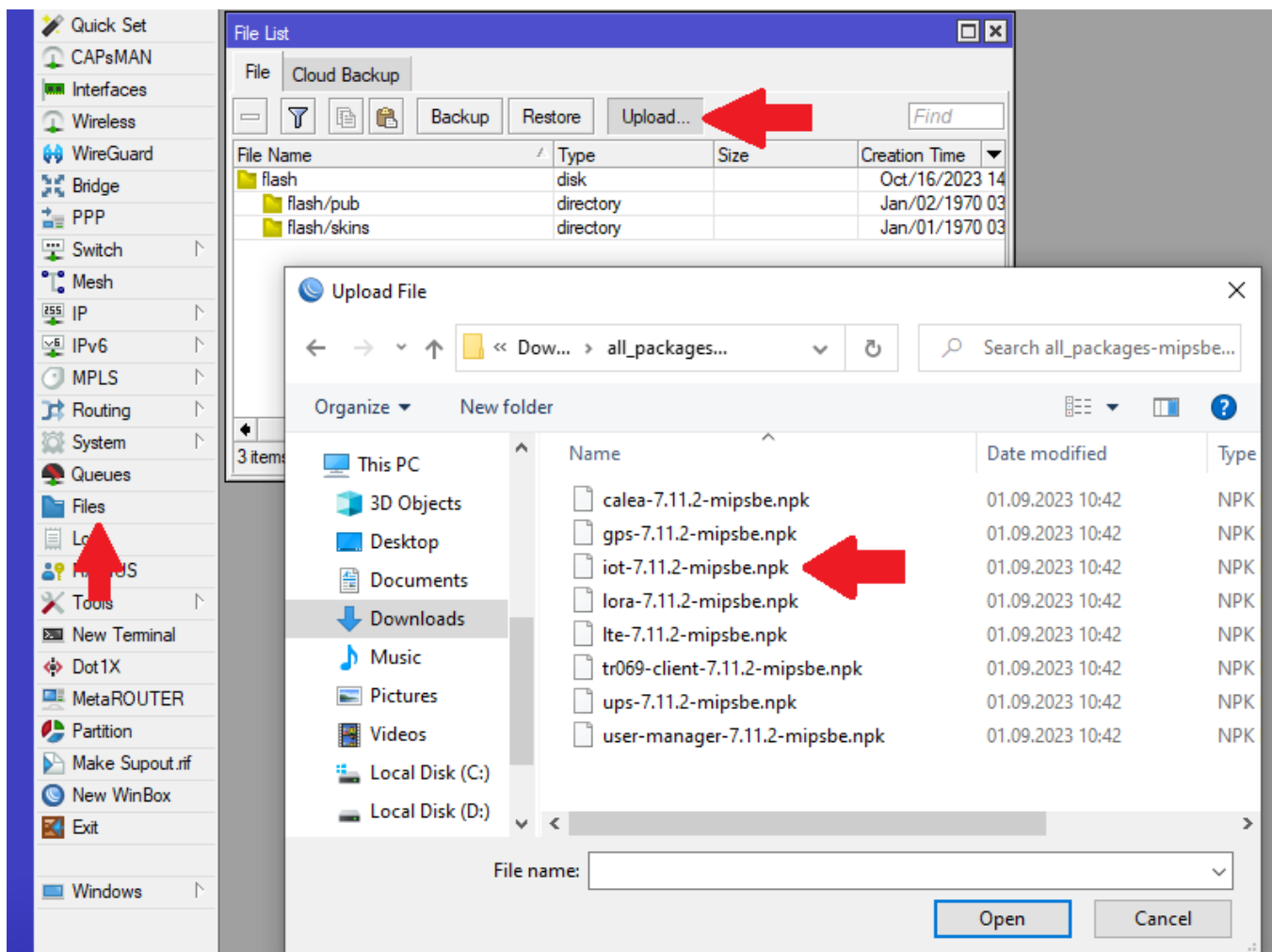
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RouterOS v7

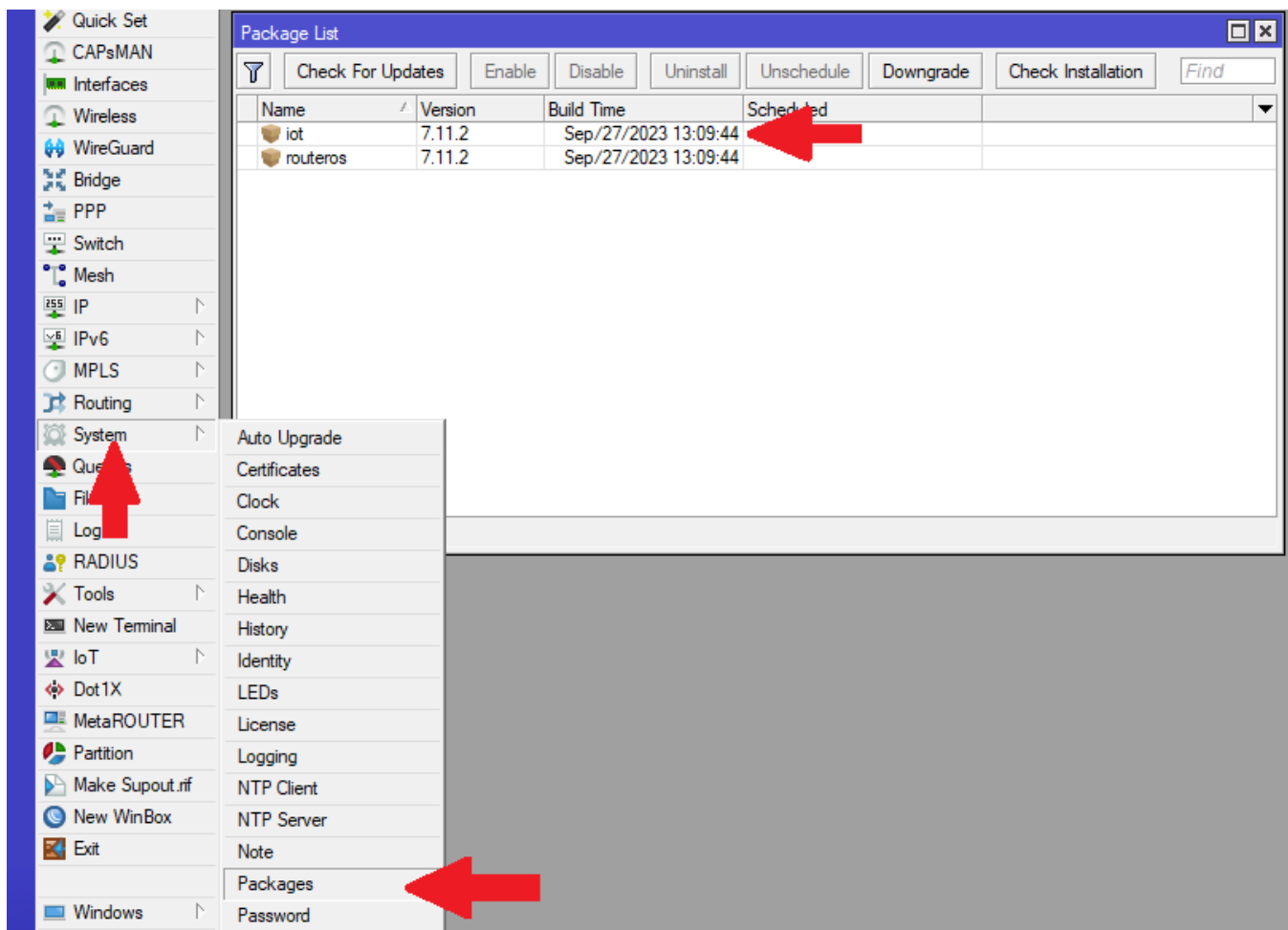


	7.11.2 Stable	7.12rc1 Testing
ARM		
Main package		
Extra packages		
ARM64		
Main package		
Extra packages		
MIPSBE		
Main package		
Extra packages		
MMIPS		
Main package		
Extra packages		

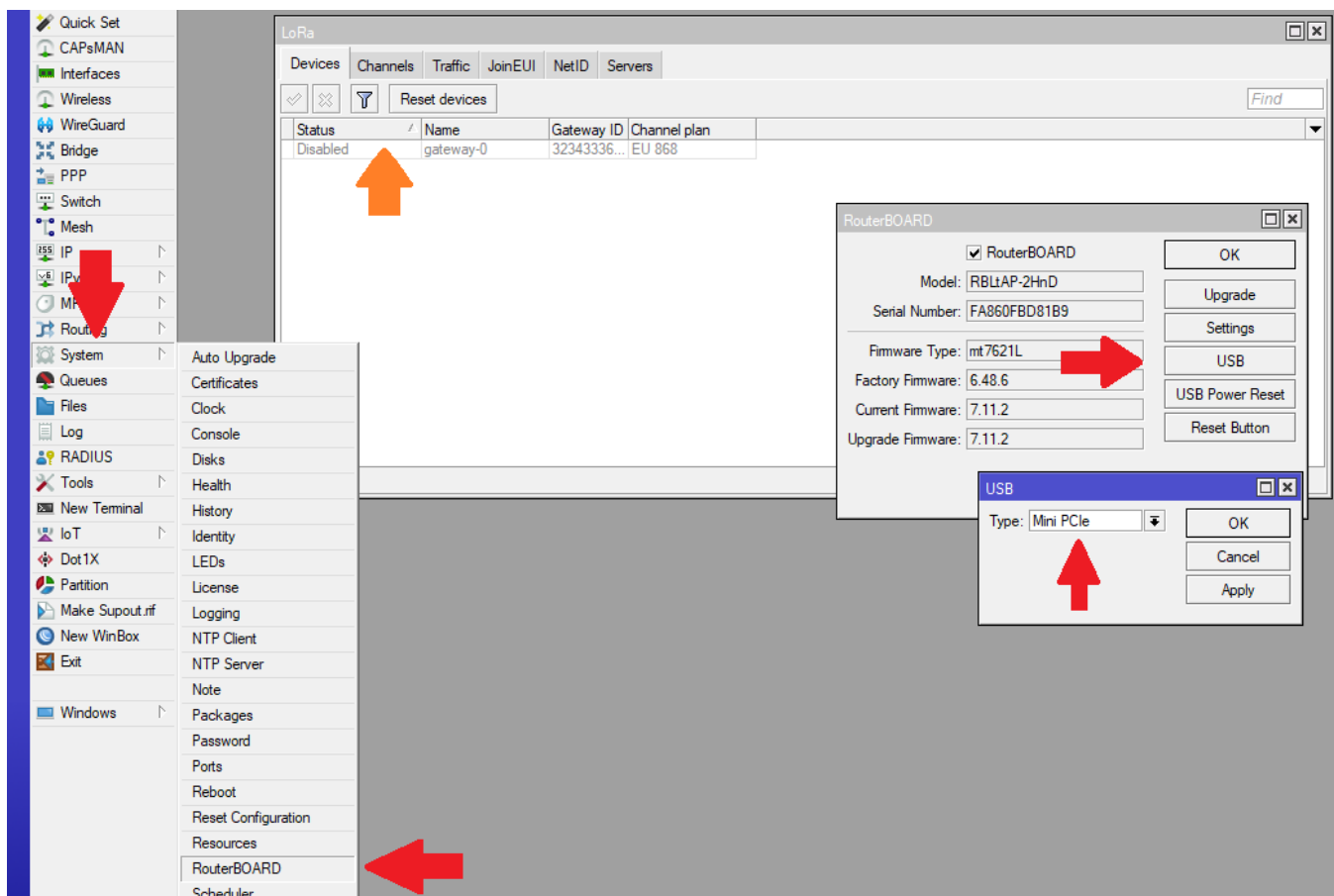
Once the package is downloaded and extracted, upload the **IoT** package to your router. It can be done via drag & drop as well. It should appear in the files folder after the upload is complete, reboot your router (System → Reboot) to install the package:



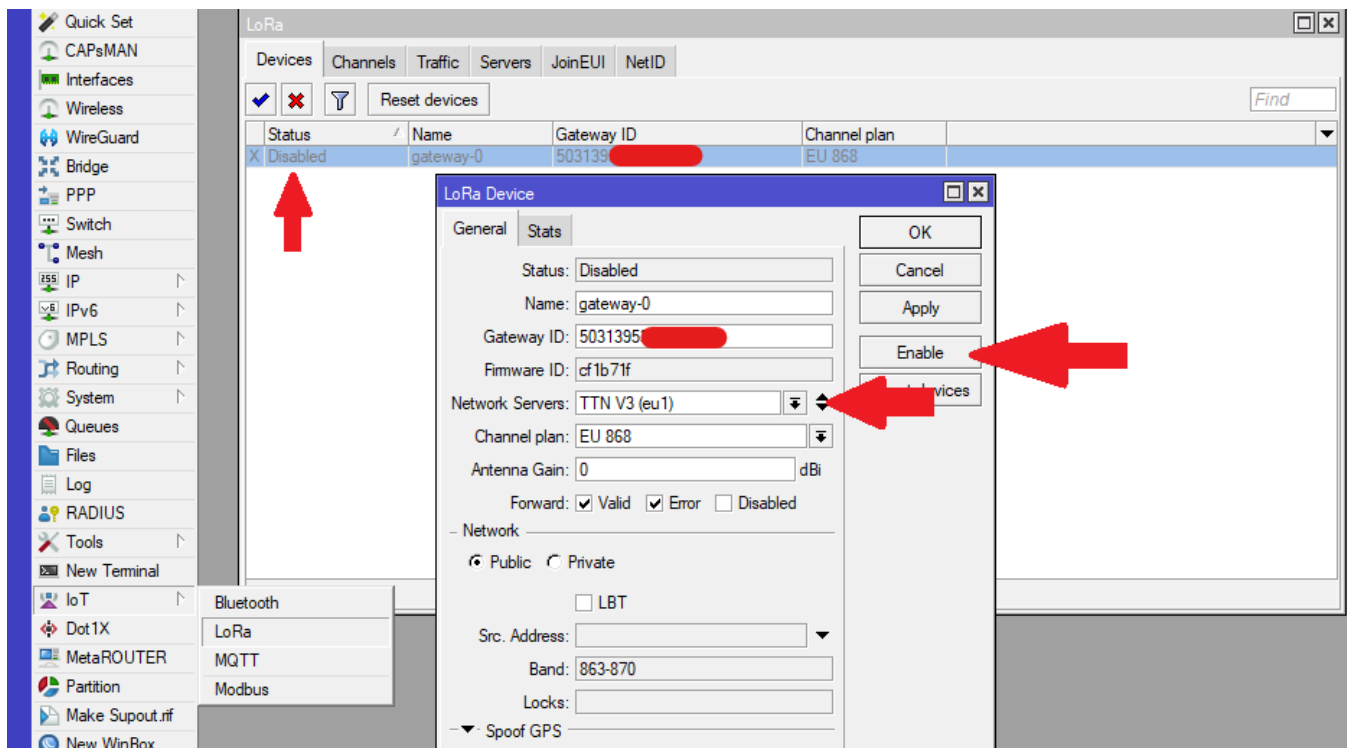
After the reboot, the package should be visible in the Package list:



Check if the LoRa gateway has initialized under **IoT>LoRa>Devices**. If it is LtAP model, make sure to set USB Type to Mini-PCle:



Once the gateway has shown up (under **IoT>LoRa>Devices**) select it, choose Network Servers from the default ones or add your own (under **IoT>LoRa>Servers**) and enable it:



Navigate to Traffic tab to monitor the surrounding nodes sending requests:

The screenshot shows the LoRa configuration window with the 'Traffic' tab selected. The interface includes a sidebar with various configuration options and a main table displaying received messages. A red arrow points to the 'Traffic' tab.

Type	Gateway ID	Message Type	Dev Addr	Freq (MHz)	Modulation	Bandwidth	Datarate	Coderate	CRC Status	RSSI (dB)	SNR (dB)
Rx	323433362...	Join-request		868.100	LoRa	125 kHz	SF 12	4/5	Ok	-59.00	9.50
Rx	323433362...	Join-request		868.100	LoRa	125 kHz	SF 12	4/5	Ok	-61.00	10.50
Rx	323433362...	Join-request		868.300	LoRa	125 kHz	SF 12	4/5	Ok	-59.00	9.25
Rx	323433362...	Join-request		868.300	LoRa	125 kHz	SF 12	4/5	Ok	-59.00	9.75
Rx	323433362...	Join-request		868.100	LoRa	125 kHz	SF 12	4/5	Ok	-57.00	9.25
Rx	323433362...	Join-request		868.300	LoRa	125 kHz	SF 12	4/5	Ok	-61.00	9.25
Rx	323433362...	Unconfirmed Data Do...	51 6E 25 BA	867.100	LoRa	125 kHz	SF 7	4/6	Error	-117.00	-11.00
Rx	323433362...	Join-request		868.500	LoRa	125 kHz	SF 12	4/5	Ok	-59.00	8.25
Rx	323433362...	Join-request		868.500	LoRa	125 kHz	SF 12	4/5	Ok	-55.00	7.25
Rx	323433362...	Join-request		868.500	LoRa	125 kHz	SF 12	4/5	Ok	-56.00	7.25
Rx	323433362...	Join-request		868.500	LoRa	125 kHz	SF 12	4/5	Ok	-61.00	9.50
Rx	323433362...	Join-request		868.500	LoRa	125 kHz	SF 12	4/5	Ok	-61.00	8.75
Rx	323433362...	Join-request		868.500	LoRa	125 kHz	SF 12	4/5	Ok	-54.00	8.50
Rx	323433362...	Join-request		868.100	LoRa	125 kHz	SF 12	4/5	Ok	-61.00	8.75
Rx	323433362...	Join-request		868.500	LoRa	125 kHz	SF 12	4/5	Ok	-61.00	8.75

54 items

This concludes basic installation and configuration of LoRa mini-PCIe cards. For additional settings check: [General Properties](#)