

## PROJECT DEVELOPMENT PHASE

### SPRINT – 3

Date	14 November 2022
Team ID	PNT2022TMID33222
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 running in a terminal window. The script is titled 'LiveStatus.py' and is located at 'C:\Users\Saraswathi\Desktop\ASSIGNMENTS\New folder\LiveStatus.py (3.7.4)'. The script imports the 'wiottp.sdk.device' module and the 'time' and 'random' modules. It defines a 'myConfig' dictionary with 'identity' (orgId: 'akewo7', typeId: 'SSFR', deviceId: 'team33222') and 'auth' (token: 'tmid33222'). The script then defines a 'myCommandCallback' function that prints the received command and a 'pub' function that publishes data to the IBM IoT platform. The script connects to the IBM IoT platform and enters a loop where it publishes data every 3 seconds. The data is a JSON object with 'name', 'lat', and 'lon' fields. The terminal output shows the connection status and the published data.

```
File Edit Format Run Options Window Help
import wiottp.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)

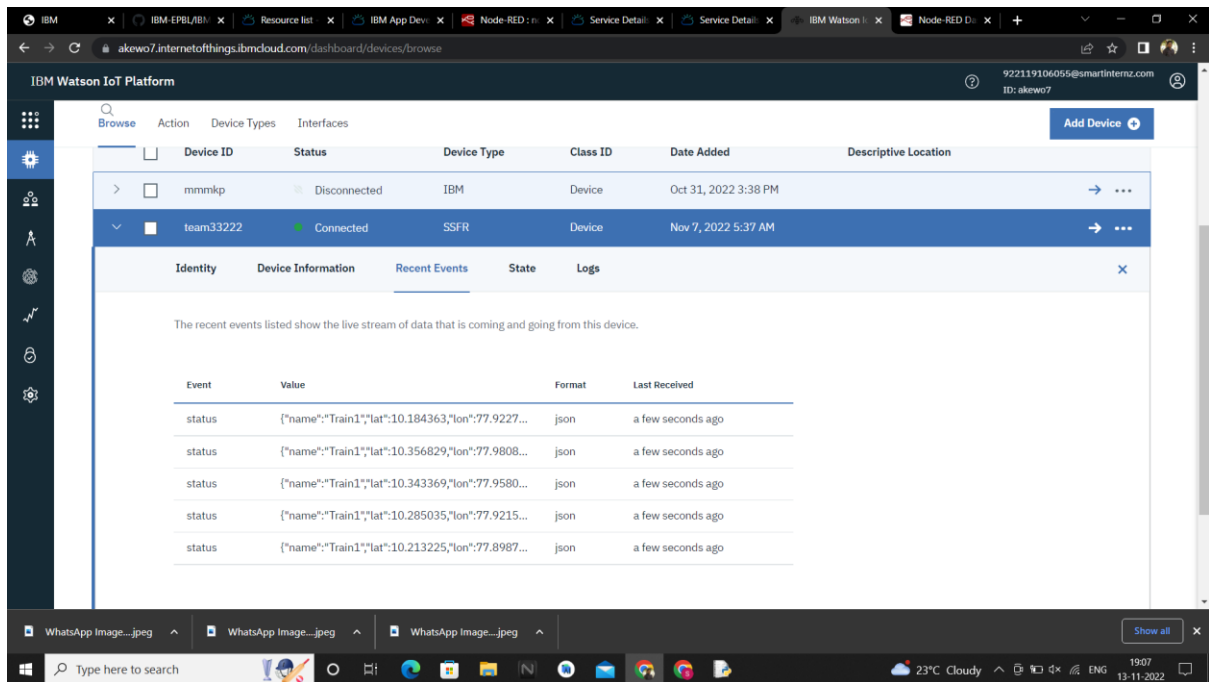
client = wiottp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

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()
```

Python 3.7.4 Shell

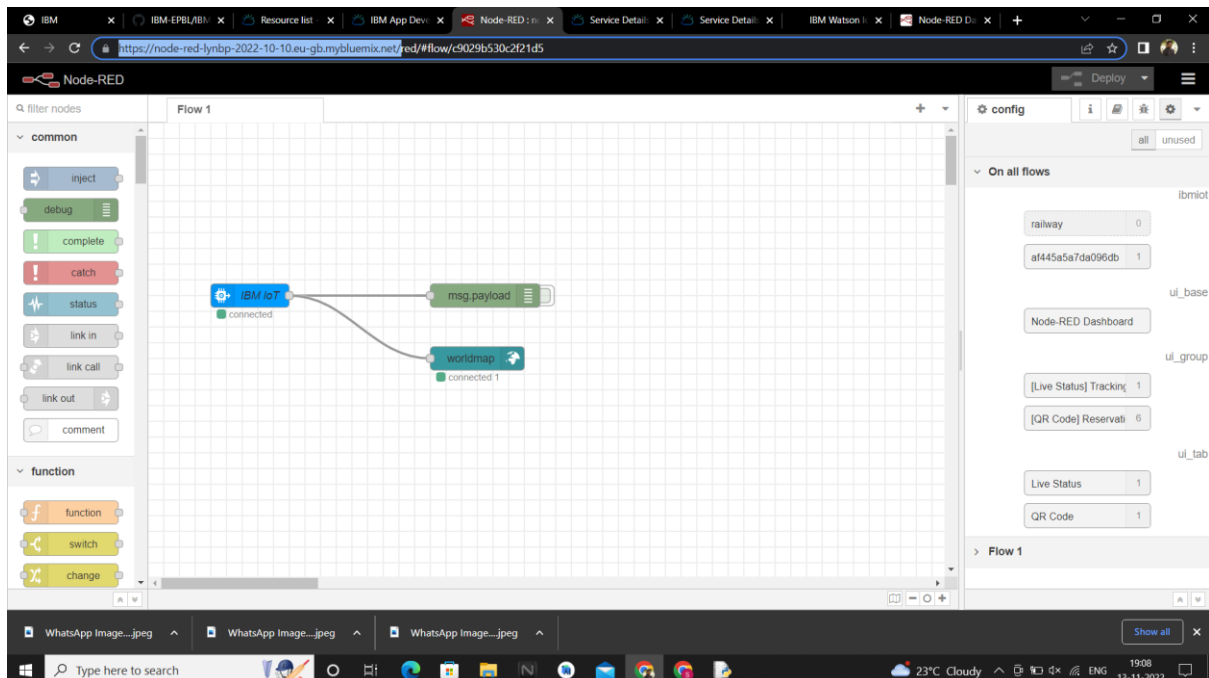
```
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 19:29:22) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:\Users\Saraswathi\Desktop\ASSIGNMENTS\New folder\LiveStatus.py =
2022-11-13 19:07:34.122 wiottp.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:

