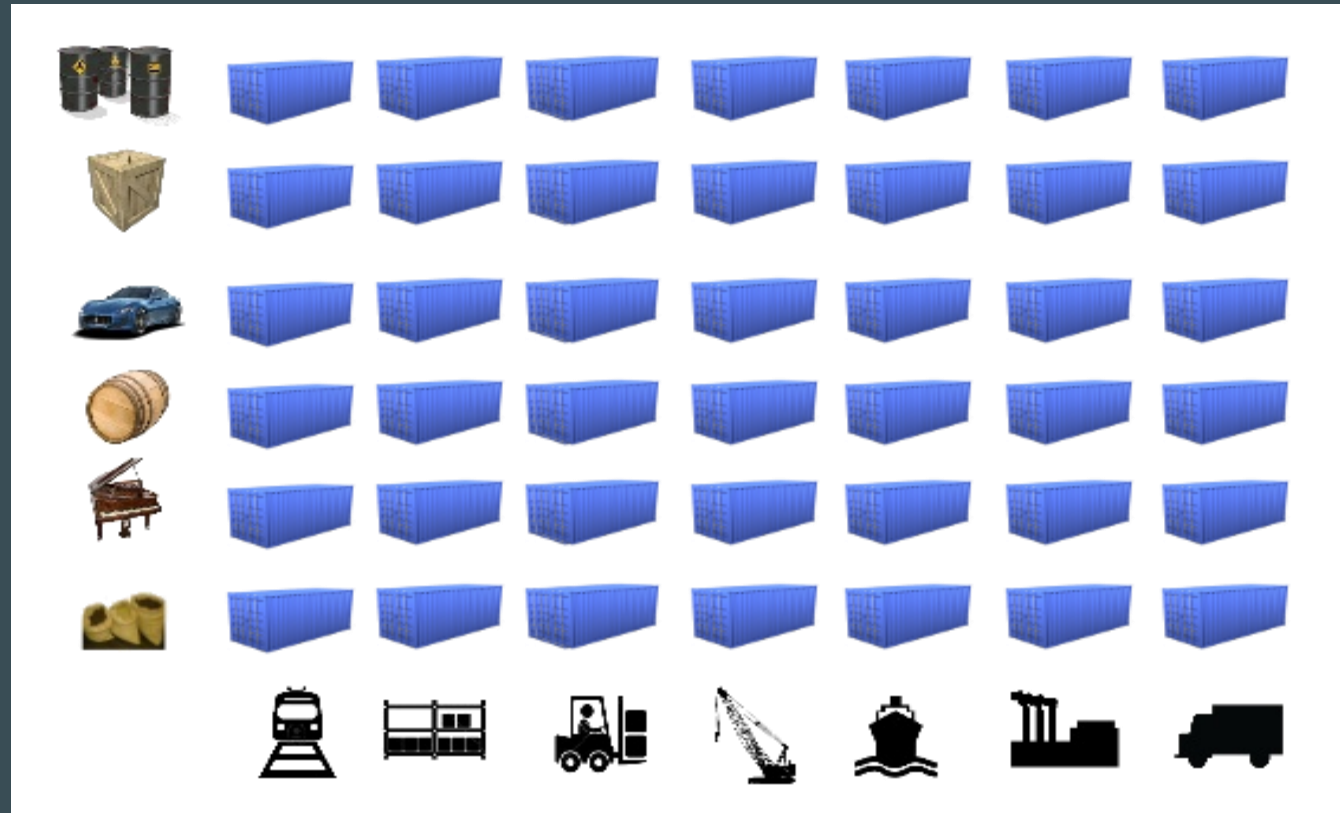# Introduction to Docker

Structure

- General

- Basic Commands

- Docker-Compose

- Tutorial
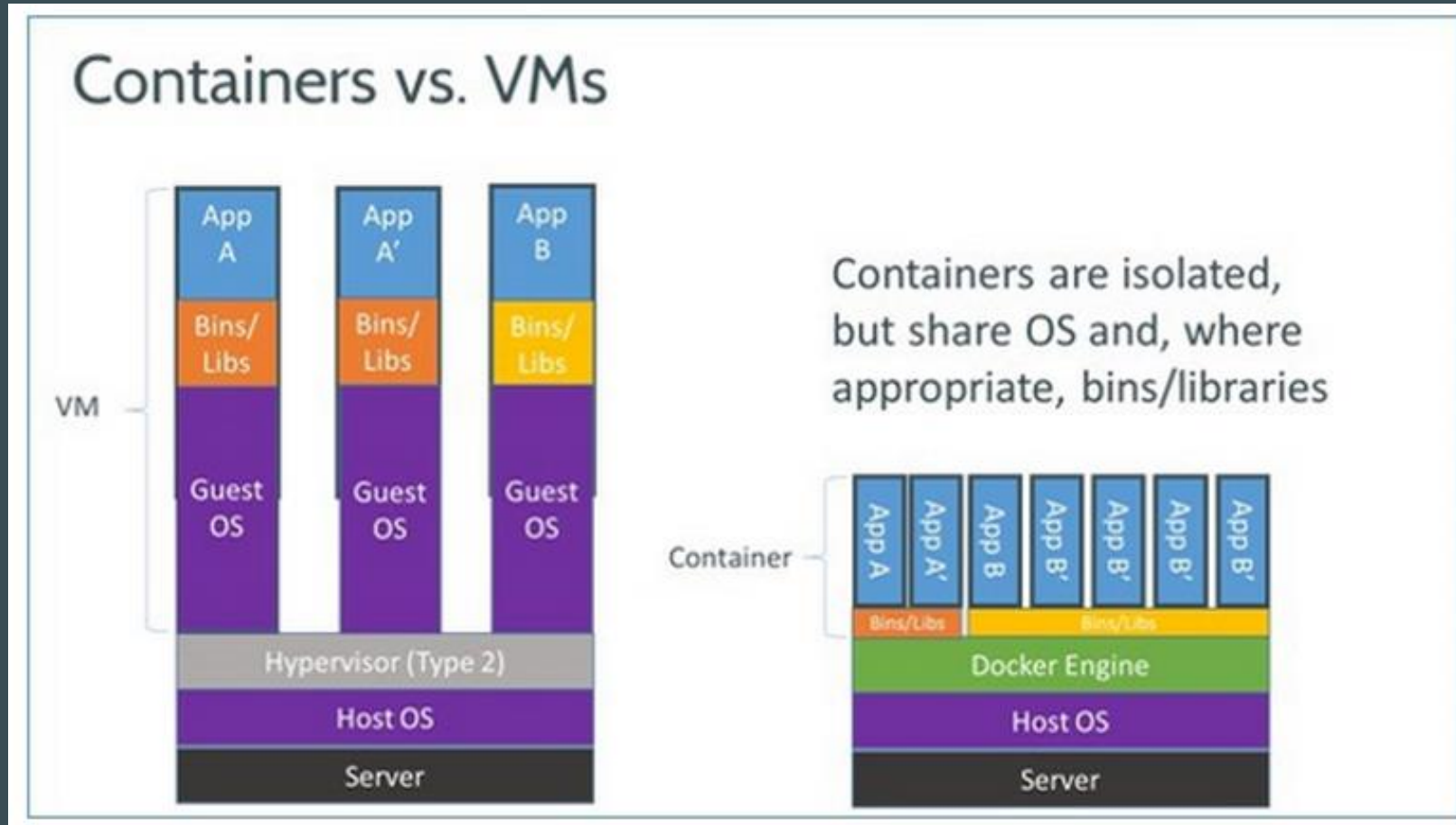
General

- Open Source

- Founded in 2009

- Since 2013 public

- Written in Go

- Apache 2.0 Licence

General

General

Containers vs. VMs

Containers are isolated, but share OS and, where appropriate, bins/libraries

General

Docker Hub

- A cloud service for sharing applications and automating workflows
- most of the images are shared on Docker Hub

Docker Registry

- base of Docker Hub
- self hosting for private images

General

Docker File

- configure your own image
  - select base image
  - copy files
  - create users
  - set port mappings

General

Layers

```
FROM ubuntu:15.04
COPY . /app
RUN make /app
CMD python /app/app.py
```

Basic Commands

docker run

Basic Commands

docker create

Basic Commands

docker images

docker

Basic Commands

docker ps

Basic Commands

docker kill

Basic Commands

docker restart

Basic Commands

docker rm

Basic Commands

docker rmi

Basic Commands

docker stop

Basic Commands

docker build

Basic Commands

docker pull

Basic Commands

docker push

Basic Commands

docker commit

docker

Basic Commands

docker stats

docker

Docker-Compose

„Compose is a tool for defining and running multi-container Docker applications." (Docker Inc., https://docs.docker.com/compose/)

- Configuration in .yaml file

- run multiple containers with one command

- configure port mappings

Tutorial

Basic functions of docker and docker-compose