

# PROJECT DEVELOPMENT PHASE

## SPRINT-1

Team ID	PNT2022TMID15984
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IOT
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Code:

```
sprint 1 code.py - C:/Users/admin/Desktop/sprint 1 code.py (3.7.0)
File Edit Format Run Options Window Help

import time
import sys
import random
import ibmiotf.application
import ibmiotf.device
organization = "22h45t"
deviceType = "NodeMCU"
deviceId = "12345"
authMethod = "token"
authToken = "123456789"
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()
deviceCli.connect()
while True:
    temp=random.randint(0,100)
    Humid=random.randint(0,100)
    Gas=random.randint(0,100)

    data = [ 'temp' : temp, 'Humid': Humid, 'Gas': Gas ]

    def myOnPublishCallback():
        print ("Published Temperature = %s C° % temp, "Humidity = %s %% %Humid, "Gas Concentration = %s" %Gas )
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoT")
    time.sleep(10)
    |
deviceCli.disconnect()
```

## Output:

```
Python 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 [v3.7.0:1bf9cc5093, 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/admin/Desktop/aprint 1 code.py =====
2022-11-16 21:34:54,133 ibmiotf.device.Client INFO Connected successfully: d122h49t:NodeMCU:12345
Published Temperature = 11 C Humidity = 26 % Gas Concentration = 89
Published Temperature = 37 C Humidity = 95 % Gas Concentration = 51
Published Temperature = 76 C Humidity = 93 % Gas Concentration = 90
Published Temperature = 50 C Humidity = 27 % Gas Concentration = 1
Published Temperature = 21 C Humidity = 31 % Gas Concentration = 4
Published Temperature = 49 C Humidity = 56 % Gas Concentration = 16
Published Temperature = 10 C Humidity = 33 % Gas Concentration = 48
Published Temperature = 38 C Humidity = 30 % Gas Concentration = 91
Published Temperature = 44 C Humidity = 100 % Gas Concentration = 96
Published Temperature = 41 C Humidity = 20 % Gas Concentration = 52
Published Temperature = 34 C Humidity = 25 % Gas Concentration = 96
Published Temperature = 29 C Humidity = 98 % Gas Concentration = 97
Published Temperature = 3 C Humidity = 70 % Gas Concentration = 34
Published Temperature = 73 C Humidity = 24 % Gas Concentration = 4
Published Temperature = 3 C Humidity = 70 % Gas Concentration = 94
Published Temperature = 86 C Humidity = 49 % Gas Concentration = 70
Published Temperature = 56 C Humidity = 11 % Gas Concentration = 96
Published Temperature = 26 C Humidity = 77 % Gas Concentration = 1
Published Temperature = 27 C Humidity = 41 % Gas Concentration = 72
Published Temperature = 13 C Humidity = 12 % Gas Concentration = 20
Published Temperature = 2 C Humidity = 68 % Gas Concentration = 47
Published Temperature = 79 C Humidity = 52 % Gas Concentration = 91
Published Temperature = 0 C Humidity = 36 % Gas Concentration = 89
Published Temperature = 38 C Humidity = 10 % Gas Concentration = 54
Published Temperature = 43 C Humidity = 53 % Gas Concentration = 32
Published Temperature = 64 C Humidity = 20 % Gas Concentration = 32
Published Temperature = 32 C Humidity = 12 % Gas Concentration = 47
Published Temperature = 47 C Humidity = 15 % Gas Concentration = 43
Published Temperature = 33 C Humidity = 80 % Gas Concentration = 63
Published Temperature = 18 C Humidity = 71 % Gas Concentration = 59
Published Temperature = 59 C Humidity = 27 % Gas Concentration = 7
Published Temperature = 2 C Humidity = 86 % Gas Concentration = 84
Published Temperature = 55 C Humidity = 76 % Gas Concentration = 89
```

## Cloud output:

IBM Watson IoT Platform

https://22h49t.internetofthings.ibmcloud.com/dashboard/devices/browse

Device ID: 12345

Device ID	Status	Device Type	Class ID	Date Added
12345	Connected	NodeMCU	Device	Oct 20, 2022 11:04 PM

Identity Device Information Recent Events State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
IoT Sensor	{"temp":36,"Humid":5,"Gas":95}	json	a few seconds ago
IoT Sensor	{"temp":28,"Humid":90,"Gas":58}	json	a few seconds ago
IoT Sensor	{"temp":69,"Humid":24,"Gas":79}	json	a few seconds ago
IoT Sensor	{"temp":55,"Humid":76,"Gas":89}	json	a few seconds ago
IoT Sensor	{"temp":2,"Humid":86,"Gas":84}	json	a few seconds ago