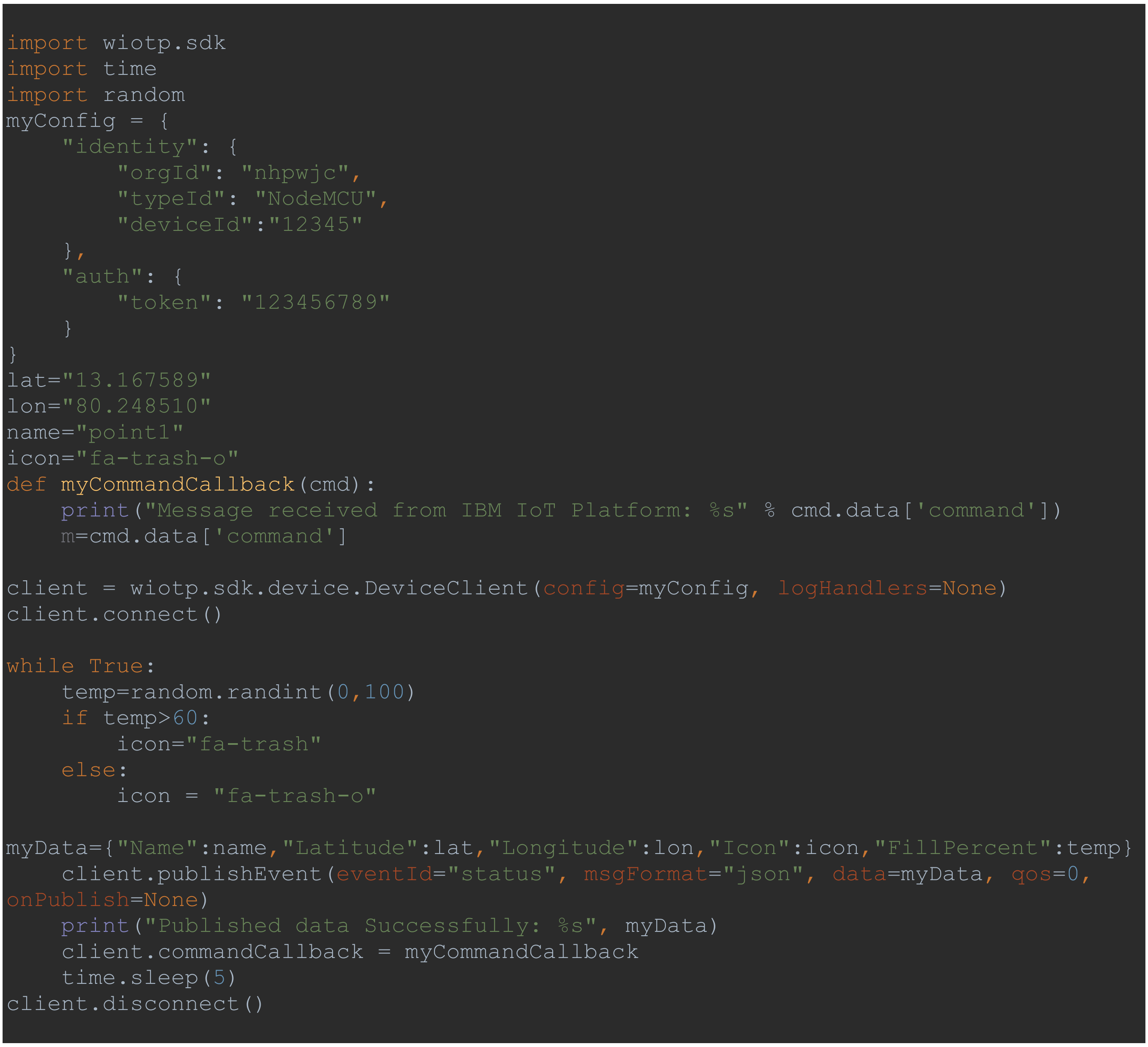
Smart Waste Management System for Metropolitan Cities

Project Objectives - Develop The Python Script:

Develop a python code for publishing the location (latitude and longitude) data along with bin values to the IBM IoT Platform.

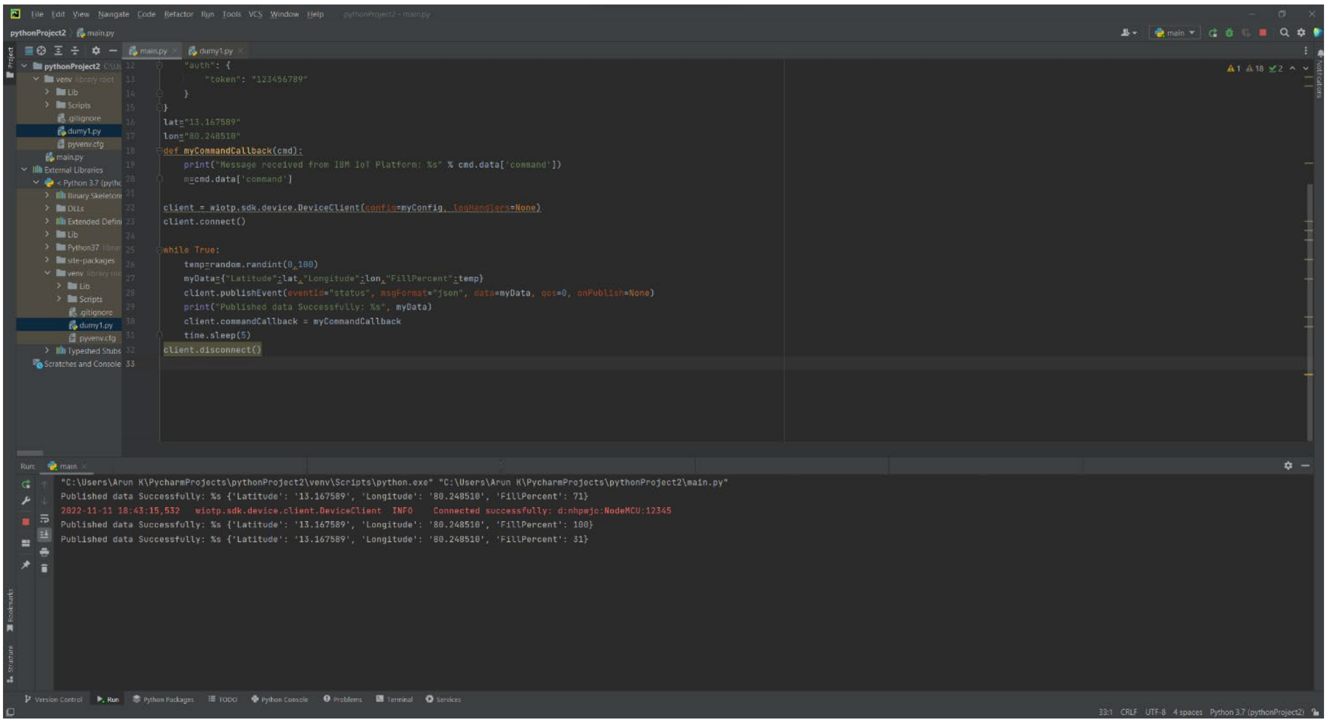
Code:



```
import wiotp.sdk
import time
import random
myConfig = {
    "identity": {
        "orgId": "nhpwjc",
        "typeId": "NodeMCU",
        "deviceId":"12345"
    },
    "auth": {
        "token": "123456789"
    }
}
lat="13.167589"
lon="80.248510"
name="point1"
icon="fa-trash-o"
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:
    temp=random.randint(0,100)
    if temp>60:
        icon="fa-trash"
    else:
        icon = "fa-trash-o"

myData={"Name":name,"Latitude":lat,"Longitude":lon,"Icon":icon,"FillPercent":temp}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,
onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(5)
client.disconnect()
```

Output:

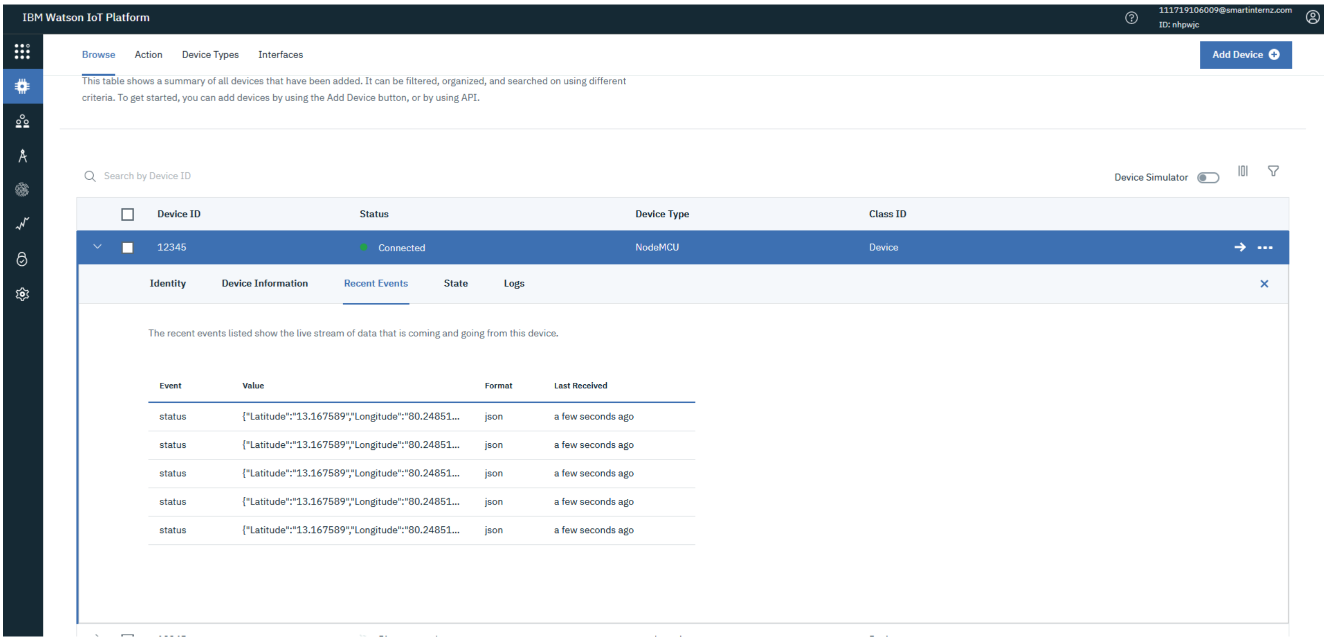
PyCharm output:



```
    "auth": {
        "token": "123456789"
    }
}
lat="13.167589"
lon="80.248510"
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:
    temp=random.randint(0,100)
    myData={"Latitude":lat,"Longitude":lon,"FillPercent":temp}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(5)
client.disconnect()
```

```
"C:\Users\Arun K\PycharmProjects\pythonProject2\venv\Scripts\python.exe" "C:\Users\Arun K\PycharmProjects\pythonProject2\main.py"
Published data Successfully: %s {'Latitude': '13.167589', 'Longitude': '80.248510', 'FillPercent': 71}
2022-11-11 18:43:15,532   wiotp.sdk.device.client.DeviceClient  INFO    Connected successfully: d:nhpwjc:NodeMCU:12345
Published data Successfully: %s {'Latitude': '13.167589', 'Longitude': '80.248510', 'FillPercent': 100}
Published data Successfully: %s {'Latitude': '13.167589', 'Longitude': '80.248510', 'FillPercent': 31}
```

IBM IOT Output:



IBM Watson IoT Platform

111719106009@smartinternz.com
ID: nhpwjc

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Device ID	Status	Device Type	Class ID
12345	Connected	NodeMCU	Device

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
status	{"Latitude":"13.167589","Longitude":"80.24851...	json	a few seconds ago
status	{"Latitude":"13.167589","Longitude":"80.24851...	json	a few seconds ago
status	{"Latitude":"13.167589","Longitude":"80.24851...	json	a few seconds ago
status	{"Latitude":"13.167589","Longitude":"80.24851...	json	a few seconds ago
status	{"Latitude":"13.167589","Longitude":"80.24851...	json	a few seconds ago