

PROJECT DEVELOPMENT PHASE

SPRINT-4

Team ID	PNT2022TMID32813
Project Name	Project - INDUSTRY-SPECIFIC INTELLIGENCE FIRE MANAGEMENT SYSTEM

USER STORY :

AS a user, I will be able to store the parameter values in the cloud and check the system performance and condition.

The screenshot displays the IBM Watson IoT Platform interface. At the top, the browser address bar shows the URL: `1s2adz.internetofthings.ibmcloud.com/dashboard/devices/browse`. The page header includes the IBM Watson IoT Platform logo and a user profile for `813819106109@smartinternz.com` with ID `1s2adz`.

The main content area is titled "Browse" and contains a table of device events. The table has five columns: "Event", "Value", "Format", and "Last Received". The data rows show temperature, humidity, and gas level readings from a device, all in JSON format and received within a few seconds.

Below the table, it indicates "0 Simulations running".

At the bottom, a terminal window titled "Python 3.7.0 Shell" is open, showing the output of a Python script. The script prints an alert message from the fire management system, including temperature, humidity, gas level, condition, sensor status, and alarm status. The output is as follows:

```

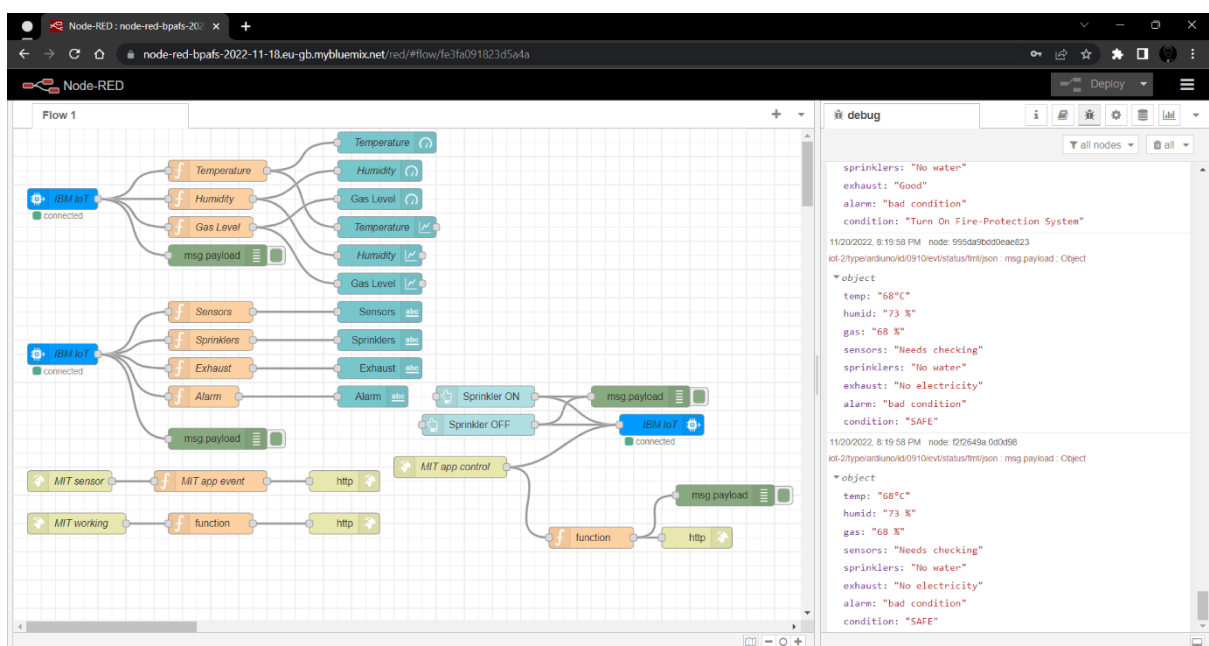
File Edit Shell Debug Options Window Help
ALERT MESSAGE FROM FIRE MANAGEMENT SYSTEM:

Temperature:-11 C
Humidity:56 %
Gas-level:18 %
Condition:SAFE

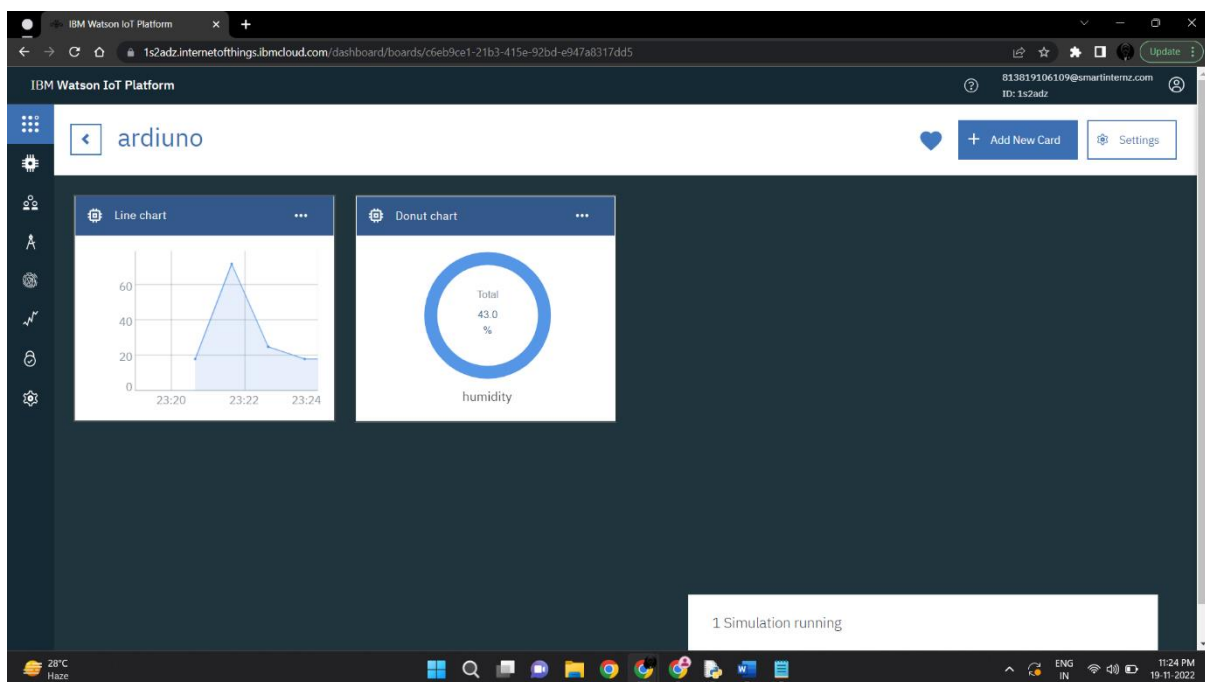
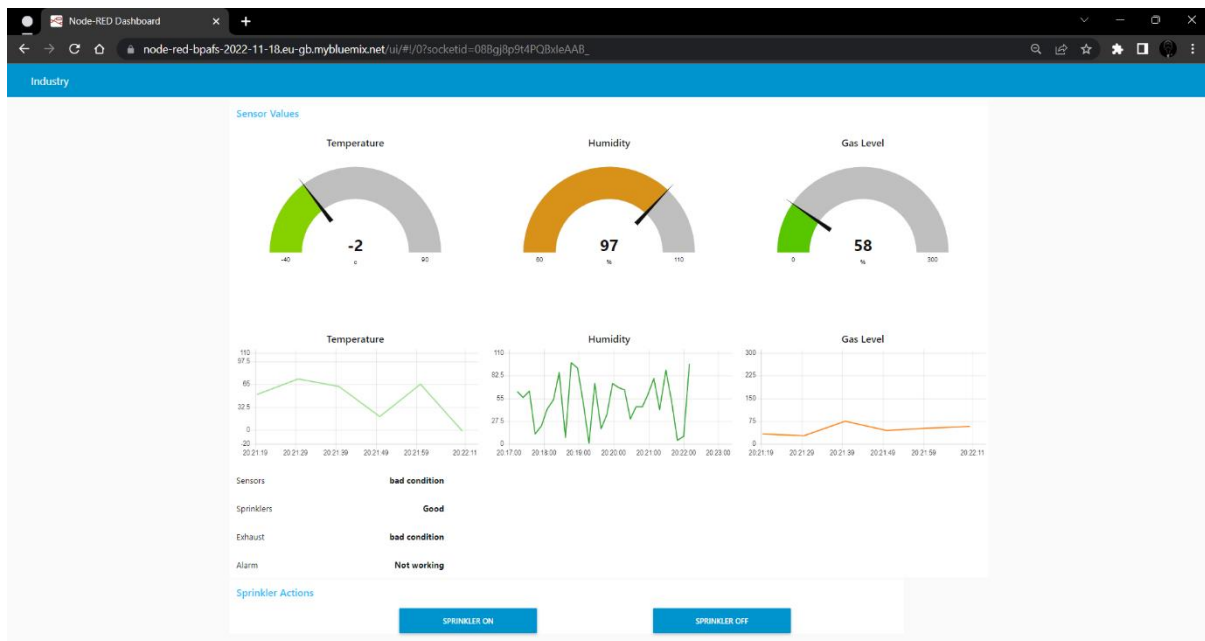
Sensors:Good
Sprinklers:Good
Exhaust:No electricity
Alarm:bad condition

SAFE
Published data Successfully: %s {'temp': '-11°C', 'humid': '56 %', 'gas': '18 %', 'sensors': 'Good', 'sprinklers': 'Good', 'exhaust': 'No electricity', 'alarm': 'bad condition', 'condition': 'SAFE'}

```



CHECKING SYSTEM CONDITION AND VALUES:



PYTHON CODE:

```
import wiotp.sdk.device
```

```
import time
```

```
import random
```

```
import requests
```

```
myConfig = {
```

```
    "identity": {
```

```
        "orgId": "1s2adz",
```

```
        "typeId": "ardiuno",
```

```
        "deviceId": "0910"
```

```
    },
```

```
    "auth": {
```

```
        "token": "12345678"
```

```
    }
```

```
}
```

```
def myCommandCallback(cmd):
```

```
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
```

```
    m=cmd.data['command']
```

```
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
```

```
client.connect()
```

```
count=0
```

```
while True:
```

```
    s1=['Good','Need maintanance','bad condition','Needs checking']
```

```
    s2=['Good','Need maintenance','bad condition','Low water level','No water']
```

```
    s3=['Good','No electricity','bad condition','Needs checking']
```

```
    s4=['Good','Not working','bad condition','Needs checking']
```

```
random.shuffle(s1)
```

```
random.shuffle(s2)
```

```
random.shuffle(s3)
```

```
random.shuffle(s4)
```

```
temp=random.randint(-40,84)
```

```
humid=random.randint(0,100)
```

```
gas=random.randint(0,100)
```

```
if(temp>68 and gas>80):
```

```
    print("\n")
```

```
    myData={'temp':str(temp)+chr(176)+"C", 'humid':str(humid)+" %", 'gas':str(gas)+" %",  
'sensors':str(s1[0]), 'sprinklers':str(s2[0]), 'exhaust':str(s3[0]), 'alarm':str(s4[0]), 'condition':"Turn On  
Harzard-Protection System" }
```

```
    message="ALERT MESSAGE FROM FIRE MANAGEMENT  
SYSTEM:\n\n"+'Temperature:'+str(temp)+" C"+'\nHumidity:'+str(humid)+" %"+'\nGas-  
level:'+str(gas)+" %"+'\nCondition:Turn On Harzard-Protection  
System\n\n'+ "Sensors:"+str(s1[0])+"\n"+ "Sprinklers:"+str(s2[0])+"\n"+ "Exhaust:"+str(s3[0])+"\n"+ "A  
larm:"+str(s4[0])+"\n"
```

```
    url = "
```

```
https://www.fast2sms.com/dev/bulkV2?authorization=oxXvdFwBlzPDuOfpJnALG0VhUkj2YSQN6cTRi  
e8qtZrglbK491tgWTBzkZclr4mPLwOp2nfEKDqoFAGH&route=q&message="+message+"%0A%0AHIG  
H%20TEMPERATURE%20AND%20GAS%20DETECTED!%0ATURN%20ON%20SAFTEY%20PROTECTION  
%20SYSTEM&language=english&flash=0&numbers=9500490577 "
```

```
    #response = requests.request("GET", url)
```

```
    #print(response.text)
```

```
    print(message)
```

```
    print("Turn On Harzard-Protection System")
```

```
elif(temp>68 and gas<80):
```

```
    print("\n")
```

```
    myData={'temp':str(temp)+chr(176)+"C", 'humid':str(humid)+" %", 'gas':str(gas)+" %",  
'sensors':str(s1[0]), 'sprinklers':str(s2[0]), 'exhaust':str(s3[0]), 'alarm':str(s4[0]), 'condition':"Turn On  
Fire-Protection System" }
```

```
message="ALERT MESSAGE FROM FIRE MANAGEMENT
SYSTEM:\n\n"+'Temperature:'+str(temp)+" C"+'\nHumidity:'+str(humid)+" %"+'\nGas-
level:'+str(gas)+" %"+'\nCondition:Turn On Fire-Protection
System\n\n'+ "Sensors:" +str(s1[0])+" \n" + "Sprinklers:" +str(s2[0])+" \n" + "Exhaust:" +str(s3[0])+" \n" + "A
larm:" +str(s4[0])+" \n"
```

```
url = "
https://www.fast2sms.com/dev/bulkV2?authorization=oxXvdFwBlzPDuOfpJnALG0VhUkj2YSQN6cTRi
e8qtZrglbK491tgWTBzkZclr4mPLwOp2nfEKDqoFAGH&route=q&message="+message+"%0A%0AHIG
H%20TEMPERATURE%20DETECTED!%0ATURN%20ON%20FIRE-
PROTECTION%20SYSTEM&language=english&flash=0&numbers=9500490577"
```

```
#response = requests.request("GET", url)

#print(response.text)

print(message)

print("Turn On Fire-Protection System")
```

elif(temp<68 and gas>80):

```
print("\n")

myData={'temp':str(temp)+chr(176)+"C", 'humid':str(humid)+" %", 'gas':str(gas)+" %",
'sensors':str(s1[0]), 'sprinklers':str(s2[0]), 'exhaust':str(s3[0]), 'alarm':str(s4[0]), 'condition':"Turn On
Ventilation System" }
```

```
message="ALERT MESSAGE FROM FIRE MANAGEMENT
SYSTEM:\n\n"+'Temperature:'+str(temp)+" C"+'\nHumidity:'+str(humid)+" %"+'\nGas-
level:'+str(gas)+" %"+'\nCondition:Turn On Ventilation
System\n\n'+ "Sensors:" +str(s1[0])+" \n" + "Sprinklers:" +str(s2[0])+" \n" + "Exhaust:" +str(s3[0])+" \n" + "A
larm:" +str(s4[0])+" \n"
```

```
url = "
https://www.fast2sms.com/dev/bulkV2?authorization=oxXvdFwBlzPDuOfpJnALG0VhUkj2YSQN6cTRi
e8qtZrglbK491tgWTBzkZclr4mPLwOp2nfEKDqoFAGH&route=q&message="+message+"%0A%0AHIG
H%20GAS%20DETECTED!%0ATURN%20ON%20VENTILATION%20SYSTEM&language=english&flash=0
&numbers=9500490577"
```

```
#response = requests.request("GET", url)

#print(response.text)

print(message)

print("Turn On Ventilation-Protection System")
```

else:

```

print("\n")

myData={'temp':str(temp)+chr(176)+"C", 'humid':str(humid)+" %", 'gas':str(gas)+" %",
'sensors':str(s1[0]), 'sprinklers':str(s2[0]), 'exhaust':str(s3[0]), 'alarm':str(s4[0]), 'condition':"SAFE" }

message="ALERT MESSAGE FROM FIRE MANAGEMENT
SYSTEM:\n\n"+'Temperature:'+str(temp)+" C"+'\nHumidity:'+str(humid)+" %"+'\nGas-
level:'+str(gas)+"
%"+'\nCondition:SAFE\n\n"+"Sensors:'+str(s1[0])+"\n"+"Sprinklers:'+str(s2[0])+"\n"+"Exhaust:'+str
(s3[0])+"\n"+"Alarm:'+str(s4[0])+"\n"

url =
"https://www.fast2sms.com/dev/bulkV2?authorization=oxXvdFwBlzPDuOfpJnALG0VhUkj2YSQN6cT
Rie8qtZrglbK491tgWTBzkZclr4mPLwOp2nfEKDqoFAGH&route=q&message="+message+"%0A%0AN
O%20HAZARD%20DETECTED%0A%22EVERYTHING%20IS%20IN%20SAFE%20CONDITION%22&langua
ge=english&flash=0&numbers=9500490577"

#response = requests.request("GET", url)

#print(response.text)

print(message)

print("SAFE")

def myOnPublishCallback():

    print("Publish Temperature = %s c" % temp,"Humidity = %s %" % humid,"Gas Level =%s %" %
gas,"to IBM Watson\n")

    print("sensors: %s" %s1[0])

    print("sprinklers %s" %s2[0])

    print("exhaust: %s" %s3[0])

    print("alarm %s" %s4[0])

client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)

print("Published data Successfully: %s", myData)

client.commandCallback = myCommandCallback

time.sleep(10)

client.disconnect()

```

OUTPUT:

```
Python 370 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9acc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:/Users/acer/AppData/Local/Programs/Python/Python37/ihm with fast2ams.py
2022-11-20 20:01:39,420 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:1s2adz:arduino:0910
ALERT MESSAGE FROM FIRE MANAGEMENT SYSTEM:
Temperature:-16 C
Humidity:60 %
Gas-level:14 %
Condition:SAFE
Sensors:Need maintainnce
Sprinklers:bad condition
Exhaust:bad condition
Alarm:Good
SAFE
Published data Successfully: %s {'temp': '-16°C', 'humid': '60 %', 'gas': '14 %', 'sensors': 'Need maintainnce', 'sprinklers': 'bad condition', 'exhaust': 'bad condition', 'alarm': 'Good', 'condition': 'SAFE'}
ALERT MESSAGE FROM FIRE MANAGEMENT SYSTEM:
Temperature:-31 C
Humidity:69 %
Gas-level:33 %
Condition:SAFE
Sensors:Need maintainnce
Sprinklers:No water
Exhaust:Needs checking
Alarm:Good
SAFE
Published data Successfully: %s {'temp': '-31°C', 'humid': '69 %', 'gas': '33 %', 'sensors': 'Need maintainnce', 'sprinklers': 'No water', 'exhaust': 'Needs checking', 'alarm': 'Good', 'condition': 'SAFE'}
ALERT MESSAGE FROM FIRE MANAGEMENT SYSTEM:
Temperature:10 C
Humidity:66 %
Gas-level:29 %
Condition:SAFE
```

Ln 54 Col 0