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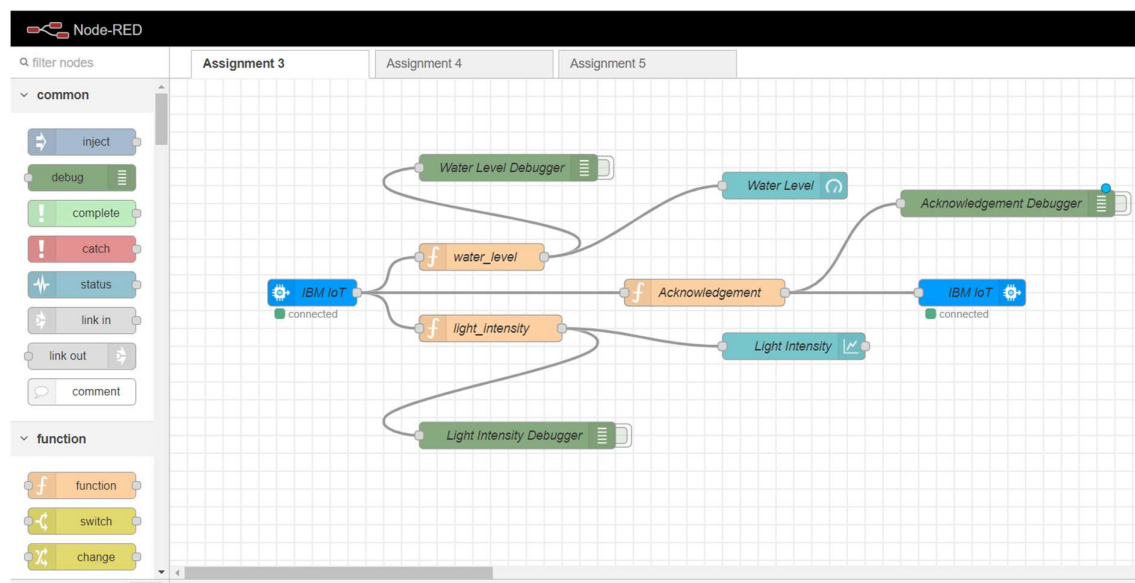
Course: Smart Bridge IoT

## Assignment 3

### Task:

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.

### Node Red Architecture:



### Python Code:

```
from wiotp.sdk.device import DeviceClient

import random

import time

config = {
    "identity": {
        "orgId": "8vprpv",
        "typeId": "First",
        "deviceId": "1"},
    "auth": {"token": "12345678"}
}

def callBackFunc(cmd):
    data = {
```

```

        "water_level":cmd.data["water_level"],
        "light_intensity": cmd.data["light_intensity"]
    }

    print(f'Data acknowledged from cloud: \n\n{data}')

print("\n=====
\n")

client = DeviceClient(config=config)

client.connect()

while True:

    data = {

        "water_level":random.randint(2,10),
        "light_intensity": random.random()

    }

    print("=====
\n")

    print(f'Data uploaded to cloud: \n\n{data}\n')

    client.publishEvent("upload",msgFormat="json",

    data=data)

    client.commandCallback = callBackFunc

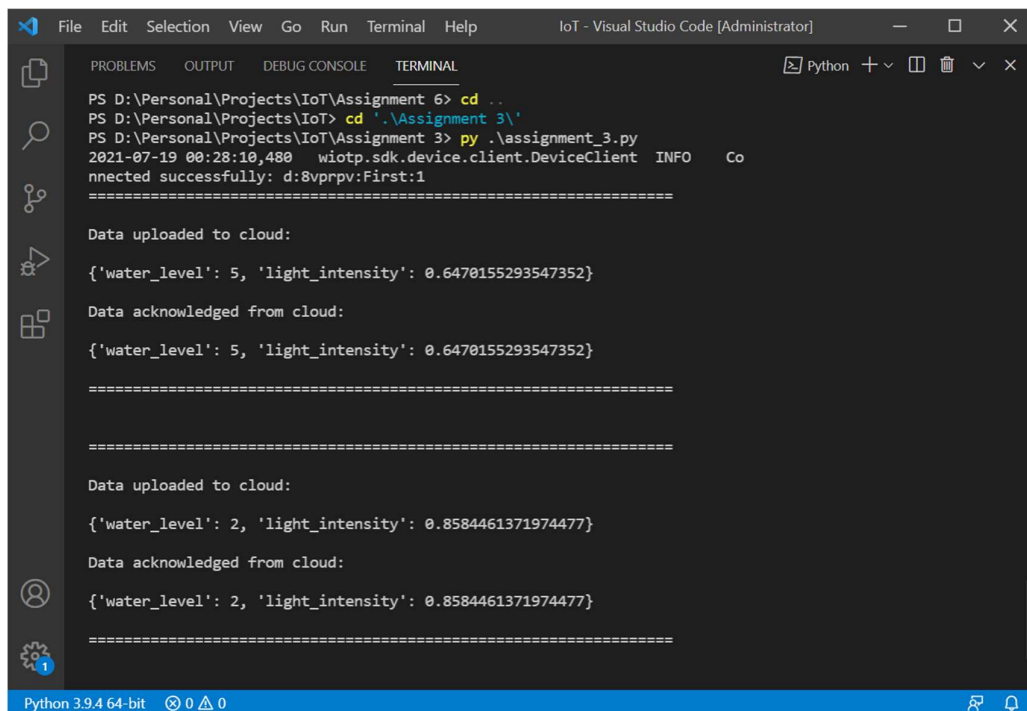
    time.sleep(15)

    client.disconnect()

```

## Working Prototype:

### 1. Python Console Output



```

PS D:\Personal\Projects\IoT\Assignment 6> cd ..
PS D:\Personal\Projects\IoT> cd '.\Assignment 3\'
PS D:\Personal\Projects\IoT\Assignment 3> py .\assignment_3.py
2021-07-19 00:28:10,480  wiotp.sdk.device.client.DeviceClient  INFO  Co
nnected successfully: d:8vprpv:First:1
=====

Data uploaded to cloud:

{'water_level': 5, 'light_intensity': 0.6470155293547352}

Data acknowledged from cloud:

{'water_level': 5, 'light_intensity': 0.6470155293547352}

=====

Data uploaded to cloud:

{'water_level': 2, 'light_intensity': 0.8584461371974477}

Data acknowledged from cloud:

{'water_level': 2, 'light_intensity': 0.8584461371974477}

=====

```

Python 3.9.4 64-bit 0 0 0

## 2. Web UI Visualization

