# Getting Started with Docker (Mac)

November 16, 2021

#### 1 Prerequisites

1. At least 10 GB of free hard drive space (for help see here).

#### 2 Setup

- 1. Install and run Docker Desktop.
- 2. (Video 5) Open a Terminal, and pull the stat-471 Docker image onto your computer via

```
docker pull ekatsevi/stat-471
```

This will start a download that may take a few minutes. You'll only need to carry out this step once.

3. (Video 6) In the Terminal, navigate into your stat-471-fall-2021 directory and type

```
git pull
```

as usual to get the latest version of the Github repository. You should see the file docker-compose.yml in the root of the directory. Initialize your Docker container by typing

```
docker-compose up --no-start
```

If this step succeeded, you should see a container labeled stat-471-fall-2021 under Containers/Apps within Docker Desktop (Figure 1).

## 3 Usage (Video 7)

- 1. Open Docker Desktop. Start your Docker container by navigating to Containers/Apps within Docker Desktop, locate stat-471-fall-2021, and click the "Play" icon (see Figure 1). Open a web browser and navigate to localhost:8787. You should see an RStudio window in the browser. Note that there may be some red text displayed in the console; you can safely ignore it.
- 2. (Do this step only the first time you ever start the container.) To test the container, open test-docker.Rmd under getting-started, and compile this document to PDF as you would normally. If this works, you should see the compiled PDF pop up.
- 3. To use the container, use RStudio in the browser as you normally would.
- 4. For Git and GitHub, please pull, commit, and push using the Terminal that is not in your Docker container. I recommend using the regular Terminal, but for those who have been using

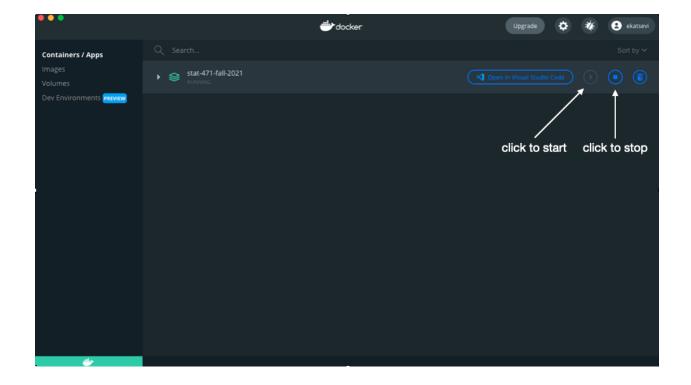


Figure 1: The Docker graphical user interface.

the Terminal inside of RStudio, you can continue doing so in the regular RStudio as opposed to the Docker RStudio.

5. When you are done, close the RStudio browser window(s). Then, navigate to Containers/Apps within Docker Desktop, locate stat-471-fall-2021, and click the "Stop" icon (see Figure 1).

## 4 Acknowledgment

Many thanks to Da Kuang for leading the effort to implement Docker for STAT 471.