

Lab work #5

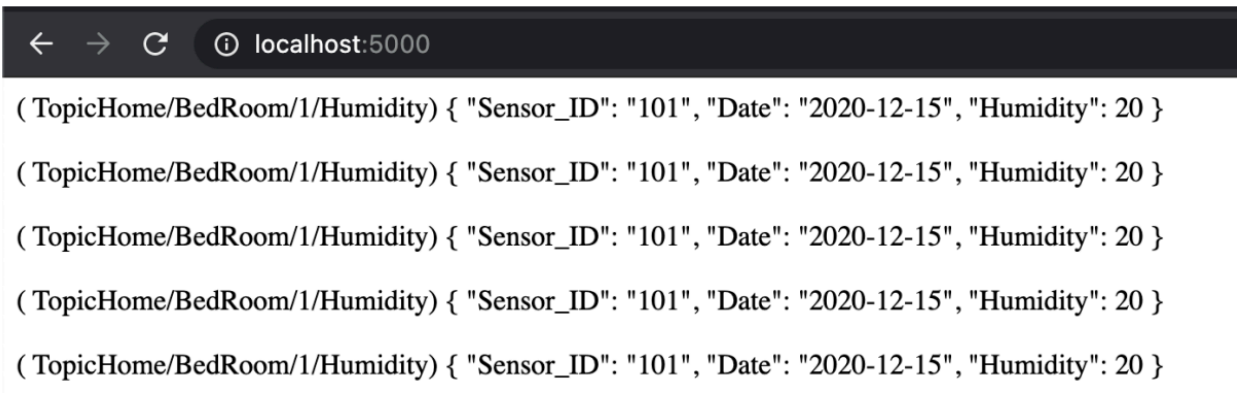
Exploration of MQTT Protocol – Data Visualization in the Browser

Objective: Learn to display MQTT messages in the browser and additionally add new statistical groups that will be visualized in the browser.

Modify the provided code to read different MQTT topics (based on Laboratory Work No. 3) sent via MQTTBox and display them in the browser

You can run the provided example by installing the following additional Python packages using pip (the pip version may vary depending on the Python version used):

- pip3.7 install flask_socketio==4.3.2
- pip3.7 install flask_mqtt
- pip3.7 install eventlet
- pip3.7 install flask_bootstrap

A screenshot of a web browser window. The address bar shows 'localhost:5000'. The page content displays five identical JSON objects, each representing an MQTT message from the topic 'TopicHome/BedRoom/1/Humidity'. Each object contains 'Sensor_ID': '101', 'Date': '2020-12-15', and 'Humidity': 20.

```
<  →  ↻  ⓘ localhost:5000

( TopicHome/BedRoom/1/Humidity) { "Sensor_ID": "101", "Date": "2020-12-15", "Humidity": 20 }

( TopicHome/BedRoom/1/Humidity) { "Sensor_ID": "101", "Date": "2020-12-15", "Humidity": 20 }

( TopicHome/BedRoom/1/Humidity) { "Sensor_ID": "101", "Date": "2020-12-15", "Humidity": 20 }

( TopicHome/BedRoom/1/Humidity) { "Sensor_ID": "101", "Date": "2020-12-15", "Humidity": 20 }

( TopicHome/BedRoom/1/Humidity) { "Sensor_ID": "101", "Date": "2020-12-15", "Humidity": 20 }
```

Additional material and usage examples

[Socket.IO Client API Documentation](#)

[Socket.IO Chat Example](#)

[Flask-MQTT Documentation - Subscribe to a Topic](#)

+

hivemq

✎

...

hivemq@broker.hive...

* Name

hivemq

* Client ID

mqtx_6ea5ad79

Username

Password

Keep Alive

60

Clean Start

☒ true

▶ Connect

+ New Subscription

temperature

QoS 0

Plaintext

All

Received

Published

"Temperature": "20"

}

2024-02-23 08:46:36:783

Topic: Home/BedRoom/1/Temperature QoS: 0

{

"Sensor_ID": "23",

"Date": "2023-02-23",

"Temperature": "20"

}

2024-02-23 08:46:46:204

JSON

QoS 0

☐ Retain

Meta

▲

Home/BedRoom/1/Temperature

{

"Sensor_ID": "23",

"Date": "2023-02-23",

"Temperature": "20"

}