

SPRINT 1

TEAM ID: PNT2022TMID46688

REAL TIME RIVER-WATER QUALITY MONITORING AND CONTROL SYSTEM

PYTHON CODE:

```
import random
import sys
import time

import ibmiotf.device

organization = "vj982m"
deviceType = "Diva"
deviceId = "1234"
authMethod = "token"
authToken = "123456789"

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status = cmd.data['command']
    if status == "Alert message":
        print("Alert ON")
    elif status == "Alert OFF":
        print("Alert Message")
    else:
        print("please send proper 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:
```

```
    Temp = random.randint(0, 100)
    pH = random.randint(0, 14)
    Turbidity = random.randint(0, 100)
```

```
    data = {'Temp': Temp, 'pH': pH, 'Turbidity': Turbidity}
```

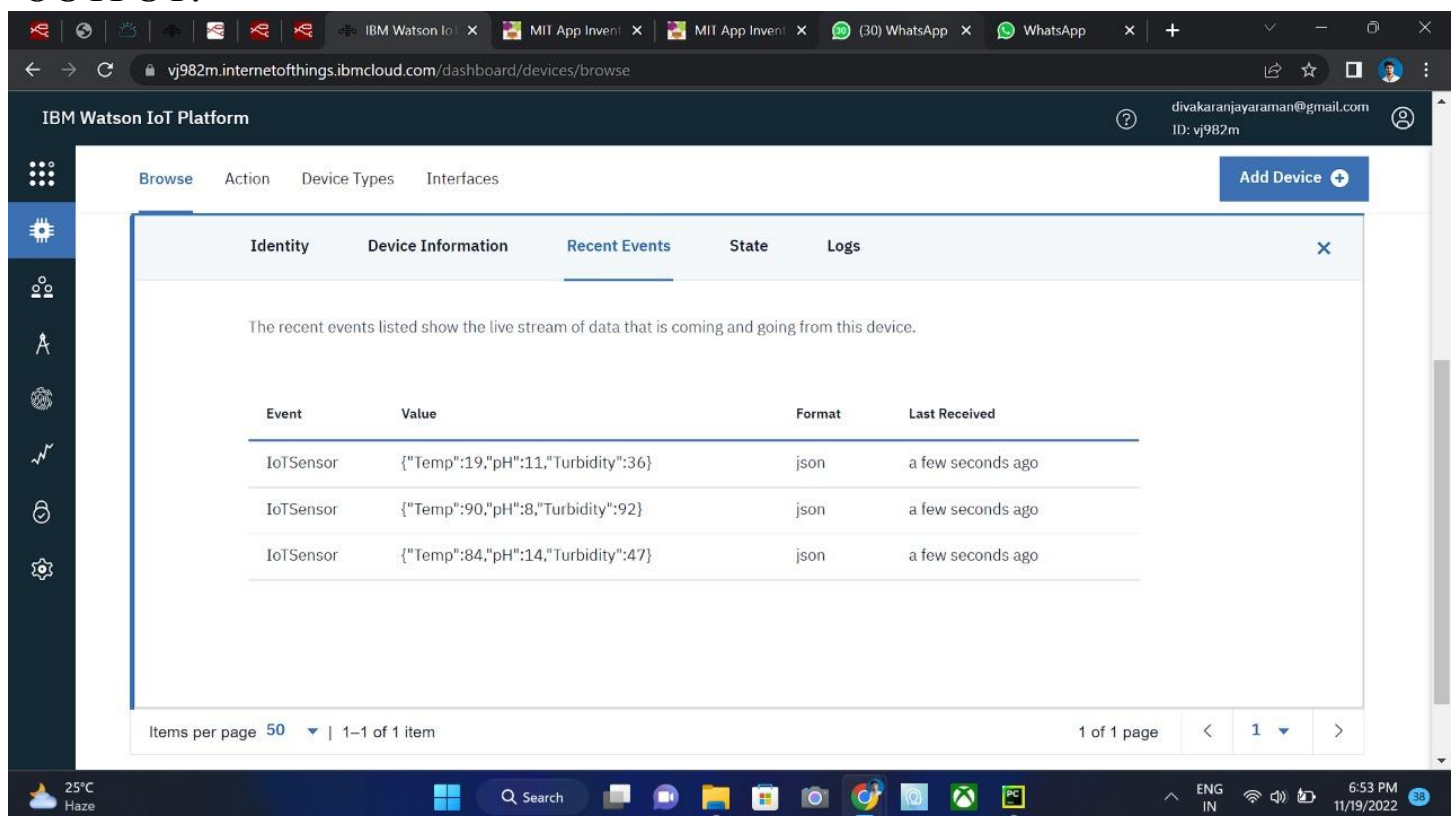
```
    def myOnPublishCallback():
        print("Published, Temperature = %s %%" % Temp, "pH_Value = %s pH" % pH,
              "Turbidity_Value = %s %%" % Turbidity,
              "to IBM Watson")
```

```
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoTF")
    time.sleep(10)
```

```
    deviceCli.commandCallback = myCommandCallback
```

```
deviceCli.disconnect()
```

OUTPUT:



The screenshot displays the IBM Watson IoT Platform dashboard. The top navigation bar includes tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various IoT functions. The main content area shows a table of recent events for an IoT device. The table has four columns: 'Event', 'Value', 'Format', and 'Last Received'. Three events are listed, each with a JSON payload containing temperature, pH, and turbidity data. The bottom of the dashboard shows pagination controls indicating 1 of 1 page.

Event	Value	Format	Last Received
IoTSensor	{"Temp":19,"pH":11,"Turbidity":36}	json	a few seconds ago
IoTSensor	{"Temp":90,"pH":8,"Turbidity":92}	json	a few seconds ago
IoTSensor	{"Temp":84,"pH":14,"Turbidity":47}	json	a few seconds ago