

Lab Exercise 2- Docker-Compose file

Objective:

Set up a WordPress environment using Docker Compose, including a MySQL database as the backend.

Prerequisites:

- Docker and Docker Compose installed on your system.

Step 1: Create a docker-compose.yml File

1. In the project directory, create a file named docker-compose.yml.
2. Add the following content to docker-compose.yml:

```
version: '3.8'

services:
  wordpress:
    image: wordpress:latest
    ports:
      - "8080:80"
    environment:
      WORDPRESS_DB_HOST: db:3306
      WORDPRESS_DB_USER: wp_user
      WORDPRESS_DB_PASSWORD: wp_pass
      WORDPRESS_DB_NAME: wp_database
    depends_on:
      - db

  db:
    image: mysql:5.7
    environment:
      MYSQL_ROOT_PASSWORD: root_password
      MYSQL_DATABASE: wp_database
      MYSQL_USER: wp_user
      MYSQL_PASSWORD: wp_pass
    volumes:
```

```
- db_data:/var/lib/mysql
```

volumes:

```
db_data:
```

```
docker-compose.yml
1  version: '3.8'
2
3
4
5  services:
6
7    wordpress:
8
9      image: wordpress:latest
10
11     ports:
12
13       - "8080:80"
14
15     environment:
16
17       WORDPRESS_DB_HOST: db:3306
18
19       WORDPRESS_DB_USER: wp_user
20
21       WORDPRESS_DB_PASSWORD: wp_pass
22
23       WORDPRESS_DB_NAME: wp_database
24
25     depends_on:
26
27       - db
28
29
30
31     db:
32
33       image: mysql:5.7
34
35       environment:
36
37         MYSQL_ROOT_PASSWORD: root_password
38
39         MYSQL_DATABASE: wp_database
40
41         MYSQL_USER: wp_user
42
43         MYSQL_PASSWORD: wp_pass
44
```

Step 2: Start the Containers

1. Run the following command to start the containers:

```
docker-compose up -d
```

```

C:\Users\Vibhav Khaneja\OneDrive\Desktop\K8S>docker-compose up -d
time="2024-11-21T17:22:24+05:30" level=warning msg="C:\\Users\\Vibhav Khaneja\\OneDrive\\Desktop\\K8S\\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 23/23
  ✓wordpress Pulled                                73.8s
  ✓2d429b9e73a6 Already exists                      0.0s
  ✓400f75d99009 Pull complete                       2.0s
  ✓e532b66579ca Pull complete                       42.6s
  ✓9ac50b358b78 Pull complete                       43.0s
  ✓d8ecb69d311b Pull complete                       44.4s
  ✓c047dfa11941 Pull complete                       44.7s
  ✓ef42461ff613 Pull complete                       44.8s
  ✓0c524fd1548c Pull complete                       45.1s
  ✓50edcb1570ef Pull complete                       45.2s
  ✓cb08836f49b3 Pull complete                       47.3s
  ✓9c2382214998 Pull complete                       47.6s
  ✓2e3e55308e30 Pull complete                       47.9s
  ✓0f217c2e0f35 Pull complete                       48.0s
  ✓4f4fb700af54 Pull complete                       48.2s
  ✓765e6e0a4dab Pull complete                       53.6s
  ✓0e7278e629e5 Pull complete                       57.1s
  ✓d58171113cc3 Pull complete                       57.4s
  ✓c767d278ce20 Pull complete                       57.8s
  ✓dlc531eb0a2b Pull complete                       58.0s
  ✓cc9989667550 Pull complete                       64.6s
  ✓fdf870b6ad06 Pull complete                       64.7s
  ✓4188893168d7 Pull complete                       64.9s
[+] Running 3/4
  ✓Network k8s_default Created                      5.2s
  ✓Volume "k8s_db_data" Created                     0.5s
[+] Running 3/4
  ✓Network k8s_default Created                      5.2s
  ✓Volume "k8s_db_data" Created                     0.5s
  - Container k8s-db-1 Starting                     44.0s
  ✓Container k8s-wordpress-1 Created                 1.6s

```

1. Docker Compose will download the necessary images (WordPress and MySQL) and start both services.

Step 4: Access WordPress

1. Open your web browser and go to <http://localhost:8080>.
2. Follow the WordPress installation steps to set up your site.

Step 5: Stop and Remove Containers

To stop the containers and remove the associated resources, run:

```
docker-compose down
```

```

C:\Users\Vibhav Khaneja\OneDrive\Desktop\K8S>docker-compose down
time="2024-11-21T17:28:22+05:30" level=warning msg="C:\\Users\\Vibhav Khaneja\\OneDrive\\Desktop\\K8S\\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 3/3
  ✓Container k8s-wordpress-1 Removed                27.2s
  ✓Container k8s-db-1 Removed                       17.6s
  ✓Network k8s_default Removed                      1.1s
C:\Users\Vibhav Khaneja\OneDrive\Desktop\K8S>

```

Explanation of docker-compose.yml:

- **wordpress:** Sets up the WordPress container, mapping port 80 inside the container to port 8080 on your local machine.
- **db:** Sets up the MySQL container with a volume (db_data) for persistent storage.

Additional Notes:

- Modify the environment variables as needed for different configurations.
- To view logs, use `docker-compose logs -f`.

This setup allows you to quickly start a WordPress site locally and experiment with configurations.