

SPRINT-3

Team ID	PNT2022TMID01194
Project Name	Hazardous Area Monitoring for industrial Plant powered by IoT

Python code for the Temperature Alert and Humidity check

```
import time

import sys

import ibmiotf.application

import ibmiotf.device

import random

# Initialize GPIO


#Provide your IBM Watson Device Credentials

organization = "Ovbvyp"

deviceType = "hazardous_monitoring"

deviceId = "hazard_report"

authMethod = "token"

authToken = "7jZ6JKfpj!Cq7tTO5M"


def myCommandCallback(cmd):

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

    Status=cmd.data['command']

    if Status=="Alert":

        print("Alert")

    #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)

    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 IoT")

        time.sleep(1)

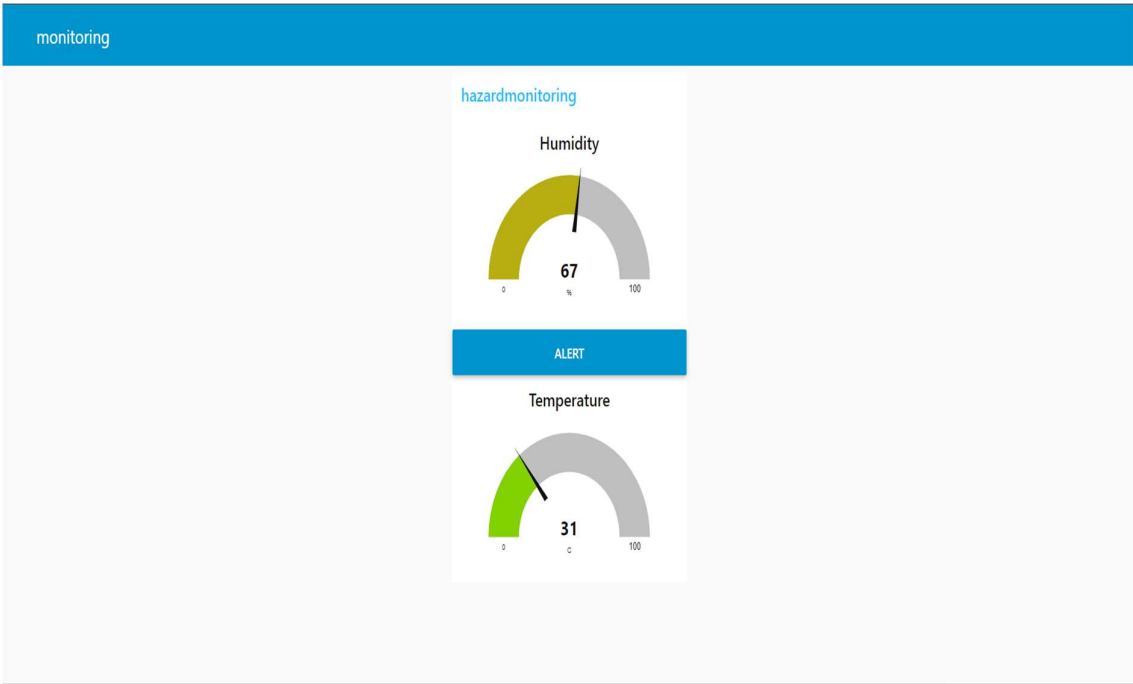
        deviceCli.commandCallback = myCommandCallback


# Disconnect the device and application from the cloud

deviceCli.disconnect()

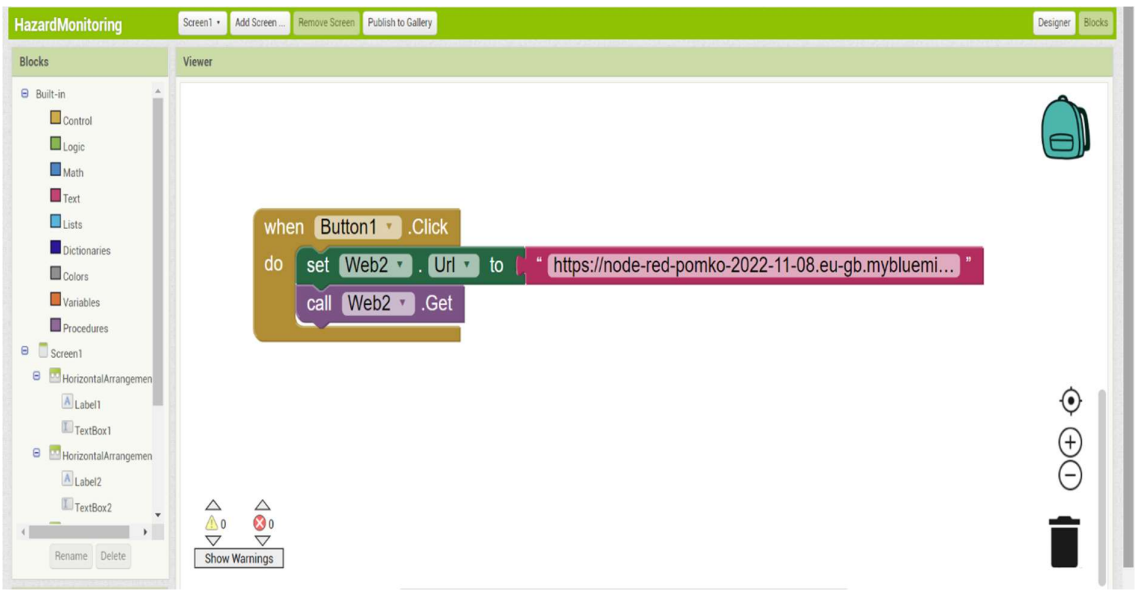
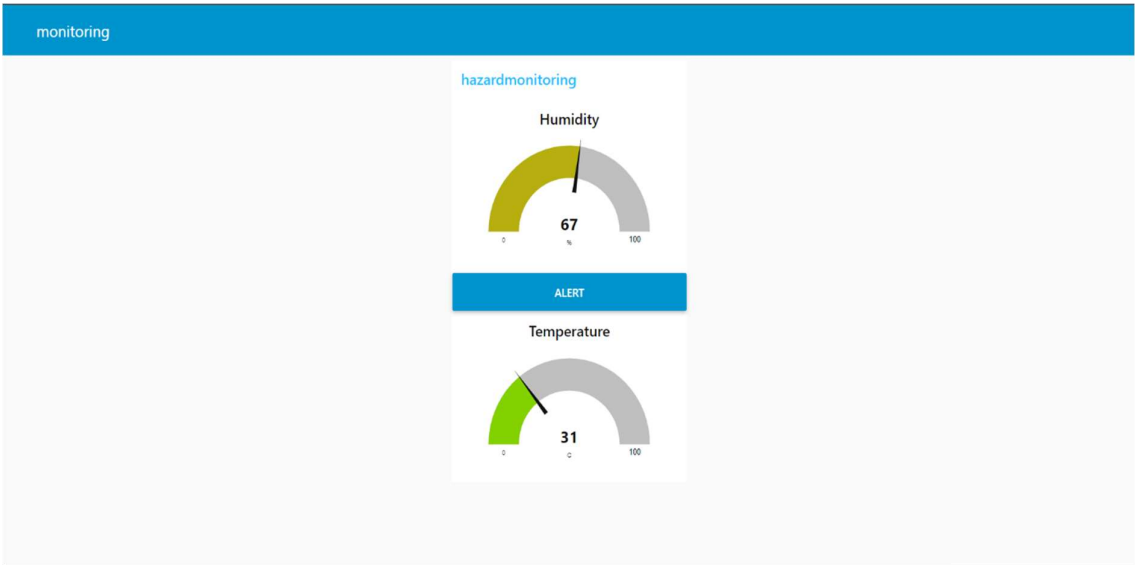
```

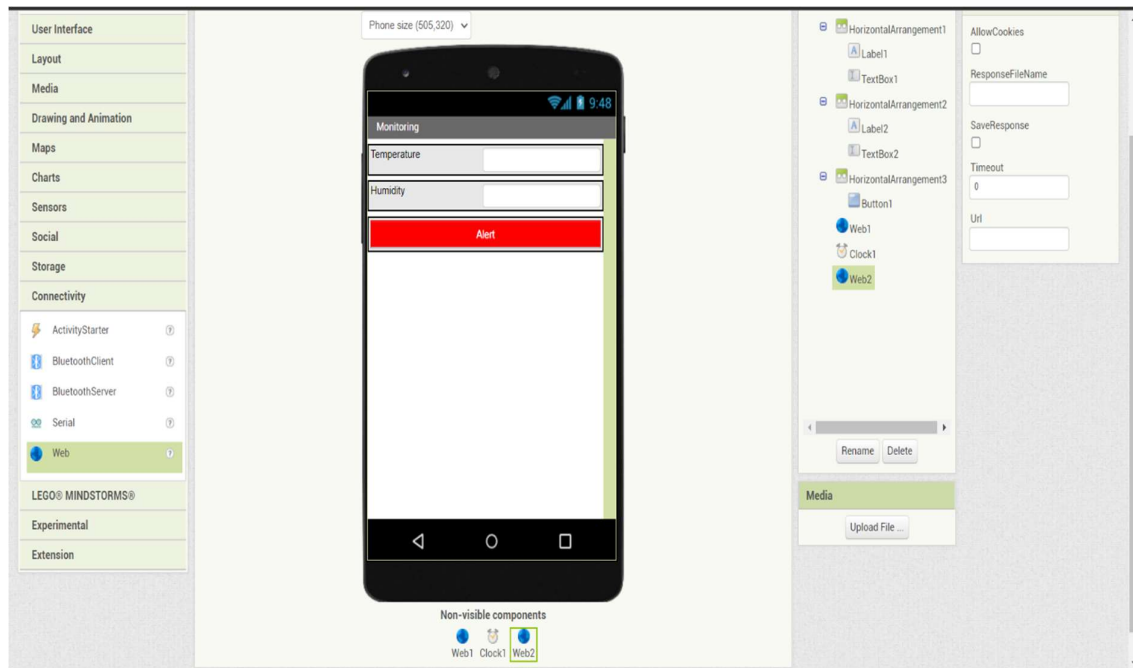
UI Dashboard



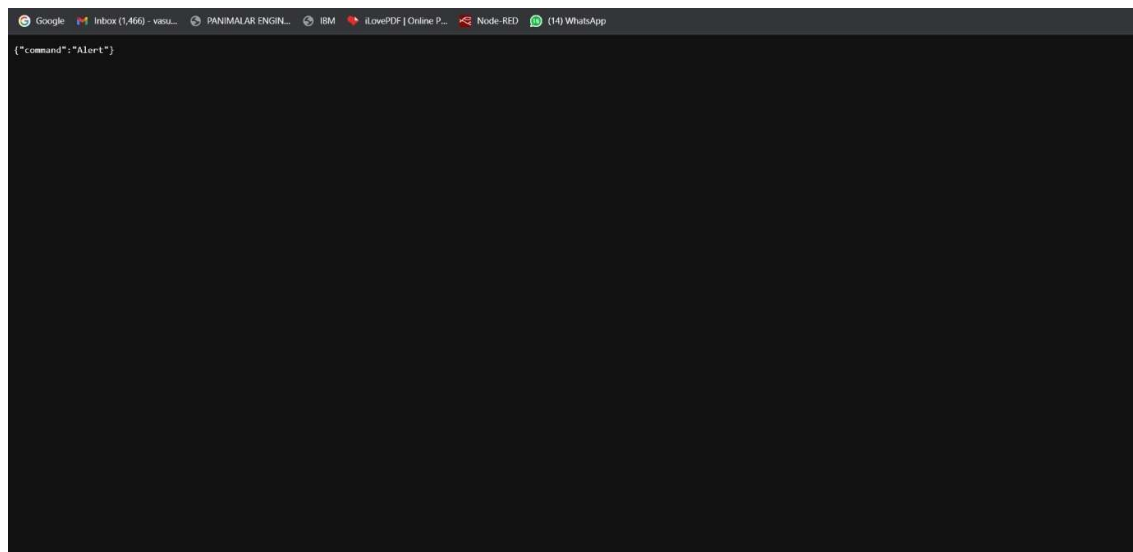
Published Temperature = 70 C humidity = 7 % alert to IBM Watson
Published Temperature = 36 C humidity = 39 % alert to IBM Watson
Published Temperature = 2 C humidity = 13 % alert to IBM Watson
Published Temperature = 36 C humidity = 3 % alert to IBM Watson
Published Temperature = 46 C humidity = 87 % alert to IBM Watson
Published Temperature = 57 C humidity = 95 % alert to IBM Watson
Published Temperature = 59 C humidity = 43 % alert to IBM Watson
Published Temperature = 50 C humidity = 33 % alert to IBM Watson
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Published Temperature = 59 C humidity = 95 % alert to IBM Watson
Published Temperature = 86 C humidity = 19 % alert to IBM Watson
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Published Temperature = 17 C humidity = 59 % alert to IBM Watson
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Published Temperature = 6 C humidity = 67 % alert to IBM Watson
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Command received: Alert:High Temperature
Published Temperature = 22 C humidity = 27 % alert to IBM Watson
Command received: Alert:High Temperature
Published Temperature = 99 C humidity = 16 % alert to IBM Watson
Published Temperature = 98 C humidity = 7 % alert to IBM Watson
Published Temperature = 94 C humidity = 85 % alert to IBM Watson

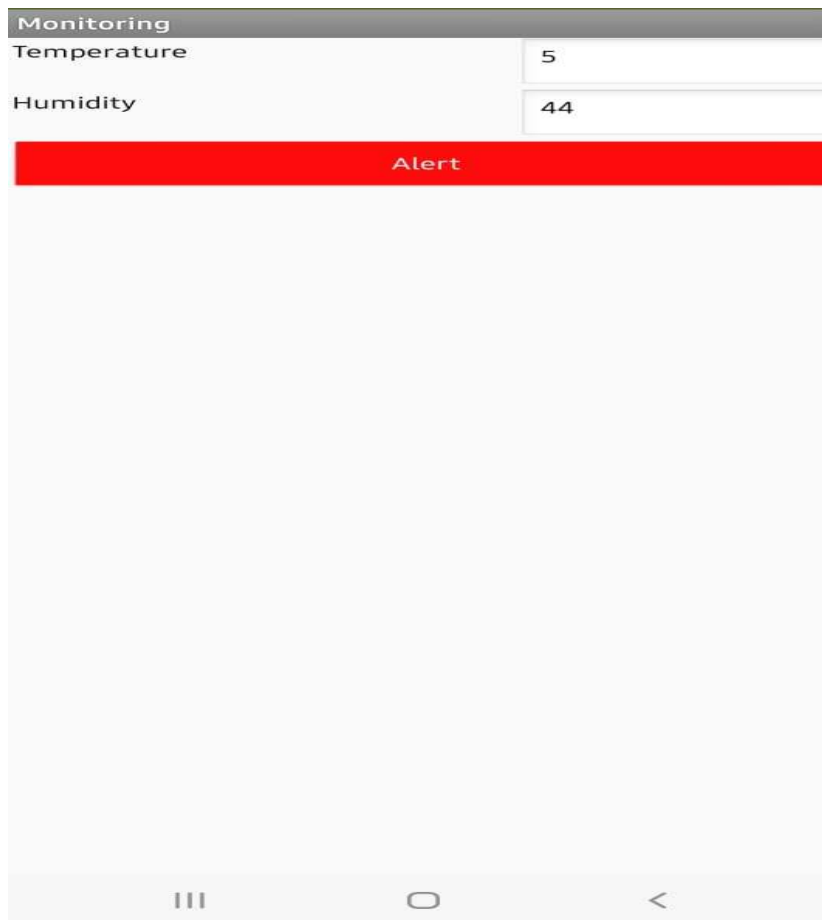
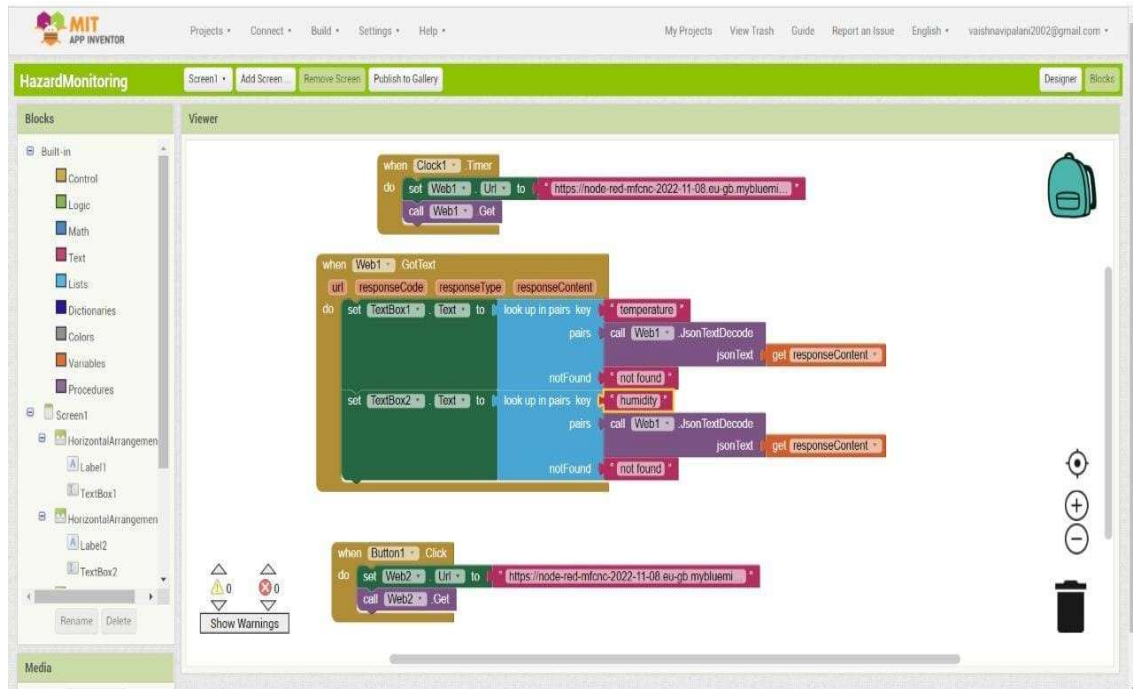
Design the application for the project using MIT App Inventor





Alert Command





```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
2022-11-11 01:01:51,838 ibmiotf.device.Client INFO Connected successfully: d:f0arlc:dangerous_monitoring:danger_report
Published Temperature = 90 C humidity = 35 % alert to IBM Watson
Published Temperature = 4 C humidity = 20 % alert to IBM Watson
Published Temperature = 43 C humidity = 20 % alert to IBM Watson
Published Temperature = 50 C humidity = 68 % alert to IBM Watson
Published Temperature = 66 C humidity = 40 % alert to IBM Watson
Published Temperature = 94 C humidity = 65 % alert to IBM Watson
Published Temperature = 8 C humidity = 45 % alert to IBM Watson
Published Temperature = 4 C humidity = 55 % alert to IBM Watson
Published Temperature = 44 C humidity = 10 % alert to IBM Watson
Published Temperature = 55 C humidity = 60 % alert to IBM Watson
Published Temperature = 23 C humidity = 51 % alert to IBM Watson
Published Temperature = 76 C humidity = 76 % alert to IBM Watson
Published Temperature = 20 C humidity = 60 % alert to IBM Watson
Published Temperature = 51 C humidity = 30 % alert to IBM Watson
Command received: alert
Published Temperature = 29 C humidity = 23 % alert to IBM Watson
Published Temperature = 48 C humidity = 70 % alert to IBM Watson
Published Temperature = 88 C humidity = 94 % alert to IBM Watson
Command received: alert
Published Temperature = 13 C humidity = 68 % alert to IBM Watson
Published Temperature = 88 C humidity = 12 % alert to IBM Watson
Published Temperature = 53 C humidity = 67 % alert to IBM Watson
Published Temperature = 41 C humidity = 63 % alert to IBM Watson
Published Temperature = 87 C humidity = 30 % alert to IBM Watson
Published Temperature = 23 C humidity = 33 % alert to IBM Watson
Command received: alert
Published Temperature = 0 C humidity = 17 % alert to IBM Watson
Published Temperature = 57 C humidity = 78 % alert to IBM Watson
Published Temperature = 70 C humidity = 45 % alert to IBM Watson
Published Temperature = 74 C humidity = 82 % alert to IBM Watson
Published Temperature = 80 C humidity = 43 % alert to IBM Watson
Published Temperature = 40 C humidity = 41 % alert to IBM Watson
Published Temperature = 74 C humidity = 11 % alert to IBM Watson
Published Temperature = 18 C humidity = 41 % alert to IBM Watson
Published Temperature = 82 C humidity = 62 % alert to IBM Watson
Command received: alert
Published Temperature = 3 C humidity = 80 % alert to IBM Watson
Published Temperature = 71 C humidity = 76 % alert to IBM Watson
Published Temperature = 9 C humidity = 20 % alert to IBM Watson
Published Temperature = 86 C humidity = 27 % alert to IBM Watson
Command received: alert
Published Temperature = 60 C humidity = 42 % alert to IBM Watson
Published Temperature = 67 C humidity = 94 % alert to IBM Watson
Command received: alert
Published Temperature = 32 C humidity = 97 % alert to IBM Watson
Published Temperature = 60 C humidity = 71 % alert to IBM Watson
```