

## Sprint 2

Date	5 November 2022
Team ID	PNT2022TMID00928
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": "fzv53v",
        "typeId": "Bin",
        "deviceId": "Bin_1"
    },
    "auth": {
        "token": "1234567890"
    }
}

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': 'Bin1', 'lat': 13.092677, 'lon': 80.188314}

    pub (myData)

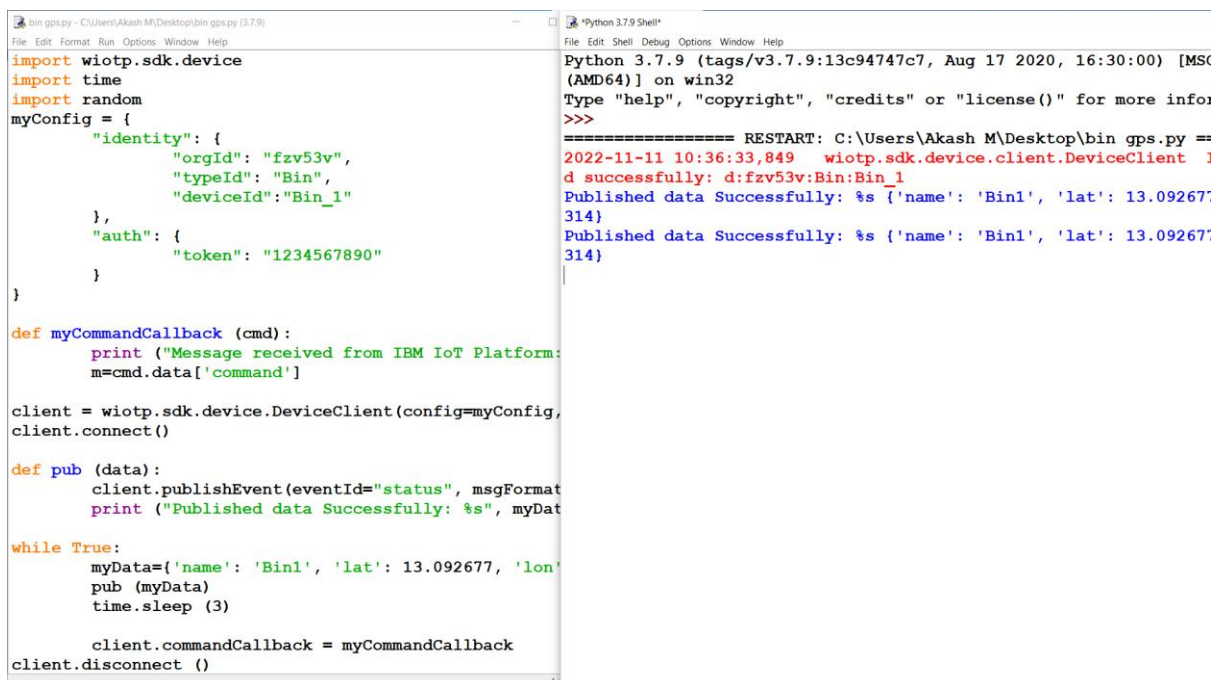
    time.sleep (3)

    client.commandCallback = myCommandCallback

client.disconnect ()

```

## Output in python IDLE :



```

bin gps.py - C:\Users\Akash M\Desktop\bin gps.py (3.7.9)
File Edit Format Run Options Window Help
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "fzv53v",
        "typeId": "Bin",
        "deviceId": "Bin_1"
    },
    "auth": {
        "token": "1234567890"
    }
}

def myCommandCallback (cmd):
    print ("Message received from IBM IoT Platform: ",
m=cmd.data['command'])

client = wiotp.sdk.device.DeviceClient(config=myConfig,
client.connect()

def pub (data):
    client.publishEvent(eventId="status", msgFormat
    print ("Published data Successfully: %s", myData

while True:
    myData={'name': 'Bin1', 'lat': 13.092677, 'lon'
    pub (myData)
    time.sleep (3)

    client.commandCallback = myCommandCallback
client.disconnect ()

```

```

Python 3.7.9 (tags/v3.7.9:13c94747c7, Aug 17 2020, 16:30:00) [MS
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more info
>>>
===== RESTART: C:\Users\Akash M\Desktop\bin gps.py ==
2022-11-11 10:36:33,849 wiotp.sdk.device.client.DeviceClient ]
d successfully: d:fzv53v:Bin:Bin_1
Published data Successfully: %s {'name': 'Bin1', 'lat': 13.09267
314}
Published data Successfully: %s {'name': 'Bin1', 'lat': 13.09267
314}

```

## IBM Watson IoT platform :

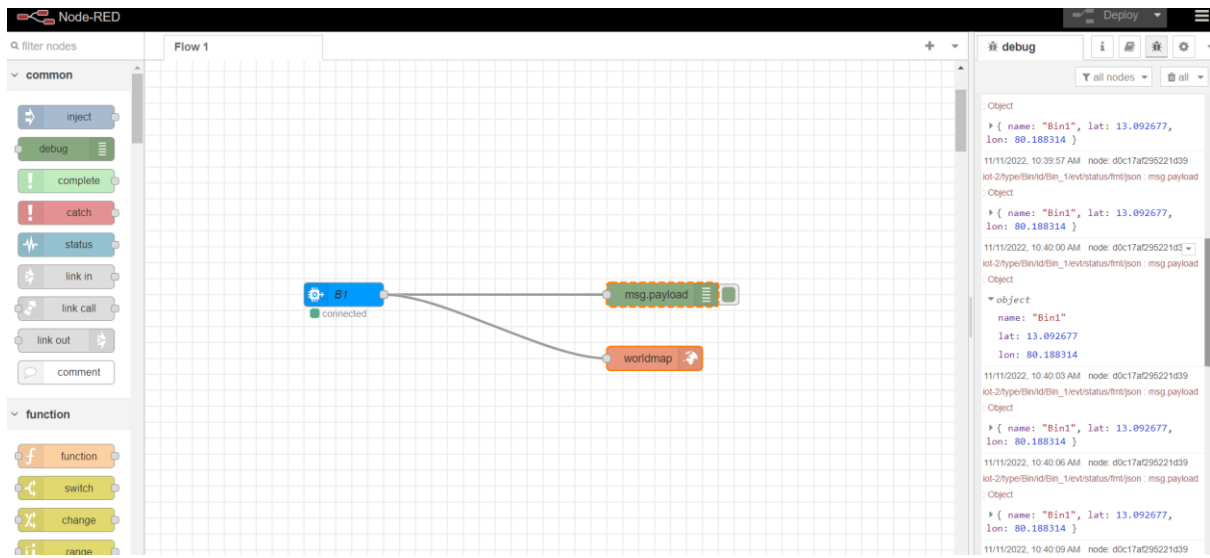
The screenshot displays the IBM Watson IoT Platform interface. At the top, there's a navigation bar with 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. A 'Device Simulator' toggle is visible. The main content area shows a table with columns: Device ID, Status, Device Type, Class ID, Date Added, and Descriptive Location. The selected device is 'Bin\_1', which is 'Connected' and of type 'Bin'. Below this, the 'Recent Events' tab is active, showing a list of events. The events table has columns: Event, Value, Format, and Last Received. The events are status updates with JSON payloads containing name, latitude, and longitude.

Event	Value	Format	Last Received
status	{"name":"Bin1","lat":13.092677,"lon":80.188314}	json	a few seconds ago
status	{"name":"Bin1","lat":13.092677,"lon":80.188314}	json	a few seconds ago
status	{"name":"Bin1","lat":13.092677,"lon":80.188314}	json	a few seconds ago

This screenshot shows the same IBM Watson IoT Platform interface as the first image, but with an 'Event Payload' modal open. The modal displays the event name 'status' and the time received 'Nov 11, 2022 5:07 PM'. The event payload is shown as a JSON object with the following structure:

```
1 - {  
2   "name": "Bin_1",  
3   "lat": 13.092677,  
4   "lon": 80.188314  
5 }
```

## Node Red Platform :



## Location of Trash Bins Shown in World Map :

