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Slevin's Guide to Enabling SX1262 hat for Meshtastic on RPi 4B running Ubuntu 24.04

https://meshtastic.org/docs/hardware/devices/linux-native-hardware/

This is the LoRa hat that I used for these instructions:

https://a.co/d/0f0xqQF9

Waveshare SX1262 LoRaWAN Node Module Expansion Board for Raspberry Pi, with Magnetic CB Antenna-SX1262 868/915M LoRaWAN/GNSS HAT

1. **Edit Config.txt file to enable the SX1262 hat:**

sudo nano /boot/firmware/config.txt

2. **Uncomment or add the following lines to the config.txt file:**

dtparam=spi=on

dtoverlay=spi0-0cs

3. **Install system libraries:**

sudo apt install libgpiod-dev libyaml-cpp-dev libbluetooth-dev

4. **Install web server support:**

sudo apt install openssl libssl-dev libulfius-dev liborcania-dev

5. **Download the correct meshtastic firmware for Raspberry Pi 4b 64 bit:**

wget https://github.com/meshtastic/firmware/releases/download/v2.3.13.83f5ba0/meshtasticd_2.3.13.83f5ba0_arm64.deb

6. **Compile the software for use on Ubuntu 24.04:**

sudo apt install curl pip git python3-venv pkg-config libbluetooth-dev libgpiod-dev libyaml-cpp-dev openssl libssl-dev libulfius-dev liborcania-dev -y

python3 -m venv ./

source bin/activate

pip install -U platformio adafruit-nrfutil

pip install -U meshtastic –pre

git clone https://github.com/meshtastic/firmware.git

cd firmware/

git submodule init

./bin/build-native.sh

****Should have created a meshtasticd_linux_aarch64 in the release/ folder**

7. **From the /firmware folder run:**

sudo ./bin/native-install.sh

8. **Edit config and uncomment lines for SX1262:**

sudo nano /etc/meshtasticd/config.yaml

Uncomment these lines for the correct LoRa hat (Waveshare SX1262) under Lora:

```
Module: sx1262  # Waveshare SX126X XXXM
DIO2_AS_RF_SWITCH: true
CS: 21
IRQ: 16
Busy: 20
Reset: 18
```

9. **Reboot and set service:**

sudo systemctl enable meshtasticd –now

10. **Check status:**

systemctl status meshtasticd

11. **Log output:**

journalctl -u meshtasticd -f

12. **Activate web services to enable access via HTTP:**

On your Pi, make a new folder in your home folder

mkdir ~/web

cd ~/web

wget https://github.com/meshtastic/web/releases/download/latest/build.tar

tar -xvf build.tar

rm build.tar

gunzip ./*.gz

13. **Edit config.yaml file to configure for web access (for HTTP access to device via IP address):**

sudo nano /etc/meshtasticd/config.yaml

Down at the bottom, uncomment the Webserver lines. You may need to pick another port if 443 is in use. And for the RootPath, change it to point to the new web folder, e.g., RootPath: /home/**USERNAME**/web

Using whatever the right username is for your Raspberry Pi device.

14. **Then restart meshtasticd or reboot RPi, and web access should be working.**
15. **To test, access the node via its IP address:**
    a. Browse to https://YOUR IP ADDRESS:PORT#
    b. Should be presented with “NEW CONNECTION” dialog box
    c. Click NEW CONNECTION button and the IP address should auto populate with your IP address
    d. IMPORTANT: append your port number to the IP address before selecting connect