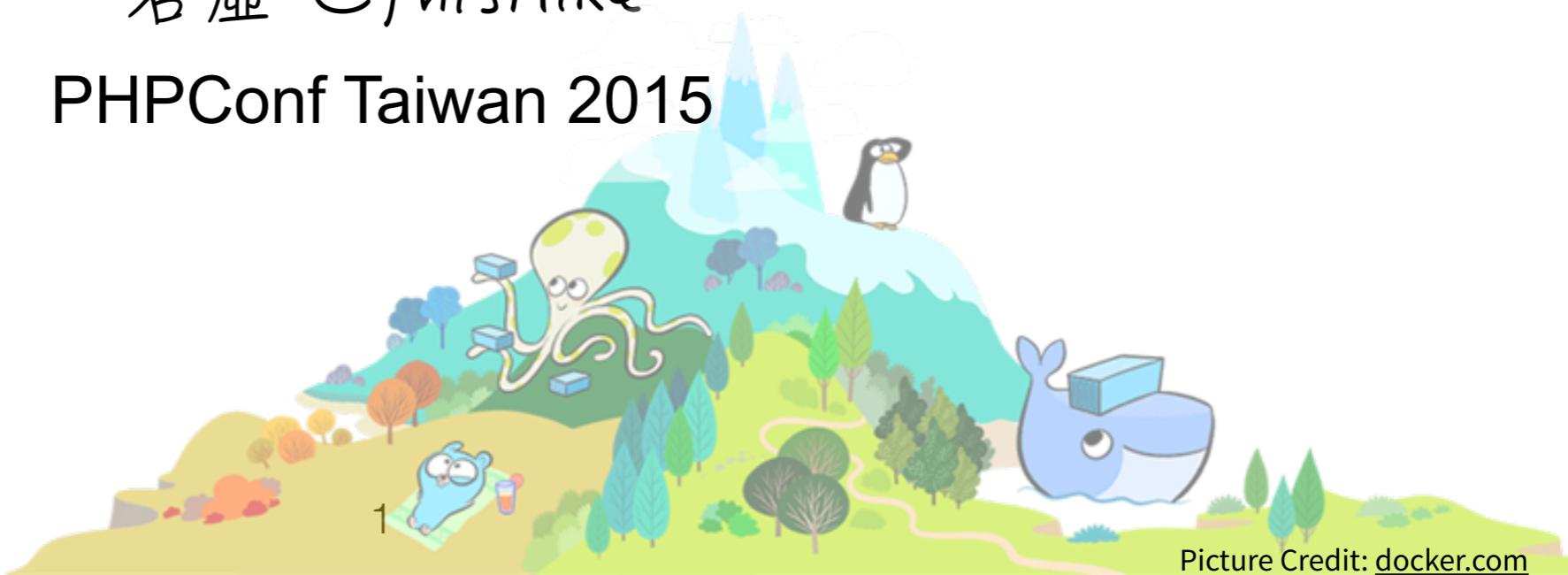


當專案漸趕
當遷移也不再那麼難

Ship Your Projects with Docker EcoSystem

若虛 @fntsrlike

PHPConf Taiwan 2015



誰

Speaker



- 林書緯 (若虛)
- PHPPer 3.5 years.
- PHPConf Taiwan 2014 Speaker
- Docker.Taipei member.
- <http://fntsr.tw>

大綱 Outline

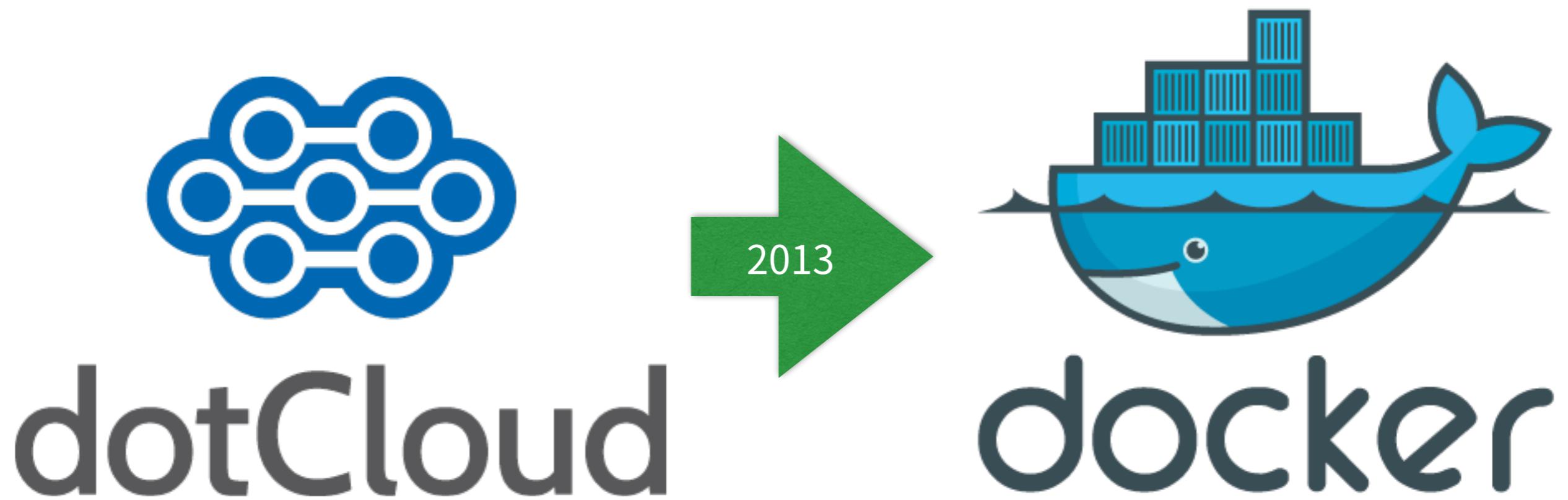
- 識：Docker 發展極簡介
- 璞：Docker 基礎觀念
- 架：安裝 Docker
- 運：Docker 運作方式
- 器：Docker-Compose 介紹
- 例：遷移、部署 PHP 專案

識

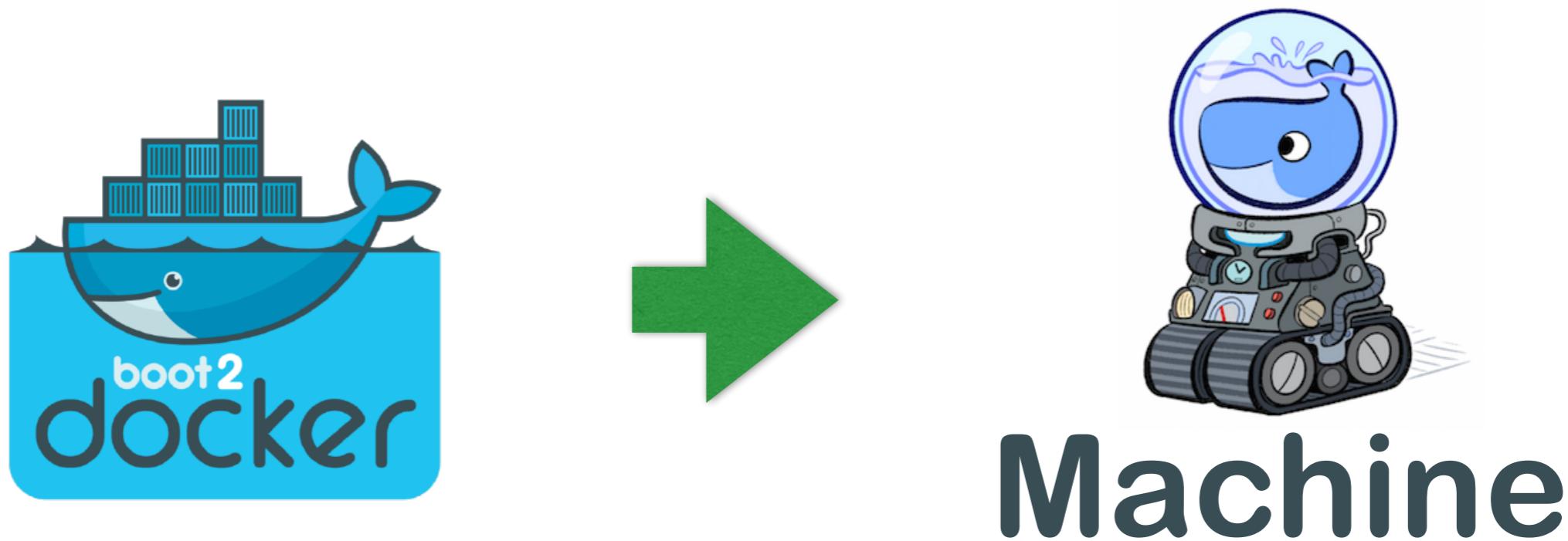
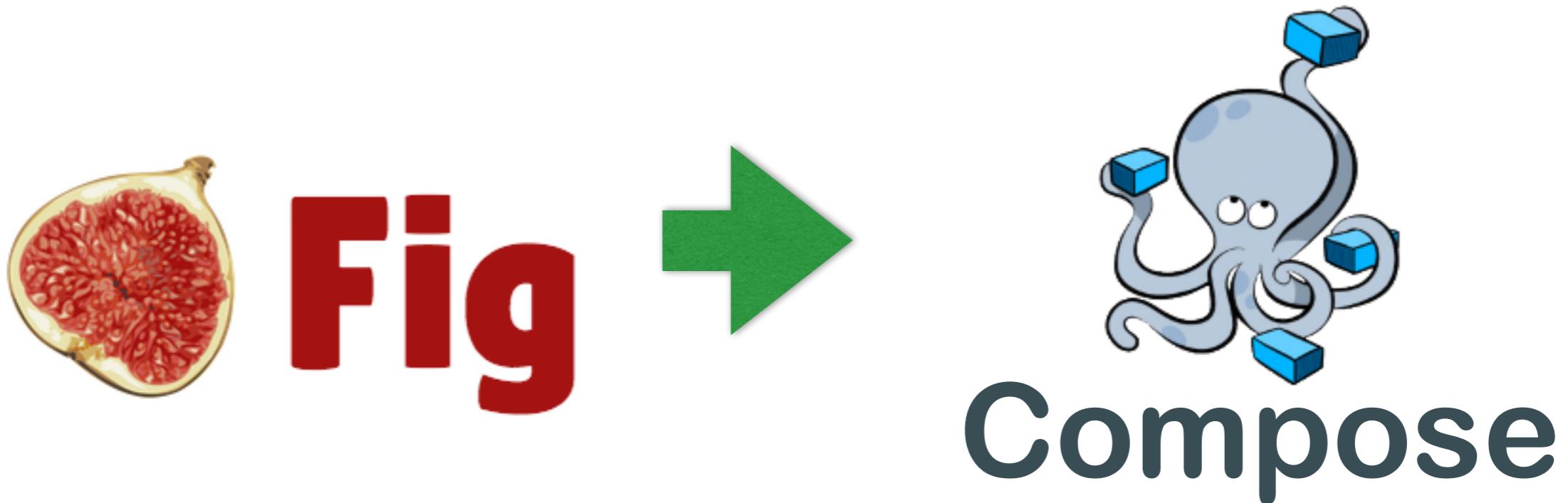
Docker

簡單介紹 Docker 這幾年的改變

從閉源到開源



更多好用的工具正式加入、整合或誕生



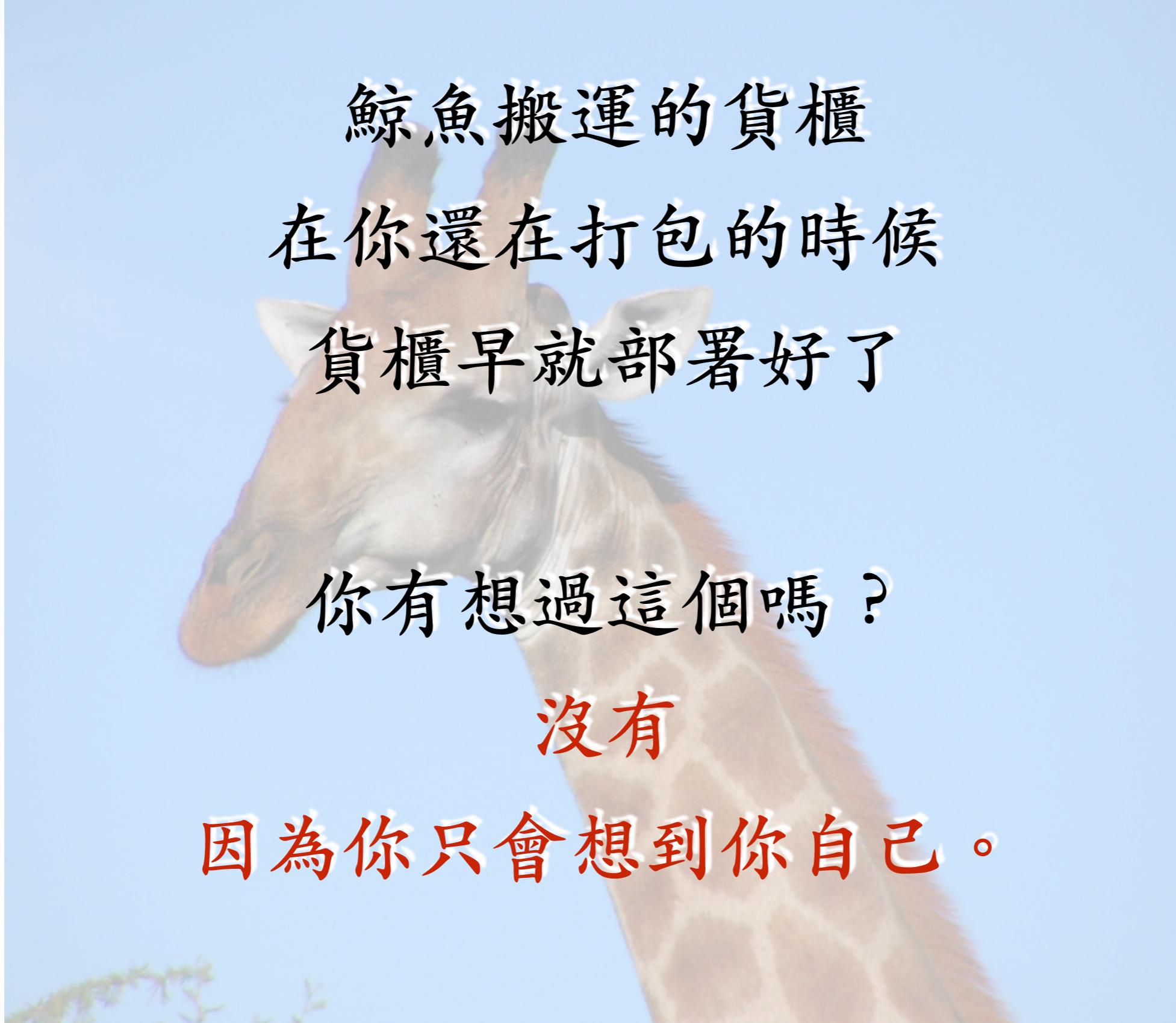
更加成熟的輔助工具與生態圈



基礎

Foundation

Docker 基礎觀念



鯨魚搬運的貨櫃

在你還在打包的時候

貨櫃早就部署好了

你有想過這個嗎？

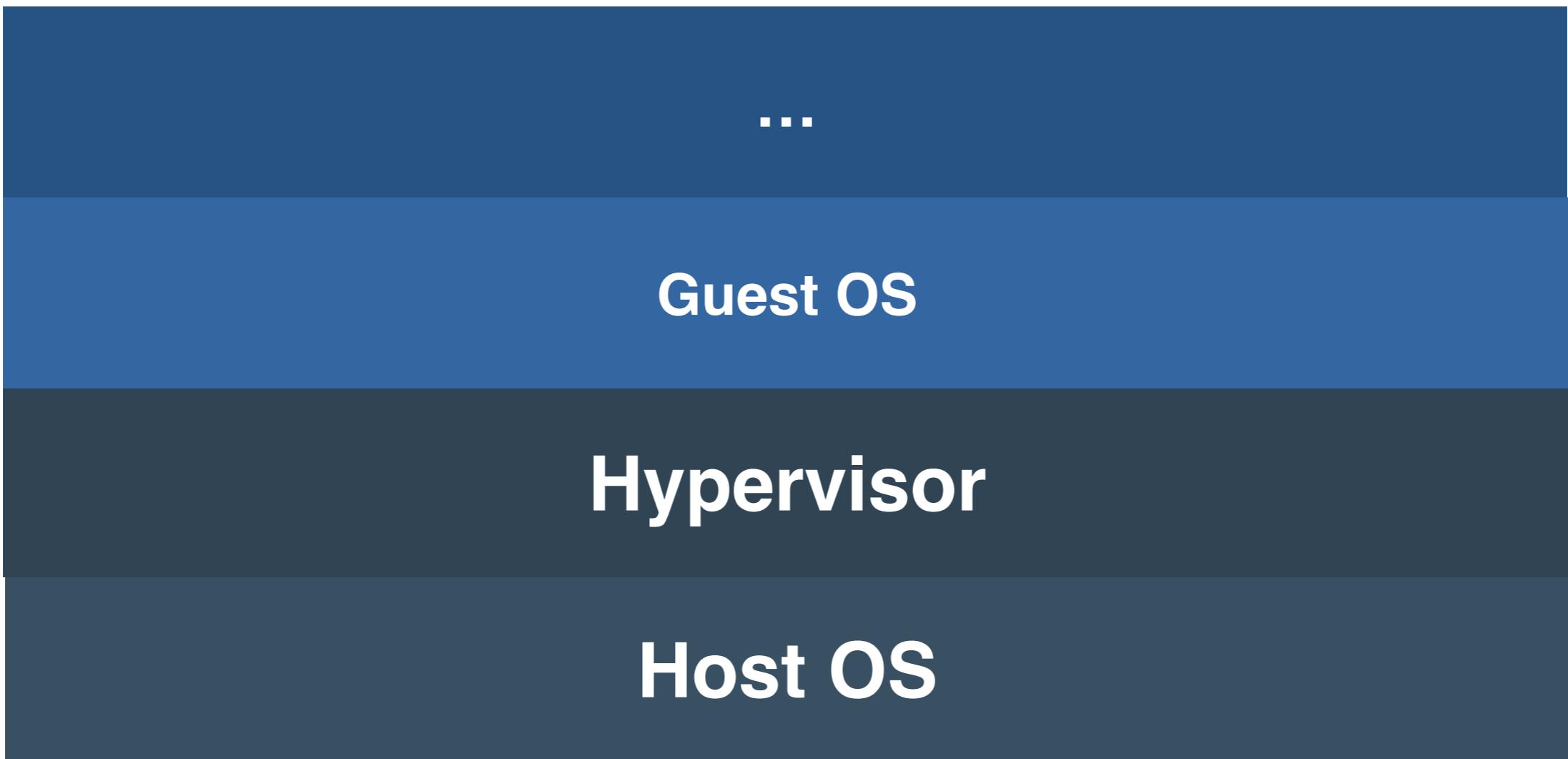
沒有

因為你只會想到你自己。

Foundation

在介紹容器之前，先來看看虛擬機器

Virtual Machine



Foundation

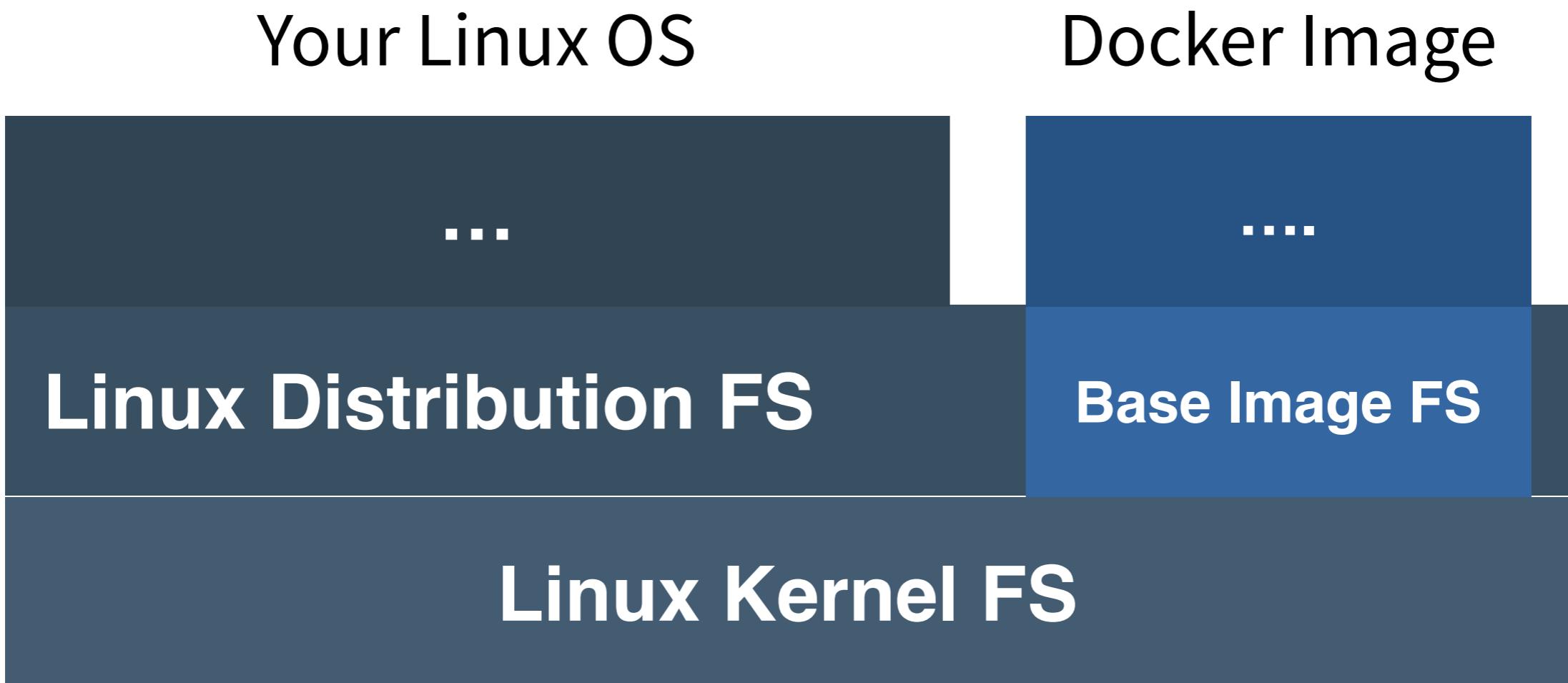
Your Linux OS

...

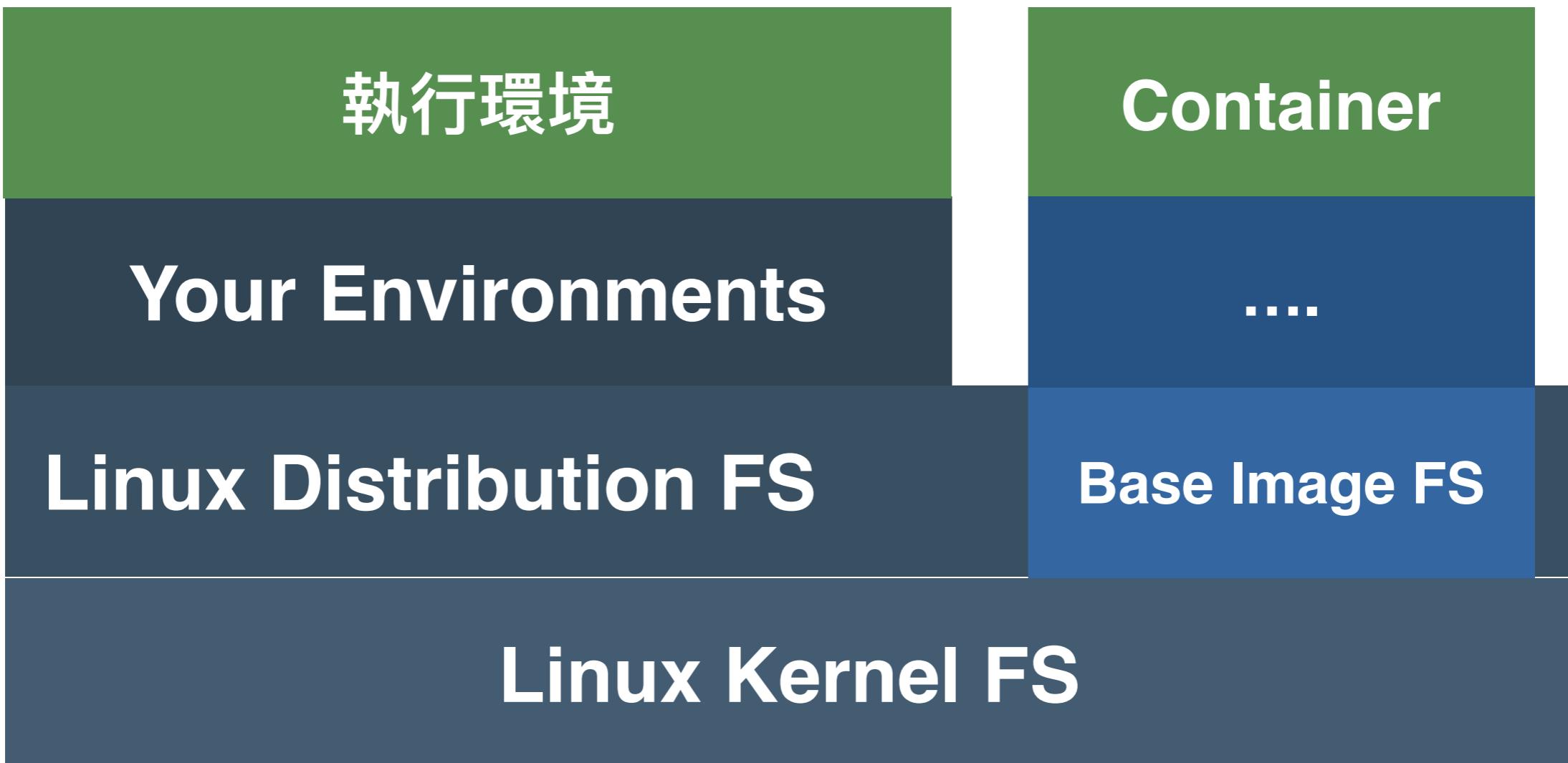
Linux Distribution FS

Linux Kernel FS

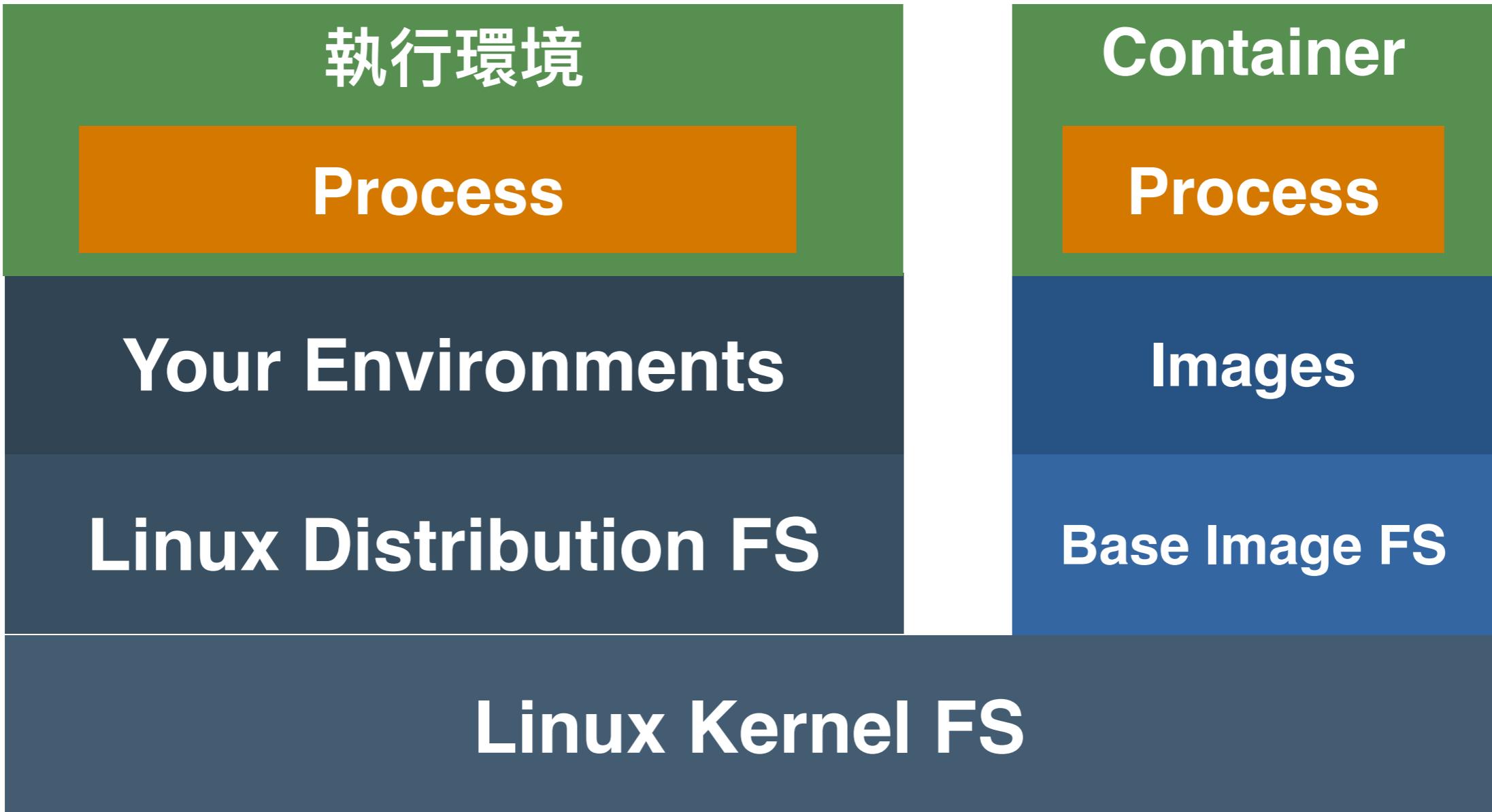
Foundation



Foundation



Foundation



Image

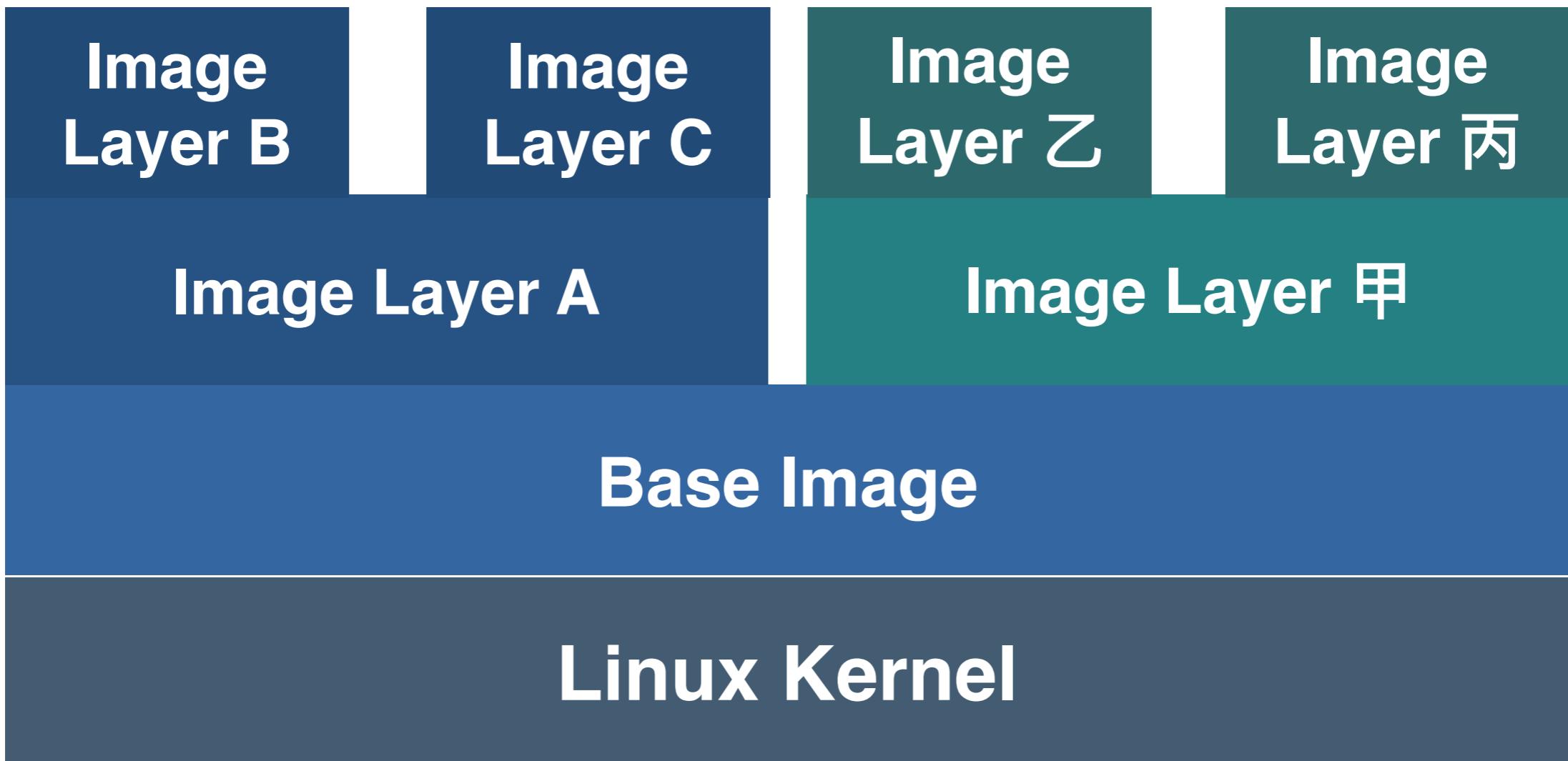
Image Layer B

Image Layer A

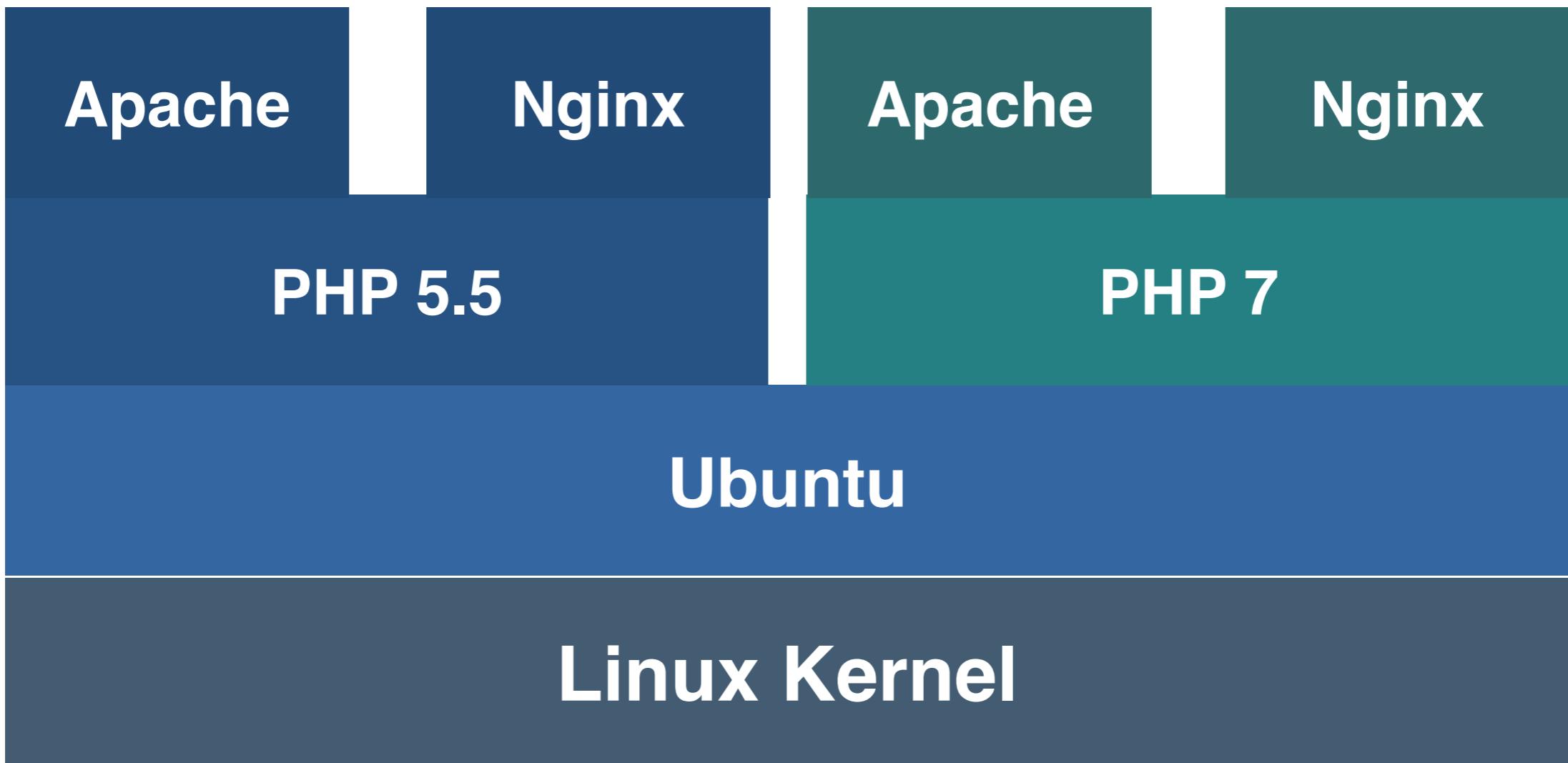
Base Image

Linux Kernel

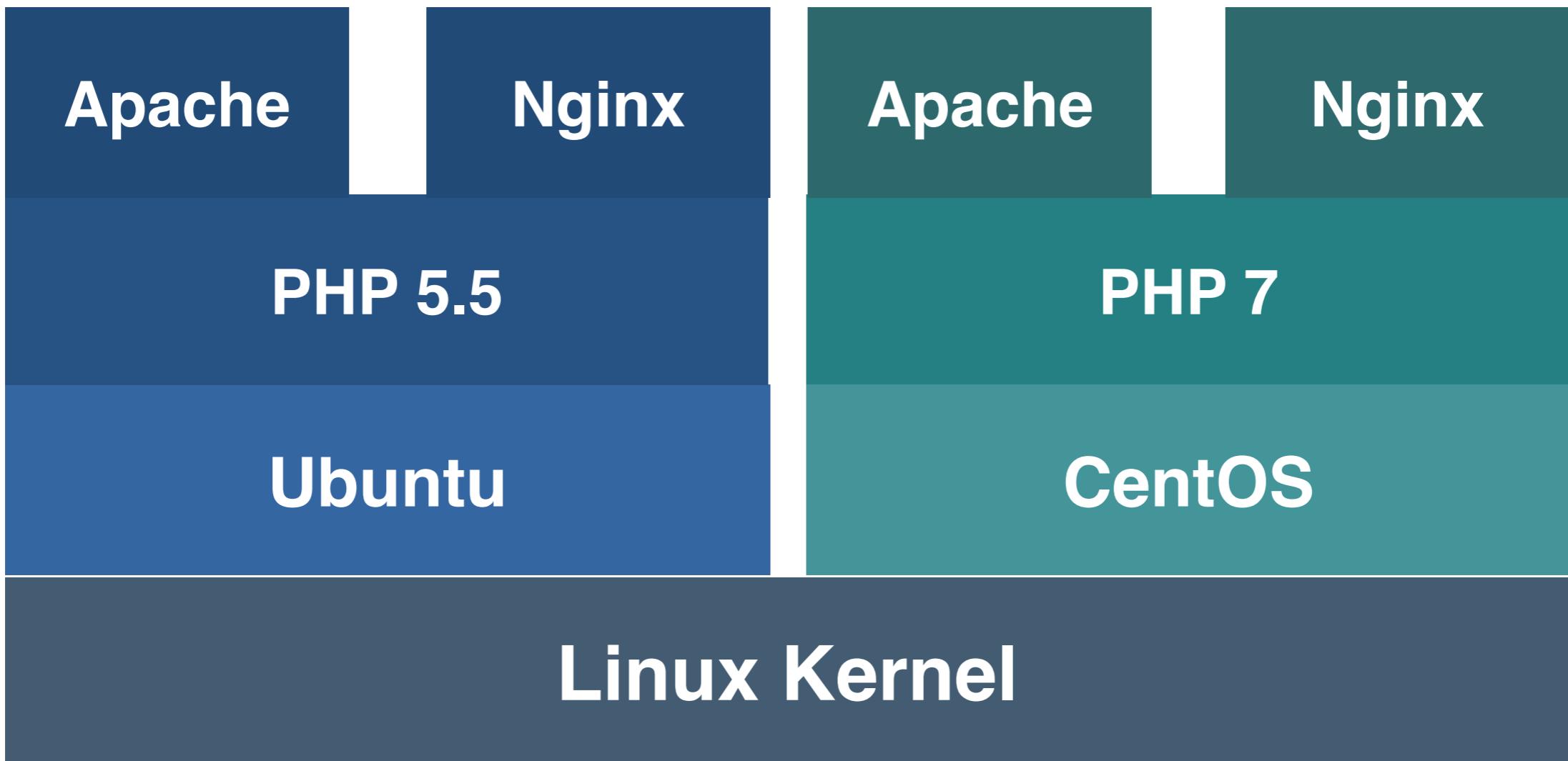
Image



Image



Image



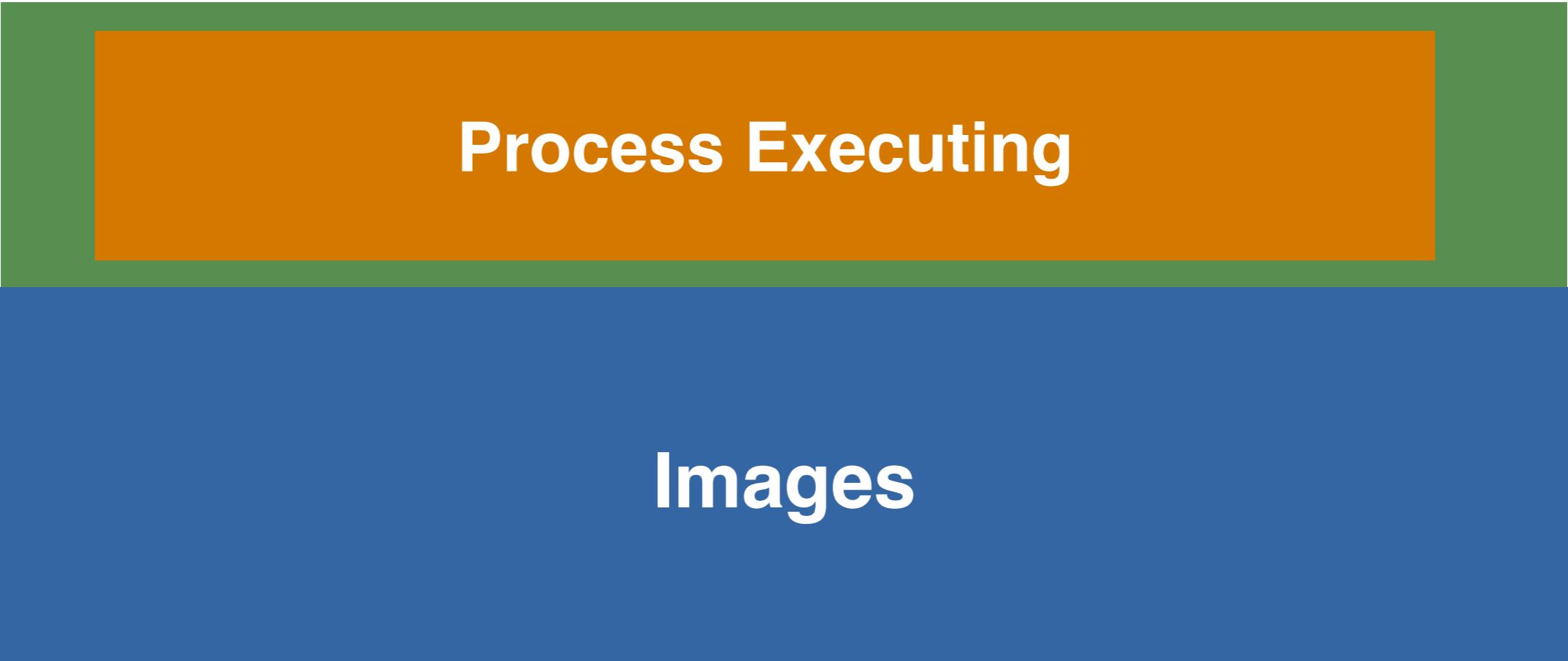
Container

Container

Images

Container

Running

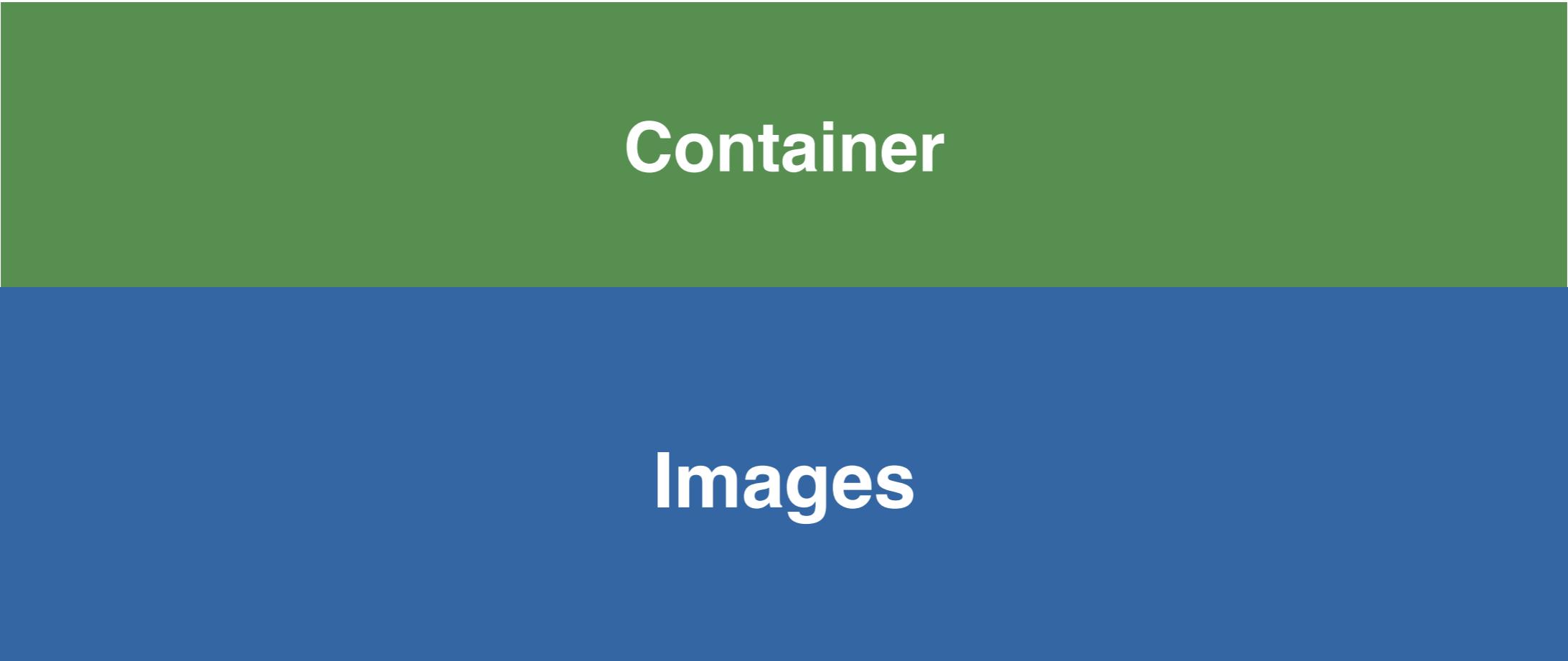


Process Executing

Images

Container

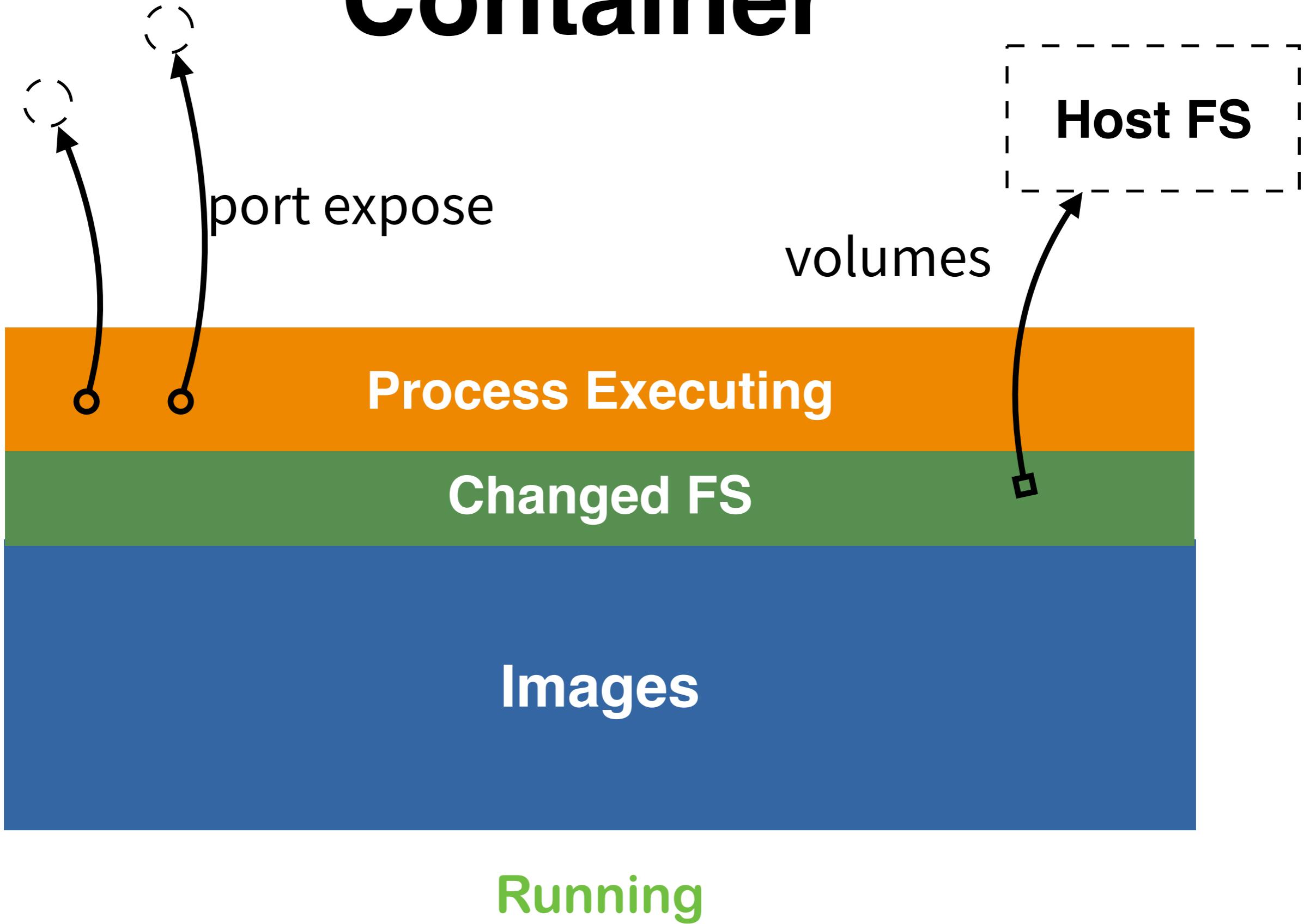
Exited (Stop)



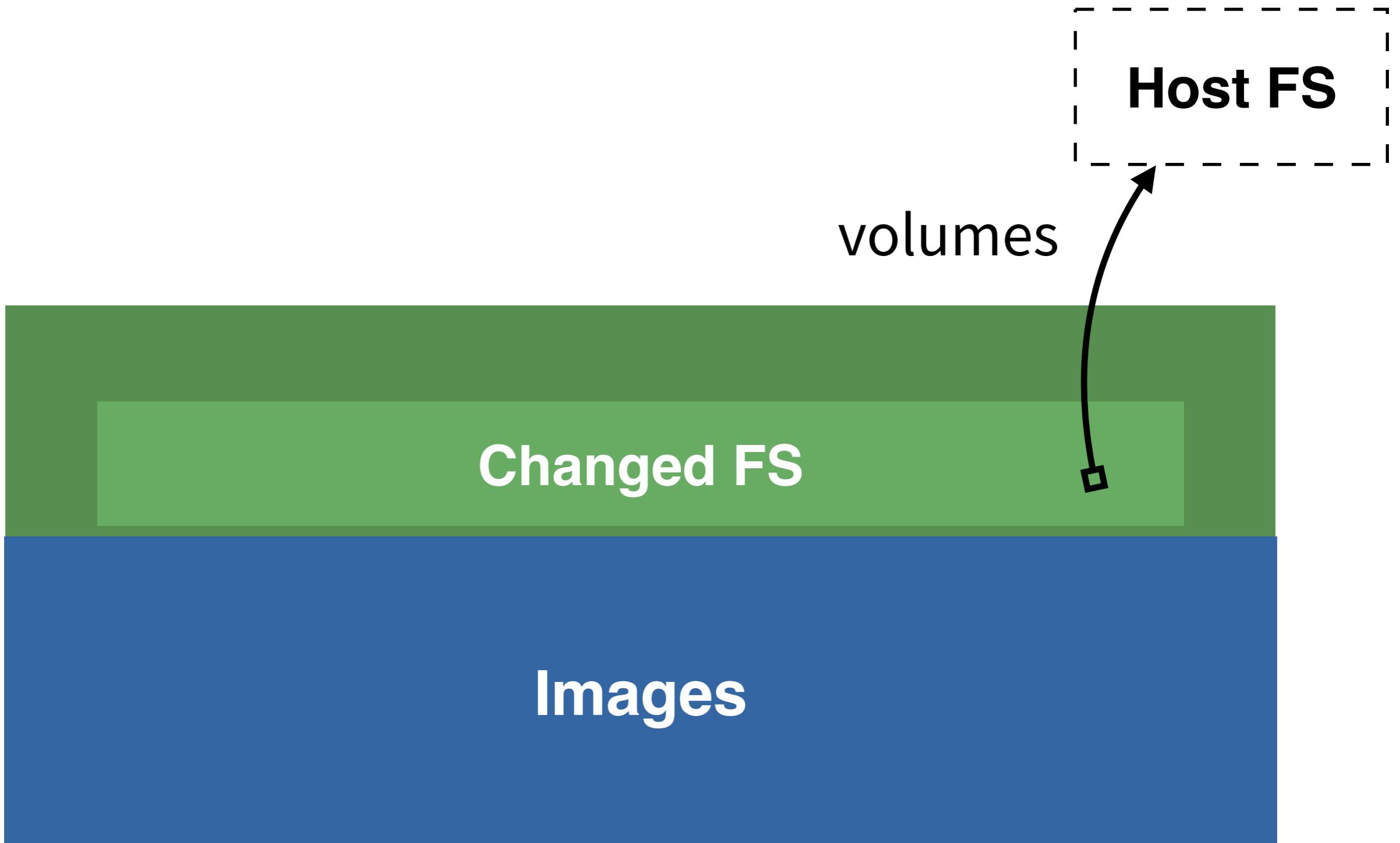
Container

Images

Container

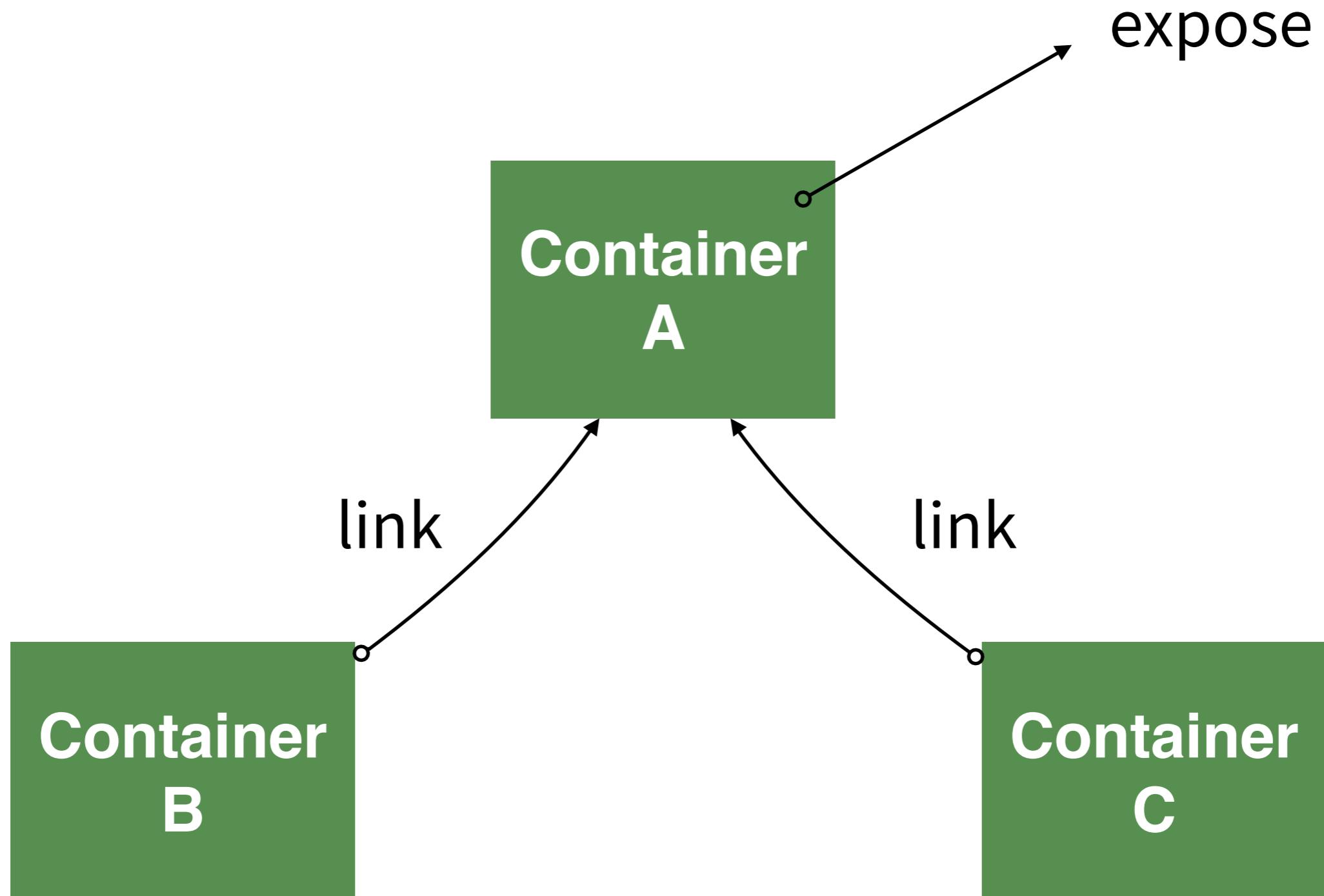


Container

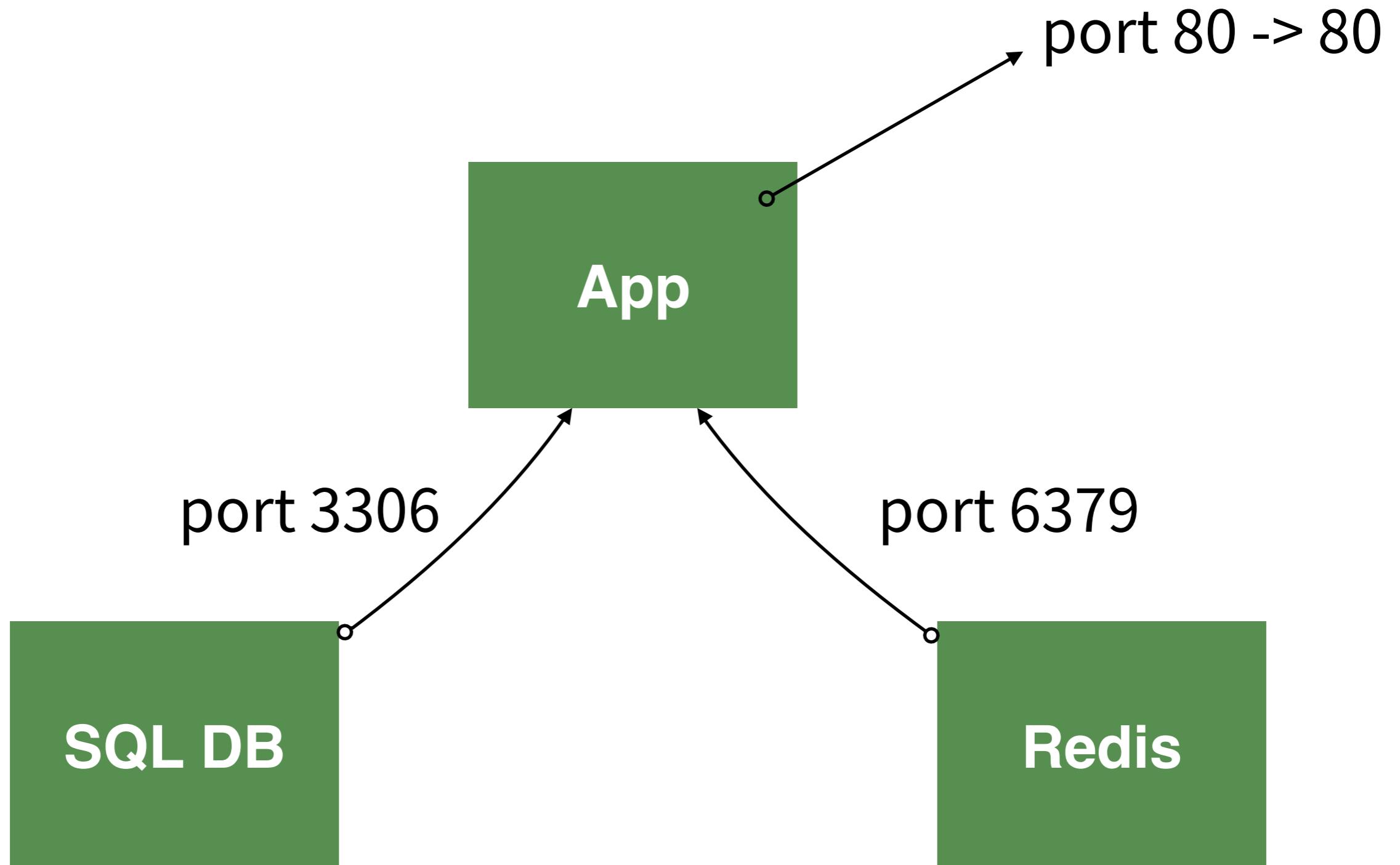


Exited (Stop)

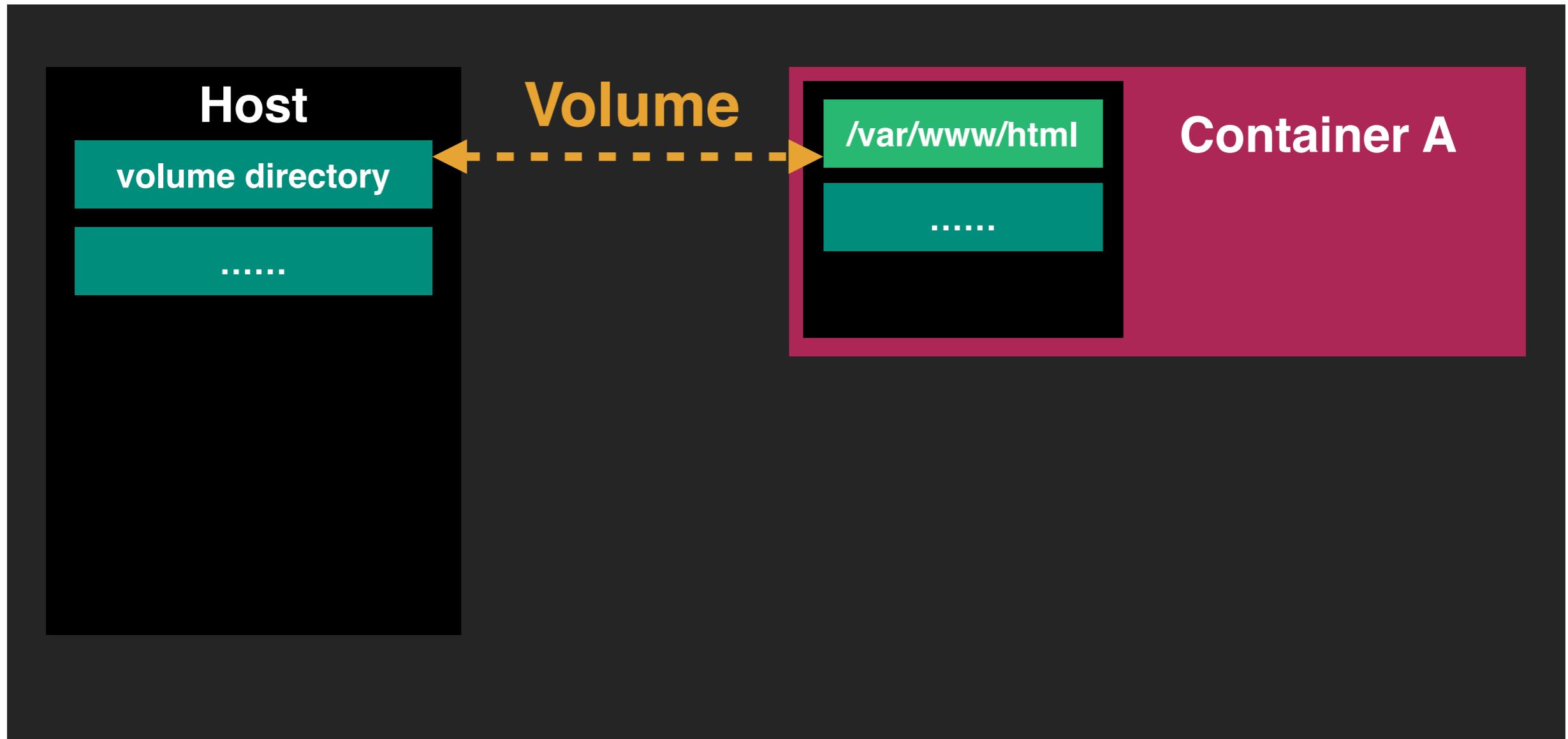
Container Links



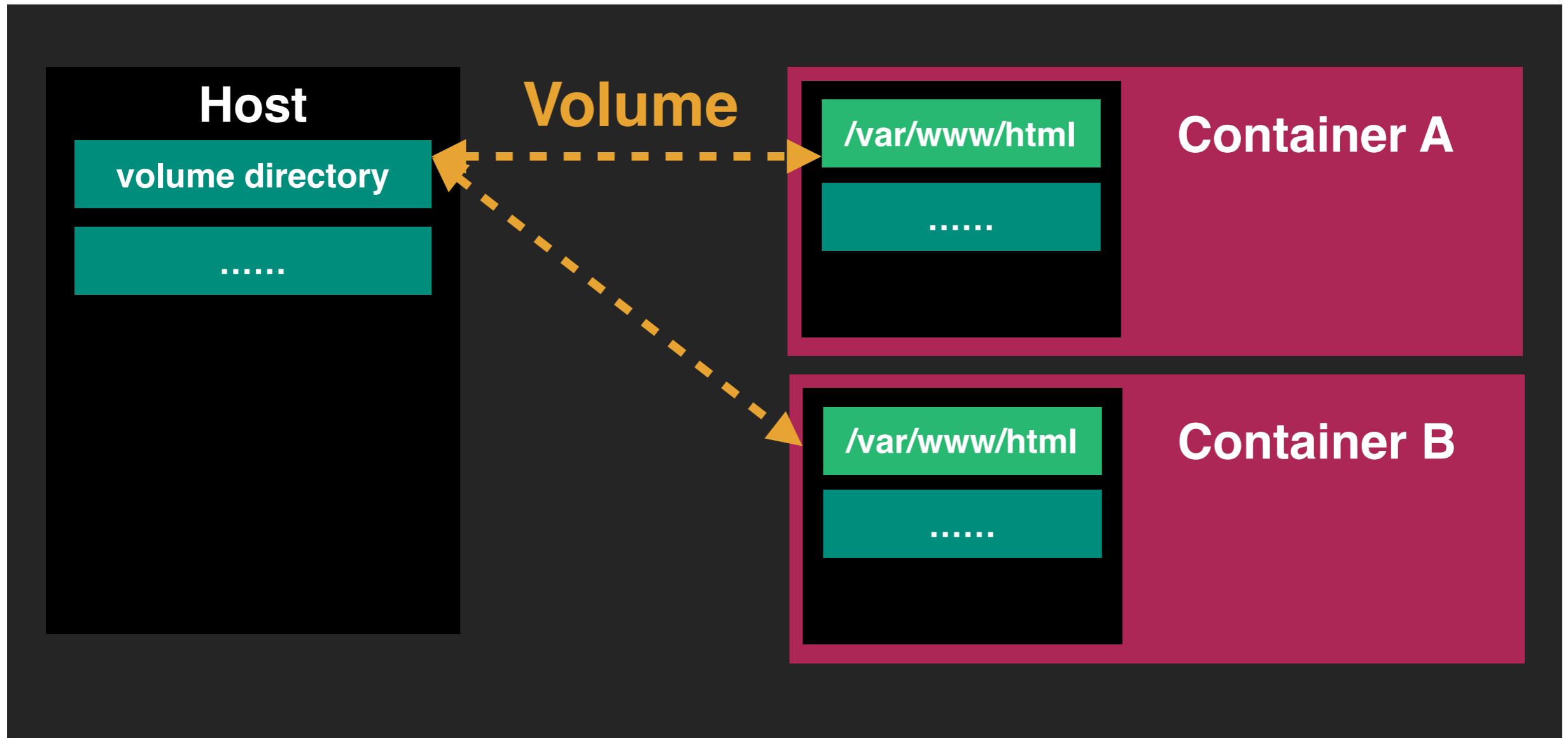
Container Links



Container Volumes



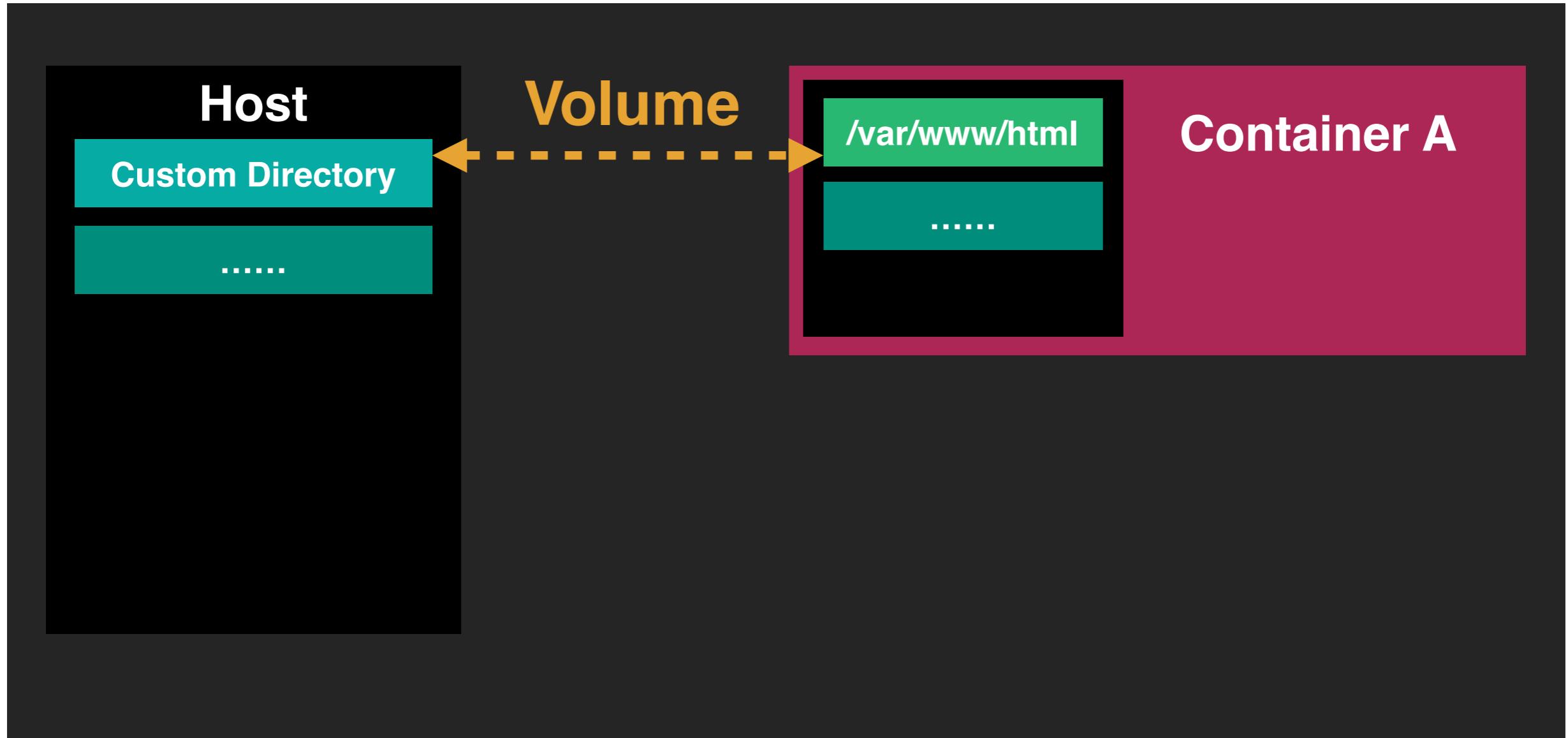
Container Volumes



Container Volumes



Container Volumes



Container Volumes

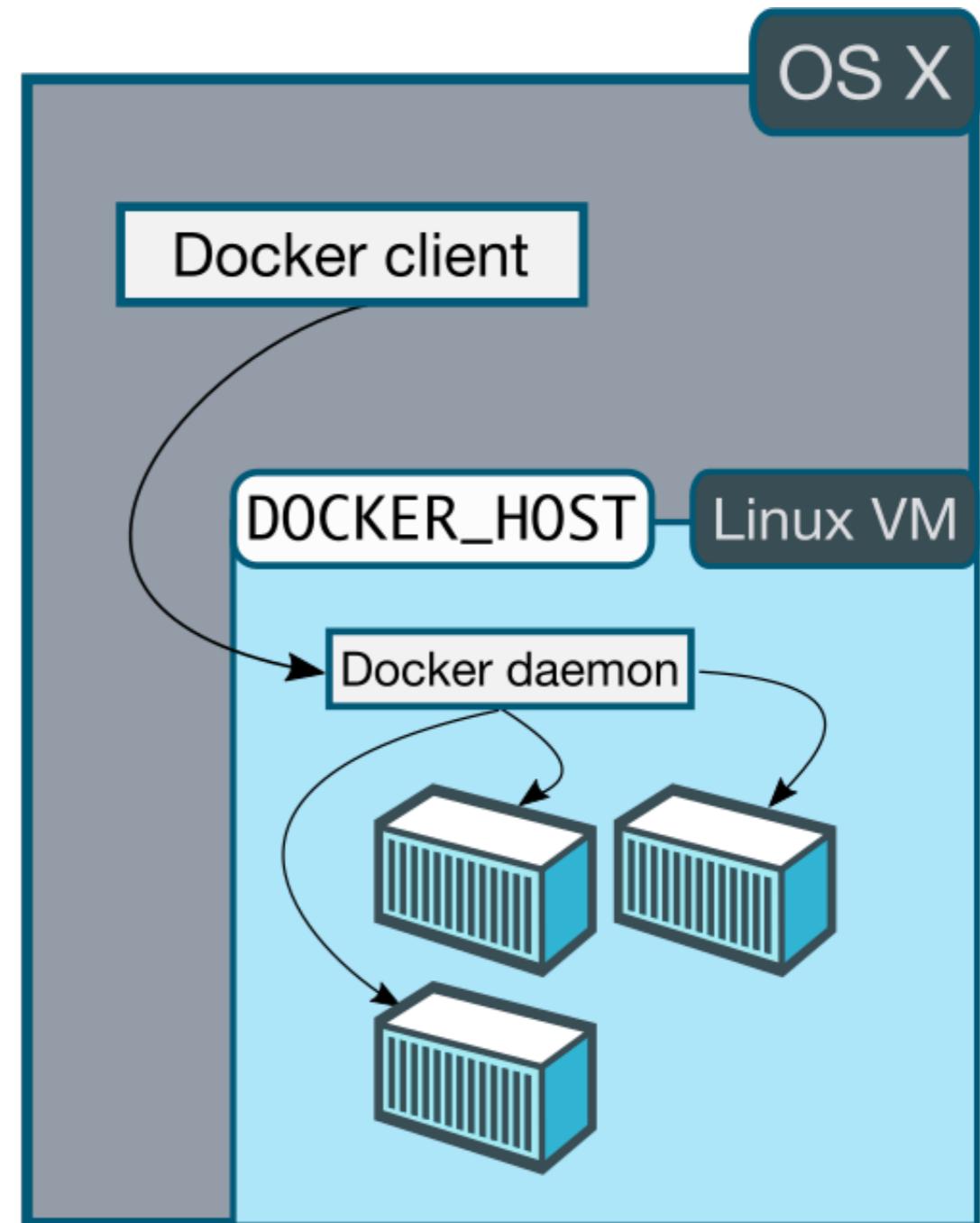
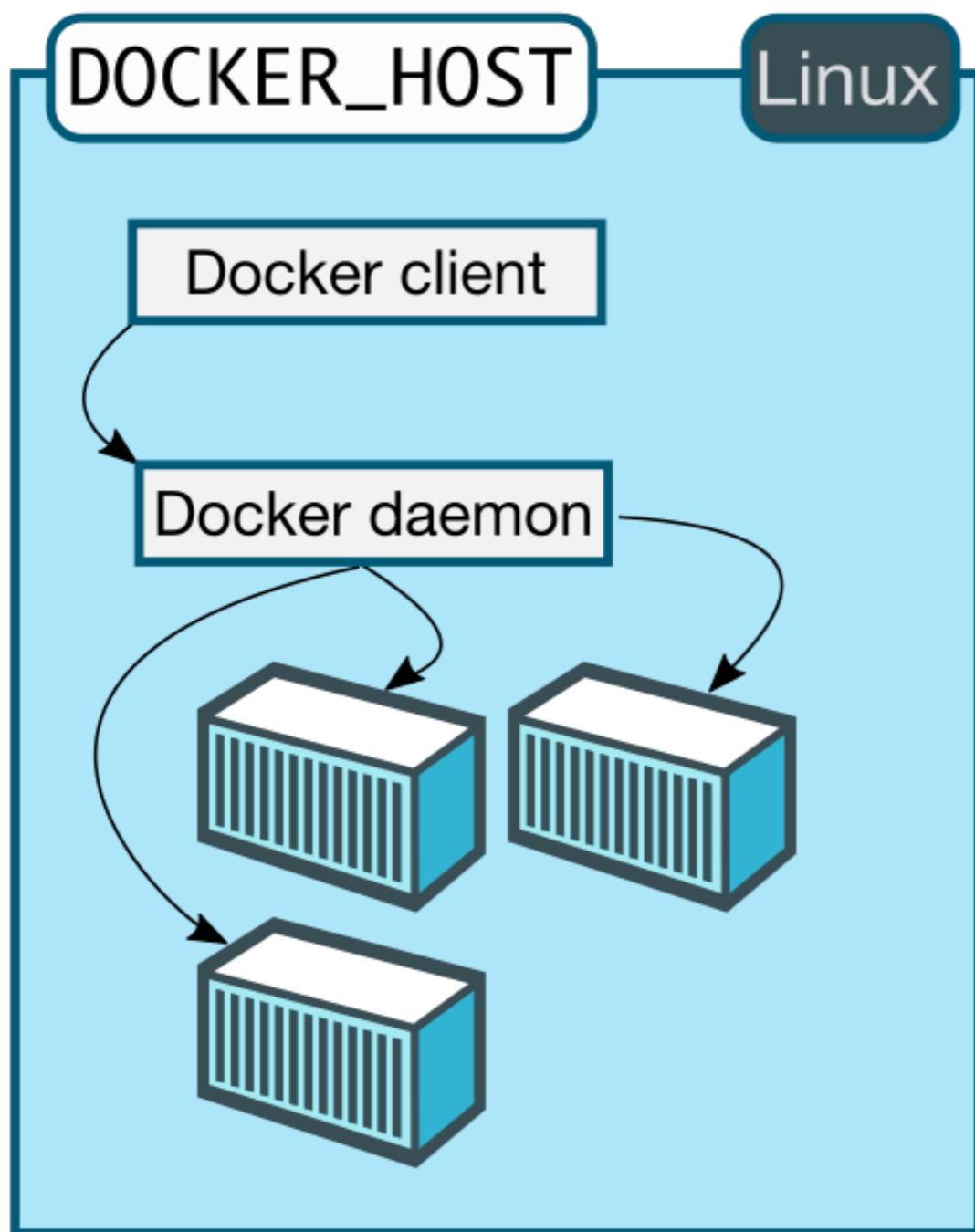


架

Install

安裝 Docker 簡述

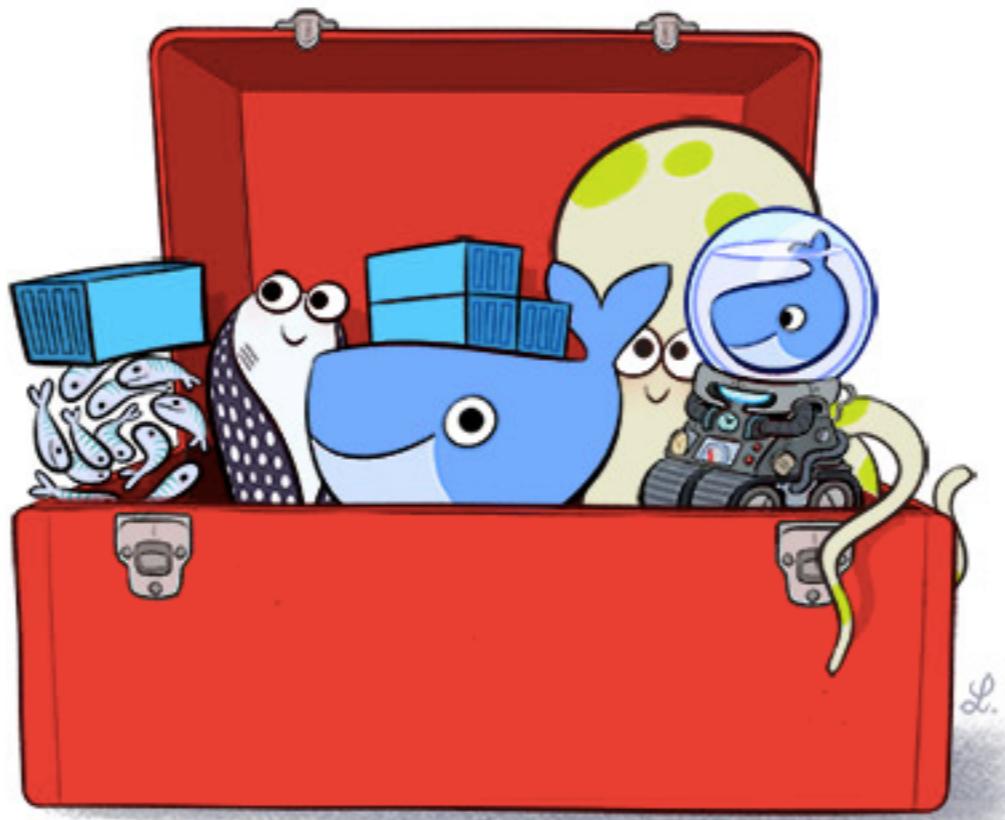
在 Linux 上與在其他 OS 上運作的差別



Docker Toolbox (All-in-One)

Docker Toolbox

[Getting Started Guide \(Mac\)](#) | [Getting Started Guide \(Windows\)](#) | [Contribute to Toolbox](#)

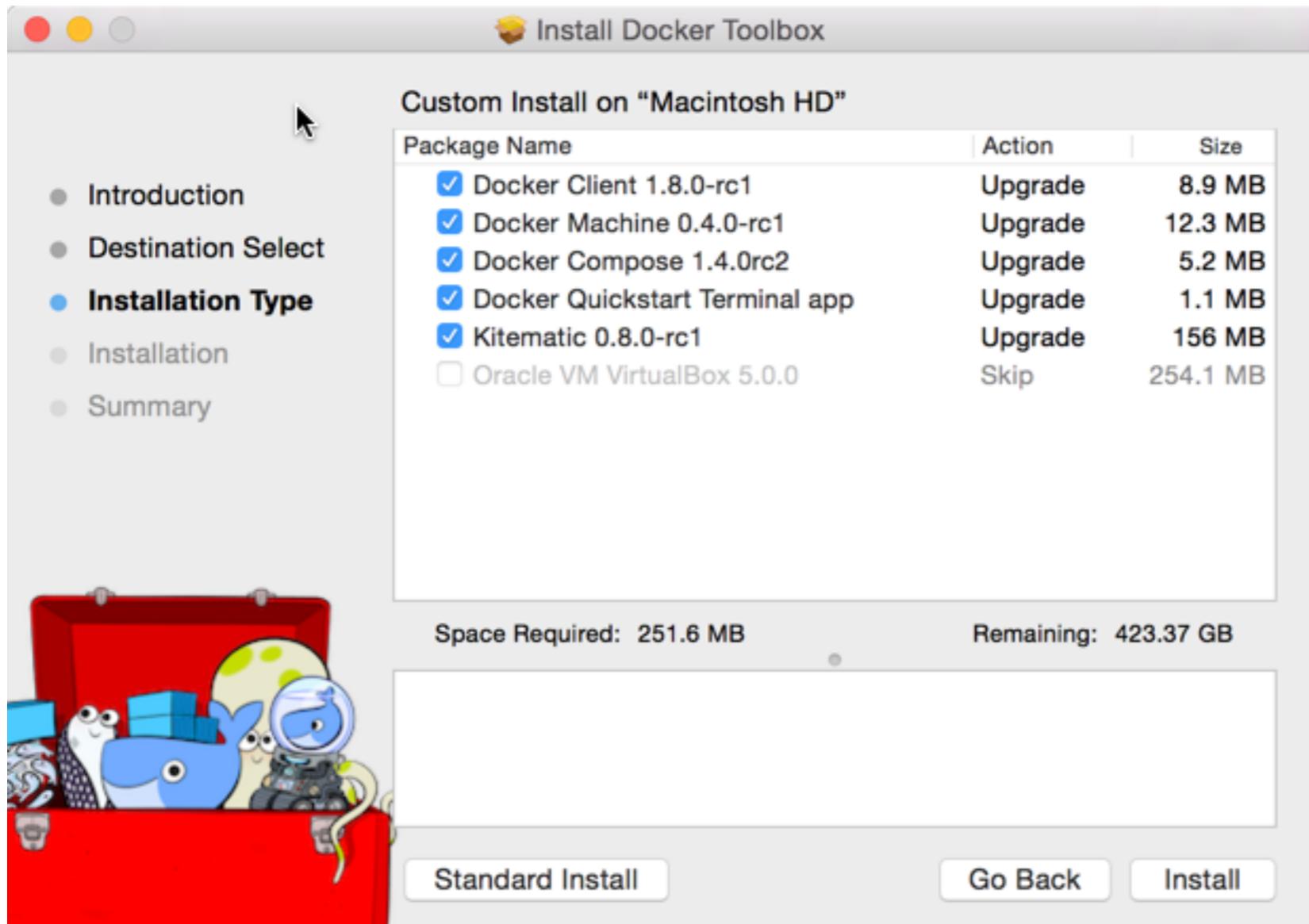


[Download \(Mac\)](#)

[Download \(Windows\)](#)

Compatible with Mac OS X 10.8+ and Windows 7+

What does it contains?



- Docker Client
- ~~Boot2Docker~~
- Docker Machine
- Docker Compose
- VirtualBox
- Kitematic

Kitematic

The screenshot shows the Kitematic interface, a graphical user interface for managing Docker containers. At the top, there's a search bar labeled "Search for Docker images from Docker Hub". Below it, a sidebar lists two local containers: "pensive_curie hello-world" and "silly_varahamihira hello-world". The main area is titled "Recommended" and displays a grid of 15 Docker images with their names, descriptions, star counts, commit counts, and a "CREATE" button.

Name	Description	Stars	Commits	Action
kitematic/hello-world-nginx	A light-weight nginx container that demonstrates the features of Kitematic	12	000	CREATE
ghost	Ghost is a free and open source blogging platform written in JavaScript	140	000	CREATE
official/jenkins	Official Jenkins Docker image	670	000	CREATE
official/redis	Redis is an open source key-value store that functions as a data structure server.	1150	000	CREATE
RethinkDB	RethinkDB is an open-source, document database that makes it easy to build and scale realtime...	100	000	CREATE
kitematic/minecraft	The Minecraft multiplayer server allows two or more players to play Minecraft together	22	000	CREATE
official/elasticsearch	Elasticsearch is a powerful open source search and analytics engine that makes data easy to...	425	000	CREATE
official/postgres	The PostgreSQL object-relational database system provides reliability and data integrity.	1105	000	CREATE
official/ubuntu-upstart	Upstart is an event-based replacement for the /sbin/init daemon which starts processes...	35	000	CREATE
memcached	Free & open source, high-performance, distributed memory object caching system.	112	000	CREATE
official/rabbitmq	RabbitMQ is a highly reliable enterprise messaging system based on the emerging AMQP...	230	000	CREATE
official/celery	Celery is an open source asynchronous task queue/job queue based on distributed...	40	000	CREATE
official/mysql	MySQL is a widely used, open-source relational database management system (RDBMS).	1118	000	CREATE
mongo	MongoDB document databases provide high availability and easy scalability.	952	000	CREATE
official/mariadb	MariaDB is a community-developed fork of MySQL intended to remain free under th...	238	000	CREATE
official/percona	Percona Server is a fork of the MySQL relational database management system created by...	44	000	CREATE
official/crate	Crate is a shared nothing, fully searchable, document oriented cluster datastore	21	000	CREATE

At the bottom, there are sections for "My Repositories" and various navigation icons.

Docker Quick Start Terminal

```
ts/Resources/Scripts/start.sh'  
Machine default already exists in VirtualBox.  
Starting machine default...  
Started machines may have new IP addresses. You may need to re-run the `docker-machine env` command.  
Setting environment variables for machine default...
```



```
docker is configured to use the default machine with IP 192.168.99.100  
For help getting started, check out the docs at https://docs.docker.com
```

```
fntsr@Nulllike ~/development $ █
```

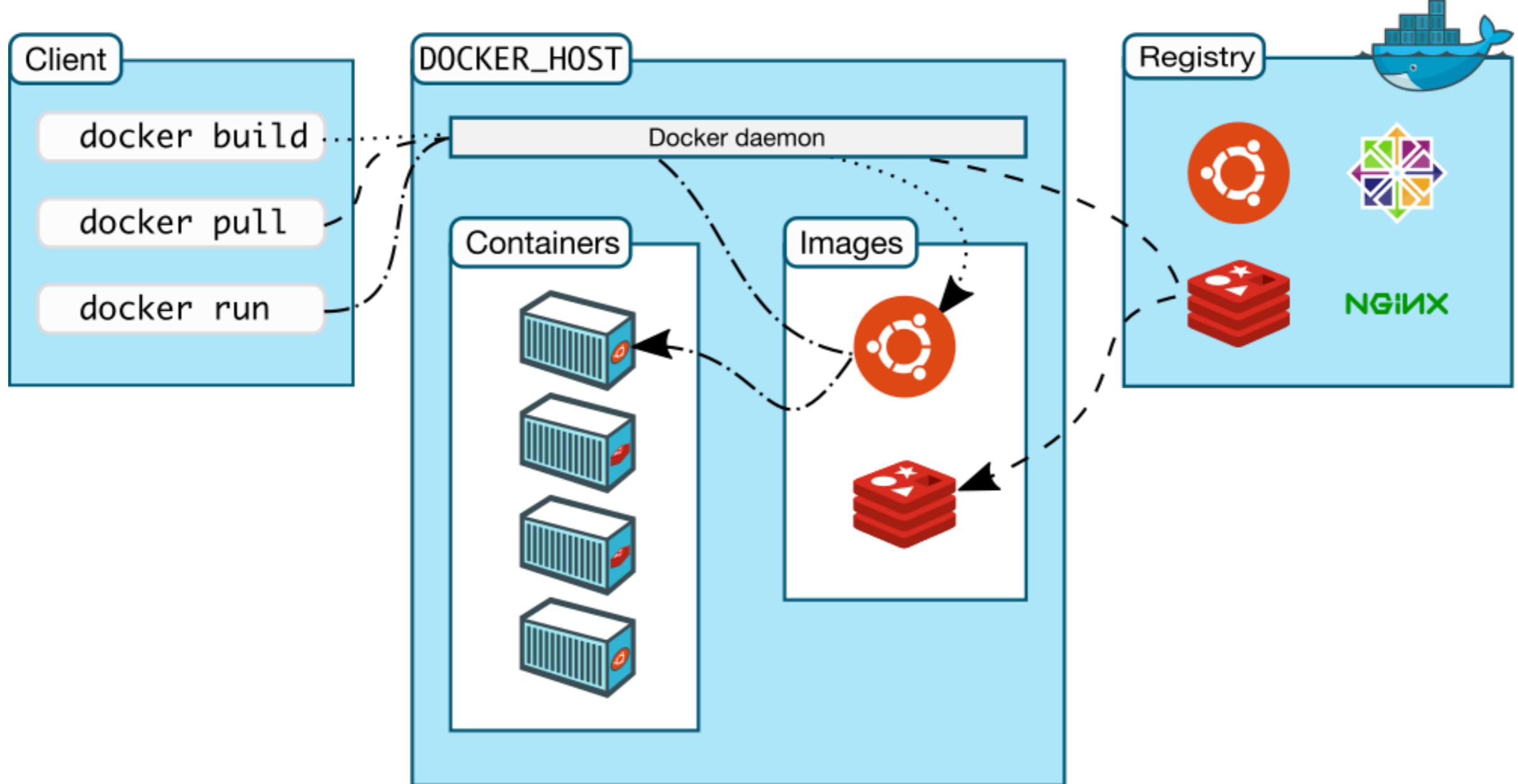
[ruby-2.2.1]

運

How it works

Docker 相關工具

How it works



Dockerfile

```
FROM php:7-apache
MAINTAINER<Ruoshi Ling <foo@bar.tw>

RUN apt-get update

ADD ./script.php /app/

ENTRYPOINT php
CMD ["app/script.php"]
```

器

Orchestration and Tools

Docker 相關工具



Docker Machine

Automated Docker provisioning



Docker Swarm

Host clustering and container scheduling



Docker Compose



Define multi-container applications

自從會用 Docker
Compose 後，我
就不再下指令了。

身體健康、萬事如意、南無阿彌陀佛

有緣認識你真好

認同請分享



Docker Machine

Automated Docker provisioning

Create Local Machine

```
$ docker-machine create  
  \--driver virtualbox default
```

```
$ docker-machine env default  
$ eval "$(docker-machine env default)"
```



Docker Compose

Define multi-container applications

Base

```
web:  
  build: .  
  ports:  
    - "5000:5000"  
volumes:  
  - .:/code  
links:  
  - redis  
redis:  
  image: redis
```

Extends

```
web:  
  extends:  
    file: common-services.yml  
    service: webapp  
  environment:  
    - DEBUG=1  
  cpu_shares: 5
```

例

Sample or Demo

封裝常見的 PHP 專案



https://hub.docker.com/_/wordpress/

`web:`

`image: wordpress`

`links:`

- `mysql`

`environment:`

- `WORDPRESS_DB_PASSWORD=password`

`ports:`

- `"127.0.0.3:8080:80"`

`mysql:`

`image: mysql:5.7`

`environment:`

- `MYSQL_ROOT_PASSWORD=password`
- `MYSQL_DATABASE=wordpress`



https://hub.docker.com/_/drupal/

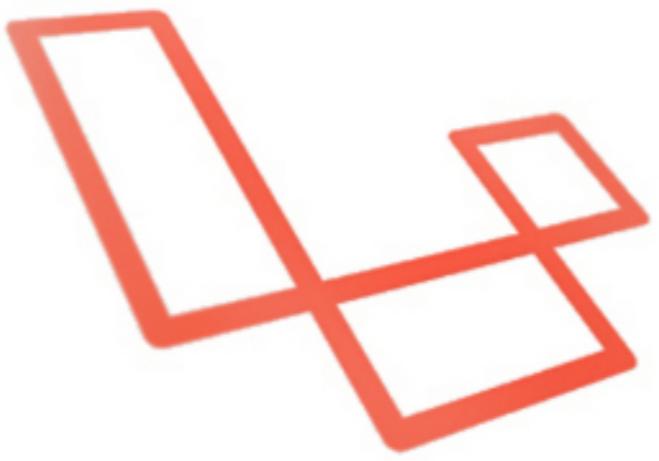


Joomla![®]

...because open source matters



https://hub.docker.com/_/php/



laravel

https://hub.docker.com/_/php/

問

Question and Answer

開放問答

謝

Thank you

感謝聆聽

blog.fntsr.tw