PYTHON CODE

Team ID	PNT2022TMID16001
Project Name	GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

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#IBM Watson IOT

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


    #Provide your IBM Watson Device Credentials
    organization = "pi0ywk"
    deviceType = "Gas_Leakage_Detector"
    deviceId = "Kayal107"
    authMethod = "token"
    authToken = "8765432"

    # Initialize GPIO


    def myCommandCallback(cmd):
        print("Command received: %s" % cmd.data['command'])
        status=cmd.data['command']
        if status == "alarmon":
            print ("Alarm is on please all Evacuate Fans On")
        elif status == "alarmoff":
            print ("Alarm is off and Fans Off")
        elif status == "sprinkleron":
            print ("Sprinkler is On Evacuate Faster")
        elif status == "sprinkleroff":
            print("Sprinkler is Off")
        else:
            print("Please send proper command")
        #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()
```

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# 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 random function

        temp=random.randint(0,120)
        Humid=random.randint(0,100)
        gas=random.randint(0,1500)
        data={'temp':temp,'Humid':Humid,'gas':gas}
        #print data
        def myOnPublishCallback():
            print (" Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "Gas_Level = %s ppm" %gas, "to IBM Watson")

        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
        if not success:
            print("\n Not connected to IoTF")
        if temp>60 :
            print("\n Fire Detected due to gas Leak ! Alarm ON! Sprinkler ON! Call The Fire Police \n")
        elif gas>350:
            print("\n Gas is Leaking \n")

        time.sleep(10)

        deviceCli.commandCallback = myCommandCallback

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