

### SPRINT 3

Date	14 November 2022
Team ID	PNT2022TMID02664
Project Name	Smart Waste Management for Metropolitan Cities

**Generate values for longitude and latitude using python code to indicate location of bin.  
Send it to node red from IBM Watson platform and view location of bin on map.**

Python code:

```
import wiotp.sdk.device
```

```
import time
```

```
import random
```

```
import collections.abc
```

```
try:
```

```
    from collections.abc import MutableMapping
```

```
except ImportError:
```

```
    from collections import MutableMapping
```

```
myConfig = {
```

```
    "identity": {
```

```
        "orgId": "gx76pd",
```

```
        "typeId": "SmartBin",
```

```
        "deviceId": "bin-1"
```

```
    },
```

```
    "auth": {
```

```
        "token": "ZeskE9*BHtQsqNIICL"
```

```
    }
```

```
}
```

```
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}

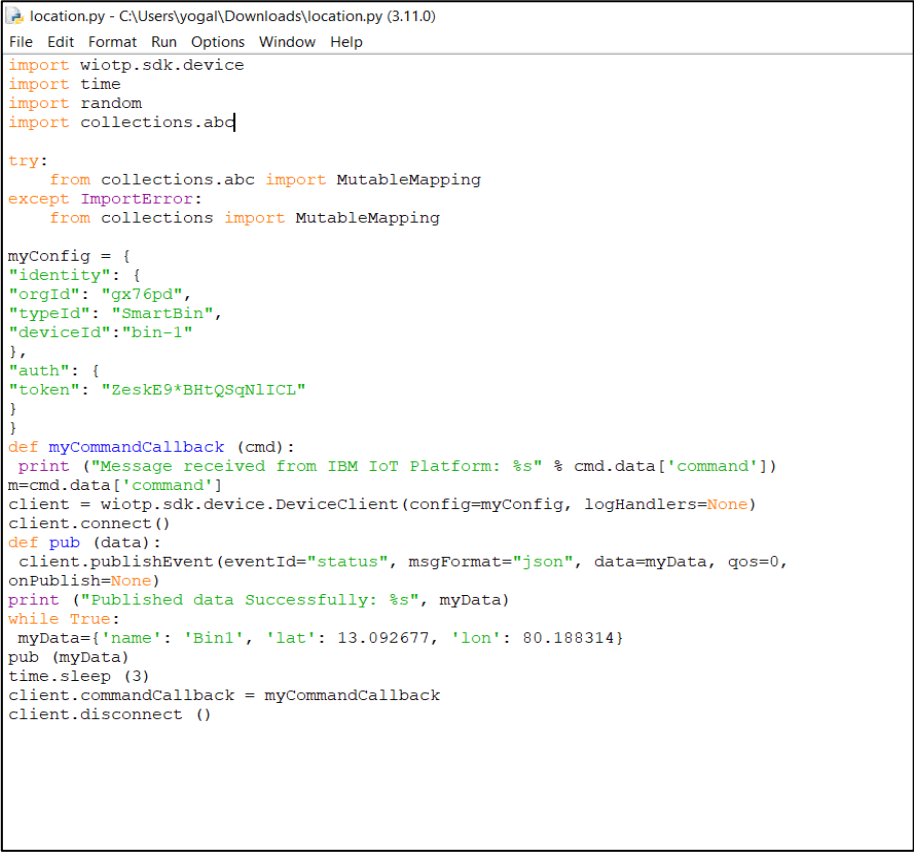
    pub (myData)

    time.sleep (3)

client.commandCallback = myCommandCallback

client.disconnect ()

```



```

location.py - C:\Users\yogal\Downloads\location.py (3.11.0)
File Edit Format Run Options Window Help
import wiotp.sdk.device
import time
import random
import collections.abc

try:
    from collections.abc import MutableMapping
except ImportError:
    from collections import MutableMapping

myConfig = {
    "identity": {
        "orgId": "gx76pd",
        "typeId": "SmartBin",
        "deviceId": "bin-1"
    },
    "auth": {
        "token": "ZeskE9*BHTqSqNlICL"
    }
}

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 ()

```

## Creation of device in IBM Watson platform and running simulation

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons. The main content area displays a list of devices, with 'bin-1' selected and showing a 'Connected' status. Below the device list, a modal window titled 'bin-1' is open, showing tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, displaying a table of events. The table has columns for 'Event', 'Value', 'Format', and 'Last Received'. The events listed are 'Location' events with JSON payloads containing name, latitude, and longitude. The 'Last Received' column shows timestamps like 'a few seconds ago', 'a minute ago', and '2 minutes ago'. At the bottom of the modal, it says 'Items per page: 50' and '1-3 of 3 items'. A status bar at the bottom right indicates '1 Simulation running'.

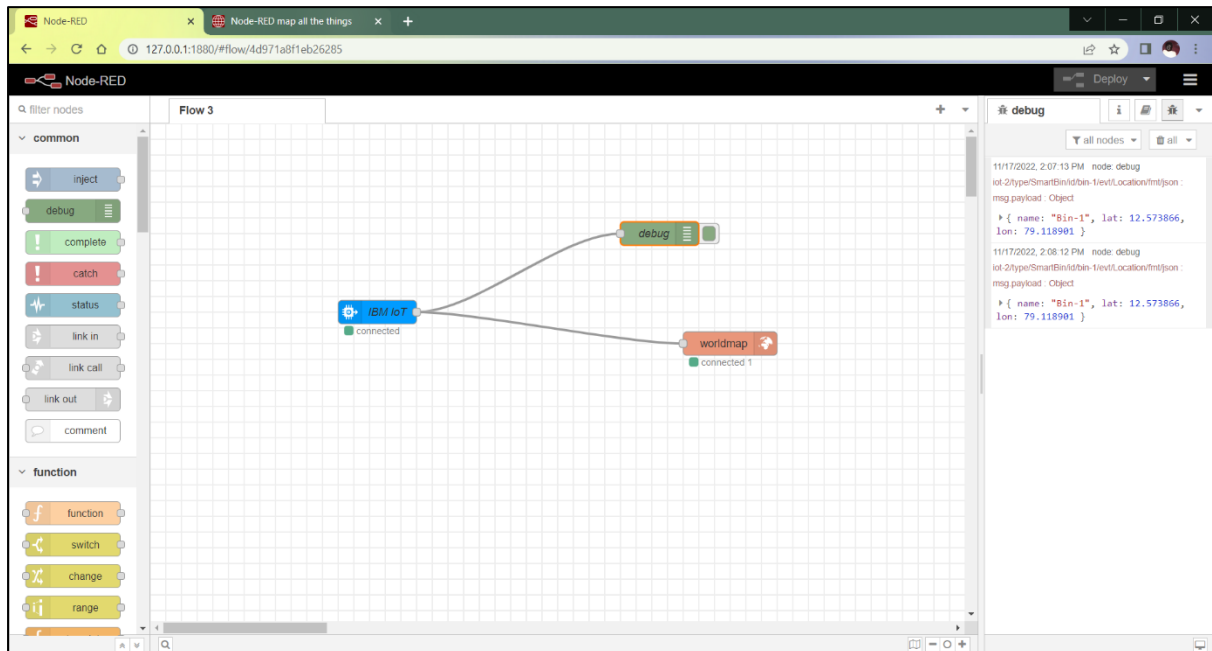
Event	Value	Format	Last Received
Location	{"name":"Bin-1","lat":12.573866,"lon":79.11890...	json	a few seconds ago
Location	{"name":"Bin-1","lat":12.573866,"lon":79.11890...	json	a minute ago
Location	{"name":"Bin-1","lat":12.573866,"lon":79.11890...	json	2 minutes ago

This screenshot shows the same IBM Watson IoT Platform dashboard as the first image, but with an 'Event Payload' modal window open. The modal displays the event details for the selected device. It shows the 'Event Name' as 'Location' and the 'Time Received' as 'Nov 17, 2022 2:08 PM'. The 'Event Payload' is shown in a code editor format, displaying a JSON object: 

```
1 - {  
2   "name": "Bin-1",  
3   "lat": 12.573866,  
4   "lon": 79.118901  
5 }
```

 The background dashboard shows the 'bin-1' device with a 'Disconnected' status. The 'Recent Events' tab is still active, showing the same table of events. The status bar at the bottom right indicates '1 Simulation running'.

## Node Red platform



## Bin Location indicated on World Map

