

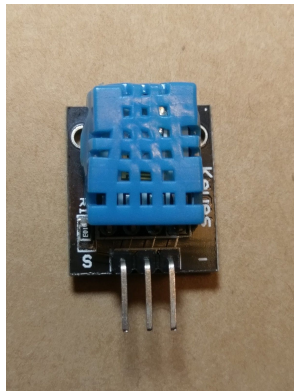
Humidity&Temperature LoRa Reporter

We can easily build an automatically data reporter and collector system by using MOSTLink LoRa Gateway & Node. Here are an example for automatically sending humidity & temperature data and display the collected data in diagrams.

Required Components:

Arduino UNO *1
MOSTLoRa Shield *1
DHT11 Temperature & Humidity sensor *1
breadboard *1
wires * 3
ThinkSpeak Account *1

DHT11 Temperature & Humidity sensor



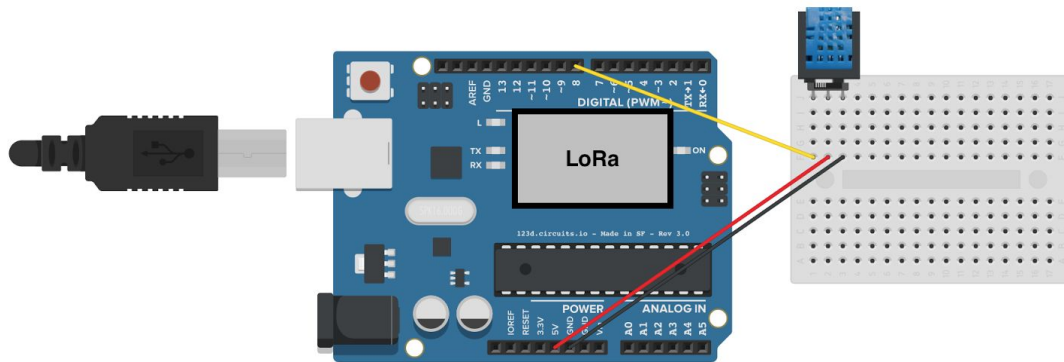
From left to right: Signal / VCC / GND

DHT11 Specification:

Humidity Range	20~90% RH
Humidity Accurate	± 5% RH
Temperature Range	0-50 °C
Temperature Accuracy	±2% °C
Operating Voltage	3V to 5.5V

Reference: [How to Set Up the DHT11 Humidity Sensor on an Arduino](#)

Circuit:

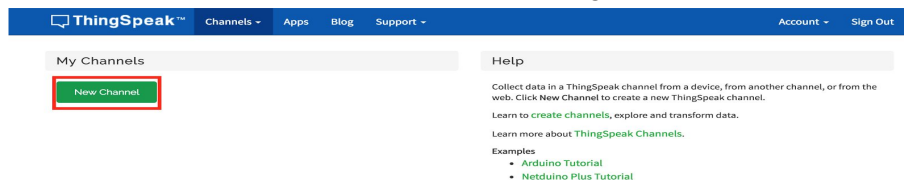


Setup Arduino & MOSTLoRa Library

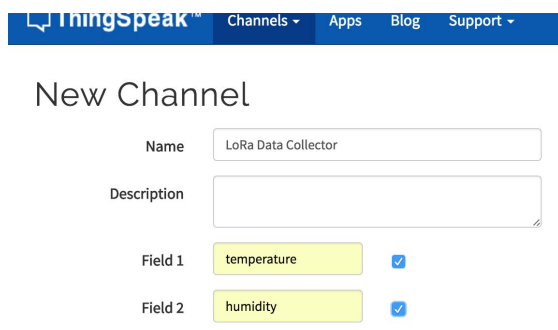
Please refer to “Getting Started with MOSTLink LoRa” guide.

Sign up a ThingSpeak account

Go to [ThingSpeak website](https://thingspeak.com) and sign up an account. After an account has been created, click New Channel to create a channel for receiving data from a LoRa station gateway.



Create a New Channel and set fields for temperature and humidity.



ThingSpeak™ Channels Apps Blog Support Account Sign Out

My Channels

New Channel

Help

Collect data in a ThingSpeak channel from a device, from another channel, or from the web. Click New Channel to create a new ThingSpeak channel.

Learn to [create channels](#), explore and transform data.

Learn more about [ThingSpeak Channels](#).

Examples

- [Arduino Tutorial](#)
- [Netduino Plus Tutorial](#)

New Channel

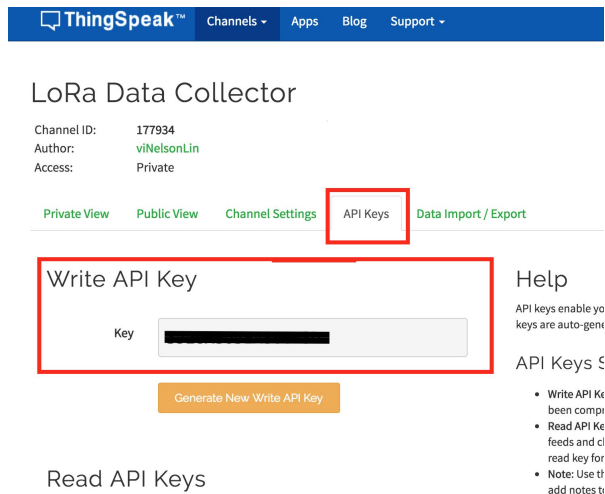
Name: LoRa Data Collector

Description:

Field 1: temperature ☒

Field 2: humidity ☒

After the channel being created, click on API Keys tab and write down your Write API Key.



Run MOSTLoRa temperature& humidity reporter

Copy & Paste the codes below to your Arduino's sketch. Replace the ThinkSpeak API key with yours.

```
#include <DHT.h>
#include "MOSTLora.h"
#include "MLPacketParser.h"
#define DHT11_PIN 8

const char *THINGSPEAK_WRITE_API_KEY = "YOUR_THINGSPEAK_WRITE_API_KEY";

DHT dht(DHT11_PIN, DHT11);
MOSTLora lora;

void setup() {
  lora.begin();
  lora.writeConfig(915000, 0, 0, 7, 5);
  lora.setMode(E_LORA_POWERSAVING);    // module mode: power-saving
  //set callback function when receiving request from a station gateway
  lora.setCallbackPacketReqData(uploadEnvironmentData);
}

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

// read temperature, humidity data and send them to ThinkSpeak
```

```

void uploadEnvironmentData() {
  float temperature = dht.readTemperature(false); // true: Farenheit;
false: Celcius
  float humidity = dht.readHumidity();
  lora.sendPacketThingSpeak(THINGSPEAK_WRITE_API_KEY, temperature,
humidity, 0, 0, 0, 0, 0);
}

```

Now, whenever your MOSTLink LoRa reporter node get a query from MOSTLink LoRa Station Gateway, it will get humidity & temperature data from DHT-11 sensor then send data to [ThinkSpeak](#).

ThinkSpeak state history diagram

Go to [ThinkSpeak](#) and select Channels. Click on the channel we just created. Then we can see the state histories in the diagram. Now, we have an automatically weather data reporter. Cheers !!

