Docker Assessment:

(Finish this by Friday 3 March 12PM and send it to me on teams)

1. Create a Docker file to serve a simple hello world HTML page. Run the Dockerfile on port 9090 and tag it with "latest" tag and "first" tag. Push the image to your dockerhub account. Take screen shots of all of the results.
2. Create a jar file using the maven command "mvn clean package" from this code [github link](#). Create a multi stage docker build docker file to first package the code in the first build step and then run the jar file in the second step. Run this using docker run command and serve it on port 9095.
3. Create a docker compose file to build and tag both of the aforementioned docker files and run them as per the needs mentioned above. Also volume mount both the containers using volume names as volume-1 and volume-2. Also put both the containers on their own networks named network-1 and network-2.

Push the images to your docker hub account and the code to your github repository. Keep the images and repository public and share the link with me. Also take screenshots of everything and send them to me on teams.

4. What is the difference between docker file, docker image and docker containers. Write as per your understanding in your own words.
5. What is volume mount and what is bind mount?
6. Why do we need to use volume/bind mounts?
7. What does publishing a port mean in docker container context. Explain in detail as per your understanding.
8. What is docker daemon?
9. Can we run docker on linux? Windows? What is docker desktop? Why do we need it and how does it work?
10. Does root user in docker has same privileges as a root user of host machine?
11. Where does the processes that you run on docker container actually run?
12. How is a docker different from virtual machines?
13. What does running a container as privileged mean?
14. What is docker in docker (DIND)? How does it work?