

Database Lab

Date: 7th Nov 2019

Submission Filename: [login.zip](#)

Assignment 10

Due Date: 7th Nov 2019 17:59

Assignment Overview

The basic objective of this assignment is to get familiar with *DOCKER* which is a platform for developers and sysadmins to build, share, and run applications with *containers*. The use of containers to deploy applications is called *containerization*. Containers are not new, but their use for easily deploying applications is.

Containerization is increasingly popular because containers are:

- *Flexible*: Even the most complex applications can be containerized.
- *Lightweight*: Containers leverage and share the host kernel, making them much more efficient in terms of system resources than virtual machines.
- *Portable*: You can build locally, deploy to the cloud, and run anywhere.
- *Loosely coupled*: Containers are highly self sufficient and encapsulated, allowing you to replace or upgrade one without disrupting others.
- *Scalable*: You can increase and automatically distribute container replicas across a datacenter.
- *Secure*: Containers apply aggressive constraints and isolations to processes without any configuration required on the part of the user.

Key Things which should be clear to you

- Docker Image
- Docker Container
- Allowing ports
- Attaching volumes

Also, it is good to know the followings

- Concepts of Dockerfile
- Docker-Compose.yml file
- Publishing your own image on Docker Hub
- Making a life cycle of Image with
- Local Development, Git, Docker Hub

1 Task 1

For this assignment, you need to create a login web application with the help of *PHP* and *MySQL* using Docker Infrastructure. Through web interface, you must able to perform the followings-

- a Register New User: Should ask for Name, Email, Username, Password and Confirm password. If the username does not exist and password satisfies the minimum password strength then registration process should be successful. Otherwise, it shows an appropriate error message.
- b Password Change: Need to provide the old password correctly and then new password must satisfy the minimum password strength requirements. Also, new password cannot be the old password.
- c Delete User: To delete user with a unique, one has to provide corresponding username and password combination correctly. Accordingly, the user will be deleted.

Minimum password strength requirement:

- length: min 8 chars and max 12 chars
- mixture: must contain atleast one uppercase, one lowercase and one number

Submission

You need to submit a ([login.zip](#)) containing atleast the followings-

- It should contain *docker-compose.yml* file such that *docker-compose up -d* works and make the app up in one go
- PHP files in proper directory as referenced by the yml file
- SQL file exported and kept in proper directory to get picked up
- Keep a README, which depicts the steps how to run the same.

zip file can be created using

```
zip -r files.zip files
```

To unzip a file, you can use the following

```
unzip files.zip
```

For further help, you may look at

<https://github.com/jcavat/docker-lamp>

References

<https://docs.docker.com/get-started/>

<https://www.tutorialspoint.com/docker/index.htm>

<https://docker-curriculum.com/>