


An introduction to Docker, WIP

chroot on steroids

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Chapter 1: Let us spread a new technology.

Virtual Machines are old fashioned and complete garbage. 

Guys, chill. 😎

In reality, we need technologies which fit better into the cloud concept.

Chapter 2: The answer is Containers

What does docker.com say about containers?

Containers are ...

- flexible
- lightweight
- interchangeable
- portable
- scalable
- stackable

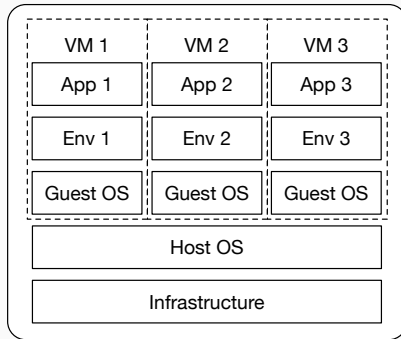
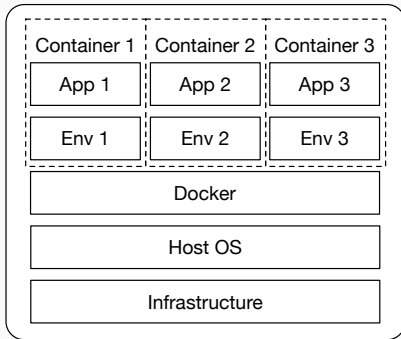
But people always say: *Containers are stateless and that's a problem!*

...the f**k?

Containers are primarily stateless, and that gives us:

- Reliability
- Reproducibility (science loves it)
- ... (probably a lot more)

Container vs. VM



Chapter 3: Sounds good, any volunteers?

Docker

- Started in 2013
- Implementation of container execution
- Client/Server
- written in Go

Commands

- `docker run`
- `docker images`
- `docker build`
- `docker exec`
- `docker info` / `docker inspect`
- `docker logs`
- `docker ps`
- ...

Dockerfile → Image → Container I

- Dockerfile: Blueprint for image
 - Image build from Dockerfile
- Image: template for container
 - Container is instance of image → A running Image

Directives

- FROM
- MAINTAINER (deprecated appereantly)
- RUN
- COPY
- CMD
- ENTRYPOINT
- ...

Encapsulate the...

- application
- runtime environment
- all installable data to run an application

Images are...

- prebuilt or custom
- stored locally or in a registry
- tagged
- build up in layers

- hub.docker.com
- Default registry
- Free to use (open repos)

- Running Image
- Executes command/entrypoint
- Dies automatically

Chapter 4: Let's see it in action

Monitoring approach(ish)

- Sharing the host kernel → Processes visible in host system
- Processes in container run as root (by default)
- Dockerfile → USER

Disadvantages, from my personal pov

- We still need to learn a new technology
- No cross-platform (don't even think about qemu)
- Open-source (yes, sorry) → You never know where it's leading to

Outlook

- Docker swarm
- Kubernetes
- Google Cloud
- AWS
- Azure

Thanks for your attention!



Questions?
