

Pre-class Assignment

Docker: Install, Set up and run a container

Watch Docker for Web Developers: Why Use Docker as a Developer

Learn about what Docker is, what an image is, and what a container is (28 min).

Note: This video provides a good introduction to Docker, but the Docker tools description is slightly outdated now. In place of Docker Community Edition, you should now install Docker Desktop if using a relatively new Mac or Windows 10 Professional Edition or later. If using an earlier version of Windows (including Windows 10 Standard Edition) or an old Mac you will need to install Docker Toolbox, which is mentioned in the video. See the “Set Up Docker” section below for details after watching the videos.

<https://app.pluralsight.com/course-player?clipId=af1af2ed-329c-46bd-bbd2-ab9ea9da9344>

Watch Getting Started with Docker: Working with Containers

Watch the 4th part of this video to learn about docker commands and how to use containers. This video is a bit cheesy, but it does a good job of showing the basics of Docker. (29 min)

<https://app.pluralsight.com/course-player?clipId=a3b75651-9be8-4e50-b5a2-f347a52946a3>

What to learn (and do)

- What is Docker?
- What is an image?
- What is a container?
- What is the difference between a Virtual Machine and a Docker Container?
- Know basic Docker commands
 - How to create a container
 - How to stop a container
 - How to remove a container
- Have Docker **installed and working** on your laptop

Set Up Docker

For the docker tutorial, you will need to have Docker installed on your laptop. You should do this before class. If you have a Mac (with Mac hardware from 2010 or later and macOS version 10.13 or later) or a Windows machine with Windows 10 **Pro, Enterprise, or Education Edition** installed, install Docker Desktop by following these instructions (select the appropriate link for your operating system):

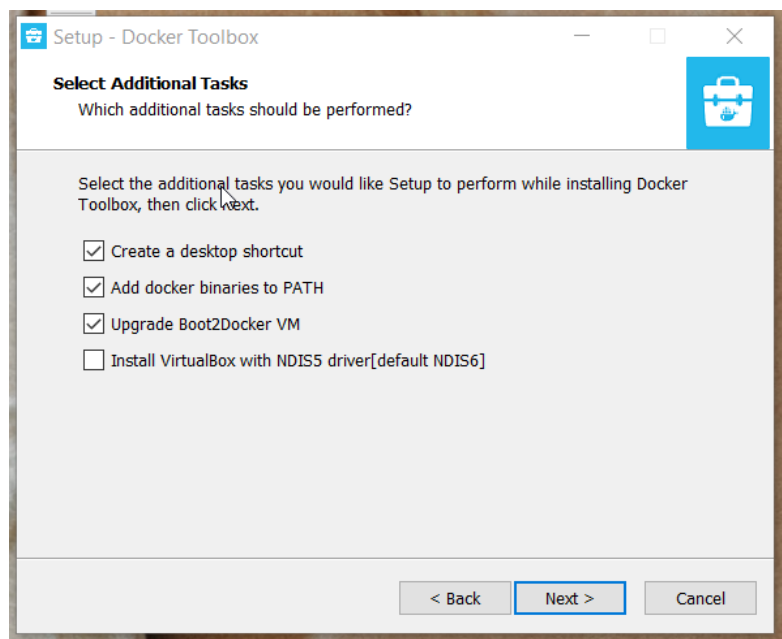
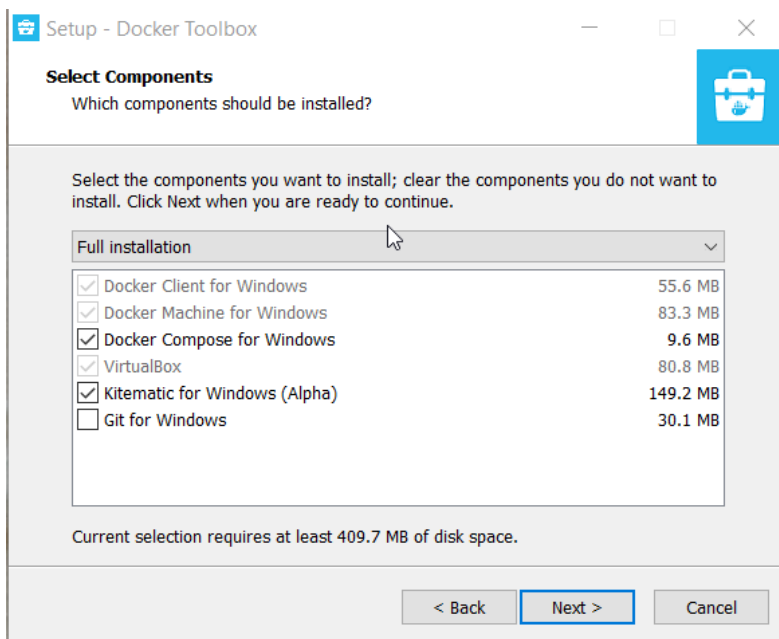
- <https://docs.docker.com/docker-for-windows/install/>
- <https://docs.docker.com/docker-for-mac/install/>

If you have an older version of windows, or Windows 10 Standard Edition, or an older Mac, you will need to install Docker Toolbox by following these instructions:

- https://docs.docker.com/toolbox/toolbox_install_windows/
- https://docs.docker.com/toolbox/toolbox_install_mac/

IF YOU ARE USING WINDOWS 10 STANDARD EDITION

- To avoid compatibility issues, we recommend you uninstall your current version of virtual box BEFORE installing docker toolbox. In the process of installing Docker toolbox, it will then download the version of virtual box that docker needs inorder to run.
- When you install Docker toolbox with VirtualBox uninstalled, make sure you follow the following settings in your install wizard:



After installing either Docker Desktop or Docker Toolbox, confirm that Docker is working correctly by typing “**docker run hello-world**” at a command prompt. You should see output that looks something like this:

```
jerodw — -bash — 80x29
[~$ docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
1b930d010525: Pull complete
Digest: sha256:4fe721ccc2e8dc7362278a29dc660d833570ec2682f4e4194f4ee23e415e1064
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
   (amd64)
3. The Docker daemon created a new container from that image which runs the
   executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it
   to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/

~$
```

In class we will be using two Docker images. Run the following commands to install them before class.

- ``docker pull ubuntu``
- ``docker pull openjdk``

To check that you installed everything correctly, type ``docker images`` and check that your terminal output looks like this.

```
$ docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
ubuntu	latest	549b9b86cb8d	9 days ago	64.2MB
openjdk	7	d735a2057e60	7 months ago	475MB
hello-world	latest	fce289e99eb9	12 months ago	1.84kB