

Hands-on Practicals with IoT Communication protocols

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1. Fetch the weather data from the open weather API using the HTTP protocol.

The screenshot displays the OpenWeather API website. The top navigation bar includes links for Guide, API, Pricing, Maps, Our Initiatives, Partners, Blog, Marketplace, and Support. A green notification banner states: "We have sent the confirmation link to maheshwari.rishabh148@gmail.com. Please check your email." Below this, a section titled "API keys" explains that users can generate as many API keys as needed for their subscription. A table shows a single key: "e75f9a6ef468b93b621271fbb6c5e77" with the name "Default". A "Create key" button is visible. The footer contains links for Product Collections, Subscription, and About us.

Call current weather data for one location

- By city name
- By city ID
- By geographic coordinates
- By ZIP code

Call current weather data for several cities

- Cities within a rectangle zone
- Cities in circle

Bulk downloading

Weather fields in API response

- JSON
- XML
- List of condition codes
- Min/max temperature in current weather
- API and forecast API

Other features

- Format
- Units of measurement
- Multilingual support
- Call back function for JavaScript code

API call

```
api.openweathermap.org/data/2.5/weather?q={city name}&appid={API key}
```

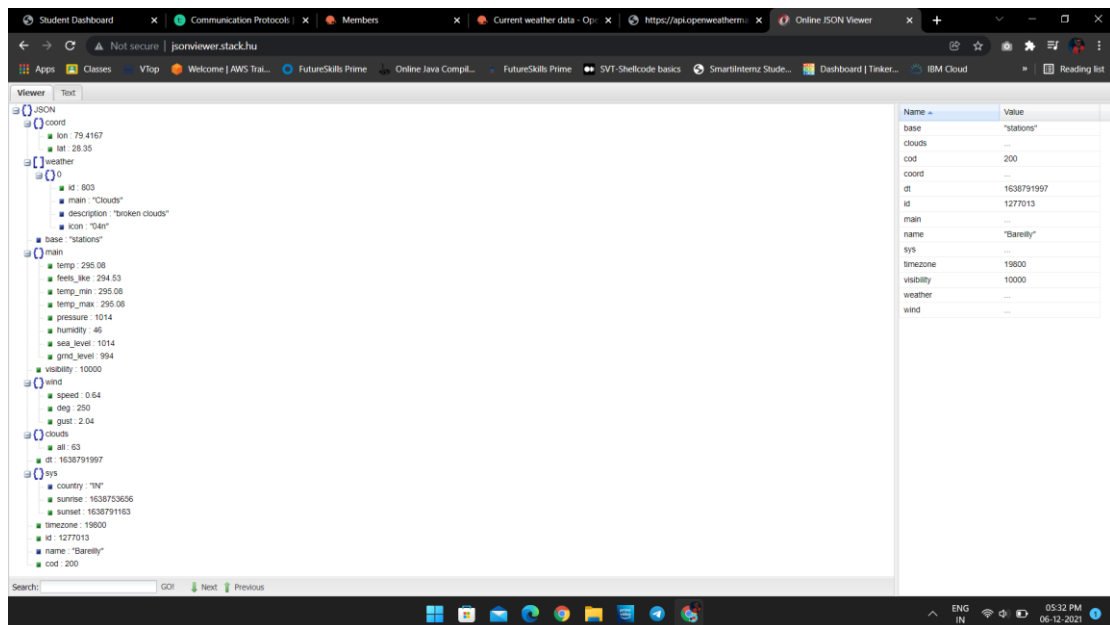
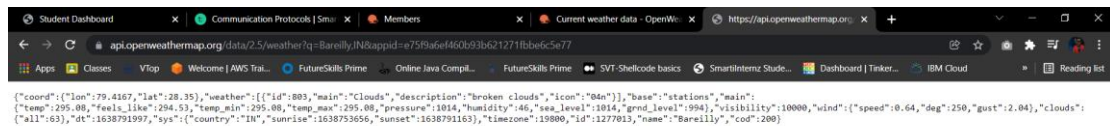
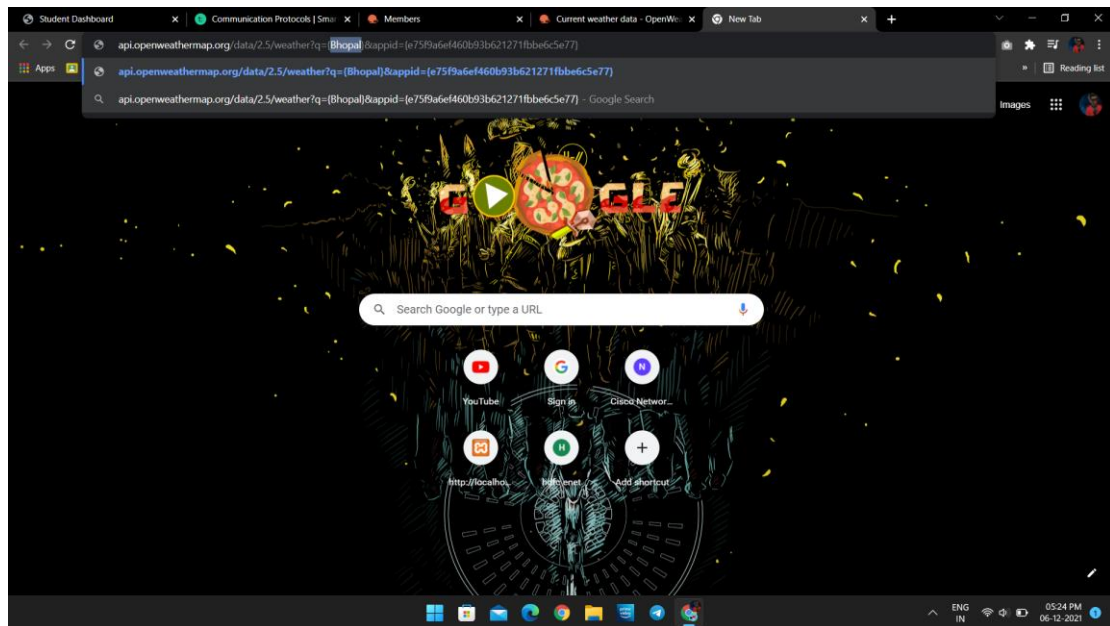
```
api.openweathermap.org/data/2.5/weather?q={city name},{state code}&appid={API key}
```

```
api.openweathermap.org/data/2.5/weather?q={city name},{state code},{country code}&appid={API key}
```

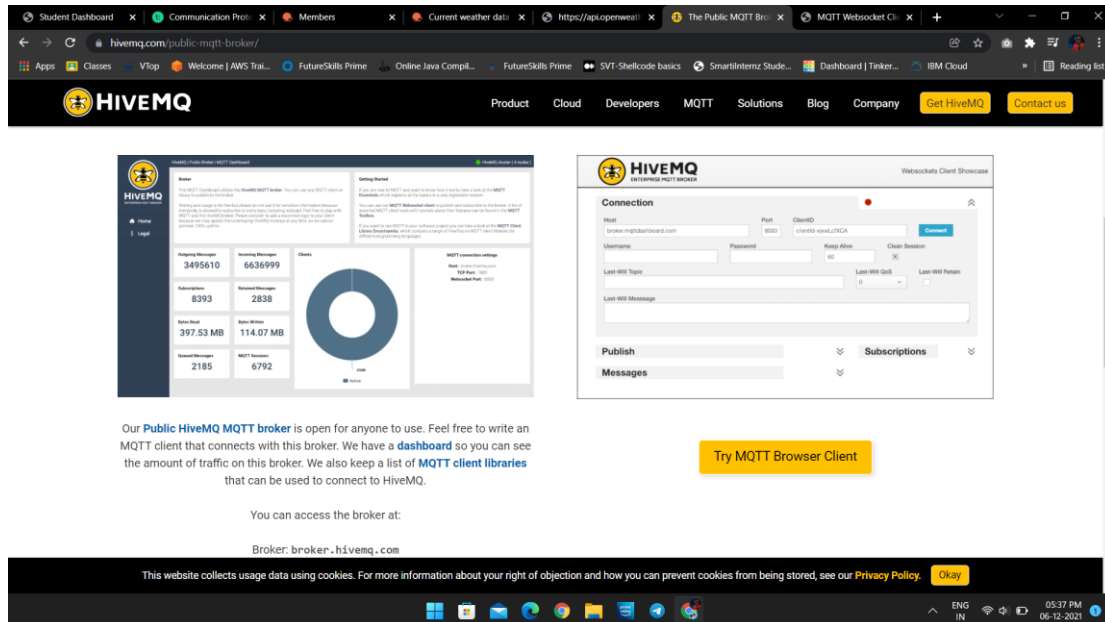
Parameters

We use cookies which are essential for the site to work. We also use non-essential cookies to help us improve our services. Any data collected is anonymised. You can allow all cookies or manage them individually.

Allow all Manage cookies



2. Publish and subscribe the data using Hive MQ public broker using MQTT protocol

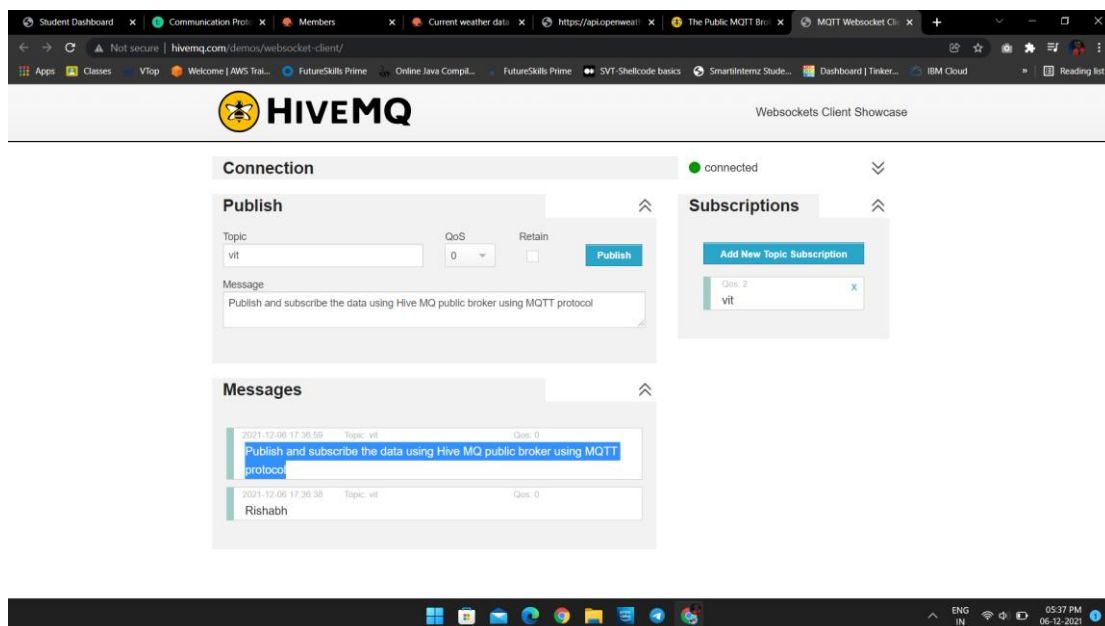


Our **Public HiveMQ MQTT broker** is open for anyone to use. Feel free to write an MQTT client that connects with this broker. We have a **dashboard** so you can see the amount of traffic on this broker. We also keep a list of **MQTT client libraries** that can be used to connect to HiveMQ.

You can access the broker at:

Broker: `broker.hivemq.com`

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Connection connected

Publish

Topic: `vit` QoS: `0` Retain: ☐ [Publish](#)

Message: `Publish and subscribe the data using Hive MQ public broker using MQTT protocol`

Subscriptions

[Add New Topic Subscription](#)

Class: `2` Topic: `vit`

Messages

2024-12-06 17:35:19 Topic: `vit` QoS: `0`
`Publish and subscribe the data using Hive MQ public broker using MQTT protocol`

2021-12-06 17:35:38 Topic: `vit` QoS: `0`
`Rishabh`