

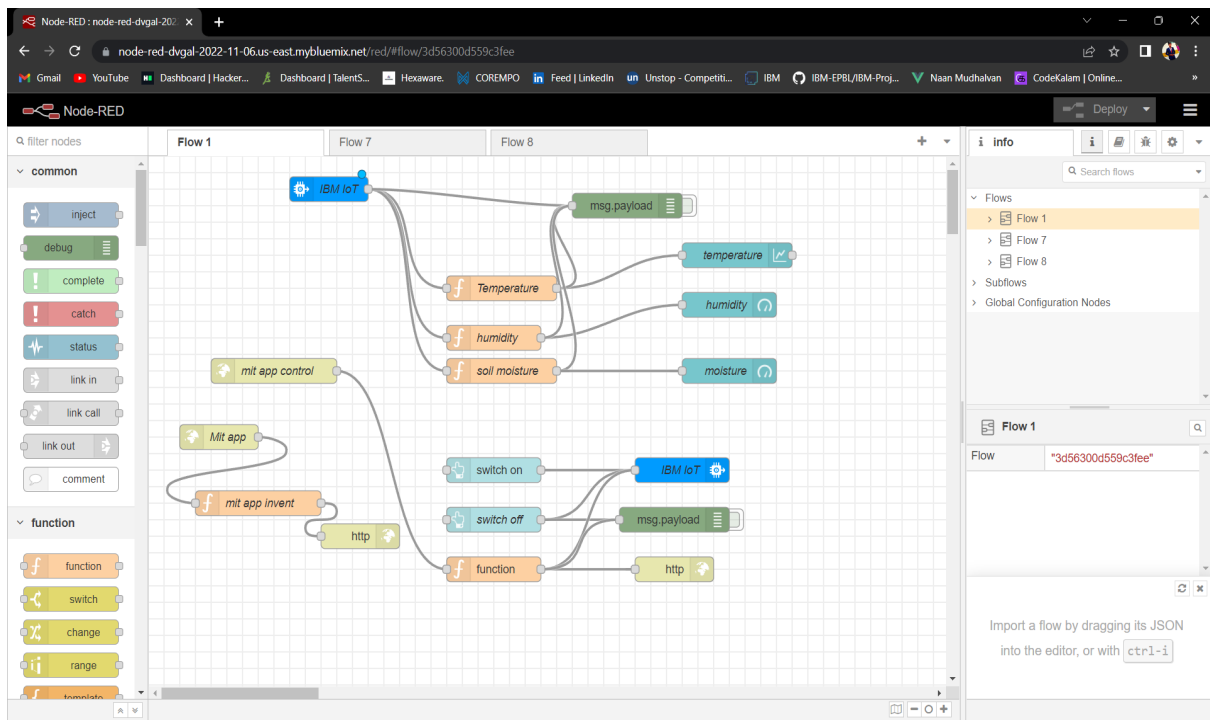
SPRINT 1

TEAM ID	PNT2022TMID33751
PROJECT NAME	IoT Based Smart Crop Protection System for Agriculture

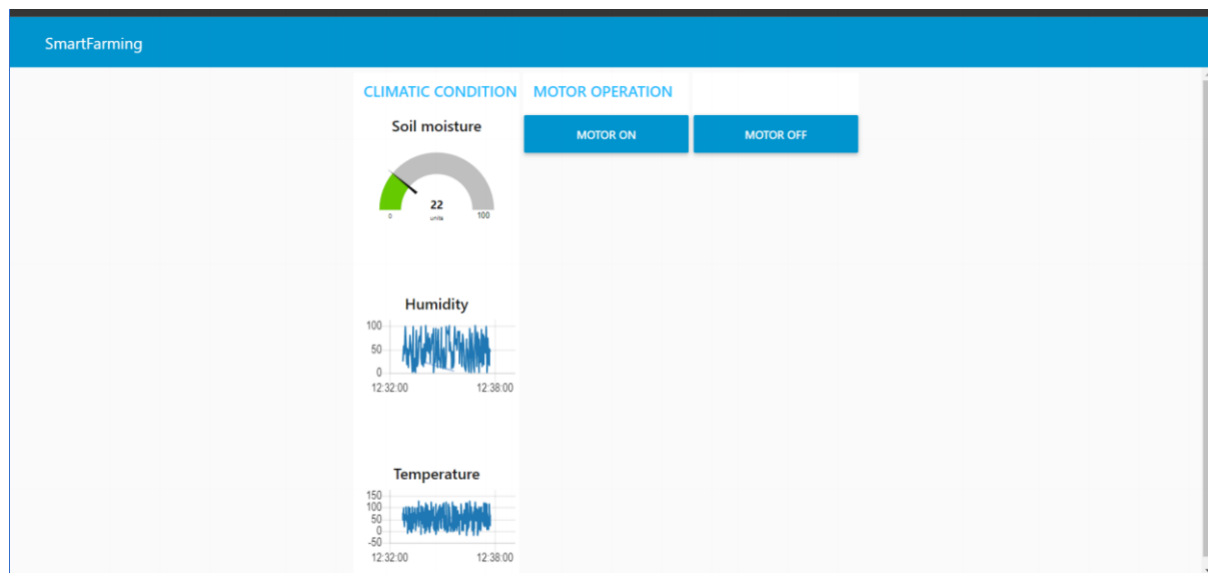
BUILD A WEB APPLICATION USIND NODE-RED SERVICES:

STEP 1:

NODE-RED



OUTPUT SCREENSHOT:



STEP 2:

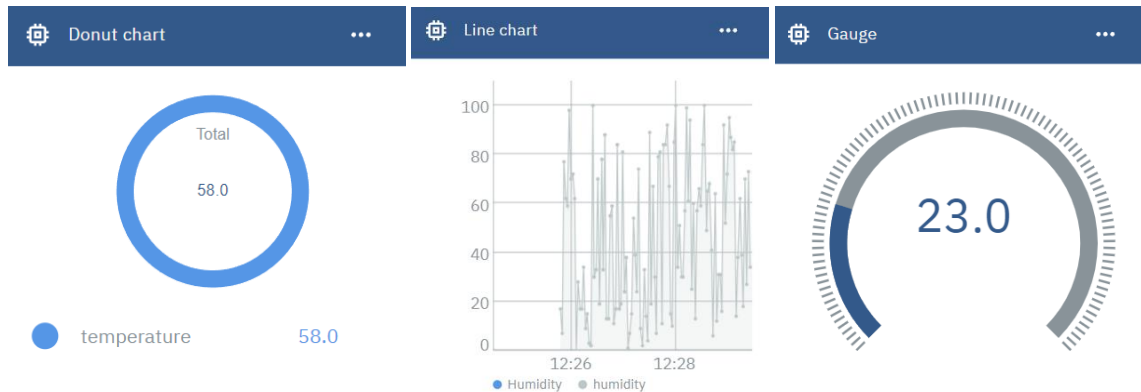
IBM WATSON DEVICE PLATFORM

The screenshot shows the IBM Watson IoT Platform interface in a web browser. The browser tabs include "Service Details - IBM Cloud" and "IBM Watson IoT Platform". The address bar shows "internetofthings.ibmcloud.com". The page header includes the IBM Watson IoT Platform logo and a user profile for "devdrams019@gmail.com". The main content area has a sidebar with navigation icons and a top bar with tabs for "Browse", "Action", "Device Types", and "Interfaces". Below the top bar, there is a search bar labeled "Search by Device ID" and a "Device Simulator" toggle. The main content area displays a table of devices with columns: Device ID, Status, Device Type, Class ID, Date Added, and Descriptive Location. A device with ID "1234" is selected, showing a status of "Disconnected" and a device type of "Node-red". Below the table, there are tabs for "Identity", "Device Information", "Recent Events", "State", and "Logs". The "Recent Events" tab is active, showing a list of events with columns: Event, Value, Format, and Last Received. The events are status updates for soil moisture, temperature, and humidity. A message at the bottom right indicates "1 Simulation running".

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
1234	Disconnected	Node-red	Device	Nov 5, 2022 10:11 PM	

Event	Value	Format	Last Received
status	{"soil_moisture":34,"temperature":48,"humidity":...	json	a few seconds ago
status	{"soil_moisture":18,"temperature":87,"humidity":...	json	a few seconds ago
status	{"soil_moisture":40,"temperature":87,"humidity":...	json	a few seconds ago
status	{"soil_moisture":56,"temperature":-4,"humidity":...	json	a few seconds ago
status	{"soil_moisture":59,"temperature":-9,"humidity":...	json	a few seconds ago

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": "nqhzg5",
        "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=="motroff"):
        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

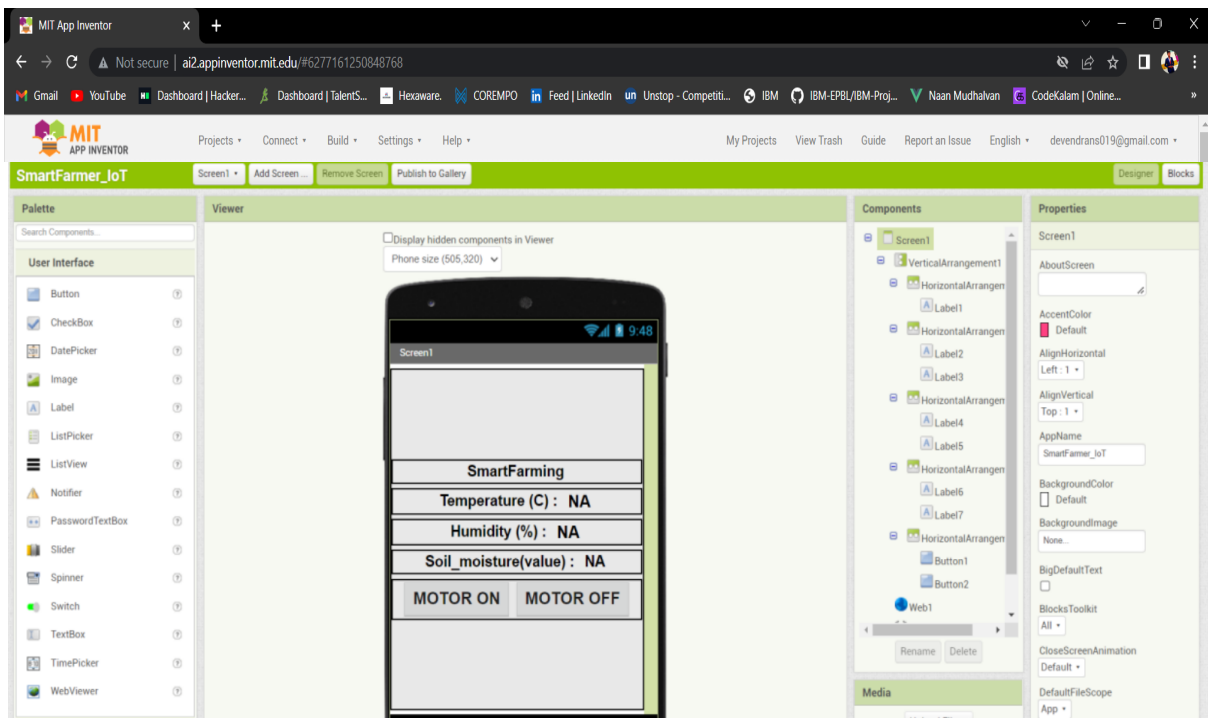
Published data successfully: %s ('soil_moisture': 51, 'temperature': 72, 'humidity': 1
2)
Published data successfully: %s ('soil_moisture': 87, 'temperature': 46, 'humidity': 9
2)
Published data successfully: %s ('soil_moisture': 4, 'temperature': 36, 'humidity': 73
28)
Published data successfully: %s ('soil_moisture': 100, 'temperature': 48, 'humidity':
28)
Published data successfully: %s ('soil_moisture': 59, 'temperature': 110, 'humidity':
31)
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
```

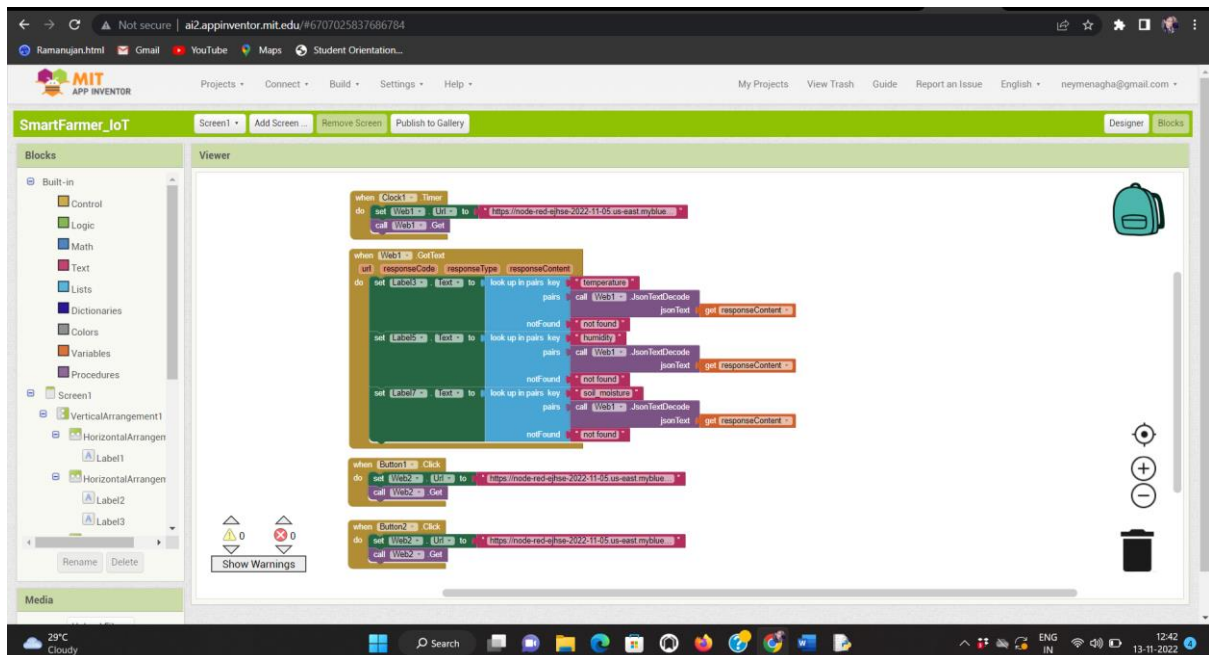
DEVELOP A MOBILE APPLICATION:

STEP 1:

MIT APP INVENTOR



BLOCKS:



MOBILE SCREEN:

