#LearnDocker Workshop

Docker 101 for Developers

This Docker 101 workshop is designed to get you up and running with containers!

What you'll learn today:

- How to build images
- Run containers
- Use volumes to persist data and mount in source code
- Define your application using Docker Compose.
- A few advanced topics!
  - Networking
  - Image building best-practices

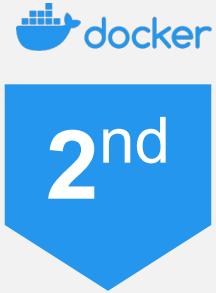
#LearnDocker, ask questions and most importantly, have fun!

The Basics!


Music: "Still" by Ikson
soundcloud.com/ikson

Developers love Docker

Most **Wanted**
Platform



Most
Loved
Platform

Most **Used**
Platform

stackoverflow


WORKED FINE IN DEV
38
OPS PROBLEM NOW
imgflip.com

What is an image?

- A fully self-contained “thing” that contains everything an app needs to run
  - Application source code
  - All runtime dependencies, config files, and binaries

- At the end of the day, think of it as simply a transportable file system

Important Note:

Images are STATELESS and IMMUTABLE

Creating Images

- Best practice is to use a `Dockerfile`
- A text file that contains a script used to create an image
- Allows various commands, including:
  - `FROM` - specify the parent image (almost always the first command)
  - `COPY` - copy files from the host into the image
  - `RUN` - run a command using binaries inside the container (install services, etc.)
  - `CMD` - specify the default command (if one not specified in parent image)

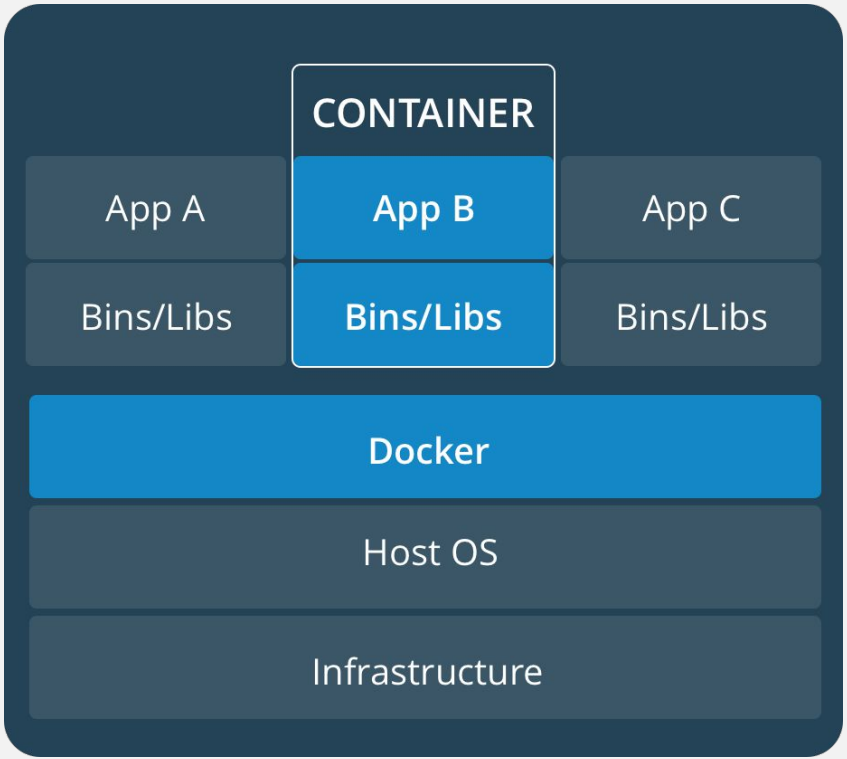
Sharing Images

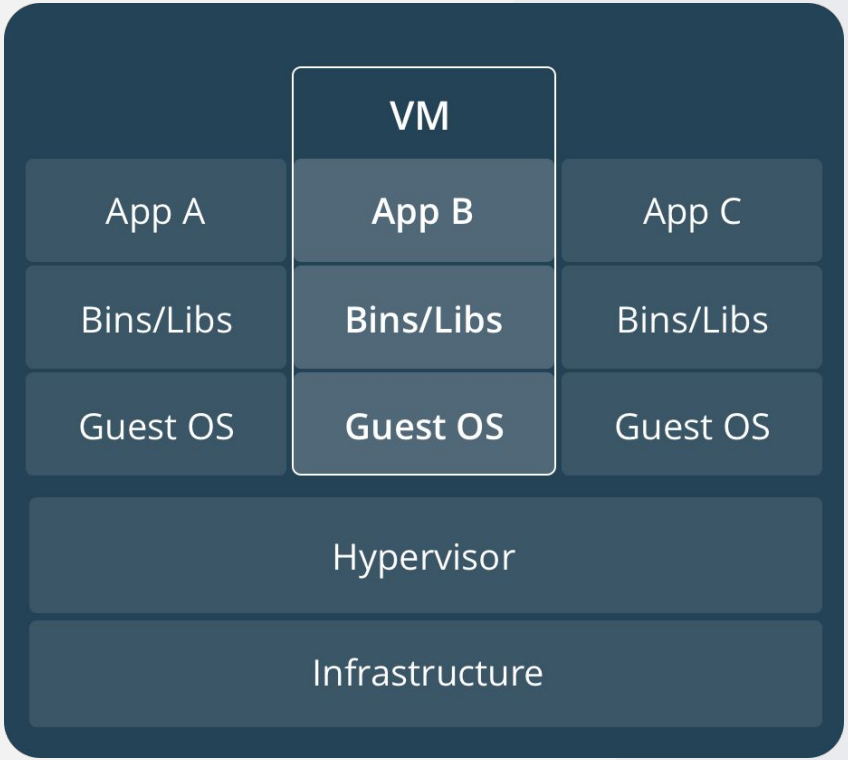
- After building an image, it’s only available on the machine that built it
- To share, you have to push to a registry
  - Docker Hub is the default registry
  - Many other third-party offerings available too
- Once pushed to the registry, others can pull the image

What’s a container then?

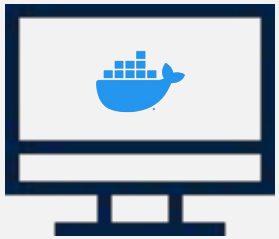
- While a container looks like a VM, it isn’t!
- A container is JUST another process on the machine
- It uses namespaces and control groups (cgroups) to provide isolation
  - Namespaces include network, process, user, IPC, mount, and others
- The filesystem for the image comes from an image

Container versus VM





docker

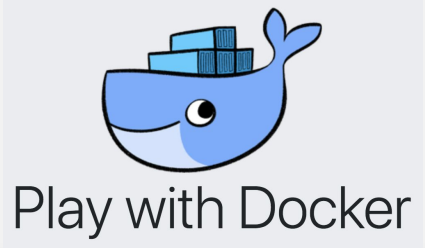


Docker Desktop

MacOS and Windows apps that allow you to easily set up Kubernetes or Swarm on your local development machine

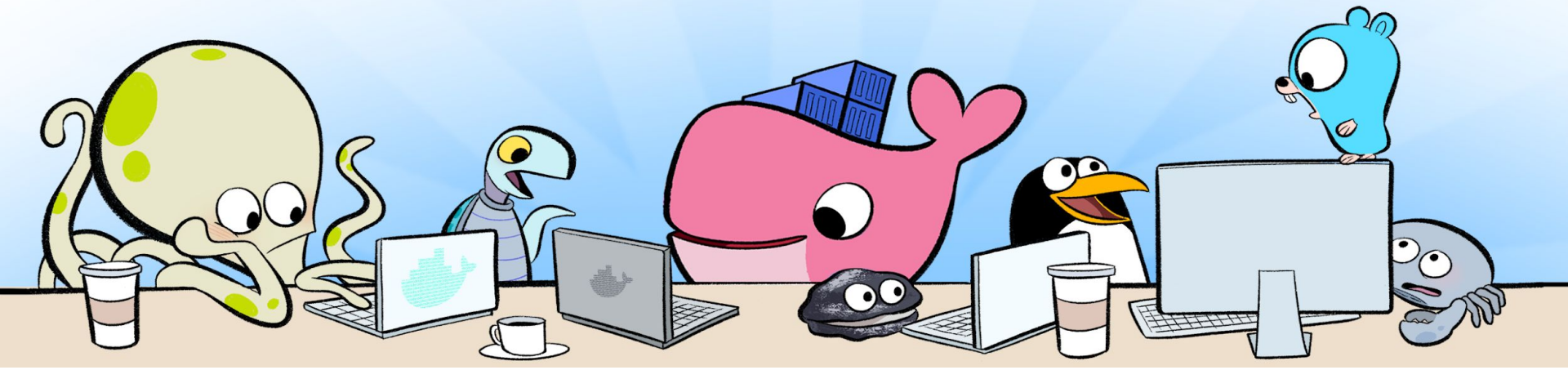
Docker Hub

The world's largest repo for finding or sharing container images with others



Play with Docker

A Docker playground which allows users to run Docker commands for workshops + learning



Go time!

URL: https://dockr.ly/dev101