

Experiment Number 01

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|--------------|------------------------|---------------|----------------------------|
| Name :: | Rishabh Anand | UID :: | 19BCS4525 |
| Branch :: | CSE - IoT | Sec/Grp :: | 1/A |
| Semester :: | 7 th | Date :: | 4 th Sept, 2022 |
| Subject :: | Privacy & Security lab | CODE :: | CSD-431 |
| Proffesor :: | Mr. Gaurav Soni | Department :: | AIT-CSE |

1. Aim :

Create a telemetric channel for an IoT device to send / Transmit on HTTP page / Web Cloud.

2. Task :

The objective is to send data to cloud using a remote login and Lab View.

1. Install LabVIEW 2015.
2. Online Channel

3. Algorithm :

- Creating Account in Thingspeak.com.
- Create a telemetric channel in thingspeak.
- Make channel created in step 2 as public.
- Download and Install LabVIEW and getting to know how to use it.
- Create Program VIs as defined in the demonstration presentation slides in LabVIEW.
- Running LabVIEW Code.
- Send information to TS creating device and channels.

4. Observations :

Thing Speak is an IOT analytics platform service that allows you to aggregate, visualize and analyze live data streams in the cloud. Thing Speak provides instant visualizations of data posted by your devices to Thing Speak. With the ability to execute MATLAB® code/LabVIEW in ThingSpeak you can perform on-line analysis and processing of the data as it comes in. ThingSpeak is often used for prototyping and proof of concept IOT systems that require analytics.

This API provides VIs to connect Things Spot to IOT platform and communicate with IOT devices. It can be used on NI LabVIEW with Windows OS or Linux RT, to make them IOT devices. Open Connection - opens connection and creates/updates IOT device with given name in Things Spot IOT platform. Created device have unique MQTT client ID, which consists of device's name and controller's serial number. Send Data -creates/updates tag with given name and publishes message to Things Spot IOT platform

The screenshot displays the NI LabVIEW 2020 user interface. At the top, there is a navigation bar with links for Solutions, Products, Perspectives, Support, and Community. Below this, the user's account information is shown, including the name 'Rishabh Anand' and the email 'cu.19bcs4525@gmail.com'. A 'Log out' link is also present. The main area features a 'My Account' section with a 'Hello' message and a description of identity-based activation. Below this, there is a 'Quotes and Orders' section with three actionable buttons: 'View order status and history', 'Retrieve quotes', and 'Find a distributor'. A 'LabVIEW 2020' window is overlaid on the right side, showing a 'Hello' message and an 'ACTIVATE' button. At the bottom, there is a 'Privacy Statement' link and a 'BEGIN 7 DAY TRIAL' button.



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RA



My Account

Rishabh Anand

Quotes and Orders



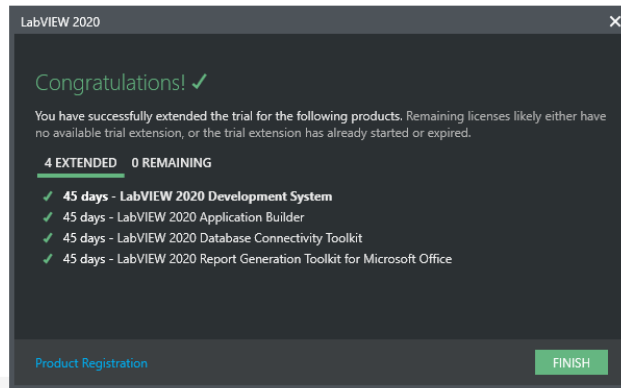
[View order status and history](#)



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RA



My Account

Rishabh

Quotes and Order



[View order status and history](#)



[Retrieve quotes](#)



[Find a distributor](#)

4525_Lab_01

Channel ID: 1838591
Author: mwa000027096700
Access: Public

Experiment 01 performed by Rishabh Anand
(19BCS4525)

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

Channel Settings

Percentage complete 50%

Channel ID 1838591

Name 4525_Lab_01

Description Experiment 01 performed by Rishabh Anand
(19BCS4525)

Field 1 Data ☒

Field 2 ☐

Field 3 ☐

Field 4 ☐

Help

Channels store all the data that a ThingSpeak application collects. Each channel includes eight fields that can hold any type of data, plus three fields for location data and one for status data. Once you collect data in a channel, you can use ThingSpeak apps to analyze and visualize it.

Channel Settings

- Percentage complete:** Calculated based on data entered into the various fields of a channel. Enter the name, description, location, URL, video, and tags to complete your channel.
- Channel Name:** Enter a unique name for the ThingSpeak channel.
- Description:** Enter a description of the ThingSpeak channel.
- Field#:** Check the box to enable the field, and enter a field name. Each ThingSpeak channel can have up to 8 fields.
- Metadata:** Enter information about channel data, including JSON, XML, or CSV data.
- Tags:** Enter keywords that identify the channel. Separate tags with commas.
- Link to External Site:** If you have a website that contains information about your ThingSpeak channel, specify the URL.

Metadata

Tags

(Tags are comma separated)

Link to External Site

Link to GitHub

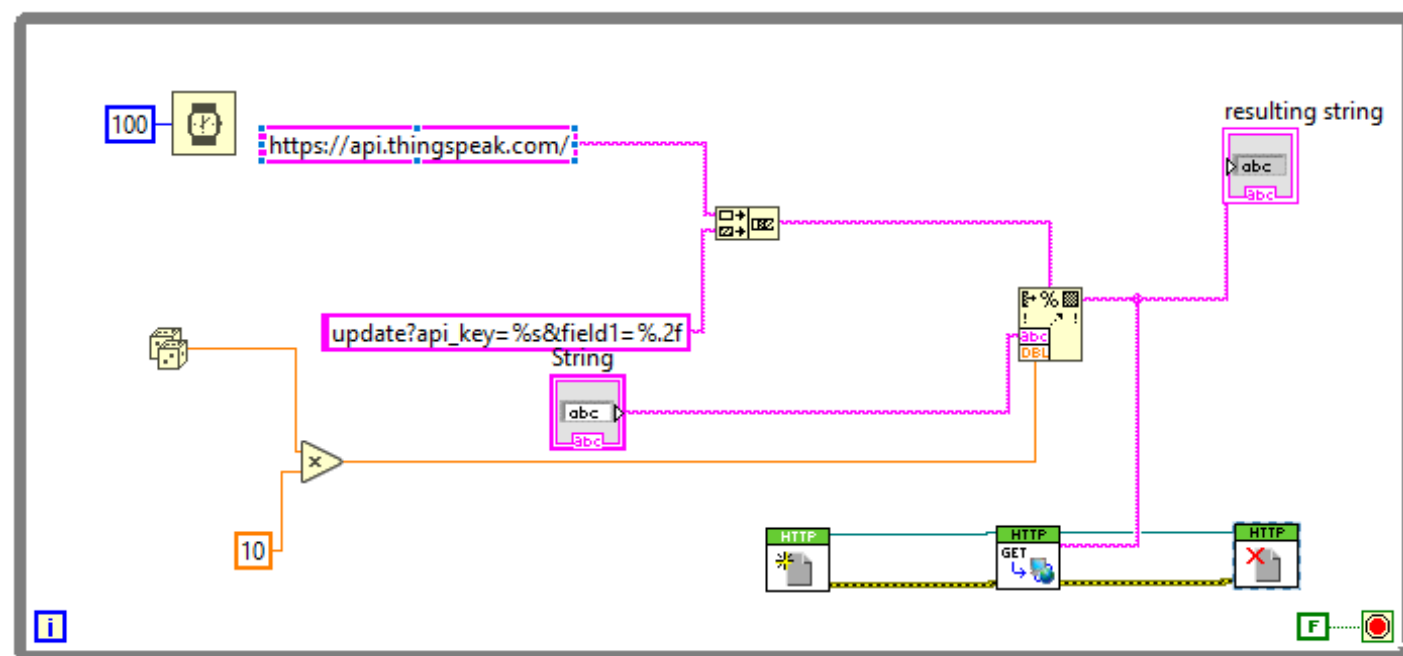
Elevation

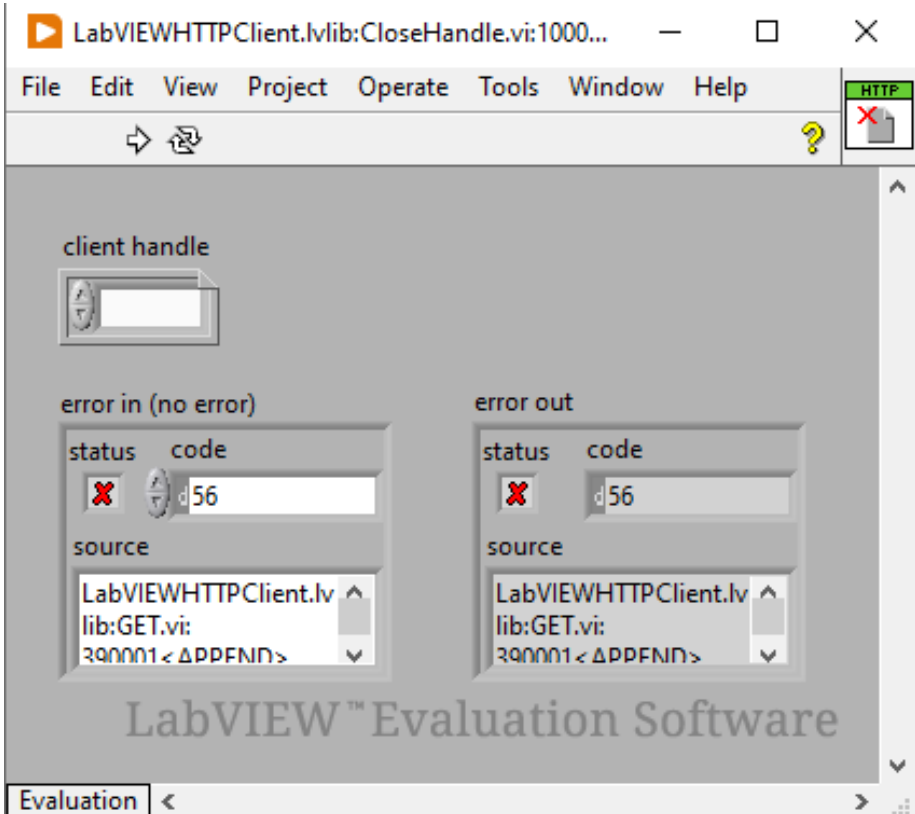
Show Channel Location ☐

Latitude

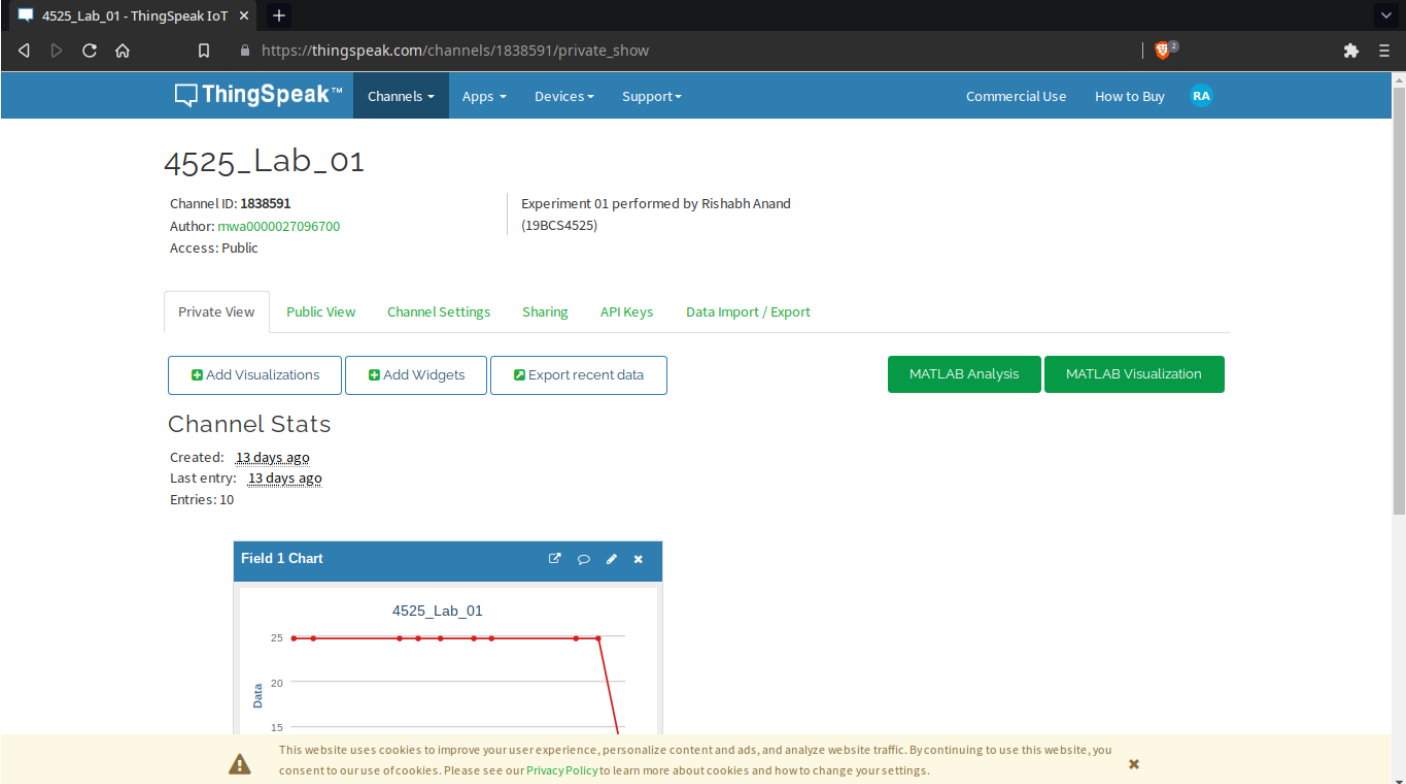
Longitude

Show Video ☐
YouTube





The screenshot shows a LabVIEW window titled 'LabVIEWHTTPClient.lvlib:CloseHandle.vi:1000...'. It displays two error indicators, 'error in (no error)' and 'error out', both showing a status of 'X' and a code of '56'. The source for both errors is 'LabVIEWHTTPClient.lv lib:GET.vi:3900001<ΔPPFEND>'. The background of the window says 'LabVIEW™ Evaluation Software'.



The screenshot shows the Thingspeak channel page for '4525_Lab_01'. The channel ID is 1838591, and the author is mwa0000027096700. The page includes tabs for Private View, Public View, Channel Settings, Sharing, API Keys, and Data Import / Export. There are buttons for 'Add Visualizations', 'Add Widgets', 'Export recent data', 'MATLAB Analysis', and 'MATLAB Visualization'. The 'Channel Stats' section shows the channel was created 13 days ago, the last entry was 13 days ago, and there are 10 entries. A 'Field 1 Chart' is displayed, showing a line graph for '4525_Lab_01' with data points around 25. A cookie consent banner is visible at the bottom.

Learning Outcomes :

- Learn how to create account in ThingSpeak.
- Learn how to install LabVIEW.
- Learn how Send information to TS creating device and channels.
- Learn how Create a telemetric channel in ThingSpeak.
- Learn ow to Run Lab View code.

| S. No. | Parameters | Marks Obtained | Maximum Marks |
|--------|------------|----------------|---------------|
| 1. | | | |
| 2. | | | |
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