PYTHON CODE:

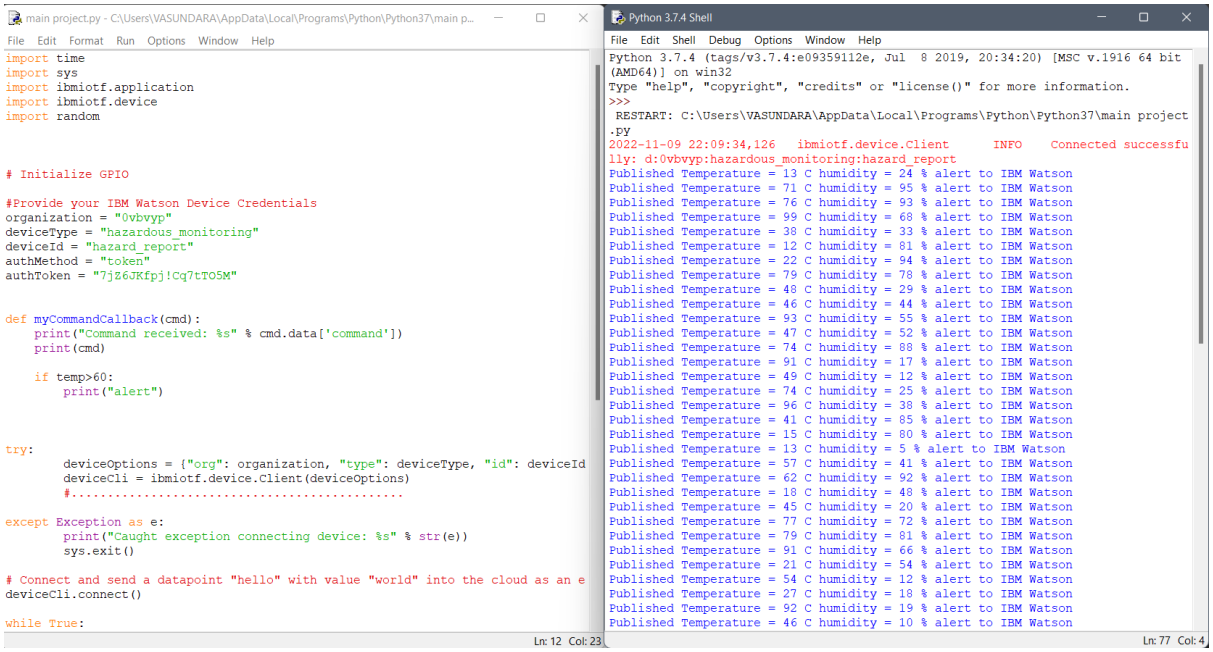
Team Id	PNT2022TMID01194
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT

Code and Output:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "0vbvyp"
deviceType = "hazardous_monitoring"
deviceId = "hazard_report"
authMethod = "token"
authToken = "7jZ6JKfpj!Cq7tTO5M"



def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    print(cmd)


    if temp>60:
        print("alert")
```

```
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)
    oxygen =random.randint(0,100)



    data = { 'temp' : temp, 'humidity': humid ,'oxygen': oxygen}
    data1 = { 'High temperature' : temp>60}
    #print data
    def myOnPublishCallback():
```

```
        print ("Published Temperature = %s C" % temp, "humidity = %s %%" %
humid,"alert",   "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 cloud
deviceCli.disconnect()
```



main project.py - C:\Users\VASUNDARA\AppData\Local\Programs\Python\Python37\main p...

File Edit Format Run Options Window Help

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



# Initialize GPIO

#Provide your IBM Watson Device Credentials
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deviceType = "hazardous_monitoring"
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def myCommandCallback(cmd):
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try:
        deviceOptions = {"org": organization, "type": deviceType, "id": deviceId
        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 e
deviceCli.connect()

while True:
```

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Python 3.7.4 Shell

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```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 20:34:20) [MSC v.1916 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: C:\Users\VASUNDARA\AppData\Local\Programs\Python\Python37\main project
.py
2022-11-09 22:09:34,126   ibmiotf.device.Client      INFO    Connected successfu
lly: d:0vbvyp:hazardous_monitoring:hazard_report
Published Temperature = 13 C humidity = 24 % alert to IBM Watson
Published Temperature = 71 C humidity = 95 % alert to IBM Watson
Published Temperature = 76 C humidity = 93 % alert to IBM Watson
Published Temperature = 99 C humidity = 68 % alert to IBM Watson
Published Temperature = 38 C humidity = 33 % alert to IBM Watson
Published Temperature = 12 C humidity = 81 % alert to IBM Watson
Published Temperature = 22 C humidity = 94 % alert to IBM Watson
Published Temperature = 79 C humidity = 78 % alert to IBM Watson
Published Temperature = 48 C humidity = 29 % alert to IBM Watson
Published Temperature = 46 C humidity = 44 % alert to IBM Watson
Published Temperature = 93 C humidity = 55 % alert to IBM Watson
Published Temperature = 47 C humidity = 52 % alert to IBM Watson
Published Temperature = 74 C humidity = 88 % alert to IBM Watson
Published Temperature = 91 C humidity = 17 % alert to IBM Watson
Published Temperature = 49 C humidity = 12 % alert to IBM Watson
Published Temperature = 74 C humidity = 25 % alert to IBM Watson
Published Temperature = 96 C humidity = 38 % alert to IBM Watson
Published Temperature = 41 C humidity = 85 % alert to IBM Watson
Published Temperature = 15 C humidity = 80 % alert to IBM Watson
Published Temperature = 13 C humidity = 5 % alert to IBM Watson
Published Temperature = 57 C humidity = 41 % alert to IBM Watson
Published Temperature = 62 C humidity = 92 % alert to IBM Watson
Published Temperature = 18 C humidity = 48 % alert to IBM Watson
Published Temperature = 45 C humidity = 20 % alert to IBM Watson
Published Temperature = 77 C humidity = 72 % alert to IBM Watson
Published Temperature = 79 C humidity = 81 % alert to IBM Watson
Published Temperature = 91 C humidity = 66 % alert to IBM Watson
Published Temperature = 21 C humidity = 54 % alert to IBM Watson
Published Temperature = 54 C humidity = 12 % alert to IBM Watson
Published Temperature = 27 C humidity = 18 % alert to IBM Watson
Published Temperature = 92 C humidity = 19 % alert to IBM Watson
Published Temperature = 46 C humidity = 10 % alert to IBM Watson
```

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