

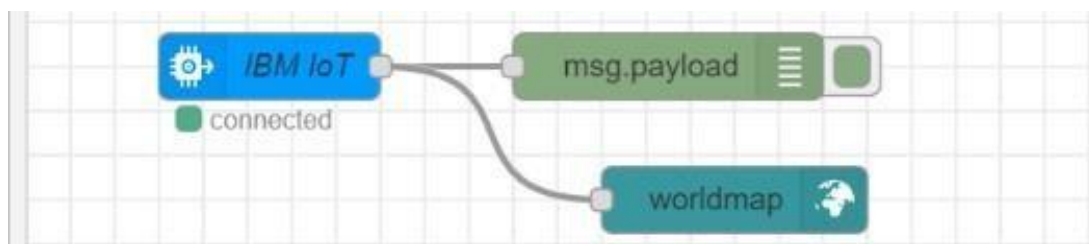
SPRINT-4

Date	19 NOVEMBER 2022
Team ID	PNT2022TMID11042
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

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)
```

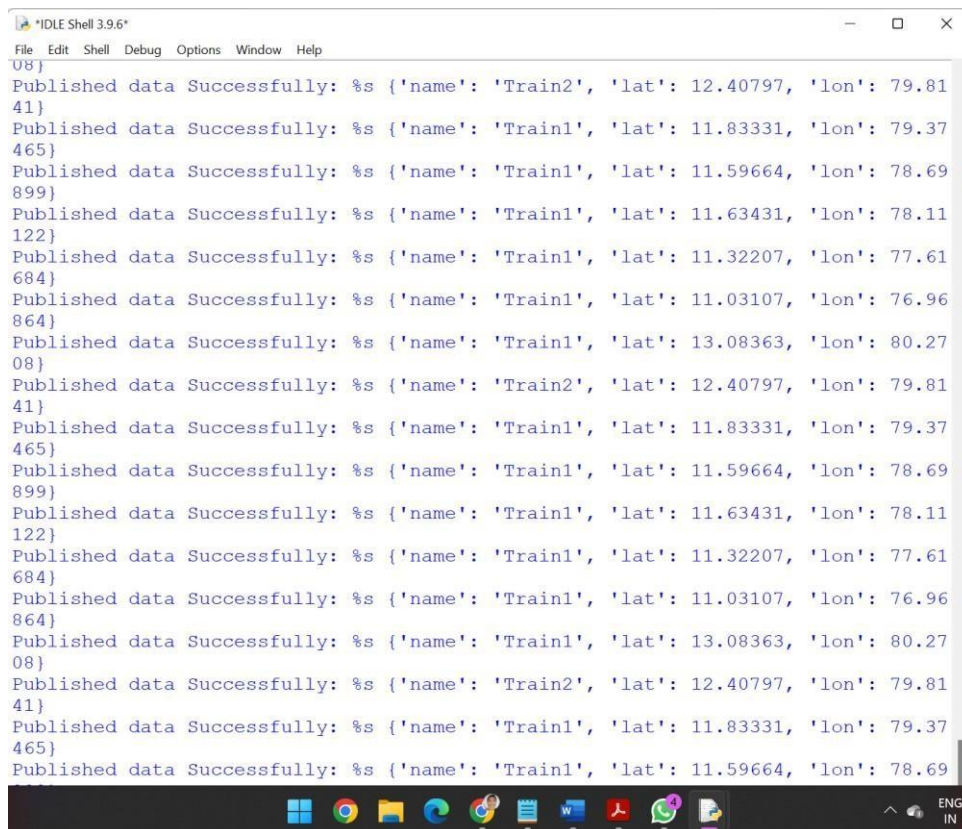
```
myData={'name': 'Train1', 'lat': 11.03107, 'lon': 76.96864}
```

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

```
client.commandCallback = myCommandCallback
```

```
client.disconnect ()
```

PYTHON CODE OUTPUT:

A screenshot of the IDLE Shell 3.9.6 window. The window title is "IDLE Shell 3.9.6". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The shell area displays a series of 20 lines of output, each starting with "Published data Successfully: %s" followed by a JSON object. The JSON objects contain 'name', 'lat', and 'lon' values. The values for 'name' are 'Train2' and 'Train1'. The values for 'lat' and 'lon' are various floating-point numbers. The output is as follows:

```
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
```

The taskbar at the bottom shows icons for Windows, Google Chrome, File Explorer, Microsoft Edge, IDLE, Word, PDF Reader, and WhatsApp. The system tray on the right shows the language indicator set to "ENG IN".

NODE RED OUTPUT:

ble 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 :

Map

Train tracking

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

wakeup call

wakeup call

Wake up call

☐ wake up call needed

Mobile number *

SUBMIT

CANCEL

FOOD

Food

☐ VEG

☐ NON-VEG

SUBMIT

CANCEL