TEAM ID: PNT2022TMID42599
PROJECT: Real time water quality monitoring and control system

SPRINT 3

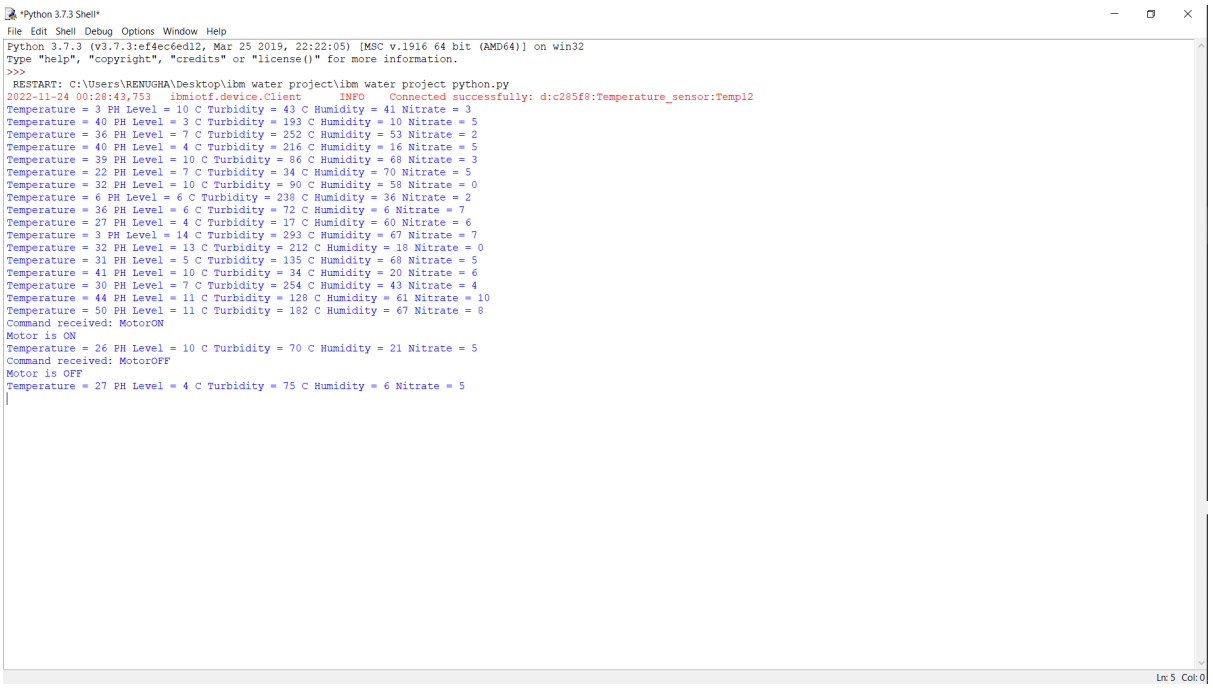
Publish Data to cloud and integrate it to the web and app

Python code:

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



#Provide your IBM Watson Device Credentials
organization = "c285f8"
deviceType = "Temperature_sensor"
deviceId = "Temp12"
authMethod = "token"
authToken = "Temp0123"



# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    control=cmd.data['command']
    if control=="MotorON":
        print("Motor is ON")
    if control=="MotorOFF":
        print("Motor is OFF")
```

```
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
deviceCli.connect()
while True:
 #Get Sensor Data from DHT11
   temp=random.randint(0,50)
   ph=random.randint(0,14)
   turb=random.randint(0,300)
   humid=random.randint(0,70)
   nitro=random.randint(0,10)
   data = {'temp': temp, 'ph' : ph, 'turb': turb, 'humid': humid, 'nitro': nitro }
 #print data

   def myOnPublishCallback():
      print ("Temperature = %s" % temp, "PH Level = %s C" % ph, "Turbidity = %s
C" % turb,"Humidity = %s" % humid,"Nitrate = %s" % nitro )

   success=deviceCli.publishEvent("IoTSensor", "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()
```



Cloudant DB for saving the data form the sensors