

Project Development Phase
Sprint – 1

Date	9 November 2022
Team ID	PNT2022TMID18041
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT
Maximum Marks	

Task:

Obtain the sensed data and visualize it in Node-RED.

Steps:

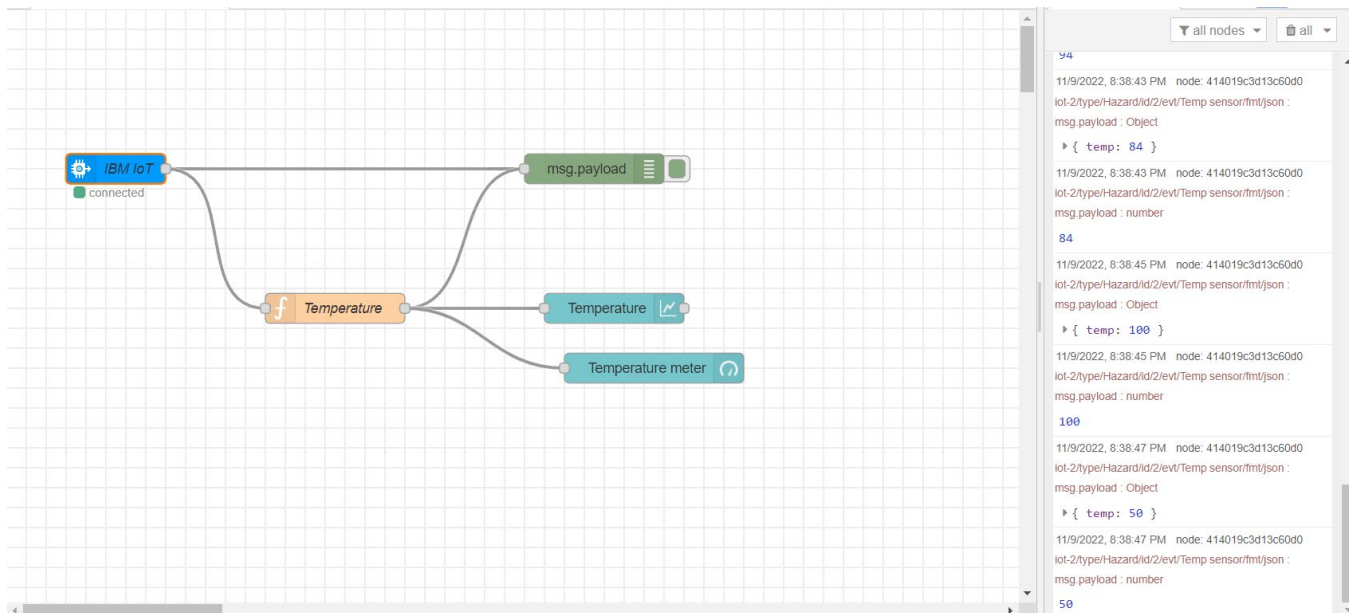
1. IBM IoT node is used to gather sensor data and the necessary API key is provided to establish connection.
2. Using functions namely Temperature, the data is obtained independently and displayed in dashboard.
3. Dashboard Nodes are used to display the sensed data to the user in a portal.

Codes for functions:

Temperature - `msg.payload = msg.payload.temp`
 `return msg;`

Output:

1. Data from Node-RED



```
*Python 3.7.0 Shell*
File Edit Shell Debug Options Window Help
Published Temperature = 79 C to IBM Watson
Published Temperature = 61 C to IBM Watson
Published Temperature = 91 C to IBM Watson
Published Temperature = 100 C to IBM Watson
Published Temperature = 65 C to IBM Watson
Published Temperature = 71 C to IBM Watson
Published Temperature = 99 C to IBM Watson
Published Temperature = 94 C to IBM Watson
Published Temperature = 57 C to IBM Watson
Published Temperature = 52 C to IBM Watson
Published Temperature = 30 C to IBM Watson
Published Temperature = 68 C to IBM Watson
Published Temperature = 57 C to IBM Watson
Published Temperature = 94 C to IBM Watson
Published Temperature = 84 C to IBM Watson
Published Temperature = 100 C to IBM Watson
Published Temperature = 50 C to IBM Watson
Published Temperature = 69 C to IBM Watson
Published Temperature = 98 C to IBM Watson
Published Temperature = 90 C to IBM Watson
Published Temperature = 97 C to IBM Watson
Published Temperature = 61 C to IBM Watson
Published Temperature = 86 C to IBM Watson
Published Temperature = 74 C to IBM Watson
Published Temperature = 88 C to IBM Watson
Published Temperature = 97 C to IBM Watson
Published Temperature = 59 C to IBM Watson
Published Temperature = 71 C to IBM Watson
Published Temperature = 93 C to IBM Watson
Published Temperature = 85 C to IBM Watson
Published Temperature = 90 C to IBM Watson
Published Temperature = 91 C to IBM Watson
Published Temperature = 92 C to IBM Watson
Published Temperature = 74 C to IBM Watson
Published Temperature = 87 C to IBM Watson
Published Temperature = 86 C to IBM Watson
Published Temperature = 79 C to IBM Watson
Published Temperature = 84 C to IBM Watson
Published Temperature = 86 C to IBM Watson

ibm.py - C:\Users\kaush\AppData\Local\Programs\Python\Python37-32\ibm.py (3.7.0)
File Edit Format Run Options Window Help
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

# Provide your IBM Watson Device Credentials
organization = "cinoyk"
deviceType = "Hazard"
deviceId = "2"
authMethod = "token"
authToken = "123456789"

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "a
                    "auth-token": authToken}
    deviceCli = ibmiotf.device.Client(deviceOptions)
    deviceCli.connect()
    # .....
except ibmiotf.ConnectionException as e:
    print("Caught exception connecting device: %s" % str(e))
    sys.exit()

while True:
    # Get Sensor Data from DHT11
    temp = random.randint(50, 100)
    mydata = {'temp': temp}

    def on_publish():
        print("Published Temperature = %s C" % temp, "to IBM Watson")

    success = deviceCli.publishEvent("Temp sensor", "json", mydata, qos=0, on_pu
    if not success:
        print("Not connected to IoT")
    time.sleep(2)
```

2. Data displayed in dashboard.

