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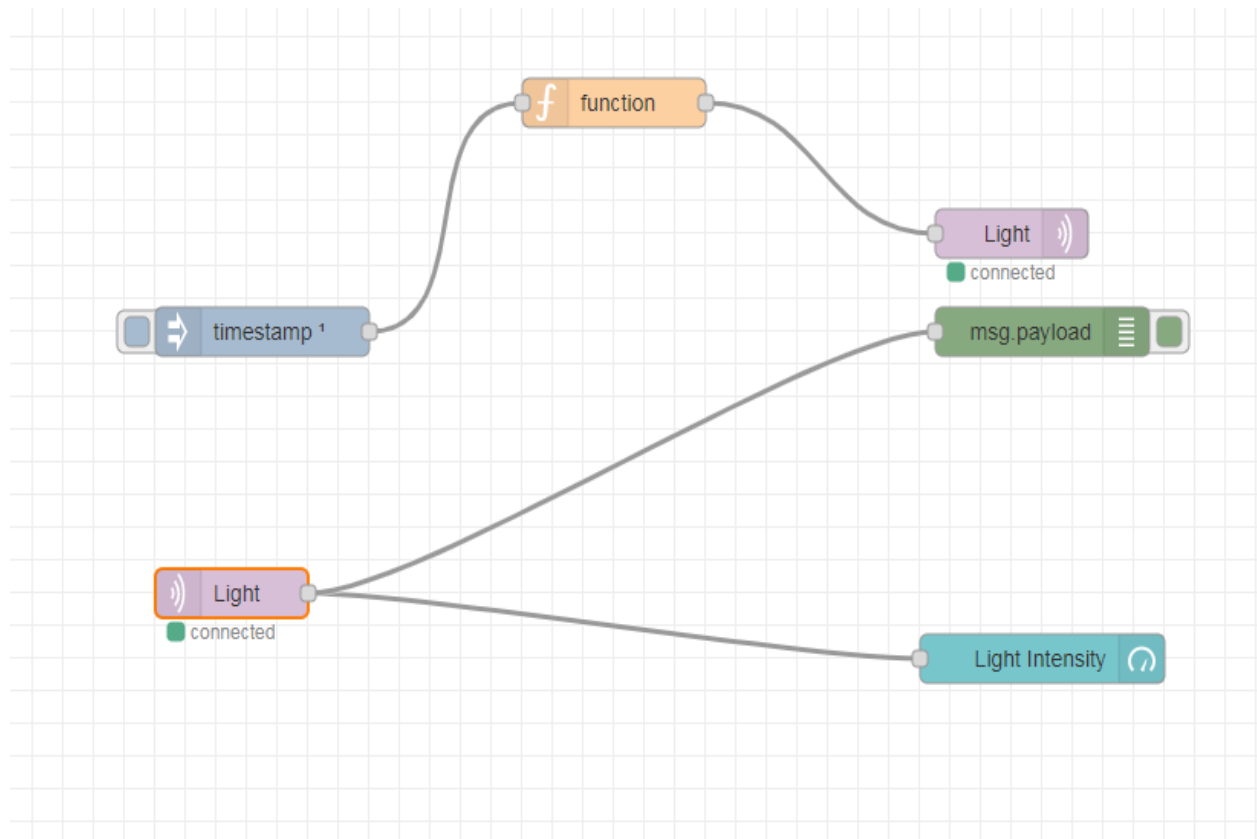
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ECE-3502 IoT Domain Analyst LAB

# Lab 1

Using appropriate nodes in node red, measure the light intensity in the room and output data to the web API. Display the output in Debug Monitor , UI, and send the data through MQTT and display the output in HiveMQ.

## Flow:



## Function Node:

Edit function node

Delete

Cancel

Done

⚙ Properties

⚙

📄

🖼

🔑 Name

Name

📄

Setup

Function

Close

↗

1 var Light=Math.random()\*100;

2 msg.payload=Math.floor(Light)

3 return msg;

## MQTT Nodes:

Edit mqtt out node

Delete

Cancel

Done

⚙ Properties

⚙

📄

🖼

🌐 Server

clientId-9gZFy19SN6@broker.mqttdasht

📄

📄 Topic

Light

⊕ QoS

2

▼

🔄 Retain

▼

🔑 Name

Name

Tip: Leave topic, qos or retain blank if you want to set them via msg properties.

Edit mqtt in node

Delete

Cancel

Done

⚙ Properties

⚙

📄

🖨

🌐 Server

clientId-9gZFy19SN6@broker.mqttdash

✎

📄 Topic

Light

⚙ QoS

2

▼

➡ Output

auto-detect (string or buffer)

▼

🏷 Name

Name

## Debug Monitor:

🔍 debug

📄

⚙

📄

🗑

🔼 all nodes

🗑

2/9/2021, 2:11:34 AM node: b11c480e.1bbf48

Light : msg.payload : string[2]

"77"

2/9/2021, 2:14:21 AM node: b11c480e.1bbf48

Light : msg.payload : string[2]

"50"

2/9/2021, 2:14:22 AM node: b11c480e.1bbf48

Light : msg.payload : string[2]

"59"

2/9/2021, 2:14:24 AM node: b11c480e.1bbf48

Light : msg.payload : string[2]

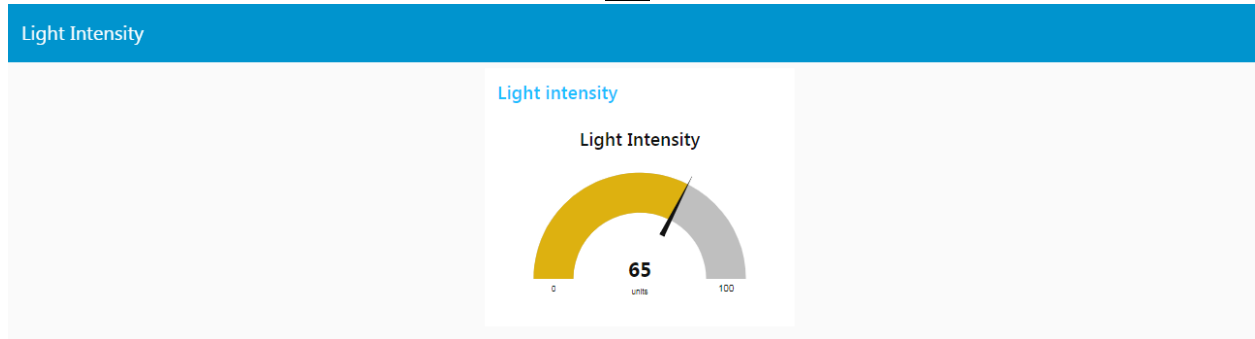
"67"

2/9/2021, 2:14:25 AM node: b11c480e.1bbf48

Light : msg.payload : string[2]

"65"

## UI:



## Debug Window:

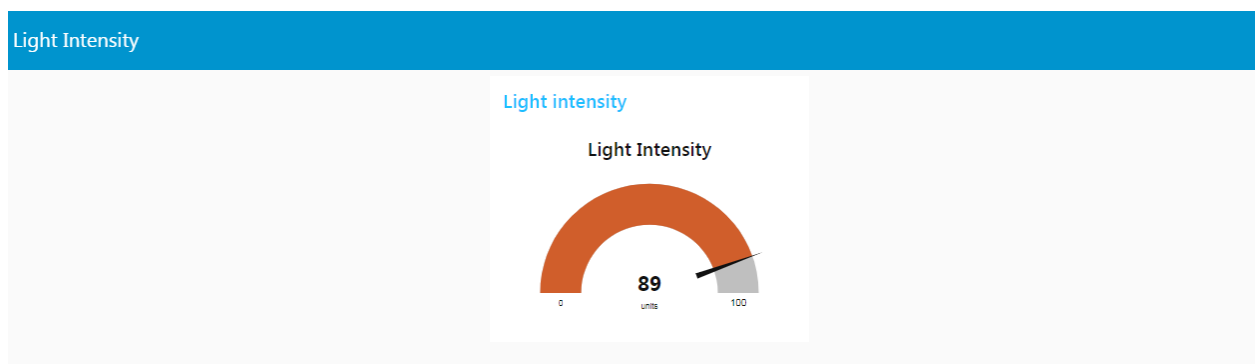
debug

all nodes


2/9/2021, 8:42:14 PM node: b11c480e.1bbf48  
Light : msg.payload : string[2]  
"93"

2/9/2021, 8:42:20 PM node: b11c480e.1bbf48  
Light : msg.payload : string[2]  
"89"

## Web UI:



## Output in HiveMQ:

**HIVEMQ**  
ENTERPRISE MQTT BROKER

Websockets Client Showcase

**Connection**

connected

**Publish**

Topic

testtopic/1

QoS

0

Retain

☐

Publish

Message

**Subscriptions**

Add New Topic Subscription

Qos: 2

Light

X

**Messages**

2021-02-09 20:42:20	Topic: Light	Qos: 2	89
2021-02-09 20:42:14	Topic: Light	Qos: 2	93
2021-02-09 20:41:39	Topic: Light	Qos: 0	Retained 10