

SPRINT 3

Date	12 November 2022
Team ID	PNT2022TMID44065
Project Name	Project – Smart Farmer-IoT Enabled smart Farming Application

TEAM MEMBERS:-

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PYTHON SCRIPT :-

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

organization = "zxnybt"
deviceType = "dominators"
deviceId = "12345"
authMethod = "token"
authToken = "123456789"

def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data)
    for key in cmd.data.keys():
        if key == 'motor':
            if cmd.data['motor'] == 'ON':
                print("MOTOR is turned ON")

            elif cmd.data['motor'] == 'OFF':
                print("MOTOR is turned OFF")
    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()
```

```
deviceCli.connect()
```

```
while True:
```

```
    temp=random.randint(0,40)  
    Humid=random.randint(0,100)  
    moist=random.randint(0,40)  
    data = { 'temperature' : temp, 'humidity': Humid, 'soil_moisture':moist  
}
```

```
    def myOnPublishCallback():  
        print ("Published Temperature = %s C" % temp, "Humidity = %s  
%%" % Humid, "soil moisture =%s" % moist,"to IBM Watson")
```

```
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,  
on_publish=myOnPublishCallback)
```

```
    if not success:  
        print("Not connected to IoTf")  
        time.sleep(10)
```

```
    deviceCli.commandCallback = myCommandCallback
```

```
deviceCli.disconnect()
```

PYTHON SCRIPT CONFIGURED TO IBM WATSON IoT PLATFORM :-

IBM Watson IoT Platform

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sugendran1928@gmail.com

ID: zwnybt

Browse

Action

Device Types

Interfaces

Add Device

Browse Devices

All Devices

Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

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Search by Device ID

Device Simulator

	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
>	12345	Connected	dominators	Device	Nov 3, 2022 3:08 PM	

Items per page 50

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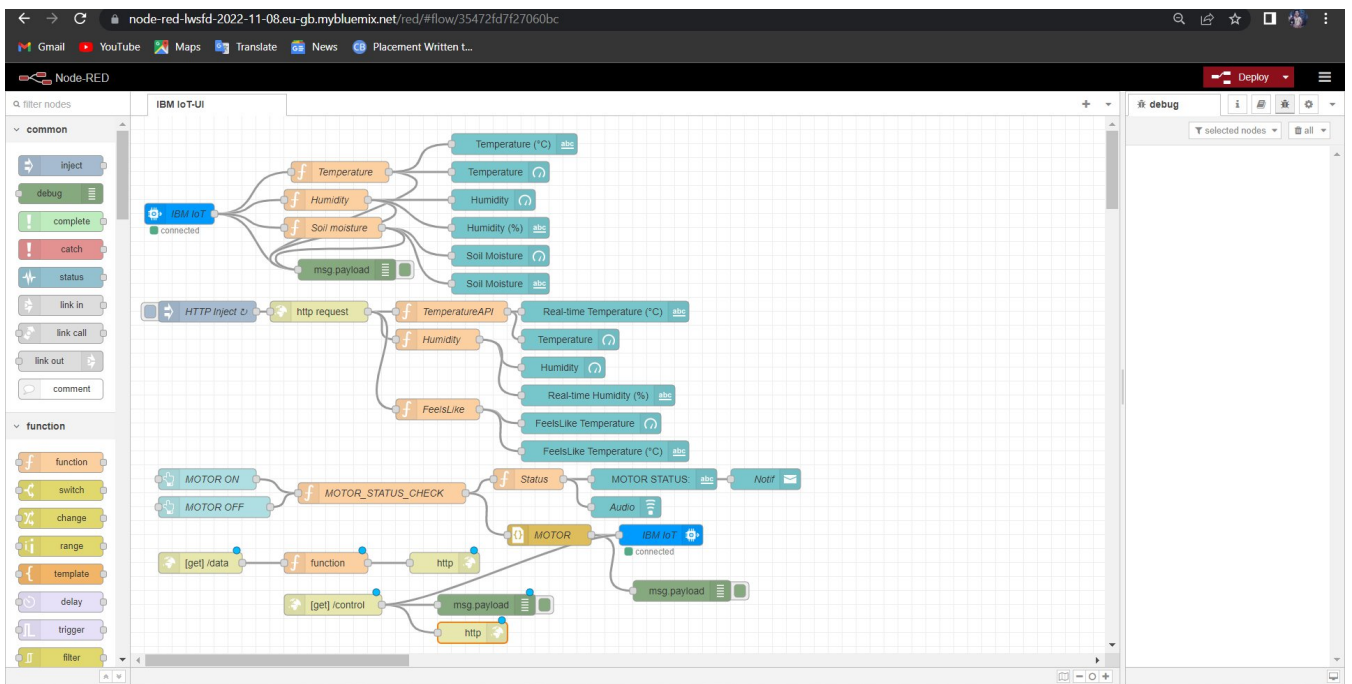
<

1

>

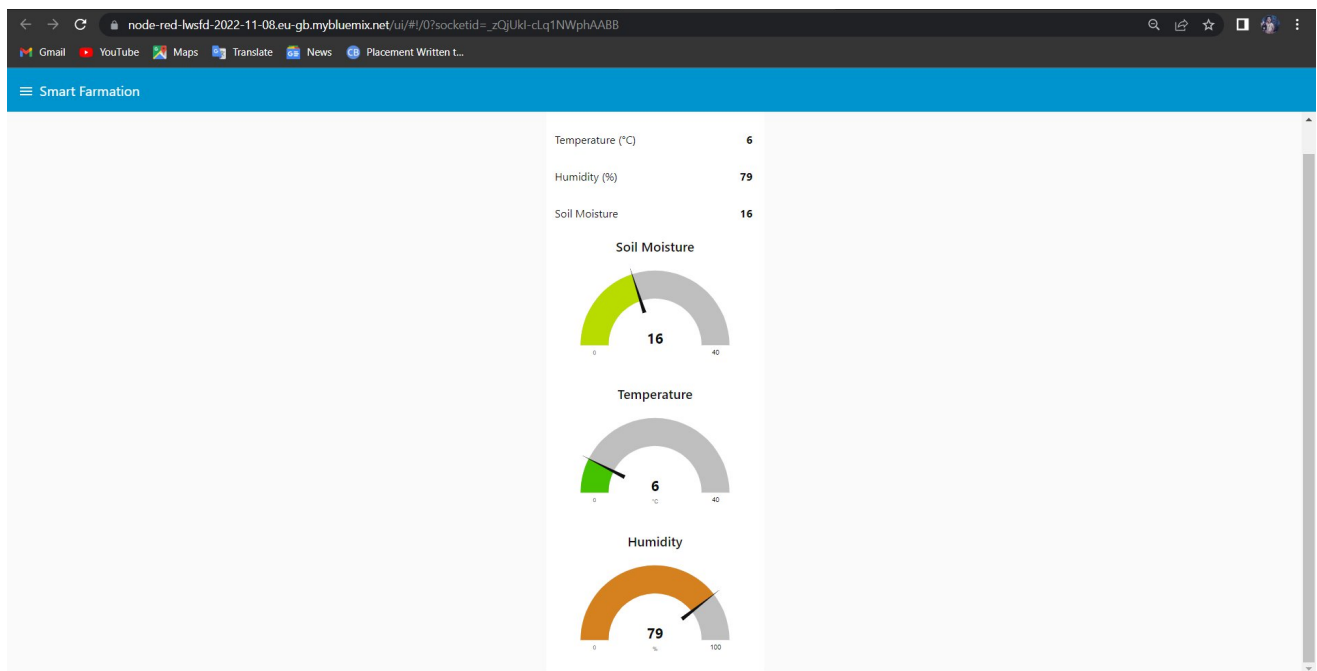
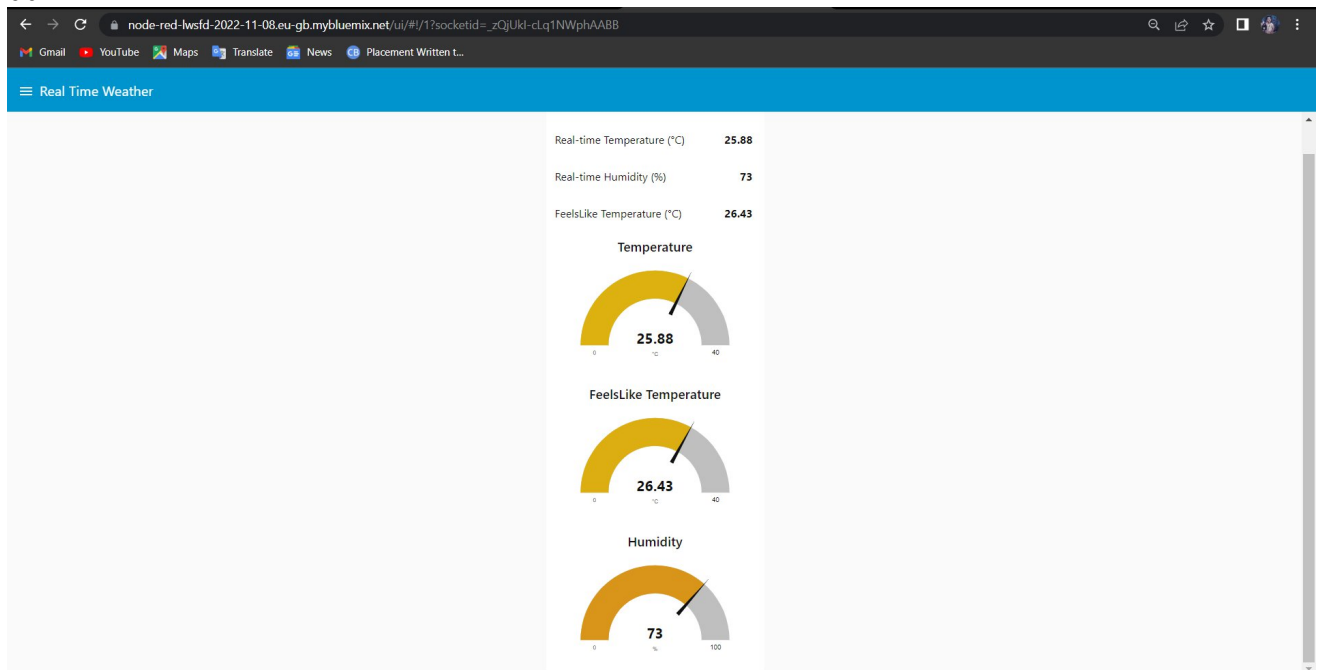
0 Simulations running

NODE-RED FLOW :-



NODE-RED DASHBOARD AND APPLICATION WEBSITE :-

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THE SENSOR DATAS IN THE PYTHON SCRIPT WILL BE RECEIVED BY IBM WATSON IOT PLATFORM:-

The image displays a Python script running in an IDLE Shell on the left and the IBM Watson IoT Platform dashboard on the right. The script sends sensor data (Temperature, Humidity, Soil Moisture) to the platform. The dashboard shows the device '12345' is connected and displays recent events in a table.

Python Script Output (IDLE Shell):

```
Python 3.9.8 (tags/v3.9.8:bb3fdef, Nov 5 2021, 20:48:33) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more in
>>>
===== RESTART: C:\Users\sugen\OneDrive\Desktop\try1.py
2022-11-17 19:33:43.811 ibmiotf.device.Client INFO
connected successfully: d:zxmybt:dominators:12345
Published Temperature = 22 C Humidity = 0 % to IBM Watson
Published Temperature = 25 C Humidity = 77 % to IBM Watson
Published Temperature = 13 C Humidity = 10 % to IBM Watson
Published Temperature = 39 C Humidity = 34 % to IBM Watson
Published Temperature = 22 C Humidity = 43 % to IBM Watson
Published Temperature = 1 C Humidity = 63 % to IBM Watson
```

IBM Watson IoT Platform Dashboard:

Device: 12345, Status: Connected, Last Seen: Nov 3, 2022 3:08 PM

Event	Value	Format	Last Received
IoTSensor	{"temperature":1,"humidity":63,"soil_moisture":...	json	a few seconds ago
IoTSensor	{"temperature":22,"humidity":43,"soil_moisture":...	json	a few seconds ago
IoTSensor	{"temperature":39,"humidity":34,"soil_moisture":...	json	a few seconds ago

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