

SPRINT 1

Date	27 October 2022
Team ID	PNT2022TMID43127
Project Name	Smart Waste Management System for Metropolitan Cities
Story Point	20

Python code (To Connect IBM Watson)

BIN 1:

```
import wiotp.sdk.device
import time
import random

myConfig = {
    "identity": {
        "orgId": "x3lifo",
        "typeId": "Bin_1",
        "deviceId": "1234"
    },
    "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)
```

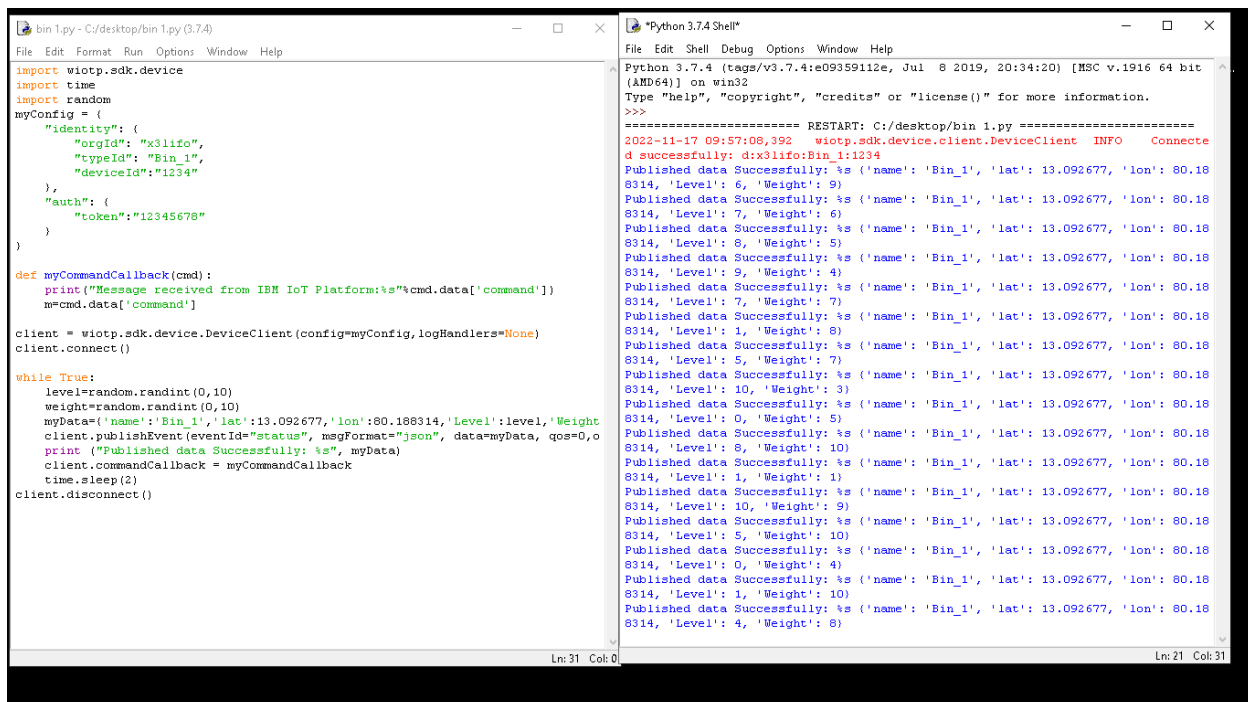
```
    print ("Published data Successfully: %s", myData)
```

```
    client.commandCallback = myCommandCallback
```

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

```
client.disconnect()
```

Output in python IDLE:



The screenshot displays two windows from a Python 3.7.4 IDE. The left window, titled 'bin 1.py - C:/desktop/bin 1.py (3.7.4)', contains the source code for a script that connects to the IBM Watson IoT platform and publishes data. The right window, titled 'Python 3.7.4 Shell', shows the output of the script. The output includes a restart message, connection status, and a series of 'Published data Successfully' messages, each displaying the data being published.

```
bin 1.py - C:/desktop/bin 1.py (3.7.4)
File Edit Format Run Options Window Help
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "x3lifo",
        "typeId": "Bin_1",
        "deviceId": "1234"
    },
    "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()
```

```
Python 3.7.4 Shell
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:/desktop/bin 1.py =====
2022-11-17 09:57:08,392 wiotp.sdk.device.client.DeviceClient INFO Connecte
d successfully: d:x3lifo:Bin_1:1234
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 6, 'Weight': 9)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 7, 'Weight': 6)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 8, 'Weight': 5)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 9, 'Weight': 4)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 7, 'Weight': 7)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 1, 'Weight': 8)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 5, 'Weight': 7)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 10, 'Weight': 3)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 0, 'Weight': 5)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 8, 'Weight': 10)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 1, 'Weight': 1)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 10, 'Weight': 9)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 5, 'Weight': 10)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 0, 'Weight': 4)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 1, 'Weight': 10)
Published data Successfully: %s ('name': 'Bin_1', 'lat': 13.092677, 'lon': 80.18
8314, 'Level': 4, 'Weight': 8)
```

IBM Watson IOT platform:

Service Details - IBM Watson IoT Platform

Node-RED: node-red

Inbox (1,532) - senthis

(2) WhatsApp

IBM-Project-29695-16

x3lifo.internetofthings.ibmcloud.com/dashboard/devices/browse

Gmail YouTube Maps

IBM Watson IoT Platform

senhamitselvir.cs20@enrt.ac.in ID: x3lifo

Browse Action Device Types Interfaces

Add Device

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
1234	Connected	Bin_1	Device	Nov 16, 2022 8:03 PM	

Identity Device Information Recent Events State Logs

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

Event	Value	Format	Last Received
status	{"name":"Bin_1","lat":13.092677,"lon":80.188...	json	a few seconds ago
status	{"name":"Bin_1","lat":13.092677,"lon":80.188...	json	a few seconds ago
status	{"name":"Bin_1","lat":13.092677,"lon":80.188...	json	a few seconds ago
status	{"name":"Bin_1","lat":13.092677,"lon":80.188...	json	a few seconds ago

Node Red platform:

Sen x IBM x IBM x No x Inb x (4) x IBM x No x W Ne x MC x IBM x Vir x No x

node-red-chbou-2022-11-16.eu-gb.mybluemix.net/red/#flow/c037c4f1547c441f

Gmail YouTube Maps

Node-RED

Flow 1 Flow 2

filter nodes

http response http request websocket in websocket out tcp in tcp out tcp request udp in udp out

input

ibmiot in

output

OpenWhisk ibmiot out

Garbage level Bin_level Level

Bin_1 msg.payload

Bin_Weight Weight

worldmap

debug

```

11/17/2022, 12:57:30 PM node:
eaa02074e09d034
iot-2/type/Bin_1/d/1234/ev/status/mf/json :
msg.payload : Object
{
  name: "Bin_1", lat: 13.092677,
  lon: 80.188314, Level: 2, Weight:
  5
}

11/17/2022, 12:57:30 PM node:
eaa02074e09d034
iot-2/type/Bin_1/d/1234/ev/status/mf/json :
msg.payload : Object
{
  name: "Bin_1", lat: 13.092677,
  lon: 80.188314, Level: 6, Weight:
  2
}

11/17/2022, 12:57:30 PM node:
eaa02074e09d034
iot-2/type/Bin_1/d/1234/ev/status/mf/json :
msg.payload : Object
{
  name: "Bin_1", lat: 13.092677,
  lon: 80.188314, Level: 4, Weight:
  7
}

11/17/2022, 12:57:30 PM node:
eaa02074e09d034
iot-2/type/Bin_1/d/1234/ev/status/mf/json :
msg.payload : Object
{
  name: "Bin_1", lat: 13.092677,
  lon: 80.188314, Level: 6, Weight:
  7
}

```

Output in Node Red:

