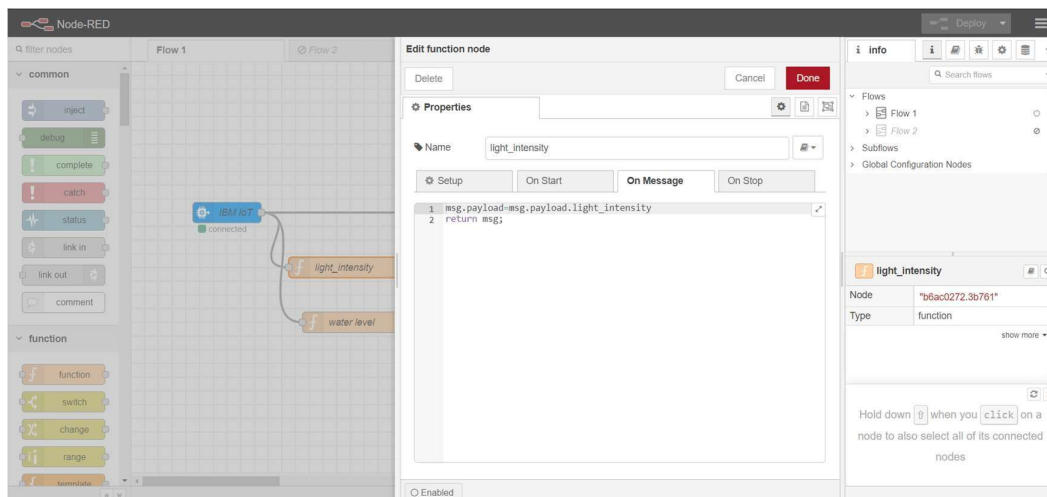
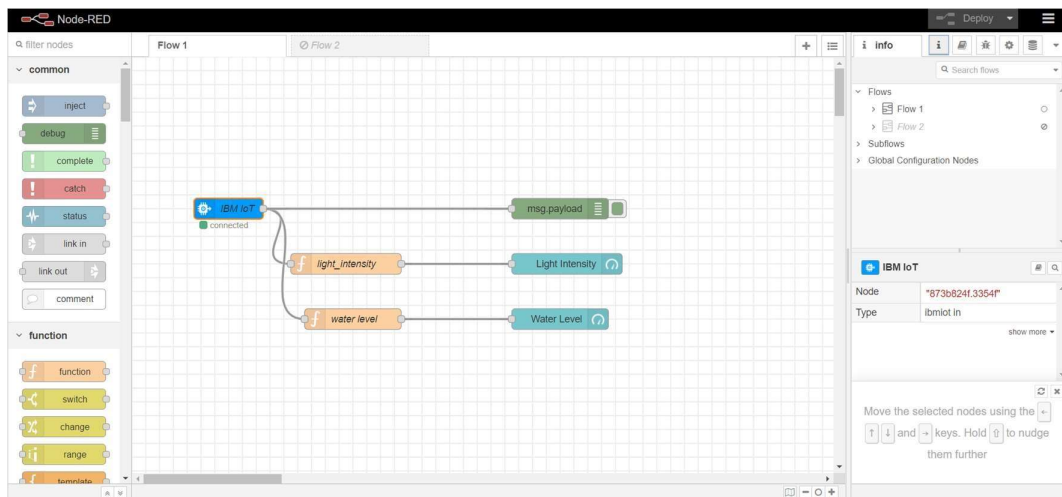


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ASSIGNMENT 3:-

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



Node-RED interface showing a flow with an IBM IoT node connected to two function nodes: light_intensity and water_level. The right sidebar displays the configuration for the IBM IoT node.

Edit ibmiot node

Properties:

- Authentication: API Key
- API Key: API IOT
- Input Type: Device Event
- Device Type: ☐ All or ☒ VITDevice
- Device Id: ☐ All or ☐ ni1h1097
- Event: ☒ All or +
- Format: ☐ All or ☒ json
- QoS: 0
- Name: IBM IoT
- Service: registered

Use the Input Type property to configure this node to receive Events sent by IoT Devices. Commands sent to IoT Devices. Status

debug

```
{ "light_intensity": 33, "water_level": 10 }
7/19/2021, 1:11:44 AM node: 97083d50.27c1e
iot-2?type=VITDevice&id=ni1h1097&ev=status&fmt=json :
msg.payload: Object
{ "light_intensity": 47, "water_level": 35 }
7/19/2021, 1:11:46 AM node: 97083d50.27c1e
iot-2?type=VITDevice&id=ni1h1097&ev=status&fmt=json :
msg.payload: Object
{ "light_intensity": 9, "water_level": 22 }
7/19/2021, 1:11:48 AM node: 97083d50.27c1e
iot-2?type=VITDevice&id=ni1h1097&ev=status&fmt=json :
msg.payload: Object
{ "light_intensity": 93, "water_level": 42 }
7/19/2021, 1:11:50 AM node: 97083d50.27c1e
iot-2?type=VITDevice&id=ni1h1097&ev=status&fmt=json :
msg.payload: Object
{ "light_intensity": 20, "water_level": 6 }
7/19/2021, 1:11:52 AM node: 97083d50.27c1e
iot-2?type=VITDevice&id=ni1h1097&ev=status&fmt=json :
msg.payload: Object
{ "light_intensity": 37, "water_level": 9 }
```

Node-RED interface showing the same flow. The right sidebar displays the configuration for the function node named "water_level".

Edit function node

Properties:

- Name: water_level

Setup On Start On Message On Stop

```
1 msg.payload = msg.payload.water_level
2 return msg;
```

Info

Search flows

- Flows
 - Flow 1
 - Flow 2
- Subflows
- Global Configuration Nodes

water_level

Node: "9c873dd3.11bd6"

Type: function

Switch flow tabs with `ctrl-[` and `ctrl-]`

CODE:

```
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "2rqk70",
        "typeId": "VITDevice",
        "deviceId": "nihith1097"
    },
    "auth": {
        "token": "nihith18"
    }
}

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:
    light_intensity=random.randint(0,100)
    water_level=random.randint(0,100)
    myData={'light_intensity':light_intensity,'water_level':water_level}
    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()
```

AFTER STIMULATION:

```
File Edit Shell Debug Options Window Help
Published data Successfully: %s ('light_intensity': 13, 'water_level': 48)
Published data Successfully: %s ('light_intensity': 70, 'water_level': 5)
Published data Successfully: %s ('light_intensity': 23, 'water_level': 20)
Published data Successfully: %s ('light_intensity': 61, 'water_level': 46)
Published data Successfully: %s ('light_intensity': 85, 'water_level': 33)
Published data Successfully: %s ('light_intensity': 77, 'water_level': 11)
Published data Successfully: %s ('light_intensity': 77, 'water_level': 74)
Published data Successfully: %s ('light_intensity': 68, 'water_level': 79)
Published data Successfully: %s ('light_intensity': 23, 'water_level': 85)
Published data Successfully: %s ('light_intensity': 45, 'water_level': 69)
Published data Successfully: %s ('light_intensity': 73, 'water_level': 2)
Published data Successfully: %s ('light_intensity': 100, 'water_level': 27)
Published data Successfully: %s ('light_intensity': 68, 'water_level': 36)
Published data Successfully: %s ('light_intensity': 3, 'water_level': 55)
Published data Successfully: %s ('light_intensity': 92, 'water_level': 68)
Published data Successfully: %s ('light_intensity': 29, 'water_level': 16)
Published data Successfully: %s ('light_intensity': 32, 'water_level': 66)
Published data Successfully: %s ('light_intensity': 8, 'water_level': 31)
Published data Successfully: %s ('light_intensity': 32, 'water_level': 50)
Published data Successfully: %s ('light_intensity': 18, 'water_level': 48)
Published data Successfully: %s ('light_intensity': 53, 'water_level': 29)
Published data Successfully: %s ('light_intensity': 89, 'water_level': 92)
Published data Successfully: %s ('light_intensity': 75, 'water_level': 46)
Published data Successfully: %s ('light_intensity': 9, 'water_level': 69)
Published data Successfully: %s ('light_intensity': 34, 'water_level': 97)
Published data Successfully: %s ('light_intensity': 24, 'water_level': 67)
Published data Successfully: %s ('light_intensity': 12, 'water_level': 21)
Published data Successfully: %s ('light_intensity': 16, 'water_level': 2)
Published data Successfully: %s ('light_intensity': 9, 'water_level': 87)
Published data Successfully: %s ('light_intensity': 72, 'water_level': 89)
Published data Successfully: %s ('light_intensity': 69, 'water_level': 36)
Published data Successfully: %s ('light_intensity': 91, 'water_level': 41)
Published data Successfully: %s ('light_intensity': 53, 'water_level': 0)
Published data Successfully: %s ('light_intensity': 55, 'water_level': 72)
Published data Successfully: %s ('light_intensity': 34, 'water_level': 68)
Published data Successfully: %s ('light_intensity': 36, 'water_level': 6)
Published data Successfully: %s ('light_intensity': 34, 'water_level': 68)
Published data Successfully: %s ('light_intensity': 58, 'water_level': 90)
Published data Successfully: %s ('light_intensity': 42, 'water_level': 92)
Published data Successfully: %s ('light_intensity': 71, 'water_level': 85)
Published data Successfully: %s ('light_intensity': 67, 'water_level': 20)
Published data Successfully: %s ('light_intensity': 49, 'water_level': 43)
Published data Successfully: %s ('light_intensity': 8, 'water_level': 29)
Published data Successfully: %s ('light_intensity': 60, 'water_level': 67)
Published data Successfully: %s ('light_intensity': 49, 'water_level': 92)
Published data Successfully: %s ('light_intensity': 0, 'water_level': 32)
```

Ln: 184 Col: 0

