

# PROJECT DEVELOPMENT PHASE

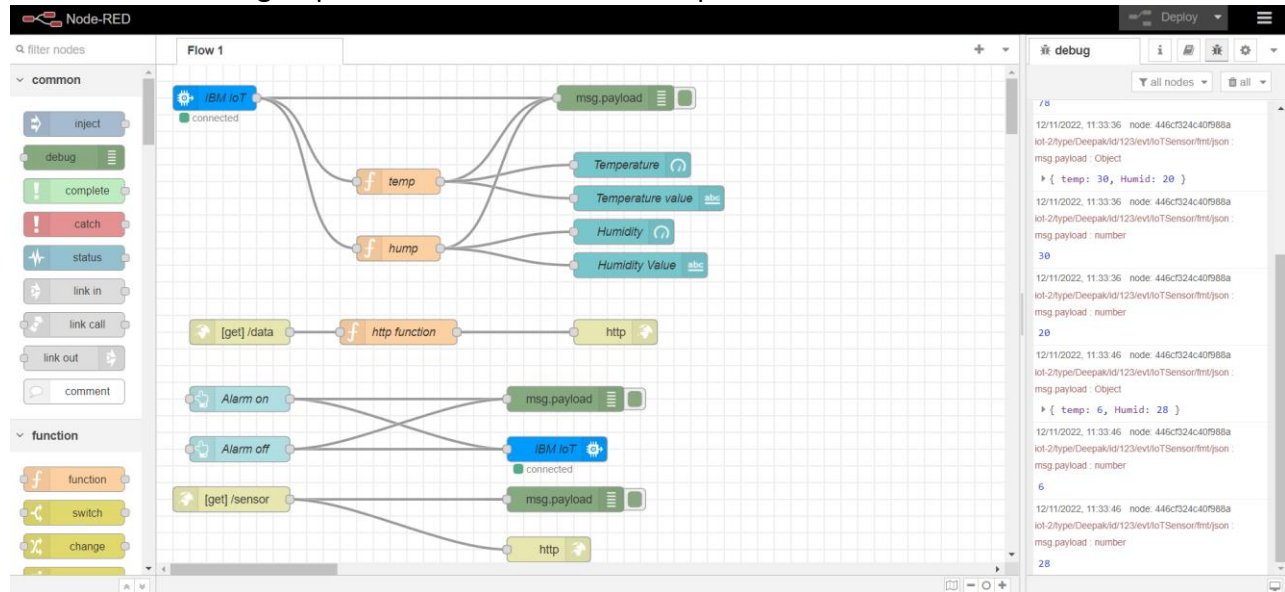
## DELIVERY OF SPRINT-3

Date	12 November 2022
Team Id	PNT2022TMID33005
Project Name	Hazardous area monitoring for industrial power plants using IOT.

### SPRINT 3: MIT Application Inventor

\* Building an application for our project using MIT application, designing the model and testing the application.

STEP 1: Connecting required nodes in the Node-red platform.



Display link: [https://node-red-cgxsy-2022-10-06.eu-gb.mybluemix.net/ui/#!/0?socketid=RN5KWx\\_3DExG8KE1AAAN](https://node-red-cgxsy-2022-10-06.eu-gb.mybluemix.net/ui/#!/0?socketid=RN5KWx_3DExG8KE1AAAN)

## Industry Temperature and Humidity Monitoring

### Indusdtry Area

Temperature

17

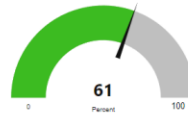
Temperature



Humidity

61

Humidity

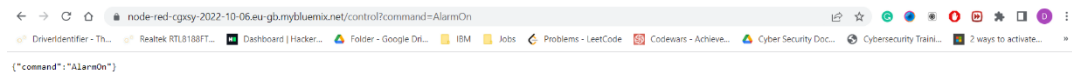


ALARMON

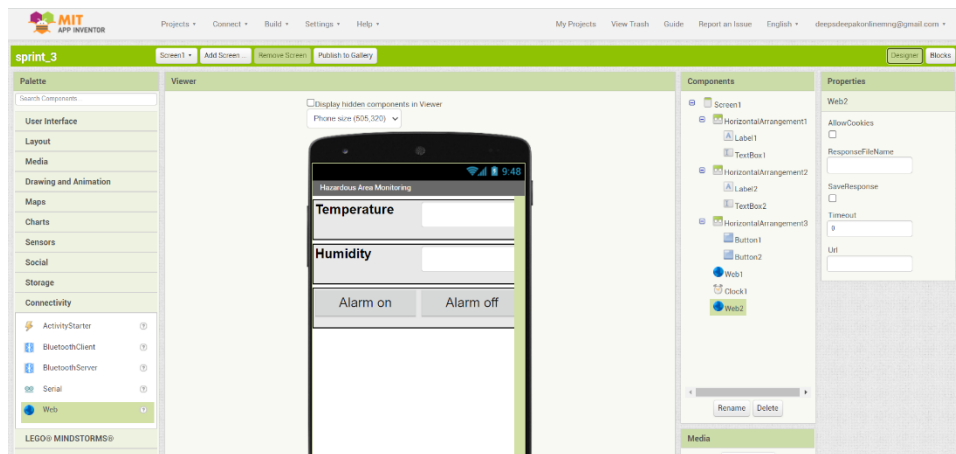
ALARM OFF

```
===== RESTART: C:\Users\deeps\Desktop\3\mobileappcode.py =====
2022-11-12 11:16:24,836 ibmiotf.device.Client INFO Connected successfully: d:iaggzu: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 = 9 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
Published Temperature = 26 C Humidity = 16 % to IBM Watson
```

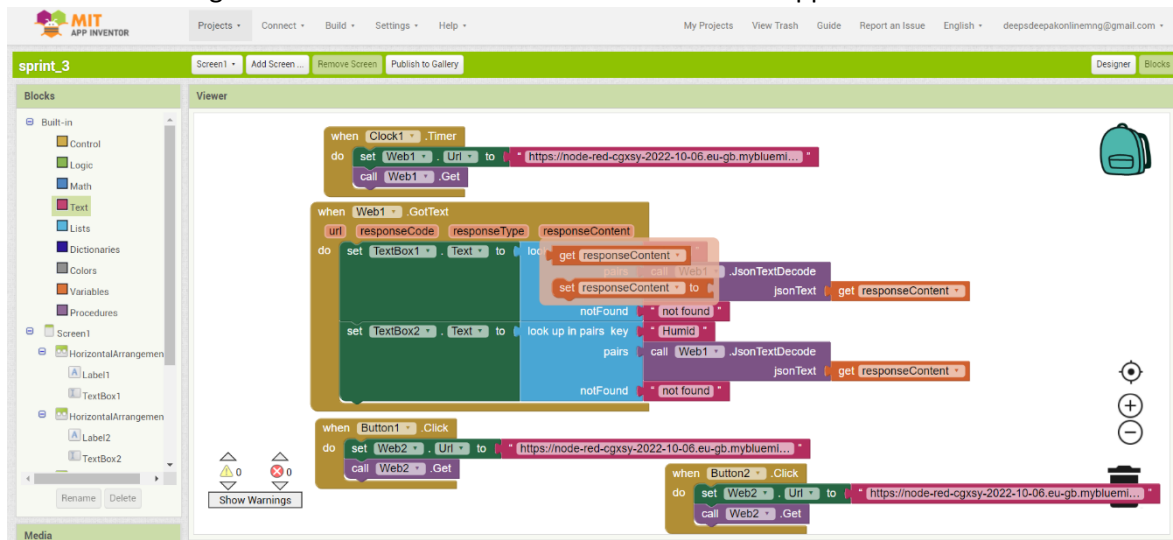
STEP 2: Displaying Alarm condition <https://node-red-cgxsy-2022-10-06.eu-gb.mybluemix.net/control?command=AlarmOn>



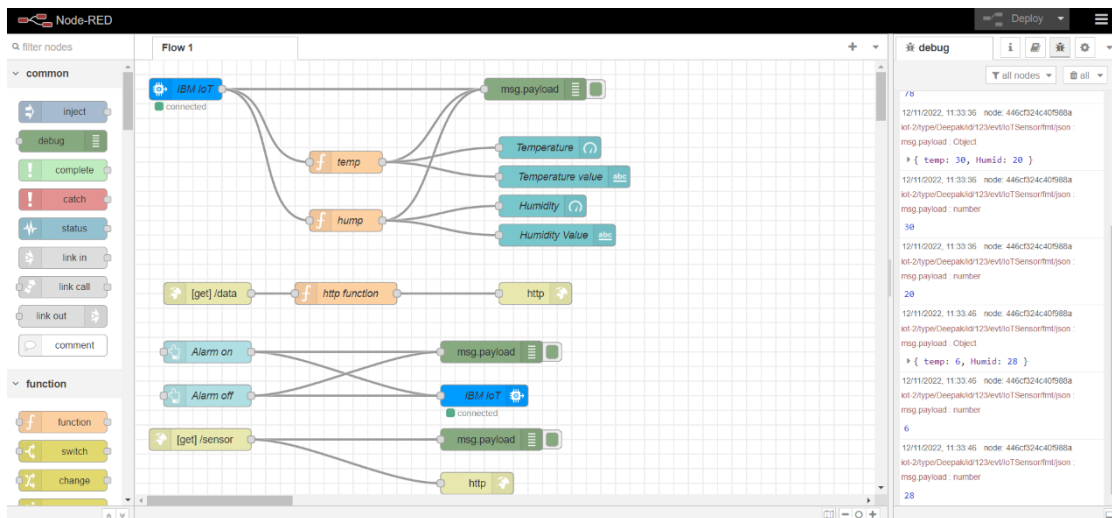
STEP 3: Connecting with the MIT Application Inventor to display temperature, humidity and alarm condition.



#### STEP-4: Attaching web link with the connected blocks in the MIT application inventor



#### STEP-5: Detecting high temperature and displaying “ALERT” message in the MIT application.



```
mobileappcode.py - C:\Users\deep\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 = "lagqzu"
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 = 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 = 62 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 = 57 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 = 20 % to IBM Watson
Published Temperature = 83 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

Ln: 6 Col: 0
Ln: 215 Col: 0
```

STEP 6: Downloading apk file and building mobile application using python script for sensing temperature for hazardous area monitoring conditions in industrial areas.

Hazardous Area Monitoring

**Temperature** 23

**Humidity** 44

Alarm on Alarm off