dotnotes

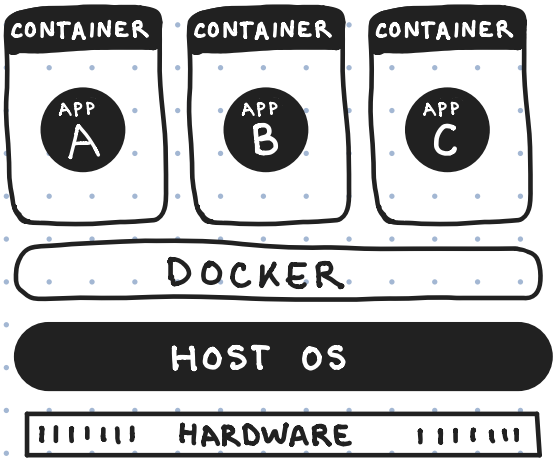
DOCKER BASICS

STANDARDIZED UNITS OF SOFTWARE FOR RELIABLE, SCALABLE DEVELOPMENT.

VOCAB

DOCKER: A software platform for packaging apps into containers.

CONTAINER: A standalone bundle of executable source code plus OS libraries & dependencies.



DOCKER ARCHITECTURE

- Docker virtualizes the host operating system, allowing it to be shared between the containers; contrast this to virtual machines (VMs), which are based on hardware virtualization.
- Apps are isolated within their own environments to ensure portability & security.

WHY CONTAINERS?

APPLICATION ISOLATION — Encapsulate an entire runtime environment for easy deployment.

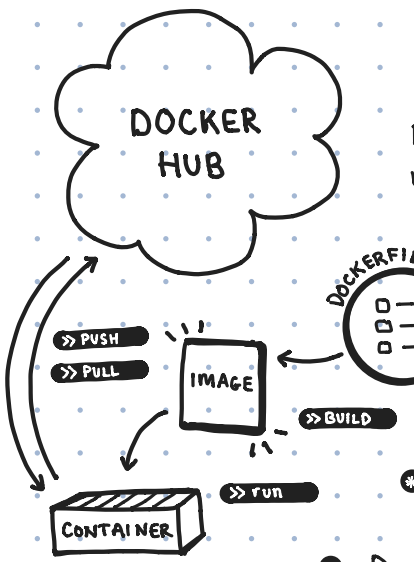
FASTER + LIGHTER — Unlike VMs, containers do not require one OS per application. Boot time is quick.

RESOURCE EFFICIENCY — Reduced cloud spending because a single server can host many containers.

MODULARITY — Applications can be split into microservices for independent management & development.

WHY DOCKER?

Docker has become synonymous with containerization, but the technology has actually been around for years. The early versions of Docker leveraged XLC ("for Linux Containers"); nowadays it uses custom functionality for improved portability & container management.



WORKING WITH DOCKER

Developers issue commands via a client CLI, which uses a REST API to interact with the Docker service daemon.

- Code is assembled into an image by the Docker Engine based on instructions contained in the Dockerfile.
- Images are blueprints for containers.
- Containers are live running instances of images.
- Docker Hub is a public repository that allows developers to access and share Docker images.