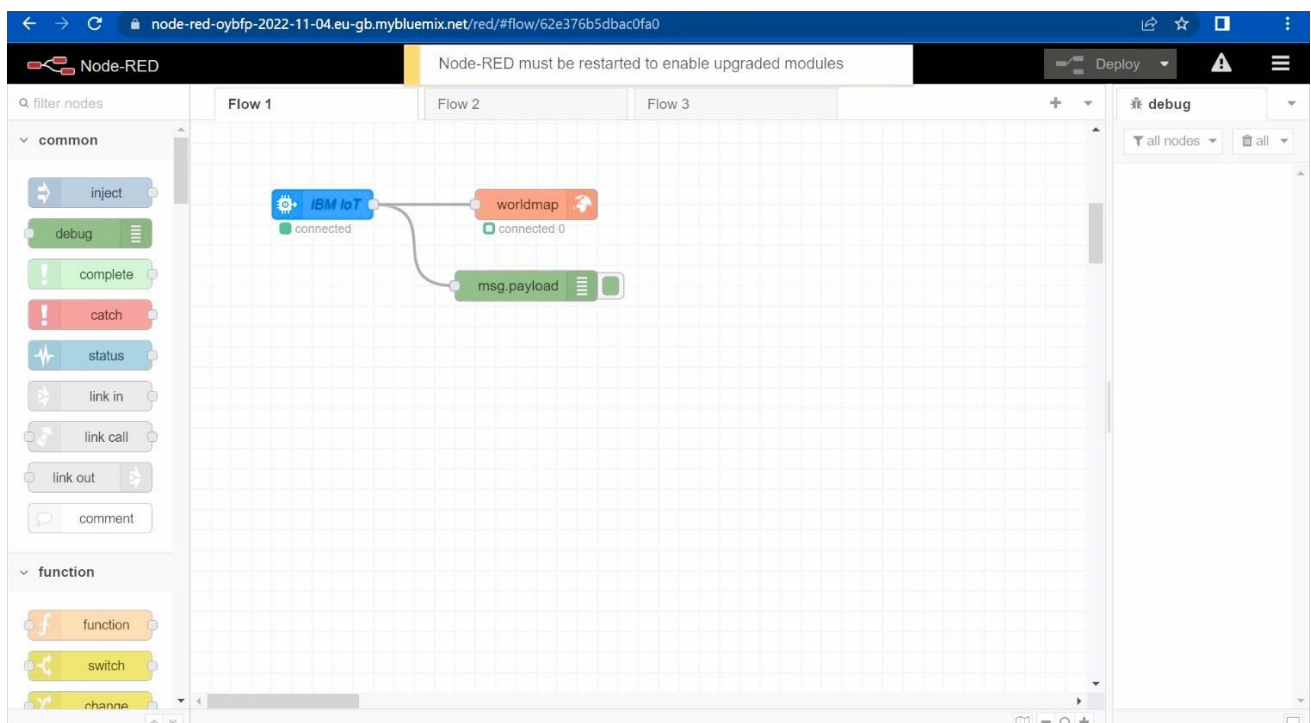


SPRINT – 3

PROCEDURE:

- Step 1:** Develop node red web application to track the train location.
- Step 2:** Install the required node node-red-contrib-web-worldmap.
- Step 3:** Connect the node flow.
- Step 4:** Run the python code.
- Step 5:** Click the shortcut CTRL+SHIFT+M to jump to the default map (worldmap).
- Step 4:** View the map.

NODE RED FLOW:



PYTHON CODE FOR GPS:

```
import wiotp.sdk.device
import time
import random
myconfig = {
    "identity": {
        "orgID": "dks661"
        "typeID": "Sundar"
        "deviceID": "45"
    },
    "auth": {
        "token": "sundar@2001"
    }
}

def myCommandCallback(cmd):
    print ("Message has been received from IoT platform: %s
    %cmd.data['command'])

    m = cmd.data['command']

client = wiotp.sdk.DeviceClient(config = myConfig, logHandlers = None)
client.connect()

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

    client.connect()

while True:
    myData = {'name': 'Train1', 'lat': 13.08363, 'lon': 80.27080}
```

```
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()
```

NODE RED FLOW:

```

IDLE Shell 3.9.6
File Edit Shell Debug Options Window Help
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
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:

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

Node-RED

Node-RED must be restarted to enable upgraded modules

Deploy

filter nodes

Flow 1

Flow 2

Flow 3

+

-

common

inject

debug

complete

catch

status

link in

link call

link out

comment

function

switch

change

IBM IoT

connected

worldmap

connected 0

msg.payload

debug

all nodes

all

11/12/2022, 8:26:30 AM node: 8efde32a28:7f6'e
iot-2/type/SudhaId/45/ev/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 13.08363, lon: 80.2708 }

11/12/2022, 8:26:32 AM node: 8efde32a28:7f6'e
iot-2/type/SudhaId/45/ev/status/fmt/json : msg.payload : Object
▶ { name: "Train2", lat: 12.40797, lon: 79.8141 }

11/12/2022, 8:26:34 AM node: 8efde32a28:7f6'e
iot-2/type/SudhaId/45/ev/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.83331, lon: 79.37465 }

11/12/2022, 8:26:40 AM node: 8efde32a28:7f6'e
iot-2/type/SudhaId/45/ev/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.59664, lon: 78.59899 }

11/12/2022, 8:26:46 AM node: 8efde32a28:7f6'e
iot-2/type/SudhaId/45/ev/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.63431, lon: 78.11122 }

11/12/2022, 8:26:52 AM node: 8efde32a28:7f6'e
iot-2/type/SudhaId/45/ev/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.32207, lon: 77.51684 }

11/12/2022, 8:26:58 AM node: 8efde32a28:7f6'e
iot-2/type/SudhaId/45/ev/status/fmt/json : msg.payload : Object
▶ { name: "Train1", lat: 11.03107, lon: 76.96864 }

TRAIN TRACKING:

node-red-oybfp-2022-11-04.eu-gb.mybluemix.net/red/#fowj62e376b5dbac0fa0

Node-RED

Node-RED must be restarted to enable upgraded modules

Deploy

filter nodes

Flow 1Flow 2Flow 3

common

injectdebugcompletecatchstatuslink inlink calllink outcomment

function

functionswitchchange

Flow 1

IBM IoT

worldmap

msg payload

debug

all nodes

11/12/2022, 8:26:30 AM node: 8efde32a28:7f6'e
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: 8efde32a28:7f6'e
iot-2/type/Sudha/id:45/evt/status/fmt/json . msg payload : Object
▶ { name: "Train2", lat: 12.40797, lon: 79.5141 }
11/12/2022, 8:26:34 AM node: 8efde32a28:7f6'e
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: 8efde32a28:7f6'e
iot-2/type/Sudha/id:45/evt/status/fmt/json . msg payload : Object
▶ { name: "Train1", lat: 11.59664, lon: 78.59899 }
11/12/2022, 8:26:46 AM node: 8efde32a28:7f6'e
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: 8efde32a28:7f6'e
iot-2/type/Sudha/id:45/evt/status/fmt/json . msg payload : Object
▶ { name: "Train1", lat: 11.32207, lon: 77.51684 }
11/12/2022, 8:26:58 AM node: 8efde32a28:7f6'e
iot-2/type/Sudha/id:45/evt/status/fmt/json . msg payload : Object
▶ { name: "Train1", lat: 11.03107, lon: 76.36864 }

Topic:

Smart Solution for Railways

Team ID:

PNT2022TMID01176

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