Project Development Phase
Project Development Template (Sprint-3)

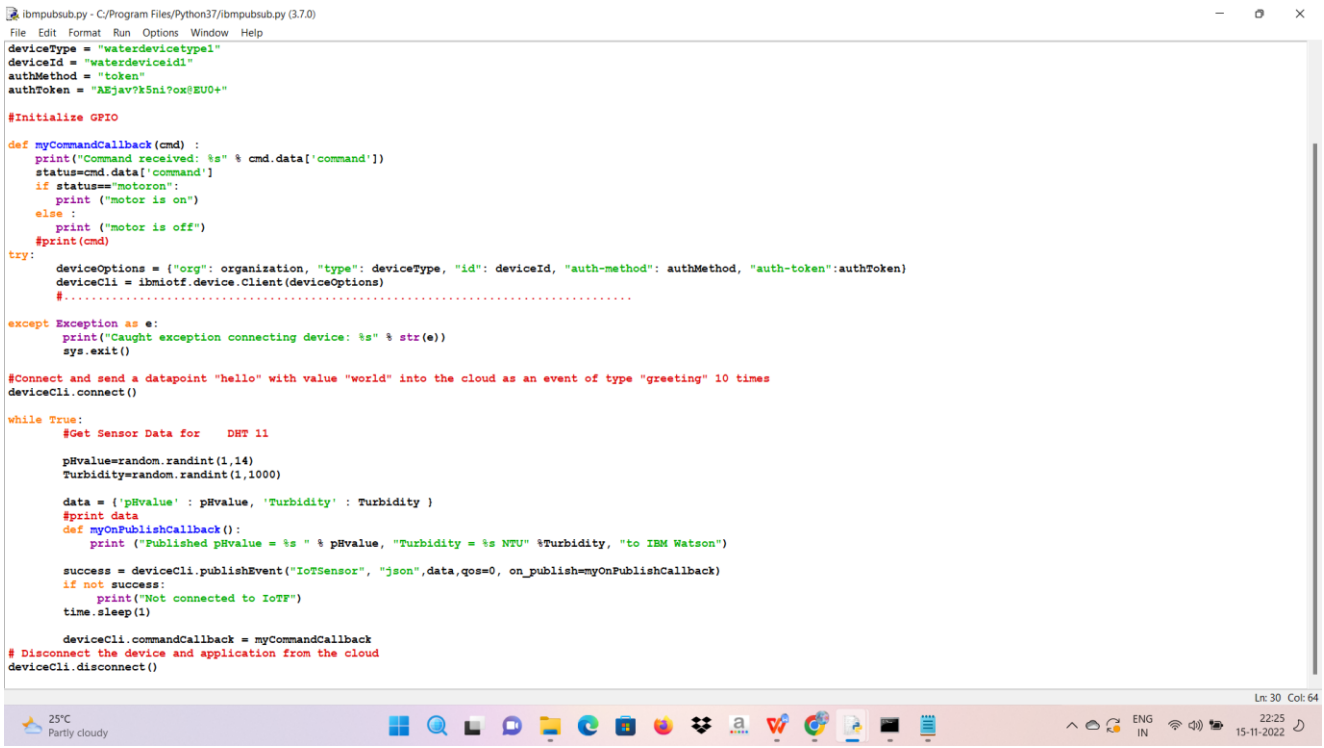
Date	15 November 2022
Team ID	PNT2022TMID29879
Project Name	Project-Real-Time River Water Monitoring And Control Systems

Python code for water monitoring and control:

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

#Provide your IBM Watson Device Credentials
organization = "jna6wp"
deviceType = "waterdevicetype1"
deviceId = "waterdeviceid1"
authMethod = "token"
authToken = "AEjav?k5ni?ox@EU0+"

#Initialize GPIO

def myCommandCallback(cmd) :
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="motoron":
      print ("motor is on")
    else :
      print ("motor is off")
    #print(cmd)
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 for          DHT 11

       pHvalue=random.randint(1,14)
       Turbidity=random.randint(1,1000)
```

```
        data = {'pHvalue' : pHvalue, 'Turbidity' : Turbidity }
        #print data
        def myOnPublishCallback():
            print ("Published pHvalue = %s " % pHvalue, "Turbidity = %s NTU" %Turbidity, "to IBM Watson")

        success = deviceCli.publishEvent("IoTSensor", "json",data,qos=0, on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(1)

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

PYTHON IDE DISPLAY:



Python output: