

PROJECT DEVELOPMENT PHASE
SPRINT-2
WATSON IOT

Date	15 November 2022
Team ID	PNT2022TMID31875
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	10 Marks

AIM:

To connect tracking device or manually programmed python code to IBM Watson IoT Platform.

Source Code:

```
import random as rand
import time
import ibmiotf.application
import ibmiotf.device
import sys
import imdb

#defining credentials of device
organization = "aa13kc"
deviceType = "Vijay2001"
deviceId = "1234567"
authMethod = "token"
authToken = "Yd-6ozY-S6BLhM0vkw"

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])

try:
    deviceOptions = {"org" : organization, "type": deviceType, "id" : deviceId, "auth-method" :
authMethod, "auth-token" : authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)

except Exception as e:
    print("Caught exception connecting device: %s" %str(e))
    sys.exit()
deviceCli.connect()
while True:
    name= "Vijay2001"
    lat= 10.908532
    lon= 76.979312
    #Manually sending the coordintes
    data = {'name':name,'Latitude' : lat,
        'Longitude': lon}
    def myOnPublishCallback():
```

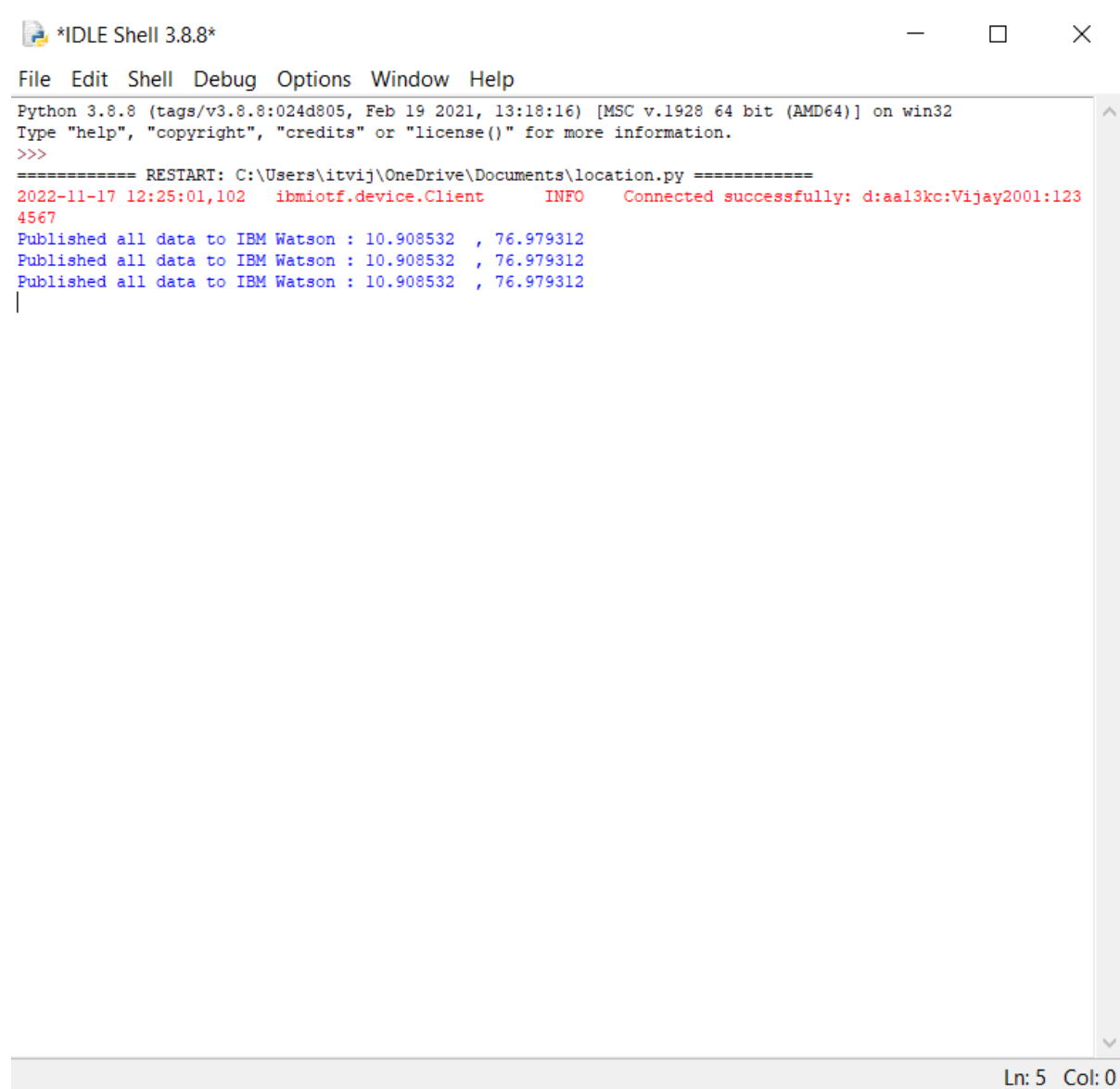
```
print("Published all data to IBM Watson :",lat," ",lon)

success = deviceCli.publishEvent("lottracker","json",data,qos=0,on_publish=myOnPublishCallback)
if not success:
    print("Not connected to IoT Device")
time.sleep(5)

deviceCli.commandCallback = myCommandCallback

deviceCli.disconnect()
```

Program output:

A screenshot of an IDLE Shell 3.8.8 window. The window title is "*IDLE Shell 3.8.8*" and it has standard Windows window controls (minimize, maximize, close). The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The shell area shows the following text: Python 3.8.8 (tags/v3.8.8:024d805, Feb 19 2021, 13:18:16) [MSC v.1928 64 bit (AMD64)] on win32. Type "help", "copyright", "credits" or "license()" for more information. >>> ===== RESTART: C:\Users\itvij\OneDrive\Documents\location.py ===== 2022-11-17 12:25:01,102 ibmiotf.device.Client INFO Connected successfully: d:aal3kc:Vijay2001:1234567 Published all data to IBM Watson : 10.908532 , 76.979312 Published all data to IBM Watson : 10.908532 , 76.979312 Published all data to IBM Watson : 10.908532 , 76.979312 | The status bar at the bottom right indicates "Ln: 5 Col: 0".

```
*IDLE Shell 3.8.8*
File Edit Shell Debug Options Window Help
Python 3.8.8 (tags/v3.8.8:024d805, Feb 19 2021, 13:18:16) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\itvij\OneDrive\Documents\location.py =====
2022-11-17 12:25:01,102 ibmiotf.device.Client INFO Connected successfully: d:aal3kc:Vijay2001:1234567
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|
Ln: 5 Col: 0
```

IBM Watson IoT:

✓ Device connected to IBM Watson IoT Platform.

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. The main content area shows a table of devices. The first device, ID 1234567, is in a 'Connected' state. A detailed view for this device is expanded, showing its identity, device information, recent events, state, and logs. The device information section lists: Device ID (1234567), Device Type (Vijay2001), Date Added (14 Nov 2022 15:44), Added By (itvijay2001@gmail.com), and Connection Status (Connected). The connection status details include 'Connection Time: 17 Nov 2022 12:25' and 'Client Address: 157.51.199.142 SecureToken'. A second device, ID 18866CCB94EC, is shown as 'Disconnected'. The bottom of the interface indicates '0 Simulations running'.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
1234567	Connected	Vijay2001	Device	14 Nov 2022 15:44	
18866CCB94EC	Disconnected	ESP32-D0WDQ6	Device	14 Nov 2022 15:14	

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0 Simulations running

✓ Getting coordinates as output in IBM Watson IoT Platform.

This screenshot shows the 'Recent Events' tab for the device with ID 1234567. A message states: '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.' Below this, a table displays the live stream of data from the device. The table has four columns: Event, Value, Format, and Last Received. Five 'Iottracker' events are listed, each containing a JSON string with name, latitude, and longitude coordinates. The format for all events is 'json', and they were all received 'a few seconds ago'.

Event	Value	Format	Last Received
Iottracker	{"name":"Vijay2001","Latitude":10.908532,"Lon..."}	json	a few seconds ago
Iottracker	{"name":"Vijay2001","Latitude":10.908532,"Lon..."}	json	a few seconds ago
Iottracker	{"name":"Vijay2001","Latitude":10.908532,"Lon..."}	json	a few seconds ago
Iottracker	{"name":"Vijay2001","Latitude":10.908532,"Lon..."}	json	a few seconds ago
Iottracker	{"name":"Vijay2001","Latitude":10.908532,"Lon..."}	json	a few seconds ago