UPDATING THINGSPEAK CHANNEL USING DHT11 AND RASPBERRY PI

This manual is about creating and updating ThingSpeak channel using Temperature and Humidity values from DHT11 humidity sensor with Raspberry Pi.
To learn how to connect DHT11 with RaspberryPi download the project form this link:

https://github.com/ashishk7/raspberrydht11.git

1. Components Required

DHT11 Humidity sensor

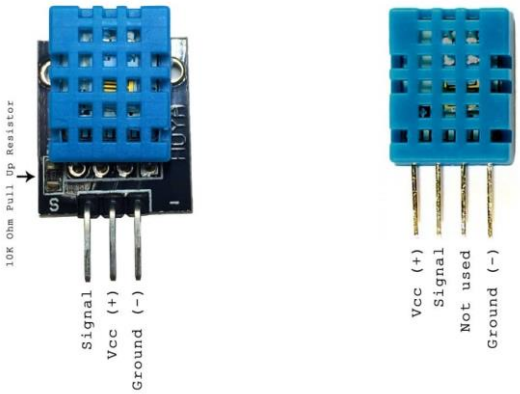
10K Resistor

Raspberry Pi

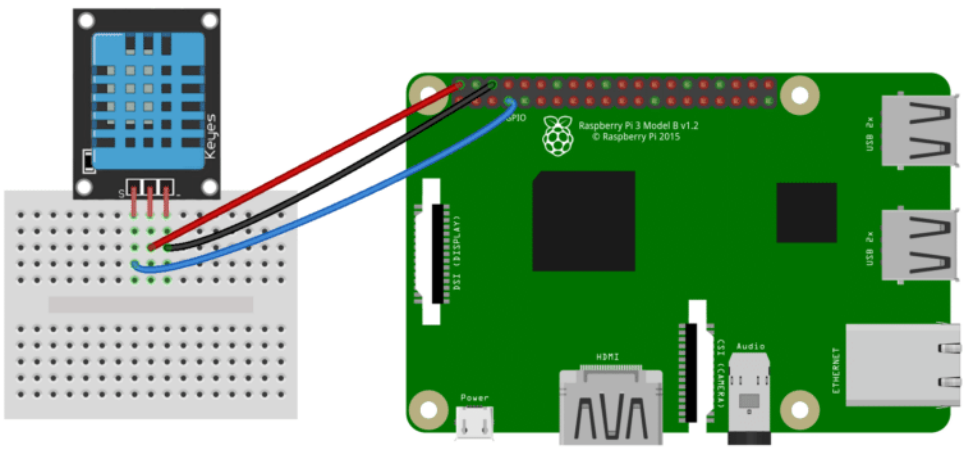
Jumper wires

2. Connecting DHT11 to Raspberry Pi

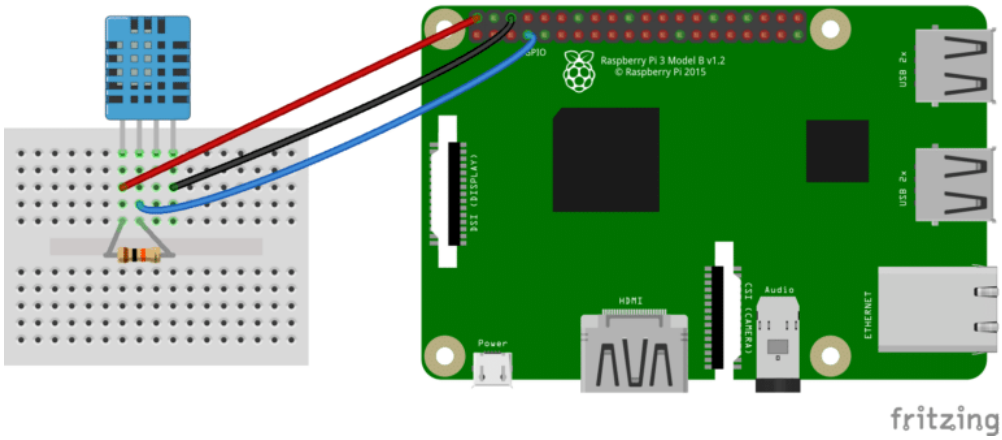
There are two variants of the DHT11 you're likely to come across.



Three pin DHt11 with SSH output:

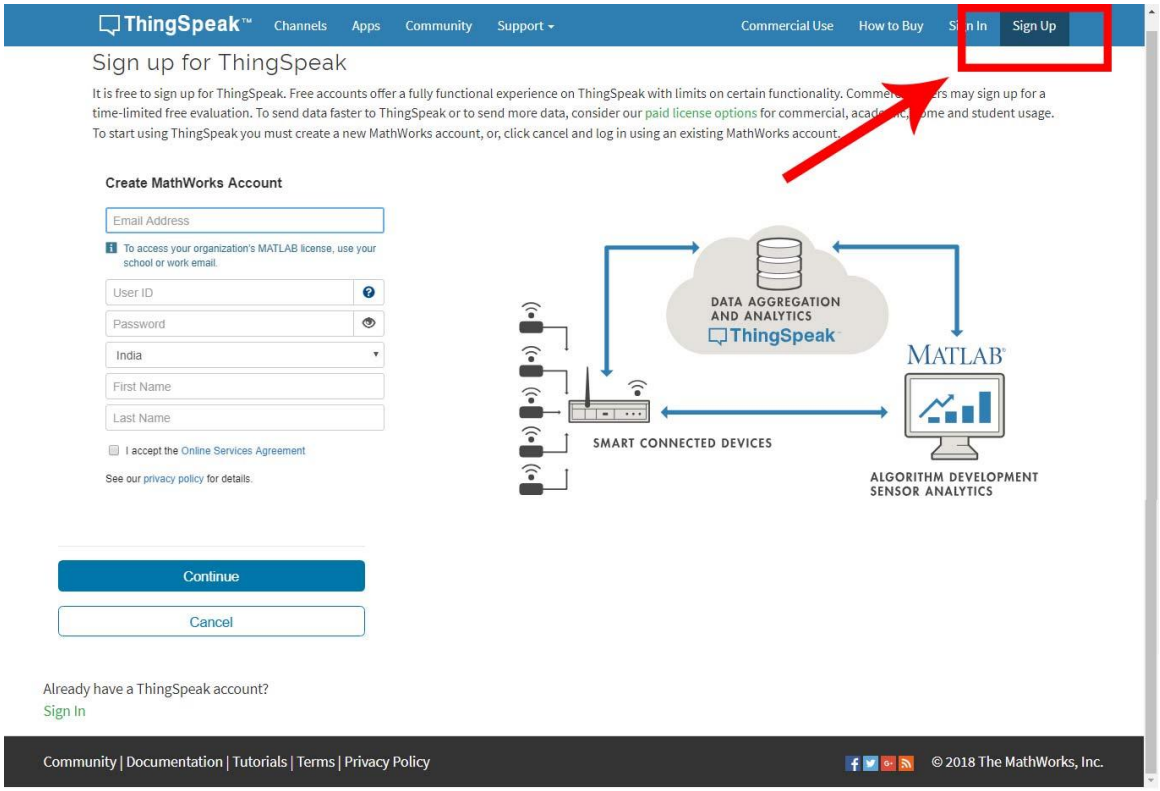


Four pin DHT11 with SSH output:

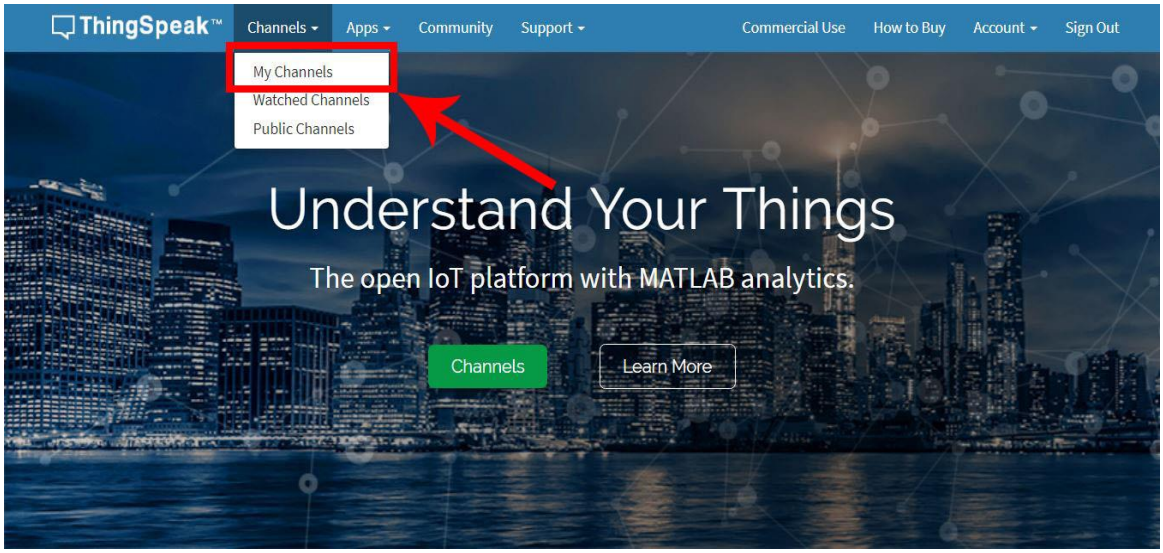


3. Creating Channel on ThingSpeak Server.

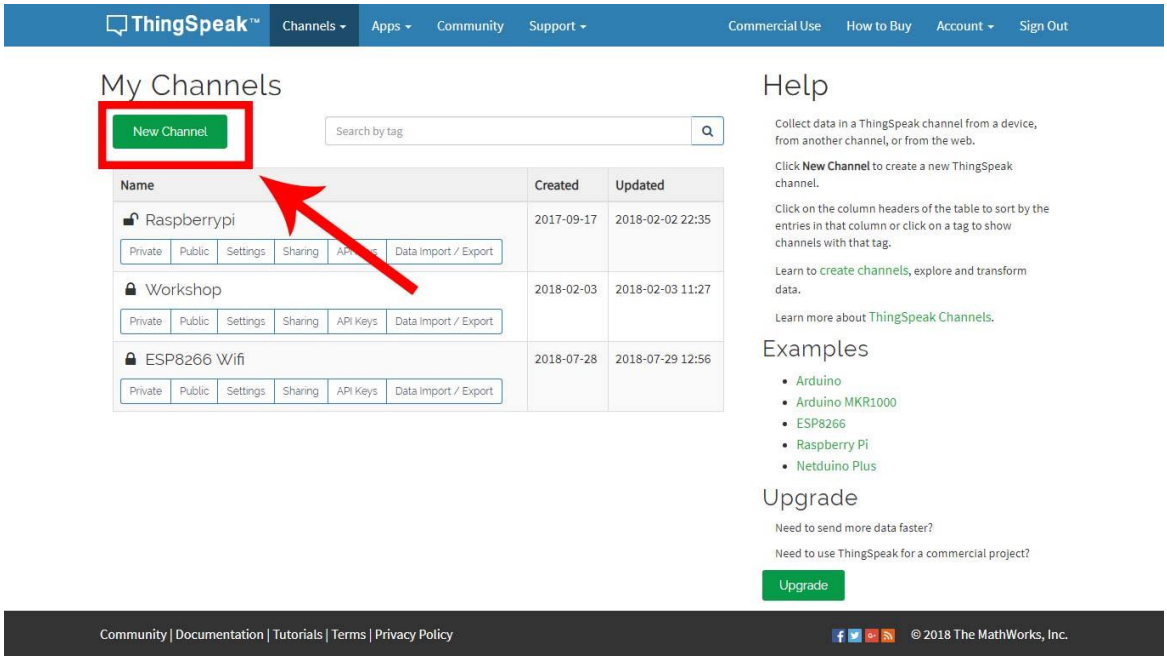
Step 1: SignUp and fill in your details.



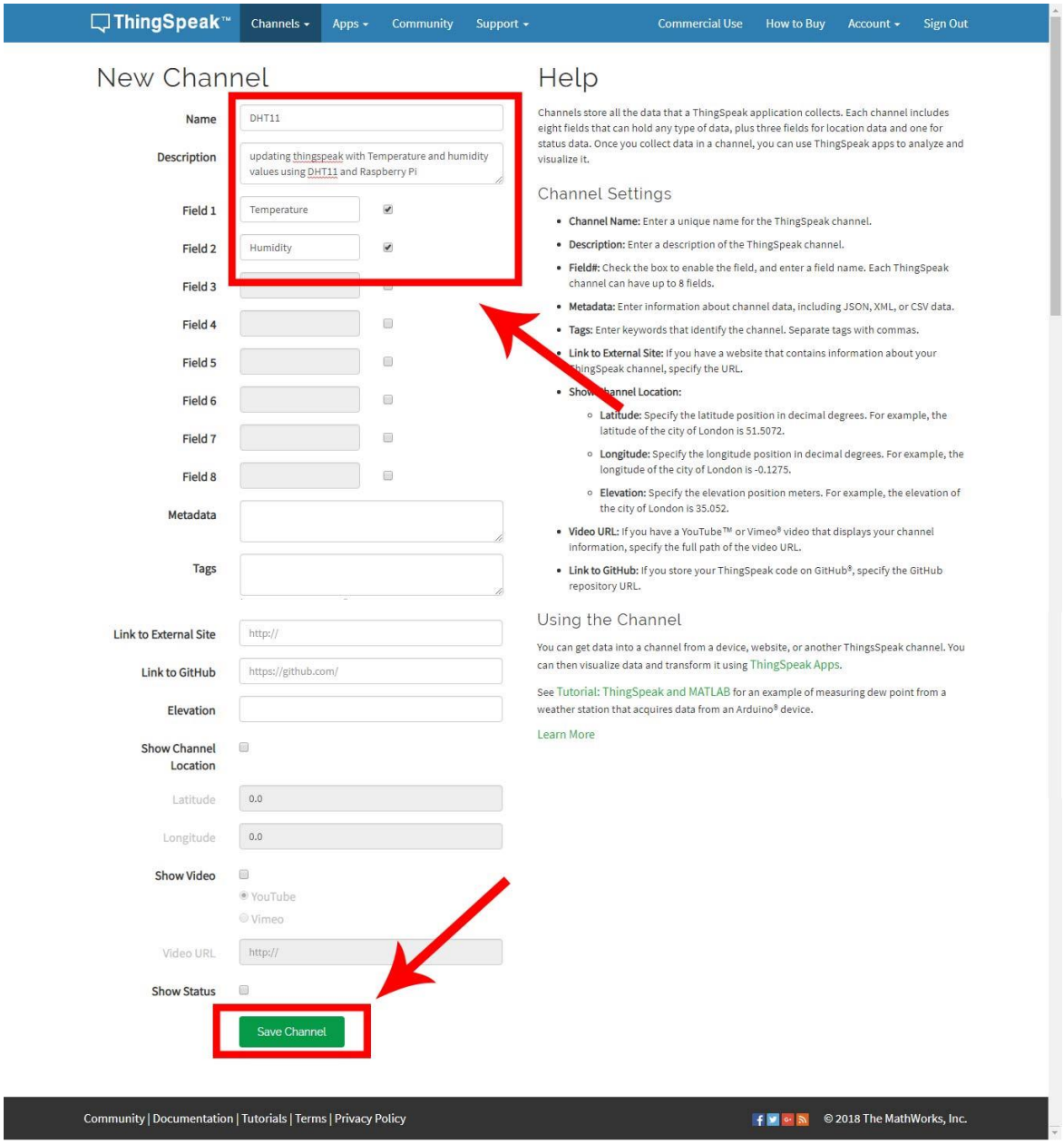
Step 2: Sign in and click on Channels



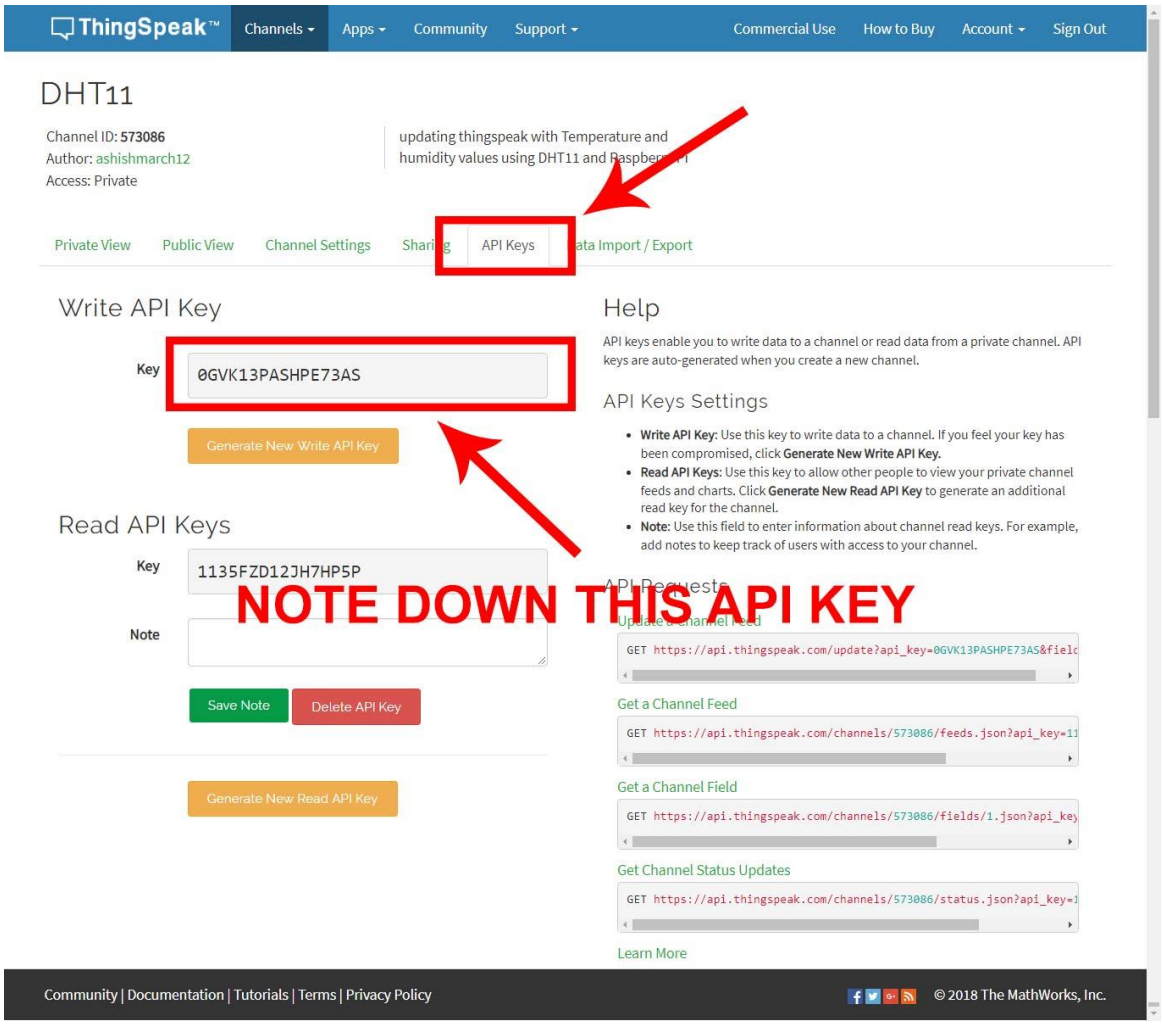
Step 3: Now create new Channel



Step 4: Fill the following details and click on Save Channel.



When channel is created, Select **"API keys"** in the tabs above and note the API key of your channel. See the picture on next page.



4. Installing necessary libraries

We'll be using the Adafruit DHT11 and psutil Python libraries.

To install the Adafruit DHT11 library:

Enter this at the command prompt to download the library:

git clone https://github.com/adafruit/Adafruit_Python_DHT.git

Change directories with

cd Adafruit_Python_DHT

Now enter this:

sudo apt-get install build-essential python-dev

Then install the library with:

sudo python setup.py install

To install psutil library:

Enter this at the command prompt to download the library:

https://github.com/giampaolo/psutil

Change directories with

cd psutil

Then install the library with:

sudo python setup.py install

To install Paho client library library:

Enter this at the command prompt to install the library:

sudo pip install paho-mqtt

To install requests:

Enter this at the command prompt to install the library:

sudo pip install requests

5. **Code :**

```
import json
import requests
import time
import sys
import Adafruit_DHT

API =  "0GVK13PASHPE73AS"   # enter you Thingspeak Write API key here
while(True):
   humidity, temperature = Adafruit_DHT.read_retry(11, 4)        #11=DHT11, 4=GPIO4
   print("Temperature = %s     Humidity = %s" % (temperature, humidity))
   payload = "https://api.thingspeak.com/update?api_key=" + str(API)+ "&" + "field1=" +
str(temperature) + "&field2=" + str(humidity)
   data=requests.get(payload)

   if data.status_code!=200:
      print("error!!! uploading")
   else:
      print("uploaded to server sucessfully")
```