Screenshots of Work And Output

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	Gas Leakage Monitoring And Alerting System For Industries
Project Title	

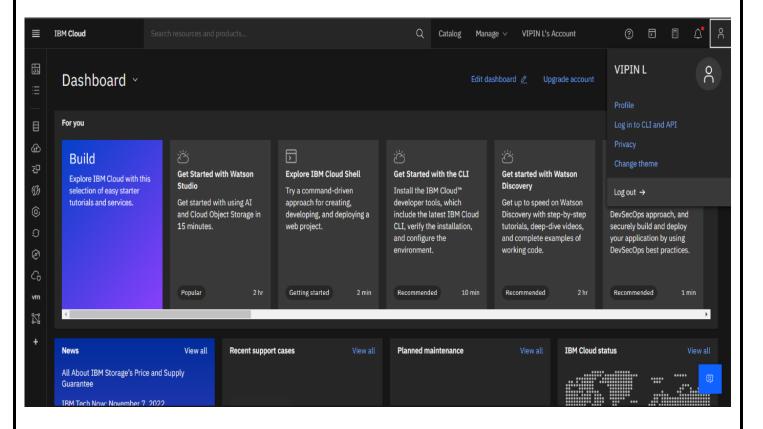
IBM Cloud Services

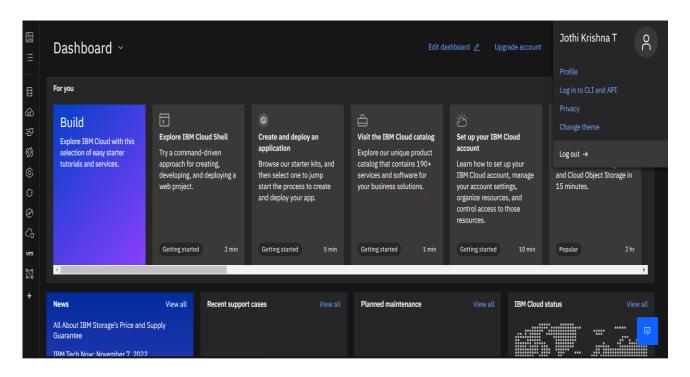
IBM Cloud Services:

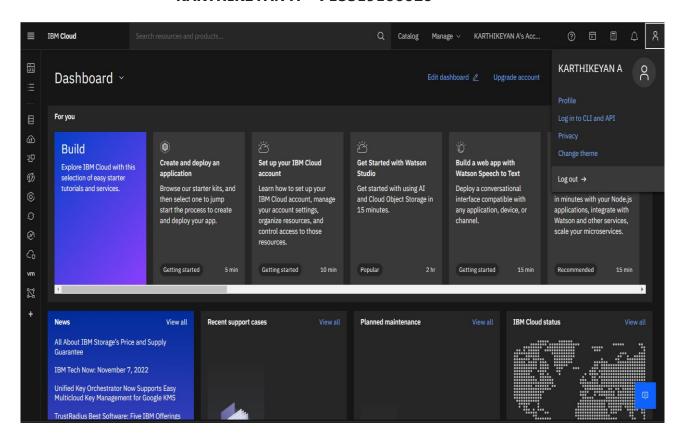
IBM is one of the large cloud computing providers on the planet. The "IBM Cloud" label is an umbrella category that encompasses its hardware, software and services for helping enterprises build private clouds. Protecting the company's data is critical. Cloud storage with automated backup is scalable, flexible and provides peace of mind.

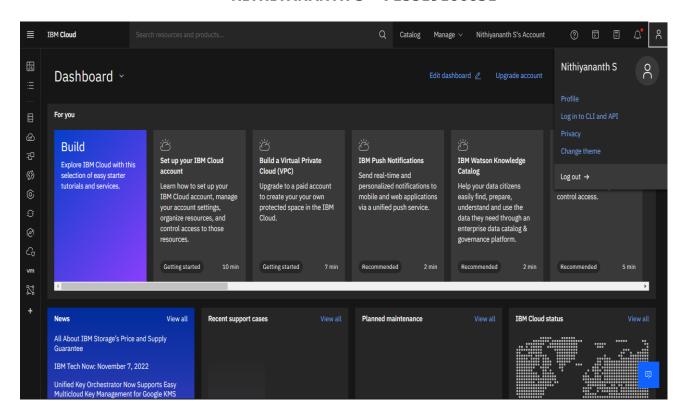
IBM Cloud Accounts:

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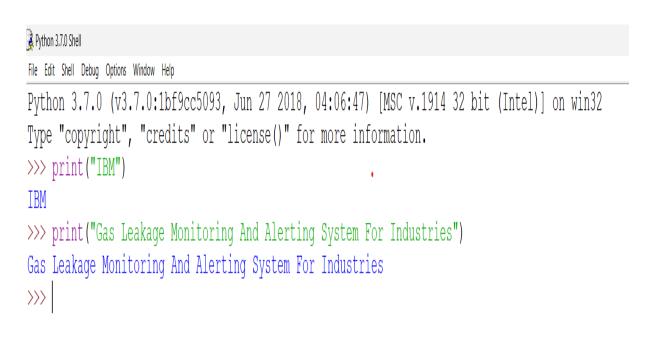








SOFTWARE:



Libraries to integrate with IBM Cloud Services:

```
pip install wiotp-sdk
pip install requests
pip install paho.mqtt
pip install ibmiotf
pip install opency-python
python -m pip install pip
pip install numpy
pip install--upgrade "ibm-watson>-6.1.0"
```

```
Microsoft Windows [Version 10.0.22621.674]

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C:\Users\karth>pip install wiotp-sdk

Requirement already satisfied: wiotp-sdk in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (0.11.0)

Requirement already satisfied: iso8601>=0.1.12 in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (from wiotp-sdk) (1.1.0)

Requirement already satisfied: pytz>=2018.9 in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (from wiotp-sdk) (2022.6)

Requirement already satisfied: pyyaml>=3.13 in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (from wiotp-sdk) (6.0)

Requirement already satisfied: requests>=2.21.0 in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (from wiotp-sdk) (2.28.1)

Requirement already satisfied: requests_toolbelt>=0.8.0 in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (from wiotp-sdk) (0.10.1)

Requirement already satisfied: certifi=2017.4.17 in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (from requests>=2.21.0-xwiotp-sdk) (2022.9.24)

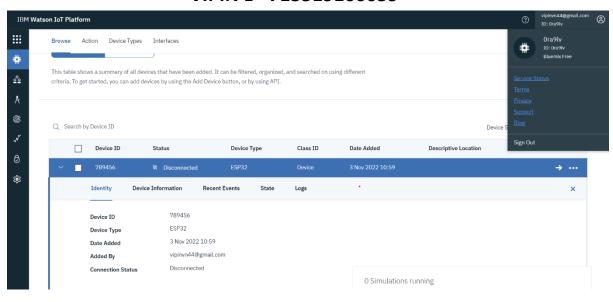
Requirement already satisfied: urllib3<1.27,>=1.21.1 in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (from requests>=2.21.0-xwiotp-sdk) (1.26.12)

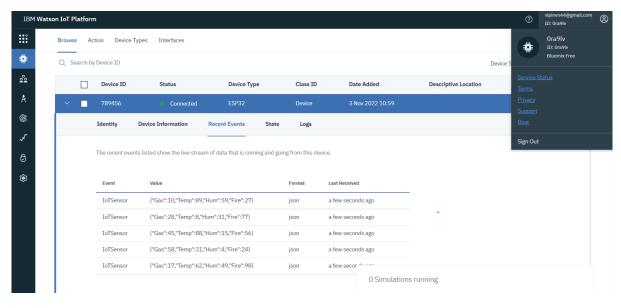
Requirement already satisfied: charset-normalizer<3,>=2 in c:\users\karth\appdata\local\programs\python\python37-32\lib\site-packages (from requests>=2.21.0-xwiotp-sdk) (2.21.1)

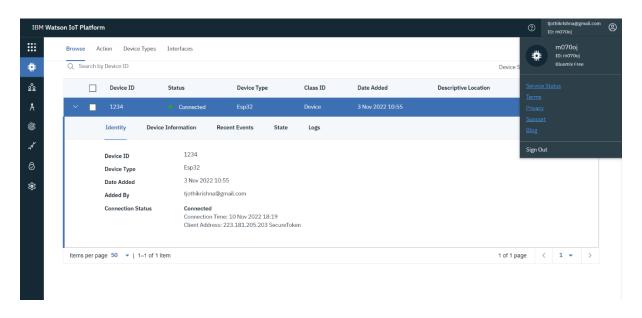
C:\Users\karth>
```

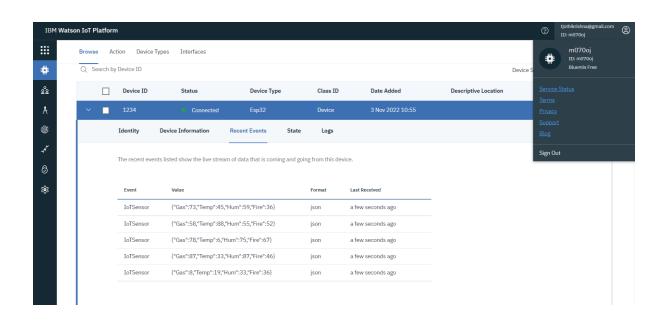
Create The IBM Watson IOT Platform And A Device

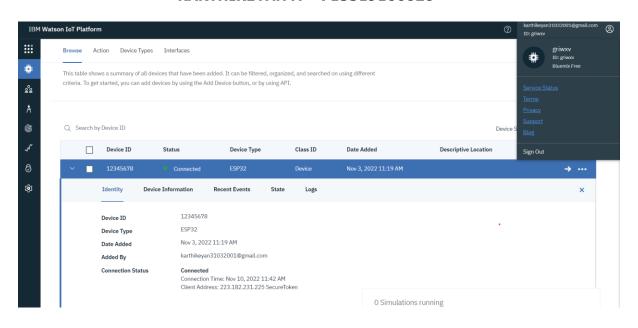
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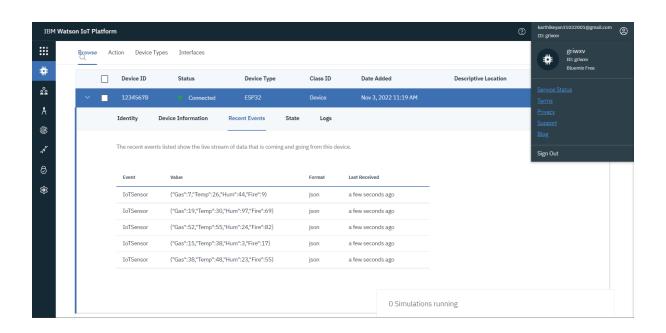


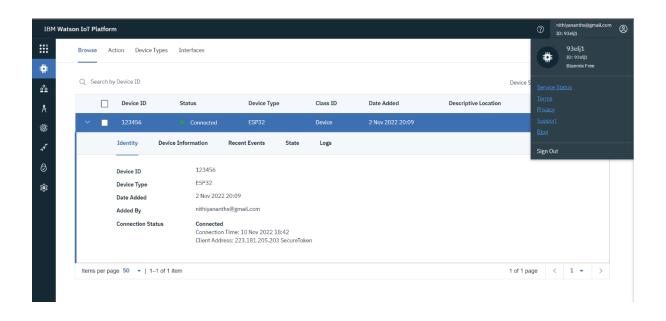


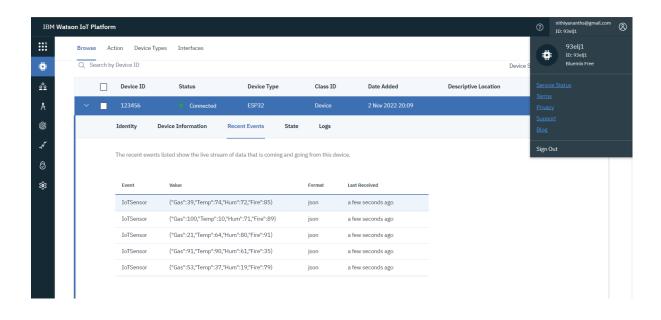






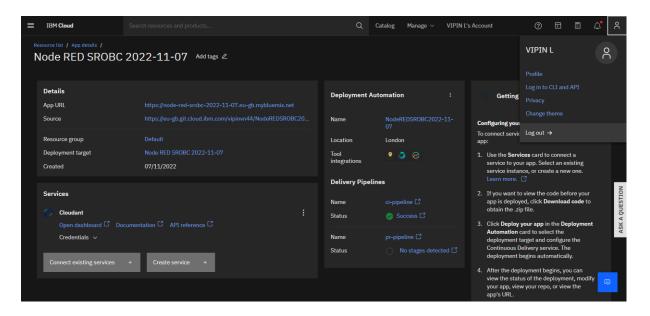




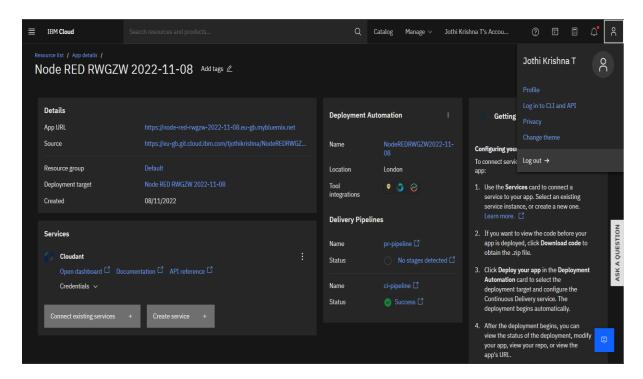


Create Node-RED Service

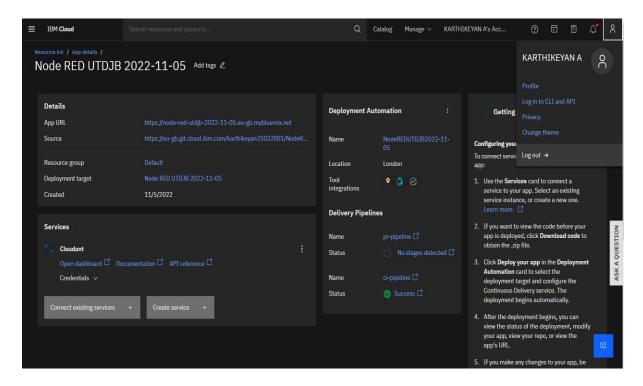
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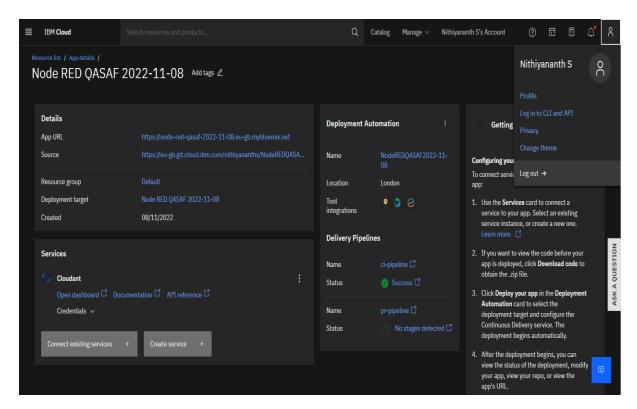


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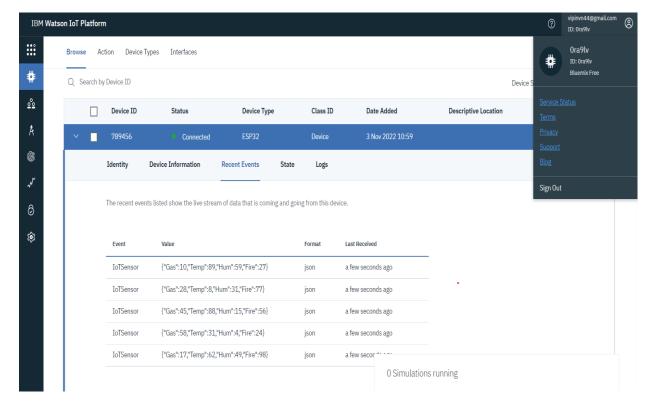


The output obtained from the python code is:

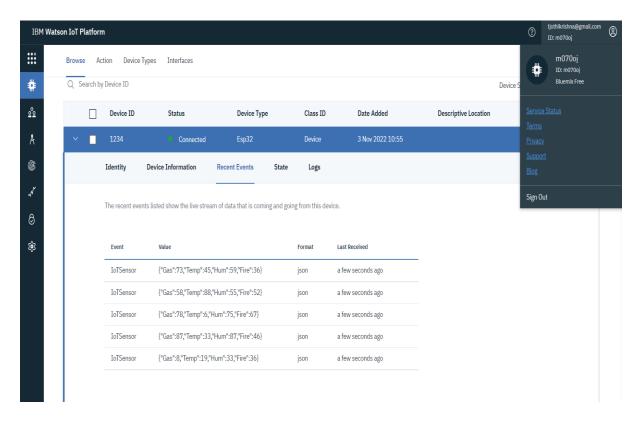
```
*Python 3.7.0 Shell*
                                                                                                                                      - 0 X
File Edit Shell Debug Options Window Help
('Gas': 80, 'Temp': 89, 'Hum': 30, 'Fire': 44) published Gas 80
published Temp 89
published Hum 30
published Fire 44
{'Gas': 54, 'Temp': 82, 'Hum': 89, 'Fire': 60}
published Gas 54
published Temp 82
published Fire 60 {'Gas': 19, 'Temp': 50, 'Hum': 96, 'Fire': 8} published Gas 19
published Temp 50
published Hum 96
published Fire 8
('Gas': 47, 'Temp': 76, 'Hum': 14, 'Fire': 77} published Gas 47
published Temp 76
published Hum 14
published Fire 77
 {'Gas': 86,
                'Temp': 89, 'Hum': 55, 'Fire': 63}
published Gas 86
published Temp 89
published Hum 55
published Fire 63
{'Gas': 68, 'Temp': 46, 'Hum': 54, 'Fire': 29}
published Gas 68
published Temp 46
published Hum 54
published Fire 29
                                                                                                                                                Ln: 18 Col: 51
```

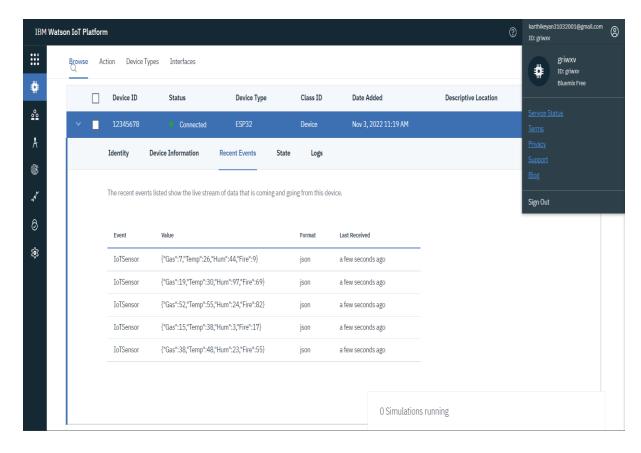
The data has been published to the IBM cloud. Thus in the python script, the values for the gas, temperature, humidity and fire have been generated and published to IBM cloud platform.

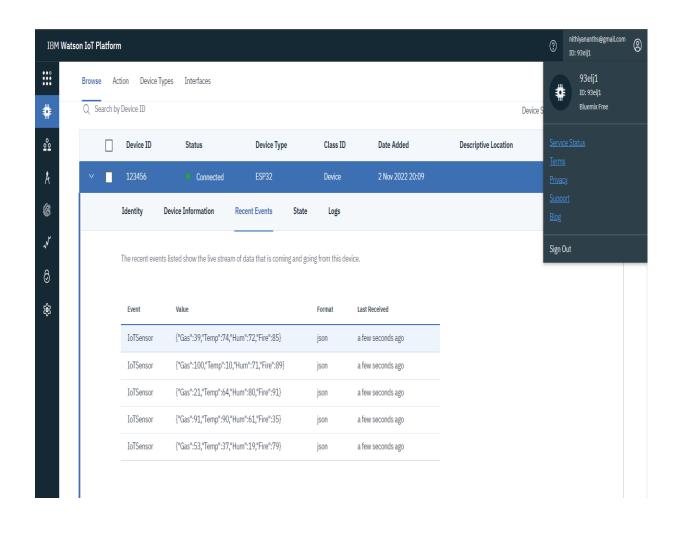
This is achieved by importing the required libraries in the python script and also specifying the organization, deviceType, deviceid, authMethod and authToken to integrate with the specific cloud account, so that the data will be published to IBM cloud platform.



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Dashboard Nodes For Creating UI And Develop The Web Application Using Node-RED

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