

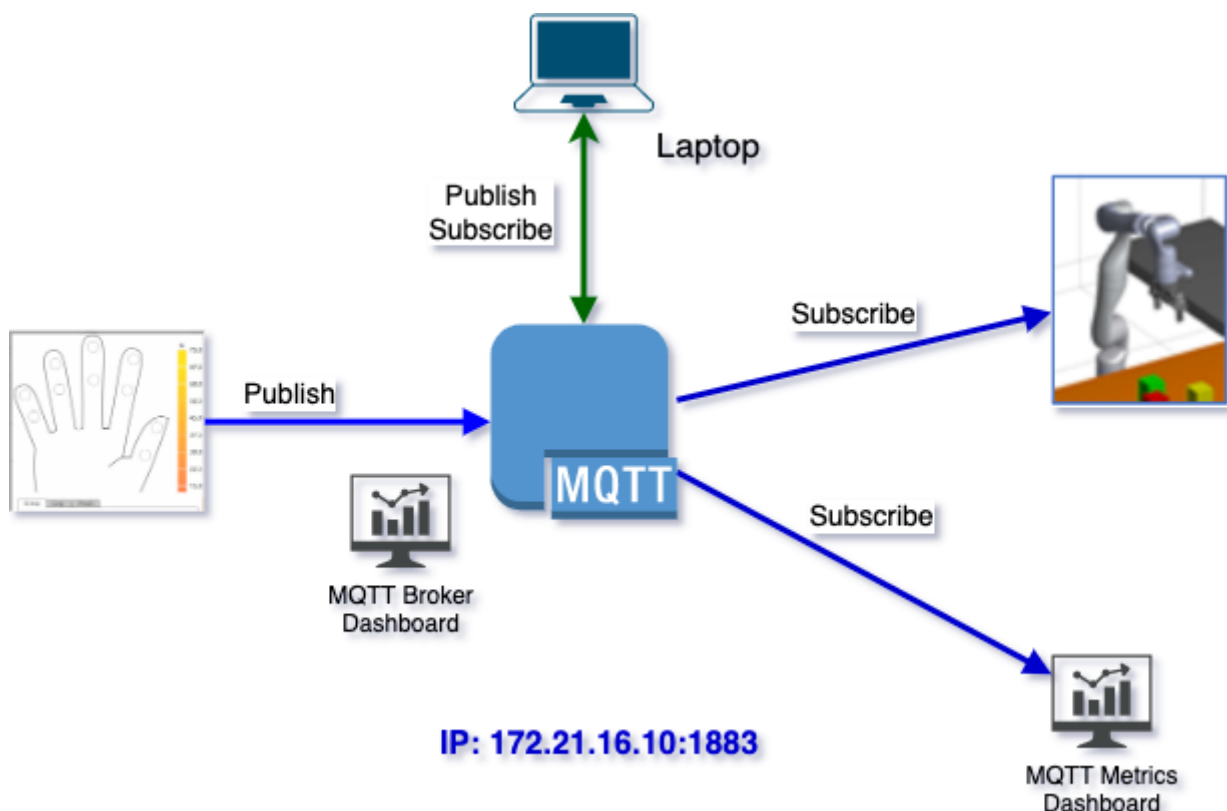
TESA Top gun Rally #16 (การประชันทักษะด้านสมองกลฝังตัว ครั้งที่ 16)

Server Programming and Configuration.

วันที่ 2 Docker compose / MQTT Topic##

เรียนรู้

1. เรียนรู้ docker compose
2. กำหนด topic/subscribe ของ MQTT



Download files from [Git Hub \(https://github.com/hanattaw/docker-topgun-compose\)](https://github.com/hanattaw/docker-topgun-compose)

```
$ git clone https://github.com/hanattaw/docker-topgun-compose
$ cd docker-topgun-compose
```

Docker Compose

Compose is a tool for defining and running multi-container Docker applications. With Compose, you use a YAML file to configure your application's services. Then, with a single command, you create and start all the services from your configuration.

A docker-compose.yml looks like this:

```
version: '3'

services:
  emqx-mqtt:
    image: emqx/emqx:5.0.7-elixir
    container_name: emqx
    networks:
      - my-network
    volumes:
      - ./emqx_data:/opt/emqx/data
      - ./emqx_log:/opt/emqx/log
    ports:
      - 1883:1883
      - 8083:8083
      - 8084:8084
      - 8883:8883
      - 18083:18083

  node-red:
    image: nodered/node-red
    container_name: node-red
    networks:
      - my-network
    volumes:
      - ./node_red_data:/data
    ports:
      - 1880:1880

networks:
  my-network:
```

run compose

```
$ docker compose up

[+] Running 3/3
  :: Network docker-topgun-compose_my-network   Created
0.0s
  :: Container emqx                             Created
0.1s
  :: Container node-red                         Created
0.0s
Attaching to emqx, node-red
```

Stop compose

```
$ docker compose stop

[+] Running 2/2
  :: Container node-red   Stopped
0.1s
  :: Container emqx       Stopped
1.4s
```

Remove compose

```
$ docker compose down

[+] Running 3/0
  :: Container node-red           Removed
0.0s
  :: Container emqx              Removed
0.0s
  :: Network docker-topgun-compose_my-network Removed
0.1s
```

Topics and Subscribe

Move arm to coordinate x, y, z to topic "topgun/team1/arm/move/"

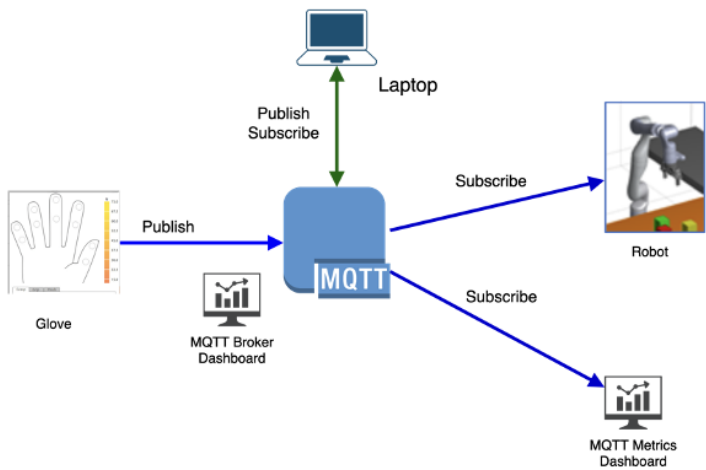
```
{
  "x": 10,
  "y": 180,
  "z": 30
}
```

Grasp fingers to topic "topgun/team1/fingers/grasp/"

```
{
  "finger1": 80,
  "finger2": 20,
  "finger3": 30,
  "finger4": 40,
  "finger5": 10
}
```

Top Gun Rally CDTI 2022 Day 2 Excercise

- 1. Design MQTT Topics and Subscription.
- 2. Present the pub/sub topics.



Team Name:

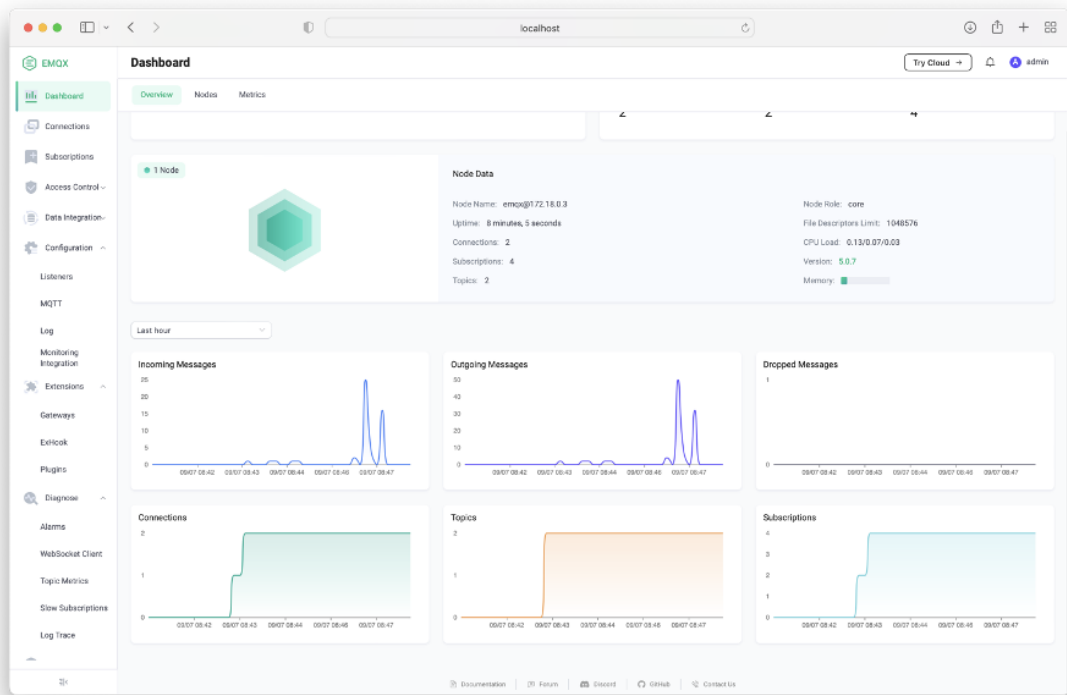
Publish:

Who?	Topic	payload

Subscribe:

Who?	Topic

MQTT



Dashboard

