

## SPRINT-2

**TEAM ID: PNT2022TMID04636**

**PROJECT TITLE: Gas Leakage monitoring & Alerting system for Industries**

Source code to deployed on IBM Watson Iot platform to generate the sensor data.

### SOURCE CODE:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "iv7q52"
deviceType = "shahidh"
deviceId = "9876"
authMethod = "token"
authToken = "-WmfT+4@nB5cfzR__k"
# Initialize GPIO

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()
# Connect and send a datapoint "hello" with value "world" into the cloud
asan event of type "greeting" 10 times

deviceCli.connect()
while True:
    #Get Sensor Data from DHT11

    temp=random.randint(90,110)
    humid=random.randint(60,100)

    propane = random.randint(0, 2000);
    CO = random.randint(0, 100);
    lpg= random.randint(0, 2000);
    methane = random.randint(0, 1000);
```

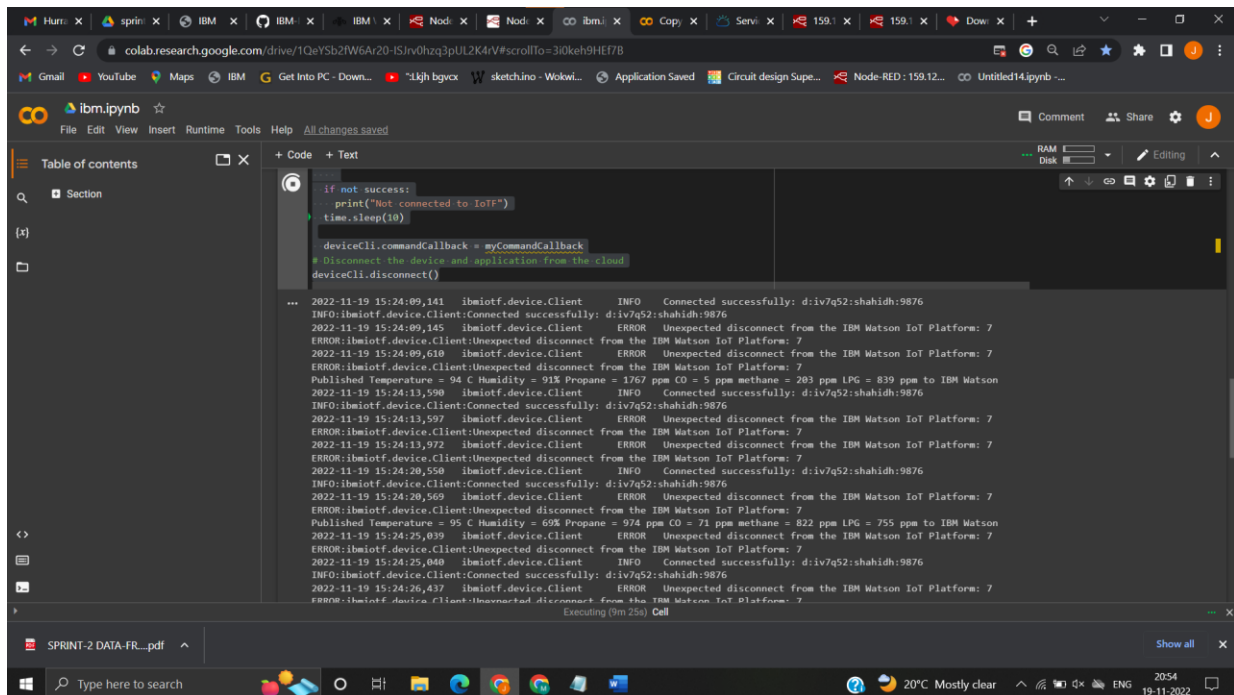
```
data = { 'temp' : temp, 'humid': humid,"propane": propane,
"CO": CO,
"lpg": lpg,
"methane": methane,
}
#print data
def myOnPublishCallback():
    print ("Published Temperature = %s C" % temp, "Humidity = %s%%" % humid,
"Propane = %s ppm" % propane,"CO = %s ppm" % CO,"methane = %s ppm" % methane, "LPG = %s ppm" % lpg, "to IBM Watson")

    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,on_publish=myOnPublishCallback)

    if not success:
        print("Not connected to IoT")
        time.sleep(10)

    deviceCli.commandCallback = myCommandCallback
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

## OUTPUT:



The screenshot shows a Jupyter Notebook interface with a code cell and its output. The code cell contains the following Python code:

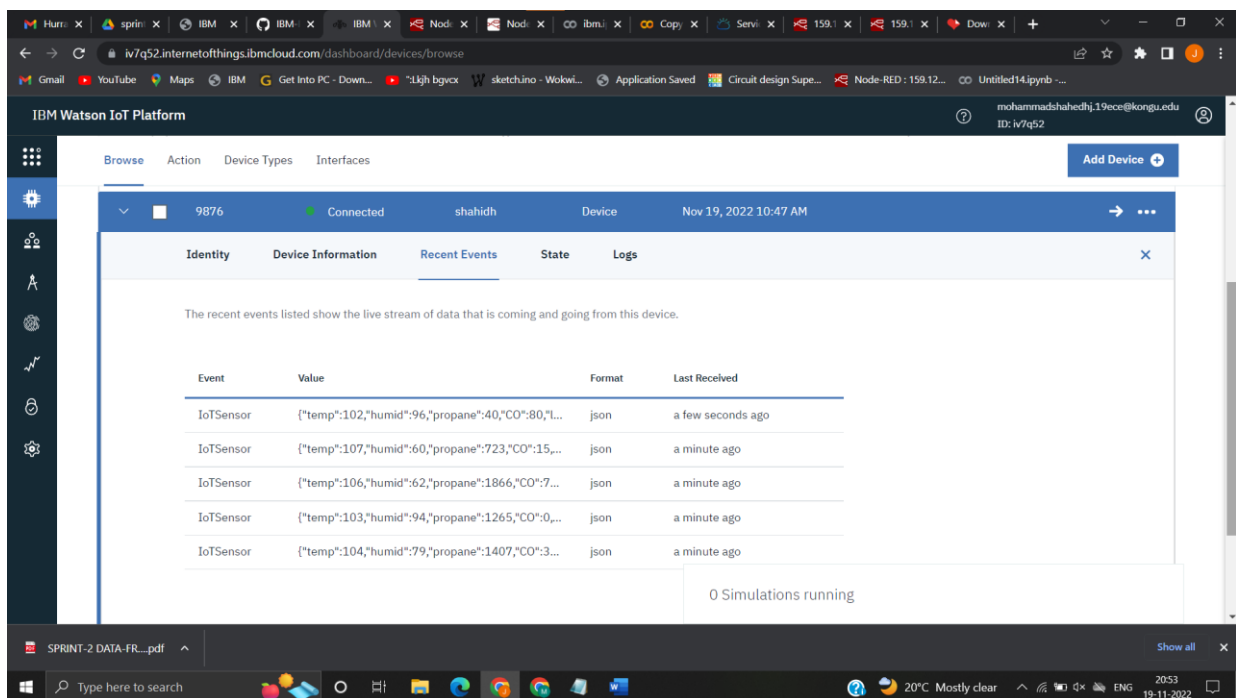
```
if not success:
    print("Not connected to IoT")
    time.sleep(10)

deviceCli.commandCallback = myCommandCallback
# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

The output of the code cell shows a series of logs indicating successful connections and unexpected disconnections from the IBM Watson IoT Platform. The logs include timestamps, device IDs, and sensor data readings such as Temperature, Humidity, Propane, CO, methane, and LPG.

```
2022-11-19 15:24:09,141 ibmiotf.device.Client INFO Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
2022-11-19 15:24:09,145 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 15:24:09,610 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
Published Temperature = 94 C Humidity = 91% Propane = 1767 ppm CO = 5 ppm methane = 203 ppm LPG = 839 ppm to IBM Watson
2022-11-19 15:24:13,590 ibmiotf.device.Client INFO Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
2022-11-19 15:24:13,597 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 15:24:13,972 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 15:24:20,550 ibmiotf.device.Client INFO Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
2022-11-19 15:24:20,569 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
Published Temperature = 95 C Humidity = 69% Propane = 974 ppm CO = 71 ppm methane = 822 ppm LPG = 755 ppm to IBM Watson
2022-11-19 15:24:25,039 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 15:24:25,040 ibmiotf.device.Client INFO Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
2022-11-19 15:24:26,437 ibmiotf.device.Client ERROR Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
```

## SENSOR DATA:



The screenshot shows the IBM Watson IoT Platform dashboard for a device with ID 9876. The device is connected and its name is shahidh. The dashboard displays a table of recent events, which are live stream data points coming and going from the device.

Event	Value	Format	Last Received
IoTSensor	{"temp":102,"humid":96,"propane":40,"CO":80,"L...	json	a few seconds ago
IoTSensor	{"temp":107,"humid":60,"propane":723,"CO":15...	json	a minute ago
IoTSensor	{"temp":106,"humid":62,"propane":1866,"CO":7...	json	a minute ago
IoTSensor	{"temp":103,"humid":94,"propane":1265,"CO":0...	json	a minute ago
IoTSensor	{"temp":104,"humid":79,"propane":1407,"CO":3...	json	a minute ago

0 Simulations running