Unit 5

Docker Compose
Review

Business
Training

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Docker Compose file

- **Docker Compose file uses the Yaml format.**

- **It defines a set of services of an application stack.**

- **File Structure**
  - **version**
  - **services**
  - **volumes**
  - **networks**

```
version: '3'
services:
  db:
     image: mysql
     container_name: mysql_db
     restart: always
     environment:
        - MYSQL_ROOT_PASSWORD="secret"
  web:
    image: apache
    build: ./webapp
    depends_on:
       - db
    container_name: apache_web
    restart: always
    ports:
       - "8080:80"
```

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Defining services

- **build/image**
  - Each service in the YAML file must contain either.
    - **build** indicates a path containing a Dockerfile.
    - **image** indicates an image name (local, or on a registry).
  - If both are specified, an image will be built from the build directory and named image.

- **context**
  - A path to a directory containing a Dockerfile, or a url to a git repository.

- **args**
  - Add build arguments, which are environment variables accessible only during the build process.

- **labels**
  - Add metadata to the resulting image using Docker labels. You can use either an array or a dictionary.

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Container parameters

- **command indicates what to run (like CMD in a Dockerfile).**

- **ports translates to one (or multiple) -p options to map ports.**
  - You can specify local ports (i.e. x:y to expose public port x).

- **volumes translates to one (or multiple) -v options.**
  - You can use relative paths here.

- **networks translates to one (or multiple) --net options.**

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Docker Compose CLI

- **Start the stack : `docker-compose up`**
  - Another common option is to start containers in the background:
    - `$ docker-compose up -d`

- **Build the images : `docker-compose build`**
  - It can also be invoked automatically when starting the application:
    - `$ docker-compose up --build`

- **Scale via the docker-compose CLI**
    - `$ docker-compose up -d --scale web=5`

- **Check the status of your containers**
    - `$ docker-compose ps`

- **Scale Containers**
    - `$ docker-compose scale web=3`

- **Clean Up**
    - `$ docker-compose kill/rm/down`

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