

## SPRINT-2

TEAM ID	PNT2022TMID29193
PROJECT NAME	Smart Solutions for Railways

(Tracking the live location of train using GPS.)

### Code:

**ChennaiExpress.py**

```
import wiotp.sdk.device
```

```
import random import
```

```
time myConfig = {
```

```
"identity" :{
```

```
"orgId":"pnf2ld",
```

```
"typeId":"NodeMCU",
```

```
"deviceId":"12345"
```

```
},
```

```
"auth":{
```

```
"token":"12345678"
```

```
}  
}
```

```
def myCommandCallback(cmd):    print("Message received fromIBM 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':'Chennai Express','lat':13.344279,'lon':80.214367}  
pub(myData)    time.sleep(3)
```

```
    myData = {'name':'Chennai Express','lat':13.515254,'lon':80.093518}  
pub(myData)    time.sleep(3)
```

```
    myData = {'name':'Chennai Express','lat':13.728799,'lon':80.005627}  
pub(myData)    time.sleep(3)
```

```
    myData = {'name':'Chennai Express','lat':13.910160,'lon':79.906750}  
pub(myData)    time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':14.102035,'lon':79.851819}  
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':14.261807,'lon':79.862805}  
pub(myData)  
time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':14.623537,'lon':79.950695}  
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':15.111987,'lon':79.994641}  
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':15.313413,'lon':80.005627}  
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':15.567568,'lon':80.104504}  
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':15.747405,'lon':80.269299  
}  
pub(myData)  
time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':15.821409,'lon':80.302258}
pub(myData)  time.sleep(3)

myData = {'name':'Chennai Express','lat':15.927082,'lon':80.445080}
pub(myData) time.sleep(3)

myData = {'name':'Chennai Express','lat':16.022141,'lon':80.554943}
pub(myData)  time.sleep(3)

myData = {'name':'Chennai Express','lat':17.033801,'lon':80.295512}
pub(myData)  time.sleep(3)

myData = {'name':'Chennai Express','lat':18.383088,'lon':18.383088}
pub(myData)  time.sleep(3)

myData = {'name':'Chennai Express','lat':19.074762,'lon':79.487698}
pub(myData)  time.sleep(3)

myData = {'name':'Chennai Express','lat':20.179065,'lon':79.001439}
pub(myData)  time.sleep(3)

myData = {'name':'Chennai Express','lat':21.306421,'lon':78.789356}
pub(myData)  time.sleep(3)

myData = {'name':'Chennai Express','lat':22.518024,'lon':77.829404}
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':23.264139,'lon':77.429333}
```

```
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':24.509723,'lon':78.330212}
```

```
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':25.668840,'lon':78.451062}
```

```
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':26.177704,'lon':78.170910}
```

```
pub(myData) time.sleep(3)
```

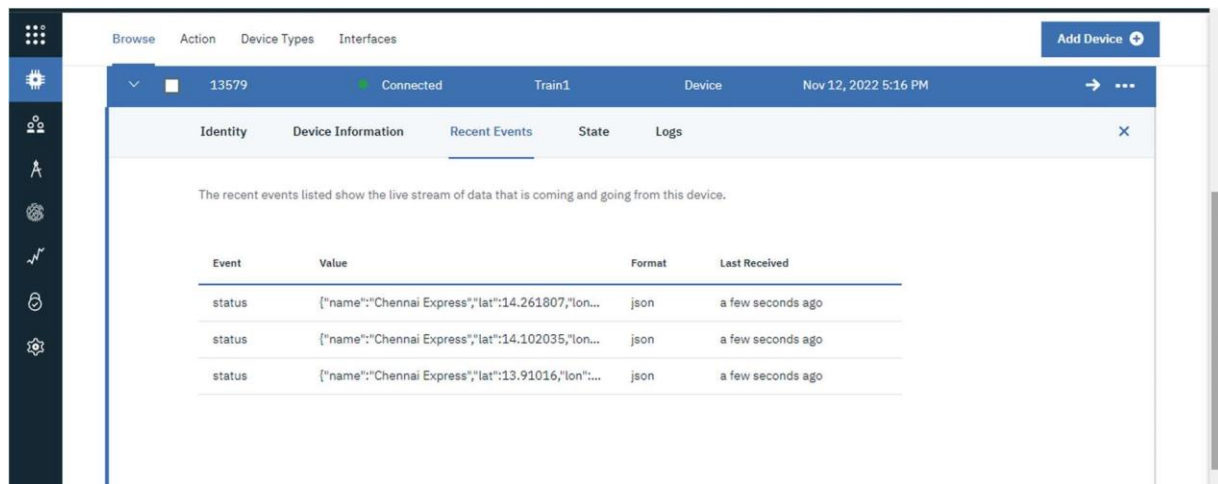
```
myData = {'name':'Chennai Express','lat':27.505914,'lon':77.676526}
```

```
pub(myData) time.sleep(3)
```

```
myData = {'name':'Chennai Express','lat':28.302041,'lon':77.308484}
```

```
pub(myData) time.sleep(3)
```

```
client.commandCallback = myCommandCallback client.disconnect()
```



## MumbaiExpress.py

```
import wiotp.sdk.device
```

```
import time import
```

```
random myConfig = {
```

```
"identity" :{
```

```
"orgId":"pnf2ld",
```

```
"typeId":"NodeMCU",
```

```
"deviceId":"12345"
```

```
},
```

```
"auth":{ "token":"12345678"
```

```
}
```

```
}
```

```

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':'Mumbai SF Express','lat':11.024938,'lon':76.982315}
pub(myData)    time.sleep(3)

    myData = {'name':'Mumbai SF Express','lat':11.220325,'lon':77.570083}
pub(myData)    time.sleep(3)

    myData = {'name':'Mumbai SF Express','lat':11.564960,'lon':77.993057}
pub(myData)    time.sleep(3)

    myData = {'name':'Mumbai SF Express','lat':11.780142,'lon':78.037002}
pub(myData)    time.sleep(3)

```

```
myData = {'name':'Mumbai SF Express','lat':12.134824,'lon':78.130386}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.226105,'lon':78.091934}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.344187,'lon':78.037002}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.489034,'lon':78.009536}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.655239,'lon':77.866714}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.735622,'lon':77.756851}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.907020,'lon':77.696426}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.987323,'lon':77.646988}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.955205,'lon':77.509659}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.665958,'lon':77.136123}
```



```
}
```

```
pub(myData)
```

```
time.sleep(3)
```

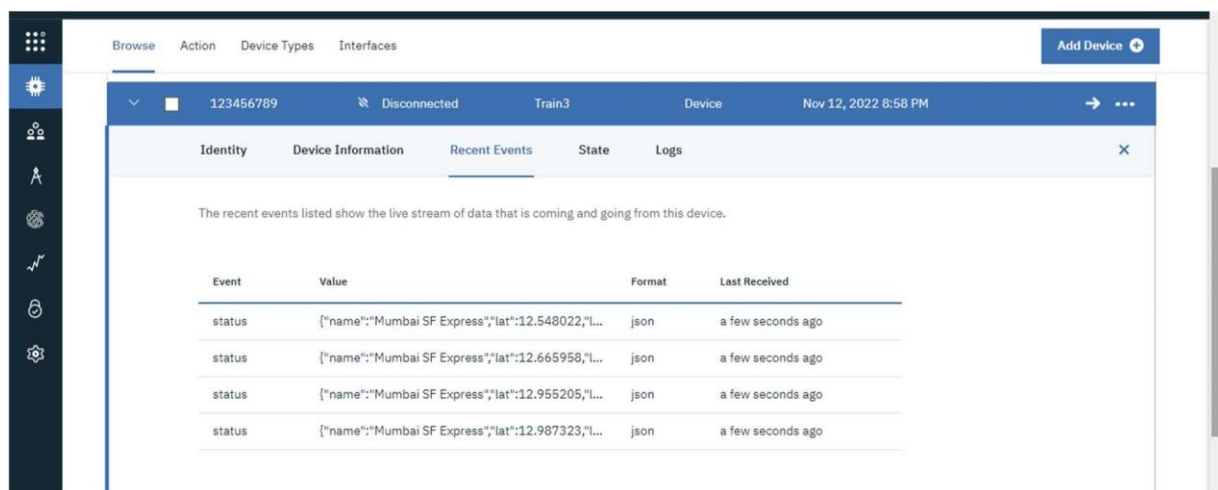
```
myData = {'name':'Mumbai SF Express','lat':12.548022,'lon':76.921890}
```

```
pub(myData) time.sleep(3)
```

```
myData = {'name':'Mumbai SF Express','lat':12.336809,'lon':76.644485}
```

```
pub(myData) time.sleep(3)
```

```
client.commandCallback = myCommandCallback client.disconnect()
```



## **BangaloreExpress.py**

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "pnf2ld",
        "typeId": "NodeMCU",
        "deviceId": "12345"
    },
    "auth": { "token": "12345678"
}
}

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':'Bangalore Express','lat':11.688572, 'lon':78.098877}  
    pub(myData)
```

```
time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':11.711433, 'lon':78.076905}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':11.978226, 'lon':78.116730}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':12.085676, 'lon': 78.119477}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':12.402400, 'lon':78.023347}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':12.884795, 'lon':77.707490}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':13.018630,'lon':77.614106}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':13.334194, 'lon':77.086762}  
pub(myData)  time.sleep(3)
```

```
time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':13.299448, 'lon':76.858796}  
pub(myData)
```

```
myData = {'name':'Bangalore Express','lat':13.344884,'lon': 76.205109}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':13.619985, 'lon':75.966157}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':13.974739, 'lon':76.119965}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':14.423398, 'lon':75.949677}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':14.922914, 'lon':75.389374}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':15.119216, 'lon':75.389374}  
pub(myData)  time.sleep(3)
```

```
time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':15.449980, 'lon':74.406230}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':15.352006,'lon':74.307353}  
pub(myData)
```

```
myData = {'name':'Bangalore Express','lat':15.314922, 'lon':74.218089}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':15.283131, 'lon':74.146678}  
pub(myData)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':15.276839, 'lon':74.129855}  
pub(myData)  time.sleep(3)  time.sleep(3)
```

```
myData = {'name':'Bangalore Express','lat':15.282800, 'lon':74.125392}  
pub(myData)  time.sleep(3)  time.sleep(3)
```

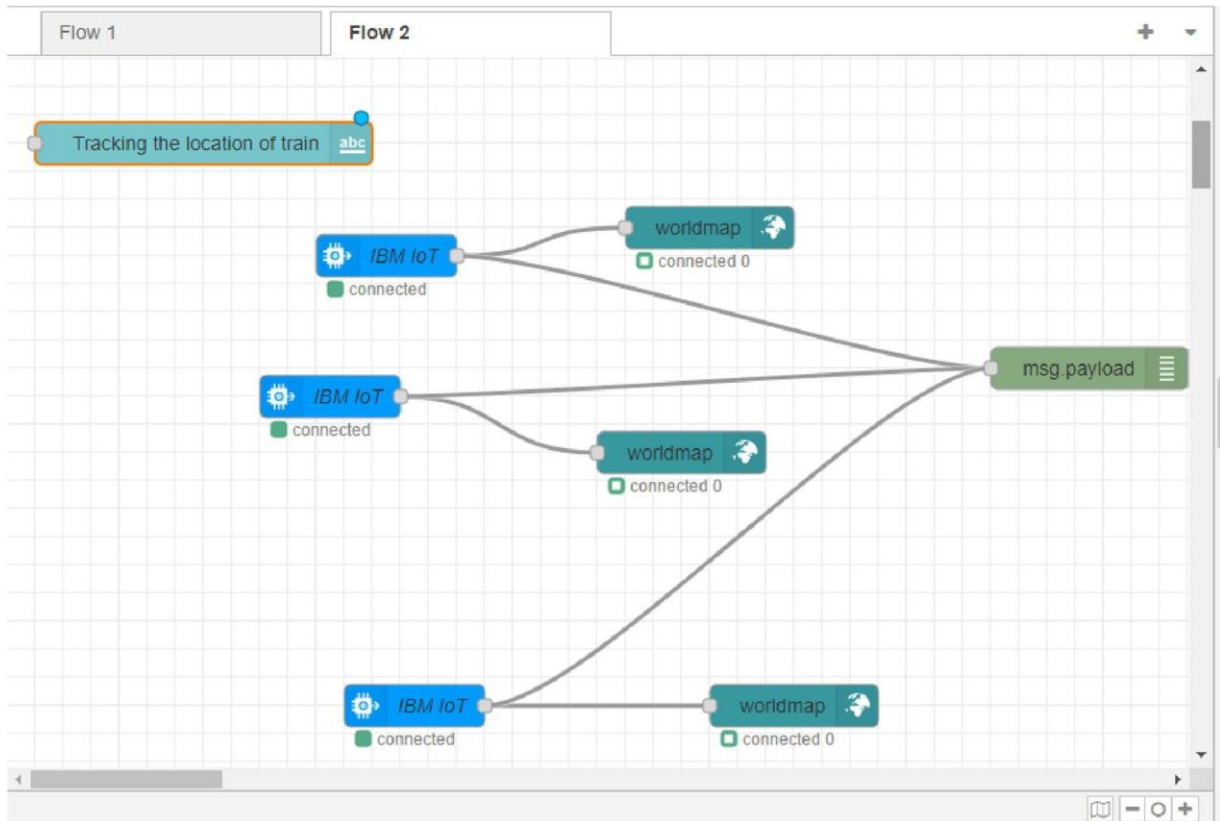
```
myData = {'name':'Bangalore Express','lat':15.296378,'lon':74.135692}  
pub(myData)  time.sleep(3)
```

```
client.commandCallback = myCommandCallback client.disconnect()
```

time.sleep(3)







node-red-awaqf-2022-09-30-eu-gb.mybluemix.net/red/#flow/5d0f48b5df5a5447

Node-RED

Flow 1

Flow 2

Chennai Express

Mumbai Express

Bangalore Express

Back

Tracking the location of train

msg.payload

ui control

ui control

ui control

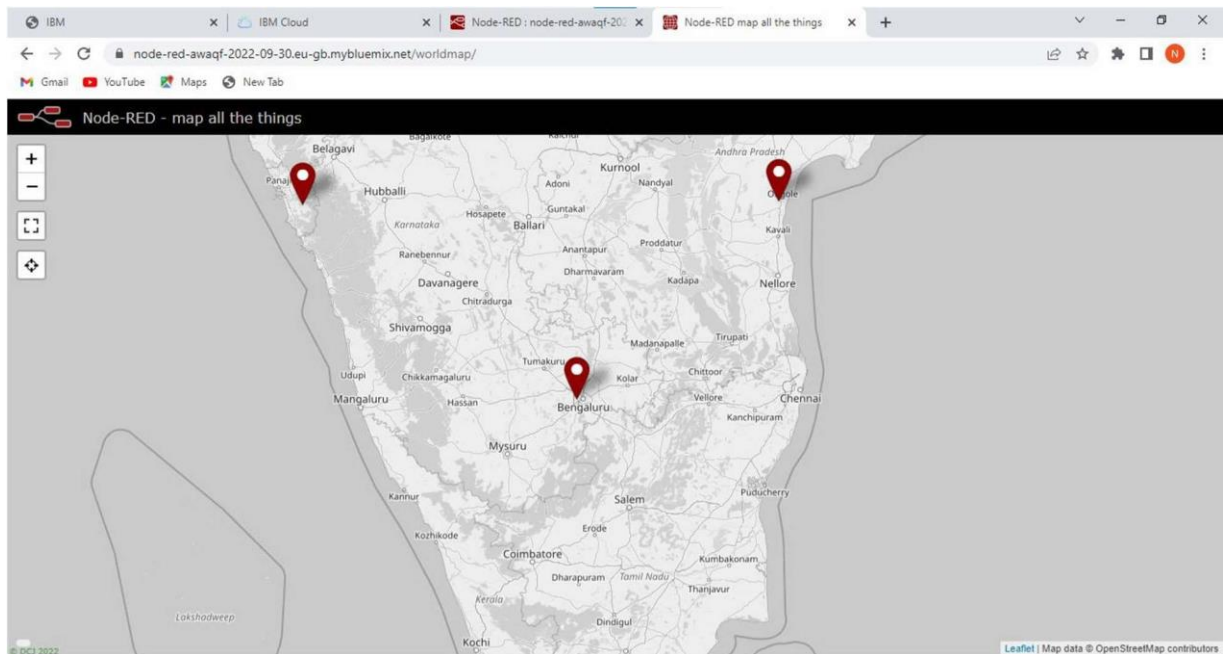
ui control

IBM IoT

worldmap

debug

```
{
  "name": "Mumbai SF Express",
  "lat": 11.56496,
  "lon": 77.993057
}
11/12/2022, 11:06:04 PM node: bccfe885695a5e58
iot-2/type/Train2/id/02468/evts/status/fmt/json :
msg.payload : Object
{
  "name": "Bangalore Express",
  "lat": 15.314922,
  "lon": 74.218089
}
11/12/2022, 11:06:06 PM node: bccfe885695a5e58
iot-2/type/Train1/id/123456789/evts/status/fmt/json :
msg.payload : Object
{
  "name": "Chennai Express",
  "lat": 15.821409,
  "lon": 80.302258
}
11/12/2022, 11:06:07 PM node: bccfe885695a5e58
iot-2/type/Train3/id/123456789/evts/status/fmt/json :
msg.payload : Object
{
  "name": "Mumbai SF Express",
  "lat": 11.780142,
  "lon": 78.037002
}
11/12/2022, 11:06:07 PM node: bccfe885695a5e58
iot-2/type/Train2/id/02468/evts/status/fmt/json :
msg.payload : Object
{
  "name": "Bangalore Express",
  "lat": 15.283131,
  "lon": 74.146678
}
```



Link: <https://node-red-awaqf-2022-09-30.eu-gb.mybluemix.net/worldmap/>