

SPRINT 4

Date	19 November 2022
Team ID	PNT2022TMID38652
Project Name	SmartFarmer - IoT Enabled Smart Farming Application

PROJECT TESTING

PYTHON CODE:

```
Cloud_Connection.py - C:/Users/india/Desktop/IBM-EBPL/pgms/Cloud_Connection.py (3.7.0)
File Edit Format Run Options Window Help

import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#vishnu IBM
organization = "r5sgral"
deviceType = "smartfarmer"
deviceId = "38652"
authMethod = "token"
authToken = "12345678"

#Gpio

def mycommandCallback(cmd):
    print("Command Received: %s" %cmd.data['command'])
    status = cmd.data['command']
    if status=="motoron":
        print("MOTOR is ON")
    elif status=="motoroff":
        print("MOTOR is OFF")
    else:
        print("please send proper command")
try:
    deviceOptions = {"org":organization,"type":deviceType,"id":deviceId,"auth-method":authMethod,"auth-
deviceCli = ibmiotf.device.Client(deviceOptions)

except Exception as e:

Cloud_Connection.py - C:/Users/india/Desktop/IBM-EBPL/pgms/Cloud_Connection.py (3.7.0)
File Edit Format Run Options Window Help

except Exception as e:
    print("Caught exception connecting device: %s" %str(e))
    sys.exit()

#CONNECT
deviceCli.connect()

while True:
    temperature=random.randint(0,50)
    humidity=random.randint(0,100)
    soilmoisture=random.randint(0,100)

    data={'temperature':temperature,'humidity':humidity,'soilmoisture':soilmoisture}

    def myOnPublishCallback():
        print("Published temperature = %s C"%temperature,"humidity = %s %" %humidity,"soilmoisture = %s" %soilmoisture)
    success = deviceCli.publishEvent("data","json",data,qos=0, on_publish=myOnPublishCallback)
    if not success:
        print("Not connected to IoT")
    time.sleep(10)

    deviceCli.commandCallback = mycommandCallback

#Disconnect
deviceCli.disconnect()
```

PYTHON 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/india/Desktop/IBM-EBPL/pgms/Cloud_Connection.py =====
2022-11-19 11:20:09,136 ibmiotf.device.Client INFO Connected successfully: d:r5gral:smartfar
mer:38652
Published temperature = 42 C humidity = 79 % soilmoisture = 3 % to IBM Watson
Published temperature = 36 C humidity = 27 % soilmoisture = 35 % to IBM Watson
Published temperature = 31 C humidity = 78 % soilmoisture = 24 % to IBM Watson
Published temperature = 37 C humidity = 85 % soilmoisture = 12 % to IBM Watson
Published temperature = 33 C humidity = 0 % soilmoisture = 3 % to IBM Watson
Published temperature = 22 C humidity = 27 % soilmoisture = 25 % to IBM Watson
Published temperature = 1 C humidity = 62 % soilmoisture = 51 % to IBM Watson
Published temperature = 2 C humidity = 50 % soilmoisture = 87 % to IBM Watson
Published temperature = 32 C humidity = 96 % soilmoisture = 13 % to IBM Watson
Published temperature = 11 C humidity = 34 % soilmoisture = 94 % to IBM Watson
Published temperature = 15 C humidity = 23 % soilmoisture = 3 % to IBM Watson
Published temperature = 24 C humidity = 93 % soilmoisture = 32 % to IBM Watson
Published temperature = 27 C humidity = 98 % soilmoisture = 76 % to IBM Watson
Published temperature = 19 C humidity = 81 % soilmoisture = 44 % to IBM Watson
Published temperature = 6 C humidity = 34 % soilmoisture = 100 % to IBM Watson
Published temperature = 41 C humidity = 61 % soilmoisture = 30 % to IBM Watson
Published temperature = 49 C humidity = 20 % soilmoisture = 30 % to IBM Watson
Published temperature = 6 C humidity = 44 % soilmoisture = 55 % to IBM Watson
Published temperature = 1 C humidity = 43 % soilmoisture = 68 % to IBM Watson
|
```

CLOUD

DEPLOYMENT :

IBM-EPBL/IBM-Project-3618 x IBM x IBM Watson IoT Platform x Node-RED : node-red-ciocp x New Tab

← → ↻ r5gra1.internetofthings.ibmcloud.com/dashboard/devices/browse

Gmail Prime Video Members IBM Cloud Bulk SMS - Fast2SMS MIT App Inventor IBM Watson IoT Pla... vis temp W vis us W VIS TEMP Node-RED pnt2022tmid38652...

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Browse Action Device Types Interfaces

Add Device +

🔍 Search by Device ID

Device Simulator ☒

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added		
>	<input type="checkbox"/>	123	Disconnected	navu	Device	16 Nov 2022 12:21	
>	<input type="checkbox"/>	1234	Disconnected	abcd	Device	14 Nov 2022 13:28	
>	<input type="checkbox"/>	20	Disconnected	arod	Device	25 Oct 2022 15:27	...
>	<input type="checkbox"/>	30	Disconnected	Dora	Device	25 Oct 2022 22:57	
>	<input type="checkbox"/>	38652	Connected	smartfarmer	Device	18 Nov 2022 22:02	

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0 Simulations running

IBM-EPBL/IBM-Project-3618 x IBM x IBM Watson IoT Platform x Node-RED : node-red-ciocp x New Tab

← → ↻ r5gra1.internetofthings.ibmcloud.com/dashboard/devices/browse

Gmail Prime Video Members IBM Cloud Bulk SMS - Fast2SMS MIT App Inventor IBM Watson IoT Pla... vis temp W vis us W VIS TEMP Node-RED pnt2022tmid38652...

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Browse Action Device Types Interfaces

Add Device +

38652

Connected

smartfarmer

Device

18 Nov 2022 22:02

→ ...

Identity Device Information Recent Events State Logs

×

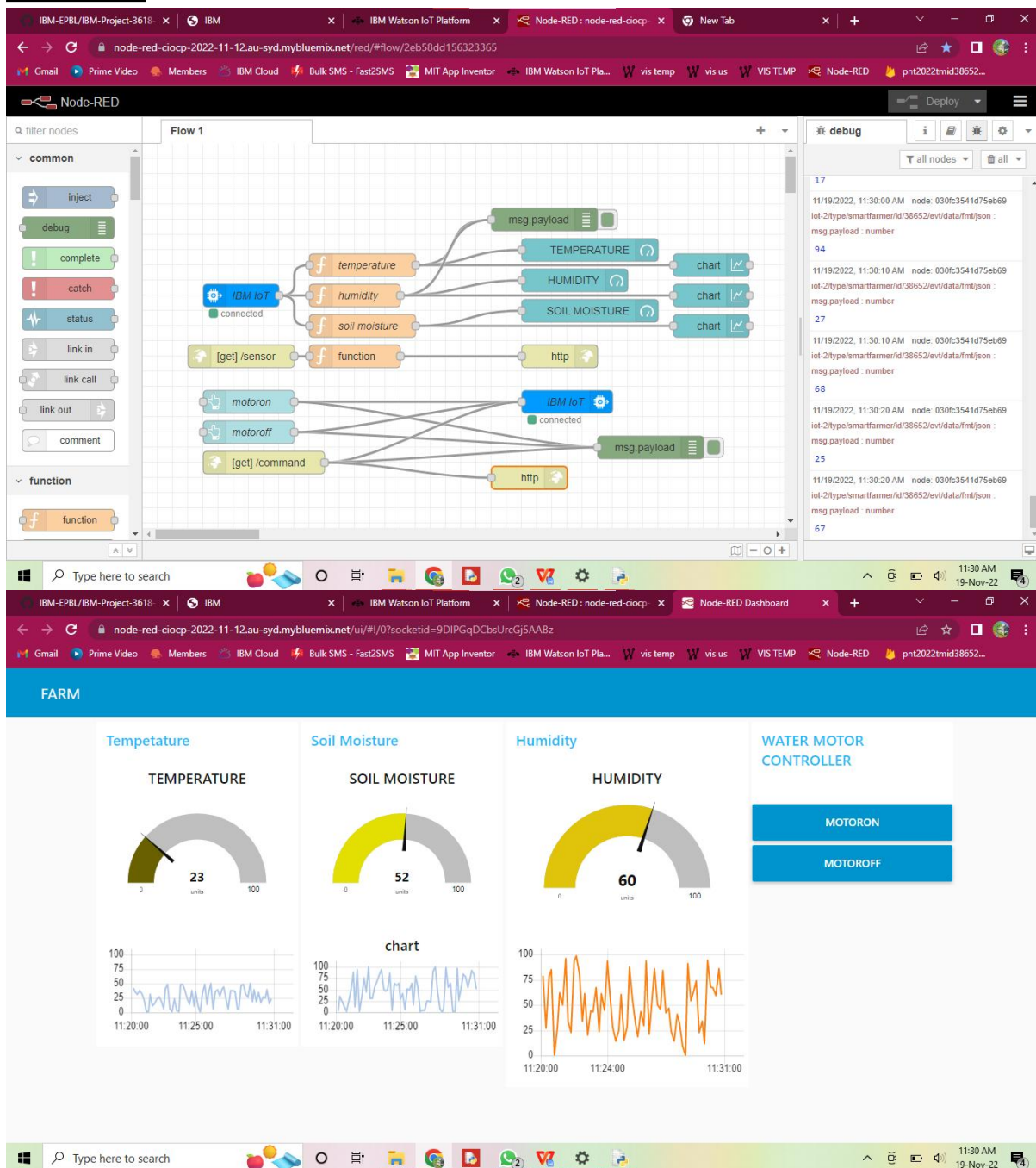
The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
data	{"temperature":35,"humidity":12,"soilmoisture":...	json	a few seconds ago
data	{"temperature":18,"humidity":34,"soilmoisture":...	json	a few seconds ago
data	{"temperature":39,"humidity":23,"soilmoisture":...	json	a few seconds ago
data	{"temperature":19,"humidity":74,"soilmoisture":...	json	a few seconds ago
data	{"temperature":50,"humidity":64,"soilmoisture":0}	json	a few seconds ago

Type here to search

11:26 AM 19-Nov-22

NODE RED



APPLICATION DEPLOYMENT:

11:37

VoLTE1 4G VoLTE2 94%

WELCOME TO SMARTFARMER



11:37

VoLTE 4G LTE1 VoLTE 4G LTE2 94%

LOGIN



USER NAME : pugazh

PASSWORD :

LOGIN

SIGN-UP



11:37

VoLTE 4G LTE1 VoLTE LTE2 94%

LOGIN



Status

Welcome SMARTFARMER

okay

USER NAME : pugazh

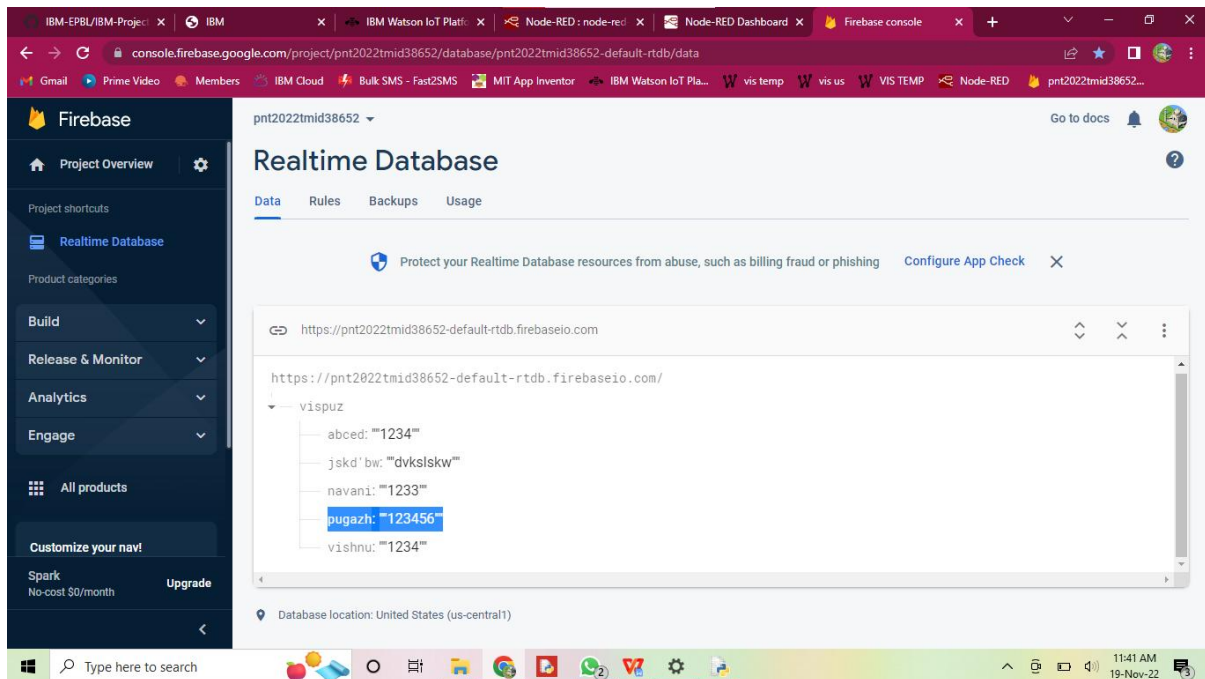
PASSWORD :

LOGIN

SIGN-UP



DATABASE MANAGEMENT :



The screenshot displays the Firebase Realtime Database interface in a web browser. The left sidebar contains the Firebase logo and navigation links: Project Overview, Realtime Database, Product categories, Build, Release & Monitor, Analytics, Engage, All products, Customize your nav!, Spark, and Upgrade. The main content area is titled 'Realtime Database' and shows the 'Data' tab. A JSON structure is visible under the path 'vispuz', containing five entries: 'abcded' with value '1234', 'jskd' with value 'dvkslskw', 'navani' with value '1233', 'pugazht' with value '123456', and 'vishnu' with value '1234'. The 'pugazht' entry is highlighted. A notification banner at the top of the main area reads 'Protect your Realtime Database resources from abuse, such as billing fraud or phishing' with a 'Configure App Check' link. The browser's address bar shows the URL 'console.firebase.google.com/project/pnt2022tmid38652/database/pnt2022tmid38652-default-rtdb/data'. The Windows taskbar at the bottom shows the time as 11:41 AM on 19-Nov-22.

Realtime Database

Data Rules Backups Usage

Protect your Realtime Database resources from abuse, such as billing fraud or phishing [Configure App Check](#)

`https://pnt2022tmid38652-default-rtdb.firebaseio.com/`

```
vispuz
  abcded: "1234"
  jskd'bw: "dvkslskw"
  navani: "1233"
  pugazht: "123456"
  vishnu: "1234"
```

Database location: United States (us-central1)

11:37

VoLTE 4G VoLTE 94%

FARM

SMART FARMER

TEMPERATURE 43

HUMIDITY 84

SOIL MOISTURE 22



WATER MOTOR
CONTROLLER

MOTOR ON

MOTOR OFF

