

## ASSIGNMENT-3

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APPLICATION ID- **SPS\_APL\_20210012611**

**Aim** - Develop a code to upload the water tank level and light intensity values to the IBM IoT platform and visualize them in the web application.

**Components Required** –

1. NODE – RED
2. Integrated IoT Device
3. Python
4. IBM Cloud

**Working** - We develop a code using python which behaves as virtual device to send and receive the data. The python code continuously sends random light intensity data and Water level to the IBM cloud which is then visualized in the web application created using NODE-Red.

### PYTHON CODE:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "z457uu",
        "typeId": "VITDevice",
        "deviceId": "12345"
    },
    "auth": {
        "token": "qdK@12FID3yOE)r7lz"
    }
}
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()
while True:
```

```

waterLevel=random.randint(0,100)
lightIntensity=random.randint(0,100)
myData={'level':waterLevel, 'intensity':lightIntensity}
client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0,
onPublish=None)
print("Published data Successfully: %s", myData)
time.sleep(2)

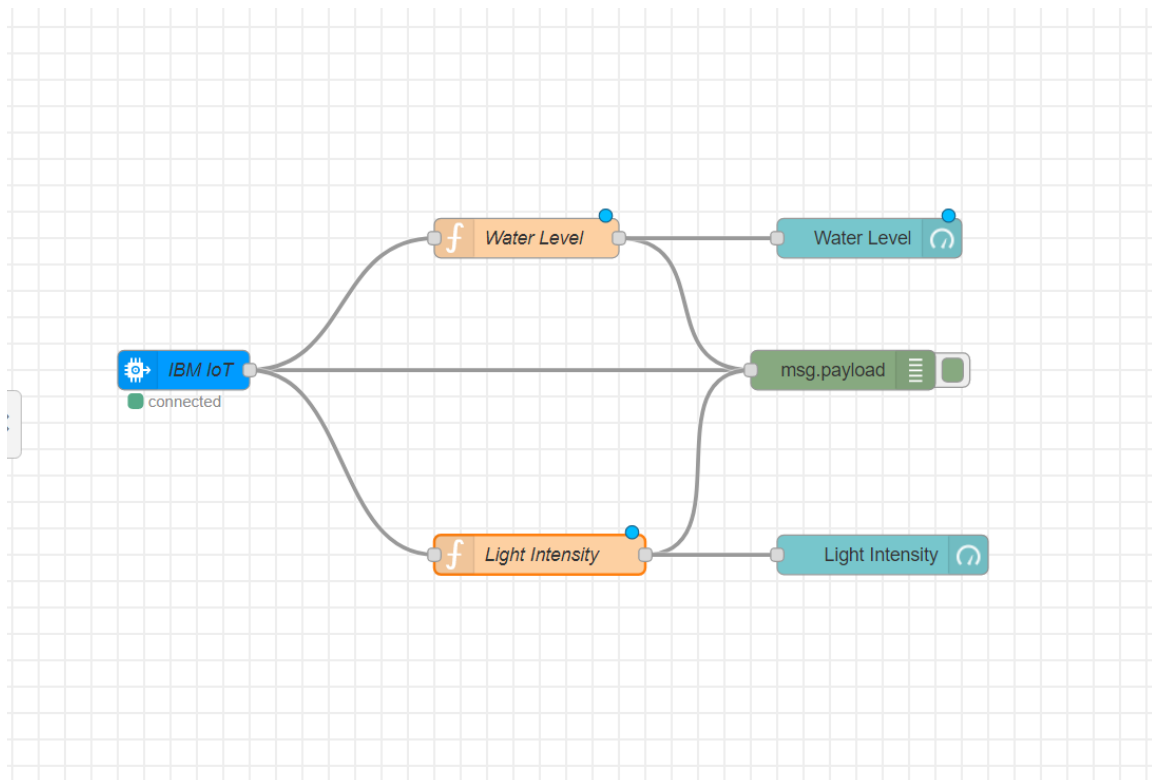
client.disconnect()

```

## Device Status And Details:

Identity	Device Information	Recent Events	State	Logs
Device ID	12345			
Device Type	VITDevice			
Date Added	8 Jul 2021 18:49			
Added By	ayushkumar.agarwal2019@vitstudent.ac.in			
Connection Status	Connected			
	Connection Time: 18 Jul 2021 12:25			
	Client Address: 106.207.33.72 SecureToken			

## NODE RED FLOW



# RECENT EVENTS ON DEVICE

12345

Disconnected

VITDevice

Device

8 Jul 2021 18:49

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
status	{"level":86,"intensity":48}	json	a few seconds ago
status	{"level":66,"intensity":64}	json	a few seconds ago
status	{"level":32,"intensity":73}	json	a few seconds ago
status	{"level":23,"intensity":20}	json	a few seconds ago
status	{"level":43,"intensity":42}	json	a few seconds ago

# PYTHON SHELL

```
Python 3.9.6 (tags/v3.9.6:db3ff76, Jun 28 2021, 15:26:21) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Hp\AppData\Local\Programs\Python\Python39\lib\__main__.py =====
2021-07-18 12:25:49,136 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:z457uu:VITDevice:12345
Published data Successfully: %s {'level': 15, 'intensity': 85}
Published data Successfully: %s {'level': 56, 'intensity': 29}
Published data Successfully: %s {'level': 30, 'intensity': 97}
Published data Successfully: %s {'level': 91, 'intensity': 85}
Published data Successfully: %s {'level': 52, 'intensity': 4}
Published data Successfully: %s {'level': 13, 'intensity': 79}
Published data Successfully: %s {'level': 39, 'intensity': 2}
Published data Successfully: %s {'level': 2, 'intensity': 5}
Published data Successfully: %s {'level': 32, 'intensity': 37}
Published data Successfully: %s {'level': 92, 'intensity': 100}
Published data Successfully: %s {'level': 68, 'intensity': 72}
Published data Successfully: %s {'level': 17, 'intensity': 7}
Published data Successfully: %s {'level': 18, 'intensity': 82}
Published data Successfully: %s {'level': 30, 'intensity': 99}
Published data Successfully: %s {'level': 62, 'intensity': 22}
Published data Successfully: %s {'level': 72, 'intensity': 22}
Published data Successfully: %s {'level': 92, 'intensity': 33}
Published data Successfully: %s {'level': 92, 'intensity': 28}
Published data Successfully: %s {'level': 13, 'intensity': 96}
Published data Successfully: %s {'level': 49, 'intensity': 91}
Published data Successfully: %s {'level': 49, 'intensity': 2}
Published data Successfully: %s {'level': 79, 'intensity': 29}
Published data Successfully: %s {'level': 0, 'intensity': 4}
Published data Successfully: %s {'level': 13, 'intensity': 39}
Published data Successfully: %s {'level': 61, 'intensity': 57}
Published data Successfully: %s {'level': 77, 'intensity': 61}
```

## WEB PAGE:

