

.NET Core Microservices – True Ultimate Guide

Section 5 – Docker Compose – Cheat Sheet

Introduction to Docker Compose

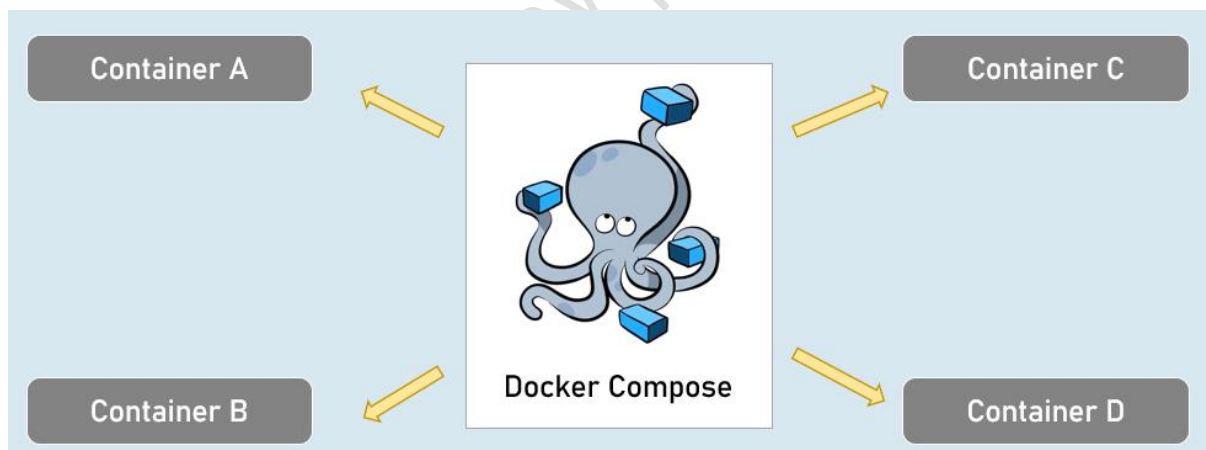
Existing Docker Commands

```
sudo docker run -e MYSQL_HOST=mysql-host-productsmicroservice -e MYSQL_PASSWORD=admin --network=productsmicroservice-network -p 8080:8080 harshamicroservices/ecommerce-products-microservice:v1.0
```

```
sudo docker run -it --network productsmicroservice-network -e MYSQL_ROOT_PASSWORD=admin -p 3306:3306 --hostname=mysql-host-productsmicroservice -v ./mysql-init:/docker-entrypoint-initdb.d mysql:8.3.0
```

Docker Compose

Docker Compose is a tool that simplifies the management and deployment of multiple inter-connected Docker services such as containers, networks, and volumes that need to start / stop at-a-time.



YAML File

YAML file is a human-readable configuration file format for defining the structure and properties of multi-container applications.

filename.yaml

version: 3.8

services:

service1

image: image1 //image name based on which the container needs to be created.

ports:

- 8080:8080 //host_port:container_port.

environment:

variable: value //environment variables to be supplied to the container.

service2

image: image2 //image name based on which the container needs to be created.

ports:

- 9090:9090 //host_port:container_port.

environment:

variable: value //environment variables to be supplied to the container.

Docker Compose Commands

docker-compose -f filename.yaml up

Creates, starts all services (containers) and networks defined in the yaml file.

docker-compose -f filename.yaml down

Stops and removes all services (containers) and networks defined in the yaml file.

docker-compose -f filename.yaml stop

Stops (but doesn't remove) all services (containers) and networks defined in the yaml file.

docker-compose -f filename.yaml start

Starts (existing containers and networks) defined in the yaml file.

docker-compose -f filename.yaml restart

Stops (but doesn't remove) and restarts all services (containers) and networks defined in the yaml file.

docker-compose -f filename.yaml pause

Pauses (suspends temporarily) services (containers) defined in the yaml file.

docker-compose -f filename.yaml unpause

Resumes (if already paused) services (containers) defined in the yaml file.

docker-compose -f filename.yaml config

Validates and displays the docker compose file after interpolation of environment variables.

Important Docker Commands**docker exec -it <container> <path>**

Execute a command against a running container.

docker inspect <container>

View detailed information about a Docker container.

docker logs <container>

View the logs of a running or stopped Docker container.

docker start <container>

Starts a stopped Docker container.

docker images

Displays list of existing docker images.

docker pull <image>:<tag>

Downloads a Docker image from Docker hub.

docker run -p <host-port>:<container_port> -d <image>:<tag>

Creates and starts a new container from the specified image; and also maps a host port to a container port.

docker ps

Displays list of currently running Docker containers.

docker stop <container>

Stops a running Docker container.

docker ps -a

Displays list of Docker containers (including stopped ones).

docker rmi <image>:<tag>

Removes an existing Docker image.

docker push <image>:<tag>

Uploads a Docker image into Docker hub.