

Q-02

Quiz

MQTT

Semester 1/2563

Dr. Korawit Prutsachainimmit

Learning Outcome

- Can connect IoT end nodes using NodeMCU via MQTT protocol

Score (5%)

- **Build a simple PUBLISHER device (2%)**
 - NodeMCU
 - DHT22 (Temp / Humid)
 - BH1750 (Light)
- **Build a simple SUBSCRIBER device (2%)**
 - NodeMCU
 - OLED Display
 - LED
 - SPEAKER
- **Each person must finish 2 tasks**
- **Answer a short question (1%)**

Task A

- Build a weather station using
 - NodeMCU
 - BH1750 (Light)
- Publish Light (lux)
 - In every 5 sec
 - MQTT
 - Broker : broker.hivemq.com, Port:1883
 - Topic
 - /iot/{yourstudentid}/lux

Task B

- Build a weather station using
 - NodeMCU
 - DHT22 (Temp)
- Publish Temperature (T)
 - In every 5 sec
 - MQTT
 - Broker : broker.hivemq.com, Port:1883
 - Topic
 - /iot/{yourstudentid}/temp

Task C

- Build a weather station using
 - NodeMCU
 - DHT22 (Humid)
- Publish Humidity (H)
 - In every 5 sec
 - MQTT
 - Broker : broker.hivemq.com, Port:1883
 - Topic
 - /iot/{yourstudentid}/humid

Task D

- **Build a LED status using**
 - NodeMCU
 - ZX-LED
- **Subscribe to command for controlling LED ON/OFF**
 - **MQTT**
 - Broker : `broker.hivemq.com`, Port:1883
 - Topic
 - `/iot/{yourstudentid}/led/`
 - Message
 - 0 or 1 for OFF and ON

Task E

- **Build a OLED display using**
 - NodeMCU
 - OLED
- **Subscribe to command for display message on OLED**
 - **MQTT**
 - **Broker** : broker.hivemq.com, Port:1883
 - **Topic**
 - /iot/{yourstudentid}/message/
 - **Message**
 - 0 or 1 for OFF and ON

Task F

- **Build a SOUND alert**
 - NodeMCU
 - Speaker
- **Subscribe to command for display message on SPEAKER**
 - **MQTT**
 - Broker : broker.hivemq.com, Port:1883
 - Topic
 - /iot/{yourstudentid}/alert/
 - Message
 - 0 or 1 for Alert and No sound

