

## Running Lessons With Docker

Correlation-One uses Anaconda, an industry-standard package-manager, for helping manage dependencies associated with ds4a lessons. Unfortunately, our students have experienced difficulties in the past related to the portability of this system across different operating-systems.

We've introduced **docker** to eliminate these portability issues.

This document describes how to use **docker** to run ds4a cases.

Supported systems include OSX, Windows 10, and Ubuntu.

## Installing Docker

This tutorial assumes students have already installed docker on their system. We defer to the official docker documentation

## Running the Docker Image

Once docker is installed, please follow the instructions for your operating system to run the docker image appropriate for ds4a lessons.

### Windows

Open the **Command Prompt** as an administrator. In order to do so, please find **CMD** in the start menu and select "Run as Administrator" from the right-click menu.

Enter the following command to pull and run an image with anaconda installed.

```
docker run -p 8888:8888 -v c:\Users\<User>\Desktop:/home/jovyan/work ^
jupyter/scipy-notebook:17aba6048f44
```

Replace the **<User>** field with your Windows system user-name. The path **c:\Users\<User>\Desktop** should contain the case materials for your lesson. This path is the only part of your local file system visible to the docker container! Feel free to change the path to something more convenient if you feel so inclined.

The prompt should pull the docker image and run a notebook server. A URL will be displayed than may be edited, copied, and pasted into your browser:

Copy/paste this URL into your browser when you connect for the first time, to login with a token:

```
http://(b56ec2d7c00a or 127.0.0.1):8888/?token=<some-token>
```

Please note that the token field will be different each time you run the command. Make sure to edit the portion of the url nested in parentheses! The **<some-token>** field will be different each time the command runs, so the field is omitted in this documentation for clarity. There's no need to reference any source of information outside of the output.

## OSX and Ubuntu

Launch the Terminal application. On Ubuntu, open your preferred terminal.

Enter the following command to pull and run an image with anaconda installed.

```
docker run -p 8888:8888 -v "$PWD":/home/jovyan/work \
  jupyter/scipy-notebook:17aba6048f44
```

Ensure that the command is run from a directory containing the cases used in your lesson.

The prompt should pull the docker image and run a notebook server. A URL will be displayed that may be edited, copied, and pasted into your browser:

Copy/paste this URL into your browser when you connect for the first time, to login with a token:

```
http://(b56ec2d7c00a or 127.0.0.1):8888/?token=<some-token>
```

Note that the token field will be different each time you run the command.

## Environment Management

Once a docker process is running, you may follow the instructions listed in the *Managing Case Environments* document.

## Managing Docker Processes

Running docker images persist in the background once opened. Eventually, you should remove these running processes.

List the running docker processes by using `docker ps`:

```
docker ps
CONTAINER ID   NAMES
aacda4d33aef   elastic_zhukovsky
```

The output that follows shows a table of running processes. Most of the fields are omitted for clarity. The `NAMES` field is used to reference the process. Names are randomly generated.

To stop a process, use the `docker stop` command with the name of the process.

```
docker stop <name-of-process>
# e.g., docker stop elastic_zhukovsky
```