**ThingSpeak Instruction**

[ThingSpeak](https://thingspeak.com/)is an [IoT analytics](https://www.mathworks.com/solutions/internet-of-things.html) platform service that allows you to aggregate, visualize, and analyze live data streams in the cloud. You can send data to ThingSpeak from your devices, create instant visualizations of live data, and send alerts using web services like Twitter® and Twilio®. With MATLAB® analytics inside ThingSpeak, you can write and execute MATLAB code to perform preprocessing, visualizations, and analyses.

**Configure Accounts and Channels**

To read and write to a ThingSpeak channel, your application sends requests to the ThingSpeak server by issuing HTTP requests, publishing MQTT messages, or using MATLAB functions. Each ThingSpeak channel can have up to eight fields of 255 characters of data, in either numeric or alphanumeric format. A channel also has location information and a status update field. Each channel data entry is stored with a date and timestamp. You can retrieve stored data by time or by entry ID.

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Description automatically generatedTo use ThingSpeak, you must sign in with your existing MathWorks account or create a new one. Non-commercial users may use ThingSpeak for free. Free accounts offer limits on certain functionality. Commercial users are eligible for a time-limited free evaluation. To get full access to the MATLAB analysis features on ThingSpeak, log in to ThingSpeak using the email address associated with your university or organization.

**Create a Channel**

* [Sign In](https://thingspeak.com/login) to ThingSpeak using your MathWorksAccount credentials, or create a new account.
* Click **Channels** > **MyChannels**.

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* On the Channels page, click **New Channel**.
* Check the boxes next to Fields 1–3. Enter these channel setting values:
  + **Name**: Measurement
  + **Field 1**: Weight
  + **Field 2**: Humidity
  + **Field 3**: Temperature
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  Description automatically generated Click **Save Channel** at the bottom of the settings.

You now see these tabs:

* **Private View**: This tab displays information about your channel that only you can see.
* **Public View**: If you choose to make your channel publicly available, use this tab to display selected fields and channel visualizations.
* **Channel Settings**: This tab shows all the channel options you set at creation. You can edit, clear, or delete the channel from this tab.
* **Sharing**: This tab shows channel sharing options. You can set a channel as private, shared with everyone (public), or shared with specific users.
* **API Keys**: This tab displays your channel API keys. Use the keys to read from and write to your channel.
* **Data Import/Export**: This tab enables you to import and export channel data.

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You can write data to your ThingSpeak channels in several ways:

* **HTTP calls from the REST API**
* **MQTT Publish method**
* [**ThingSpeakWrite**](https://www.mathworks.com/help/thingspeak/thingspeakwrite.html)**function from MATLAB**

Here in this project, we are used rest API method for write data.

HTTP Method : POST or GET

URL

https://api.thingspeak.com/update.*<format>*

You can send data to ThingSpeak using HTTP requests. Use the following URL structure to send dataA computer screen shot of a computer code

Description automatically generated with medium confidence.Replace **YOUR\_API\_KEY** with your Write API Key. The **field1**, **field2**, etc., correspond to the fields in your ThingSpeak channel. You should replace **value1**, **value2**, etc., with the actual data you want to send.

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Analyzing data on ThingSpeak using MATLAB involves accessing the ThingSpeak data and performing various analyses using MATLAB scripts or functions.

Here we used following MATLAB code for conversion of lb to kg.

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