

<https://www.halvorsen.blog>



LabVIEW GraphQL API for Dimension4 IoT Service

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GraphQL

- GraphQL is a query language for APIs
- GraphQL was developed by Facebook (2012) but is now Open Source
- GraphQL is typically used to develop Web APIs
- GraphQL is a “competitor” to REST APIs
- <https://graphql.org/>
- <https://en.wikipedia.org/wiki/GraphQL>
- <https://www.howtographql.com/>

Dimension4

- Dimension4 is an IoT Company located in Skien, Norway
- <https://dimensionfour.io/>
- They offer an IoT Service using GraphQL
- <https://iot.dimensionfour.io/graph>

Data structure

- **Space** – Folder, e.g., Temperature
- **Point** – A Signal Sender, e.g., a **Physical Device**, e.g., a specific **Sensor**, e.g., TMP36
- **Signal** – A Data Package with a TimeStamp, e.g., a Temperature Value. A signal represents a single **Measurement** or data at a certain time

GraphQL Playground

<https://iot.dimensionfour.io/graph>

← → ↻ 🏠 🔒 https://iot.dimensionfour.io/graph

Q LATEST_SIGNALS × +

PRETTIFY HISTORY ↻ https://iot.dimensionfour.io/graph COPY CURL

```
1 query LATEST_SIGNALS {
2   signalsConnection(
3     sort: {field: "timestamp", order:DESC}
4   ){
5     edges {
6       node {
7         id
8         timestamp
9         createdAt
10        type
11        unit
12        pointId
13        data {
14          numericValue
15          rawValue
16        }
17      }
18    }
19  }
```

▶

```
{
  "data": {
    "signalsConnection": {
      "edges": [
        {
          "node": {
            "id": "61e9333aaca23017b1361a74",
            "timestamp": "2022-01-20T11:02:32.000000000+0000",
            "createdAt": "2022-01-20T10:02:34.898000000+0000",
            "type": "Office Temperature",
            "unit": "CELSIUS_DEGREES",
            "pointId": "61e56f35f7e7322432fe769a",
            "data": {
              "numericValue": 22,
              "rawValue": "22"
            }
          }
        },
        {
          "node": {
            "id": "61e933303c2ec325b489aa5d",
            "timestamp": "2022-01-20T11:02:22.000000000+0000",
            "createdAt": "2022-01-20T10:02:24.684000000+0000",
            "type": "Office Temperature",
            "unit": "CELSIUS_DEGREES",
            "pointId": "61e56f35f7e7322432fe769a",
```

QUERY VARIABLES HTTP HEADERS (2)

```
1
```

SCHEMA

TRACING QUERY PLAN

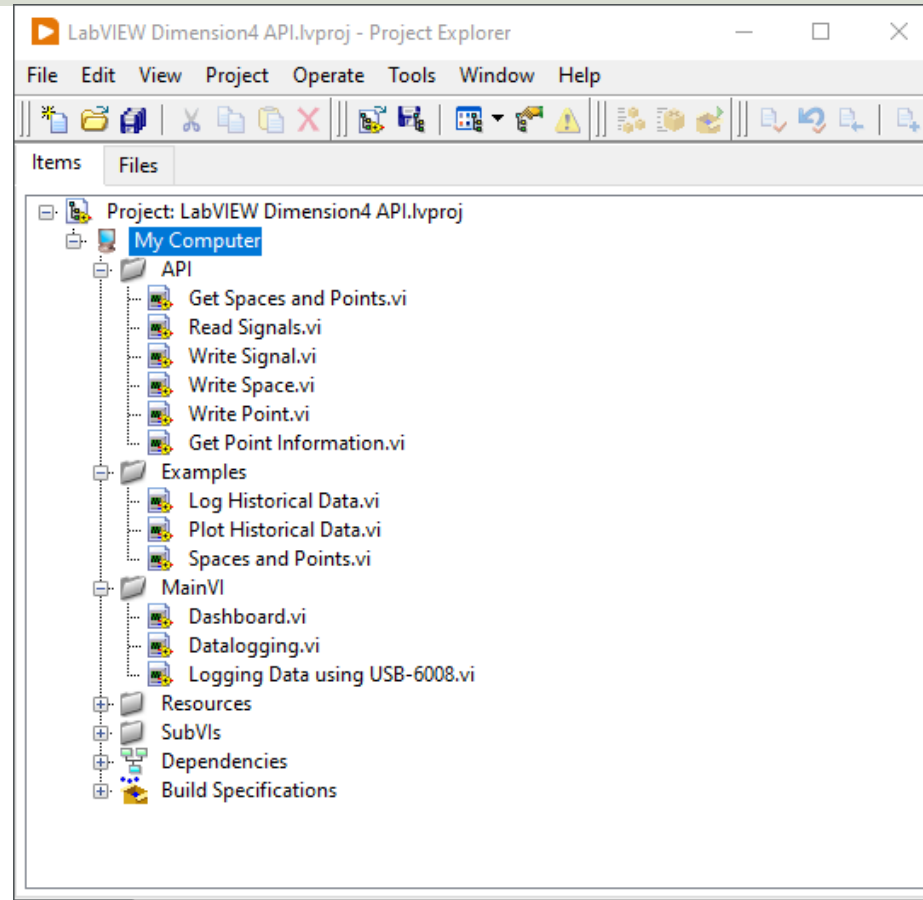
<https://www.halvorsen.blog>



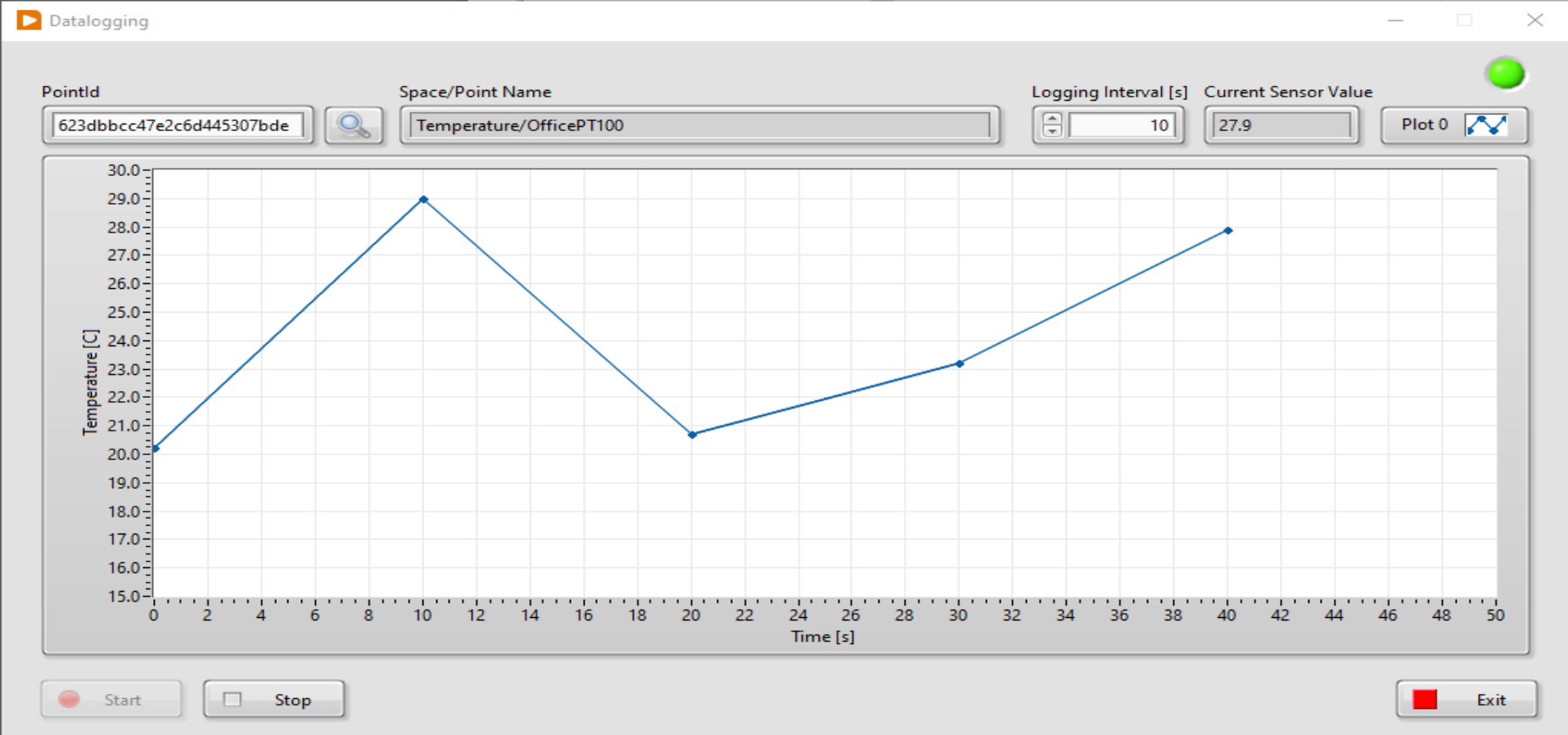
LabVIEW API

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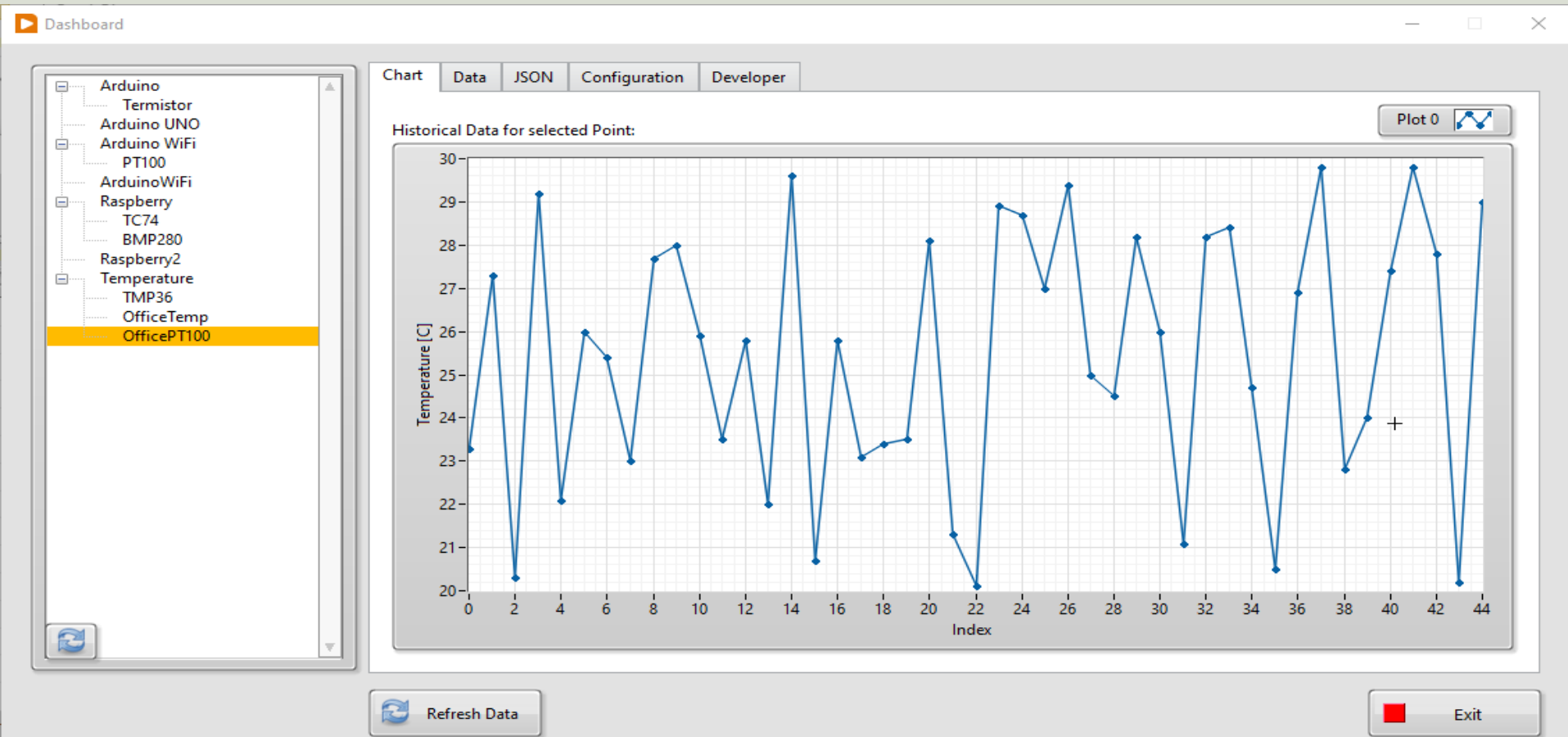
LabVIEW API



Datalogging



Dashboard



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