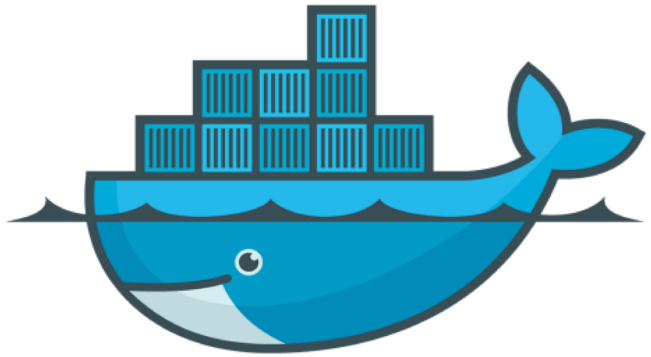


Docker JumpStart

Docker Compose Orchestration In-Depth

Agenda

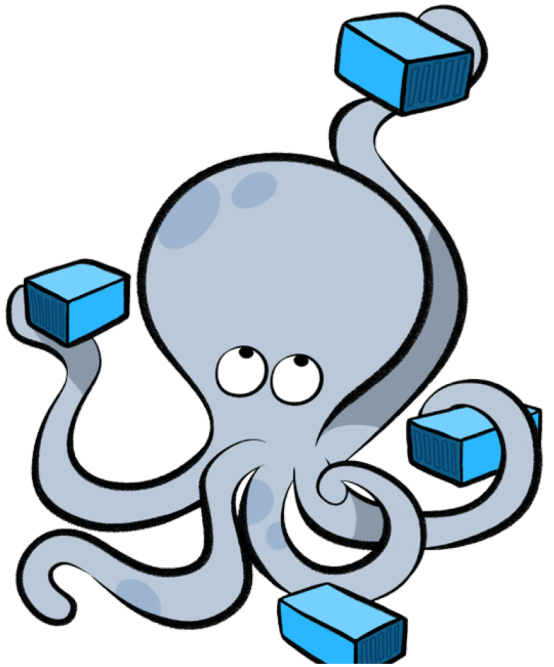
- Docker Compose Overview
- Docker Compose in Action

Docker Compose Overview

Docker Compose

- Define how **one or more containers** are built & run
- Create **composite** applications from groups of inter-dependant containers
- Uses YAML format - `docker-compose.yml`

- Compose allows you to describe:
  - Multiple containers (called services)
  - Network ports
  - Environmental variables
  - **Attached volumes**
  - **Networks**
  - Linkage between containers
  - Define start-up order
  - Build steps - Buildfile(s), context and build args



Docker Compose in Action

Docker Compose - Example

docker-compose.yml

```yaml
version: "3"
services:
  app-server:
    image: mikepf/dotnet-demoapp
    build: .
    ports:
    - 5000
    links:
    - database
    depends_on:
    - database
  database:
    image: mysql
    environment:
     - MYSQL_ROOT_PASSWORD=r00t
```

```
$ docker-compose up
$ docker-compose scale app-server=3
$ docker-compose down
```

- Create two containers one from **mikepf/dotnet-demoapp** image the other **mysql**
- Expose port 5000 on the app-server to a dynamic port
- Link the app-server container to the database container, and make it dependant on the database
- Set the database password using an environmental variable
- If you need to build the mikepf/dotnet-demoapp image use the current directory

Docker Compose - Example

docker-compose.yml

```yaml
version: "3"
services:
  app-server:
    image: mikepf/dotnet-demoapp
    build: .
    ports:
    - 5000
    links:
    - database
    depends_on:
    - database
  database:
    image: mysql
    environment:
     - MYSQL_ROOT_PASSWORD=r00t
```

```
$ docker-compose up
$ docker-compose scale app-server=3
$ docker-compose down
```

Start both containers using ‘up’ then scale the app-server to run on 3 containers

Summary

- Compose allows you to define how one or more containers are built and run
- Compose allows you to describe multiple containers (called services) to build your applications
- Use docker-compose command with YAML file to run your multi-container apps with a single command

Lab

Orchestrating Containers with Docker Compose

https://cloudskills.io/labs