



Docker compose



What is Docker compose and its purpose?

Docker Compose is **a tool that was developed to help define and share multi-container applications**. With Compose, we can create a YAML file to define the services and with a single command, can spin everything up or tear it all down.



Advantages of docker compose

- **Single host deployment** - This means you can run everything on a single piece of hardware
- **Quick and easy configuration** - Due to YAML scripts
- **High productivity** - Docker Compose reduces the time it takes to perform tasks

Example



```
services:
  app:
    image: node:18-alpine
    command: sh -c "yarn install && yarn run dev"
    ports:
      - 3000:3000
    working_dir: /app
    volumes:
      - ./:/app
    environment:
      MYSQL_HOST: mysql
      MYSQL_USER: root
      MYSQL_PASSWORD: secret
      MYSQL_DB: todos

  mysql:
    image: mysql:8.0
    volumes:
      - todo-mysql-data:/var/lib/mysql
    environment:
      MYSQL_ROOT_PASSWORD: secret
      MYSQL_DATABASE: todos

volumes:
  todo-mysql-data:
```



Basic docker compose commands

- **Start all services:** `docker-compose up`
- **Stop all services:** `docker-compose down`
- **Check the version of Docker Compose:** `docker-compose -v`
- **Run Docker Compose service in daemon mode:** `docker-compose up -d`
- **List the running services:** `docker-compose ps`
- **Scale a service** - `docker-compose scale <service name> = <no of instances>`

Difference between docker compose & docker swarm



- ✓ It creates multiple containers on a single host
- ✓ It uses YAML file to manage different containers as a single service

- ✓ It creates multiple containers on multiple hosts
- ✓ It doesn't use any file but helps you to manage different Docker hosts in a cluster



Assignment

Step 1 : Install docker compose (Install docker as well if not already installed)

Step 2 : Create a simple docker compose file with 2 services (preferably a backend and DB service)

Step 3: Run the docker-compose up -d command

Step 4: Finally run docker-compose ps command to show the list of services stood up by docker compose

Step 5: Upload the docker compose file along with the screenshot of docker-compose ps command output