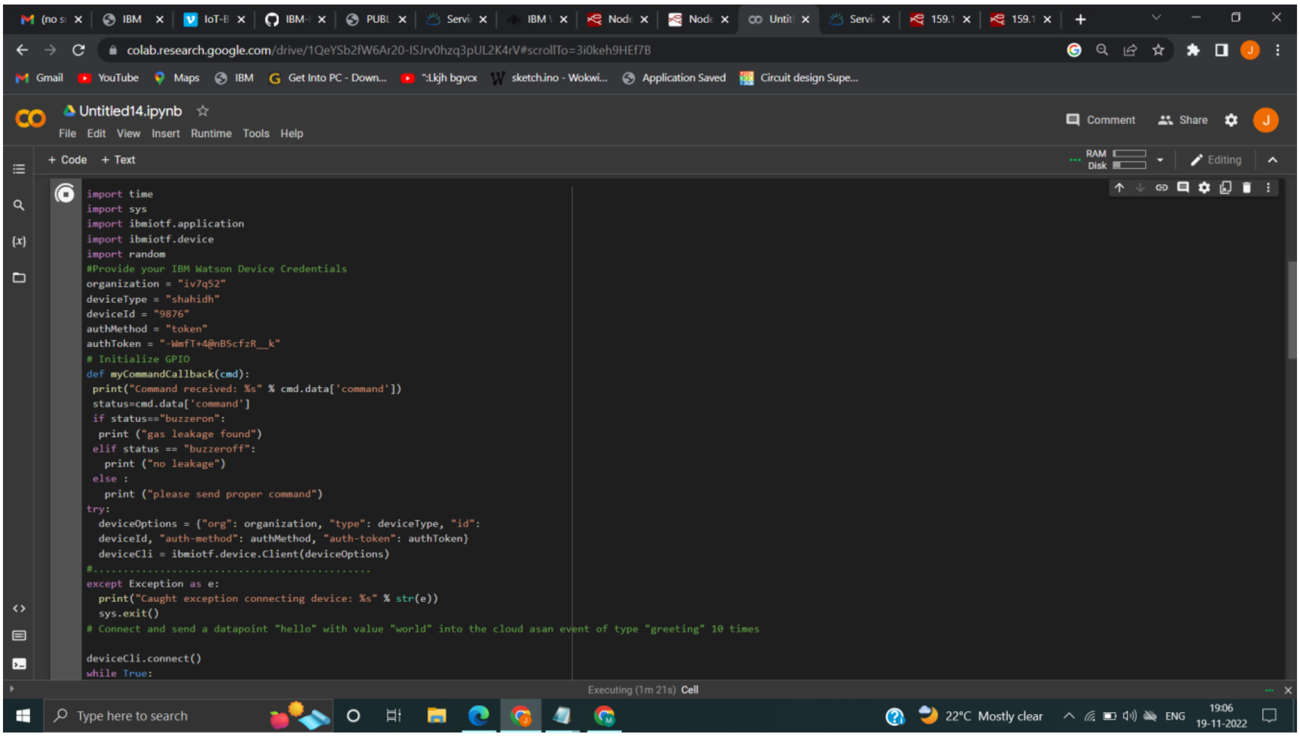
PROJECT DEVELOPMENT PHASE

SPRINT 3

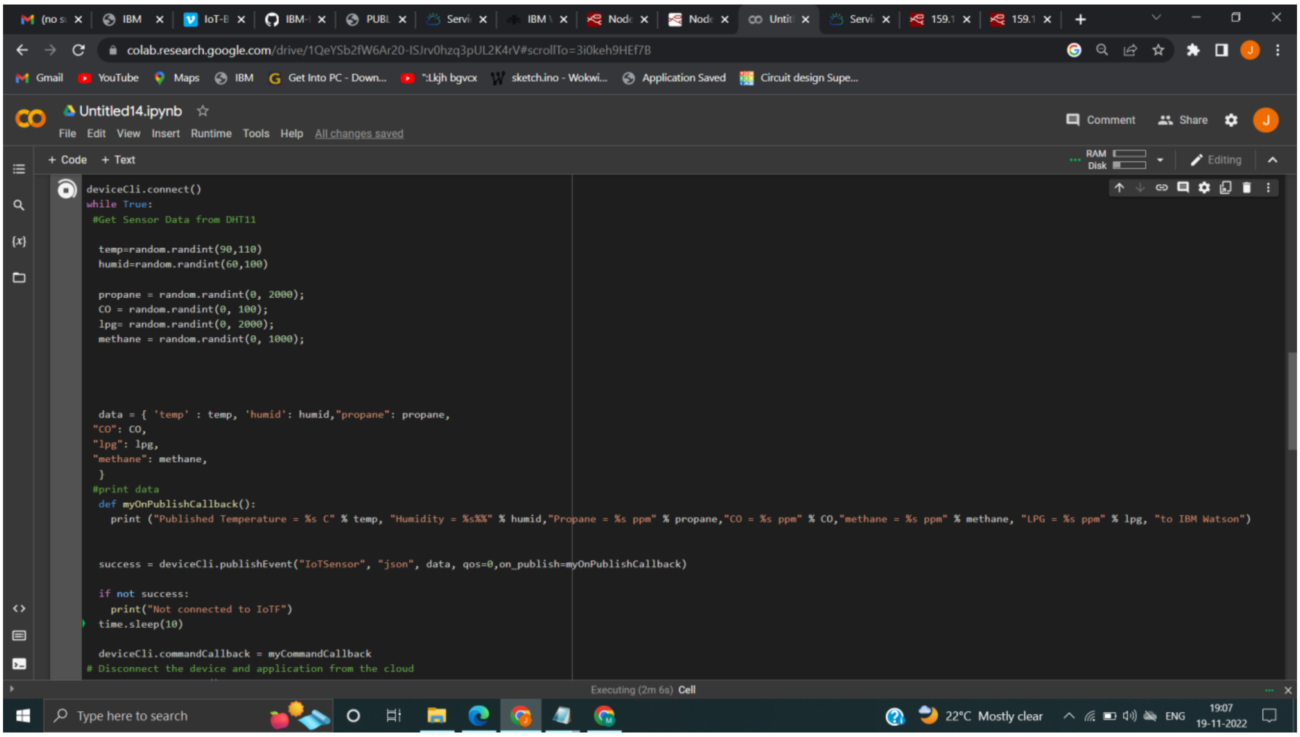
TEAM ID	**PNT2022TMID04636**
PROJECT NAME	**Gas Leakage monitoring & Alerting system for Industries**
DATE	**19 NOVEMBER 2022**

STEP 1: Write a python code to find temperature,humidity,gas.



```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "iv7q52"
deviceType = "shahidh"
deviceId = "9876"
authMethod = "token"
authToken = "-WmfT+4@nB5cfzR__k"
# Initialize GPIO
def myCommandCallback(cmd):
 print("Command received: %s" % cmd.data['command'])
 status=cmd.data['command']
 if status=="buzzeron":
  print ("gas leakage found")
 elif status == "buzzeroff":
   print ("no leakage")
 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 asan event of type "greeting" 10 times

deviceCli.connect()
while True:
```


colab.research.google.com/drive/1QeYSb2fW6Ar20-ISJrv0hzq3pUL2K4rV#scrollTo=3i0keh9HEf7B
Untitled14.ipynb
File Edit View Insert Runtime Tools Help All changes saved
+ Code + Text
Comment Share
Editing
Executing (2m 6s) Cell
Type here to search
22°C Mostly clear
19:07
19-11-2022

```
deviceCli.connect()
while True:
 #Get Sensor Data from DHT11

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

  propane = random.randint(0, 2000);
  CO = random.randint(0, 100);
  lpg= random.randint(0, 2000);
  methane = random.randint(0, 1000);

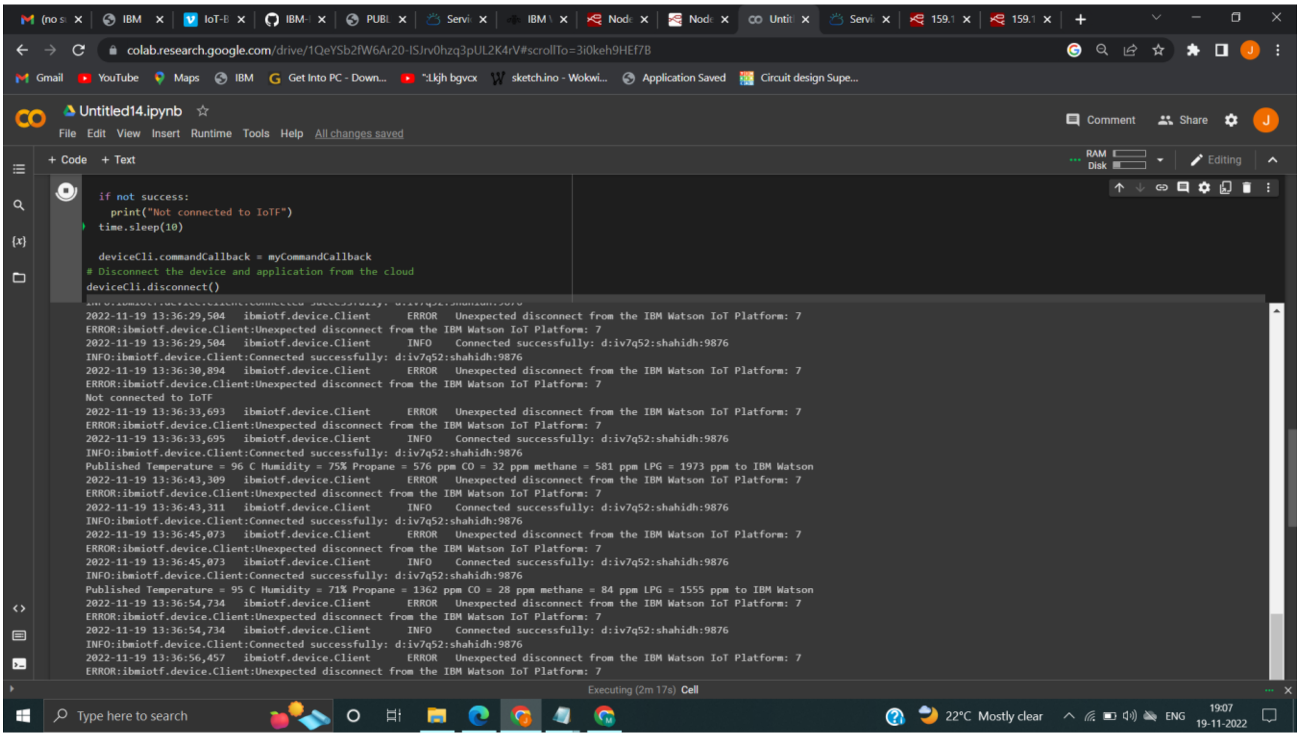


  data = { 'temp' : temp, 'humid': humid,"propane": propane,
 "CO": CO,
 "lpg": lpg,
 "methane": methane,
  }
 #print data
  def myOnPublishCallback():
    print ("Published Temperature = %s C" % temp, "Humidity = %s%%" % humid,"Propane = %s ppm" % propane,"CO = %s ppm" % CO,"methane = %s ppm" % methane, "LPG = %s ppm" % lpg, "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
```


colab.research.google.com/drive/1QeYSb2fW6Ar20-ISJrv0hzq3pUL2K4rV#scrollTo=3i0keh9HEf7B
Untitled14.ipynb
File Edit View Insert Runtime Tools Help All changes saved
+ Code + Text
Comment Share
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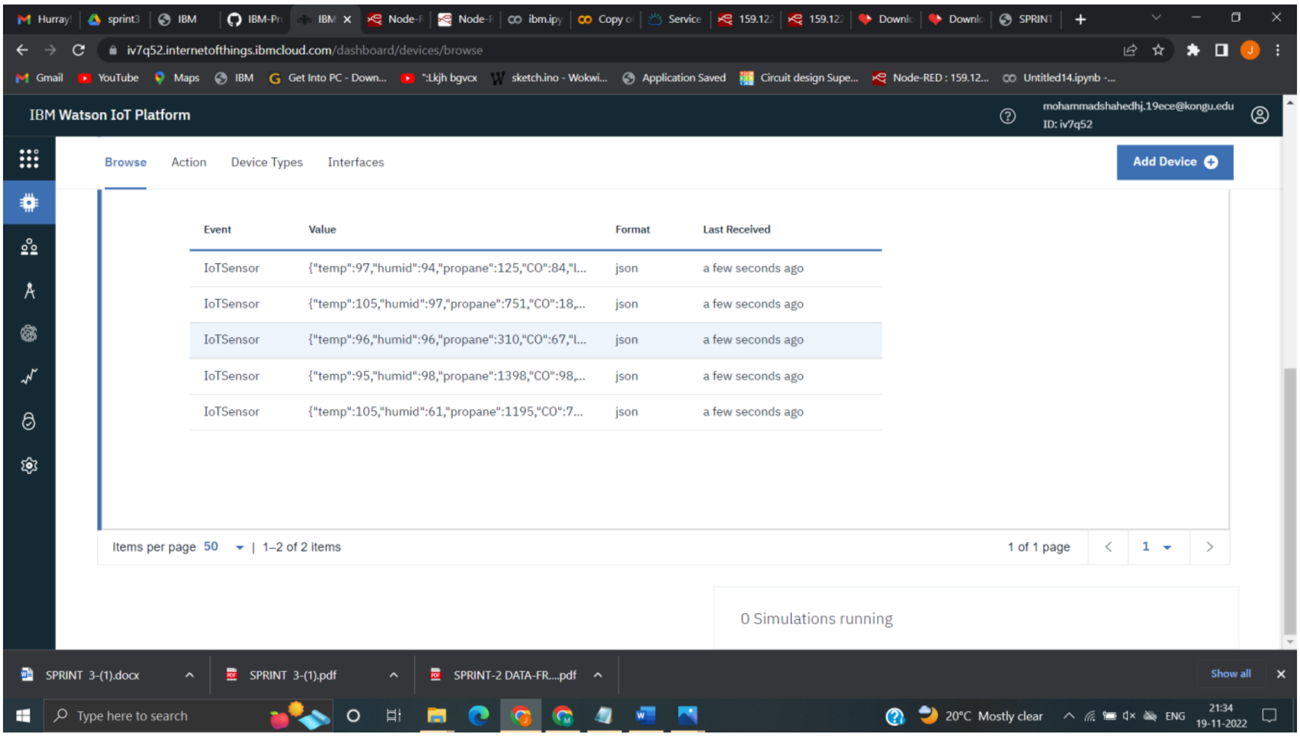
```
  if not success:
    print("Not connected to IoTF")
  time.sleep(10)

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

```
2022-11-19 13:36:29,504   ibmiotf.device.Client      ERROR   Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 13:36:29,504   ibmiotf.device.Client      INFO    Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
2022-11-19 13:36:30,894   ibmiotf.device.Client      ERROR   Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
Not connected to IoTF
2022-11-19 13:36:33,693   ibmiotf.device.Client      ERROR   Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 13:36:33,695   ibmiotf.device.Client      INFO    Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
Published Temperature = 96 C Humidity = 75% Propane = 576 ppm CO = 32 ppm methane = 581 ppm LPG = 1973 ppm to IBM Watson
2022-11-19 13:36:43,309   ibmiotf.device.Client      ERROR   Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 13:36:43,311   ibmiotf.device.Client      INFO    Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
2022-11-19 13:36:45,073   ibmiotf.device.Client      ERROR   Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 13:36:45,073   ibmiotf.device.Client      INFO    Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
Published Temperature = 95 C Humidity = 71% Propane = 1362 ppm CO = 28 ppm methane = 84 ppm LPG = 1555 ppm to IBM Watson
2022-11-19 13:36:54,734   ibmiotf.device.Client      ERROR   Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
2022-11-19 13:36:54,734   ibmiotf.device.Client      INFO    Connected successfully: d:iv7q52:shahidh:9876
INFO:ibmiotf.device.Client:Connected successfully: d:iv7q52:shahidh:9876
2022-11-19 13:36:56,457   ibmiotf.device.Client      ERROR   Unexpected disconnect from the IBM Watson IoT Platform: 7
ERROR:ibmiotf.device.Client:Unexpected disconnect from the IBM Watson IoT Platform: 7
```

STEP 2: Run the python code it sends data to IBM IoT Watson Platform.

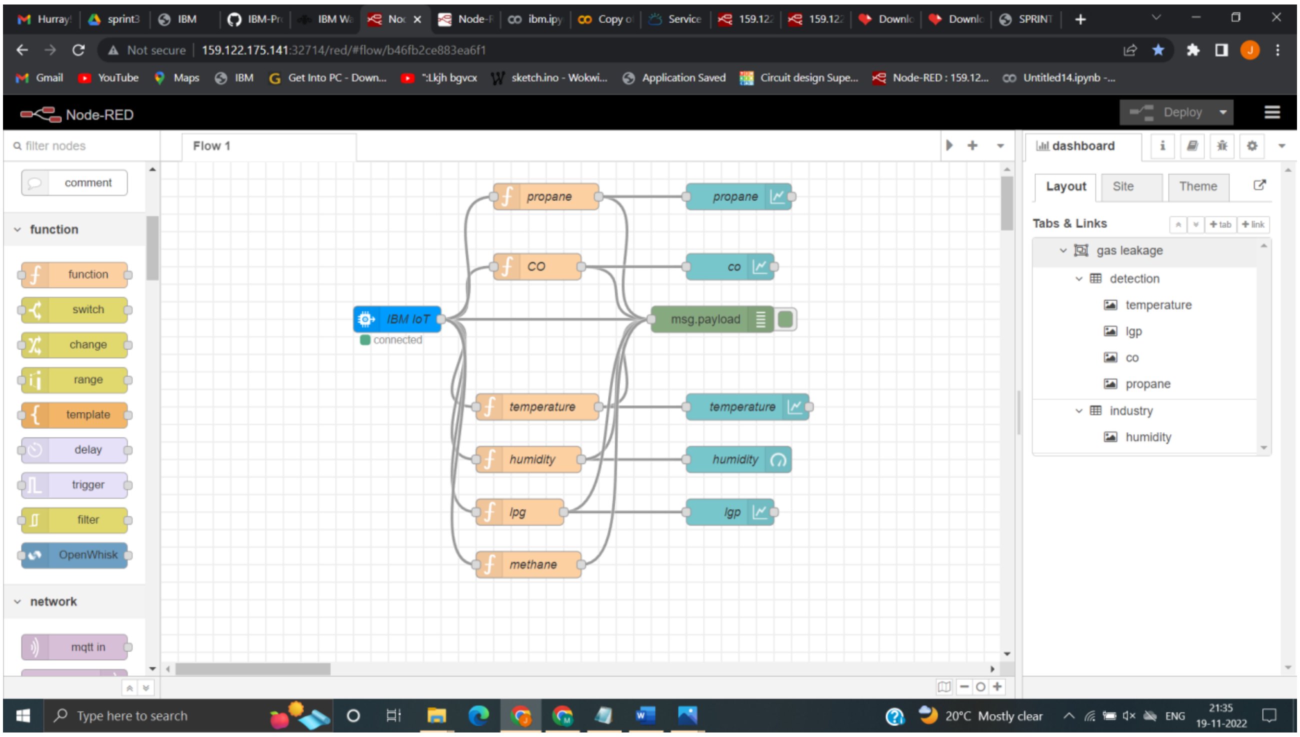

iv7q52.internetofthings.ibmcloud.com/dashboard/devices/browse
IBM Watson IoT Platform
mohammadshahedhj.19ece@kongu.edu
ID: iv7q52
Browse
Action
Device Types
Interfaces
Add Device

Event	Value	Format	Last Received
IoTSensor	{"temp":97,"humid":94,"propane":125,"CO":84,"l...	json	a few seconds ago
IoTSensor	{"temp":105,"humid":97,"propane":751,"CO":18,...	json	a few seconds ago
IoTSensor	{"temp":96,"humid":96,"propane":310,"CO":67,"l...	json	a few seconds ago
IoTSensor	{"temp":95,"humid":98,"propane":1398,"CO":98,...	json	a few seconds ago
IoTSensor	{"temp":105,"humid":61,"propane":1195,"CO":7...	json	a few seconds ago

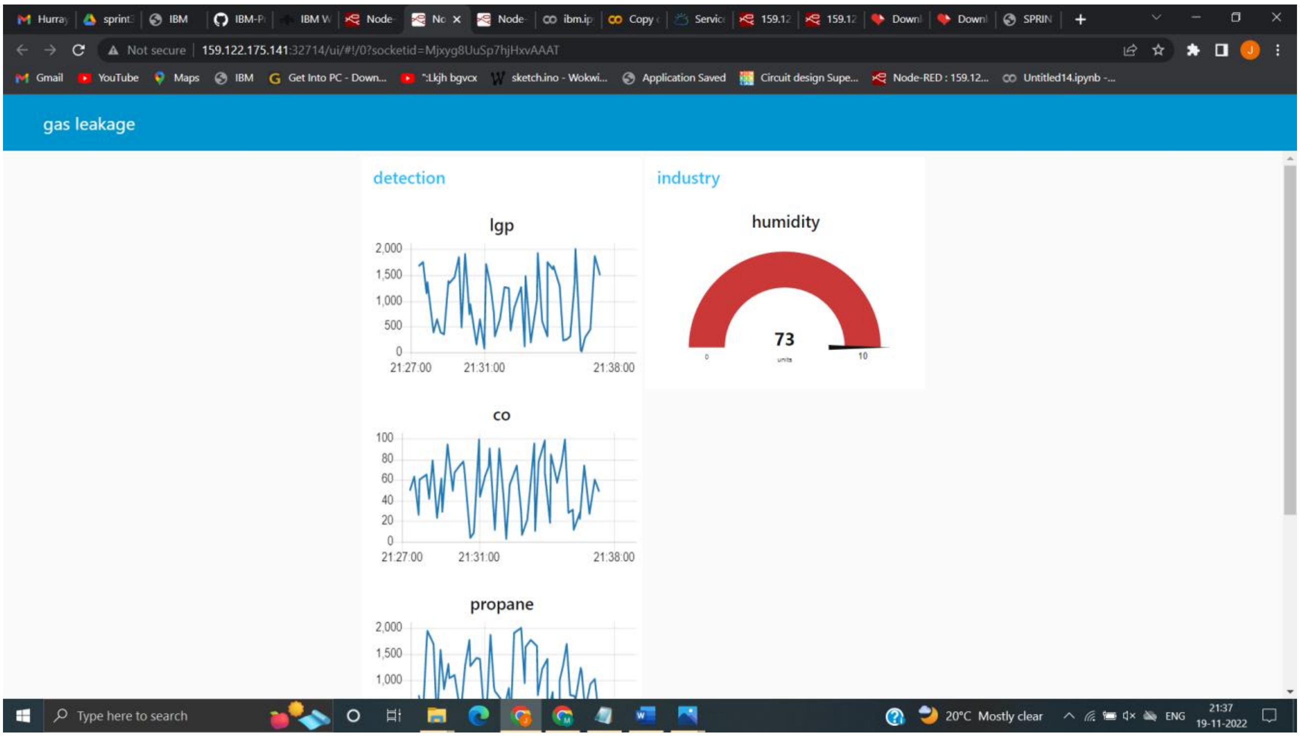
Items per page 50 | 1–2 of 2 items 1 of 1 page 1

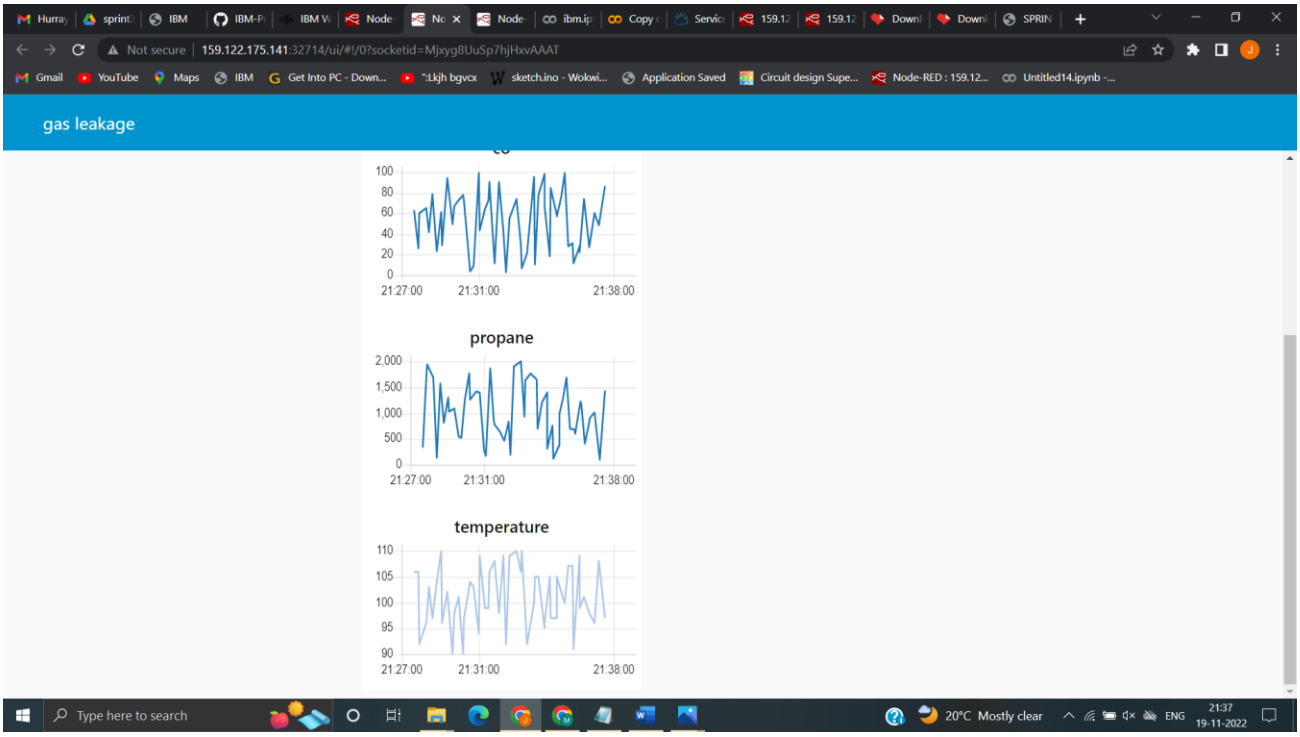
0 Simulations running

STEP 3: Open Node-RED flow dashboard.



STEP 4: Open Node-RED user interface to show the temperature, humidity and gas concentration





PYTHON CODE :

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 "CO": CO,
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    print ("Published Temperature = %s C" % temp, "Humidity = %s%%" % humid,
"Propane = %s ppm" % propane,"CO = %s ppm" % CO,"methane = %s ppm" % methane
, "LPG = %s ppm" % lpg, "to IBM Watson")


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sh=myOnPublishCallback)
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```
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