

## PROJECT DEVELOPMENT PHASE

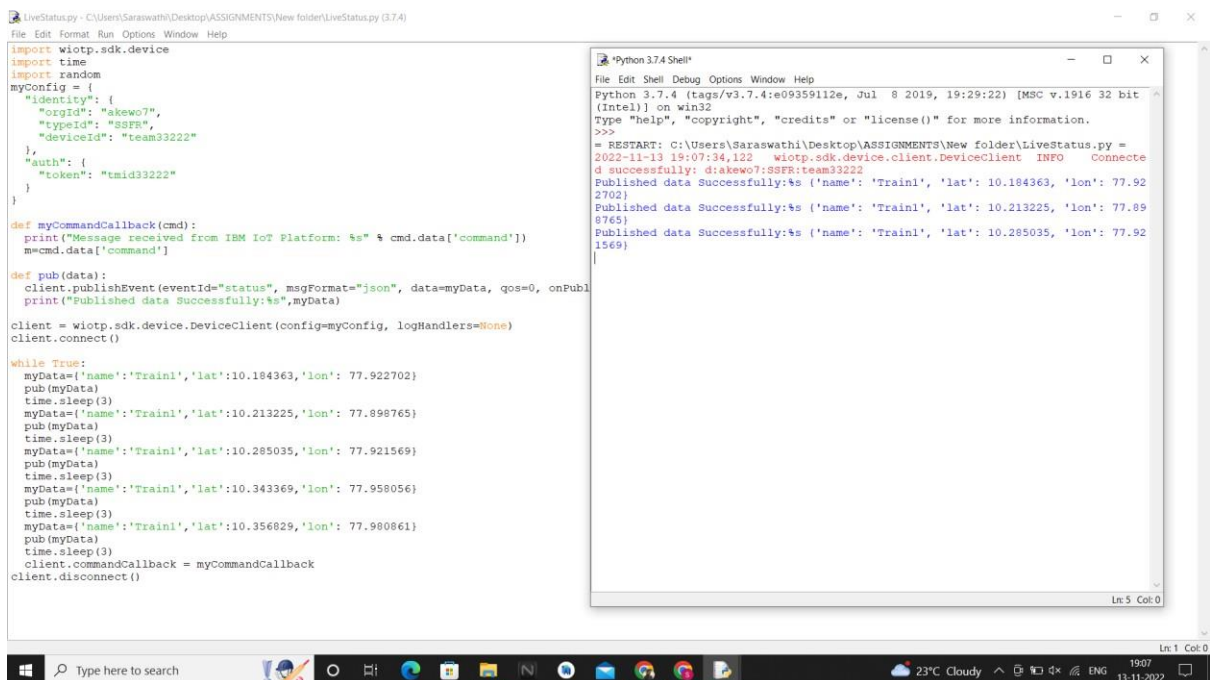
### SPRINT – 3

Date	14 November 2022
Team ID	PNT2022TMID18884
Project	Smart Solutions For Railways

#### Objective:

- To track the live location of the train using a GPS module to get the latitude and longitude values.
- To locate these values in the Map using node red application

❖ A python code is built as it updates the latitude and longitude values in the IBM IoT platform.



The screenshot shows a Python script in a text editor and its execution output in a terminal window. The script, named `LiveStatus.py`, uses the `wiotp.sdk.device` module to connect to the IBM IoT platform. It defines a `myConfig` dictionary with `orgId`, `typeId`, `deviceId`, `auth`, and `token`. The script then defines a `myCommandCallback` function and a `pub` function. It creates a `DeviceClient` object and connects to the platform. A `while True` loop publishes data to the platform every 3 seconds. The data is a JSON object with `name`, `lat`, and `lon` fields. The terminal window shows the output of the script, including the connection status and the published data.

```
import wiotp.sdk.device
import time
import random

myConfig = {
    "identity": {
        "orgId": "akewo7",
        "typeId": "SSFR",
        "deviceId": "team33222"
    },
    "auth": {
        "token": "tmid33222"
    }
}

def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

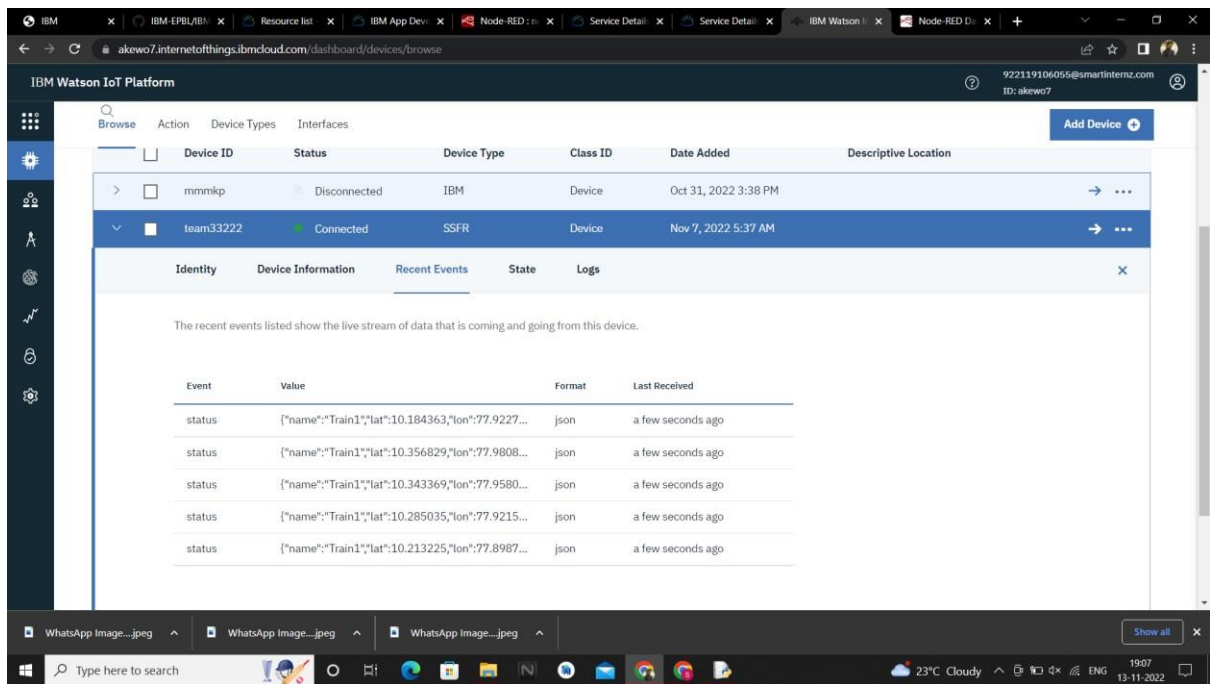
def pub(data):
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPubl
    print("Published data Successfully:%s",myData)

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    myData={'name':'Train1','lat':10.184363,'lon': 77.922702}
    pub(myData)
    time.sleep(3)
    myData={'name':'Train1','lat':10.213225,'lon': 77.898765}
    pub(myData)
    time.sleep(3)
    myData={'name':'Train1','lat':10.285035,'lon': 77.921569}
    pub(myData)
    time.sleep(3)
    myData={'name':'Train1','lat':10.343369,'lon': 77.958056}
    pub(myData)
    time.sleep(3)
    myData={'name':'Train1','lat':10.356829,'lon': 77.980861}
    pub(myData)
    time.sleep(3)
    client.commandCallback = myCommandCallback
    client.disconnect()
```

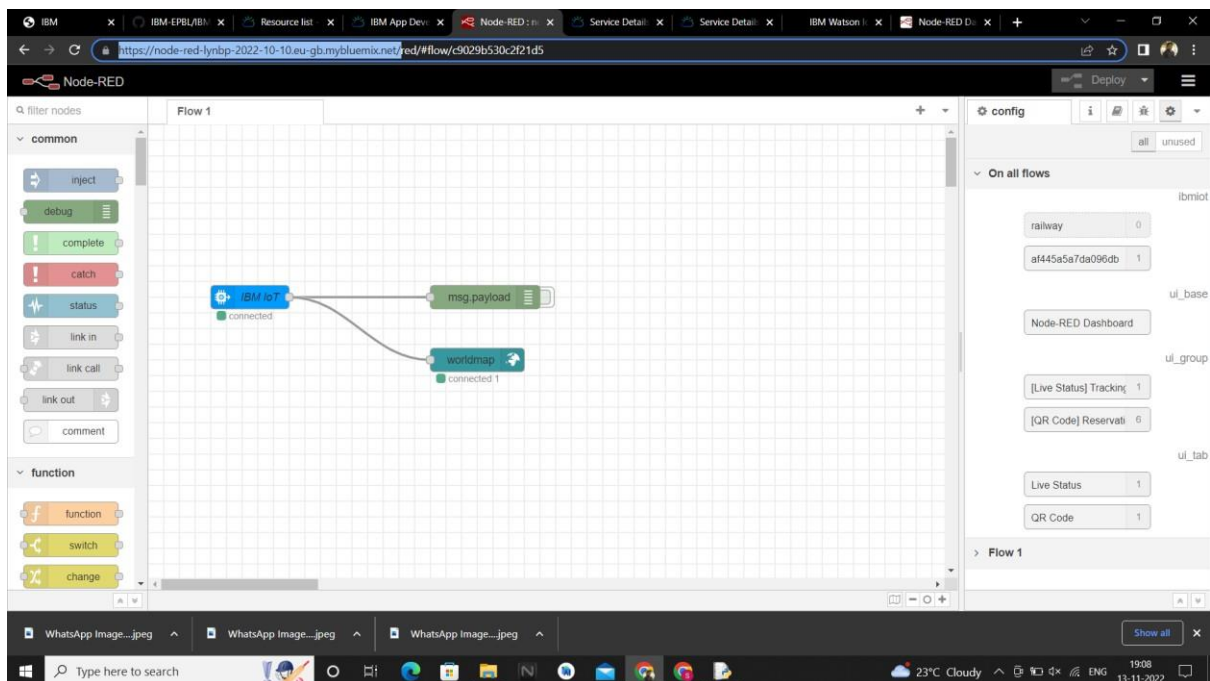
```
>>>
= RESTART: C:\Users\saraswathi\Desktop\ASSIGNMENTS\New folder\LiveStatus.py =
2022-11-13 19:07:34,122 wiotp.sdk.device.client.DeviceClient INFO Connecte
d successfully: d:akewo7:SSFR:team33222
Published data Successfully:%s ('name': 'Train1', 'lat': 10.184363, 'lon': 77.92
2702)
Published data Successfully:%s ('name': 'Train1', 'lat': 10.213225, 'lon': 77.89
8765)
Published data Successfully:%s ('name': 'Train1', 'lat': 10.285035, 'lon': 77.92
1569)
```

❖ These values are updated in the IBM Watson IoT platform.



- ❖ A node red flow is created by fetching the data from the IBM IoT platform.
- ❖ The fetched data is made to locate in the Map

## Node Red Flow:



- ❖ By testing this node red flow we can get the location of the train in the map.

## UI Testing:

