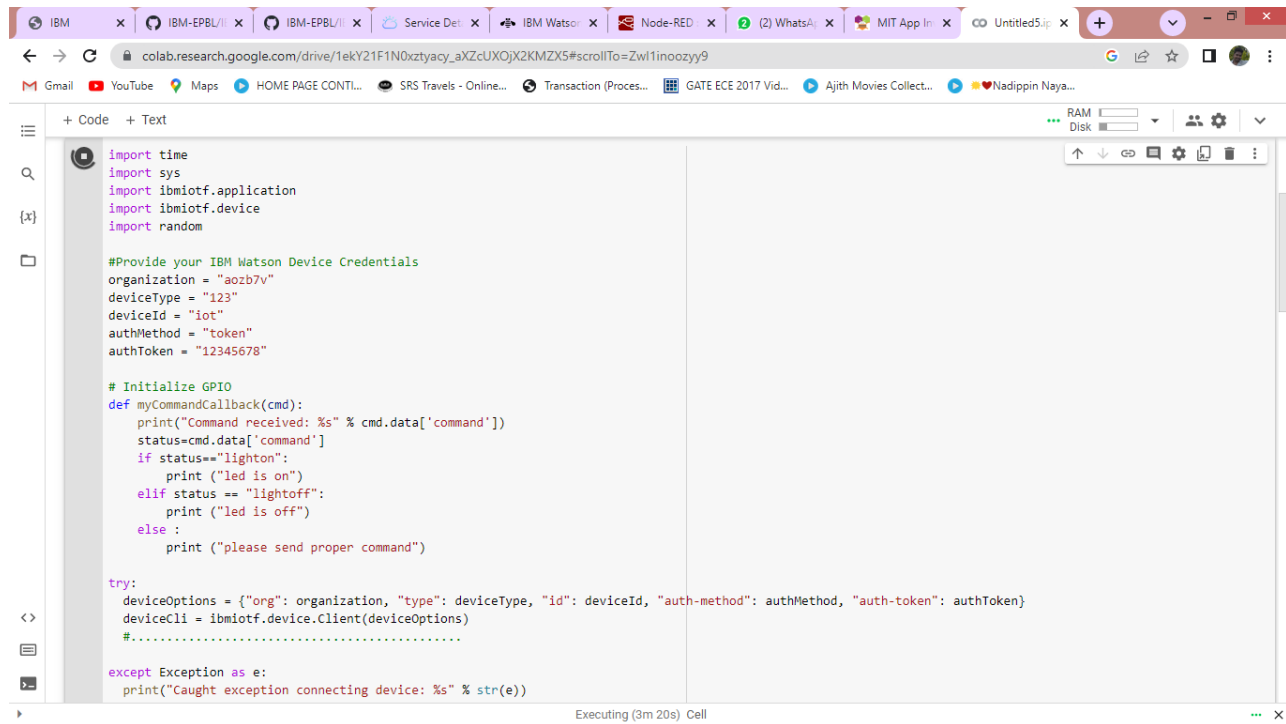


# PYTHON CODE :



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

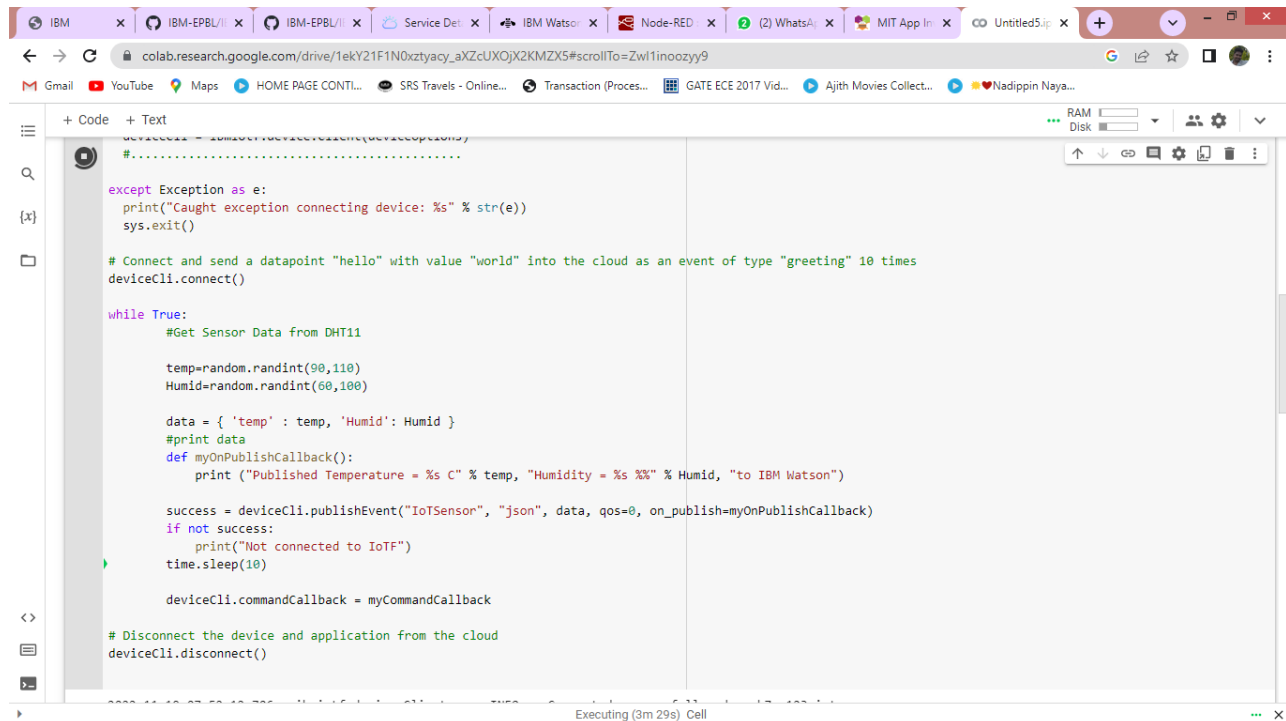
#Provide your IBM Watson Device Credentials
organization = "aozb7v"
deviceType = "123"
deviceId = "iot"
authMethod = "token"
authToken = "12345678"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    elif status == "lightoff":
        print ("led 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))
```

Executing (3m 20s) Cell



```
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

    temp=random.randint(90,110)
    Humid=random.randint(60,100)

    data = { 'temp' : temp, 'Humid': Humid }
    #print data
    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %" % Humid, "to IBM Watson")

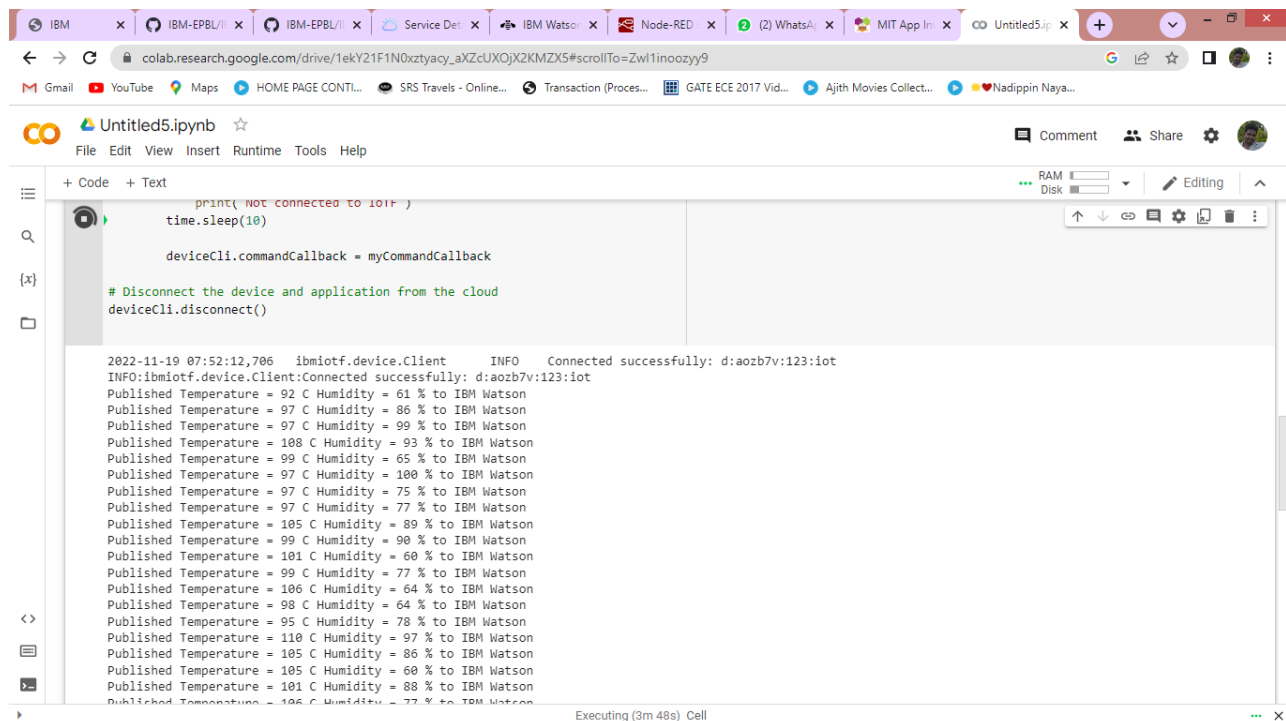
    success = deviceCli.publishEvent("IoTsensor", "json", data, qos=0, on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoTF")
        time.sleep(10)

    deviceCli.commandCallback = myCommandCallback

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

Executing (3m 29s) Cell

# PYTHON OUTPUT :



The screenshot shows a Google Colab notebook titled 'Untitled5.ipynb'. The code cell contains the following Python code:

```
print( not connected to iot )
time.sleep(10)

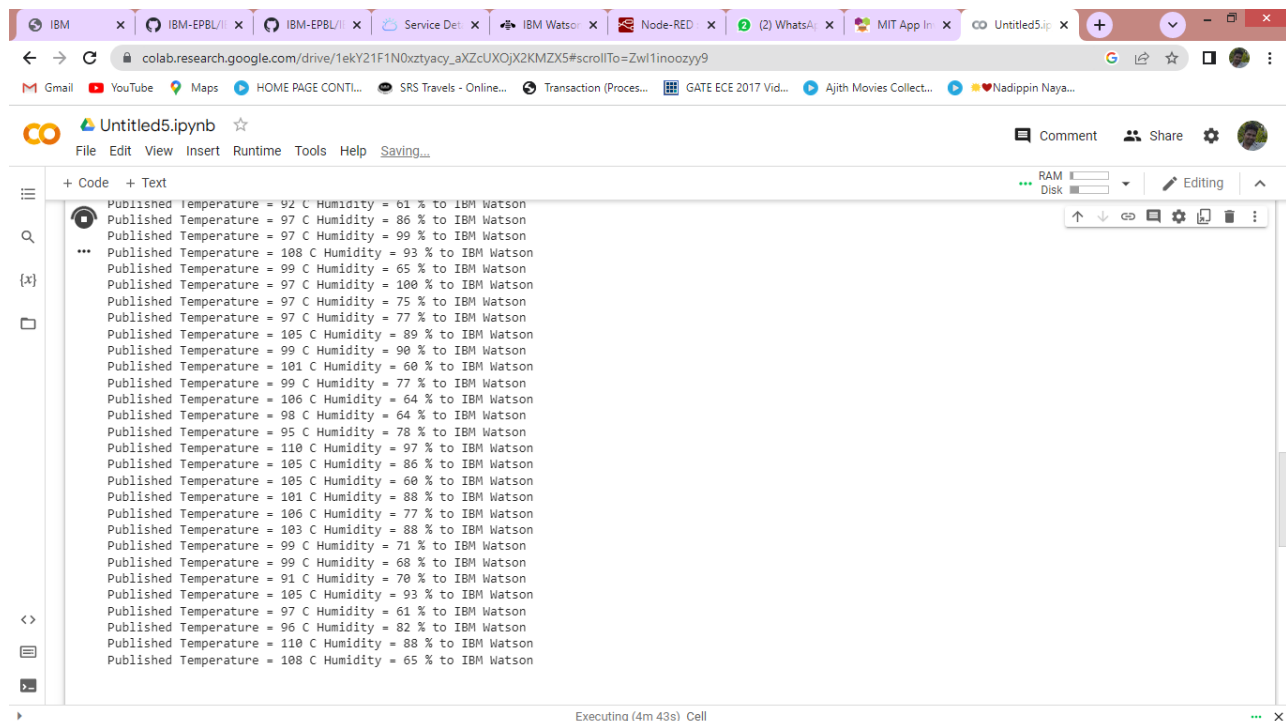
deviceCli.commandCallback = myCommandCallback

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

The output of the code cell is as follows:

```
2022-11-19 07:52:12,706 ibmiotf.device.Client INFO Connected successfully: d:a0zb7v:123:iot
INFO:ibmiotf.device.Client:Connected successfully: d:a0zb7v:123:iot
Published Temperature = 92 C Humidity = 61 % to IBM Watson
Published Temperature = 97 C Humidity = 86 % to IBM Watson
Published Temperature = 97 C Humidity = 99 % to IBM Watson
Published Temperature = 108 C Humidity = 93 % to IBM Watson
Published Temperature = 99 C Humidity = 65 % to IBM Watson
Published Temperature = 97 C Humidity = 100 % to IBM Watson
Published Temperature = 97 C Humidity = 75 % to IBM Watson
Published Temperature = 97 C Humidity = 77 % to IBM Watson
Published Temperature = 105 C Humidity = 89 % to IBM Watson
Published Temperature = 99 C Humidity = 90 % to IBM Watson
Published Temperature = 101 C Humidity = 60 % to IBM Watson
Published Temperature = 99 C Humidity = 77 % to IBM Watson
Published Temperature = 106 C Humidity = 64 % to IBM Watson
Published Temperature = 98 C Humidity = 64 % to IBM Watson
Published Temperature = 95 C Humidity = 78 % to IBM Watson
Published Temperature = 110 C Humidity = 97 % to IBM Watson
Published Temperature = 105 C Humidity = 86 % to IBM Watson
Published Temperature = 105 C Humidity = 60 % to IBM Watson
Published Temperature = 101 C Humidity = 88 % to IBM Watson
Published Temperature = 106 C Humidity = 77 % to IBM Watson
```

The status bar at the bottom indicates 'Executing (3m 48s) Cell'.

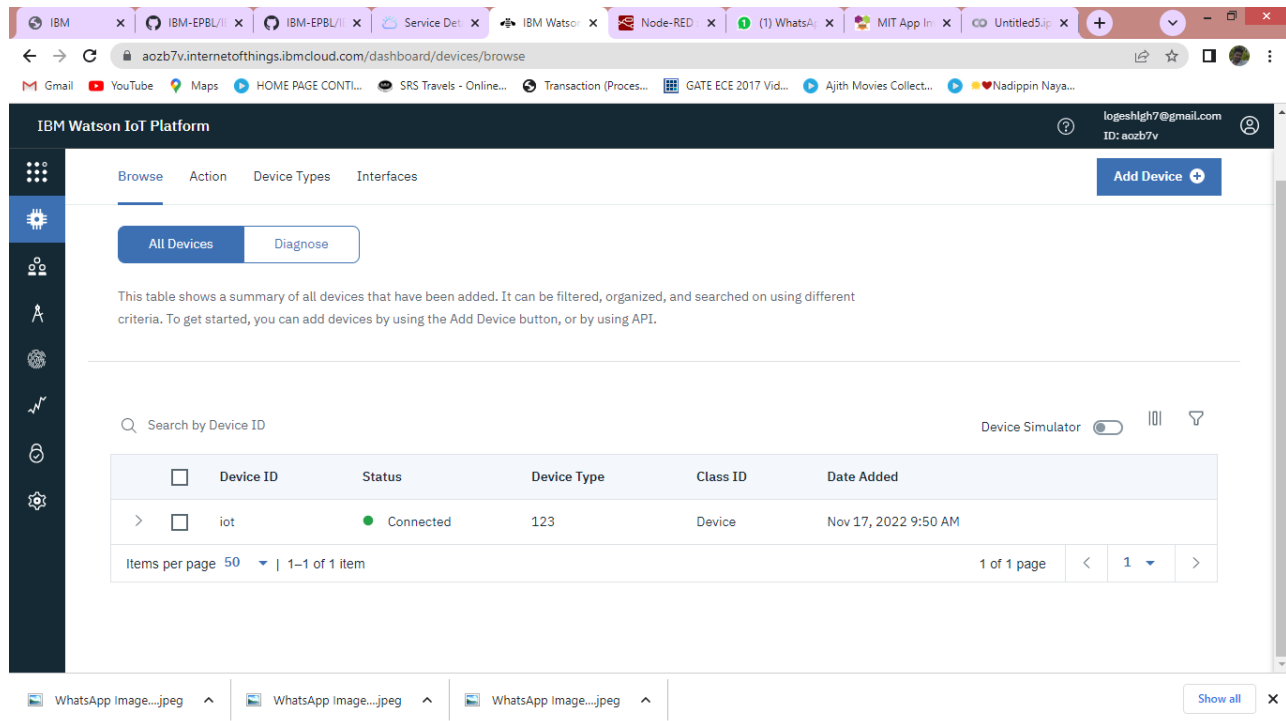


The screenshot shows a Google Colab notebook titled 'Untitled5.ipynb'. The code cell contains the following Python code:

```
Published Temperature = 92 C Humidity = 61 % to IBM Watson
Published Temperature = 97 C Humidity = 86 % to IBM Watson
Published Temperature = 97 C Humidity = 99 % to IBM Watson
...
Published Temperature = 108 C Humidity = 93 % to IBM Watson
Published Temperature = 99 C Humidity = 65 % to IBM Watson
Published Temperature = 97 C Humidity = 100 % to IBM Watson
Published Temperature = 97 C Humidity = 75 % to IBM Watson
Published Temperature = 97 C Humidity = 77 % to IBM Watson
Published Temperature = 105 C Humidity = 89 % to IBM Watson
Published Temperature = 99 C Humidity = 90 % to IBM Watson
Published Temperature = 101 C Humidity = 60 % to IBM Watson
Published Temperature = 99 C Humidity = 77 % to IBM Watson
Published Temperature = 106 C Humidity = 64 % to IBM Watson
Published Temperature = 98 C Humidity = 64 % to IBM Watson
Published Temperature = 95 C Humidity = 78 % to IBM Watson
Published Temperature = 110 C Humidity = 97 % to IBM Watson
Published Temperature = 105 C Humidity = 86 % to IBM Watson
Published Temperature = 105 C Humidity = 60 % to IBM Watson
Published Temperature = 101 C Humidity = 88 % to IBM Watson
Published Temperature = 106 C Humidity = 77 % to IBM Watson
Published Temperature = 103 C Humidity = 88 % to IBM Watson
Published Temperature = 99 C Humidity = 71 % to IBM Watson
Published Temperature = 99 C Humidity = 68 % to IBM Watson
Published Temperature = 91 C Humidity = 70 % to IBM Watson
Published Temperature = 105 C Humidity = 93 % to IBM Watson
Published Temperature = 97 C Humidity = 61 % to IBM Watson
Published Temperature = 96 C Humidity = 82 % to IBM Watson
Published Temperature = 110 C Humidity = 88 % to IBM Watson
Published Temperature = 108 C Humidity = 65 % to IBM Watson
```

The status bar at the bottom indicates 'Executing (4m 43s) Cell'.

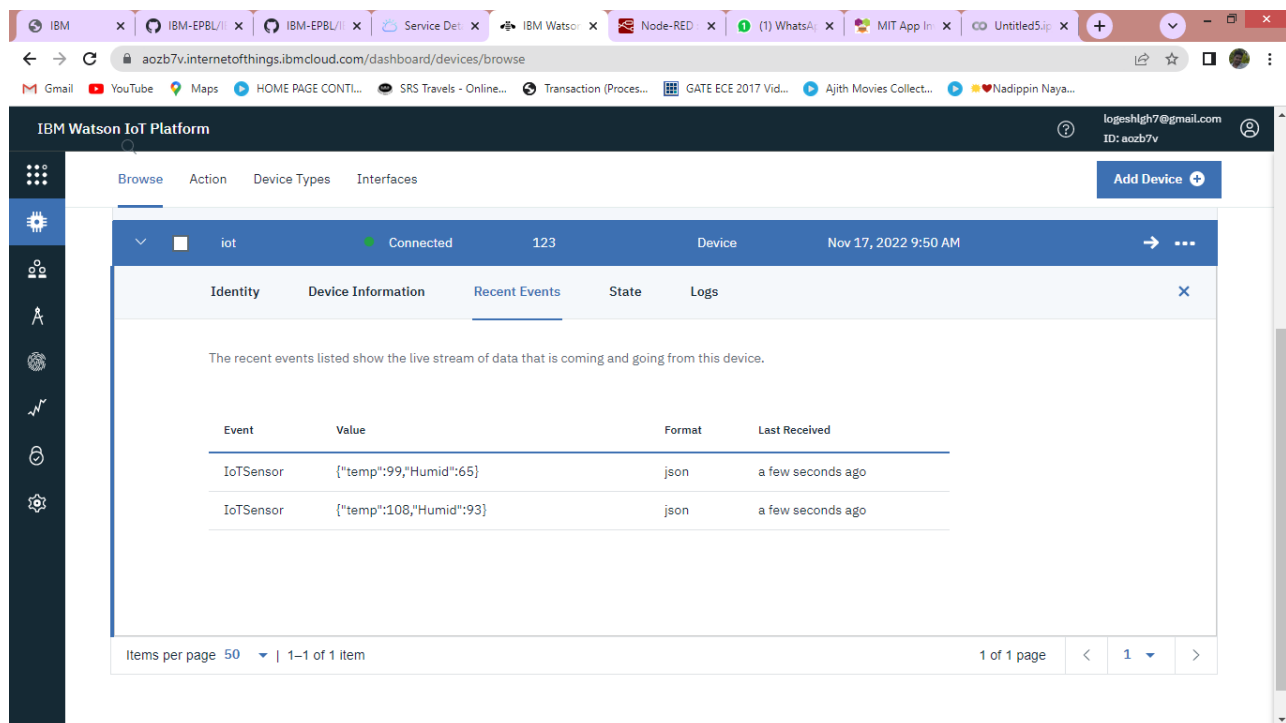
# PYTHON CODE CONNECTED TO IBM WATSON:



The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main content area has a 'Browse' tab selected, showing a list of devices. A table lists the following device:

Device ID	Status	Device Type	Class ID	Date Added
iot	Connected	123	Device	Nov 17, 2022 9:50 AM

Below the table, there is a pagination control showing '1 of 1 page'.



The screenshot shows the IBM Watson IoT Platform dashboard with the details of a specific device selected. The device is 'iot' with status 'Connected' and device type '123'. The 'Recent Events' tab is active, showing a table of events:

Event	Value	Format	Last Received
IoTSensor	{"temp":99,"Humid":65}	json	a few seconds ago
IoTSensor	{"temp":108,"Humid":93}	json	a few seconds ago

Below the table, there is a pagination control showing '1 of 1 page'.