Getting Started with Docker

November 14, 2021

1 Prerequisites

1. A laptop running either MacOS or Windows 10 version 1903 or higher. For Windows users: You can check your version number by going to `Settings → System → About`.

2. At least 10 GB of free hard drive space.

2 Setup

1. (For Windows users only) Enable WSL2 (Windows Subsystem for Linux 2) and clone the `stat-471-fall-2021` Github repository into WSL2 via `git clone https://github.com/Katsevich-Teaching/stat-471-fall-2021.git`. See video for details.

2. Download and run [Docker Desktop](#).

3. Open a Terminal (for Windows users, this should be in your Windows Terminal in the Ubuntu 20.04 tab) and navigate to your `stat-471-fall-2021` directory.

4. To get the latest version of the `stat-471-fall-2021` repository, type `git pull` as usual. You should see a file called `docker-compose.yml` in `stat-471-fall-2021`.

5. To pull the `stat-471` Docker image onto your computer, type `docker pull ekatsevi/stat-471` in your Terminal and press enter. This will start a download that may take a few minutes. You'll only need to carry out this step once.

6. To fire up your Docker container, type `docker-compose up` in the Terminal and press Enter.

7. To test your container, open a web browser and navigate to `localhost:8787`. You should see an RStudio window with all your files.

8. 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. Well done!

9. 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).

3 Usage

1. Open Docker Desktop.

2. To start your Docker container, navigate to `Containers/Apps` within Docker Desktop, locate `stat-471-fall-2021`, and click the "Play" icon (see Figure 1).

3. Open a web browser and navigate to `localhost:8787`.

4. You should see an RStudio window in the browser; use it as usual.

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).
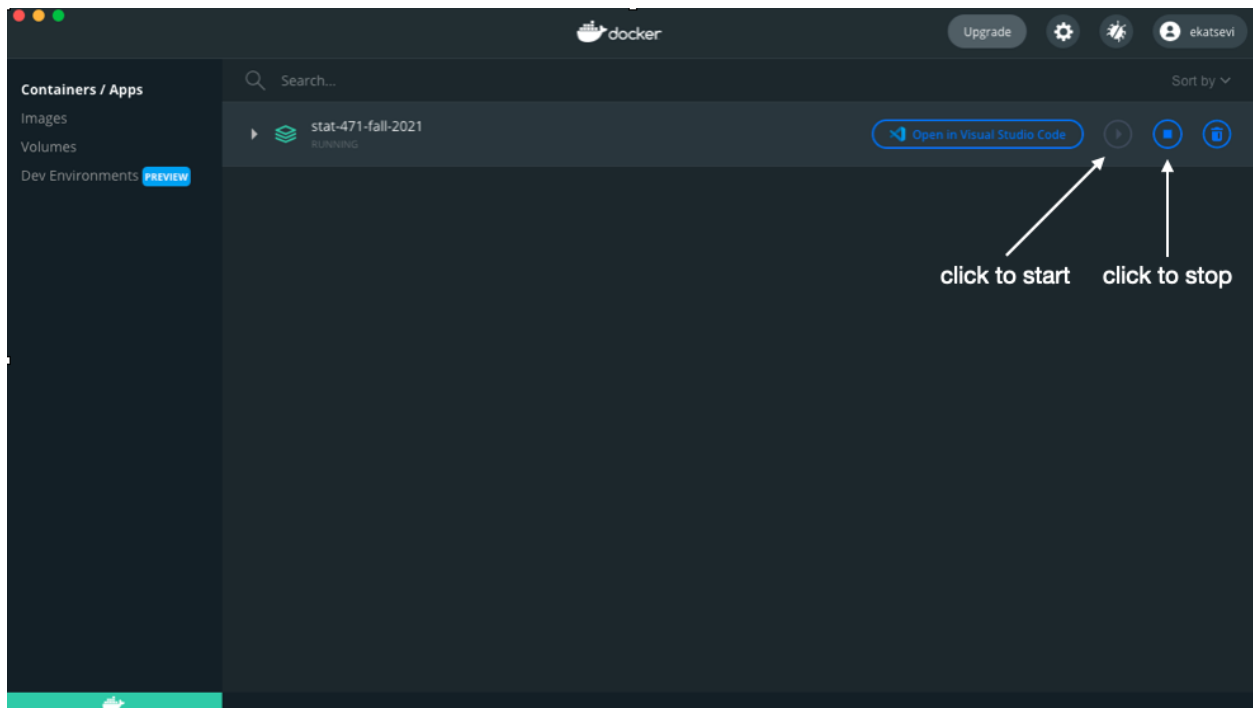

Figure 1: The Docker graphical user interface.

4 Acknowledgment

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