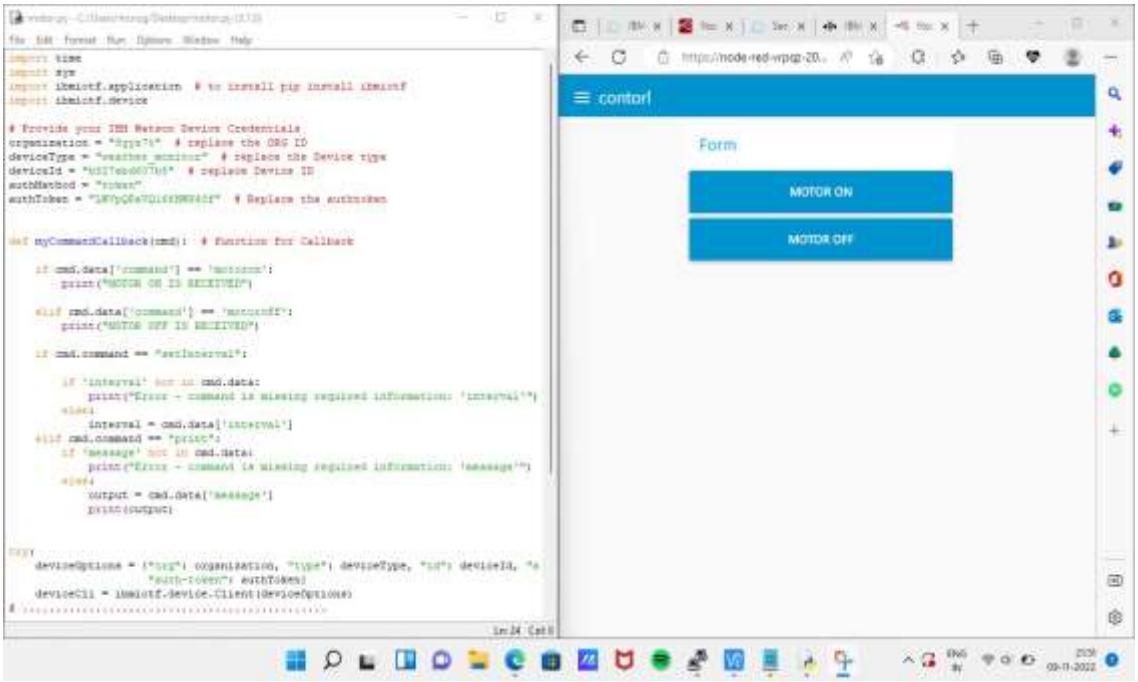
PROJECT DEVELOPMENT PHASE

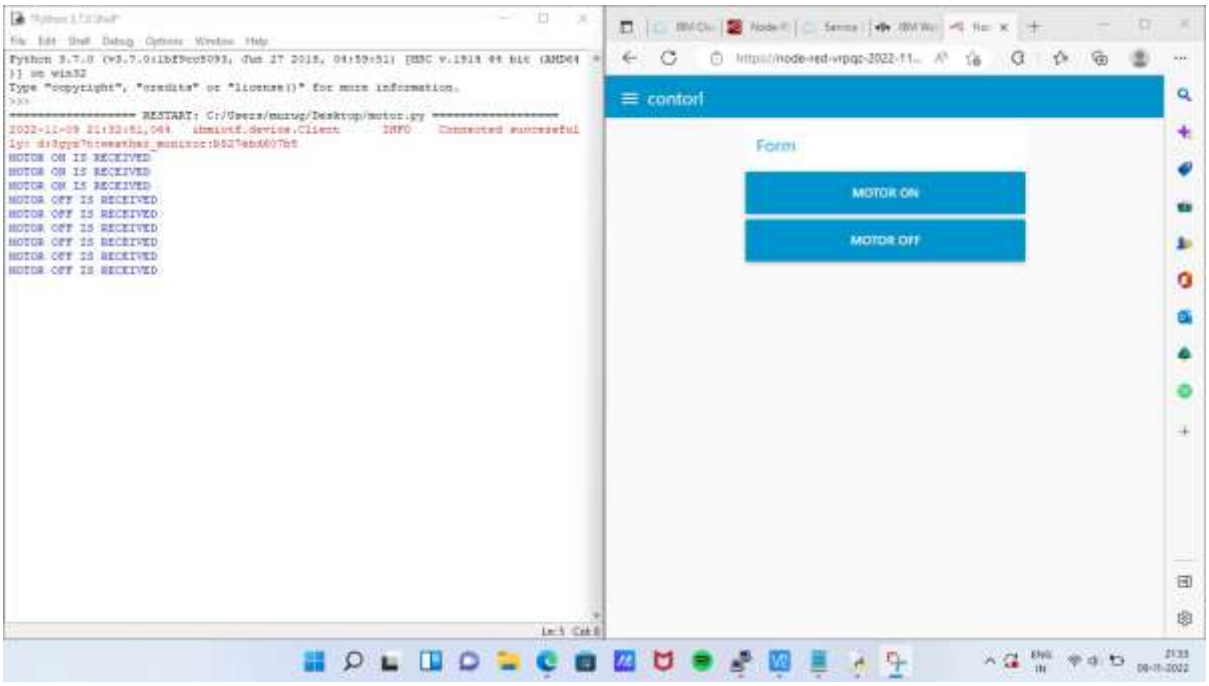
SPRINT 1

TEAM ID	PNT2022TMID18919
PROJECT NAME	IOT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE

STEP 1: First open python IDLE .Then create a new file called motor.py and write a python code. Then open Node-RED flow for motor status. And open motor user interface.



STEP 2: Then run the python code then press motor on or motor off using Node-RED user interface. This shows the result in python output window.



PYTHON CODE:

```
import time
import sys
import ibmiotf.application # to install pip install ibmiotf
import ibmiotf.device

# Provide your IBM Watson Device Credentials
organization = "8gyz7t" # replace the ORG ID
deviceType = "weather_monitor" # replace the Device type
deviceId = "b827ebd607b5" # replace Device ID
```

```
authMethod = "token"
authToken = "LWVpQPaVQ166HWN48f" # Replace the authtoken


def myCommandCallback(cmd): # function for Callback

    if cmd.data['command'] == 'motoron':
        print("MOTOR ON IS RECEIVED")

    elif cmd.data['command'] == 'motoroff':
        print("MOTOR OFF IS RECEIVED")

    if cmd.command == "setInterval":

        if 'interval' not in cmd.data:
            print("Error - command is missing required information: 'interval'")
        else:
            interval = cmd.data['interval']
    elif cmd.command == "print":
        if 'message' not in cmd.data:
            print("Error - command is missing required information: 'message'")
        else:
            output = cmd.data['message']
            print(output)


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:
    deviceCli.commandCallback = myCommandCallback


# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

Node-RED:

[{"id":"625574ead9839b34","type":"ibmiot out","z":"630c8601c5ac3295","authentication":"apiKey","apiKey":"ef745d48e395ccc0","outputType":"cmd","deviceId":"b827ebd607b5","deviceType":"weather_monitor","eventCommandType":"data","format":"json","data":"data","qos":0,"name":"IBM IoT","service":"registered","x":680,"y":220,"wires":[]},{"id":"4cff18c3274cccc4","type":"ui_button","z":"630c8601c5ac3295","name":"","group":"716e956.00eed6c","order":2,"width":"0","height":"0","passthru":false,"label":"Motor ON","tooltip":"","color":"","bgcolor":"","className":"","icon":"","payload":"{\"command\":\"motoron\"}","payloadType":"str","topic":"motoron","topicType":"str","x":360,"y":160,"wires":[["625574ead9839b34"]]},{"id":"659589baceb4e0b0","type":"ui_button","z":"630c8601c5ac3295","name":"","group":"716e956.00eed6c","order":3,"width":"0","height":"0","passthru":true,"label":"Motor OFF","tooltip":"","color":"","bgcolor":"","className":"","icon":"","payload":"{\"command\":\"motoroff\"}","payloadType":"str","topic":"motoroff","topicType":"str","x":350,"y":220,"wires":[["625574ead9839b34"]]},{"id":"ef745d48e395ccc0","type":"ibmiot","name":"weather_monitor","keepalive":"60","serverName":"","cleansession":true,"appId":"","shared":false},{"id":"716e956.00eed6c","type":"ui_group","name":"Form","tab":"7e62365e.b7e6b8","order":1,"disp":true,"width":"6","collapse":false},{"id":"7e62365e.b7e6b8","type":"ui_tab","name":"contorl","icon":"dashboard","order":1,"disabled":false,"hidden":false}]