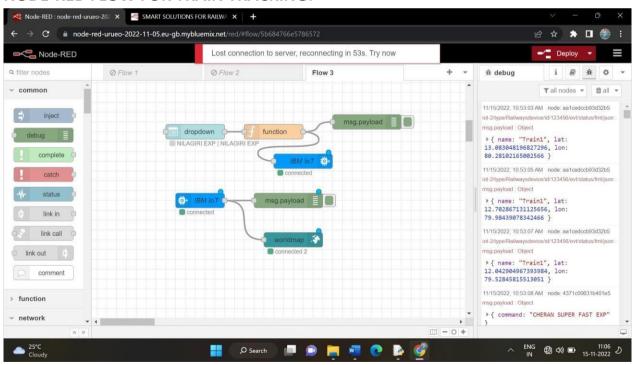
PROJECT DEVELOPMENT PHASE - SPRINT 3

Date	17NOVEMBER2022
Team ID	PNT2022TMID45586
Project Name	Smart Solutions for railways

SPRINT 3- Train Tracking

At the time of the journey, the user could able to track their train location by selecting the particular train. Once the train is selected ,the live location of the train can easily be tracked by the user.

NODE-RED FLOW FOR TRAIN TRACKING:

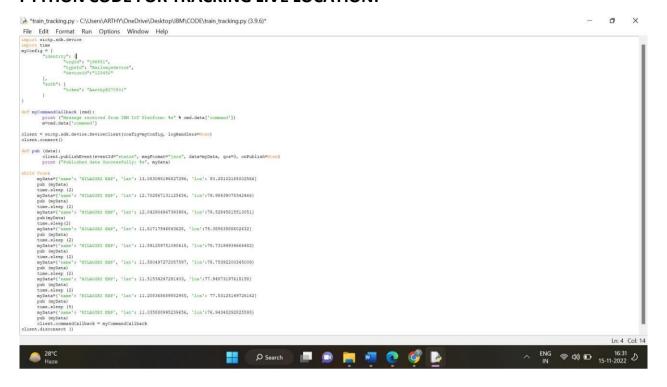


CODE:

```
import wiotp.sdk.device
import time
import random
myConfig = {
"identity": {
"orgId": "j96451",
"typeId": "Railwaysdevice",
"deviceId":"123456"
},
"auth": {
"token": "Menu@270901"
}
}
def myCommandCallback (cmd):
print ("Message received from IBM IoT Platform: %s" % cmd.data['command'])
m=cmd.data['command']
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
def pub (data):
client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,
onPublish=None)
print ("Published data Successfully: %s", myData)
while True:
   myData={'name': 'NILAGIRI EXP', 'lat': 13.083048196827296, 'lon':
80.28102165002566}
   pub (myData)
   time.sleep (2)
   myData={'name': 'NILAGIRI EXP', 'lat': 12.702867131125656,
'lon':79.98439078342466}
```

```
pub (myData)
   time.sleep (2)
   myData={'name': 'NILAGIRI EXP', 'lat': 12.042904967393984,
'lon':79.52845815513051}
   pub(myData)
   time.sleep(2)
   myData={'name': 'NILAGIRI EXP', 'lat': 11.81717546843628,
'lon':79.38563588602632}
   pub (myData)
   time.sleep (2)
   myData={'name': 'NILAGIRI EXP', 'lat': 11.591259751090618,
'lon':78.73194934666482}
   pub (myData)
   time.sleep (2)
   myData={'name': 'NILAGIRI EXP', 'lat': 11.580497272057597,
'lon':78.75392200345009}
   pub (myData)
   time.sleep (2)
   myData={'name': 'NILAGIRI EXP', 'lat': 11.51534247291403,
'lon':77.94873197618158}
   pub (myData)
   time.sleep (2)
   myData={'name': 'NILAGIRI EXP', 'lat': 11.208368689552955, 'lon':
77.53125149726162}
   pub (myData)
   time.sleep (5)
   myData={'name': 'NILAGIRI EXP', 'lat': 11.035888995239656,
'lon':76.94348292825593}
   pub (myData)
   client.commandCallback = myCommandCallback
client.disconnect ()
```

PYTHON CODE FOR TRACKING LIVE LOCATION:

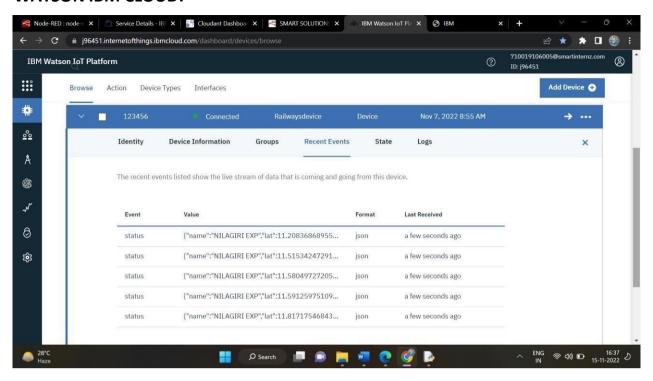


OUTPUT:

```
*IDLE Shell 3.9.6*
  File Edit Shell Debug Options Window Help
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32 Type "help", "copyright", "credits" or "license()" for more information.
                               = RESTART: C:/Users/ARTHY/OneDrive/Desktop/IBM/CODE/train_tracking.py ====
 2022-11-15 11:22:55,255
                                                                                                                                           wiotp.sdk.device.client.DeviceClient
                                                                                                                                                                                                                                                                                                                                                                                                      Connected successfully: d:j96451:Railw
                                                                                                                                                                                                                                                                                                                                                         INFO
   aysdevice:123456
aysdevice:123456
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 13.083048196827296, 'lon': 80.28102165002566}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 12.702867131125656, 'lon': 79.98439078342466}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 12.042904967393984, 'lon': 79.52845815513051}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.81717546843628, 'lon': 79.38563588602632}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.591259751090618, 'lon': 78.73194934666482}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.580497272057597, 'lon': 78.75392200345009}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.94873197618158}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.208368689552955, 'lon': 77.53125149726162}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.08388889523956. 'lon': 76.943488298255935
                                                                                                                                                                                                                                                                                                                     'lat': 11.208368689552955, 'lon': 77.53125149726162)
'lat': 11.035888995239656, 'lon': 76.94348292825593)
'lat': 13.083048196827296, 'lon': 80.28102165002566)
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.208368689352935, 'lon': 77.53125149726162}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.035888995239656, 'lon': 76.94348292825593}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 13.083048196827296, 'lon': 80.28102165002566}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 12.702867131125656, 'lon': 79.98439078342466}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 12.042904967393984, 'lon': 79.52845815513051}
Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.81717546843628, 'lon': 79.38563588602632}
 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.5171746845828, 'lon': 79.3856358602622 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.591259751090618, 'lon': 78.73194934666482 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.580497272057597, 'lon': 78.75392200345009 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.94873197618158 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.208368689552955, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.208368689552955, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.53125149726162 Published data Successfully: %s {'name': 'NILAGIRI EXP', 'lat': 11.51534247291403, 'lon': 77.5312514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 In: 23 Col: 0

26°C
AQI 75
```

WATSON IBM CLOUD:



USER INTERFACE FOR TRAIN TRACKING:

