

LAB EXERCISE 2

DEVELOPING A WEB APPLICATION WITH MULTIPLE CONTAINERS ON A SINGLE HOST

To Develop a Web Application with Multiple Containers on a Single Host Using Windows PowerShell in Docker Desktop.

PROCEDURE TO IMPLEMENTATION:

STEP 1: Go to docker folder directory and navigate to that directory in your terminal.

STEP 2: Create a new directory where you want to store your Docker Compose file

mkdir myapp

cd myapp

STEP 3: Create the Docker Compose File:

In Windows, you can create an empty file using the echo command like this:

echo. > docker-compose.yml

STEP 4: Open Notepad or any text editor of your choice.

STEP 5: Edit the Docker Compose File: Below is an example with two containers: one running an Nginx web server and the other running an hello-world.

version: '3'

services:

webapp:

image: nginx:latest

ports:

- "80:80"

database:

image: hello-world:latest

environment:

POSTGRES_USER: [di.....@gmail.com](#) #Username

POSTGRES_PASSWORD: D.....23 #Password

POSTGRES_DB: yourdatabase

STEP 6: Open a PowerShell window

Navigate to the Directory with Your Compose File:

Use the `cd` command to navigate to the directory where you saved your `docker-compose.yml` file.

Cd C:\Users\ibmtr\OneDrive\Desktop\Docker\myapp

STEP 7: Run Docker Compose:

To start your containers, use the following command:

docker-compose up

STEP 8: Once your containers are running, you can access your containers from Docker Desktop in your system.

```
Windows PowerShell
PS C:\Users\ibmtr> cd C:\Users\ibmtr\OneDrive\Desktop\Docker\myapp
PS C:\Users\ibmtr\OneDrive\Desktop\Docker\myapp> docker-compose up
[+] Running 8/8
  ✓ webapp 7 layers [#####] 0B/0B Pulled 29.8s
    ✓ 52d2b7f179e3 Pull complete 22.5s
    ✓ fd9f026c6310 Pull complete 24.2s
    ✓ 055fa98b4363 Pull complete 24.2s
    ✓ 96576293dd29 Pull complete 24.3s
    ✓ a7c4092be904 Pull complete 24.3s
    ✓ e3b6889c8954 Pull complete 24.3s
    ✓ da761d9a302b Pull complete 24.3s
[+] Running 3/3
  ✓ Network myapp_default Created 0.9s
  ✓ Container myapp-webapp-1 Created 0.3s
  ✓ Container myapp-database-1 Created 0.3s
Attaching to myapp-database-1, myapp-webapp-1
myapp-database-1 |
myapp-database-1 | Hello from Docker!
myapp-database-1 | This message shows that your installation appears to be working correctly.
myapp-database-1 |
myapp-database-1 | To generate this message, Docker took the following steps:
myapp-database-1 | 1. The Docker client contacted the Docker daemon.
myapp-database-1 | 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
myapp-database-1 |    (amd64)
myapp-database-1 | 3. The Docker daemon created a new container from that image which runs the
myapp-database-1 |    executable that produces the output you are currently reading.
myapp-database-1 | 4. The Docker daemon streamed that output to the Docker client, which sent it
myapp-database-1 |    to your terminal.
```

