TEAM ID:PNT2022TMID25909

# PROJECT DEVELOPMENT PHASE

# SMART SOLUTIONS FOR RAILWAYS

## *SPRINT-2*

(Tracking the live location of train using GPS.)

## Code:

**ChennaiExpress.py**

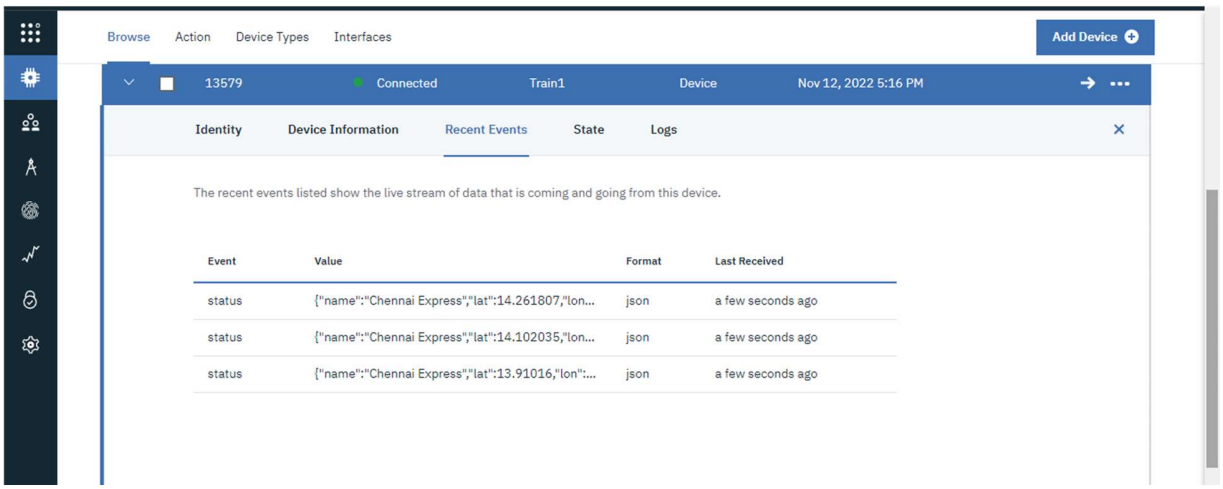
```
import wiotp.sdk.device
import random import
time myConfig = {
"identity" :{
"orgId":"50flc2",
"typeId":"Train1",
"deviceId":"13579"
},
"auth":{
```

```
"token":"uamQOww30eBju!LE)F"
}
}
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":"50flc2",
"typeId":"Train3",
"deviceId":"123456789"
},
"auth":{
"token":"*WwvodeD_Zhc&-!&aB"
}
}
```

```
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':'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)

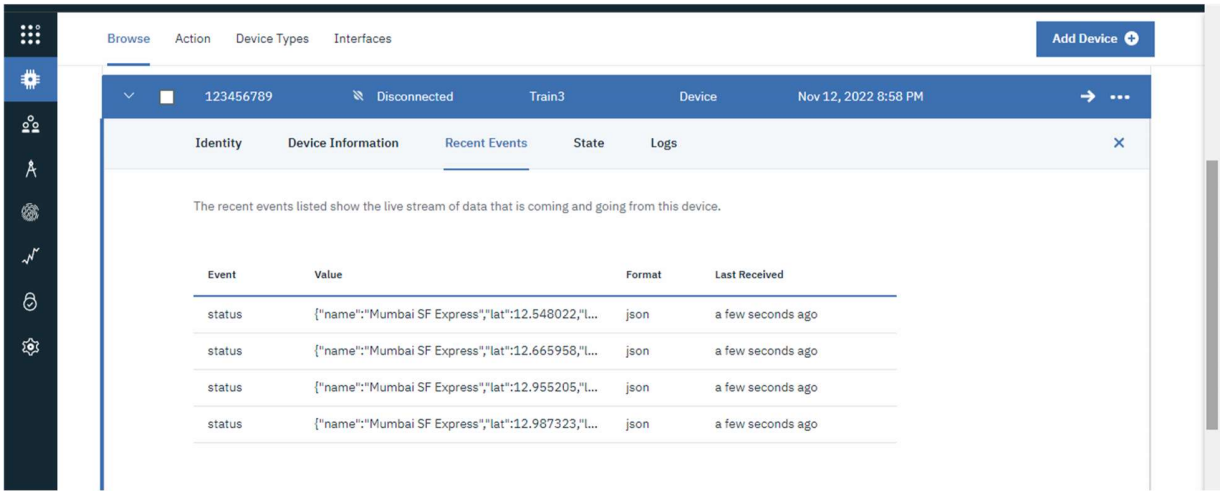
myData = {'name':'Mumbai SF Express','lat':12.548022,'lon':76.921890}

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":"50flc2",

"typeId":"Train2",

"deviceId":"02468"

},

"auth":{

"token":"NfVlk+XD?APWdBWucS"

}

}

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):
```

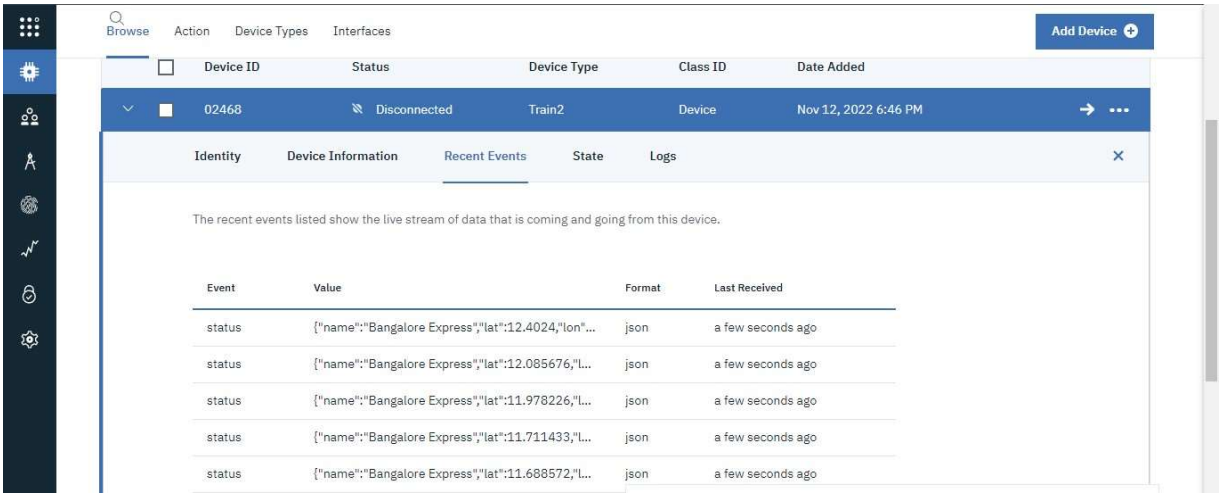
```
   client.publishEvent(eventId = "status", msgFormat="json", data=myData,
qos=0, onPublish=None)

   print("Published data Successfully: %s",myData) while
True:

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

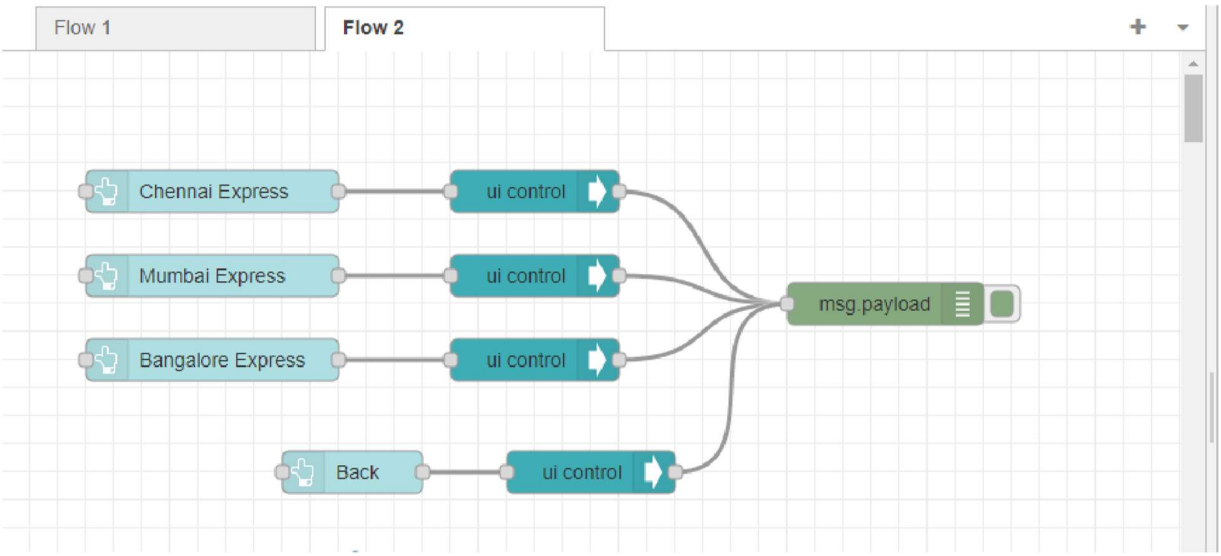
```
    time.sleep(3)



    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)
```

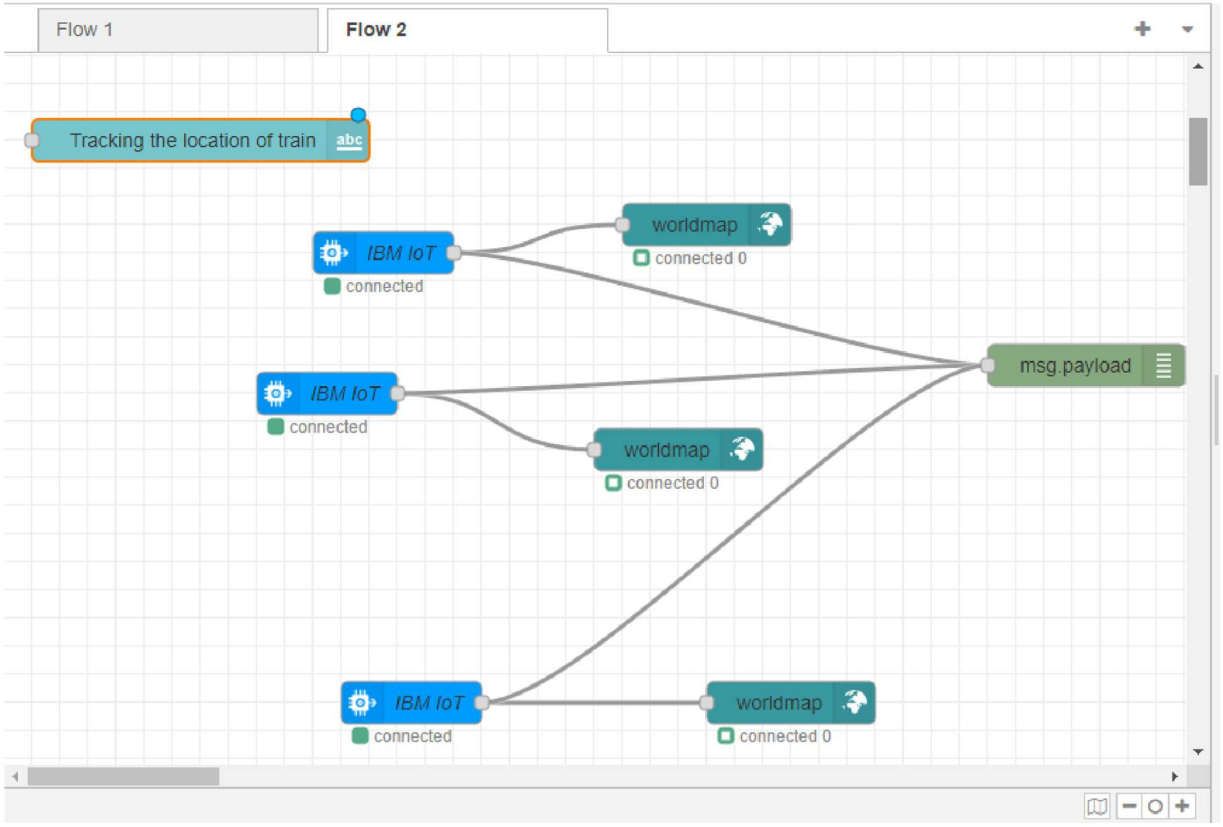
```
    time.sleep(3)



    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)
```

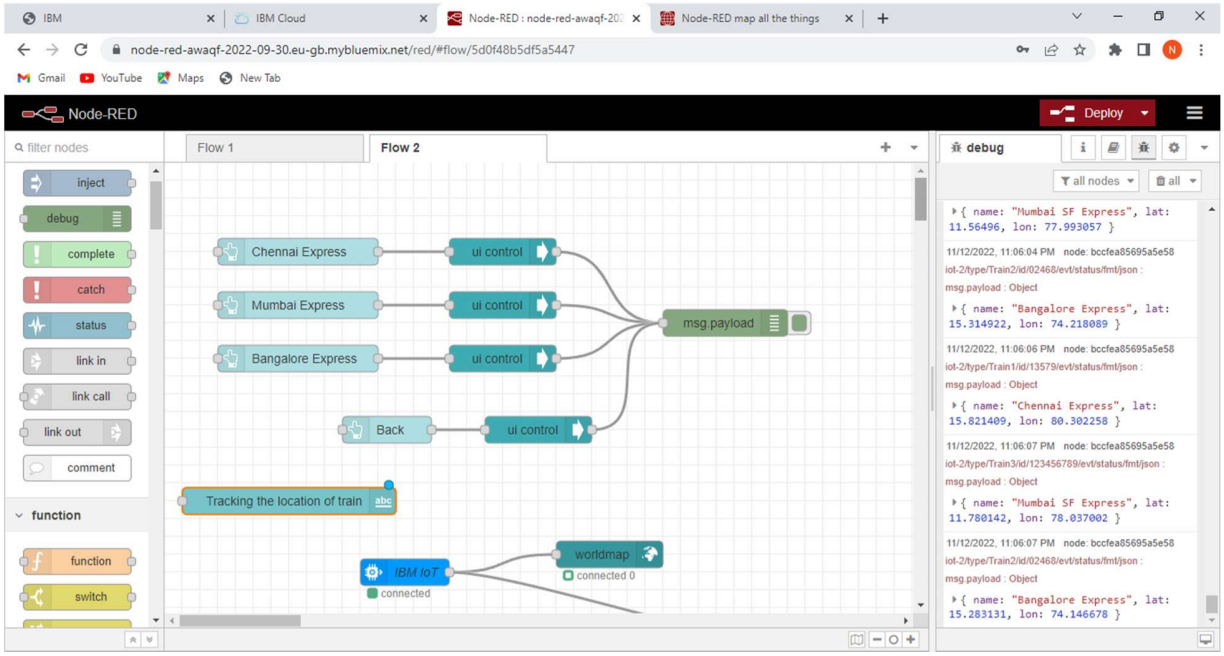
```
    time.sleep(3)



    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()
```

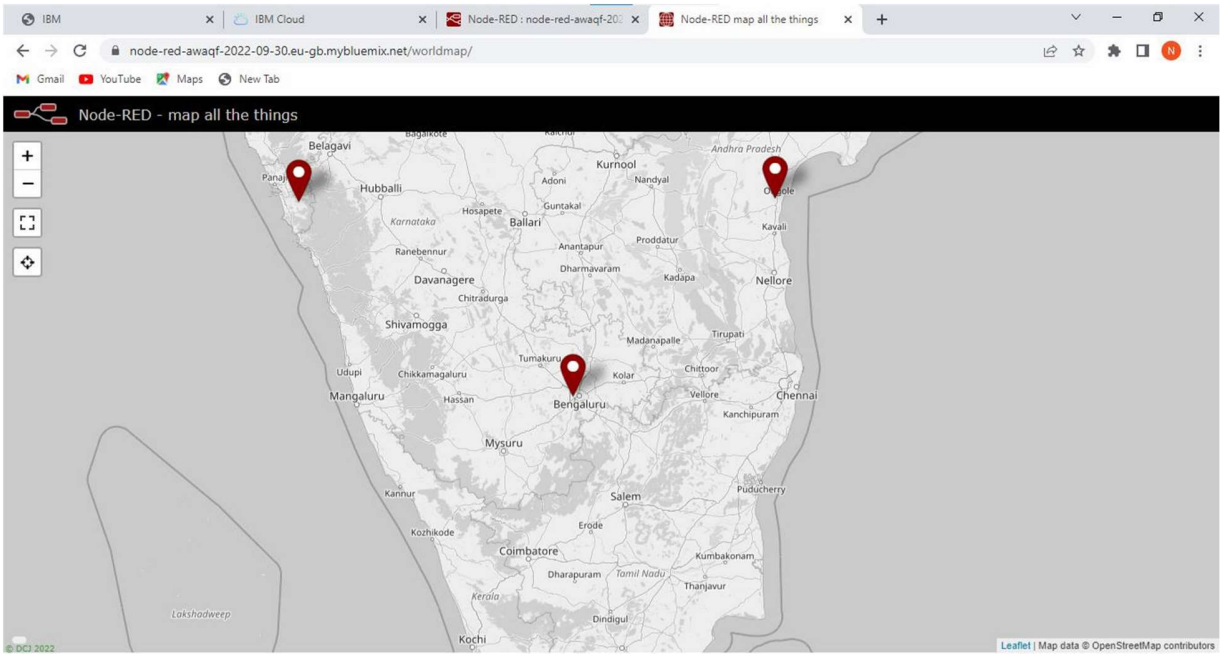
```
time.sleep(3)
```


Browse
Action
Device Types
Interfaces
Add Device
Device ID
Status
Device Type
Class ID
Date Added
02468
Disconnected
Train2
Device
Nov 12, 2022 6:46 PM
Identity
Device Information
Recent Events
State
Logs
The recent events listed show the live stream of data that is coming and going from this device.
Event
Value
Format
Last Received
status
{"name":"Bangalore Express","lat":12.4024,"lon"...
json
a few seconds ago
status
{"name":"Bangalore Express","lat":12.085676,"l...
json
a few seconds ago
status
{"name":"Bangalore Express","lat":11.978226,"l...
json
a few seconds ago
status
{"name":"Bangalore Express","lat":11.711433,"l...
json
a few seconds ago
status
{"name":"Bangalore Express","lat":11.688572,"l...
json
a few seconds ago


Flow 1
Flow 2
Chennai Express
Mumbai Express
Bangalore Express
Back
ui control
ui control
ui control
ui control
msg.payload


Flow 1
Flow 2
Tracking the location of train
abc
IBM IoT
connected
worldmap
connected 0
msg.payload
IBM IoT
connected
worldmap
connected 0
IBM IoT
connected
worldmap
connected 0


IBM
IBM Cloud
Node-RED : node-red-awaqf-202
Node-RED map all the things
node-red-awaqf-2022-09-30.eu-gb.mybluemix.net/red/#flow/5d0f48b5df5a5447
Gmail
YouTube
Maps
New Tab
Node-RED
Deploy
filter nodes
Flow 1
Flow 2
debug
all nodes
all
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
Chennai Express
Mumbai Express
Bangalore Express
Back
ui control
msg.payload
Tracking the location of train
IBM IoT
connected
worldmap
connected 0
{ name: "Mumbai SF Express", lat: 11.56496, lon: 77.993057 }
11/12/2022, 11:06:04 PM node: bccfea85695a5e58
iot-2/type/Train2/id/02468/evt/status/fmt/json :
msg.payload : Object
{ name: "Bangalore Express", lat: 15.314922, lon: 74.218089 }
11/12/2022, 11:06:06 PM node: bccfea85695a5e58
iot-2/type/Train1/id/13579/evt/status/fmt/json :
msg.payload : Object
{ name: "Chennai Express", lat: 15.821409, lon: 80.302258 }
11/12/2022, 11:06:07 PM node: bccfea85695a5e58
iot-2/type/Train3/id/123456789/evt/status/fmt/json :
msg.payload : Object
{ name: "Mumbai SF Express", lat: 11.780142, lon: 78.037002 }
11/12/2022, 11:06:07 PM node: bccfea85695a5e58
iot-2/type/Train2/id/02468/evt/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/