



DEPARTMENT OF EECS
Indian Institute of Technology Bhilai
CS200 — SOFTWARE TOOLS AND TECHNOLOGIES Lab II
Scope: Docker
Difficulty Level: Moderate

Assignment 5
November 24, 2020

- Instructions

- All answers will be in separate files in a single folder, named: <group-id>-<group-name>
- Name files as q<question-no> without any extension. e.g., q2
- Make a **tarball** for the folder that contains your answers
- Compress the **tarball** using **gzip** before uploading on Piazza

1. (a) Group-Member 1: Download any stable docker image for “mysql-server” from the Docker hub. Use a dockerfile to provide necessary instructions and build a container out of it. Run the container and test if it is working by creating one database ‘User’ and a table ‘MyUser’ inside it like the following.

```
CREATE DATABASE User;
```

```
CREATE TABLE dbo.MyUser (  
    id bigint IDENTITY(1,1) PRIMARY KEY,  
    name varchar(500) null  
)
```

Enter one row of data into the table ‘MyUser’. Save the container as a new image and push it to your own Docker repository.

- (b) Group-Member 2: Download any stable docker image for “Apache http web-server” from the docker hub. Use a dockerfile to provide necessary instructions and build a container out of it. Run the container and test if it is working by rendering the following html content using this container.

```
<!DOCTYPE html>  
<html lang="en">  
<head>  
    <meta charset="UTF-8">  
    <title>Hello World!</title>  
</head>  
<body>  
    <h1>Learning Docker...</h1>  
</body>  
</html>
```

Save the container as a new image and push it to your own Docker repository.

- (c) Group-Member 3:

- Pull the two images created in the previous two steps from the repositories of your group members. Run both containers in your own machine.
- Establish a connection between these two containers such that from html pages hosted by the http server, you can enter data into a mysql table managed by the mysql-server.
- Show that this is working by (i) creating the same 'MyUser' table inside the 'User' database in this machine and (ii) entering one row in the table from a html page (with input fields as necessary) hosted by the http server.

For each step, describe the set of docker commands you have used. Please submit the dockerfiles as well as any other files you have created (except the docker images) during the assignment. Also share the links to your Docker repositories.
