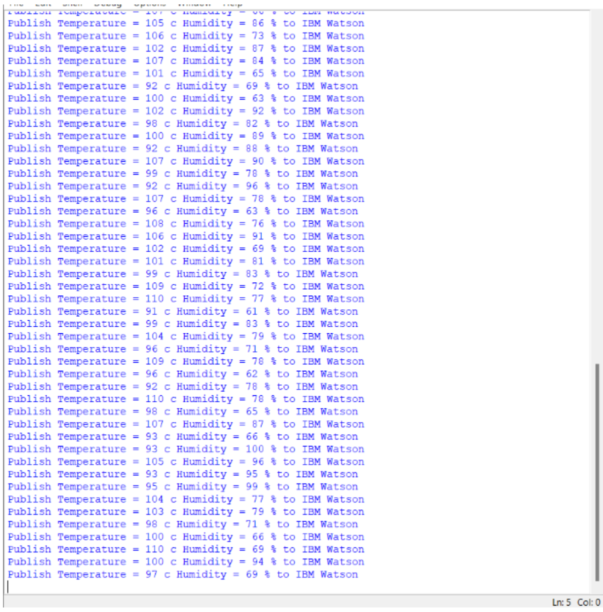
PROJECT DEVELOPMENT PHASE

SPRINT-4

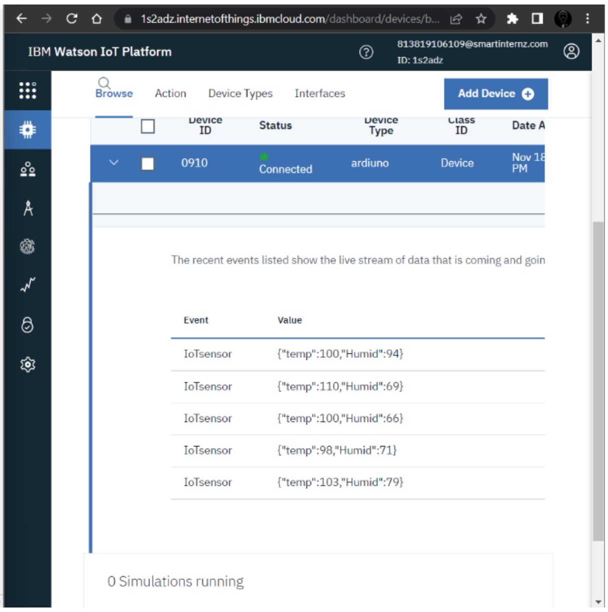
Team ID	PNT2022TMID32813
Project Name	Project - INDUSTRY-SPECIFIC INTELLIGENCE FIRE MANAGEMENT SYSTEM

USER STORY :

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



```
Publish Temperature = 105 c Humidity = 86 % to IBM Watson
Publish Temperature = 106 c Humidity = 73 % to IBM Watson
Publish Temperature = 102 c Humidity = 87 % to IBM Watson
Publish Temperature = 107 c Humidity = 84 % to IBM Watson
Publish Temperature = 101 c Humidity = 65 % to IBM Watson
Publish Temperature = 92 c Humidity = 69 % to IBM Watson
Publish Temperature = 100 c Humidity = 63 % to IBM Watson
Publish Temperature = 102 c Humidity = 92 % to IBM Watson
Publish Temperature = 98 c Humidity = 82 % to IBM Watson
Publish Temperature = 100 c Humidity = 89 % to IBM Watson
Publish Temperature = 92 c Humidity = 88 % to IBM Watson
Publish Temperature = 107 c Humidity = 90 % to IBM Watson
Publish Temperature = 99 c Humidity = 78 % to IBM Watson
Publish Temperature = 92 c Humidity = 96 % to IBM Watson
Publish Temperature = 107 c Humidity = 78 % to IBM Watson
Publish Temperature = 96 c Humidity = 63 % to IBM Watson
Publish Temperature = 108 c Humidity = 76 % to IBM Watson
Publish Temperature = 106 c Humidity = 91 % to IBM Watson
Publish Temperature = 102 c Humidity = 69 % to IBM Watson
Publish Temperature = 101 c Humidity = 81 % to IBM Watson
Publish Temperature = 99 c Humidity = 83 % to IBM Watson
Publish Temperature = 109 c Humidity = 72 % to IBM Watson
Publish Temperature = 110 c Humidity = 77 % to IBM Watson
Publish Temperature = 91 c Humidity = 61 % to IBM Watson
Publish Temperature = 99 c Humidity = 83 % to IBM Watson
Publish Temperature = 104 c Humidity = 79 % to IBM Watson
Publish Temperature = 96 c Humidity = 71 % to IBM Watson
Publish Temperature = 109 c Humidity = 78 % to IBM Watson
Publish Temperature = 96 c Humidity = 62 % to IBM Watson
Publish Temperature = 92 c Humidity = 78 % to IBM Watson
Publish Temperature = 110 c Humidity = 78 % to IBM Watson
Publish Temperature = 98 c Humidity = 65 % to IBM Watson
Publish Temperature = 107 c Humidity = 87 % to IBM Watson
Publish Temperature = 93 c Humidity = 66 % to IBM Watson
Publish Temperature = 93 c Humidity = 100 % to IBM Watson
Publish Temperature = 105 c Humidity = 96 % to IBM Watson
Publish Temperature = 93 c Humidity = 95 % to IBM Watson
Publish Temperature = 95 c Humidity = 99 % to IBM Watson
Publish Temperature = 104 c Humidity = 77 % to IBM Watson
Publish Temperature = 103 c Humidity = 79 % to IBM Watson
Publish Temperature = 98 c Humidity = 71 % to IBM Watson
Publish Temperature = 100 c Humidity = 66 % to IBM Watson
Publish Temperature = 110 c Humidity = 69 % to IBM Watson
Publish Temperature = 100 c Humidity = 94 % to IBM Watson
Publish Temperature = 97 c Humidity = 69 % to IBM Watson
```



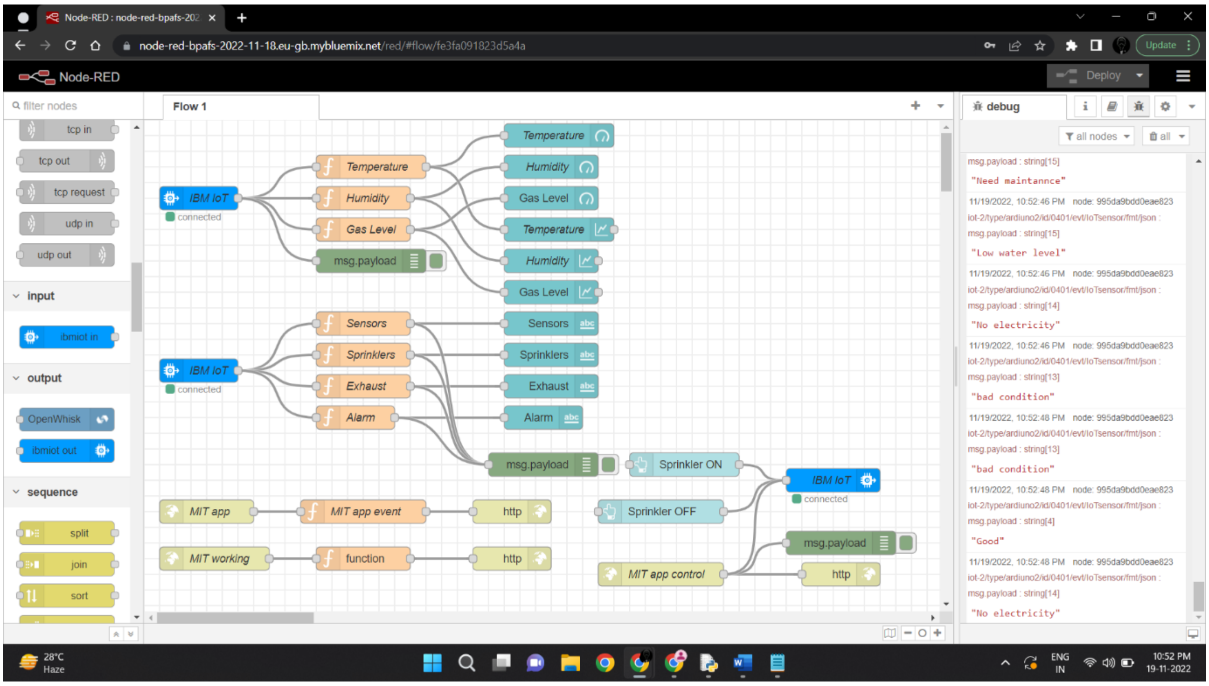
1s2adz.internetofthings.ibmcloud.com/dashboard/devices/b...
IBM Watson IoT Platform
813819106109@smartinternz.com
ID: 1s2adz
Browse
Action
Device Types
Interfaces
Add Device

Device ID	Status	Device Type	Class ID	Date A
0910	Connected	ardiuno	Device	Nov 18 PM

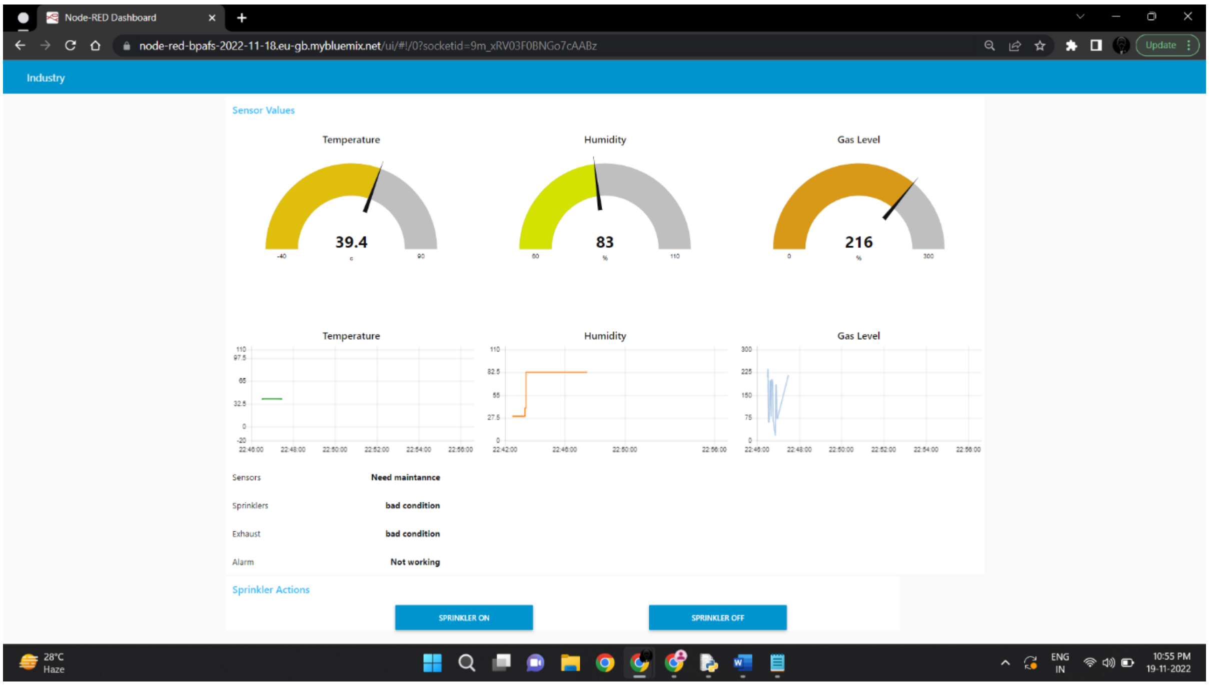
The recent events listed show the live stream of data that is coming and goin

Event	Value
IoTsensor	{"temp":100,"Humid":94}
IoTsensor	{"temp":110,"Humid":69}
IoTsensor	{"temp":100,"Humid":66}
IoTsensor	{"temp":98,"Humid":71}
IoTsensor	{"temp":103,"Humid":79}

0 Simulations running



```
msg.payload : string[15]
"Need maintannce"
11/19/2022, 10:52:46 PM   node: 995da9bdd0eae823
iot-2/type/ardiuno2/id/0401/evt/IoTsensor/fmt/json :
msg.payload : string[15]
"Low water level"
11/19/2022, 10:52:46 PM   node: 995da9bdd0eae823
iot-2/type/ardiuno2/id/0401/evt/IoTsensor/fmt/json :
msg.payload : string[14]
"No electricity"
11/19/2022, 10:52:46 PM   node: 995da9bdd0eae823
iot-2/type/ardiuno2/id/0401/evt/IoTsensor/fmt/json :
msg.payload : string[13]
"bad condition"
11/19/2022, 10:52:48 PM   node: 995da9bdd0eae823
iot-2/type/ardiuno2/id/0401/evt/IoTsensor/fmt/json :
msg.payload : string[13]
"bad condition"
11/19/2022, 10:52:48 PM   node: 995da9bdd0eae823
iot-2/type/ardiuno2/id/0401/evt/IoTsensor/fmt/json :
msg.payload : string[4]
"Good"
11/19/2022, 10:52:48 PM   node: 995da9bdd0eae823
iot-2/type/ardiuno2/id/0401/evt/IoTsensor/fmt/json :
msg.payload : string[14]
"No electricity"
```

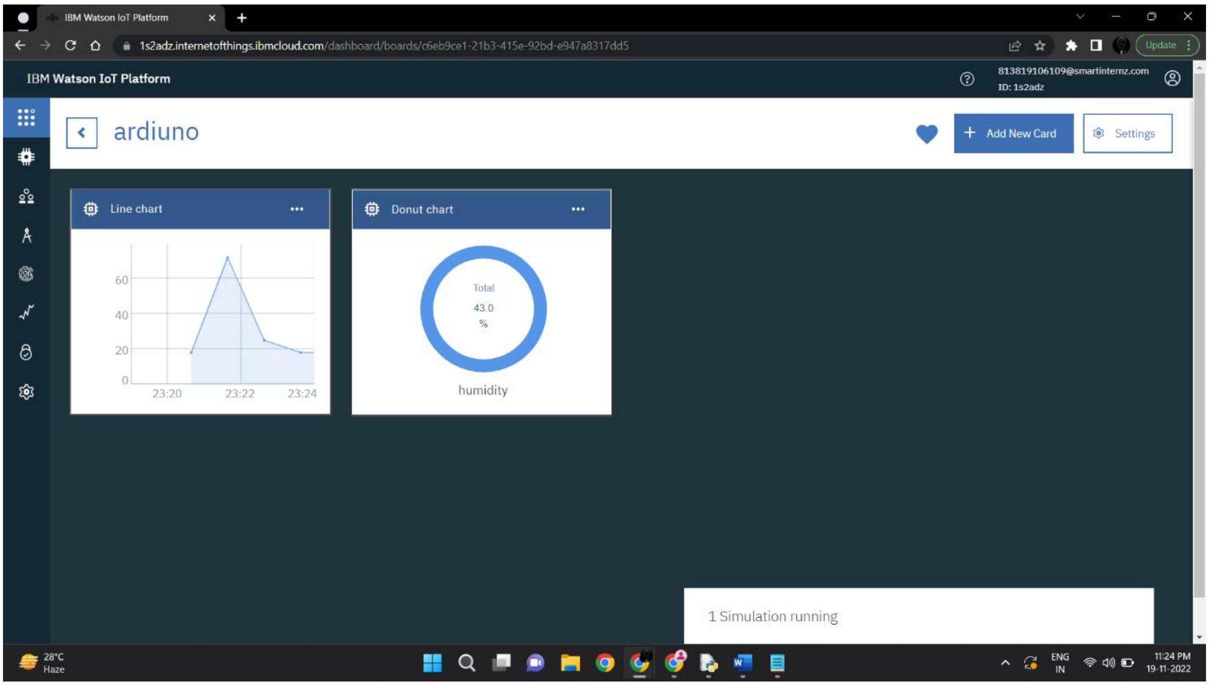


Sensors Need maintannce

Sprinklers bad condition

Exhaust bad condition

Alarm Not working



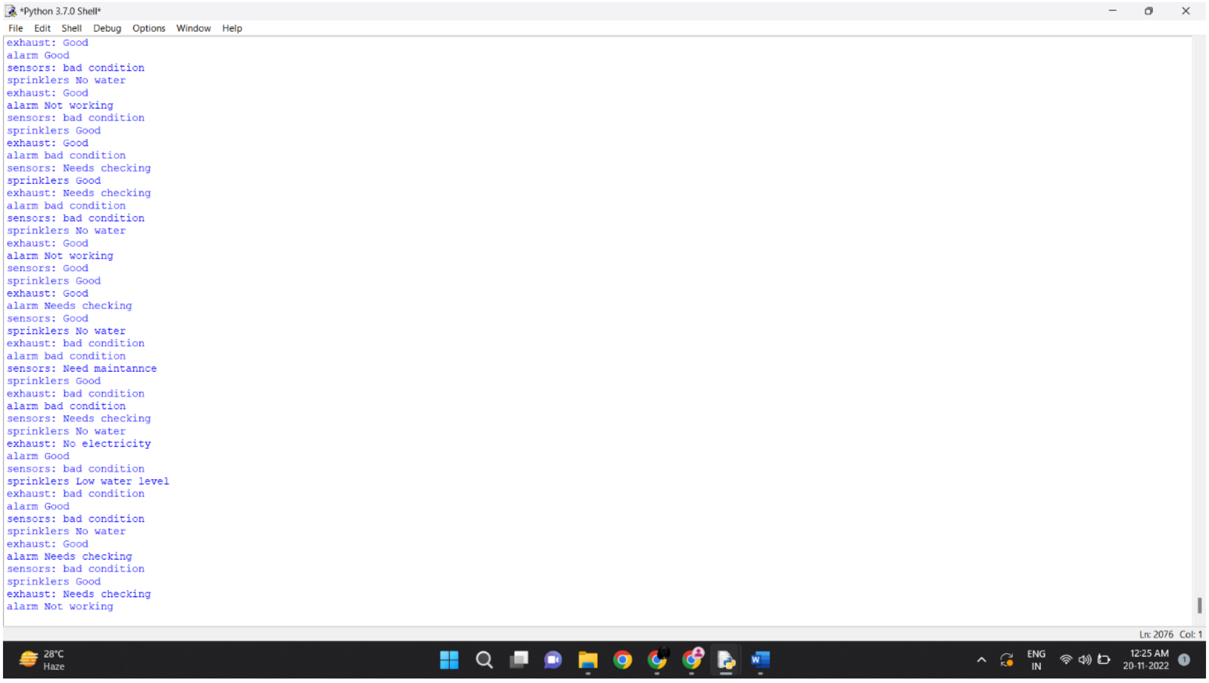
PYTHON CODE:

```
import time

import sys

import ibmiotf.application

import ibmiotf.device

import random


# Provide your IBM Watson Device Credentials

organization="1s2adz"

deviceType="ardiuno2"

deviceId="0401"

authMethod="token"

authToken="87654321"


# Initailize GPIO

def myCommandCallback(cmd):

   print("command received: %s" % cmd.data['command'])

   status=cmd.data['command']

   if status=="sprinkleron":

      print("Sprinkler is on")

   else:

      print("Sprinkler 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 into the cloud as an event of type "greeting" 10 times
deviceCli.connect()

while True:
  #Get Sensor data from DHT11

  s1=['Good','Need maintannce','bad condition','Needs checking']
  s2=['Good','Need maintanence','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(0,110)
  humid=random.randint(40,100)
  gas=random.randint(40,200)

  data={'temp':temp,'humid':humid,'gas':gas}
  data1={'s1':s1[0],'s2':s2[0],'s3':s3[0],'s4':s4[0]}

  #print data
  def myOnPublishCallback():
    print("Publish Temperature = %s c" % temp,"Humidity = %s %%" % humid,"Gas Level =%s %%"% gas,"to IBM Watson")

  def myOnPublishCallback1():
    print("sensors: %s" %s1[0])
    print("sprinklers %s" %s2[0])
```

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

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



    #success=deviceCli.publishEvent("IoTsensor","json",data, qos=0,
on_publish=myOnPublishCallback)

    #time.sleep(1)

    success=deviceCli.publishEvent("IoTsensor","json",data1, qos=0,
on_publish=myOnPublishCallback1)

    if not success:

        print("Not connected to IoTF")

    time.sleep(2)


    deviceCli.commandCallback=myCommandCallback


# Disconnect the device and application from the cloud

deviceCli.disconnect()
```

OUTPUT:



```
exhaust: Good
alarm Good
sensors: bad condition
sprinklers No water
exhaust: Good
alarm Not working
sensors: bad condition
sprinklers Good
exhaust: Good
alarm bad condition
sensors: Needs checking
sprinklers Good
exhaust: Needs checking
alarm bad condition
sensors: bad condition
sprinklers No water
exhaust: Good
alarm Not working
sensors: Good
sprinklers Good
exhaust: Good
alarm Needs checking
sensors: Good
sprinklers No water
exhaust: bad condition
alarm bad condition
sensors: Need maintannce
sprinklers Good
exhaust: bad condition
alarm bad condition
sensors: Needs checking
sprinklers No water
exhaust: No electricity
alarm Good
sensors: bad condition
sprinklers Low water level
exhaust: bad condition
alarm Good
sensors: bad condition
sprinklers No water
exhaust: Good
alarm Needs checking
sensors: bad condition
sprinklers Good
exhaust: Needs checking
alarm Not working
```