

Sprint 2

Date	5 November 2022
Team ID	PNT2022TMID21140
Project Name	Smart waste management system for metropolitan cities
Story Points	15

Develop the python code to find the GPS location using Latitude and Longitude (random values) and send it to Node red using IBM Watson platform and view location of bins on map

PYTHON CODE :

```
import wiotp.sdk.device

import time

import random

myConfig = {
    "identity": {
        "orgId": "Okzyfe",
        "typeId": "BIN_1",
        "deviceId": "BIN1"
    },
    "auth": {
        "token": "12345678"
    }
}

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()
```

```
while True:
```

```
    level=random.randint(0,10)
```

```
    weight=random.randint(0,10)
```

```
    myData={ 'name': 'Bin_1', 'lat': 13.092677, 'lon': 80.188314, 'Level':level, 'Weight':weight }
```

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

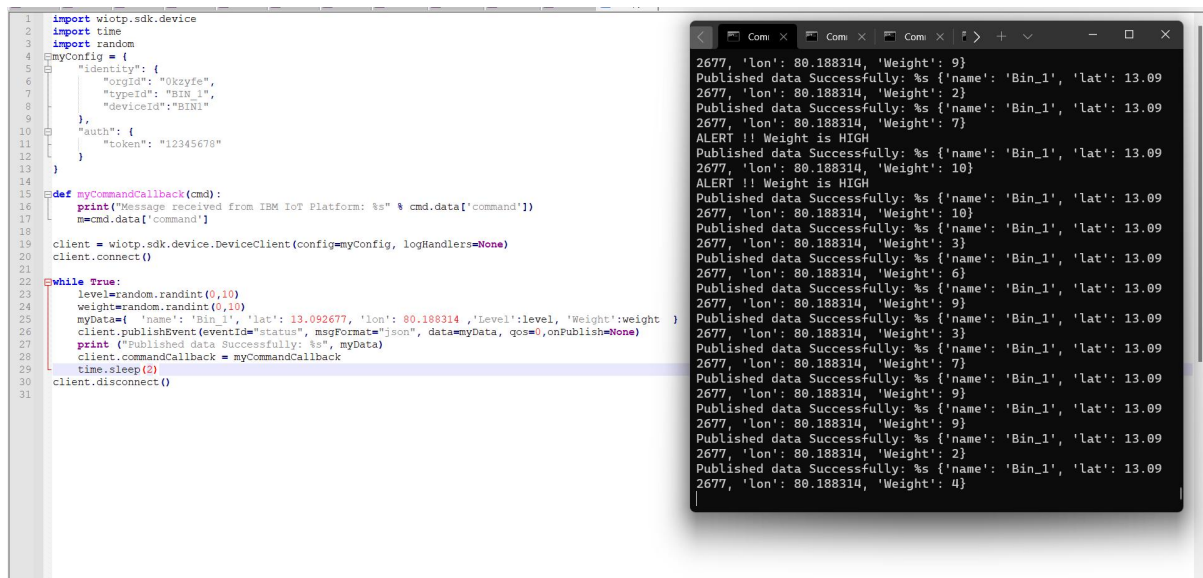
```
    print ("Published data Successfully: %s", myData)
```

```
    client.commandCallback = myCommandCallback
```

```
    time.sleep(2)
```

```
client.disconnect()
```

Output in python IDLE :



The screenshot displays the Python IDLE environment. On the left, the code editor shows the script from line 1 to 31. The code imports the wiotp SDK, defines a configuration object, connects to the IBM IoT Platform, and enters a loop that publishes status data and checks for commands. On the right, the terminal window shows the output of the script, including the received command 'weight', the published status data, and the resulting alert message 'ALERT !! Weight is HIGH'.

```
1 import wiotp.sdk.device
2 import time
3 import random
4 myConfig = {
5     "identity": {
6         "orgId": "0kzyfe",
7         "typeId": "BIN_1",
8         "deviceId": "BIN1"
9     },
10    "auth": {
11        "token": "12345678"
12    }
13 }
14
15 def myCommandCallback(cmd):
16     print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
17     m=cmd.data['command']
18
19 client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
20 client.connect()
21
22 while True:
23     level=random.randint(0,10)
24     weight=random.randint(0,10)
25     myData={ 'name': 'Bin_1', 'lat': 13.092677, 'lon': 80.188314, 'Level':level, 'Weight':weight }
26     client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,onPublish=None)
27     print ("Published data Successfully: %s", myData)
28     client.commandCallback = myCommandCallback
29     time.sleep(2)
30
31 client.disconnect()
```

```
2677, 'lon': 80.188314, 'Weight': 9}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 2}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 7}
ALERT !! Weight is HIGH
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 10}
ALERT !! Weight is HIGH
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 10}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 3}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 6}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 9}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 3}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 7}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 9}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 9}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 2}
Published data Successfully: %s {'name': 'Bin_1', 'lat': 13.09
2677, 'lon': 80.188314, 'Weight': 4}
```

IBM Watson IOT platform :

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes the platform name, a user profile icon, and the email address 'rsangeetrsangeet07@gmail.com' with ID '0kzyle'. The main content area features a sidebar with navigation icons and a central panel with tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A table lists devices, with 'BIN1' selected. A detailed view for 'BIN1' is shown, including its identity, device information, recent events, state, and logs. The device is connected and has a status of 'Connected'.

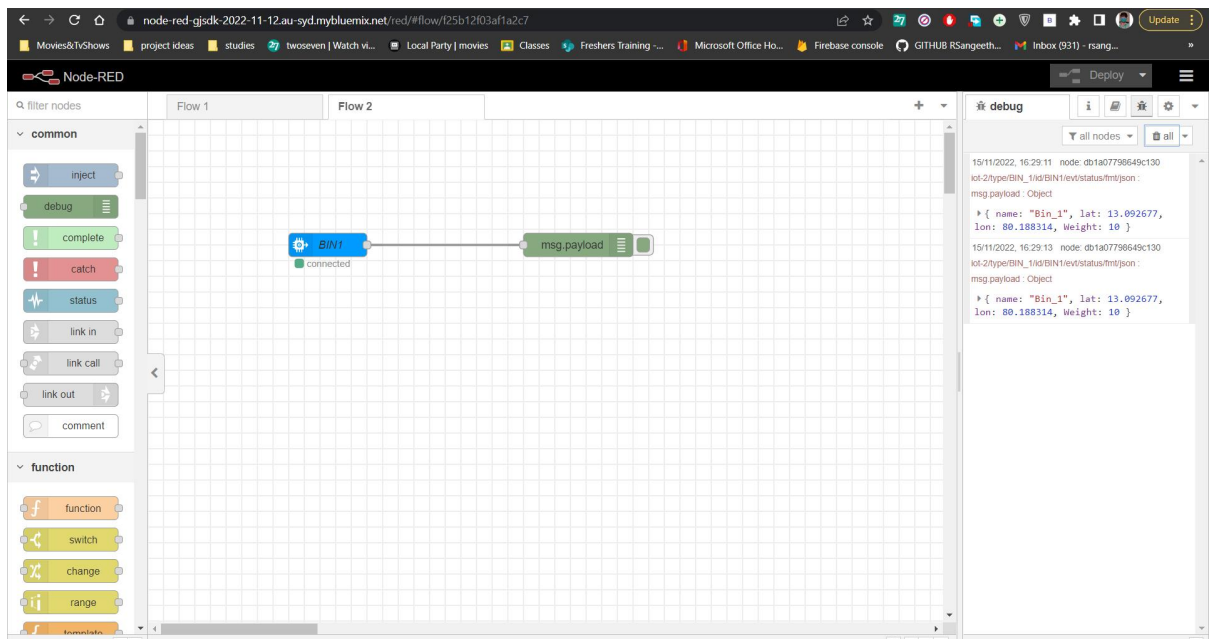
Device ID	Device Type	Date Added	Added By	Connection Status
BIN1	BIN_1	Nov 15, 2022 12:18 PM	rsangeetrsangeet07@gmail.com	Connected

Connection Time: Nov 15, 2022 2:26 PM
Client Address: 106.198.11.75 SecureToken

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Node Red Platform :



Location of Trash Bins Shown in World Map :

