

# SPRINT 4

Date	14 November 2022
Team ID	PNT2022TMID33005
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT

## PYTHON CODE:

```
mobileappcode.py - C:\Users\deepi\Desktop\3\mobileappcode.py (3.7.0)
File Edit Format Run Options Window Help

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

#Provide your IBM Watson Device Credentials
organization = "iagqzu"
deviceType = "Deepak"
deviceId = "123"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="AlarmOn":
        print ("Alarm is on")
    else:
        print ("Alarm is off")
    #print(cmd)

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method": authMethod}
    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
deviceCli.connect()

while True:
    #Get Sensor Data from DHT11
    temp=random.randint(0,100)
    hum=random.randint(0,100)

Python 3.7.0 Shell
File Edit Shell Debug Options Window Help

Published Temperature = 29 C Humidity = 55 % to IBM Watson
Published Temperature = 41 C Humidity = 95 % to IBM Watson
Published Temperature = 46 C Humidity = 67 % to IBM Watson
Published Temperature = 31 C Humidity = 37 % to IBM Watson
Published Temperature = 82 C Humidity = 43 % to IBM Watson
Published Temperature = 11 C Humidity = 9 % to IBM Watson
Published Temperature = 25 C Humidity = 7 % to IBM Watson
Published Temperature = 83 C Humidity = 21 % to IBM Watson
Published Temperature = 42 C Humidity = 24 % to IBM Watson
Published Temperature = 92 C Humidity = 52 % to IBM Watson
Published Temperature = 83 C Humidity = 36 % to IBM Watson
Published Temperature = 46 C Humidity = 23 % to IBM Watson
Published Temperature = 96 C Humidity = 10 % to IBM Watson
Published Temperature = 43 C Humidity = 37 % to IBM Watson
Published Temperature = 97 C Humidity = 30 % to IBM Watson
Published Temperature = 91 C Humidity = 42 % to IBM Watson
Published Temperature = 97 C Humidity = 79 % to IBM Watson
Published Temperature = 90 C Humidity = 31 % to IBM Watson
Published Temperature = 46 C Humidity = 8 % to IBM Watson
Published Temperature = 26 C Humidity = 40 % to IBM Watson
Published Temperature = 67 C Humidity = 4 % to IBM Watson
Published Temperature = 68 C Humidity = 12 % to IBM Watson
Published Temperature = 56 C Humidity = 35 % to IBM Watson
Published Temperature = 41 C Humidity = 0 % to IBM Watson
Published Temperature = 74 C Humidity = 43 % to IBM Watson
Published Temperature = 97 C Humidity = 79 % to IBM Watson
Published Temperature = 68 C Humidity = 56 % to IBM Watson
Published Temperature = 100 C Humidity = 71 % to IBM Watson
Published Temperature = 79 C Humidity = 51 % to IBM Watson
Published Temperature = 60 C Humidity = 41 % to IBM Watson
Published Temperature = 71 C Humidity = 21 % to IBM Watson
Published Temperature = 47 C Humidity = 98 % to IBM Watson
Published Temperature = 95 C Humidity = 50 % to IBM Watson
Published Temperature = 51 C Humidity = 39 % to IBM Watson
Published Temperature = 98 C Humidity = 25 % to IBM Watson
Published Temperature = 71 C Humidity = 40 % to IBM Watson
Published Temperature = 97 C Humidity = 35 % to IBM Watson
Published Temperature = 5 C Humidity = 74 % to IBM Watson
Published Temperature = 61 C Humidity = 32 % to IBM Watson
Published Temperature = 35 C Humidity = 51 % to IBM Watson
Published Temperature = 22 C Humidity = 94 % to IBM Watson
Published Temperature = 34 C Humidity = 28 % to IBM Watson
Published Temperature = 93 C Humidity = 64 % to IBM Watson
Published Temperature = 67 C Humidity = 20 % to IBM Watson
Published Temperature = 87 C Humidity = 4 % to IBM Watson
Published Temperature = 26 C Humidity = 100 % to IBM Watson
```

## PYTHON OUTPUT:

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help

===== RESTART: C:\Users\deepi\Desktop\3\mobileappcode.py =====
2022-11-12 11:16:24,836 ibmiotf.device.Client INFO Connected successfully
lly: d:iagqzu:Deepak:123
Published Temperature = 6 C Humidity = 29 % to IBM Watson
Published Temperature = 39 C Humidity = 68 % to IBM Watson
Published Temperature = 49 C Humidity = 35 % to IBM Watson
Published Temperature = 14 C Humidity = 37 % to IBM Watson
Published Temperature = 7 C Humidity = 55 % to IBM Watson
Published Temperature = 98 C Humidity = 31 % to IBM Watson
Published Temperature = 100 C Humidity = 33 % to IBM Watson
Published Temperature = 26 C Humidity = 36 % to IBM Watson
Published Temperature = 57 C Humidity = 64 % to IBM Watson
Published Temperature = 98 C Humidity = 61 % to IBM Watson
Published Temperature = 99 C Humidity = 71 % to IBM Watson
Published Temperature = 18 C Humidity = 68 % to IBM Watson
Published Temperature = 18 C Humidity = 94 % to IBM Watson
Published Temperature = 26 C Humidity = 3 % to IBM Watson
Published Temperature = 36 C Humidity = 78 % to IBM Watson
Published Temperature = 6 C Humidity = 11 % to IBM Watson
Published Temperature = 33 C Humidity = 83 % to IBM Watson
Published Temperature = 99 C Humidity = 61 % to IBM Watson
Published Temperature = 77 C Humidity = 91 % to IBM Watson
Published Temperature = 72 C Humidity = 97 % to IBM Watson
Published Temperature = 0 C Humidity = 76 % to IBM Watson
Published Temperature = 82 C Humidity = 86 % to IBM Watson
Published Temperature = 71 C Humidity = 43 % to IBM Watson
Published Temperature = 49 C Humidity = 23 % to IBM Watson
Published Temperature = 83 C Humidity = 40 % to IBM Watson
Published Temperature = 16 C Humidity = 43 % to IBM Watson
Published Temperature = 9 C Humidity = 8 % to IBM Watson
Published Temperature = 65 C Humidity = 52 % to IBM Watson
Published Temperature = 2 C Humidity = 23 % to IBM Watson
Published Temperature = 3 C Humidity = 62 % to IBM Watson
Published Temperature = 7 C Humidity = 27 % to IBM Watson
Published Temperature = 22 C Humidity = 4 % to IBM Watson
Published Temperature = 10 C Humidity = 40 % to IBM Watson
Published Temperature = 28 C Humidity = 100 % to IBM Watson
Published Temperature = 21 C Humidity = 51 % to IBM Watson
```

## IBM WATSON PLATFORM →

### DEVICE EVENT LOG:

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area shows a table of devices with columns: Device ID, Status, Device Type, Class ID, Date Added, and Descriptive Location. The device '123' is highlighted, and its details are shown below, including a 'Recent Events' tab. The 'Recent Events' tab displays a list of events with columns: Event, Value, Format, and Last Received.

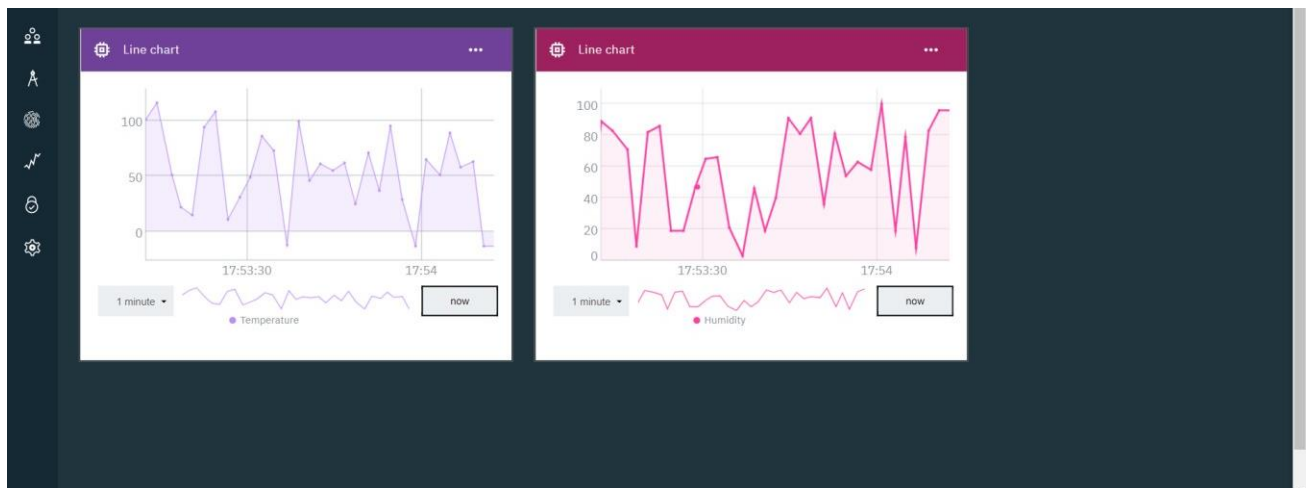
Event	Value	Format	Last Received
IoTSensor	{"temp":32,"Humid":33}	json	a few seconds ago
IoTSensor	{"temp":58,"Humid":87}	json	a few seconds ago
IoTSensor	{"temp":35,"Humid":6}	json	a few seconds ago
IoTSensor	{"temp":86,"Humid":24}	json	a few seconds ago

### DEVICE EVENT PAYLOAD:

The screenshot displays the IBM Watson IoT Platform interface with an 'Event Payload' modal window open. The modal window shows the event name 'IoTSensor' and the time received 'Nov 14, 2022 11:31 AM'. The event payload is shown as a JSON object:

```
1 {  
2   "temp": 32,  
3   "Humid": 33  
4 }
```

## DEVICE- BOARD:



## IBM CLOUDANT DB LOG:

The screenshot shows the IBM Cloudant database interface for a database named 'noderdtglnm202...'. The interface includes a sidebar with navigation options like 'All Documents', 'Query', 'Permissions', 'Changes', 'Design Documents', and 'library'. The main area displays a table view of documents. The table has columns for '\_id', 'humidity', and 'temperature'. The data shows 15 documents with varying humidity and temperature values. At the bottom, there are controls for 'Showing 3 of 4 columns', 'Show all columns', and 'Showing document 1 - 20'.

_id	humidity	temperature
0096ab1244940360661f0bce73051181	9	79
0096ab1244940360661f0bce730520d0	68	122
0096ab1244940360661f0bce730d0d19	6	109
0096ab1244940360661f0bce730d1a9b	72	39
0096ab1244940360661f0bce730d380a	44	105
0096ab1244940360661f0bce731556d4	37	12
0096ab1244940360661f0bce73156b2b	18	-5
0096ab1244940360661f0bce731b7048	81	5
0096ab1244940360661f0bce731bbf33	25	90
0096ab1244940360661f0bce7320722f	87	11
0096ab1244940360661f0bce73207f8c	48	49
0096ab1244940360661f0bce7325d136	56	107

