Real-Time River Water Quality Monitoring and Control Systems

DEVELOP THE PYTHON SCRIPT

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

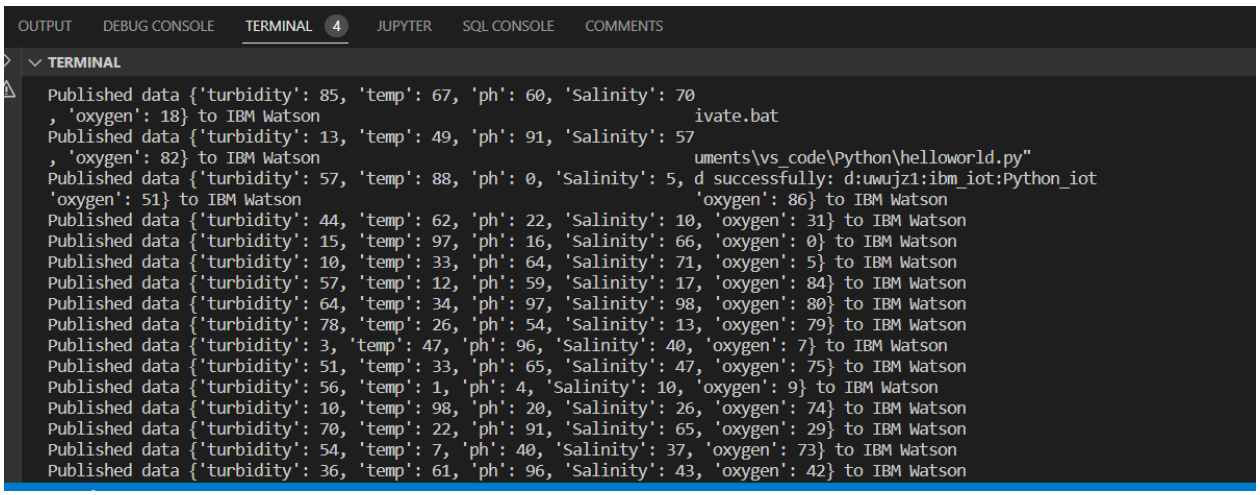
Date	**29/10/2022**
Team ID	**PNT2022TMID19036**
Project Name	**Real-Time Water Quality Monitoring And Control System**

Code:

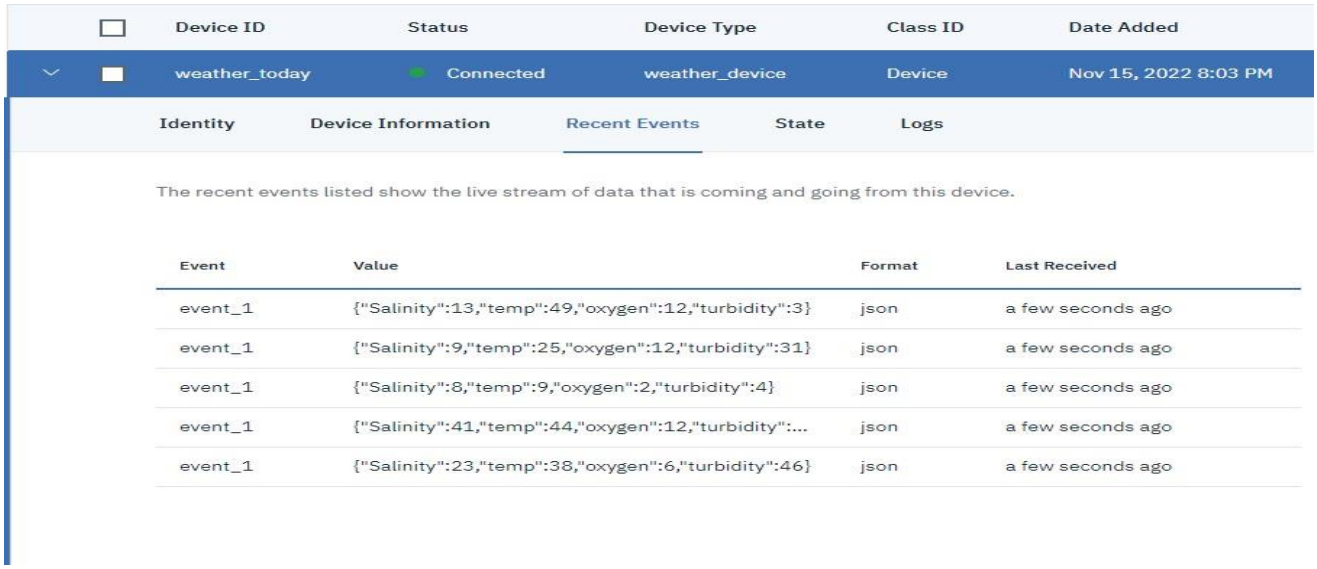
```
import random
import time
import sys
import ibmiotf.application
import ibmiotf.device

#  Provide your IBM Watson Device Credentials
organization = "f5rl2v"  # repalce it with organization ID
deviceType = "weather_device"  # replace it with device type
deviceId = "weather_today"  # repalce with device id
authMethod = "token"
authToken = "2VcVpo)hG4rnKKIG)x"  # repalce with token

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data)
    if cmd.data['command'] == 'lighton':
        print("LIGHT ON")
    elif cmd.data['command'] == 'lightoff':
            print("LIGHT OFF")
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:
    pH = random.randint(0,100)
    conductivity = random.randint(0,100)
    T = random.randint(0,100)
    oxygen = random.randint(0,100)
    turbidity = random.randint(0,100)
    #Send Temperature & Humidity to IBM Watson
    data =
{"turbidity":turbidity,'temp':T,'ph':pH,'Salinity':conductivity,'oxygen':oxyg
en}


print (data)
def myOnPublishCallback():
    print("Published data",data, "to IBM Watson")


success = deviceCli.publishEvent("event", "json", data, 0,
myOnPublishCallback)
if not success:
    print("Not connected to IoTF")
time.sleep(5)

deviceCli.commandCallback = myCommandCallback
```

python output:



IBM CLOUD OUTPUT:



Device ID	Status	Device Type	Class ID	Date Added
weather_today	Connected	weather_device	Device	Nov 15, 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
event_1	{"Salinity":13,"temp":49,"oxygen":12,"turbidity":3}	json	a few seconds ago
event_1	{"Salinity":9,"temp":25,"oxygen":12,"turbidity":31}	json	a few seconds ago
event_1	{"Salinity":8,"temp":9,"oxygen":2,"turbidity":4}	json	a few seconds ago
event_1	{"Salinity":41,"temp":44,"oxygen":12,"turbidity":...	json	a few seconds ago
event_1	{"Salinity":23,"temp":38,"oxygen":6,"turbidity":46}	json	a few seconds ago