

SPRINT-3

Date	12 NOVEMBER 2022
Team ID	PNT2022TMID42281
Project Name	Project – SMART SOLUTIONS FOR RAILWAYS

PROCEDURE:

Step1: Develop node red application to track the train location

Step2: Install the required node node-red-contrib-web-worldmap

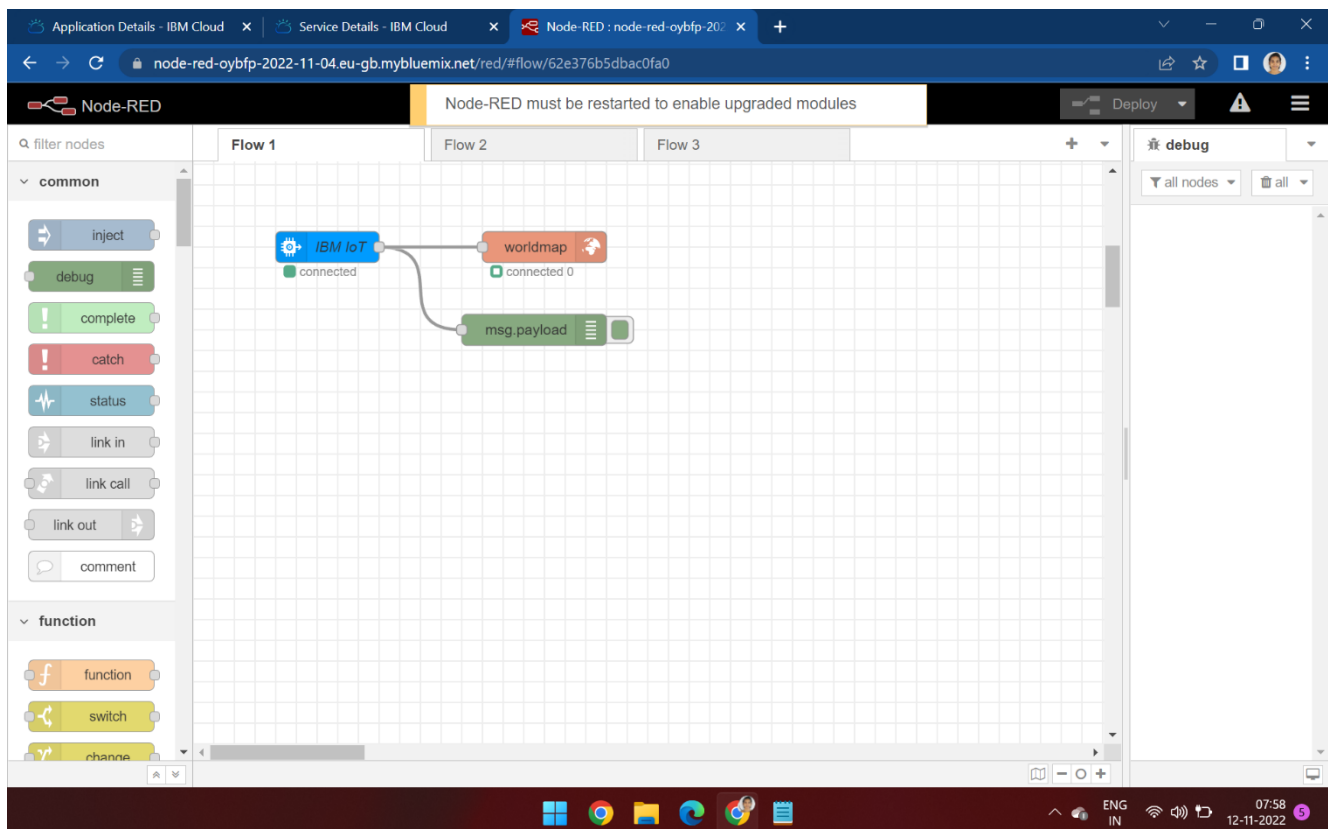
Step3: Connect the node flow

Step4: Run the python code

Step5: Click Shortcut - ⌘⇧m - ctrl-shift-m to jump to the default Map (/worldmap).

Step5:View the map

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
08}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.8141}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.63431, 'lon': 78.11122}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.32207, 'lon': 77.61684}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.03107, 'lon': 76.96864}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.08363, 'lon': 80.2708}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.8141}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.63431, 'lon': 78.11122}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.32207, 'lon': 77.61684}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.03107, 'lon': 76.96864}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.08363, 'lon': 80.2708}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.8141}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}

```

NODE RED OUTPUT:

Application Details - IBM Cloud | Service Details - IBM Cloud | Node-RED: node-red-oybfp-202 | +

node-red-oybfp-2022-11-04.eu-gb.mybluemix.net/red/#flow/62e376b5dbac0fa0

Node-RED must be restarted to enable upgraded modules

Flow 1 | Flow 2 | Flow 3 | ▶ +

debug

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- channel

Flow 1: IBM IoT (connected) → worldmap (connected 0) → msg.payload

Debug Log:

```

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 :

