Exercises for the Lecture in Cloud Computing: Sheet 5

by Prof. Dr. Wolfgang Wiedermann, Summer Term 2025

Prerequisites:
You need a running docker installation. At best a Linux installation (or VM with GUI) with installed docker or as another option Docker Desktop if you use Windows or Mac.

Exercises:

Interactive usage of docker

1. **Starting an interactive amazonlinux container and install vim and git in it**

   In this task please have a look at hub.docker.com and try to find information about the amazonlinux official image.

   If you found it, have a look at the slides from the lessons and start it interactively and install vim and git in it. After that, remove the container and the image from your system.

2. **Start mariadb official image interactive set the root password and create a user/password combination**

   the port 3306 should be available at the host system to be able to connect to the database within the container. Prepare a skript or client shell to connect to that mariadb from your local computer.

Building own images

3. **Create your first minimal image**

   Create an image, based on alpine (version 3.20) and simply add an empty file called flag.txt to its root directory.

   Create an interactive container and check if the flag.txt is present in the right location.

4. **Create your first own webapp image**

   You want to build an isolated development environment for building an php app being run on apache2 webserver with oldstyle mod_php using mariadb as a datastore.

   Webserver and database should be bundled together in one image. Dont forget to mount volumes for database content and php code. First for persistence the second for comfortable ide integration during development.

   Create one table to the database. Each time the php app is being loaded in a browser one line is inserted in this table.

   Test your app frequently!