

Develop The Python Script

Team ID	PNT2022TMID11760
Project Name	Smart Waste Management System For Metropolitan Cities

TASK:

Develop a python script to publish the random sensor data to the IBM IoT platform.

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

PYTHON CODE:

```
BinLocation.py - C:\Python\Python37\Bin\location.py (3.7.4)
File Edit Format Run Options Window Help

import wiotp.sdk.device
import time
import random
import requests
import urllib.parse
address= ['Kodambakkam', 'T.nagar', 'West mambalam', 'vadapalani', 'ekkattuthangal']
myConfig = {
    "identity": {
        "orgId": "dlunhi",
        "typeId": "SWMS",
        "deviceId": "6032"
    },
    "auth": {
        "token": "311519106032"
    }
}

def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data["command"])
    #cmd.data["command"]

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

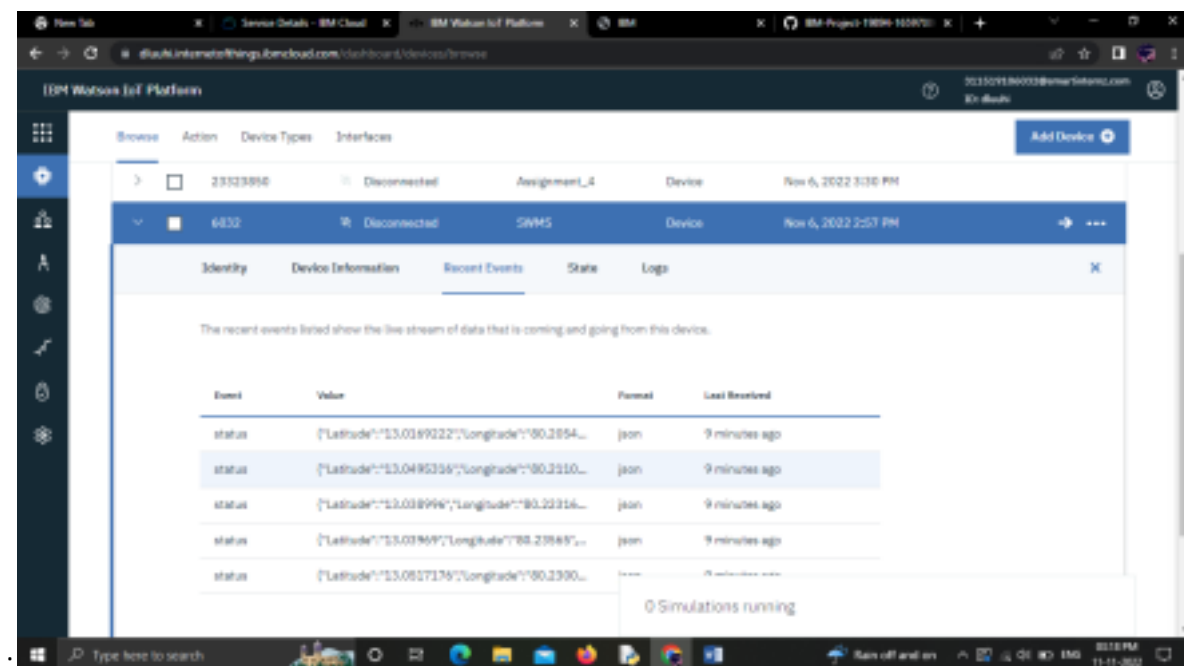
#location=input("enter location: ")
#while(location == address0):
for x in address:
    url = 'https://nominatim.openstreetmap.org/search/' + urllib.parse.quote(x) + '?format=json'
    response = requests.get(url).json()
    a = response[0]["lat"]
    b = response[0]["lon"]

    bin_stat = random.randint(0,100)
    In_percent = str(bin_stat)+ "%"
    myData={"Latitude":a, "Longitude":b, "Bin Status":In_percent}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
    print("Published data Successfully: ", myData)
    client.commandCallback = myCommandCallback
    time.sleep(2)
client.disconnect()
```

OUTPUT:

```
Python 3.7.4 Shell
File Edit Shell Debug Options Window Help
Python 3.7.4 [tags/v3.7.4:09359112e, Jul 8 2019, 20:34:20] [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Python\Python37\Bin\location.py =====
2022-11-11 15:05:56,492 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:dlunhi:SNMS:6032
Published data Successfully: {'Latitude': '13.0517176', 'Longitude': '80.2300054', 'Bin Status': '13%'}
Published data Successfully: {'Latitude': '13.03969', 'Longitude': '80.23565', 'Bin Status': '18%'}
Published data Successfully: {'Latitude': '13.038996', 'Longitude': '80.223163', 'Bin Status': '37%'}
Published data Successfully: {'Latitude': '13.0495316', 'Longitude': '80.211627', 'Bin Status': '66%'}
Published data Successfully: {'Latitude': '13.0169222', 'Longitude': '80.2054236', 'Bin Status': '41%'}
2022-11-11 15:06:11,326 wiotp.sdk.device.client.DeviceClient INFO Disconnected from the IBM Watson IoT Platform
2022-11-11 15:06:11,326 wiotp.sdk.device.client.DeviceClient INFO Closed connection to the IBM Watson IoT Platform
>>>
```

IBM WATSON CLOUD PLATFORM:



IBM Watson IoT Platform

Event Payload

Event Name: #Status

Time Received: Nov 11, 2022 3:06 PM

```
[{"lat": 12.8399022, "lon": 76.344206, "status": "428"}]
```

0 Simulations running

IBM Watson IoT Platform

Service Details IBM Cloud IBM Watson IoT Platform IBM

IBM Project: 19896-102870

ibmcloud.ibm.com

311519355412@ibmcloud.com

ibmcloud

23323916

6432

Identity Device

The recent events listed:

Event	Value
status	7%
status	7%
status	7%
status	7%
status	7%

0 Simulations running

Type here to search

Run off and on

11:11 PM 11-11-2022