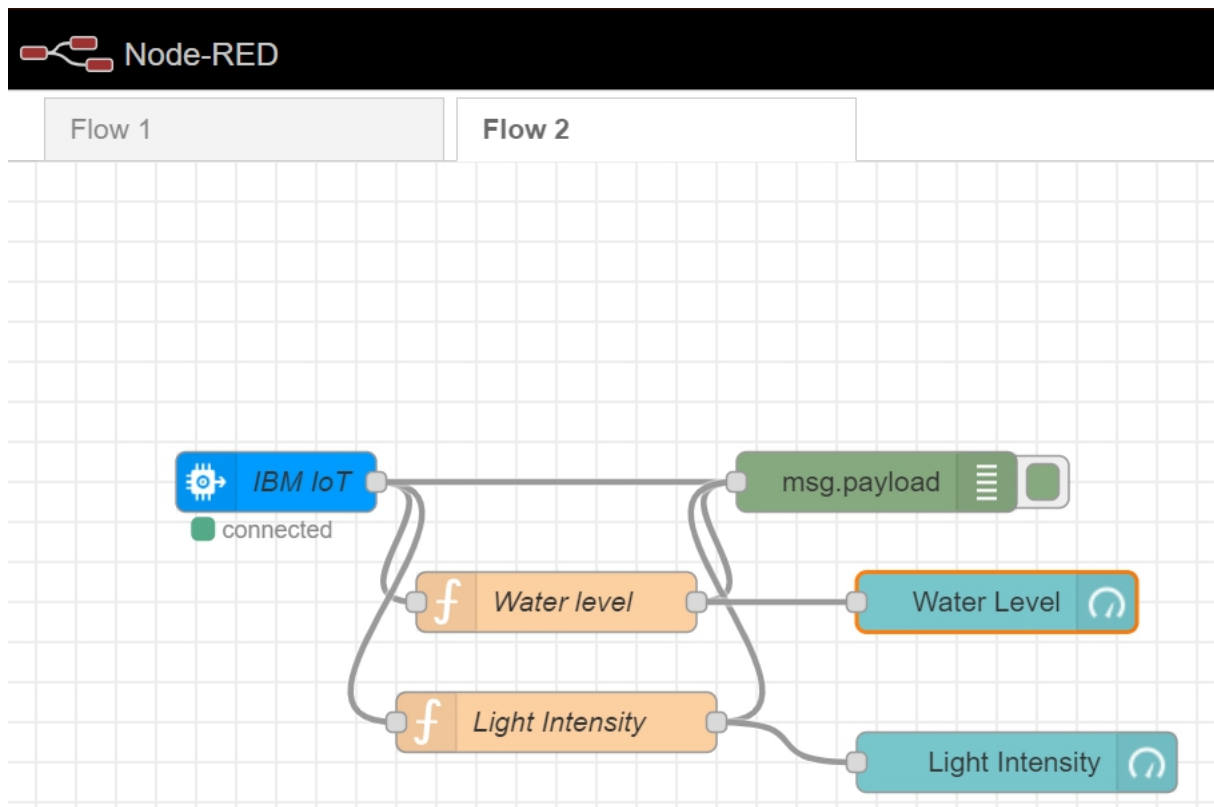


ASSIGNMENT 3

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

CIRCUIT



PYTHON CODE

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "iyqgoe",
        "typeId": "AkshuDevice",
        "deviceId": "240602"
    },
    "auth": {
        "token": "240602291205"
    }
}

def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    watlevel=random.randint(0,100)
```

```

ligint=random.randint(0,100)
myData={'WaterLevel':watlevel, 'lightintensity':ligint}
client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
print("Published data Successfully: %s", myData)
client.commandCallback = myCommandCallback
time.sleep(2)
client.disconnect()

```

SCREENSHOTS

The screenshots demonstrate the integration between a Node-RED IoT dashboard and a Smart City Application web UI.

First Screenshot:

- Node-RED:** The flow includes two function nodes, 'Water level' and 'Light Intensity', which publish data to the MQTT broker. The console shows the following log entries:


```

15/07/2021, 21:16:49 node: 9c860eea.f8fcf
iot-2/type/AkshuDevice/id/240602/evt/status/fmt/json :
msg.payload : Object
{
  WaterLevel: 20,
  lightintensity: 19
}

15/07/2021, 21:16:49 node: 9c860eea.f8fcf
iot-2/type/AkshuDevice/id/240602/evt/status/fmt/json :
msg.payload : number
20

15/07/2021, 21:16:49 node: 9c860eea.f8fcf
iot-2/type/AkshuDevice/id/240602/evt/status/fmt/json :
msg.payload : number
19

```
- Smart City Application:** The web UI displays the received data. The 'Water Level' gauge shows '20Liters' and the 'Light Intensity' gauge shows '19'.

Second Screenshot:

- Node-RED:** The flow continues to publish updated data. The console shows the following log entries:


```

15/07/2021, 21:18:07 node: 9c860eea.f8fcf
iot-2/type/AkshuDevice/id/240602/evt/status/fmt/json :
msg.payload : Object
{
  WaterLevel: 24,
  lightintensity: 94
}

15/07/2021, 21:18:07 node: 9c860eea.f8fcf
iot-2/type/AkshuDevice/id/240602/evt/status/fmt/json :
msg.payload : number
24

15/07/2021, 21:18:07 node: 9c860eea.f8fcf
iot-2/type/AkshuDevice/id/240602/evt/status/fmt/json :
msg.payload : number
94

```
- Smart City Application:** The web UI displays the updated data. The 'Water Level' gauge shows '24Liters' and the 'Light Intensity' gauge shows '94'.