PROJECT DEVELOPMENT PHASE

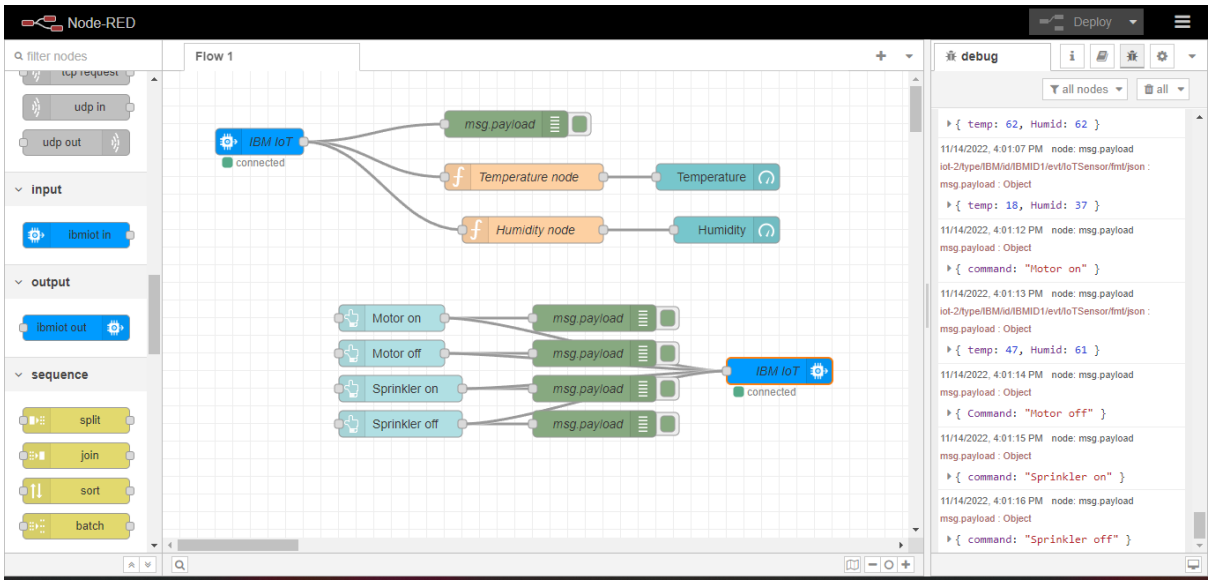
SPRINT 3: Monitoring

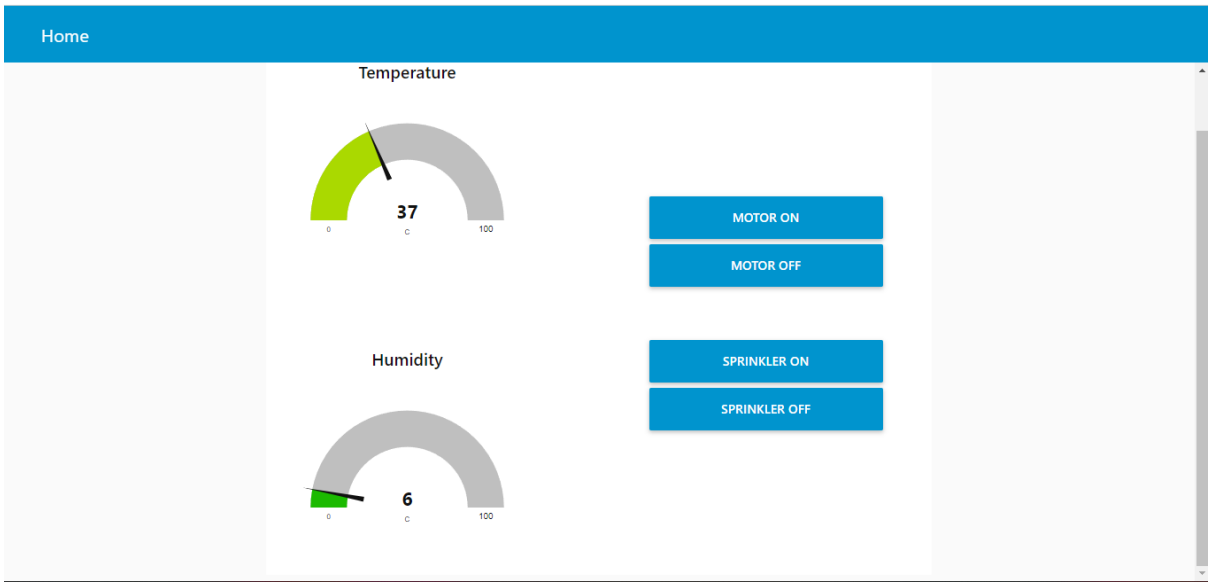
Date	12 November 2022
Team ID	PNT2022TMID30241
Project Name	IoT Based Smart Crop Protection System for Agriculture

CODE:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random
#Provide your IBM Watson Device Credentials
organization = "z22obn"
deviceType = "IBM"
deviceId = "IBMID1"
authMethod = "token"
authToken = "TOKENIBM"
# Initialize GPIO
def myCommandCallback(cmd):
   print("Command received: %s" % cmd.data['command'])
   status=cmd.data['command']
   if status=="lighton":
      print ("led is on")
   else :
      print ("led is off")

   #print(cmd)
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 as an event of type "greeting" 10 times
deviceCli.connect()
while True:
    #Get Sensor Data from DHT11


    temp=random.randint(0,100)
    Humid=random.randint(0,100)


    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(1)


    deviceCli.commandCallback = myCommandCallback


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





Event	Value	Format	Last Received
IoTSensor	{"temp":19,"Humid":7}	json	a few seconds ago
IoTSensor	{"temp":71,"Humid":35}	json	a few seconds ago
IoTSensor	{"temp":7,"Humid":0}	json	a few seconds ago
IoTSensor	{"temp":96,"Humid":80}	json	a few seconds ago
IoTSensor	{"temp":0,"Humid":28}	json	a few seconds ago

```
Published Temperature = 81 C Humidity = 82 % to IBM Watson
Published Temperature = 5 C Humidity = 96 % to IBM Watson
Published Temperature = 78 C Humidity = 62 % to IBM Watson
Published Temperature = 96 C Humidity = 90 % to IBM Watson
Published Temperature = 21 C Humidity = 80 % to IBM Watson
Published Temperature = 47 C Humidity = 53 % to IBM Watson
Published Temperature = 37 C Humidity = 3 % to IBM Watson
Published Temperature = 52 C Humidity = 64 % to IBM Watson
Published Temperature = 4 C Humidity = 17 % to IBM Watson
Published Temperature = 59 C Humidity = 34 % to IBM Watson
Published Temperature = 53 C Humidity = 1 % to IBM Watson
Published Temperature = 7 C Humidity = 91 % to IBM Watson
Published Temperature = 15 C Humidity = 40 % to IBM Watson
Published Temperature = 41 C Humidity = 55 % to IBM Watson
Published Temperature = 94 C Humidity = 90 % to IBM Watson
Published Temperature = 7 C Humidity = 49 % to IBM Watson
Published Temperature = 46 C Humidity = 33 % to IBM Watson
Published Temperature = 40 C Humidity = 11 % to IBM Watson
Published Temperature = 33 C Humidity = 94 % to IBM Watson
Published Temperature = 29 C Humidity = 82 % to IBM Watson
Published Temperature = 83 C Humidity = 25 % to IBM Watson
Published Temperature = 26 C Humidity = 64 % to IBM Watson
Published Temperature = 75 C Humidity = 64 % to IBM Watson
Published Temperature = 71 C Humidity = 6 % to IBM Watson
Published Temperature = 13 C Humidity = 2 % to IBM Watson
Published Temperature = 91 C Humidity = 11 % to IBM Watson
Published Temperature = 2 C Humidity = 76 % to IBM Watson
Published Temperature = 25 C Humidity = 49 % to IBM Watson
Published Temperature = 28 C Humidity = 50 % to IBM Watson
Published Temperature = 2 C Humidity = 9 % to IBM Watson
Published Temperature = 46 C Humidity = 91 % to IBM Watson
Published Temperature = 9 C Humidity = 85 % to IBM Watson
Published Temperature = 38 C Humidity = 85 % to IBM Watson
Published Temperature = 40 C Humidity = 96 % to IBM Watson
Published Temperature = 69 C Humidity = 70 % to IBM Watson
Published Temperature = 14 C Humidity = 20 % to IBM Watson
Published Temperature = 50 C Humidity = 11 % to IBM Watson
Published Temperature = 43 C Humidity = 18 % to IBM Watson
Published Temperature = 51 C Humidity = 22 % to IBM Watson
```