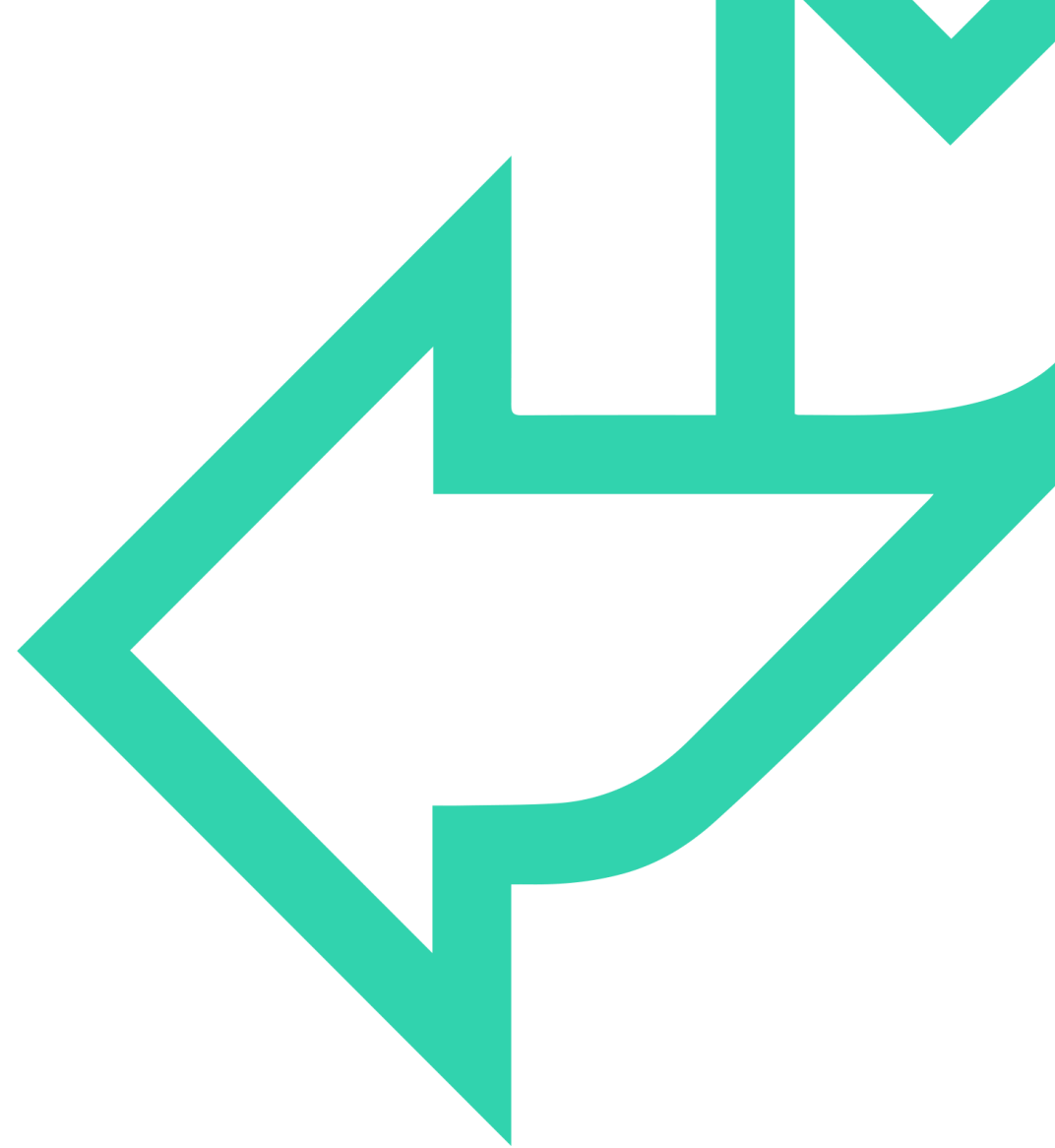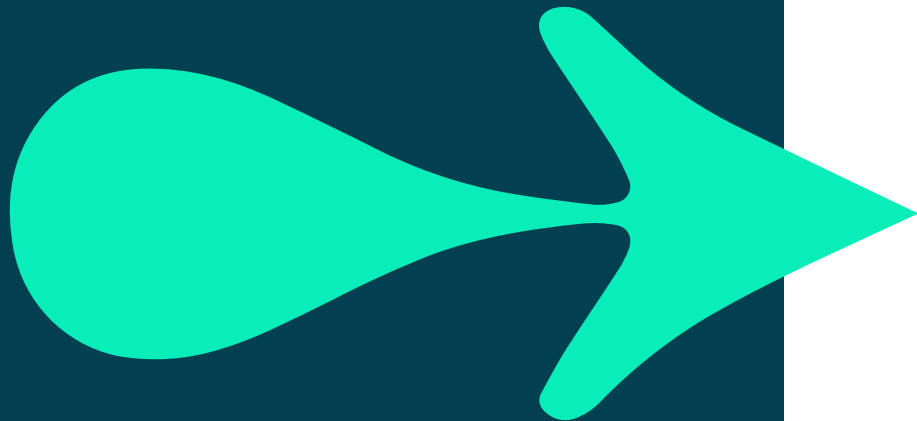# WHAT IS DOCKER COMPOSE

- **Can create collections of containers**
  - On the same server
  - Creates a network between them so they can call each other using their service name

- Enables you to define and run multiple Docker with a single command.

- Uses a single configuration file to specify deployment

- Is a great tool for spinning microservice apps

Why use Docker Compose?

- **Ease of Use:** `docker-compose up/down`

- **Simplified Multi-Container Management:** `docker-compose.yml`

- **Environment Consistency**
  - Consistency between Dev, test, and production environments by using the same configuration.

- **Simplified Networking**
  - creates a network for your services, allowing them to communicate with each other using simple service names.

- **Service Dependency Management** ensuring that services start in the correct order.
  - Useful for databases, message queues, or any other service that must be up and running before other services start.

- **Persistent Data**:
  - Can define and manage data volumes, ensuring data persistence and data sharing between containers.

Compose CLI

docker-compose up

Start up all the services declared in the configuration
-d   Run the containers in the background
--build Build images before starting containers
--scale [SERVICE]=[NUM] Can specify the number of containers

docker-compose down

Stops the services created up.
--rmi   Removes images.

docker-compose build

Builds the images without running any containers.
--parallel   Builds all the images at the same time to save
time when images do not depend on each other

Compose CLI

docker-compose ps   **Displays the running containers started by Docker Compose**
-a   Show all containers, including stopped ones

docker-compose exec   **Execute a command in a running container**
-d   Run the command in the background
-e   Set environment variables

docker-compose logs   **Display the log outputs from the running services**

docker-compose push   **Push the images used for the services to a registry**

LAB

Please do the following lab

4-Docker Compose.docx