Project Development Phase
Delivery of Sprint 3

Date	12 November 2022
Team ID	PNT2022TMID21494
Project Name	Project –Gas leakage monitoring and alerting system for industries
Marks	20 marks

Code:

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



#Provide your IBM Watson Device Credentials
organization = "0zi0vb"
deviceType = "gas"
deviceId = "11111"
authMethod = "-use-token-auth"
authToken = "54K5h+CW6(RXFZVFGX"

# Initialize GPIO



def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="alarmon":
        print ("Alarm is on")
    elif (status == "alarmoff") :
        print ("Alarm is off")
```

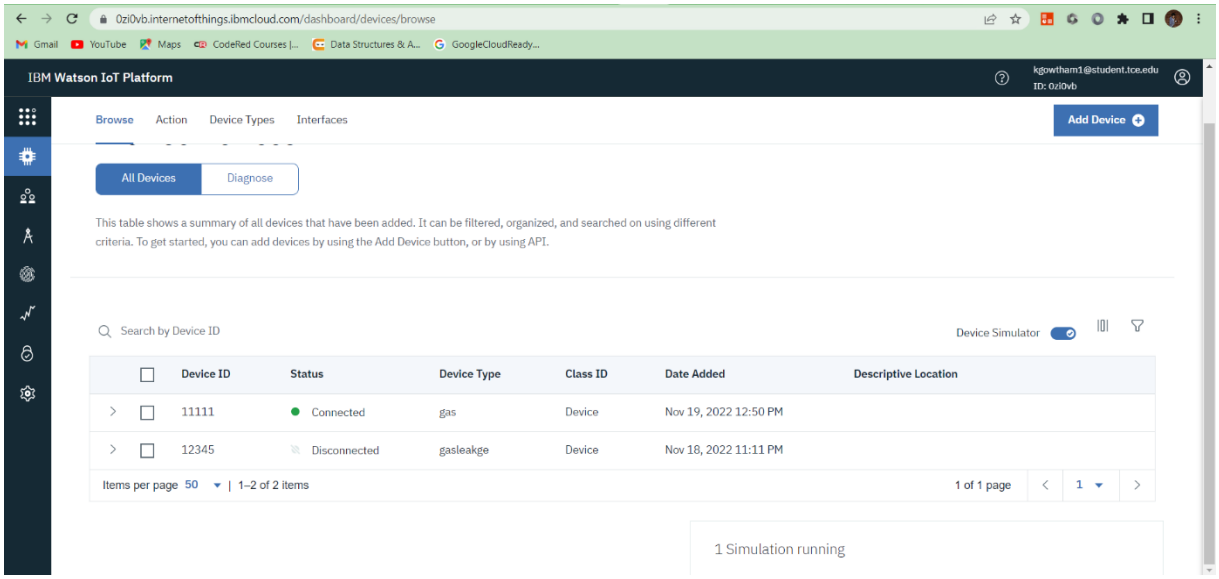
```
    elif status == "sprinkleron":
        print("Sprinkler is OFF")
    elif status == "sprinkleron":
        print("Sprinkler is ON")
    #print(cmd)




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 as an event of type "greeting" 10 times
deviceCli.connect()


while True:
    #Get Sensor Data from DHT11


    temp=random.randint(0,100)
    Humid=random.randint(0,100)
    gas=random.randint(0,100)


    data = { 'temp' : temp, 'Humid': Humid, 'gas' : gas }
    #print data
```

```
    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "Gas_Level =
%s %%" %gas, "to IBM Watson")

    success = deviceCli.publishEvent("IoTSensor", "json", data,
qos=0,on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to
    IoTF")time.sleep(1)

    deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the
clouddeviceCli.disconnect()
```

On deploying the code – To publish the values :

```
D:\sem7\New folder>python data.py
2022-11-19 12:51:50,886   ibmiotf.device.Client      INFO    Connected successfully: d:0zi0vb:gas:11111
Published Temperature = 36 C Humidity = 50 % Gas_Level =40 % to IBM Watson
Published Temperature = 22 C Humidity = 54 % Gas_Level =48 % to IBM Watson
Published Temperature = 0 C Humidity = 92 % Gas_Level =25 % to IBM Watson
Published Temperature = 38 C Humidity = 99 % Gas_Level =17 % to IBM Watson
Published Temperature = 64 C Humidity = 15 % Gas_Level =63 % to IBM Watson
Published Temperature = 76 C Humidity = 61 % Gas_Level =92 % to IBM Watson
Published Temperature = 14 C Humidity = 18 % Gas_Level =3 % to IBM Watson
Published Temperature = 44 C Humidity = 78 % Gas_Level =28 % to IBM Watson
Published Temperature = 31 C Humidity = 60 % Gas_Level =10 % to IBM Watson
Published Temperature = 87 C Humidity = 97 % Gas_Level =98 % to IBM Watson
Published Temperature = 69 C Humidity = 98 % Gas_Level =49 % to IBM Watson
Published Temperature = 67 C Humidity = 88 % Gas_Level =11 % to IBM Watson
Published Temperature = 60 C Humidity = 79 % Gas_Level =69 % to IBM Watson
Published Temperature = 75 C Humidity = 57 % Gas_Level =99 % to IBM Watson
Published Temperature = 68 C Humidity = 53 % Gas_Level =79 % to IBM Watson
Published Temperature = 11 C Humidity = 7 % Gas_Level =74 % to IBM Watson
Published Temperature = 40 C Humidity = 67 % Gas_Level =53 % to IBM Watson
Published Temperature = 86 C Humidity = 73 % Gas_Level =100 % to IBM Watson
Published Temperature = 61 C Humidity = 55 % Gas_Level =75 % to IBM Watson
Published Temperature = 63 C Humidity = 43 % Gas_Level =54 % to IBM Watson
Published Temperature = 51 C Humidity = 5 % Gas_Level =88 % to IBM Watson
Published Temperature = 10 C Humidity = 83 % Gas_Level =59 % to IBM Watson
Published Temperature = 85 C Humidity = 64 % Gas_Level =50 % to IBM Watson
Published Temperature = 58 C Humidity = 29 % Gas_Level =21 % to IBM Watson
Published Temperature = 70 C Humidity = 38 % Gas_Level =43 % to IBM Watson
Published Temperature = 74 C Humidity = 1 % Gas_Level =89 % to IBM Watson
```

Device – gas is connected:



Values are published to IOT WATSON Device: