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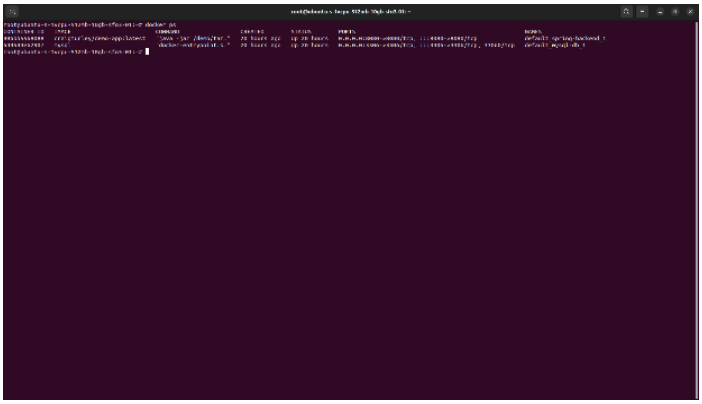
D424 Software Engineering Capstone Task 4

A. The deployed application, which is deployed using Digital Oceans services can be found at this URL: http://146.190.54.73:8080/

1. The cloud provider that I chose for deployment for this application was Digital Ocean. Digital Ocean provides an easy setup and has flexible billing options for its hosting services. They provide services to host containerized applications, Kubernetes clusters, and more. This provides the developer with a large arsenal of options to deploy their application for their specific use case. More specifically, I chose this option for scalability reasons. My application in its current phase is a small-scale application not going to be used by many individuals. However, if I wanted to scale this application to a larger audience, Digital Ocean allows me to deploy more instances of the application with ease. This application is also a full-stack web application and requires a very specific environment to run effectively, and Digital Oceans container service allows developers to have access to an environment to run applications that have an architecture like my software.
2. In my application deployment, I used containers by first containerizing my application using docker, which includes a container for the JAR file that houses both my front-end and back-end, and another container for the database. I then uploaded these containers to my Docker-Hub account. Afterward, I was able to SSH into the Digital Ocean droplet I had obtained, pull the docker container images onto that machine, and run docker-compose to run the containers on this device so it is available for public access. The container that hosts the JAR application is open on port 8080 and allows users to connect to this port and

interact with the GUI and application itself. The containers that contain the database is open on port 3306 to communicate with the application container and interact with the database. Here is a screenshot of the “docker ps” command on the Digital Ocean droplet. It shows the containers running in the “Digital Ocean Droplet” environment mentioned earlier.



Here is the script I also used to get the application up and running:

- docker login
- docker build –t craigturley/demo-app:latest
- docker push craigturley/demo-app:latest
- scp docker-compose.yml root@146.190.54.73:/
- scp data.sql root@146.190.54.73:/
- ssh root@146.190.54.73:/
- // Type in password or associated key
- cd /
- docker login
- docker pull craigturley/demo-app:latest
- docker-compose up
- docker ps // This line was added to ensure the images are correctly running