

Practical – 17

Aim :- Setup MQTT protocol for ESP8266 to publish/subscribe topic.

CODE:

```
#include <ESP8266WiFi.h>
#include <PubSubClient.h>

// WiFi
const char *ssid = "Galaxy"; // Enter your WiFi name const
char *password = "jujujuju"; // Enter WiFi password
// MQTT Broker
const char *mqtt_broker = "192.168.254.184"; // Enter your WiFi or Ethernet IP
const char *topic = "test/topic"; const int mqtt_port = 1883; WiFiClient
espClient; PubSubClient client(espClient); void setup() {
    // Set software serial baud to 115200;
    Serial.begin(115200);

    // connecting to a WiFi network
    WiFi.begin(ssid, password); while
    (WiFi.status() != WL_CONNECTED) {
        delay(500);
        Serial.println("Connecting to WiFi..");
    }

    Serial.println("Connected to the WiFi network");

    //connecting to a mqtt broker
    client.setServer(mqtt_broker, mqtt_port);
    client.setCallback(callback);
```

```
while (!client.connected()) { String
client_id = "esp8266-client-"; client_id
+= String(WiFi.macAddress());

Serial.printf("The client %s connects to mosquitto mqtt broker\n", client_id.c_str());

if (client.connect(client_id.c_str())) {
    Serial.println("Public emqx mqtt broker connected");
} else {
    Serial.print("failed with state ");
    Serial.print(client.state()); delay(2000);
}
}

// publish and subscribe
client.publish(topic, "Hello From ESP8266!");
client.subscribe(topic);
}

void callback(char *topic, byte *payload, unsigned int length) {
    Serial.print("Message arrived in topic: ");
    Serial.println(topic);
    Serial.print("Message:");

    for (int i = 0; i < length; i++) {
        Serial.print((char) payload[i]);
    }

    Serial.println();
    Serial.println(" - - - - -");
```

```

} void loop()
{
client.loop();
}

```

```

Command Prompt - mosquitto -c mosquitto.conf -v
Microsoft Windows [Version 10.0.19043.2086]
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C:\Users\VP>mosquitto>mosquitto -v
'mosquitto' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\VP>$ mosquitto -v
'$' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\VP>$ mosquitto -v
'$' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\VP>mosquitto>mosquitto -v
'mosquitto' is not recognized as an internal or external command,
operable program or batch file.

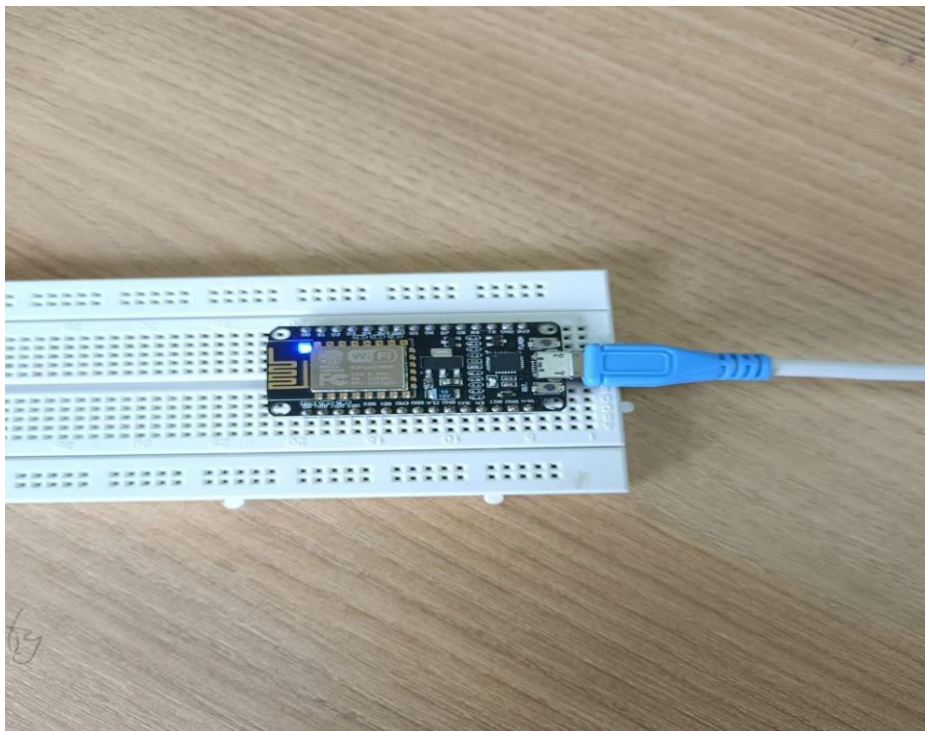
C:\Users\VP>mosquitto -v
'mosquitto' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\VP>C:\Program Files\mosquitto
'C:\Program' is not recognized as an internal or external command,
operable program or batch file.

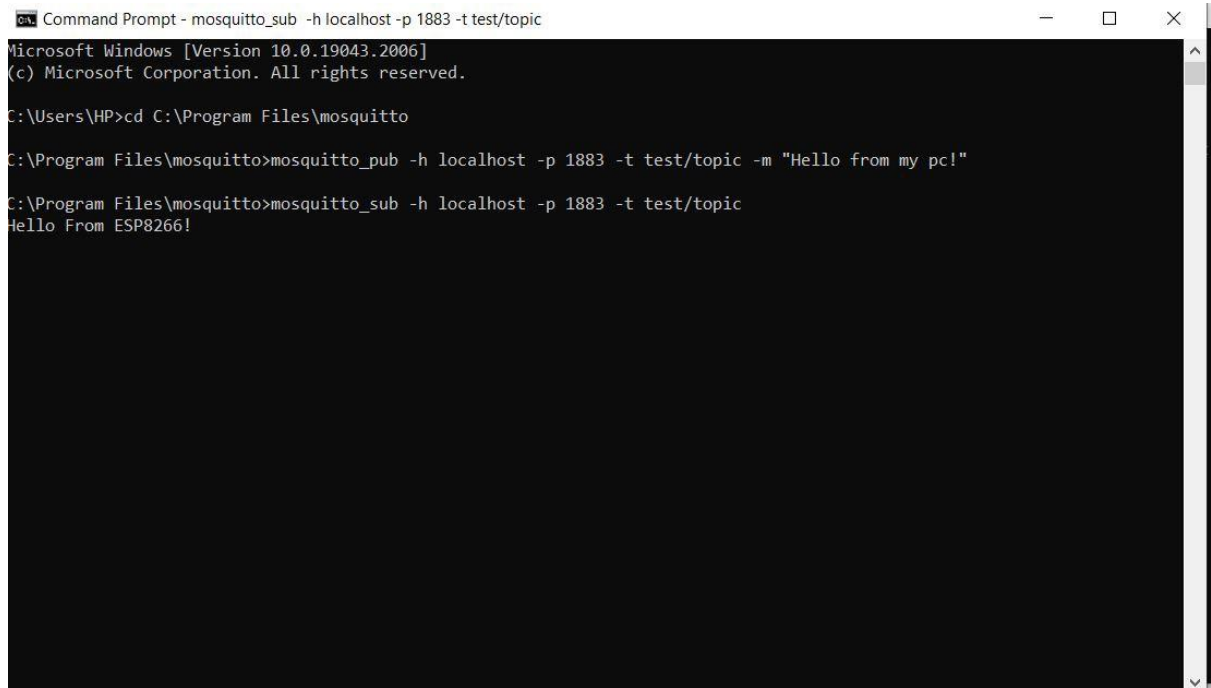
C:\Users\VP>cd C:\Program Files\mosquitto

C:\Program Files\mosquitto>mosquitto -c mosquitto.conf -v
1665975860: mosquitto version 2.0.15 starting
1665975860: Config loaded from mosquitto.conf.
1665975860: Opening ipv6 listen socket on port 1883.
1665975860: Opening ipv4 listen socket on port 1883.
1665975860: mosquitto version 2.0.15 running
1665976051: New connection from ::1:63995 on port 1883.
1665976051: New client connected from ::1:63995 as auto-CE1BF7FA-91D5-A128-F1F4-01BA9CB41449 (p2, c1, k60).
1665976051: No will message specified.
1665976051: Sending CONNACK to auto-CE1BF7FA-91D5-A128-F1F4-01BA9CB41449 (0, 0)
1665976051: Received SUBSCRIBE from auto-CE1BF7FA-91D5-A128-F1F4-01BA9CB41449
1665976051: test/topic (QoS 0)
1665976051: auto-CE1BF7FA-91D5-A128-F1F4-01BA9CB41449 test/topic
1665976051: Sending SUBACK to auto-CE1BF7FA-91D5-A128-F1F4-01BA9CB41449
1665976111: Received PINGREQ from auto-CE1BF7FA-91D5-A128-F1F4-01BA9CB41449
1665976111: Sending PINGRESP to auto-CE1BF7FA-91D5-A128-F1F4-01BA9CB41449
1665976134: New connection from ::1:64039 on port 1883.
1665976134: New client connected from ::1:64039 as auto-3EB27BAG-AF03-CE76-6F37-CF45EDEA01D2 (p2, c1, k60).
1665976134: No will message specified.
1665976134: Sending CONNACK to auto-3EB27BAG-AF03-CE76-6F37-CF45EDEA01D2 (0, 0)
1665976134: Received PUBLISH from auto-3EB27BAG-AF03-CE76-6F37-CF45EDEA01D2 (d0, q0, r0, m0, 'test/topic', ... (17 bytes))

```



OUTPUT:



Command Prompt - mosquitto_sub -h localhost -p 1883 -t test/topic

Microsoft Windows [Version 10.0.19043.2006]
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C:\Users\HP>cd C:\Program Files\mosquitto

C:\Program Files\mosquitto>mosquitto_pub -h localhost -p 1883 -t test/topic -m "Hello from my pc!"

C:\Program Files\mosquitto>mosquitto_sub -h localhost -p 1883 -t test/topic

Hello From ESP8266!