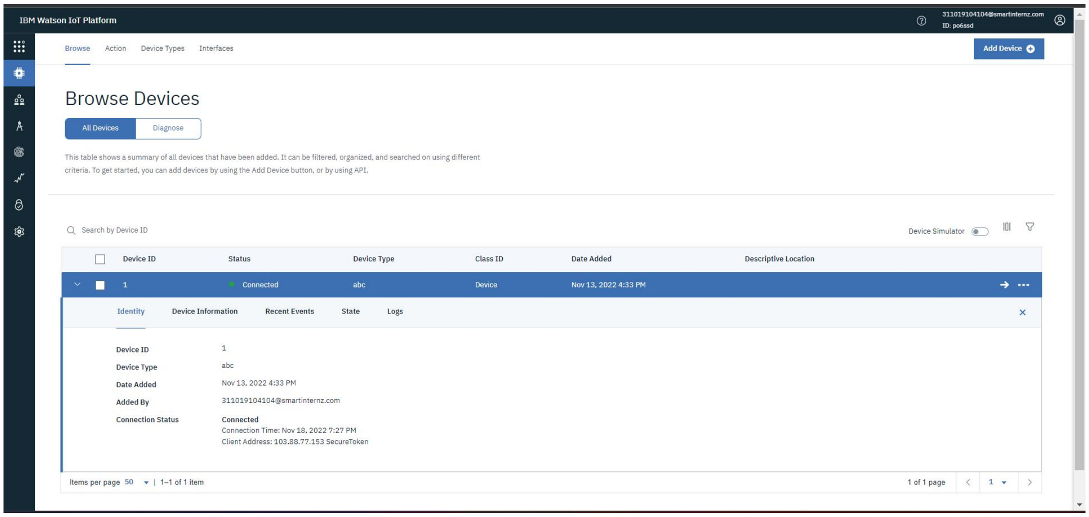
SPRINT 1

Date	November 1, 2022
Team id	PNT2022TMID27283
Project Name	SmartFarmer - IoT Enabled Smart Farming Application

1. Setting up IBM Cloud Platform



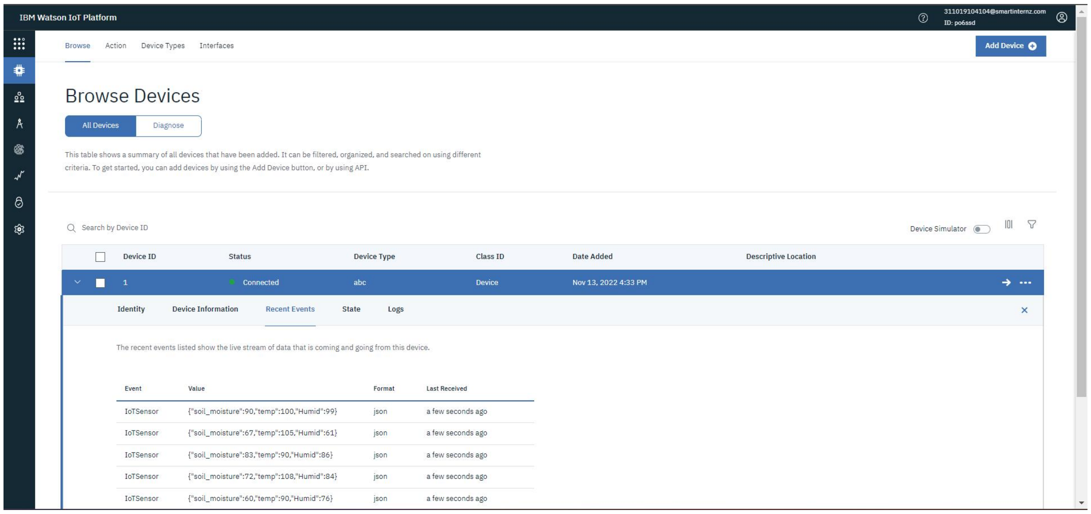
Browse Devices

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.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
1	Connected	abc	Device	Nov 13, 2022 4:33 PM	

Device ID	1
Device Type	abc
Date Added	Nov 13, 2022 4:33 PM
Added By	311019104104@smartinternz.com
Connection Status	Connected Connection Time: Nov 18, 2022 7:27 PM Client Address: 103.88.77.153 SecureToken

2. Setting up Devices



Browse Devices

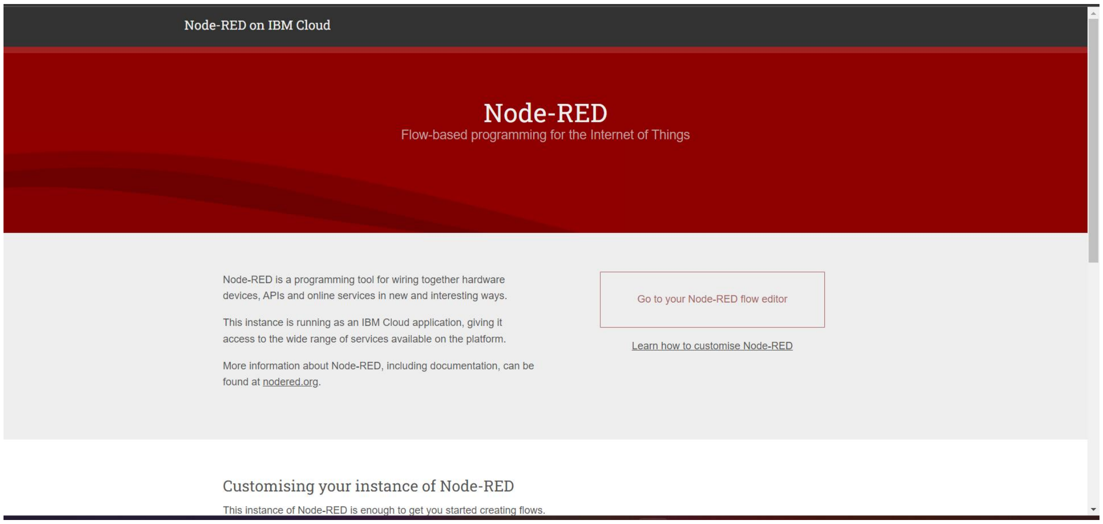
This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
1	Connected	abc	Device	Nov 13, 2022 4:33 PM	

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

Event	Value	Format	Last Received
IoTSensor	{"soil_moisture":90,"temp":100,"Humid":99}	json	a few seconds ago
IoTSensor	{"soil_moisture":67,"temp":105,"Humid":61}	json	a few seconds ago
IoTSensor	{"soil_moisture":83,"temp":90,"Humid":86}	json	a few seconds ago
IoTSensor	{"soil_moisture":72,"temp":108,"Humid":84}	json	a few seconds ago
IoTSensor	{"soil_moisture":60,"temp":90,"Humid":76}	json	a few seconds ago

3. **Setting up Nod-Red**



Node-RED

Flow-based programming for the Internet of Things

Node-RED is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways.

This instance is running as an IBM Cloud application, giving it access to the wide range of services available on the platform.

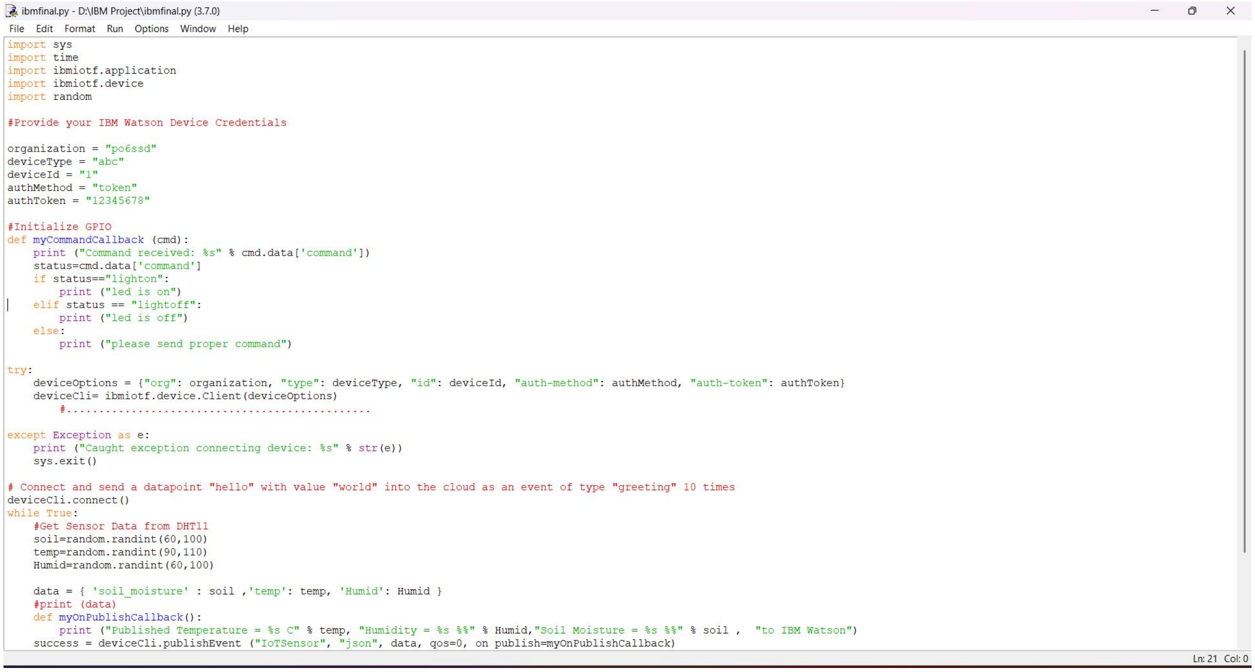
More information about Node-RED, including documentation, can be found at nodered.org.

Go to your Node-RED flow editor
Learn how to customise Node-RED

Customising your instance of Node-RED

This instance of Node-RED is enough to get you started creating flows.

4. **Setting up Python Code**



ibmfinal.py - D:\IBM Project\ibmfinal.py (3.7.0)
File Edit Format Run Options Window Help
Ln: 21 Col: 0

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

#Provide your IBM Watson Device Credentials

organization = "po6ssd"
deviceType = "abc"
deviceId = "1"
authMethod = "token"
authToken = "12345678"

#Initialize GPIO
def myCommandCallback (cmd):
    print ("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    elif status == "lightoff":
        print ("led is off")
    else:
        print ("please send proper command")

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
    soil=random.randint(60,100)
    temp=random.randint(90,110)
    Humid=random.randint(60,100)

    data = { 'soil_moisture' : soil ,'temp': temp, 'Humid': Humid }
    #print (data)
    def myOnPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid,"Soil Moisture = %s %%" % soil ,  "to IBM Watson")
    success = deviceCli.publishEvent ("IoTSensor", "json", data, qos=0, on_publish=myOnPublishCallback)
```