TESA TOPGUN

MQTT: Experimental System Setup

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Download & Install Software Tools

Mosquitto

Download Link:

https://mosquitto.org/download/

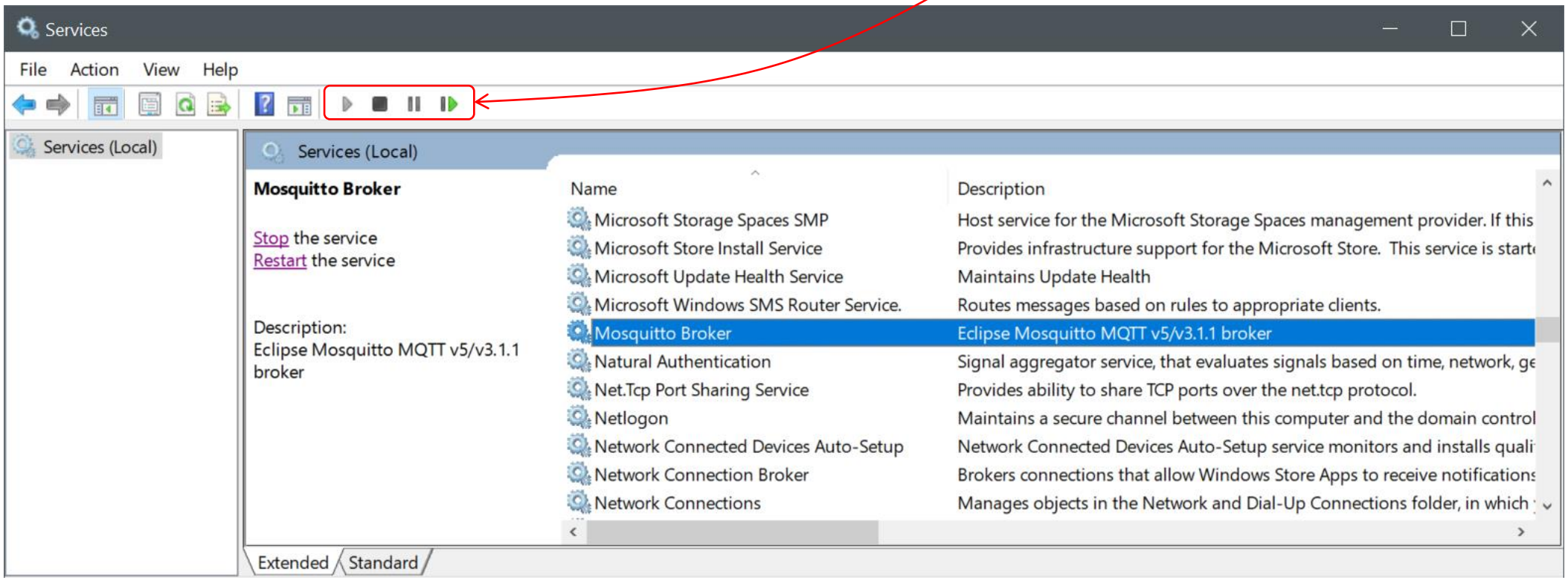
MQTT Explorer

Download Link:

http://mqtt-explorer.com/

Mosquitto Broker (Service)

Open the Service and check if the Mosquitto Broker is running or not. Click these buttons to change running state of the Mosquitto Broker.

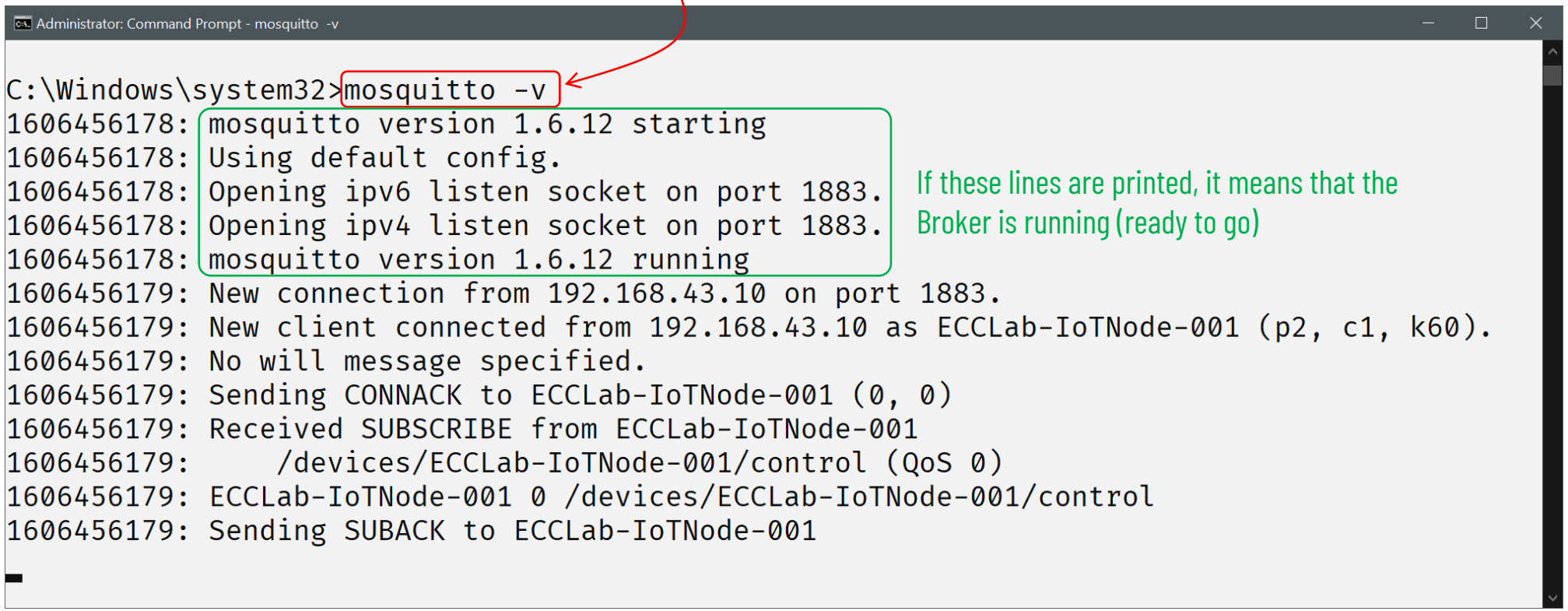


Note: For development process, **STOP** the Mosquitto Broker service and run it through a Command Line using **mosquito –v** (check next slide)

Mosquitto Broker (Command Line)

Stop the Mosquitto Broker service (check the previous slide)

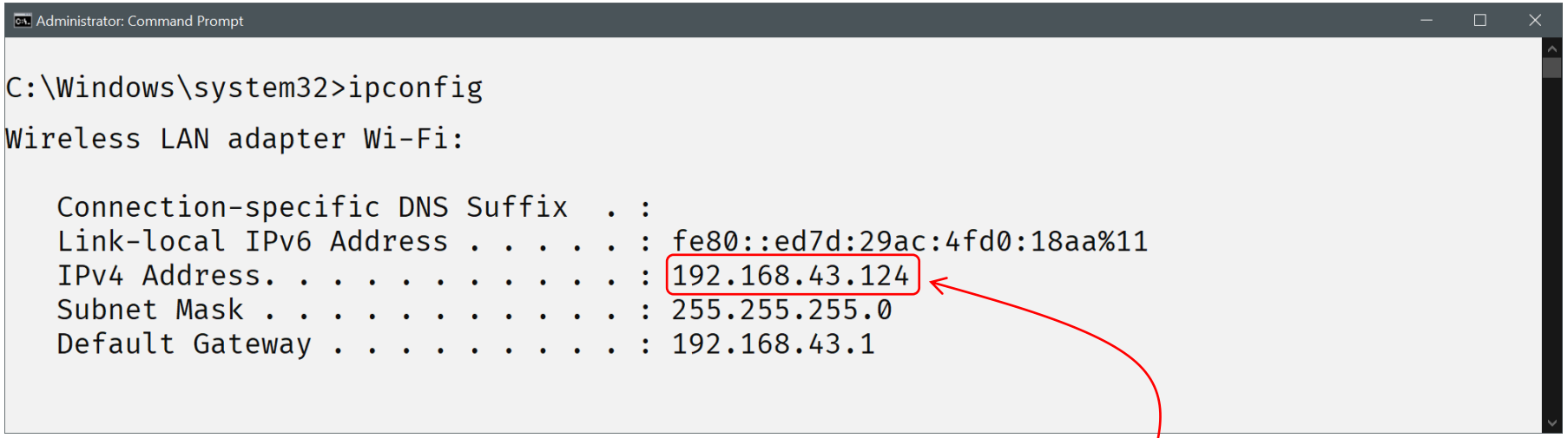
Run the Command Prompt and give it a command **mosquitto -v**



If these lines are printed, it means that the Broker is running (ready to go)

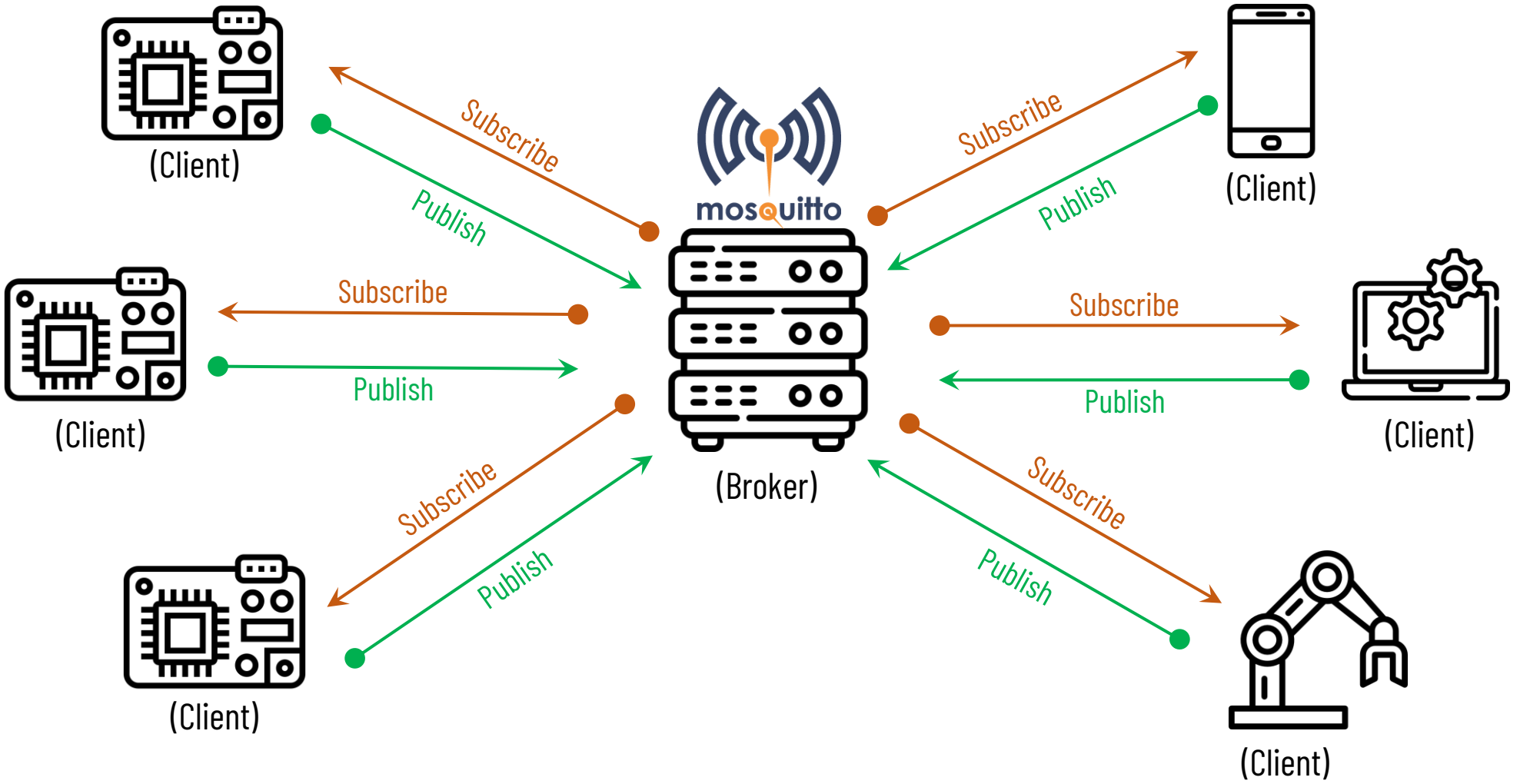
IP Address of Broker

Run the Command Prompt and give it a command **ipconfig**



Note: Other devices (clients) in the same network can connect to the Broker via this IP Address

MQTT: Server-Client



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MQTT: Server-Client (for TOPGUN)

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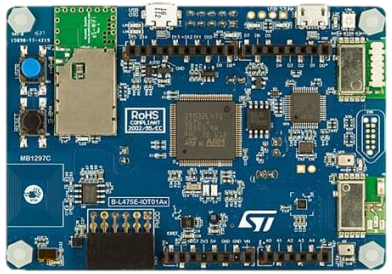
SETUP 1:



B-L475E-IOT01A1
(Client)

Subscribe

Publish

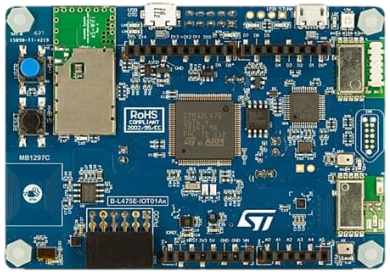
Computer
(Broker)

Subscribe

Publish

Raspberry Pi 4
(Client)

SETUP 2:



B-L475E-IOT01A1
(Client)

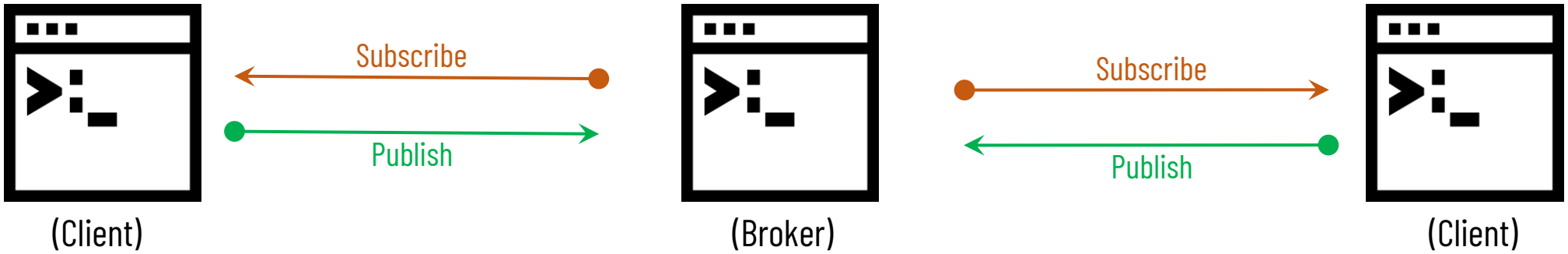
Subscribe

Publish

Raspberry Pi 4
(Broker)

v1.0.0

MQTT: Server-Client (for learning)

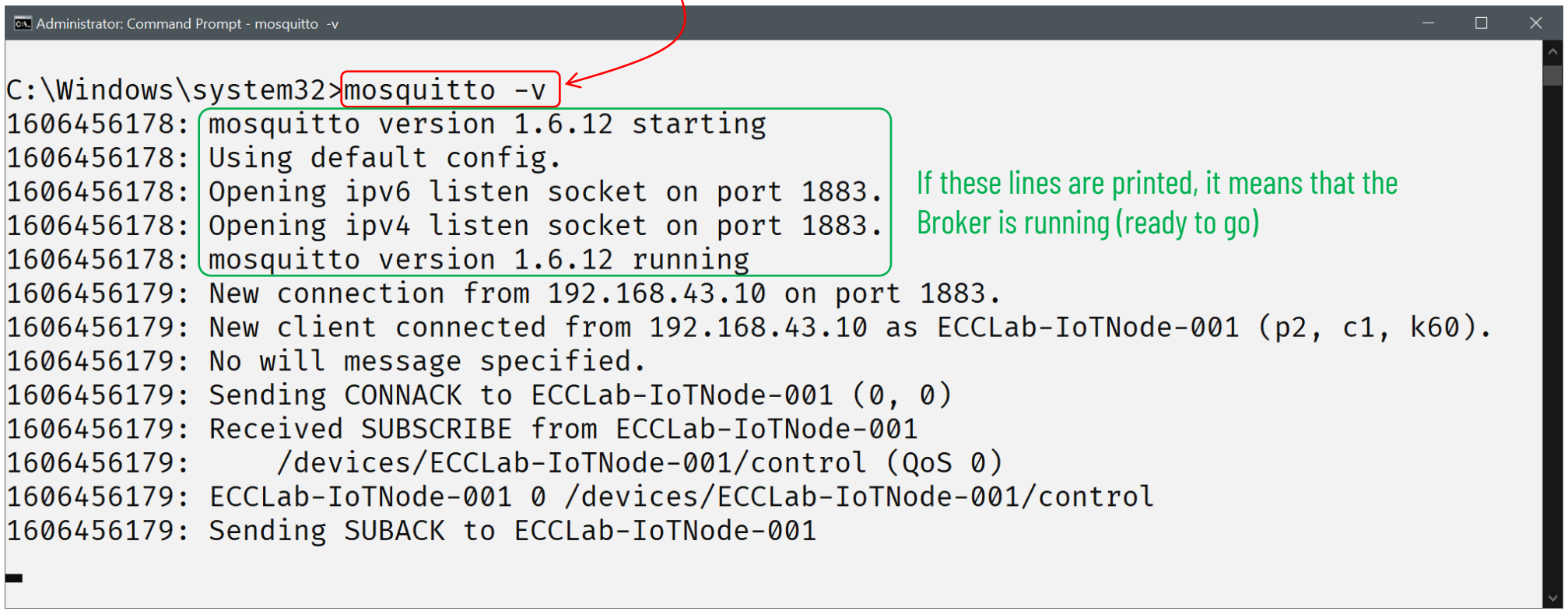


Note: We use this setup to learn some basic commands/operations of the MQTT

Server: Start the Broker

Stop the Mosquitto Broker service (check the previous slide)

Run the Command Prompt and give it a command **mosquitto -v**



If these lines are printed, it means that the Broker is running (ready to go)

Client: Subscribe

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1. If the Broker is not running, run it using the command **mosquitto -v**
2. Open a new Command Prompt and give it a command **mosquitto_sub -d -h 192.168.43.124 -p 1883 -t /ecclab/nodes/status**

```
mosquitto_sub -d -h 192.168.43.124 -p 1883 -t /ecclab/nodes/status
```

Broker IP Address | Broker Port | Topic Name

Administrator: Command Prompt - mosquitto_sub -d -h 192.168.43.124 -p 1883 -t /ecclab/nodes/status

Client

```
C:\Windows\system32>mosquitto_sub -d -h 192.168.43.124 -p 1883 -t /ecclab/nodes/status
Client mosq-Qf3SEaGl9zvgMOzJRr sending CONNECT
Client mosq-Qf3SEaGl9zvgMOzJRr received CONNACK (0)
Client mosq-Qf3SEaGl9zvgMOzJRr sending SUBSCRIBE (Mid: 1, Topic: /ecclab/nodes/status, QoS: 0, Options: 0x00)
Client mosq-Qf3SEaGl9zvgMOzJRr received SUBACK
Subscribed (mid: 1): 0
```

Administrator: Command Prompt - mosquitto -v

Broker (Server)

```
C:\Windows\system32>mosquitto -v
1606458174: mosquitto version 1.6.12 starting
1606458174: Using default config.
1606458174: Opening ipv6 listen socket on port 1883.
1606458174: Opening ipv4 listen socket on port 1883.
1606458174: mosquitto version 1.6.12 running
1606458177: New connection from 192.168.43.124 on port 1883.
1606458177: New client connected from 192.168.43.124 as mosq-Qf3SEaGl9zvgMOzJRr (p2, c1, k60).
1606458177: No will message specified.
1606458177: Sending CONNACK to mosq-Qf3SEaGl9zvgMOzJRr (0, 0)
1606458177: Received SUBSCRIBE from mosq-Qf3SEaGl9zvgMOzJRr
1606458177:     /ecclab/nodes/status (QoS 0)
1606458177: mosq-Qf3SEaGl9zvgMOzJRr 0 /ecclab/nodes/status
1606458177: Sending SUBACK to mosq-Qf3SEaGl9zvgMOzJRr
```

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Client: Publish

Open a new Command Prompt and give it a command **mosquitto_pub -d -h 192.168.43.124 -p 1883 -t /ecclab/nodes/status -m hello**

mosquitto_pub -d -h 192.168.43.124 -p 1883 -t /ecclab/nodes/status -m hello

- 192.168.43.124 — Broker IP Address
- 1883 — Broker Port
- /ecclab/nodes/status — Topic Name
- hello — Message

Administrator: Command Prompt

Client

```
C:\Windows\system32>mosquitto_pub -d -h 192.168.43.124 -p 1883 -t /ecclab/nodes/status -m hello
Client mosq-dV4KnlRgnikiJq48qI sending CONNECT
Client mosq-dV4KnlRgnikiJq48qI received CONNACK (0)
Client mosq-dV4KnlRgnikiJq48qI sending PUBLISH (d0, q0, r0, m1, '/ecclab/nodes/status', ... (5 bytes))
Client mosq-dV4KnlRgnikiJq48qI sending DISCONNECT
```

Administrator: Command Prompt - mosquitto -v

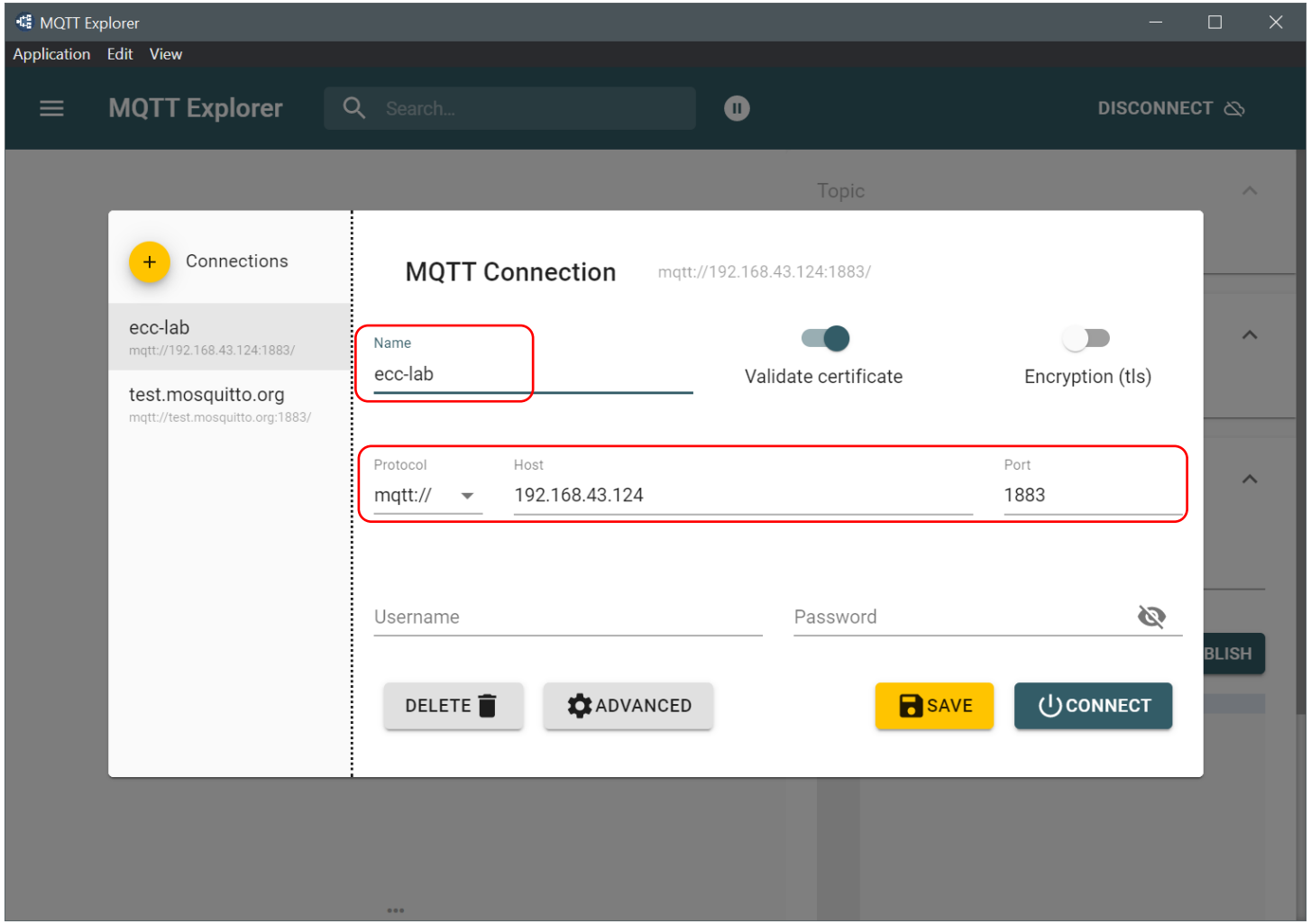
Broker (Server)

```
1606460024: Client mosq-amiNE4CuyVg7aThwqI disconnected.
1606460026: New connection from 192.168.43.124 on port 1883.
1606460026: New client connected from 192.168.43.124 as mosq-dxVYb0DF9DZQhbbd8B (p2, c1, k60).
1606460026: No will message specified.
1606460026: Sending CONNACK to mosq-dxVYb0DF9DZQhbbd8B (0, 0)
1606460026: Received PUBLISH from mosq-dxVYb0DF9DZQhbbd8B (d0, q0, r0, m0, '/ecclab/nodes/status', ... (5 bytes))
1606460026: Sending PUBLISH to mosq-Qf3SEaGl9zvgMOzJRr (d0, q0, r0, m0, '/ecclab/nodes/status', ... (5 bytes))
1606460026: Received DISCONNECT from mosq-dxVYb0DF9DZQhbbd8B
1606460026: Client mosq-dxVYb0DF9DZQhbbd8B disconnected.
```

v1.0.0

MQTT Explorer (1)

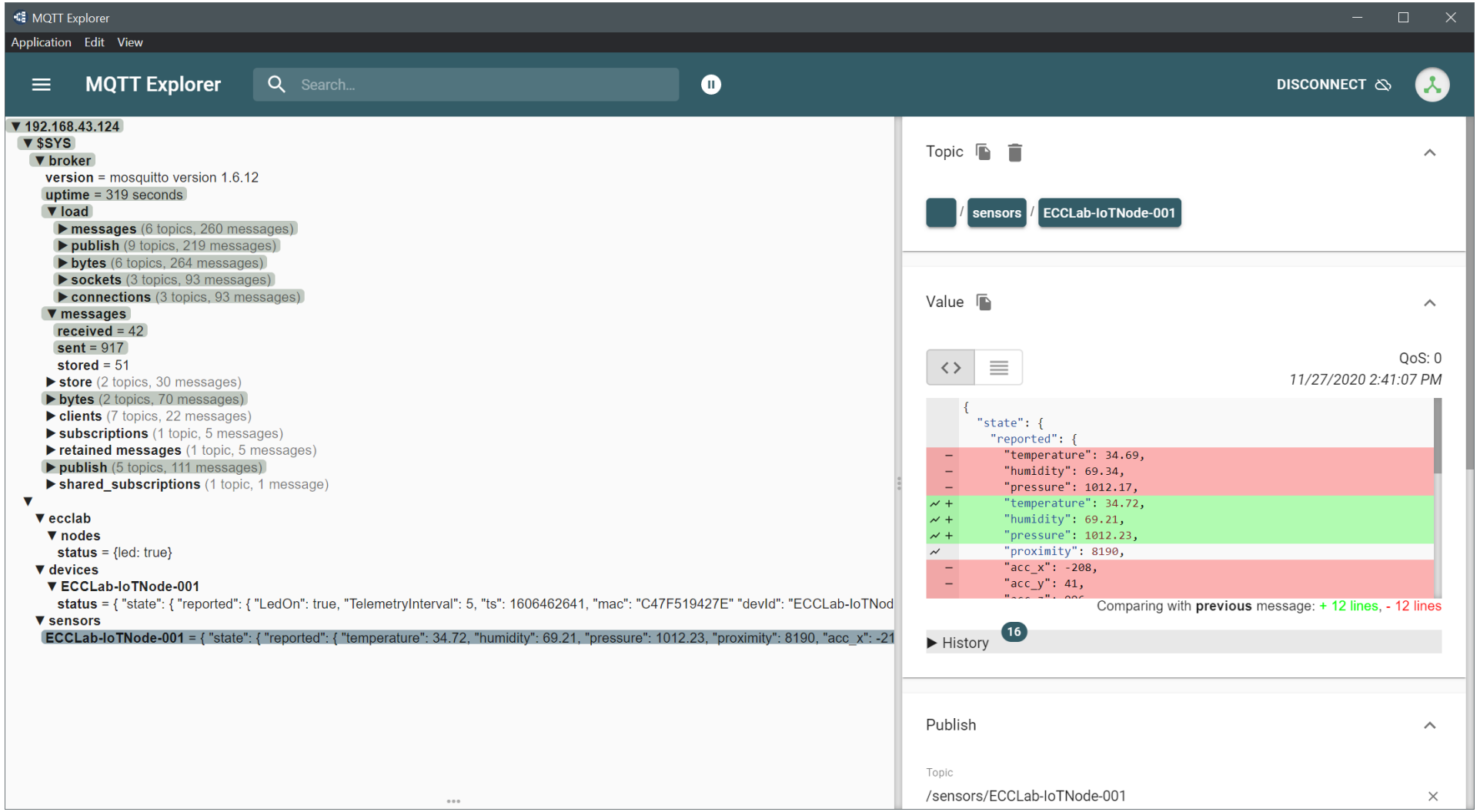
Open the MQTT Explorer and give it the required information, then click the CONNECT button



v1.0.0

MQTT Explorer (2)

Check it in details and choose the powerful functions for your development



v1.0.0

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