

R-Pi

Team Emertxe



Communication

Cloud **S**erver and **R**Pi



Communication

Setting up ThingSpeak Account

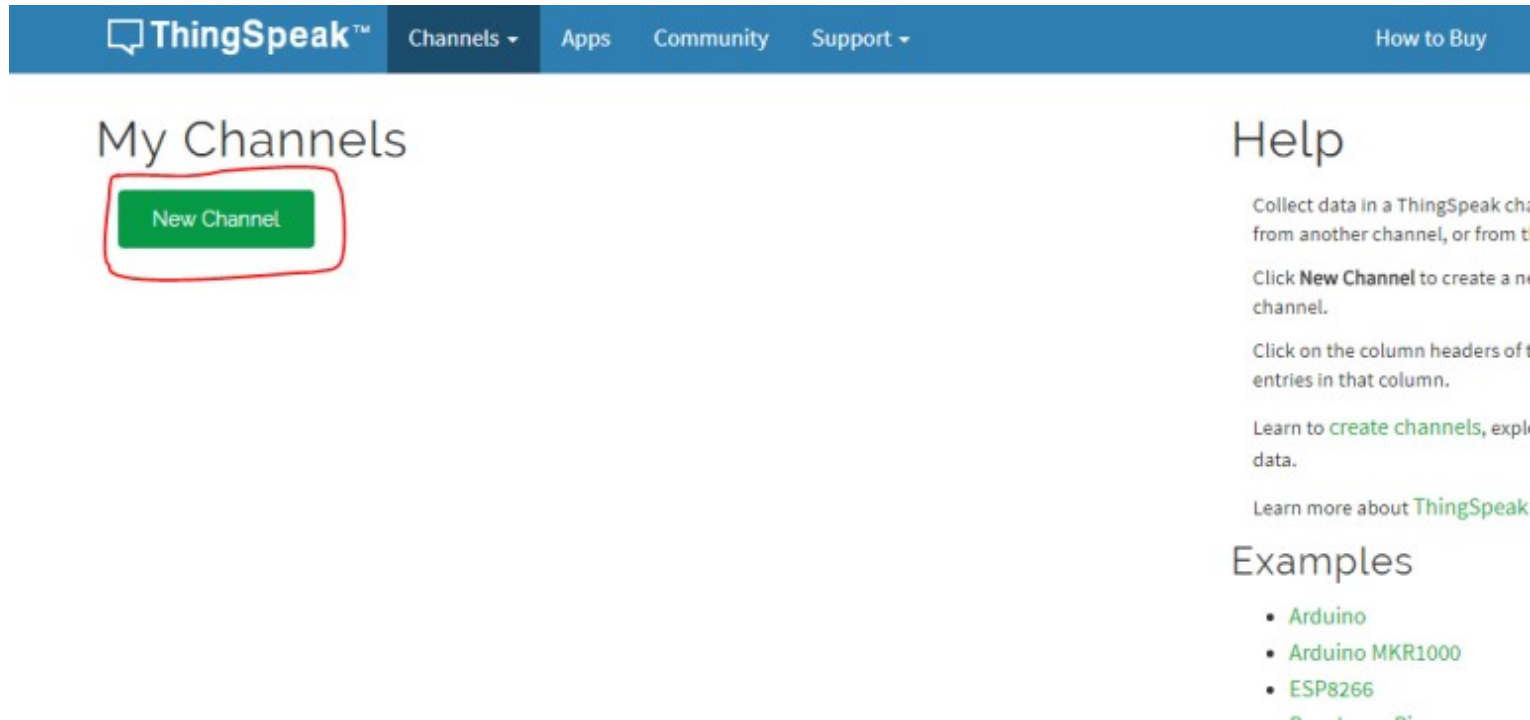
- Click on <https://thingspeak.com/> and sign up Thingspeak.



Communication

Setting up ThingSpeak Account

- log in, Click on new channel



The screenshot shows the ThingSpeak website interface. At the top is a blue navigation bar with the ThingSpeak logo and links for Channels, Apps, Community, Support, and How to Buy. Below the navigation bar, the 'My Channels' section is visible, featuring a green 'New Channel' button that is highlighted with a red rectangle. To the right of the 'My Channels' section is a 'Help' section with instructions on how to collect data and create channels. Below the 'Help' section is an 'Examples' section listing various hardware examples like Arduino, Arduino MKR1000, and ESP8266.

ThingSpeak™ Channels Apps Community Support How to Buy

My Channels

New Channel

Help

Collect data in a ThingSpeak channel from another channel, or from a sensor.

Click **New Channel** to create a new channel.

Click on the column headers of the data table to sort the entries in that column.

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

Learn more about [ThingSpeak](#)


Examples

- [Arduino](#)
- [Arduino MKR1000](#)
- [ESP8266](#)

Communication

Setting up ThingSpeak Account

- Enter the information as shown below,

 Channels ▾ Apps Community Support ▾

New Channel

Name	<input type="text" value="Data Logging"/>	
Description	<input type="text" value="Sending data from Raspberry pi to Thingspeak"/>	
Field 1	<input type="text" value="Temperature"/>	<input checked="" type="checkbox"/>
Field 2	<input type="text" value="Humidity"/>	<input checked="" type="checkbox"/>
Field 3	<input type="text"/>	<input type="checkbox"/>
Field 4	<input type="text"/>	<input type="checkbox"/>
Field 5	<input type="text"/>	<input type="checkbox"/>
Field 6	<input type="text"/>	<input type="checkbox"/>

Help

Channels store eight fields of status data. You can visualize it.

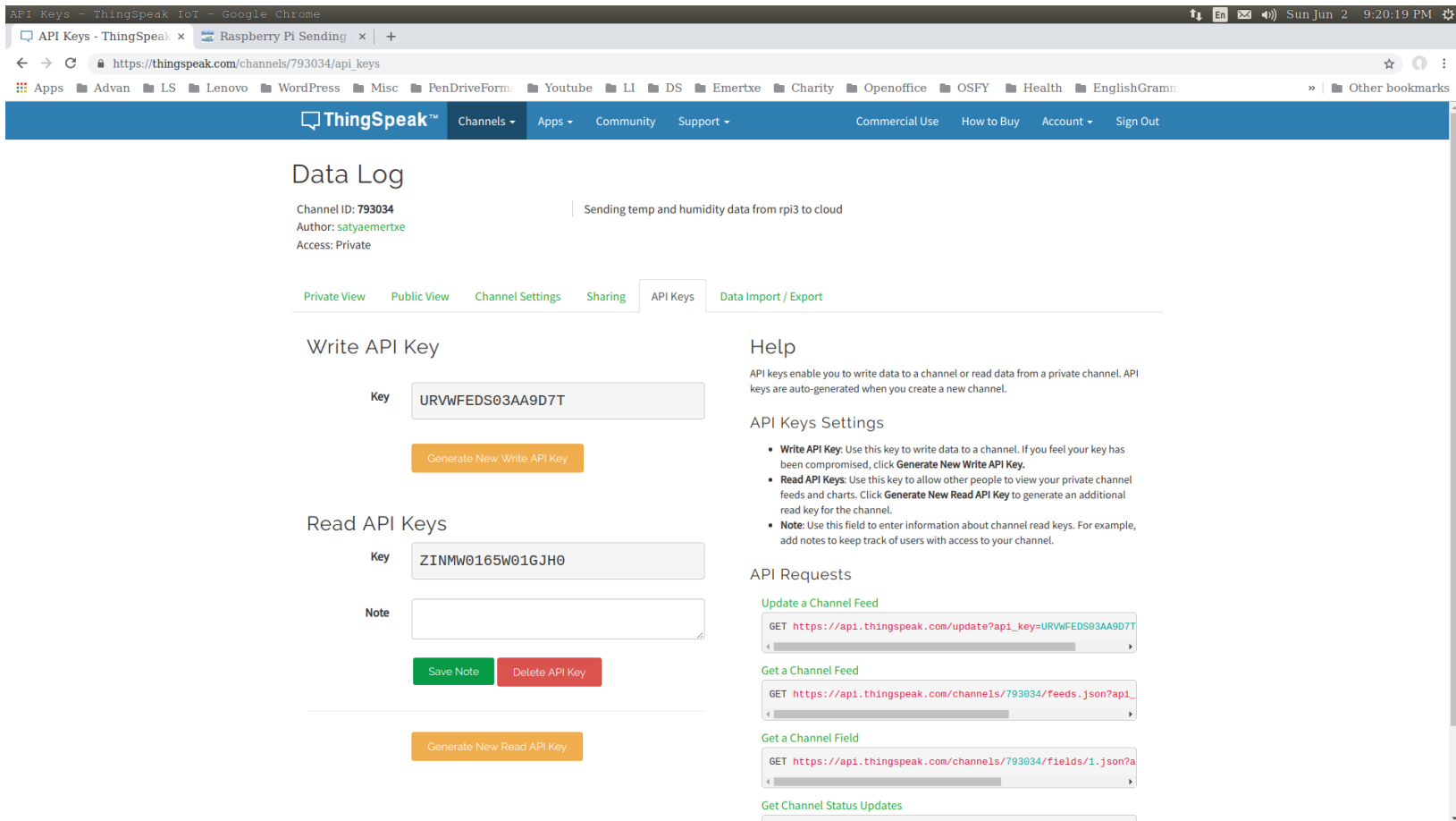
Channel

- Channel
- Description
- Field#: channel
- Metadata
- Tags: E
- Latitude degree
- Longitude

Communication

Setting up ThingSpeak Account

- After saving the channel, go to the API keys tab.



The screenshot shows the ThingSpeak web interface in a Google Chrome browser. The address bar displays the URL `https://thingspeak.com/channels/793034/api_keys`. The page title is "API Keys - ThingSpeak". The navigation bar includes links for Channels, Apps, Community, Support, Commercial Use, How to Buy, Account, and Sign Out. The main content area is titled "Data Log" and shows channel details: Channel ID: 793034, Author: satyaemertxe, and Access: Private. The "API Keys" tab is selected, showing the "Write API Key" section with a key of URVWFEDS03AA9D7T and a "Generate New Write API Key" button. The "Read API Keys" section shows a key of ZINMW0165W01GJH0, a "Note" field, and "Save Note" and "Delete API Key" buttons. A "Generate New Read API Key" button is also present. The "Help" section explains the purpose of API keys and provides "API Keys Settings" and "API Requests" examples. The "API Requests" section includes examples for updating a channel feed, getting a channel feed, getting a channel field, and getting channel status updates.

API Keys - ThingSpeak IoT - Google Chrome

API Keys - ThingSpeak x Raspberry Pi Sending x +

← → ↻ `https://thingspeak.com/channels/793034/api_keys` ☆ ⓘ ⋮

Apps Advan LS Lenovo WordPress Misc PenDriveForm Youtube LI DS Emertxe Charity Openoffice OSFY Health EnglishGramm Other bookmarks

ThingSpeak™ Channels Apps Community Support Commercial Use How to Buy Account Sign Out

Data Log

Channel ID: 793034
Author: satyaemertxe
Access: Private

Sending temp and humidity data from rpi3 to cloud

Private View Public View Channel Settings Sharing API Keys Data Import / Export

Write API Key

Key: URVWFEDS03AA9D7T

Generate New Write API Key

Read API Keys

Key: ZINMW0165W01GJH0

Note

Save Note Delete API Key

Generate New Read API Key

Help

API keys enable you to write data to a channel or read data from a private channel. API keys are auto-generated when you create a new channel.

API Keys Settings

- **Write API Key:** Use this key to write data to a channel. If you feel your key has been compromised, click **Generate New Write API Key**.
- **Read API Keys:** Use this key to allow other people to view your private channel feeds and charts. Click **Generate New Read API Key** to generate an additional read key for the channel.
- **Note:** Use this field to enter information about channel read keys. For example, add notes to keep track of users with access to your channel.

API Requests

Update a Channel Feed

```
GET https://api.thingspeak.com/update?api_key=URVWFEDS03AA9D7T
```

Get a Channel Feed

```
GET https://api.thingspeak.com/channels/793034/feeds.json?api_
```

Get a Channel Field

```
GET https://api.thingspeak.com/channels/793034/fields/1.json?a
```

Get Channel Status Updates

Communication

Setting up ThingSpeak Account

- Type the below code in temp.py

```
import sys
import urllib2
from time import sleep
import Adafruit_DHT as dht
# Enter Your API key here
myAPI = 'your-api-key'
# URL where we will send the data, Don't change it
baseURL = 'https://api.thingspeak.com/update?api_key=%s' % myAPI
def DHT22_data():
    # Reading from DHT22 and storing the temperature and humidity
    humi, temp = dht.read_retry(dht.DHT22, 23)
    return humi, temp
while True:
    try:
        humi, temp = DHT22_data()
        # If Reading is valid
        if isinstance(humi, float) and isinstance(temp, float):
            # Formatting to two decimal places
            humi = '%.2f' % humi
            temp = '%.2f' % temp

            # Sending the data to thingspeak
            conn = urllib2.urlopen(baseURL + '&field1=%s&field2=%s' % (temp, humi))
            print conn.read()
            # Closing the connection
            conn.close()
        else:
            print 'Error'
        # DHT22 requires 2 seconds to give a reading, so make sure to add delay of above 2 seconds.
        sleep(20)
    except:
        break
```

Note: Change the api key, as shown in the next slide

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THANK YOU