Getting Started with MOSTLink LoRa

Install the Arduino Software (IDE)

Click on the links below to get step-by-step instructions to set up the Arduino IDE on your computer. (Arduino Official Guide)

- Windows
- Mac OS X
- Linux

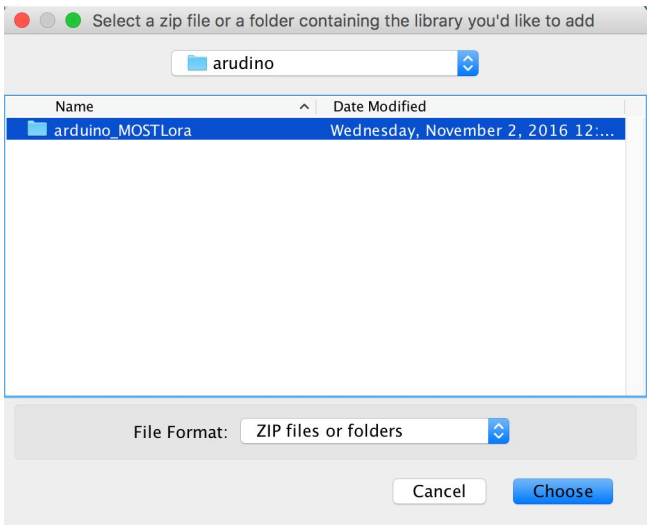
Install MOSTLink LoRa Library in your computer

Get the MOSTLora library with the git command: (GitHub)

```
git clone https://github.com/viWavePublic/MOSTLink_LoRa_Arduino
```

Add MOSTLink LoRa Library to Arduino IDE

Open the Arduino IDE on your computer. Click to the “Sketch” menu and the Include Library > Add .ZIP Library…. Select the folder of arduino_MOSTLora cloned from MOSTLink Github and click Choose button.

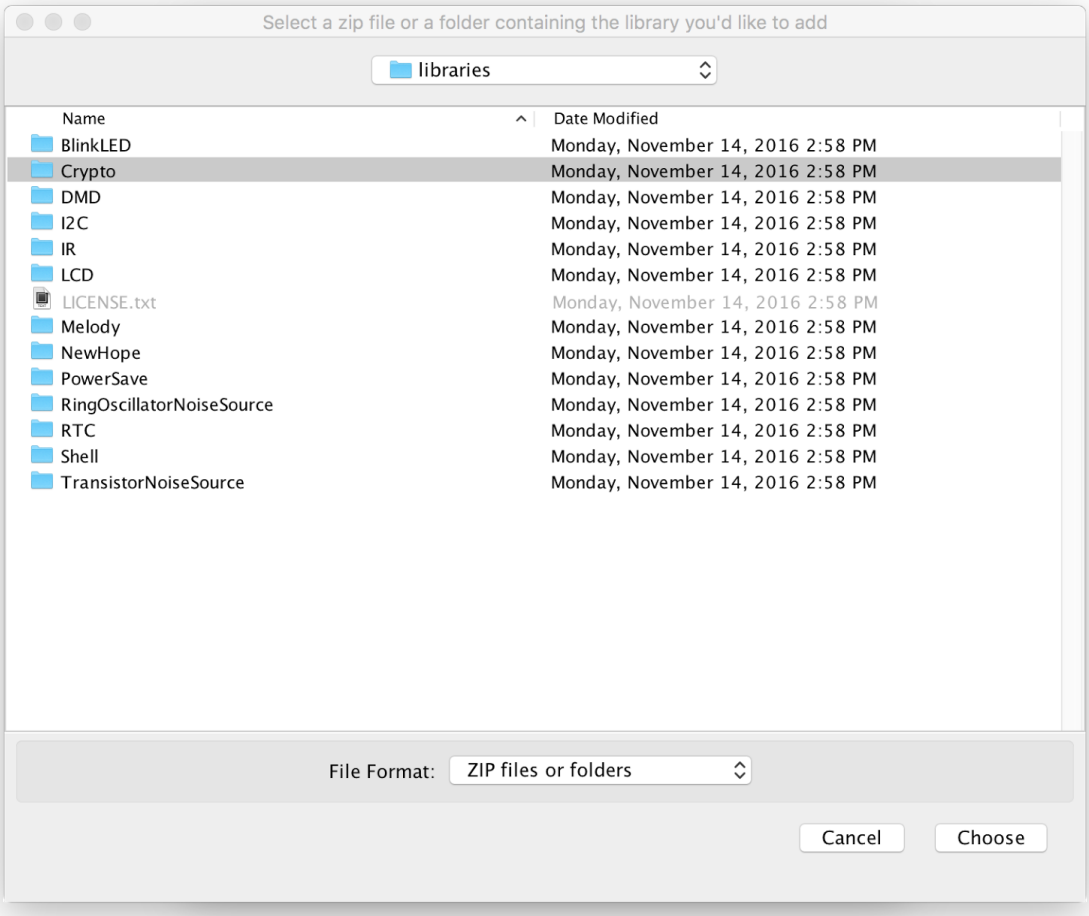


Install MOSTLink LoRa Dependency

Get the MOSTLora library with the git command: (GitHub)

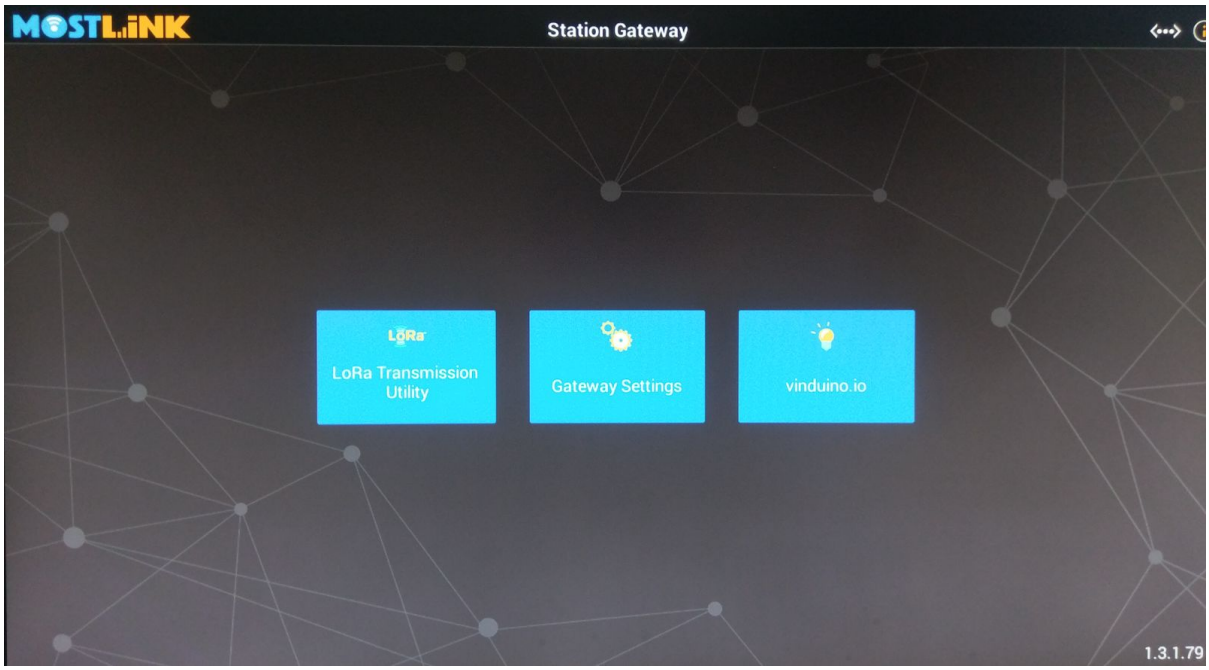
```
git clone https://github.com/rweather/arduinolibs
```

Add the dependancy library, Crypto, located at arduinolibs/libraries/Crypto from Arduino IDE's menu bar: Sketch > Include Library > Add .ZIP Libraries…

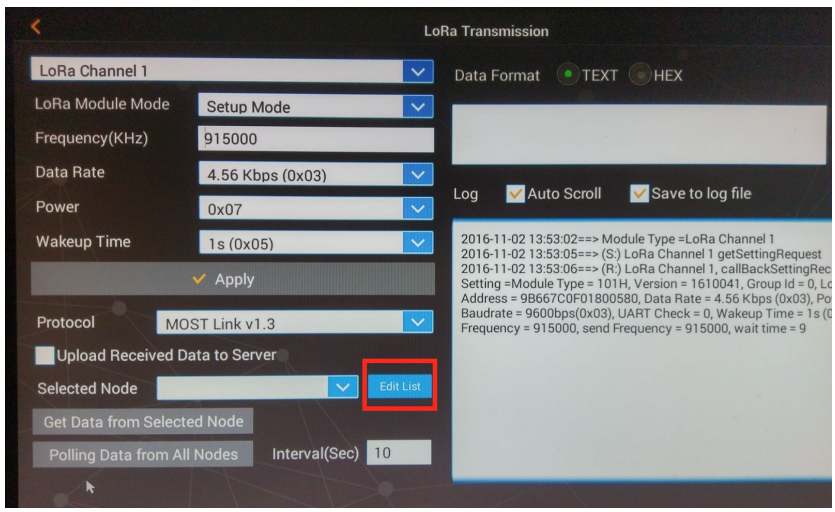


Setup MOSTLink LoRa Gateway

Connect the power, hdmi, mouse, keyboard and antennas to LoRa Station Gateway. After the gateway is initialized, the gateway's home page will be displayed.

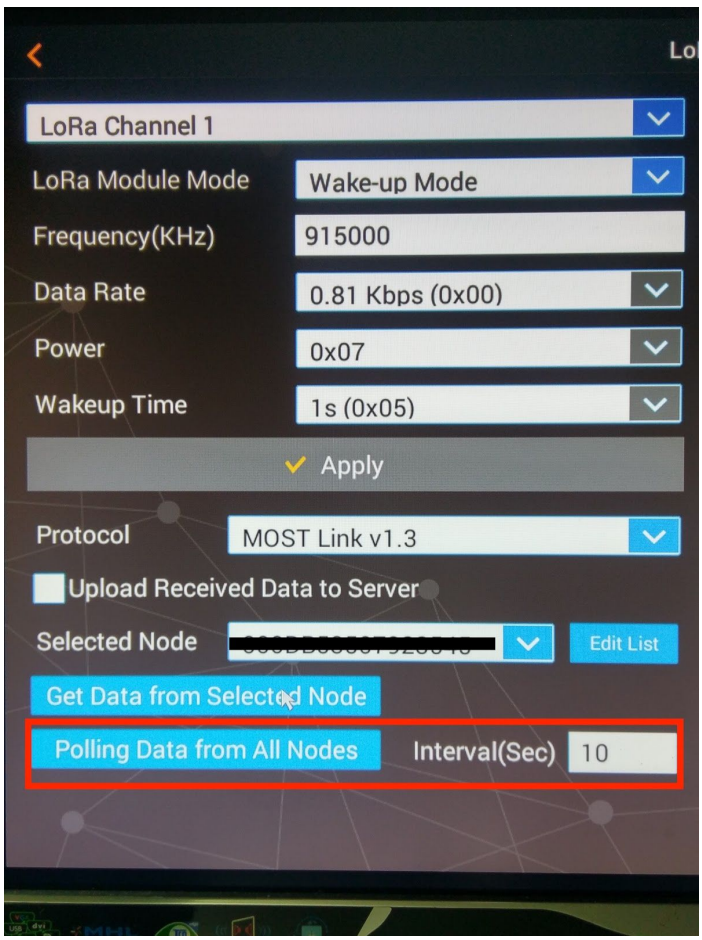


Click LoRa Transmission Utility to enter LoRa Transmission settings. Then click Edit List to add LoRa Shield device into gatway's device list.



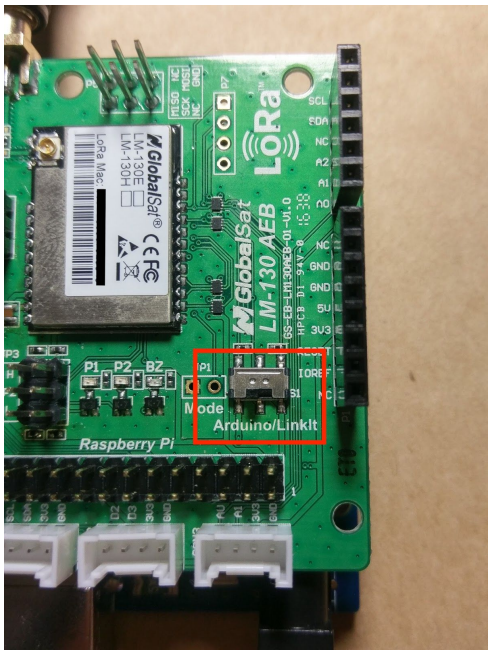
Click Add button and input your LoRa shield device's MAC. The MAC of LoRa shield can be found on the label of the LoRa module.

After that, Switch the LoRa Module Mode from Setup Mode to Wake-up Mode. Then click Polling Data from All Nodes to start querying all nodes in polling list with interval of customized value. (Default: 10 seconds)

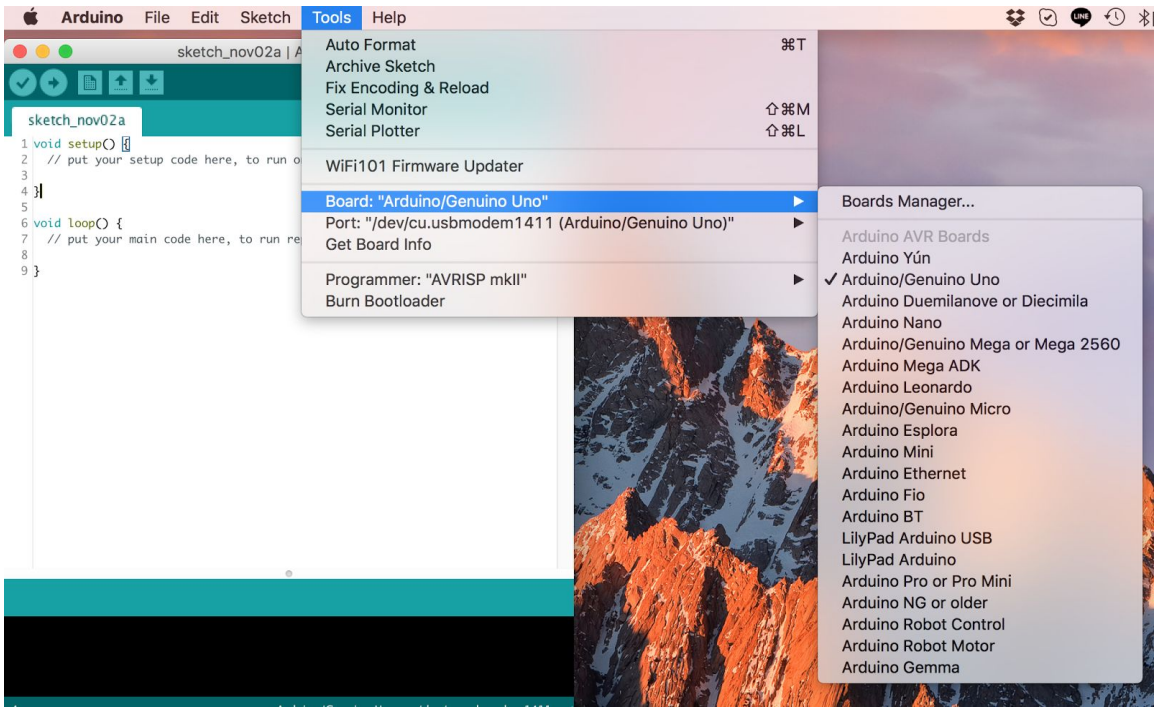


Run your first LoRa node

Make sure your LoRa shield is set to Arduino.



Open Arduino IDE and create a new sketch. Click Tools > Board: XXX > Arduino Genuino/ UNO to select Arudino Uno board. Then click Port > /dev/cu.usbmodem xxxx (Arduino Genuino/ UNO) to select the port.



Copy the codes below to your sketch.

```
#include "MOSTLora.h"
#include "MLPacketParser.h"

#define LED_PIN 13

MOSTLora lora;

void setup() {
  pinMode(LED_PIN, OUTPUT);
  lora.begin();
  lora.writeConfig(915000, 0, 0, 7, 5);
  lora.setMode(E_LORA_POWERSAVING);    // module mode: power-saving
  lora.setCallbackPacketReqData(blink); // set polling request callback
}

void loop() {
  lora.run(); // lora handle input messages
  delay(100);
}

// Callback method when getting request packet from a station gateway
void blink() {
    for (int i=0; i<10;i++) {
      digitalWrite(LED_PIN, HIGH);
      delay(100);
      digitalWrite(LED_PIN, LOW);
      delay(100);
    }
}
```

Verify and Upload it to your LoRa Node. Now, your first Lora Node is up and its led on Arduino board will flash 10 times when receiving query from the station gateway. Cheers!!

Q & A:

1. Why do I get warning message of 'Arduino AVR Boards' contains deprecated recipe.ar.pattern' ?

Ans:

Your Arduino AVR Boards's version is not up to date. Please update to the latest release at Tool> Board:Arduino XXX> Boards Manager... > Arduino AVR Boards by Arduino > Update

2. Always receive "Can't open device "/dev/…": Resource busy

Ans:

Sometimes, port might be always occupied by some program with invalid status. Reset it by unplug & plug your usb cable.

3. Why can't I use PIN 5, PIN 6, and PIN 7.

Ans:

LoRa uses there three pins to handle modes & busy signal. Please don't use these three pins.

4. The communication between the station gateway and node is not stable?

Ans:

Please keep a node from a station gateway at least one meter away. They will interfere with each other if too close.

5. Why the screen is always black?

Ans:

Please make sure your hdmi cable is connected to the screen firmly and the resolution is recommended to set to 1280x720.