

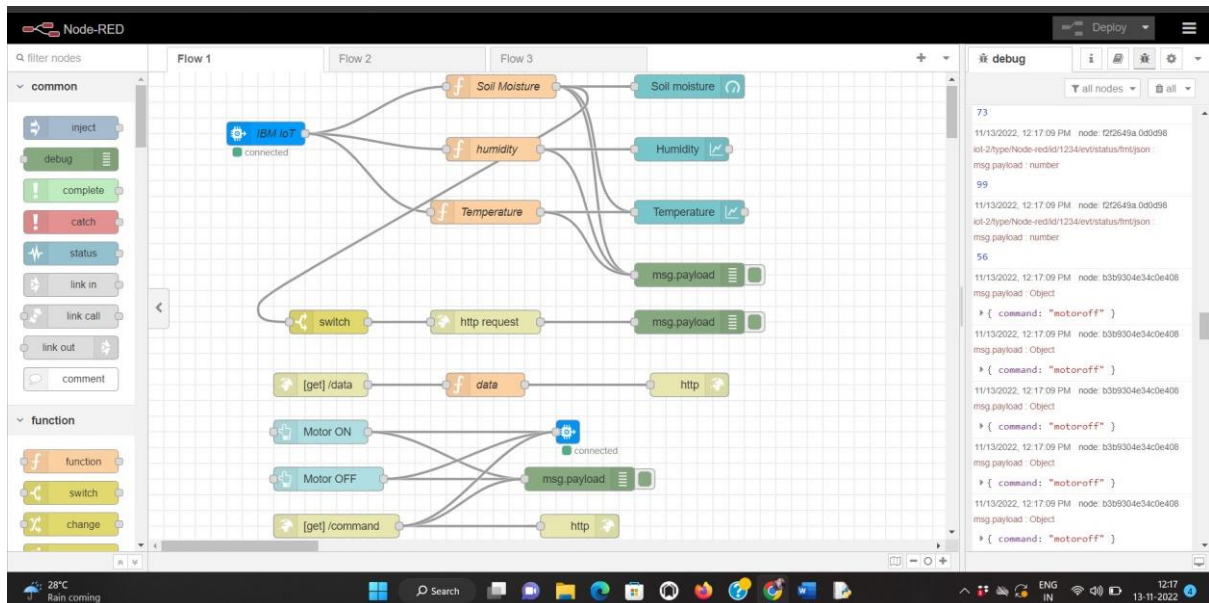
SPRINT 4

TEAM ID	PNT2022TMID13469
PROJECT NAME	Smartfarmer - IOT enabled smart Farming Application

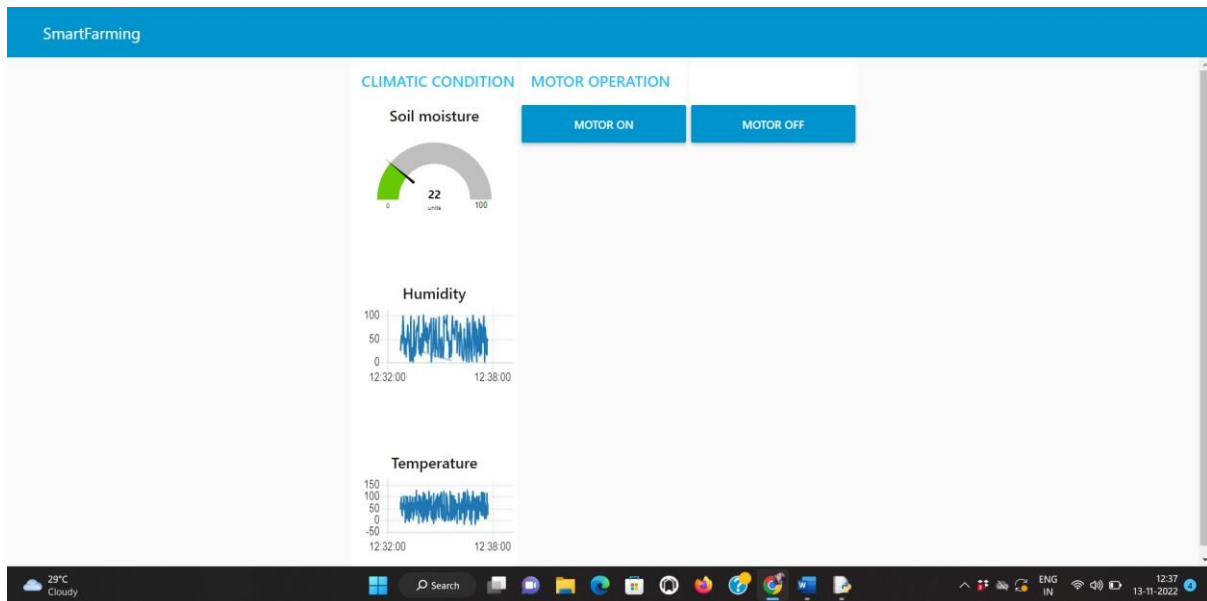
BUILD A WEB APPLICATION USING NODE-RED SERVICES:

STEP 1:

NODE-RED CONNECTION

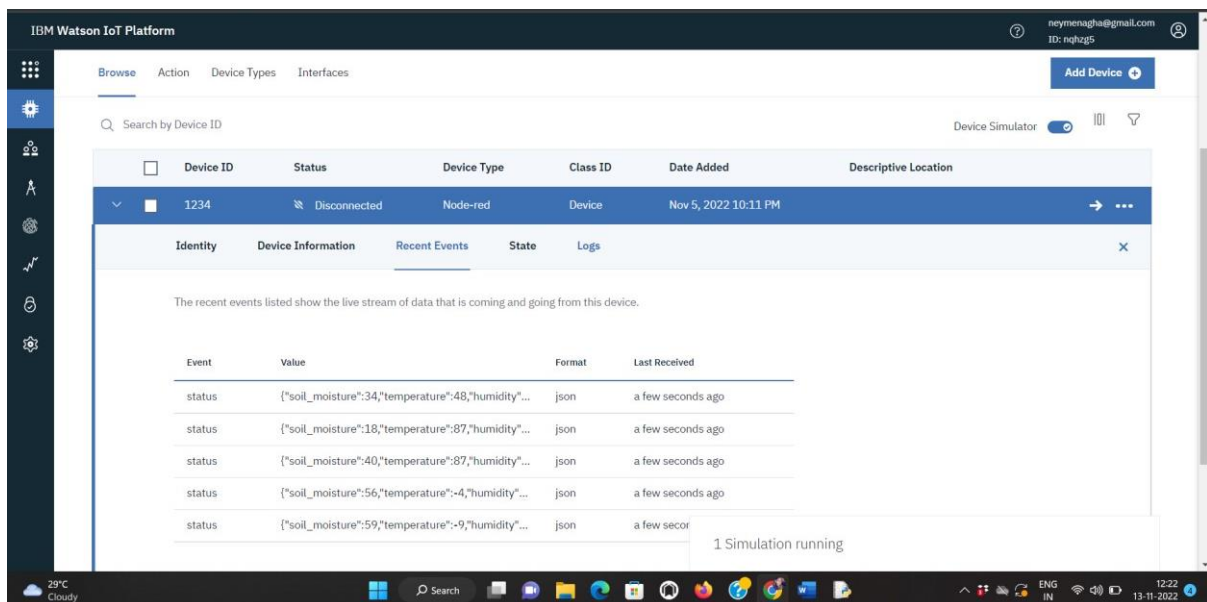


OUTPUT SCREENSHOT:



STEP 2:

IBM WATSON DEVICE PLATFORM



OUTPUT SCREENSHOT:



STEP 3:

PYTHON SCRIPT

```
Smartfarmer.py - C:\python\Python37\Smartfarmer.py (3.7.4)
File Edit Format Run Options Window Help

import wiotsdk.device
import time
import os
import datetime
import random

myConfig = {
    "identity": {
        "orgId": "sqh2g5",
        "typeId": "Node-red",
        "deviceId": "1234"
    },
    "auth": {
        "token": "12345678"
    }
}

client = wiotsdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

def myCommandCallback(cmd):
    print("Message received from IBM IoT platform: %s" % cmd.data['command'])
    m=cmd.data['command']
    if(m=="motoron"):
        print("Motor is Switched on")
    elif(m=="motorooff"):
        print("Motor is Switched off")
    print(" ")
    while True:
        soil=random.randint(0,100)
        temp=random.randint(-20,125)
        hum=random.randint(0,100)
        myData={"soil_moisture":soil,'temperature':temp,'humidity':hum}
        client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
        print("Published data successfully: %s" % myData)
        time.sleep(2)
        client.commandCallback = myCommandCallback
    client.disconnect()

Python 3.7.4 Shell
File Edit Shell Debug Options Window Help

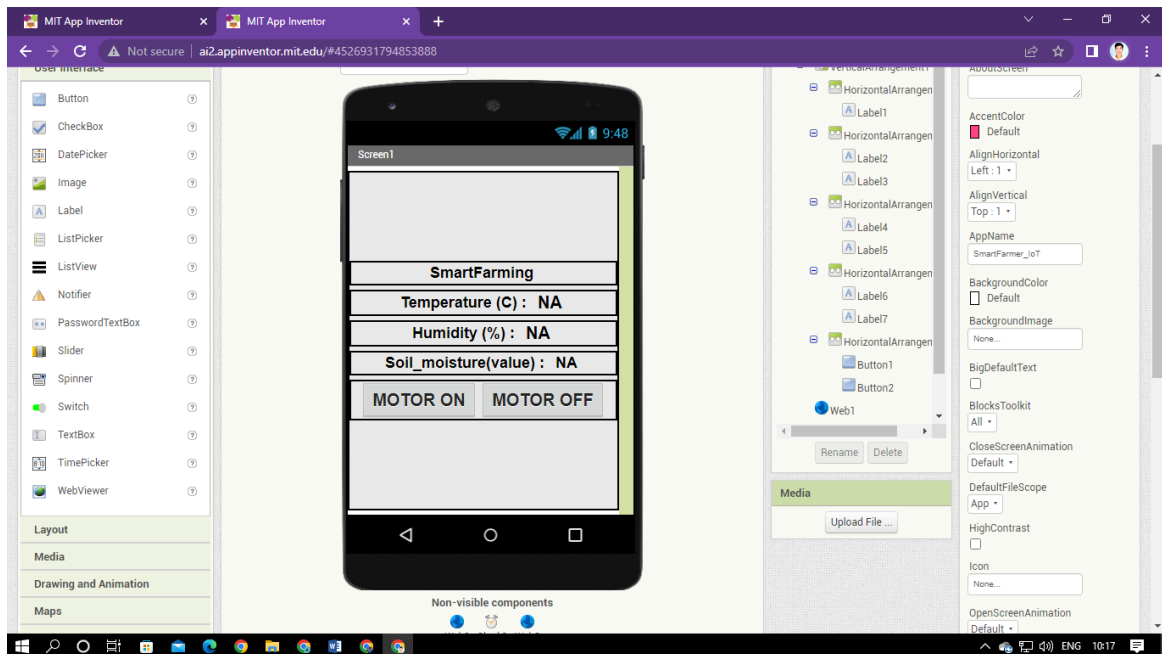
Published data successfully: %s ('soil_moisture': 51, 'temperature': 72, 'humidity': 1
2)
Published data successfully: %s ('soil_moisture': 87, 'temperature': 46, 'humidity': 9
2)
Published data successfully: %s ('soil_moisture': 4, 'temperature': 36, 'humidity': 73
)
Published data successfully: %s ('soil_moisture': 100, 'temperature': 48, 'humidity': 28
)
Published data successfully: %s ('soil_moisture': 17, 'temperature': 65, 'humidity': 1
3)
Published data successfully: %s ('soil_moisture': 41, 'temperature': 96, 'humidity': 9
5)
Published data successfully: %s ('soil_moisture': 13, 'temperature': 85, 'humidity': 5
0)
Published data successfully: %s ('soil_moisture': 94, 'temperature': 103, 'humidity': 48
)
Published data successfully: %s ('soil_moisture': 55, 'temperature': 115, 'humidity': 11
)
Published data successfully: %s ('soil_moisture': 33, 'temperature': 15, 'humidity': 1
5)
Published data successfully: %s ('soil_moisture': 32, 'temperature': 118, 'humidity': 54
)
Published data successfully: %s ('soil_moisture': 2, 'temperature': 14, 'humidity': 28
)
Published data successfully: %s ('soil_moisture': 63, 'temperature': 9, 'humidity': 11
)
Published data successfully: %s ('soil_moisture': 37, 'temperature': 46, 'humidity': 3
6)
Published data successfully: %s ('soil_moisture': 32, 'temperature': 122, 'humidity': 97
)
Published data successfully: %s ('soil_moisture': 13, 'temperature': -7, 'humidity': 8
5)
Published data successfully: %s ('soil_moisture': 2, 'temperature': 0, 'humidity': 87)
Published data successfully: %s ('soil_moisture': 4, 'temperature': 114, 'humidity': 8
1)
Published data successfully: %s ('soil_moisture': 22, 'temperature': 26, 'humidity': 9
9)
Published data successfully: %s ('soil_moisture': 76, 'temperature': 99, 'humidity': 4
7)
Published data successfully: %s ('soil_moisture': 56, 'temperature': 50, 'humidity': 6
6)
Published data successfully: %s ('soil_moisture': 17, 'temperature': -1, 'humidity': 4
9)

Ln 5 Col 0
```

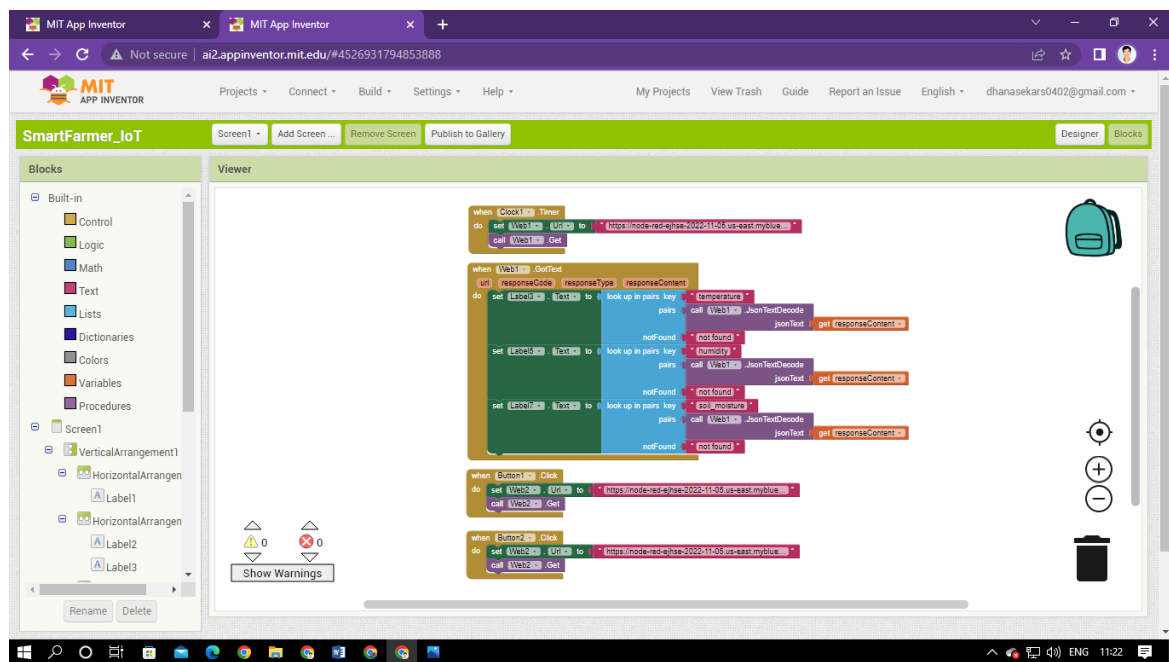
DEVELOP A MOBILE APPLICATION:

STEP 1:

MIT APP INVENTOR



BLOCKS:



MOBILE SCREEN:

Screen1

SmartFarming

Temperature (C) : 100

Humidity (%) : 7

Soil_moisture(value) : 57

MOTOR ON

MOTOR OFF

