

COMP.SE140 – DEVOPS

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1. Host information

- uname -a

```
[dungho@DungHos-MBP assignments % uname -a  
Darwin DungHos-MBP 21.6.0 Darwin Kernel Version 21.6.0: Thu Sep 29 20:12:57 PDT 2022; root:xnu-8020.240.7~1/RELEASE_ARM_T8020 x86_64  
dungho@DungHos-MBP assignments %
```

- docker --version

```
[dungho@DungHos-MBP assignments % docker --version  
Docker version 20.10.17, build 100c701  
dungho@DungHos-MBP assignments %
```

- docker-compose --version

```
[dungho@DungHos-MBP assignments % docker-compose --version  
Docker Compose version v2.10.2  
dungho@DungHos-MBP assignments %
```

2. Testing

- Start first container

```
[dungho@DungHos-MBP assignments % curl localhost:8080  
2022-11-13T19:39:16.508Z 1 MSG_1 to compse140.o  
2022-11-13T19:39:17.494Z 2 Got MSG_1 to compse140.i  
2022-11-13T19:39:19.486Z 3 MSG_2 to compse140.o  
2022-11-13T19:39:20.489Z 4 Got MSG_2 to compse140.i  
2022-11-13T19:39:22.499Z 5 MSG_3 to compse140.o  
2022-11-13T19:39:23.505Z 6 Got MSG_3 to compse140.i  
dungho@DungHos-MBP assignments %
```

3. Learning

The advantage of topic-based communication over HTTP is the ability to connect listening services and listen to specific topics. If services are congested, it can also balance traffic and keep the messages in line as they wait for their turn. If you need an asynchronous protocol, use AMQP over HTTP because it is asynchronous whereas HTTP is synchronous. Additionally, AMQP offers assured delivery, which HTTP does not. Topic-based communication makes it simpler to find services.

Prior to this exercise, I was unfamiliar with AMQP or RabbitMQ, so learning something new was enjoyable. Additionally, I gained knowledge about Docker volumes. They previously confused me a little bit.