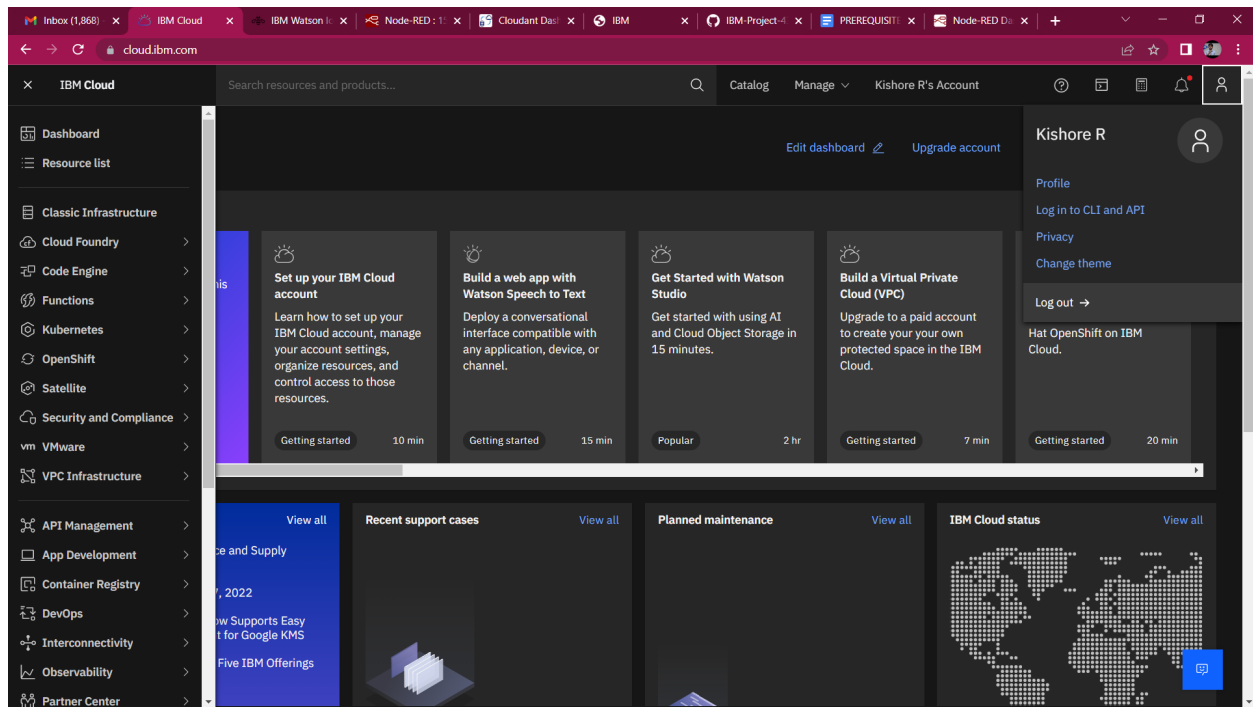


## PREREQUISITES

Date	03 November 2022
Team ID	PNT2022TMID43416
Project Name	Project - SMART WASTE MANAGEMENT SYSTEM

### IBM Cloud Services:



## IBM Watson IoT Platform:

IBM Watson IoT Platform

Browse Action Device Types Interfaces

Add Device +

### Browse Devices

All Devices Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator ☐ ☐ ☐

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
123456789	Disconnected	Node_Mcu	Device	Nov 9, 2022 8:21 PM	

Items per page 50 | 1-1 of 1 item

1 of 1 page

## Node - RED:

Node-RED

Flow 1

filter nodes

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change
- range
- template

Flow 1

Hello Node-RED!

jeelree

ultra sonic

weight

gps

msg.payload

Garbage Level

Garbage Weight

Bin Location

debug

```
"11.36637,76.889828" }
```

11/10/2022, 10:23:02 PM node: f22649a.0d0d98  
iot-2typeNode\_Mcuid/123456789evhoTSensorfntm/json : msg.payload : Object  
{ Ultrasonic: 48, Weight: 58, GPS: "11.138168,76.888997" }

11/10/2022, 10:23:08 PM node: f22649a.0d0d98  
iot-2typeNode\_Mcuid/123456789evhoTSensorfntm/json : msg.payload : Object  
{ Ultrasonic: 59, Weight: 42, GPS: "11.286234,76.891715" }

11/10/2022, 10:23:14 PM node: f22649a.0d0d98  
iot-2typeNode\_Mcuid/123456789evhoTSensorfntm/json : msg.payload : Object  
{ Ultrasonic: 29, Weight: 79, GPS: "11.312577,76.818482" }

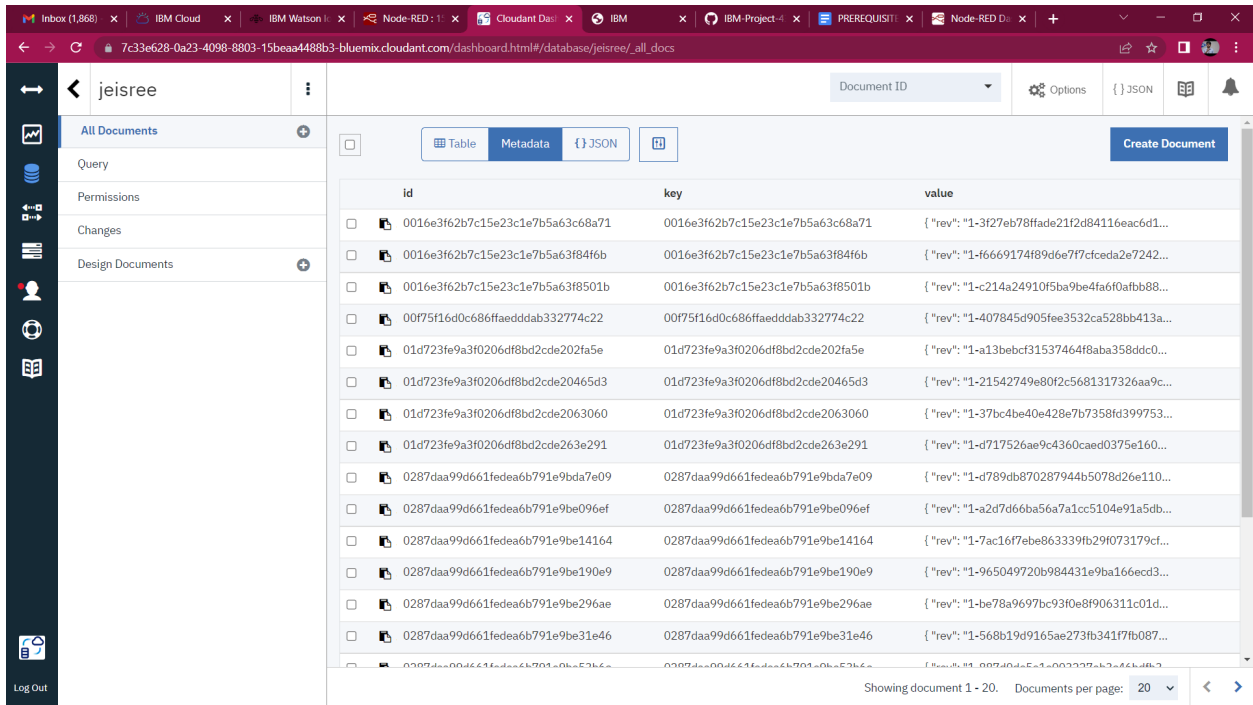
11/10/2022, 10:23:20 PM node: f22649a.0d0d98  
iot-2typeNode\_Mcuid/123456789evhoTSensorfntm/json : msg.payload : Object  
{ Ultrasonic: 18, Weight: 66, GPS: "11.338039,76.846347" }

11/10/2022, 10:23:26 PM node: f22649a.0d0d98  
iot-2typeNode\_Mcuid/123456789evhoTSensorfntm/json : msg.payload : Object  
{ Ultrasonic: 69, Weight: 85, GPS: "11.338478,76.808242" }

11/10/2022, 10:23:32 PM node: f22649a.0d0d98  
iot-2typeNode\_Mcuid/123456789evhoTSensorfntm/json : msg.payload : Object  
{ Ultrasonic: 38, Weight: 34, GPS: "11.445093,76.895209" }

11/10/2022, 10:23:38 PM node: f22649a.0d0d98  
iot-2typeNode\_Mcuid/123456789evhoTSensorfntm/json : msg.payload : Object  
{ Ultrasonic: 20, Weight: 53, GPS: "11.337416,76.896172" }

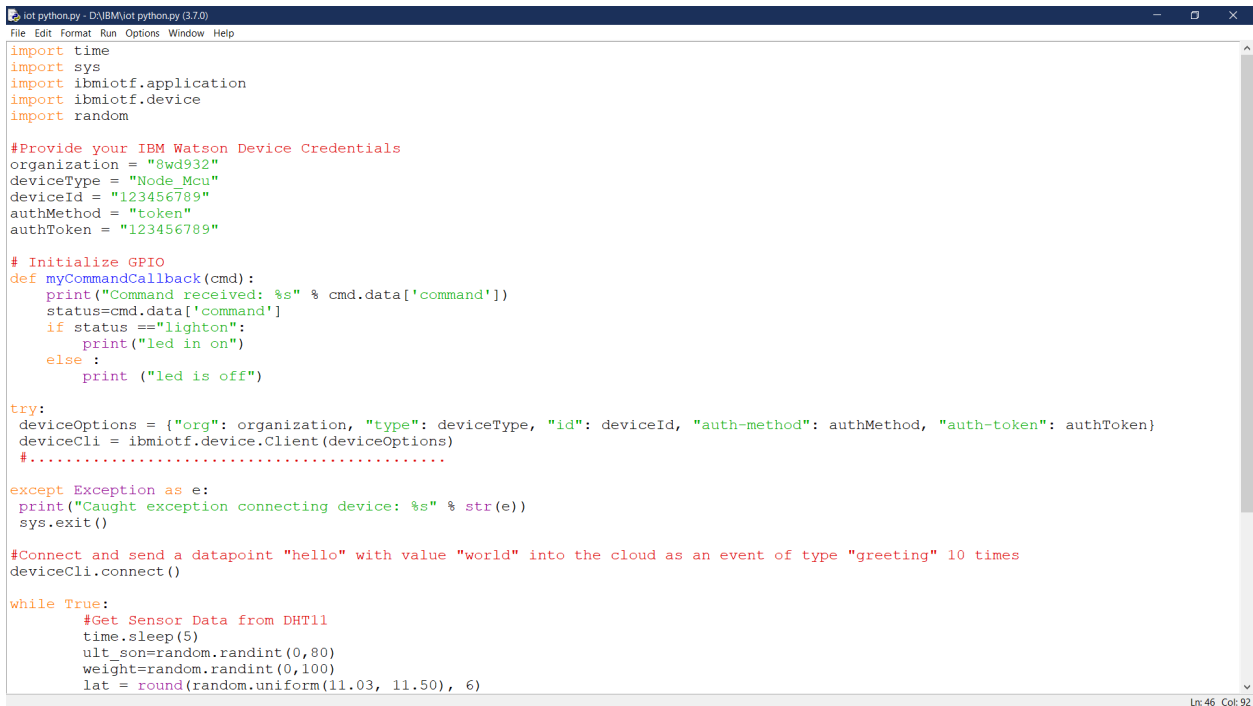
## Cloudant Dashboard:



The screenshot shows the Cloudant Dashboard interface for a database named 'jeisree'. The left sidebar contains navigation options: All Documents, Query, Permissions, Changes, and Design Documents. The main area displays a table of documents with columns 'id', 'key', and 'value'. The table shows 20 documents, each with a unique ID and a JSON value. The bottom status bar indicates 'Showing document 1 - 20' and 'Documents per page: 20'.

id	key	value
0016e3f62b7c15e23c1e7b5a63c68a71	0016e3f62b7c15e23c1e7b5a63c68a71	{ "rev": "1-3f27eb78ffade21f2d84116eac6d1..." }
0016e3f62b7c15e23c1e7b5a63f84f6b	0016e3f62b7c15e23c1e7b5a63f84f6b	{ "rev": "1-f669174f89d6e7f7cfceda2e7242..." }
0016e3f62b7c15e23c1e7b5a63f8501b	0016e3f62b7c15e23c1e7b5a63f8501b	{ "rev": "1-c214a24910f5ba9be4fa6f0afb88..." }
00f75f16d0c686ffaeddab332774c22	00f75f16d0c686ffaeddab332774c22	{ "rev": "1-407845d905fee3532ca528bb413a..." }
01d723fe9a3f0206df8bd2cde202fa5e	01d723fe9a3f0206df8bd2cde202fa5e	{ "rev": "1-a13bebcf31537464f8aba358ddc0..." }
01d723fe9a3f0206df8bd2cde20465d3	01d723fe9a3f0206df8bd2cde20465d3	{ "rev": "1-21542749e80f5c5681317326aa9c..." }
01d723fe9a3f0206df8bd2cde2063060	01d723fe9a3f0206df8bd2cde2063060	{ "rev": "1-37bc4be40e428e7b7358fd399753..." }
01d723fe9a3f0206df8bd2cde263e291	01d723fe9a3f0206df8bd2cde263e291	{ "rev": "1-d717526ae9c4360caed0375e160..." }
0287daa99d661fedea6b791e9bda7e09	0287daa99d661fedea6b791e9bda7e09	{ "rev": "1-d789db870287944b5078d26e110..." }
0287daa99d661fedea6b791e9be09ef	0287daa99d661fedea6b791e9be09ef	{ "rev": "1-a2d7d66ba56a71cc5104e91a5db..." }
0287daa99d661fedea6b791e9be14164	0287daa99d661fedea6b791e9be14164	{ "rev": "1-7ac16f7ebe863339fb29f073179cf..." }
0287daa99d661fedea6b791e9be190e9	0287daa99d661fedea6b791e9be190e9	{ "rev": "1-965049720b984431e9ba16eecd3..." }
0287daa99d661fedea6b791e9be296ae	0287daa99d661fedea6b791e9be296ae	{ "rev": "1-be78a9697bc93f0e8f906311c01d..." }
0287daa99d661fedea6b791e9be31e46	0287daa99d661fedea6b791e9be31e46	{ "rev": "1-568b19d9165ae273fb341f7fb087..." }

## Python IDE:



```
iot python.py - D:\IBM\iot python.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 = "8wd932"
deviceType = "Node Mcu"
deviceId = "123456789"
authMethod = "token"
authToken = "123456789"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print("led in on")
    else:
        print ("led 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 "world" into the cloud as an event of type "greeting" 10 times
deviceCli.connect()

while True:
    #Get Sensor Data from DHT11
    time.sleep(5)
    ult_son=random.randint(0,80)
    weight=random.randint(0,100)
    lat = round(random.uniform(11.03, 11.50), 6)
```