

Develop A Python Script:

Team Id	PNT2022TMID48099
Project Name	Hazardous Area Monitoring for industrial Plant powered by IoT

```
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
organization = "wbyops"
deviceType = "hazardous_monitoring"
deviceId = "hazard_report"
authMethod = "token"
authToken = "7j26JKfpjICq7tTOSM"

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}

    Ln: 16 Col: 32

    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)

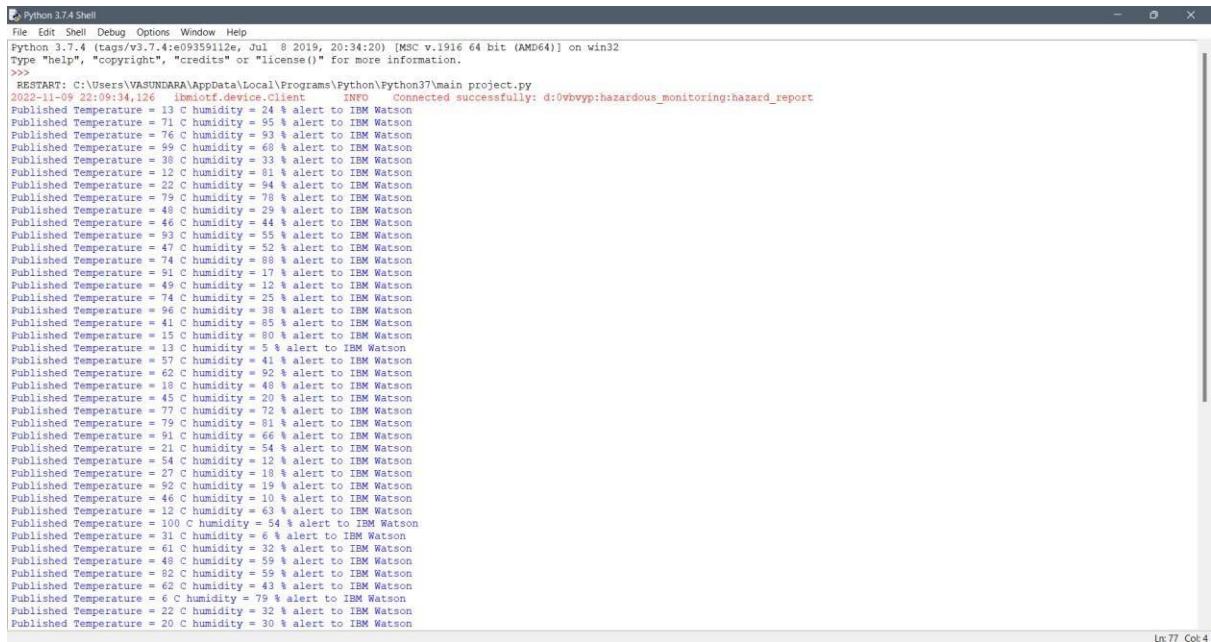
    if not success:
        print("Not connected to IoT")
        time.sleep(1)

    deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
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Ln: 16 Col: 32
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OUTPUT:



The screenshot shows a Windows command-line interface window titled "Python 3.7.4 Shell". The window contains a log of sensor data and connection status. The log starts with the Python version and build information, followed by a "RESTART" message and a timestamp. It then lists numerous "Published Temperature" and "Published Humidity" entries, each followed by an "alert to IBM Watson" message. The log ends with a timestamp and a "Ln 77 Col 4" indicator.

```
Python 3.7.4 (tags/v3.7.4:90259112e, 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\WASUNDARA\AppData\Local\Programs\Python\python37\main project.py
2022-11-09 22:09:34,126  iotf.device.Client    INFO  Connected successfully: d:\vbvyp: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 = 40 % alert to IBM Watson
Published Temperature = 8 C humidity = 60 % 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 = 10 C humidity = 100 % 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 = 1 % alert to IBM Watson
Published Temperature = 62 C humidity = 52 % alert to IBM Watson
Published Temperature = 9 C humidity = 40 % 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 = 10 C humidity = 1 % alert to IBM Watson
Published Temperature = 12 C humidity = 62 % alert to IBM Watson
Published Temperature = 100 C humidity = 54 % alert to IBM Watson
Published Temperature = 31 C humidity = 6 % alert to IBM Watson
Published Temperature = 61 C humidity = 32 % alert to IBM Watson
Published Temperature = 48 C humidity = 59 % alert to IBM Watson
Published Temperature = 82 C humidity = 59 % alert to IBM Watson
Published Temperature = 62 C humidity = 43 % alert to IBM Watson
Published Temperature = 6 C humidity = 7 % alert to IBM Watson
Published Temperature = 22 C humidity = 32 % alert to IBM Watson
Published Temperature = 20 C humidity = 30 % alert to IBM Watson
Ln 77 Col 4
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