SPRINT-1

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| **TEAM ID** | **PNT2022TMID42671** |
| **Project Name** | **IoT Based smart crop Protection system for agriculture** |
| **Maximum mark** | **20 marks** |

**PYTHON CODE**

import time

import sys

import ibmiotf.application

import ibmiotf.device

import random

# Provide your IBM Watson Device Credentials

organization = "dswbln"

deviceType = "Crop\_protector"

deviceId = "123456"

authMethod = "token"

authToken = "1234567890"

# Initialize GPIO

def myCommandCallback(cmd):

print("Command received: %s" % cmd.data['command'])

status = cmd.data['command']

if status == "motoron":

print("motor is on")

elif status == "motoroff":

print("motor is off")

else:

print("please send proper command")

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:

# Get Sensor Data from DHT11

temperature = random.randint(70, 80)

humidity = random.randint(50, 60)

soil\_moisture = random.randint(21, 40)

data = {'temperature': temperature, 'humidity': humidity, 'soil\_moisture': soil\_moisture}

# print data

def myOnPublishCallback():

print("Published Temperature = %s C" % temperature, "Humidity = %s %%" % humidity, "Soil\_moisture = %s %%" % soil\_moisture,"to IBM Watson")

success = deviceCli.publishEvent("venkatesh\_smartfarmer", "json", data, qos=0, on\_publish=myOnPublishCallback)

if not success:

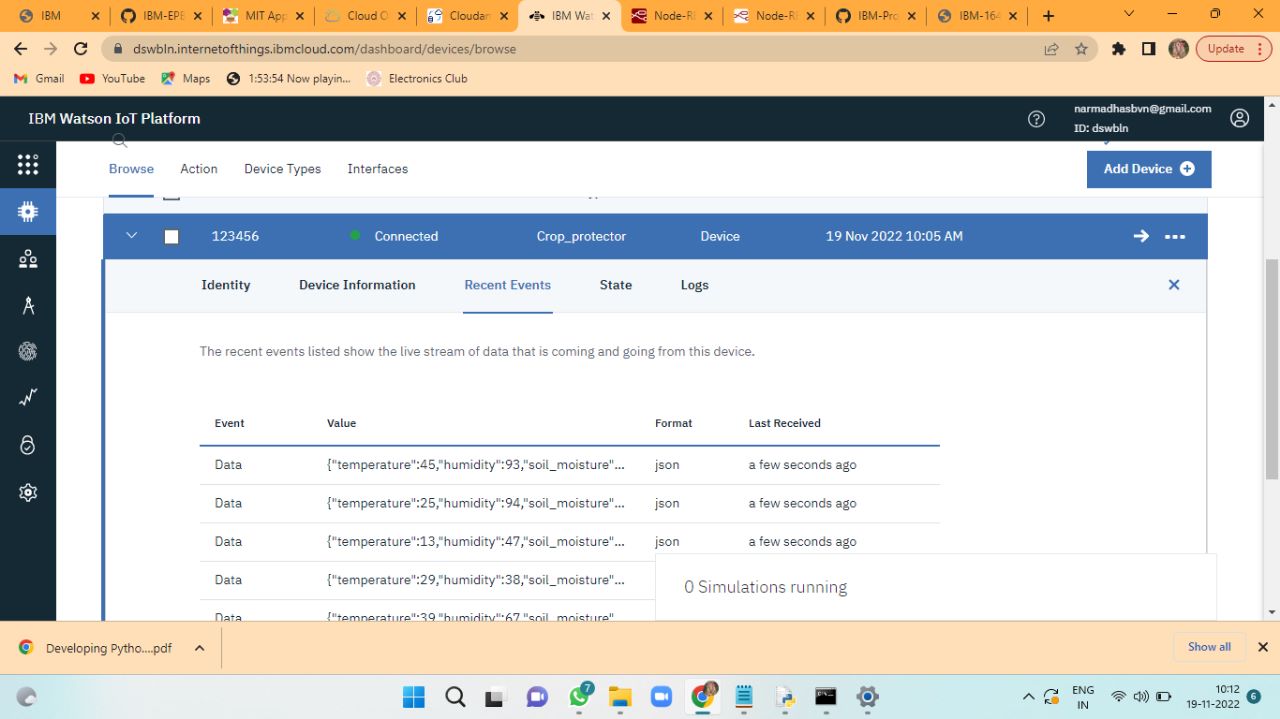
print("Not connected to IoTF")

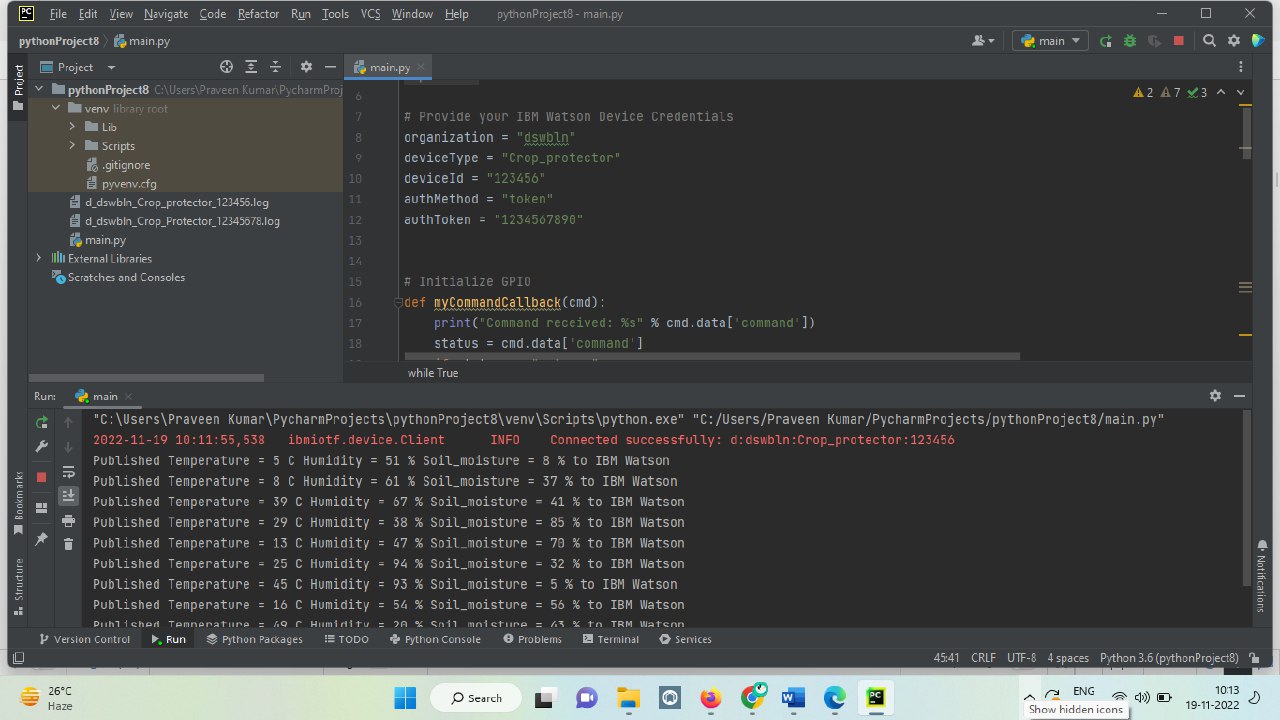
time.sleep(10)

deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud

deviceCli.disconnect()

**IBM WASTON DEVICE CONNECTED STATUS:**

**PYTHON CODE AND OUTPUT:**

**SIMULATION OF DTH22 SENSOR WITH ESP32 & C CODE:**

