

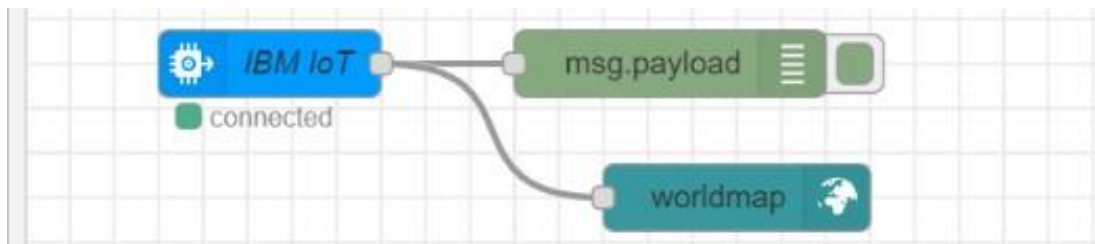
SPRINT-4

Date	19 NOVEMBER 2022
Team ID	PNT2022YMID38248
Project Name	SMART SOLUTIONS FOR RAILWAYS

PROCEDURE:

- Step1: Develop a node red application for GPS
- Step2: Develop a python code for GPS
- Step3: Run the program
- Step4: Train location will be displayed
- Step5: Create a node red for wakeup call and E-catering service

NODE RED FLOW:



PYTHON CODE FOR GPS:

```
import wiotp.sdk.device

import time

import random

myConfig = {

    "identity": {

        "orgId": "dks66l",

        "typeId": "Sudha",

        "deviceId": "45"

    },

    "auth": {

        "token": "sudha2002@"

    }

}
```

```

}

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': 'Train1', 'lat':13.08363 , 'lon': 80.27080}

    pub (myData)

    time.sleep (2)

    myData={'name': 'Train2', 'lat': 12.40797, 'lon': 79.81410}

    pub (myData)

    time.sleep (2)

    myData={'name': 'Train1', 'lat': 11.83331, 'lon': 79.37465}

    pub(myData)

    time.sleep(6)

    myData={'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}

    pub (myData)

    time.sleep (6)

    myData={'name': 'Train1', 'lat': 11.63431, 'lon': 78.11122}

    pub (myData)

    time.sleep (6)

```

```
myData={'name': 'Train1', 'lat': 11.32207, 'lon': 77.61684}
```

```
pub (myData)
```

```
time.sleep (6)
```

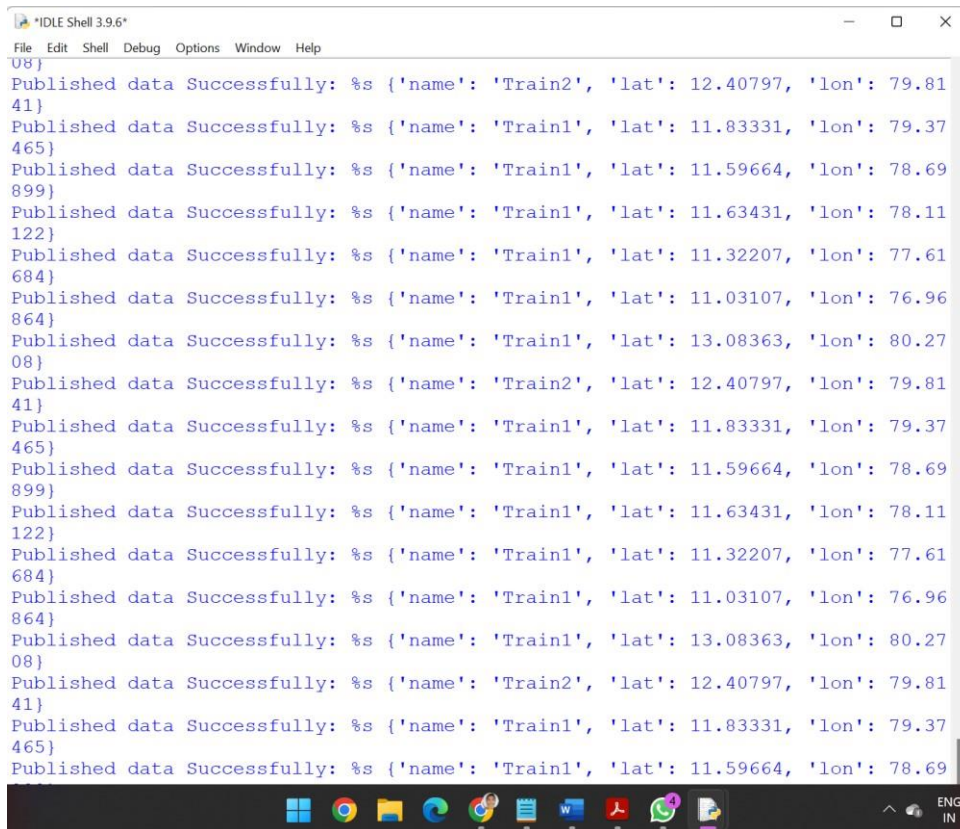
```
myData={'name': 'Train1', 'lat': 11.03107, 'lon': 76.96864}
```

```
pub (myData) time.sleep (6)
```

```
client.commandCallback = myCommandCallback
```

```
client.disconnect ()
```

PYTHON CODE OUTPUT:



```
IDLE Shell 3.9.6
File Edit Shell Debug Options Window Help
U8}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.81
41}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37
465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69
899}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.63431, 'lon': 78.11
122}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.32207, 'lon': 77.61
684}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.03107, 'lon': 76.96
864}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.08363, 'lon': 80.27
08}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.81
41}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37
465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69
899}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.63431, 'lon': 78.11
122}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.32207, 'lon': 77.61
684}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.03107, 'lon': 76.96
864}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.08363, 'lon': 80.27
08}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.81
41}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37
465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69
```

NODE RED OUTPUT:

le upgraded modules

Deploy

debug

all nodes

all

11/12/2022, 8:26:30 AM node: 8efde32a28c7f61e
iot-2/type/Sudha/id/45/evt/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 13.08363, lon: 80.2708 }

11/12/2022, 8:26:32 AM node: 8efde32a28c7f61e
iot-2/type/Sudha/id/45/evt/status/fmt/json : msg.payload : Object
▶ { name: "Train2", lat: 12.40797, lon: 79.8141 }

11/12/2022, 8:26:34 AM node: 8efde32a28c7f61e
iot-2/type/Sudha/id/45/evt/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.83331, lon: 79.37465 }

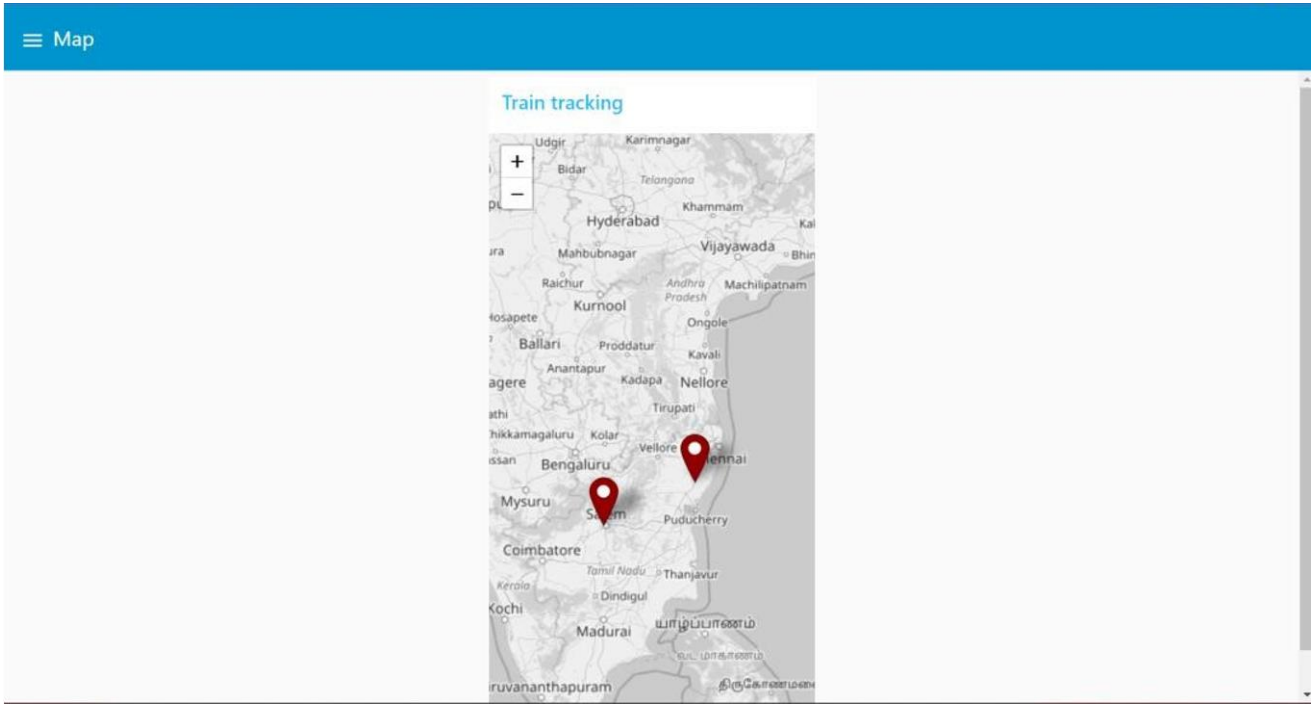
11/12/2022, 8:26:40 AM node: 8efde32a28c7f61e
iot-2/type/Sudha/id/45/evt/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.59664, lon: 78.69899 }

11/12/2022, 8:26:46 AM node: 8efde32a28c7f61e
iot-2/type/Sudha/id/45/evt/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.63431, lon: 78.11122 }

11/12/2022, 8:26:52 AM node: 8efde32a28c7f61e
iot-2/type/Sudha/id/45/evt/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.32207, lon: 77.61684 }

11/12/2022, 8:26:58 AM node: 8efde32a28c7f61e
iot-2/type/Sudha/id/45/evt/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.03107, lon: 76.96864 }

TRAIN TRACKING :



NODE RED CONNECTION FOR WAKEUP CALL AND E-CATERING SERVICE:

