

The Education University of Hong Kong

2021-2022 Quality Education Fund Thematic Network – Tertiary Institutes

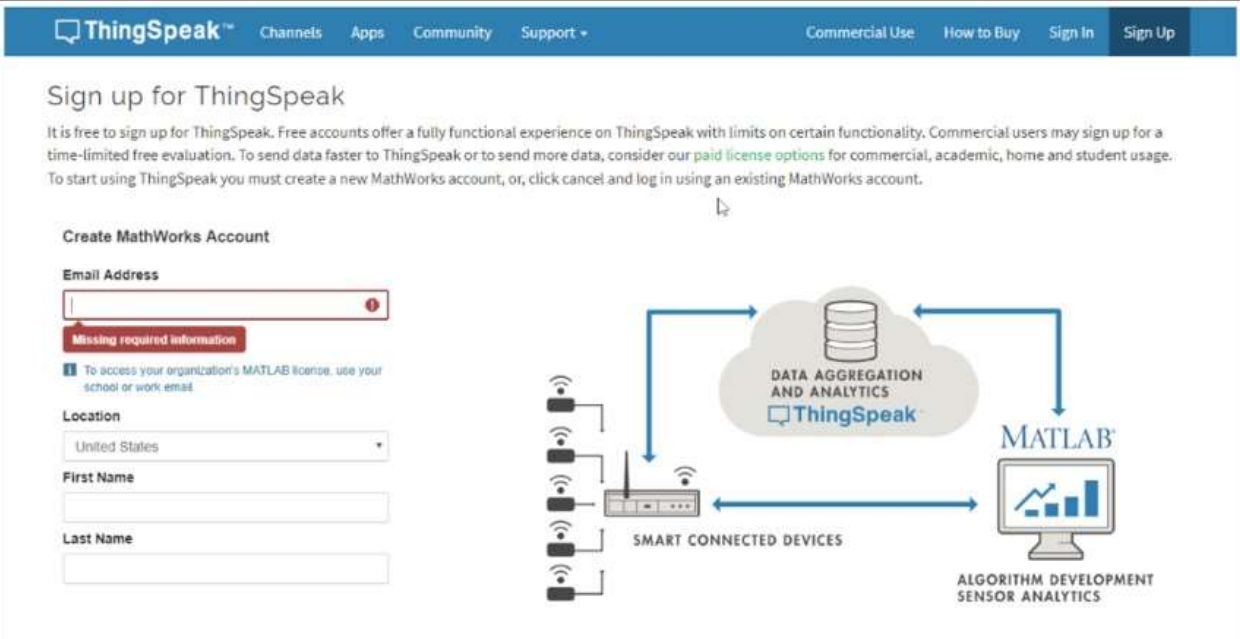
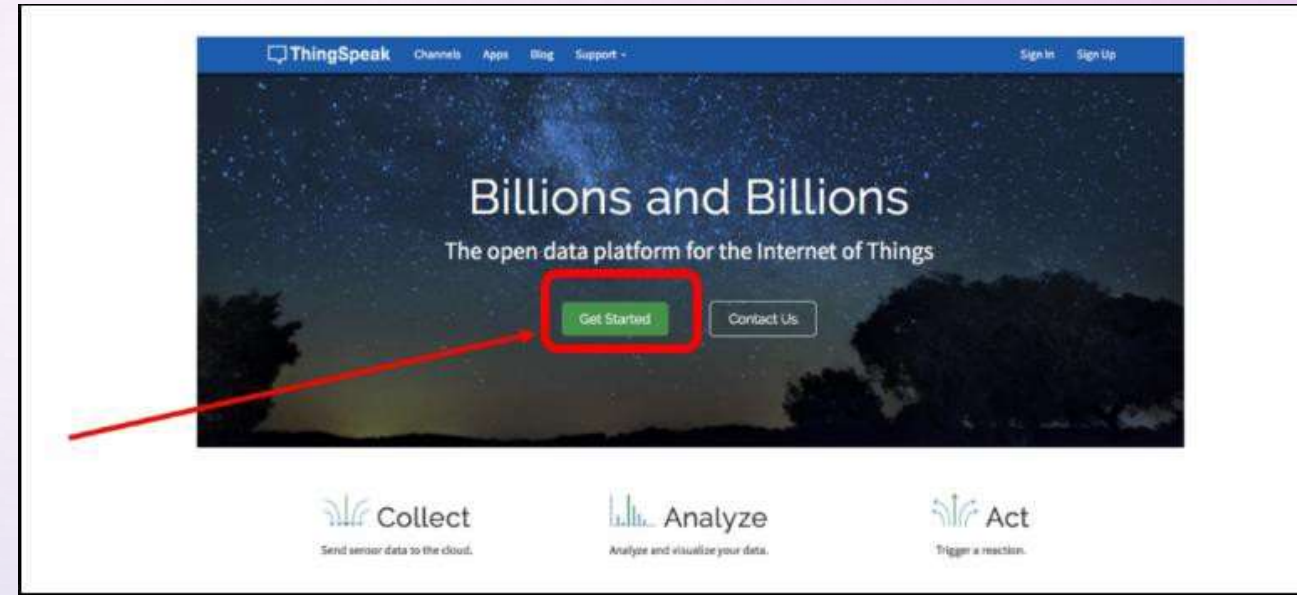
STEM Project Team

SCHOOL: HONG CHI MORNINGHOPE SCHOOL, TUEN MUN
(SPECIAL SCHOOL)

TOPIC: IOT TEMPERATURE MONITORING SYSTEM WITH
MUSELAB AND THINGSPEAK WORKSHOP

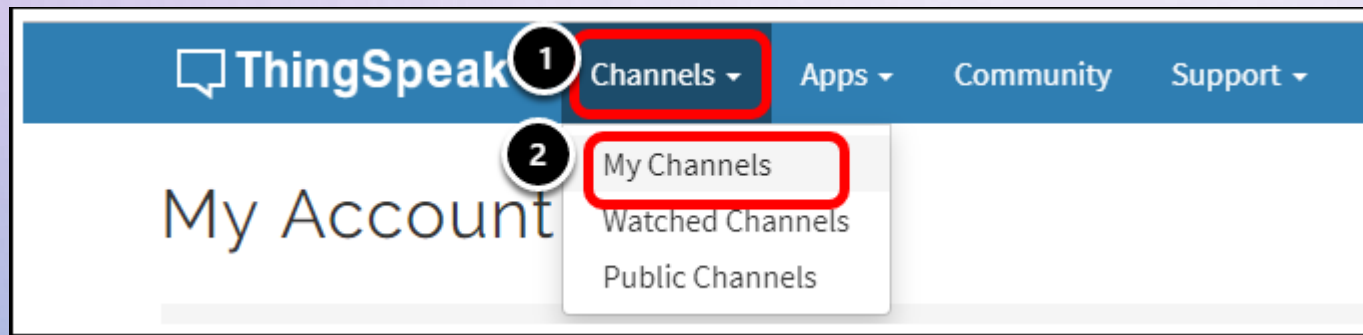
THINGSPEAK

- STEP 1: SIGN UP IN [HTTPS://THINGSPEAK.COM](https://thingspeak.com)

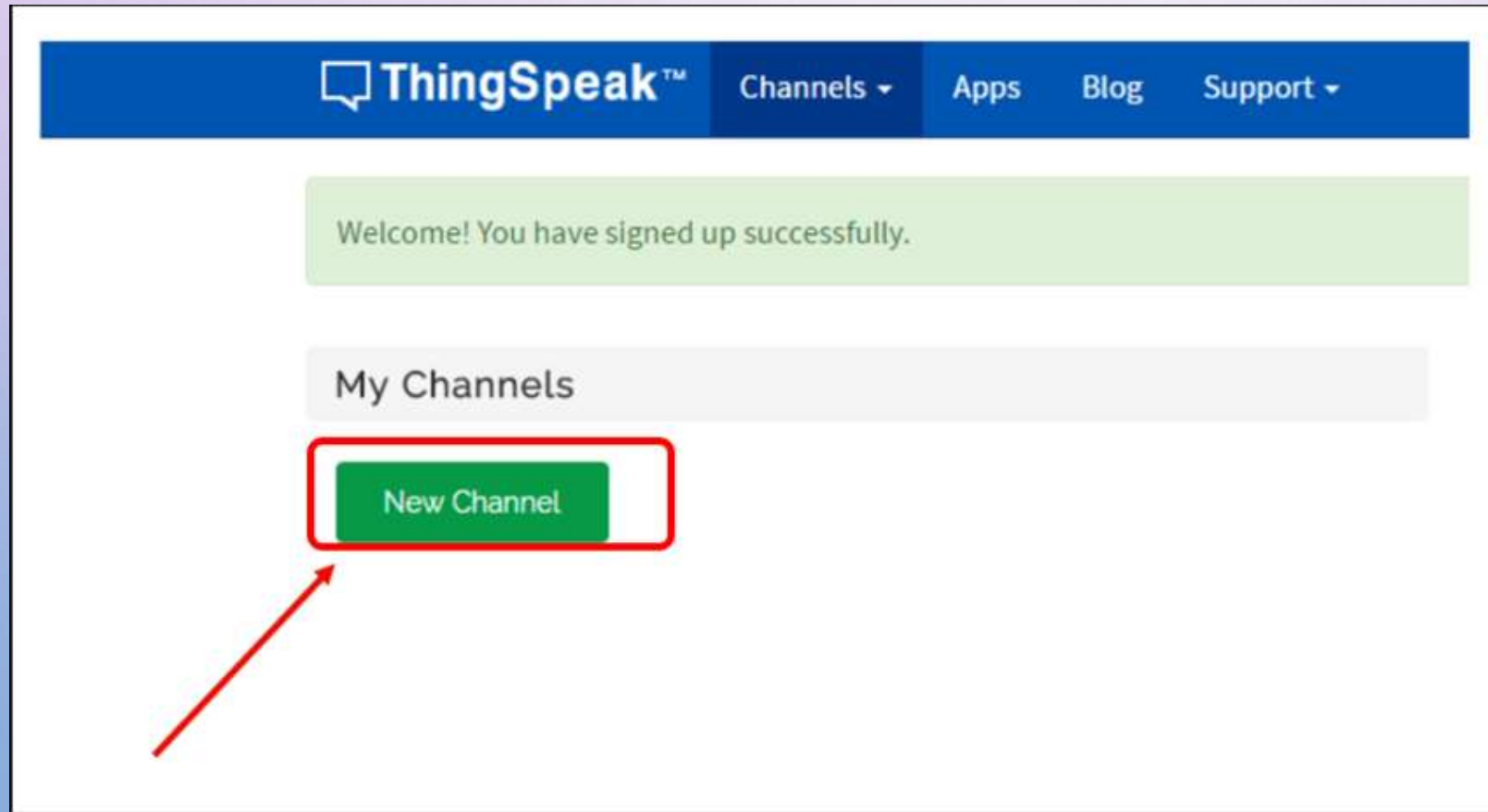


The screenshot shows the "Sign up for ThingSpeak" page. The header includes the ThingSpeak logo and navigation links (Channels, Apps, Community, Support, Commercial Use, How to Buy, Sign In, Sign Up). The main content area has the heading "Sign up for ThingSpeak" and a paragraph explaining the free account options. Below this is a "Create MathWorks Account" section with a form. The form includes an "Email Address" field with a "Missing required information" error message, a "Location" dropdown menu set to "United States", and "First Name" and "Last Name" text fields. To the right of the form is a diagram illustrating the ThingSpeak workflow: "SMART CONNECTED DEVICES" send data to a "DATA AGGREGATION AND ANALYTICS" cloud (ThingSpeak), which then connects to a "MATLAB" monitor for "ALGORITHM DEVELOPMENT SENSOR ANALYTICS".

- STEP 2: LOGIN後從網頁上方的CHANNELS選取MY CHANNELS



- STEP 3: 選取NEW CHANNEL



- STEP 4: 輸入CHANNEL的名字,並加入FIELD來記錄數據.

New Channel

Name

Description

Field 1 ☒

Field 2 ☐

Field 3 ☐

Field 4 ☐

“1.5MH, IoT Temperature Sensor”

“Temperature”

15MH, IoT Temperature Sensor

Channel ID: 15MH

Author: mwa0000021399880

Access: Private

Private View

Public View

Channel Settings

Sharing

API Keys

Data Import / Export

+ Add Visualizations

+ Add Widgets

Export recent data

MATLAB Analysis

MATLAB Visualization

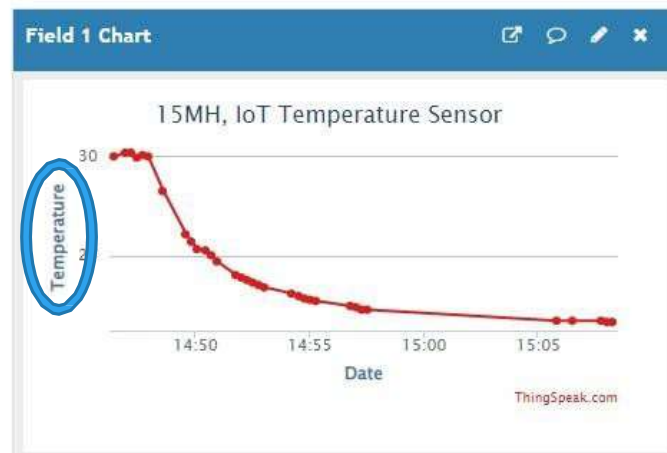
Channel 2 of 2 < >

Channel Stats

Created: 7..days.ago

Last entry: 7..days.ago

Entries: 33

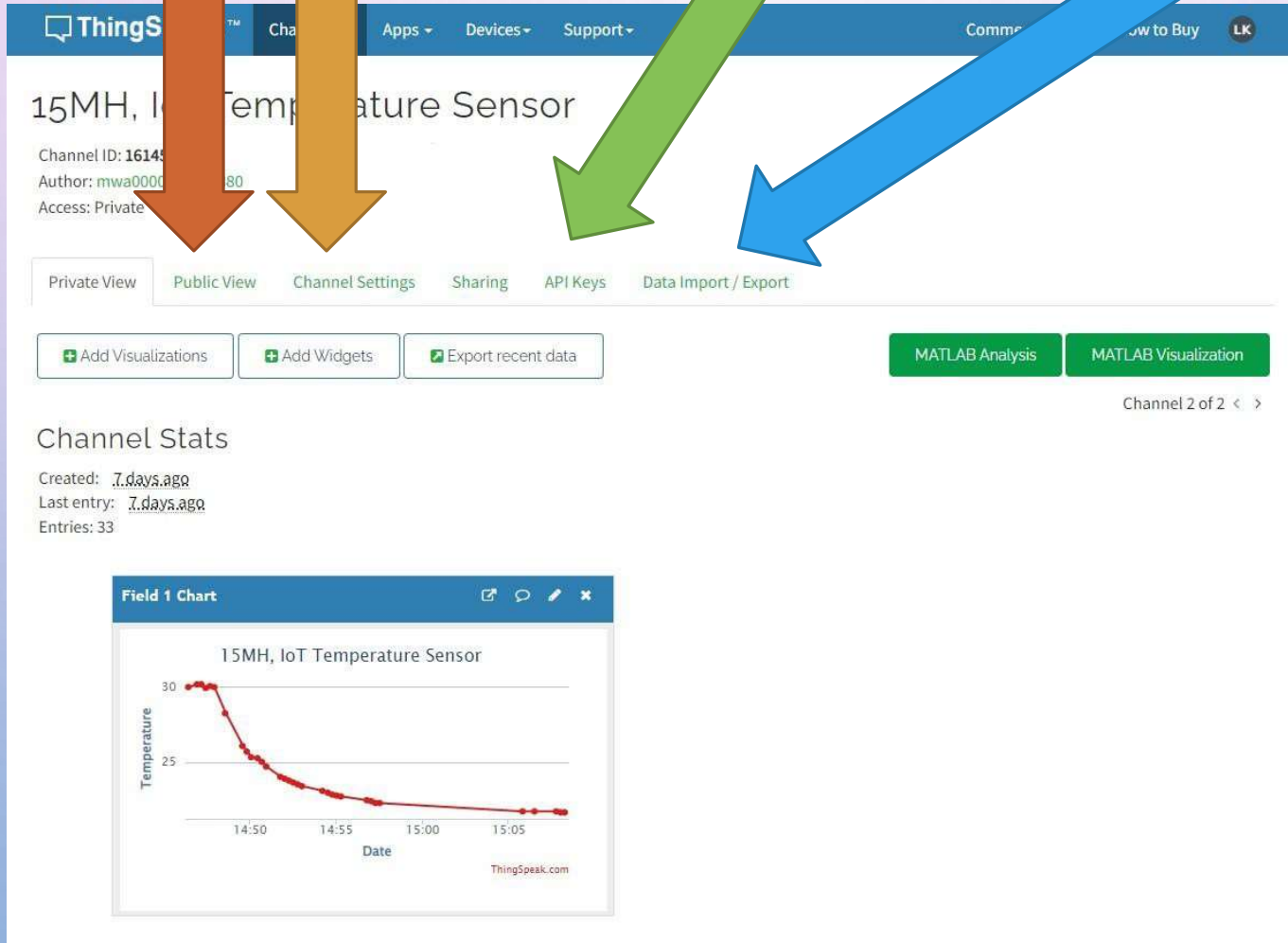


2. Edit(clear data)

3. API Key (Coding)

4. Download data(Excel)

1. Share



15MH, IoT Temperature Sensor

Channel ID: 16145
Author: mwa000080
Access: Private

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

+ Add Visualizations + Add Widgets Export recent data

MATLAB Analysis MATLAB Visualization

Channel 2 of 2 < >

Channel Stats

Created: 7 days ago
Last entry: 7 days ago
Entries: 33

Field 1 Chart

15MH, IoT Temperature Sensor

Temperature

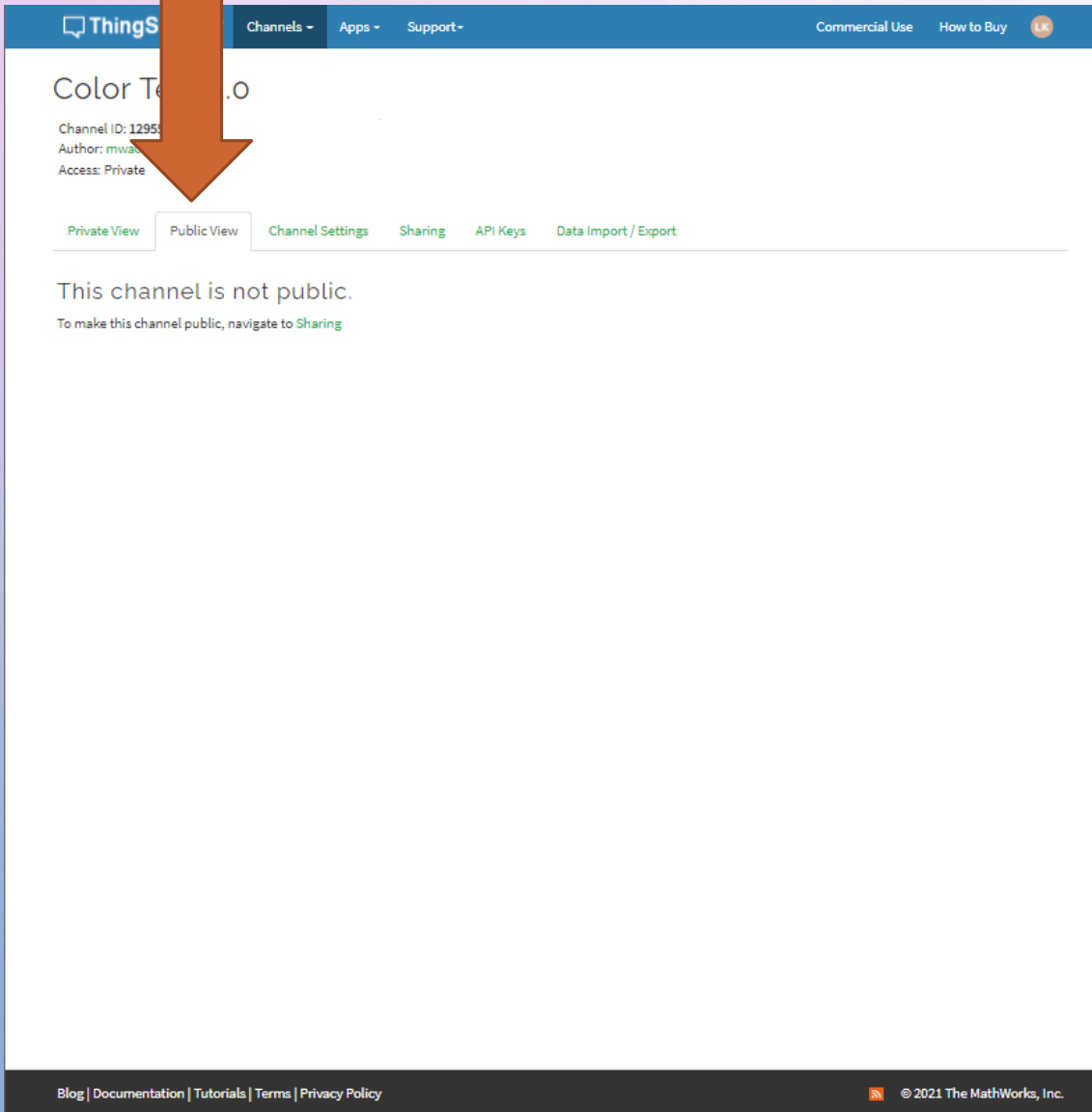
Date

ThingSpeak.com

Date	Temperature
14:50:00	30.0
14:50:30	29.5
14:51:00	28.5
14:51:30	27.5
14:52:00	26.5
14:52:30	25.5
14:53:00	24.5
14:53:30	23.5
14:54:00	22.5
14:54:30	21.5
14:55:00	20.5
14:55:30	20.0
14:56:00	19.5
14:56:30	19.0
14:57:00	18.5
14:57:30	18.0
14:58:00	17.5
14:58:30	17.0
14:59:00	16.5
14:59:30	16.0
15:00:00	15.5
15:00:30	15.0
15:01:00	14.5
15:01:30	14.0
15:02:00	13.5
15:02:30	13.0
15:03:00	12.5
15:03:30	12.0
15:04:00	11.5
15:04:30	11.0
15:05:00	10.5
15:05:30	10.0
15:06:00	9.5
15:06:30	9.0
15:07:00	8.5
15:07:30	8.0
15:08:00	7.5
15:08:30	7.0
15:09:00	6.5
15:09:30	6.0
15:10:00	5.5
15:10:30	5.0
15:11:00	4.5
15:11:30	4.0
15:12:00	3.5
15:12:30	3.0
15:13:00	2.5
15:13:30	2.0
15:14:00	1.5
15:14:30	1.0
15:15:00	0.5
15:15:30	0.0

1.Share

1.SHARE



The screenshot shows the ThingSpeak interface for a channel named 'Color Temperature'. The channel ID is 12955, the author is 'mwas', and the access is 'Private'. A large orange arrow points from the '1.Share' header to the 'Sharing' tab in the settings menu. The 'Sharing' tab is highlighted, and the message 'This channel is not public. To make this channel public, navigate to [Sharing](#)' is displayed. The footer contains links for Blog, Documentation, Tutorials, Terms, and Privacy Policy, along with the MathWorks logo and copyright notice for 2021.

ThingSpeak Channels Apps Support Commercial Use How to Buy UK

Color Temperature

Channel ID: 12955
Author: mwas
Access: Private

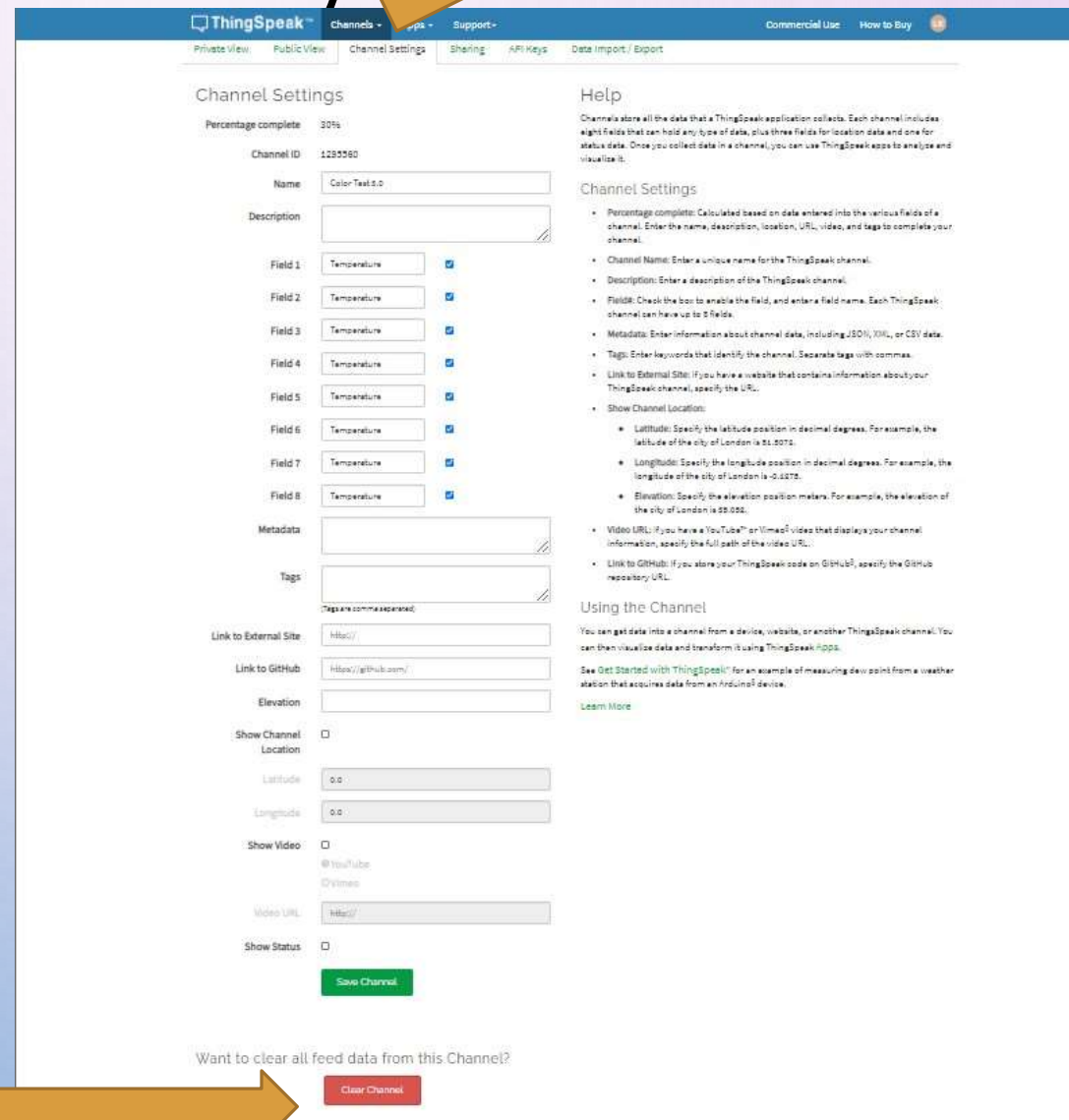
Private View Public View Channel Settings Sharing API Keys Data Import / Export

This channel is not public.
To make this channel public, navigate to [Sharing](#)

Blog | Documentation | Tutorials | Terms | Privacy Policy © 2021 The MathWorks, Inc.

2. Edit(clear data)

2. EDIT(CLEAR DATA)



The screenshot shows the 'Channel Settings' page for a ThingSpeak channel. The page includes fields for Channel ID, Name, Description, and eight data fields (Field 1 to Field 8), all currently set to 'Temperature'. There are also sections for Metadata, Tags, Link to External Site, Link to GitHub, Elevation, Show Channel Location, Show Video, and Show Status. A green 'Save Channel' button is visible. At the bottom, a red 'Clear Channel' button is highlighted with an orange arrow pointing to it from the 'Clear Channel' text box on the left.

Channel Settings

Percentage complete: 30%

Channel ID: 1235560

Name: Color-Test 0.0

Description:

Field 1: Temperature ☒

Field 2: Temperature ☒

Field 3: Temperature ☒

Field 4: Temperature ☒

Field 5: Temperature ☒

Field 6: Temperature ☒

Field 7: Temperature ☒

Field 8: Temperature ☒

Metadata:

Tags:

Link to External Site: [https://](#)

Link to GitHub: [https://github.com/](#)

Elevation:

Show Channel Location: ☐

Latitude: 0.0

Longitude: 0.0

Show Video: ☐

@YouTube

@Vimeo

Video URL: [https://](#)

Show Status: ☐

Save Channel

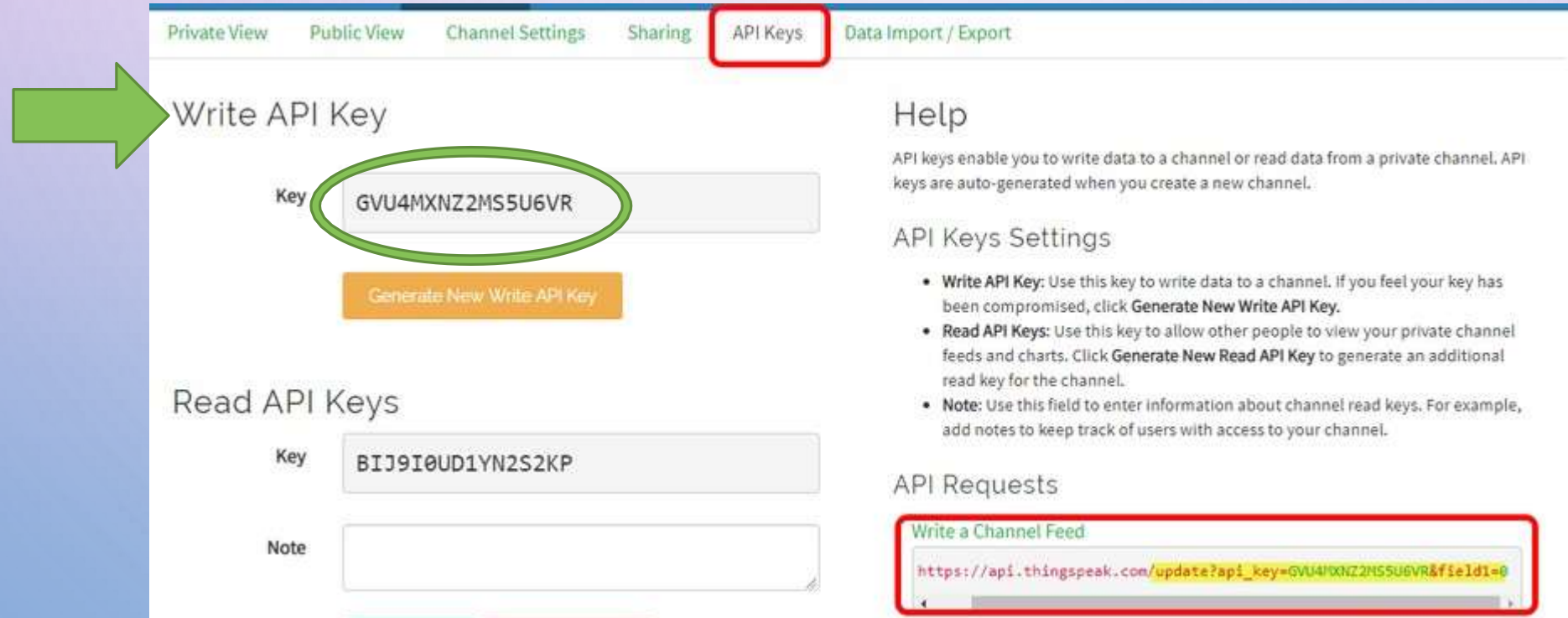
Want to clear all feed data from this Channel?

Clear Channel

Clear Channel

3. API KEY (CODING)

3. API Key (Coding)



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

Write API Key

Key **GVU4MXNZ2MS5U6VR**

[Generate New Write API Key](#)

Read API Keys

Key **BIJ9I0UD1YN2S2KP**

Note

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.

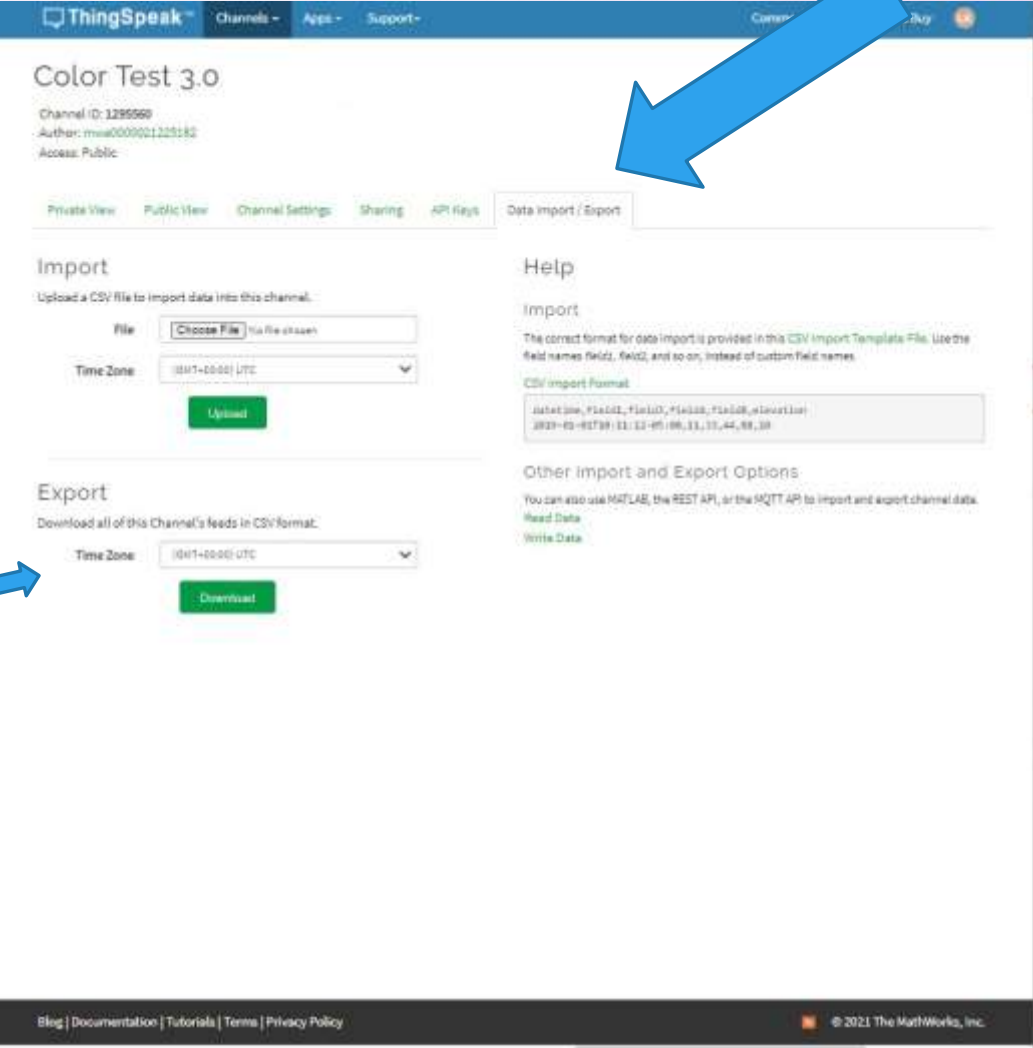
API Requests

Write a Channel Feed

```
https://api.thingspeak.com/update?api_key=GVU4MXNZ2MS5U6VR&field1=0
```

4. DOWNLOAD DATA(EXCEL)

4. Download data(Excel)



ThingSpeak Channels Apps Support

Color Test 3.0

Channel ID: 1295560
Author: mwa0000011225182
Access: Public

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

Import

Upload a CSV file to import data into this channel.

File: via file chosen

Time Zone:

Export

Download all of this Channel's feeds in CSV format.

Time Zone:

Help

Import

The correct format for data import is provided in this [CSV Import Template File](#). Use the field names field1, field2, and so on, instead of custom field names.

CSV Import Format

```
date,time,field1,field2,field3,field4,location  
2023-05-05T09:11:12-05:00,11,15,44,88,38
```

Other Import and Export Options

You can also use MATLAB, the REST API, or the MQTT API to import and export channel data.

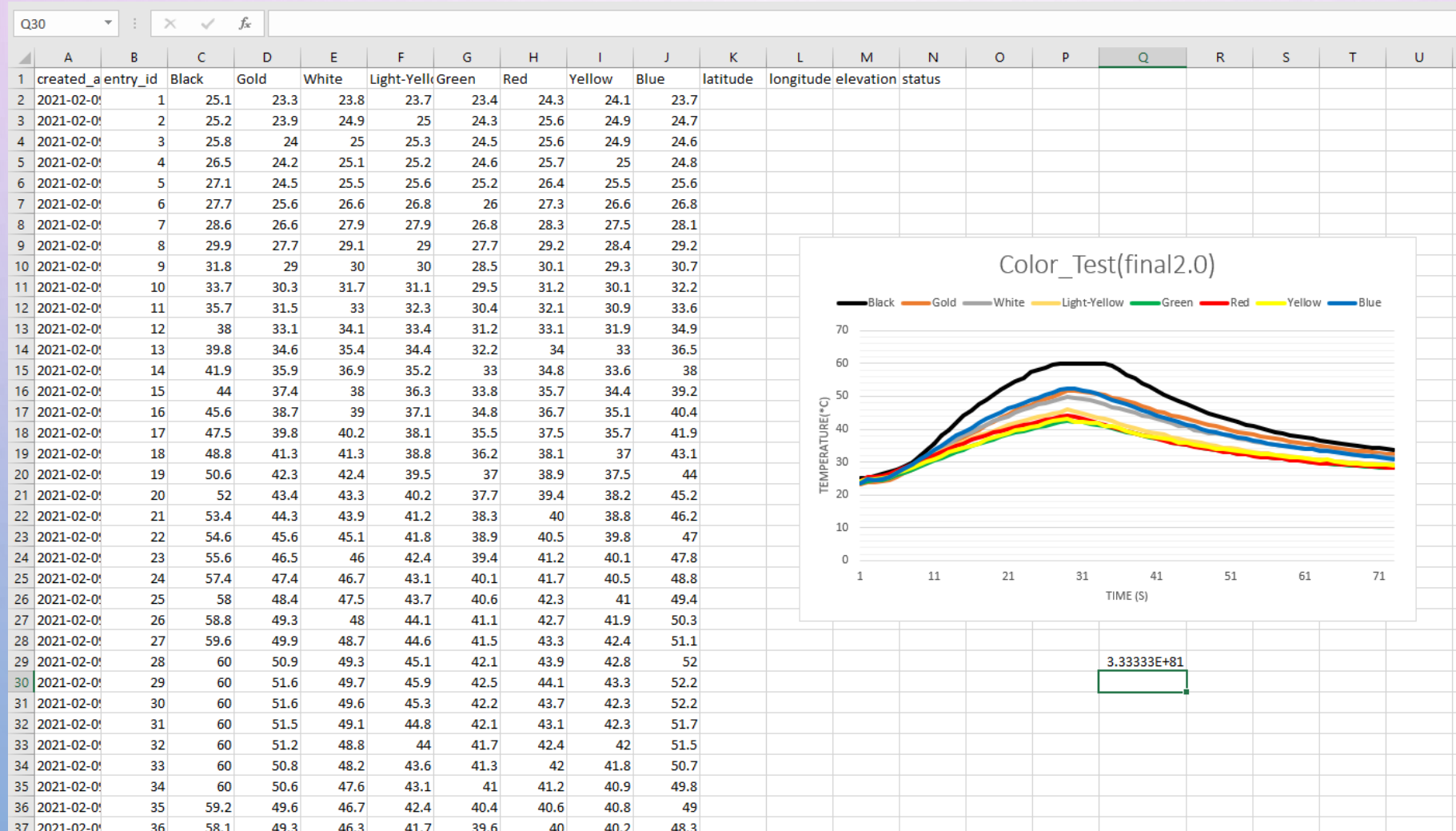
[Read Data](#)
[Write Data](#)

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*GMT+8:00 – Hong Kong

EXCEL (REFERENCE)

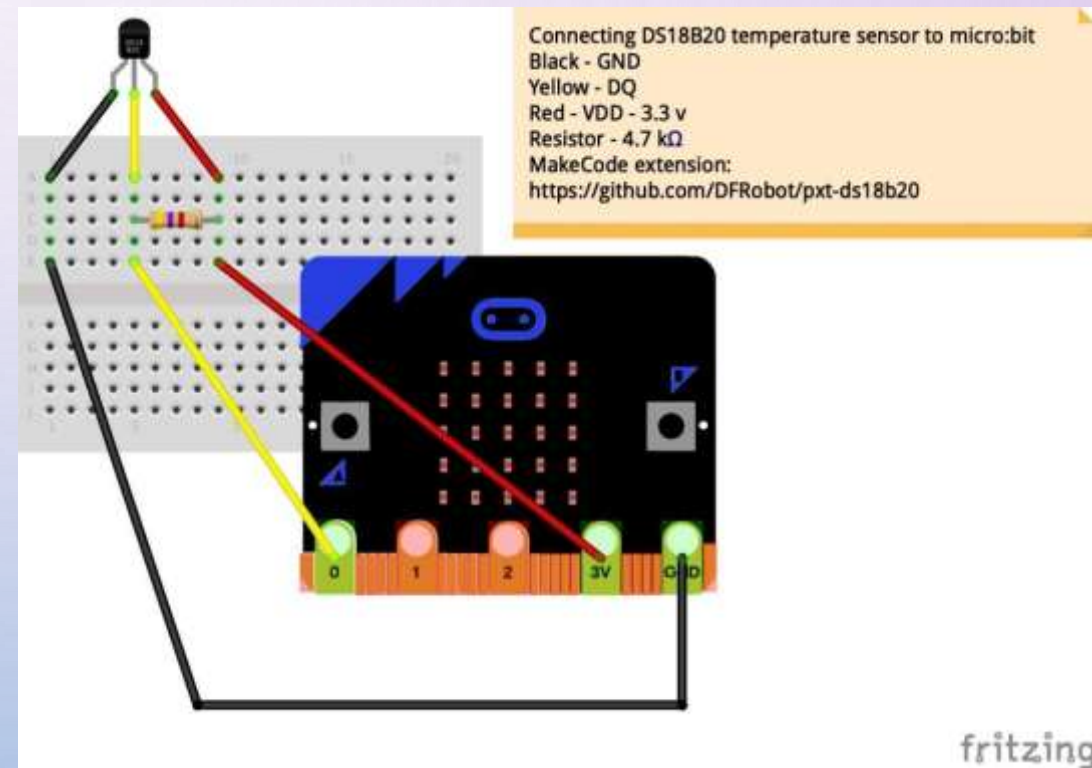
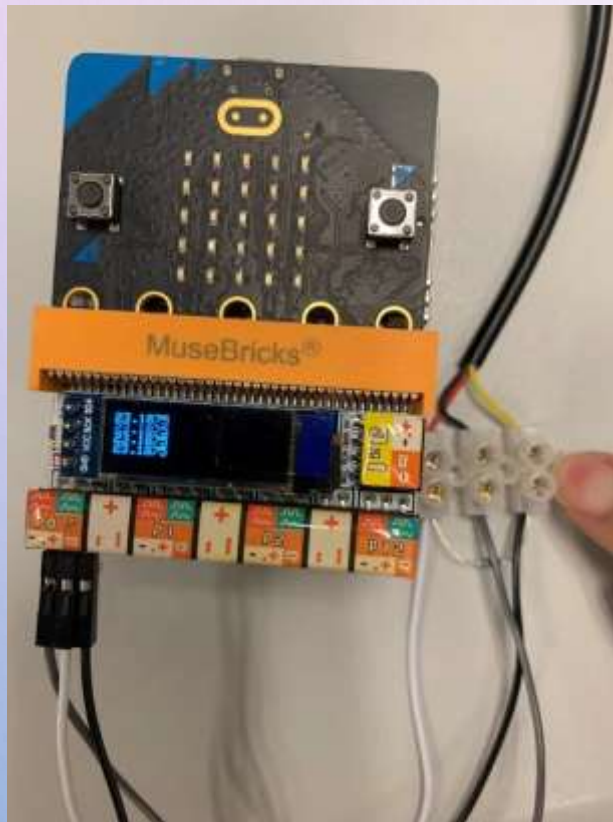


TEMPERATURE SENSOR DS18B20

4.7k

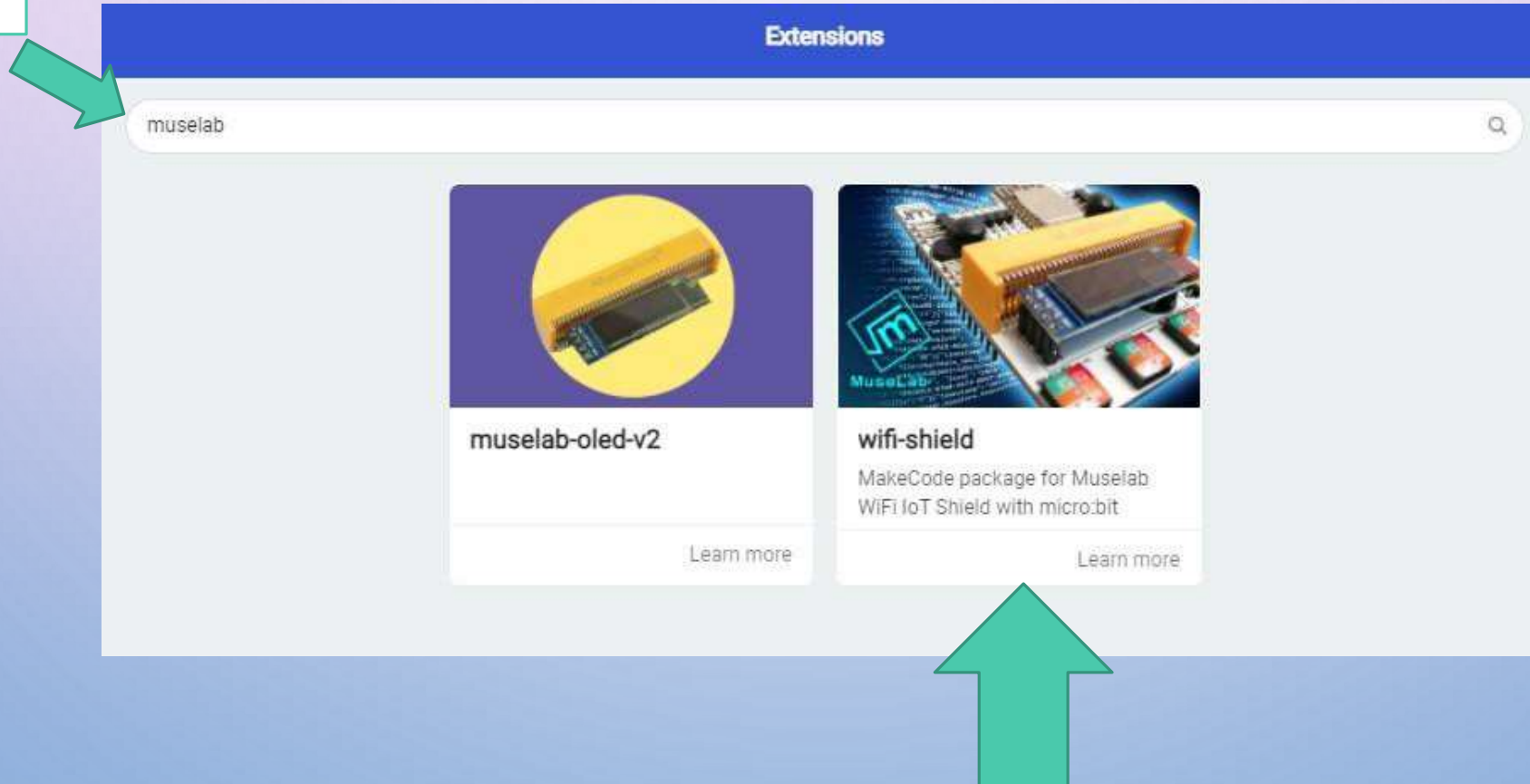


CIRCUIT



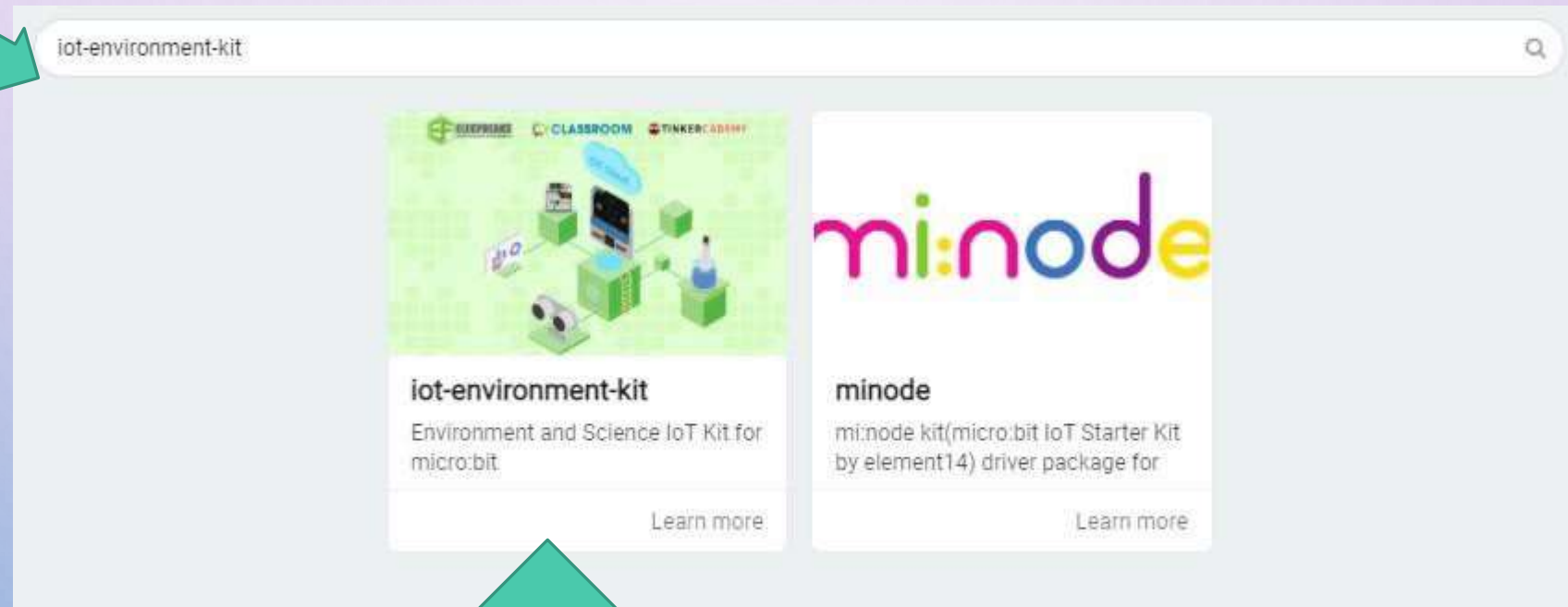
EXTENSIONS (1)

MuseLab

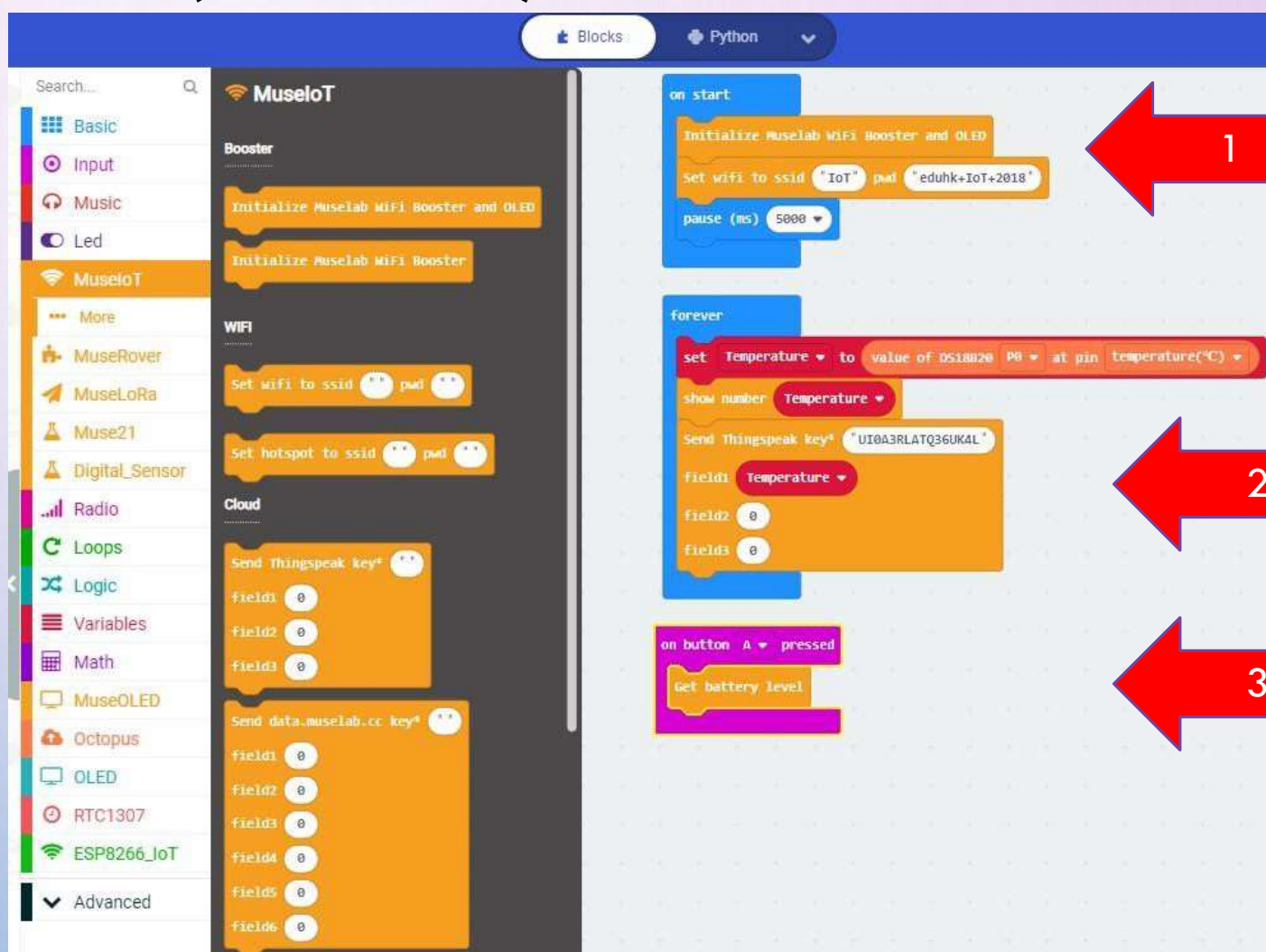


EXTENSIONS (2)

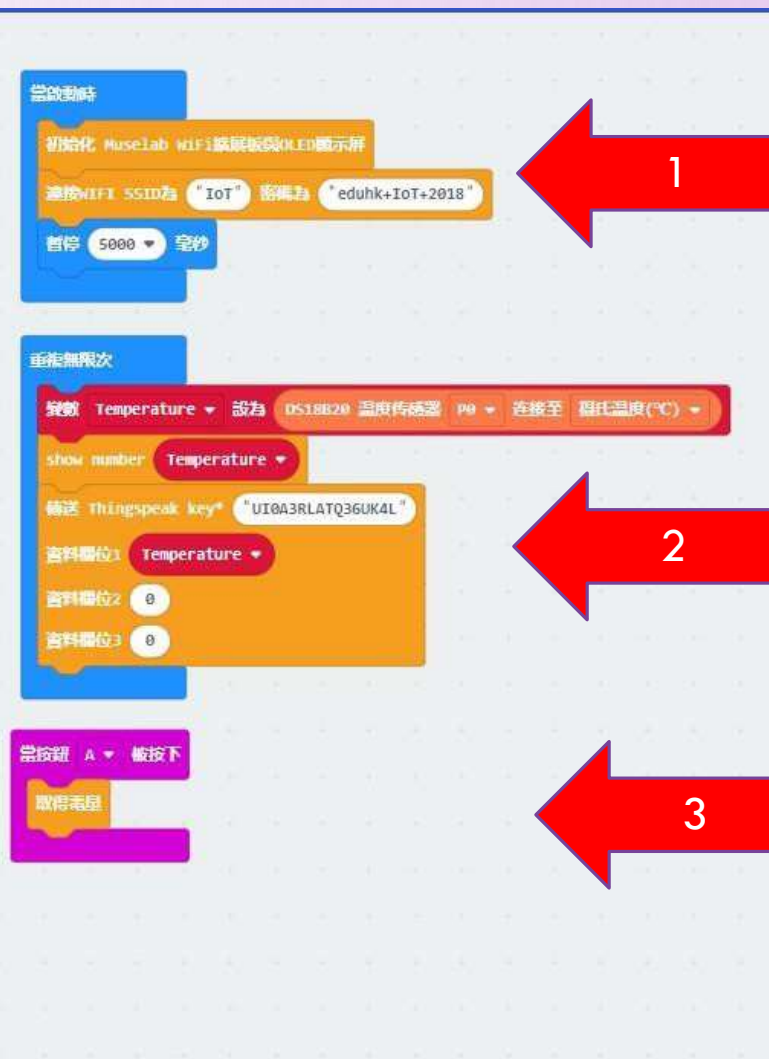
lot-environment-kit



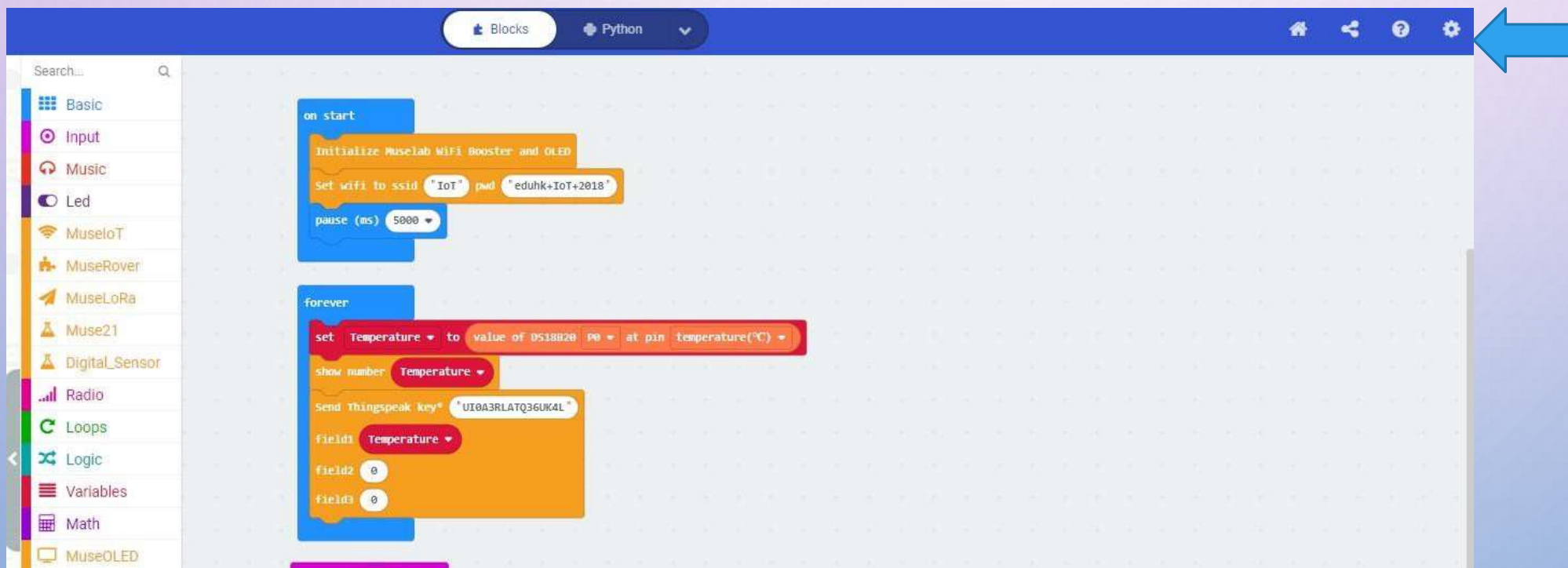
CODE (ENGLISH)

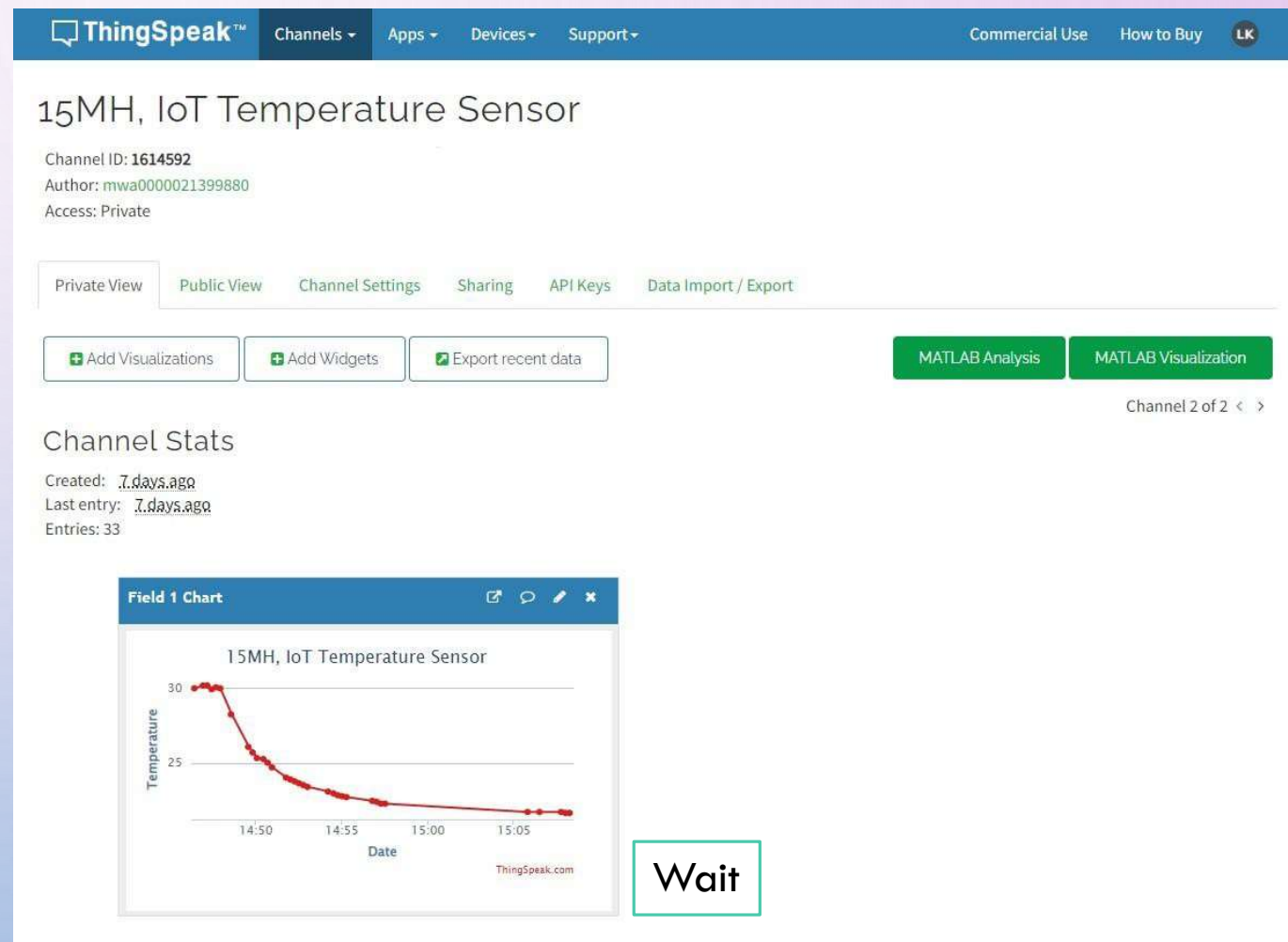
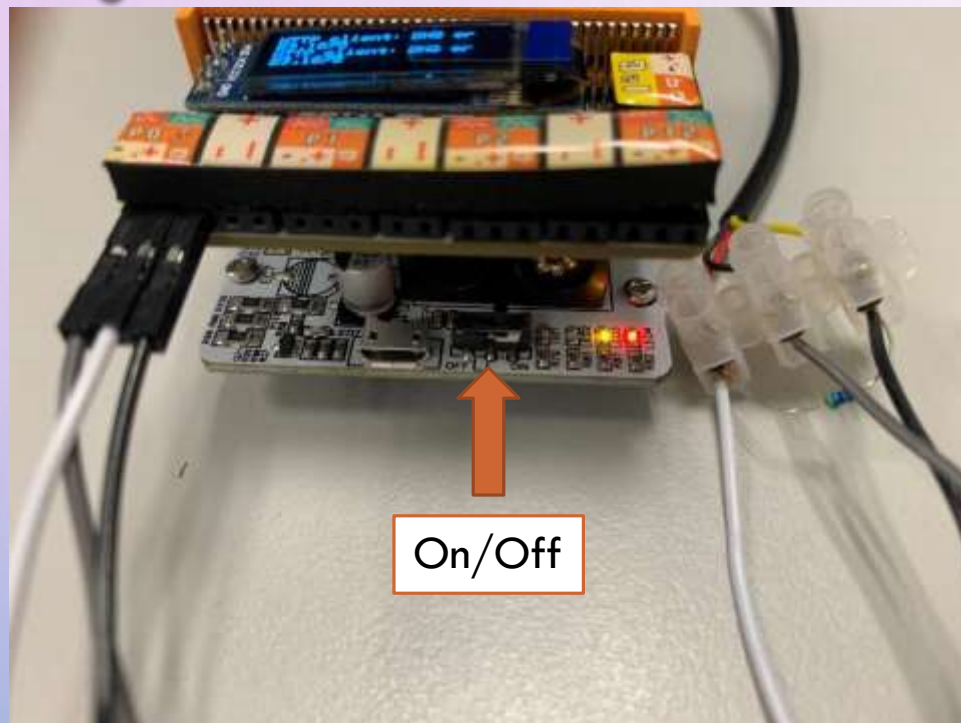


CODE (CHINESE)



LANGUAGE SETTING





Q & A

