

PROJECT DEVELOPMENT PHASE

PROJECT DEVELOPMENT (SPRINT-1)

Team ID : PNT2022TMID07790

Project Name Project : Real Time River Water Monitoring
and Control system

PYTHON CODE:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials organization =
"84708c"
deviceType = "abcd"
deviceId = "12345"
authMethod = "token"
authToken = "12345678"
def myCommandCallback (cmd):
    print ("Command received: %s" % cmd.data['command'])
status=cmd.data['command']
    if status== "motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor is off")
    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)

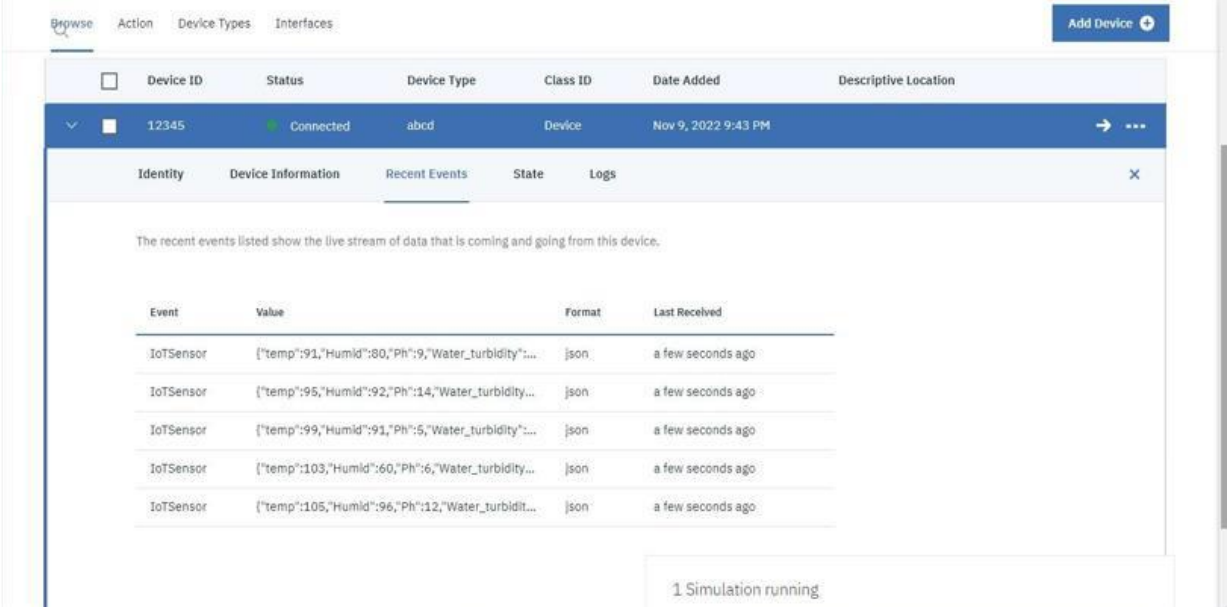
#..
except Exception as e:
print ("Caught evention connecting device: %s" % str(e)) sys.exit()
```

```

deviceCli.connect() while True:
temp=random.randint (90,110)
Humid=random.randint (60,100)
Ph=random.randint (0,14)
Water_turbidity=random.randint (15,60)
data = {'temp' : temp, 'Humid': Humid, 'Ph' : Ph, 'Water_turbidity' :
Water_turbidity}
def myonPublishCallback():
print ("Published Temperature = %s C" % temp, "Humidity = %s %% "
% Humid,"Ph = %s" % Ph,"Water Turbidity = %s NTU" %
Water_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 interface. At the top, there are tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A blue 'Add Device' button is in the top right corner. Below the tabs, a table lists devices. The first device, with ID '12345', is shown as 'Connected' with a green status icon. Its details include 'Device Type: abcd', 'Class ID: Device', and 'Date Added: Nov 9, 2022 9:43 PM'. Below the device list, a section titled 'Recent Events' shows a live stream of data. The events are listed in a table with columns: Event, Value, Format, and Last Received. All events are from the 'IoTSensor' and are in 'json' format, received 'a few seconds ago'. The values represent JSON objects with temperature, humidity, pH, and water turbidity data. At the bottom right, a status indicator shows '1 Simulation running'.

Event	Value	Format	Last Received
IoTSensor	{"temp":91,"Humid":80,"Ph":9,"Water_turbidity":...	json	a few seconds ago
IoTSensor	{"temp":95,"Humid":92,"Ph":14,"Water_turbidity":...	json	a few seconds ago
IoTSensor	{"temp":99,"Humid":91,"Ph":5,"Water_turbidity":...	json	a few seconds ago
IoTSensor	{"temp":103,"Humid":60,"Ph":6,"Water_turbidity":...	json	a few seconds ago
IoTSensor	{"temp":105,"Humid":96,"Ph":12,"Water_turbidity":...	json	a few seconds ago