

★ Docker for Mac ★

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What is Docker?



Running Docker on a Mac



Starting a Container



Use Cases



What is Docker?

What is Docker?

Software to create and manage containers

What is a container?

A container image is a lightweight, stand-alone, executable package of a piece of software that includes everything needed to run it: code, runtime, system tools, system libraries, settings.

What is a container?

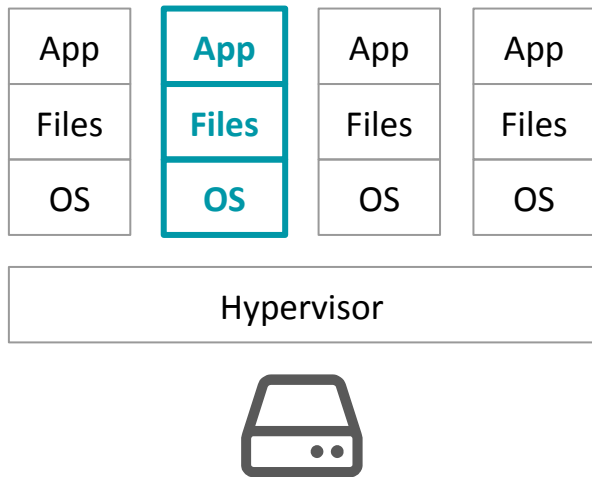
Lightweight

Isolated

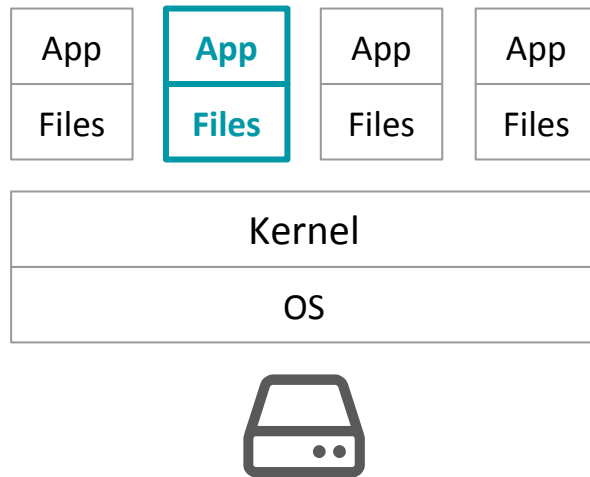
Shippable

Always run the same

Containers vs. Virtual Machines

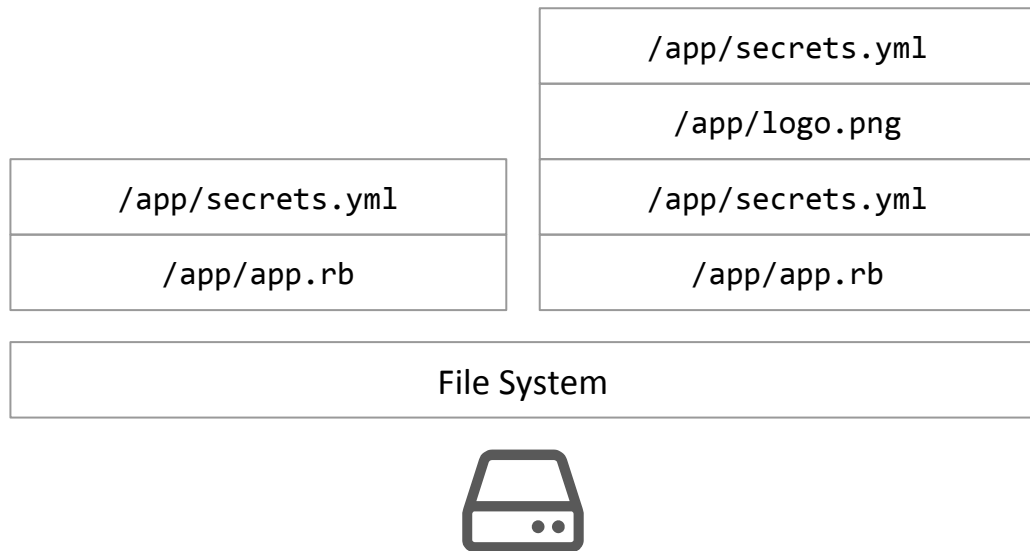


Virtual Machines

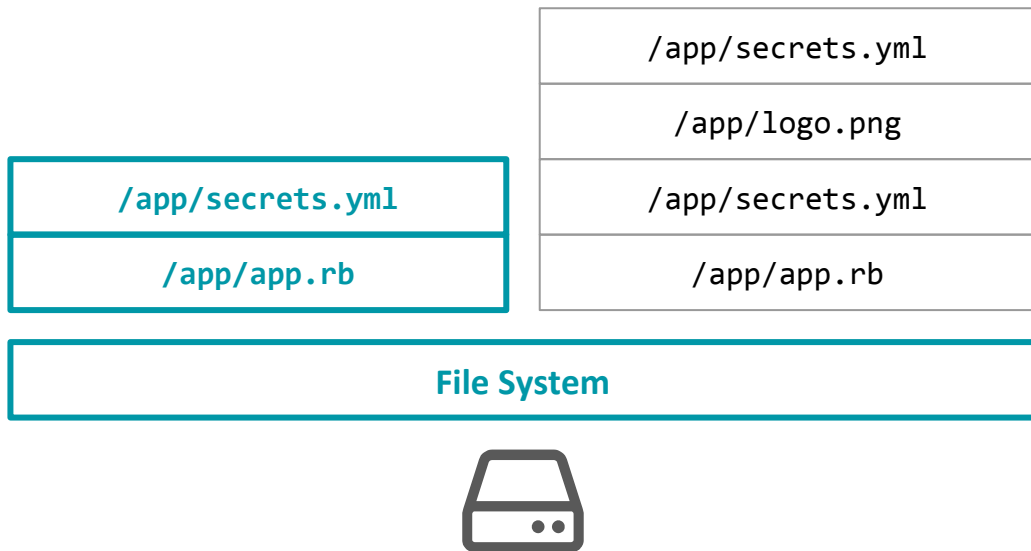


Containers

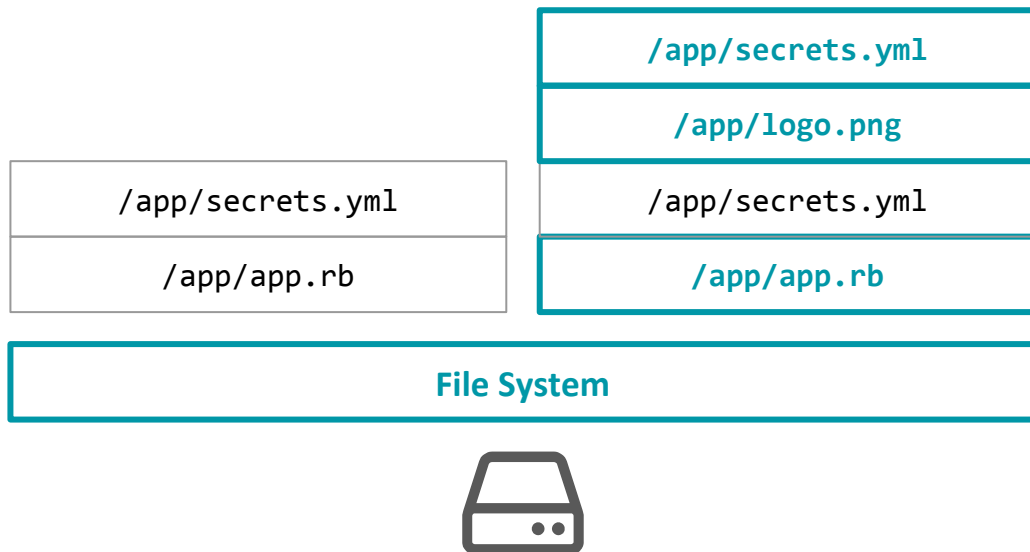
File System Layers



File System Layers



File System Layers



(Container) Image

Set of file system layers & metadata about how to execute

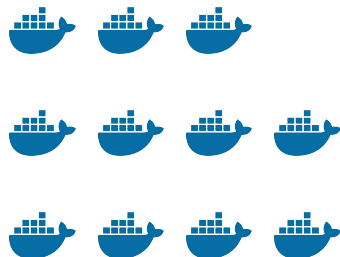
Container

Running image



Running Docker on a Mac

Docker — Linux



2

Containers run directly on top of the Kernel

1

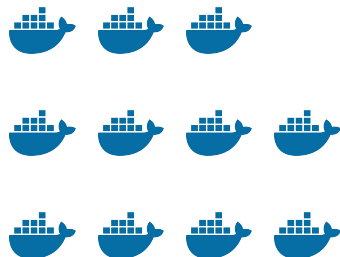
Linux Kernel provides technologies used by containers

Linux Kernel



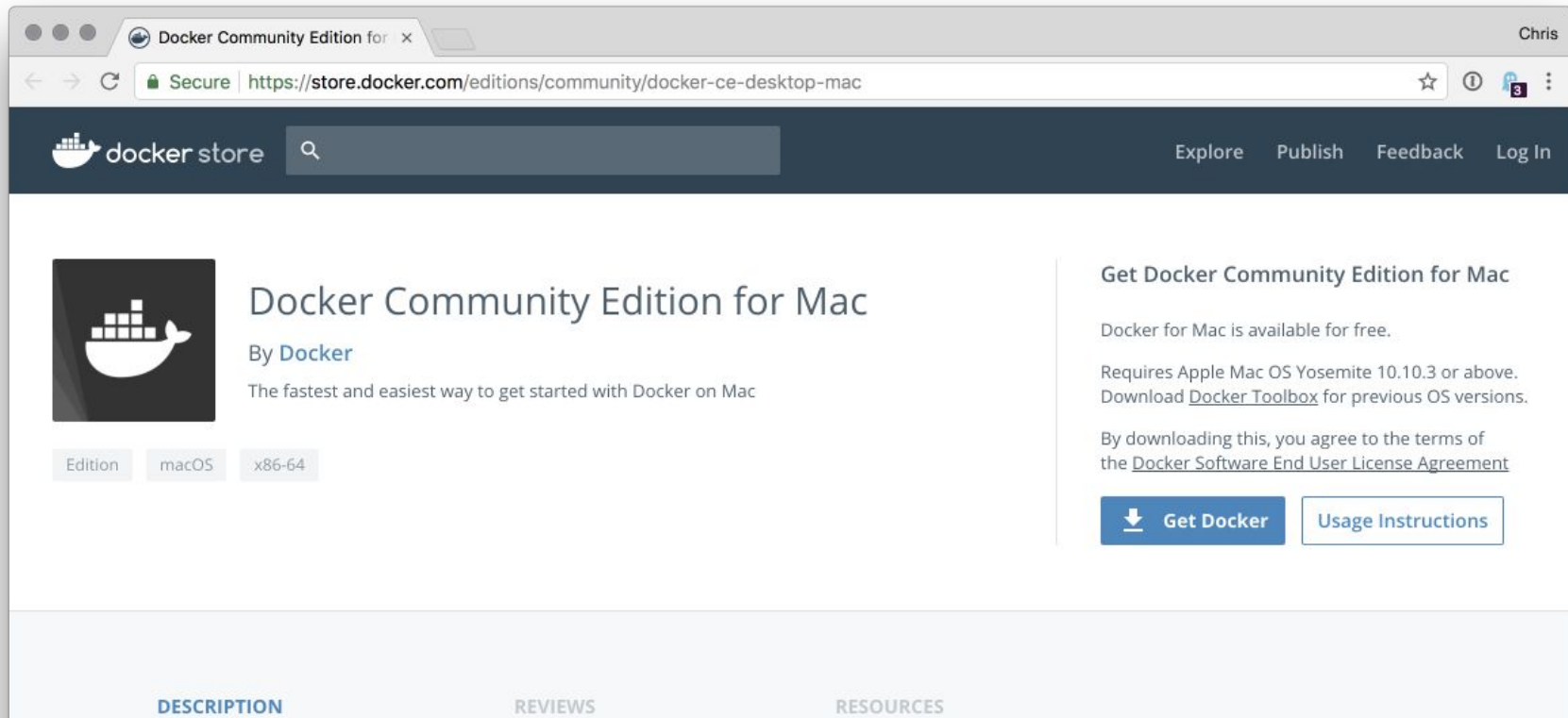
Docker — macOS

- 1 macOS's built-in Hypervisor runs a VM
- 2 VM runs a stripped down Linux distribution



- 3 Containers run on top of the Kernel inside the VM

★ Docker for Mac ★



A screenshot of a web browser displaying the Docker Store page for Docker Community Edition for Mac. The browser's address bar shows the URL <https://store.docker.com/editions/community/docker-ce-desktop-mac>. The page features the Docker logo and the text "docker store" in the top left. A search bar is located next to it. In the top right, there are links for "Explore", "Publish", "Feedback", and "Log In". The main content area displays the Docker logo, the title "Docker Community Edition for Mac", and the text "By Docker". Below this, it says "The fastest and easiest way to get started with Docker on Mac". There are three tabs: "Edition", "macOS", and "x86-64". On the right side, there is a section titled "Get Docker Community Edition for Mac" with the text "Docker for Mac is available for free." and "Requires Apple Mac OS Yosemite 10.10.3 or above. Download [Docker Toolbox](#) for previous OS versions." Below this, it says "By downloading this, you agree to the terms of the [Docker Software End User License Agreement](#)". At the bottom, there are two buttons: "Get Docker" and "Usage Instructions". The footer contains the words "DESCRIPTION", "REVIEWS", and "RESOURCES".

Docker Community Edition for Mac

By [Docker](#)

The fastest and easiest way to get started with Docker on Mac

Edition macOS x86-64

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the [Docker Software End User License Agreement](#)

[Get Docker](#) [Usage Instructions](#)

DESCRIPTION REVIEWS RESOURCES



Starting a Container

Starting a container

```
docker run -d -P --name web nginx
```

Run in
background

Forward all
ports

Name our
container

Image to start

Building a container — Dockerfile

```
FROM ubuntu:16.04
```

Base image to start with

```
RUN mkdir /deploy
```

```
ADD . /deploy
```

Operations to change the image

```
WORKDIR /deploy
```

Each command creates a new file system layer

```
RUN make assets
```

```
ENTRYPOINT ["bin/start"]
```

Command used to start the container



Use Cases

Use Cases

Deployments

Reproducible builds

Local development

Microservices

Continuous Integration

Portability

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Deployments

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Demo

Reproducible Build Environments

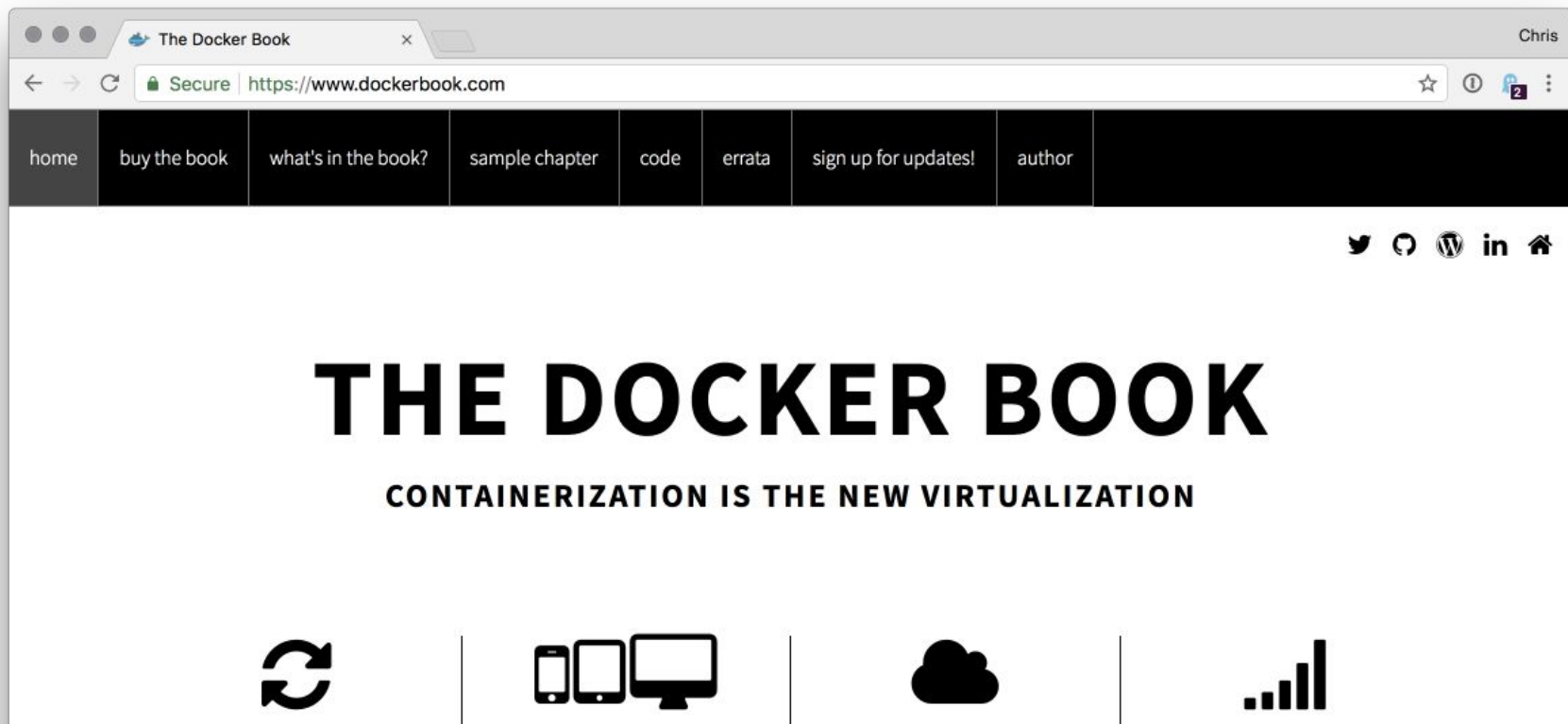
Demo

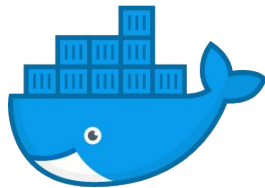
Local Development Environments

<https://docs.docker.com/compose/rails/>

★ The Docker Book ★

www.dockerbook.com





★ Thanks! Questions? ★

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