

Getting Started with Docker

COURSE OVERVIEW



Nigel Poulton

@nigelpoulton www.nigelpoulton.com



**Get up & running
fast!**

**Crystal-clear
explanations**



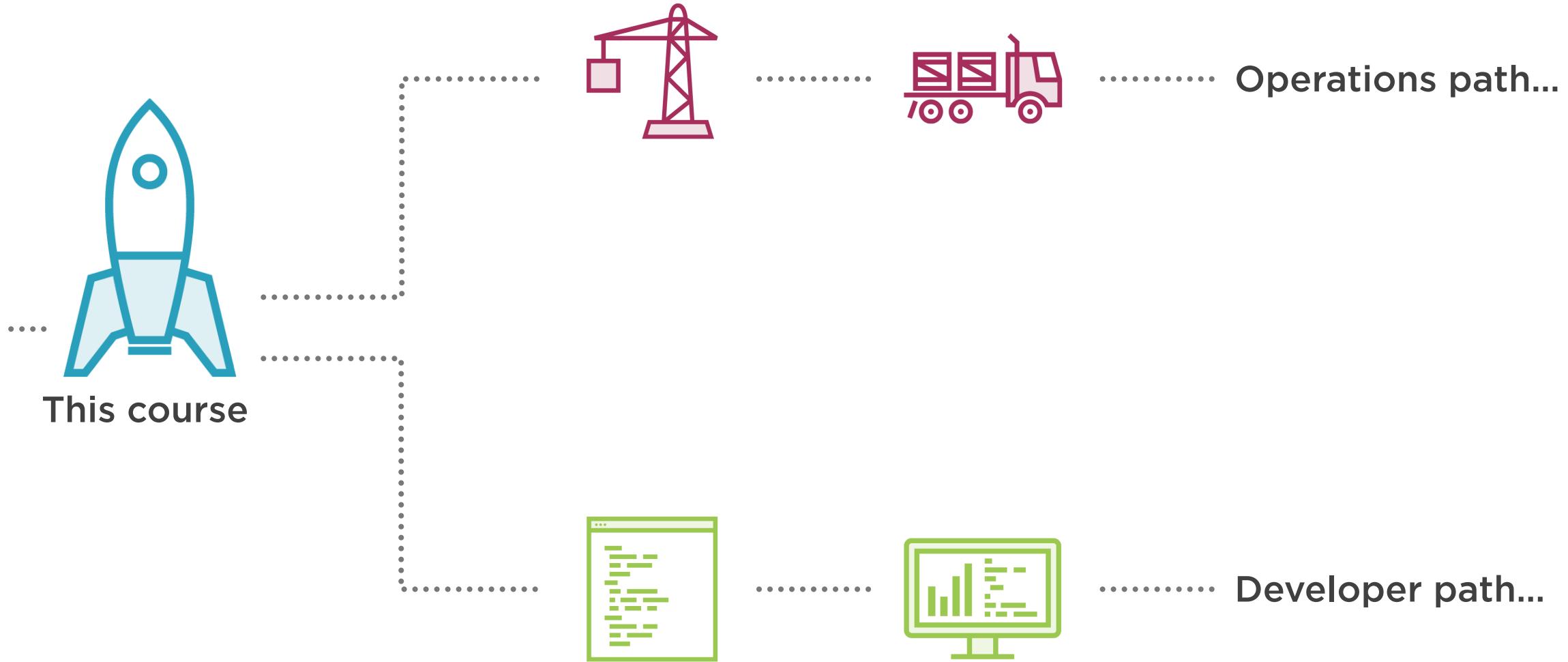
 COURSE

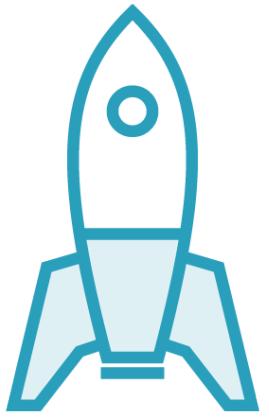
Docker and Kubernetes: The Big Picture

By Nigel Poulton

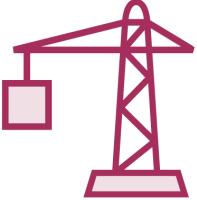
Beginner · ★★★★☆ (969) · 1h 47m







This course



Operations path...



Developer path...

COURSE

Docker for Web Developers

By Dan Wahlin

Beginner · ★★★★★ (656) · 5h 38m

COURSE

Docker Deep Dive

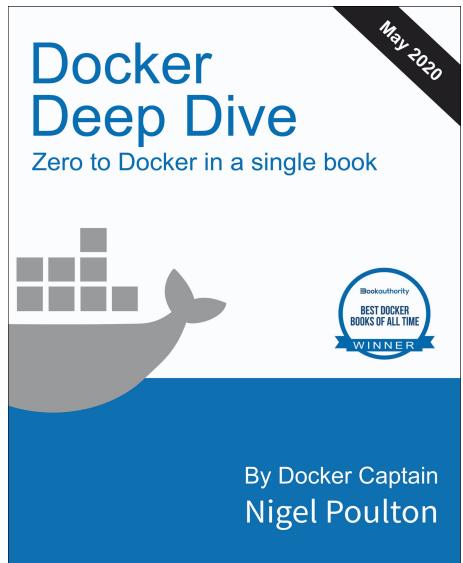
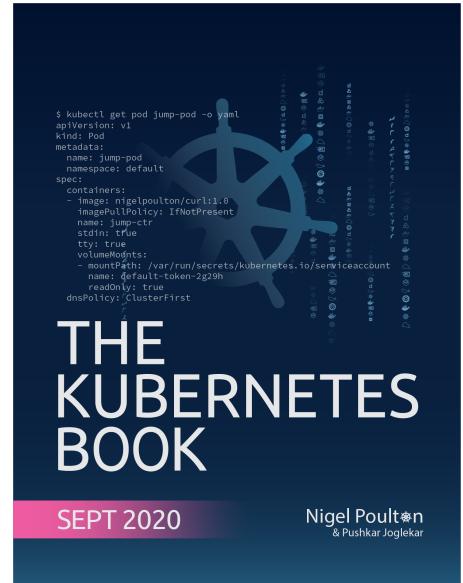
By Nigel Poulton

Intermediate · ★★★★★ (589) · 4h 35m





@ **nigelpoulton**



Let the learning begin...



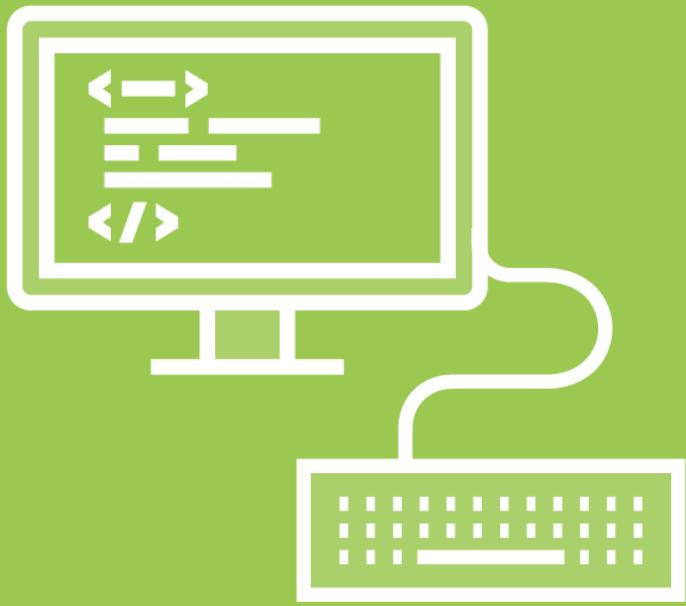
Getting Docker



Nigel Poulton

@nigelpoulton www.nigelpoulton.com





Follow along

Build your own Docker lab to follow along, or... just watch 😊



“Getting Docker has never been easier.”

Nigel ;-)



Overview



Docker Desktop
Play with Docker



Docker Desktop



Docker Desktop

PC

Windows 10 (or later)
64-bit

Mac

Latest version (+2)

*Always check the internet for the latest requirements



Play with Docker



Up Next:
The Magic



Deploying a Containerized App



Nigel Poulton

@nigelpoulton www.nigelpoulton.com



Follow along

OR

Just watch

Dev

&

Ops



The best developers
understand ops

&

The best ops
understand developers



Overview



Warp Speed Run-through

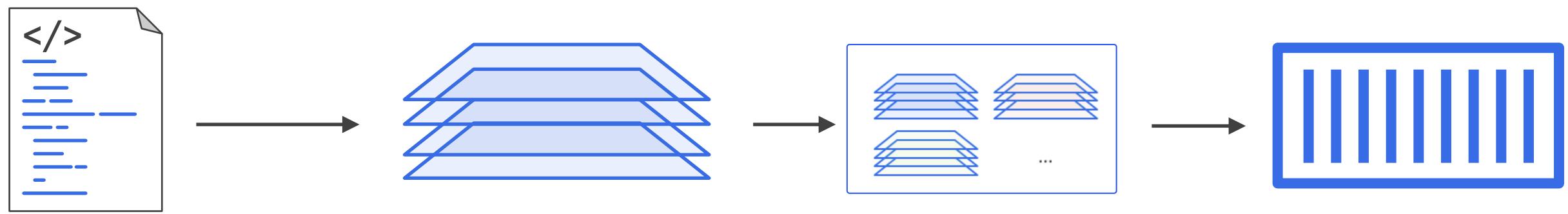
More Detailed Look

- Containerizing and App
- Hosting on a Registry
- Running a Containerized App
- Managing a Containerized App



Warp Speed Run-through





Up Next:
A closer look with some hands-on...



Containerizing an App



Metadata:
App = node app.js

Dependencies

Copy app to
/usr/src/app

Create /usr/src/app

node:current-alpine



Hosting on a Registry



Repo name Image name

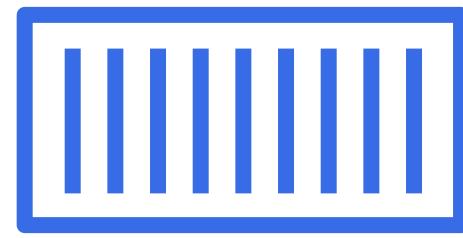
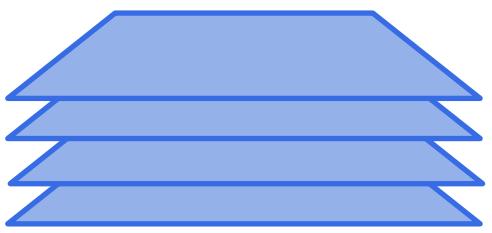
nigelpoulton/gsd:first-ctr

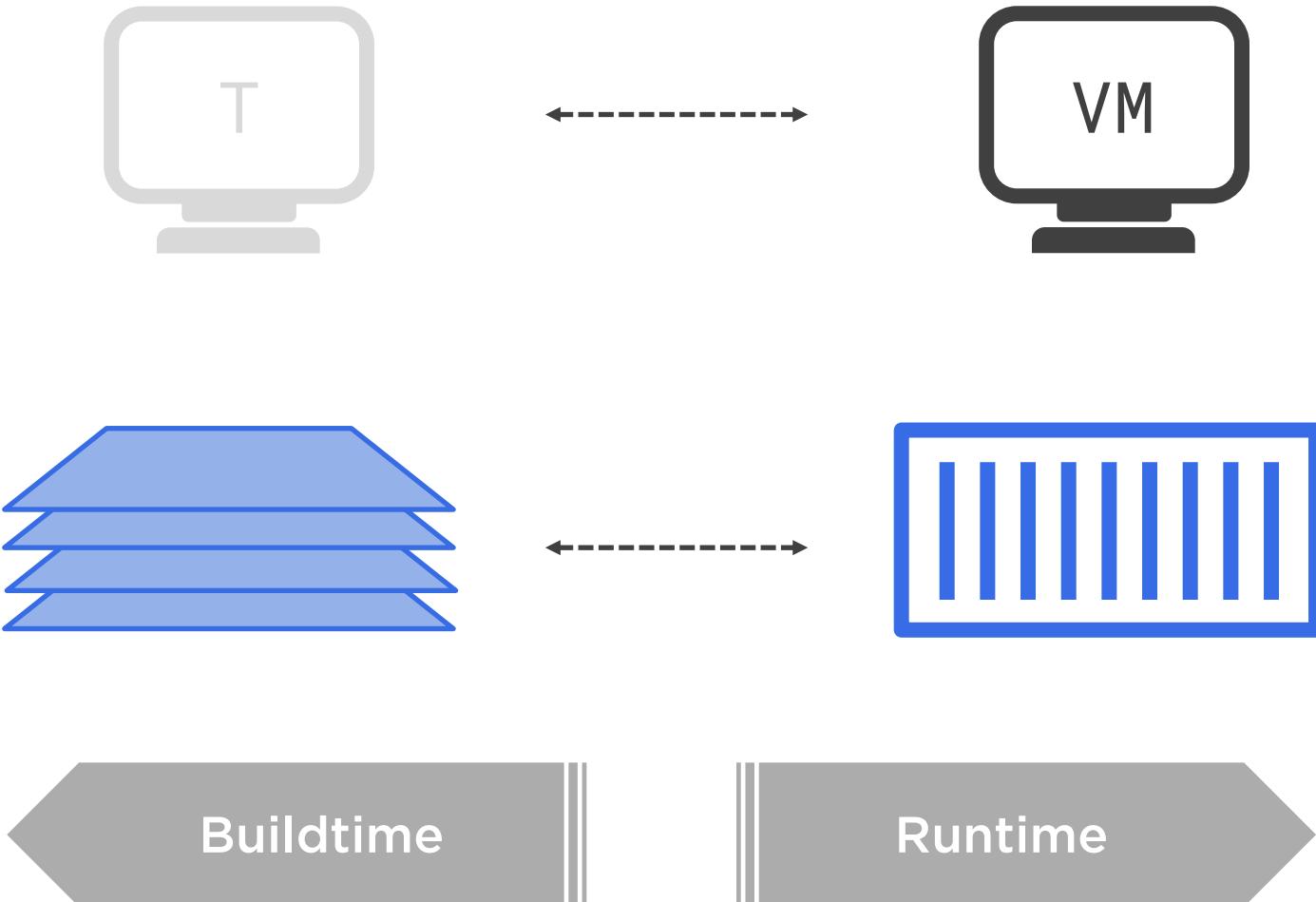
Docker Hub ID



Running a Containerized App







Up Next:

Managing a Containerized App



Managing a Containerized App



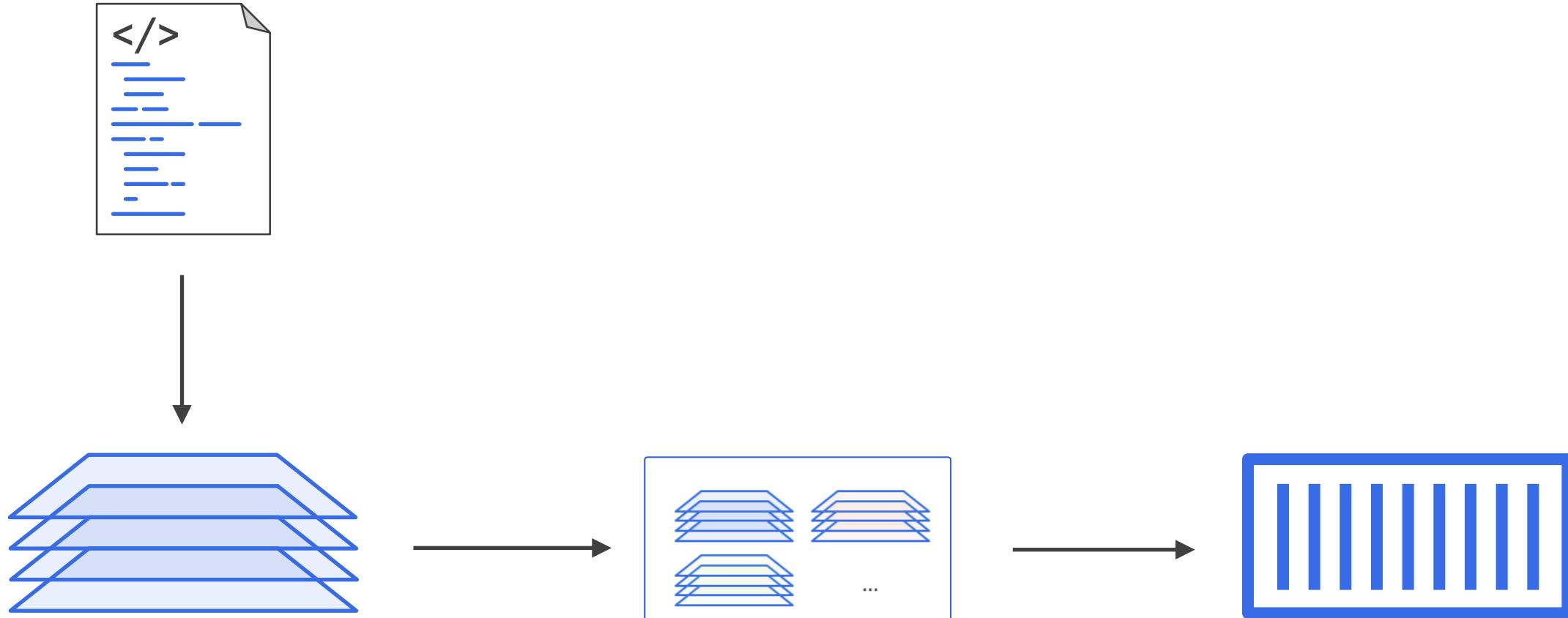
Containerized App

An application that runs inside a container.



Recap



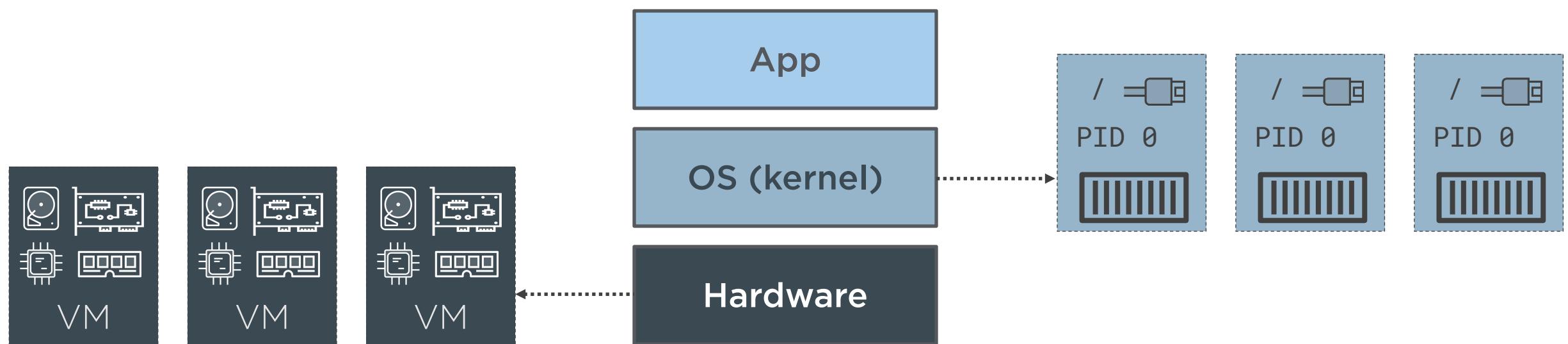


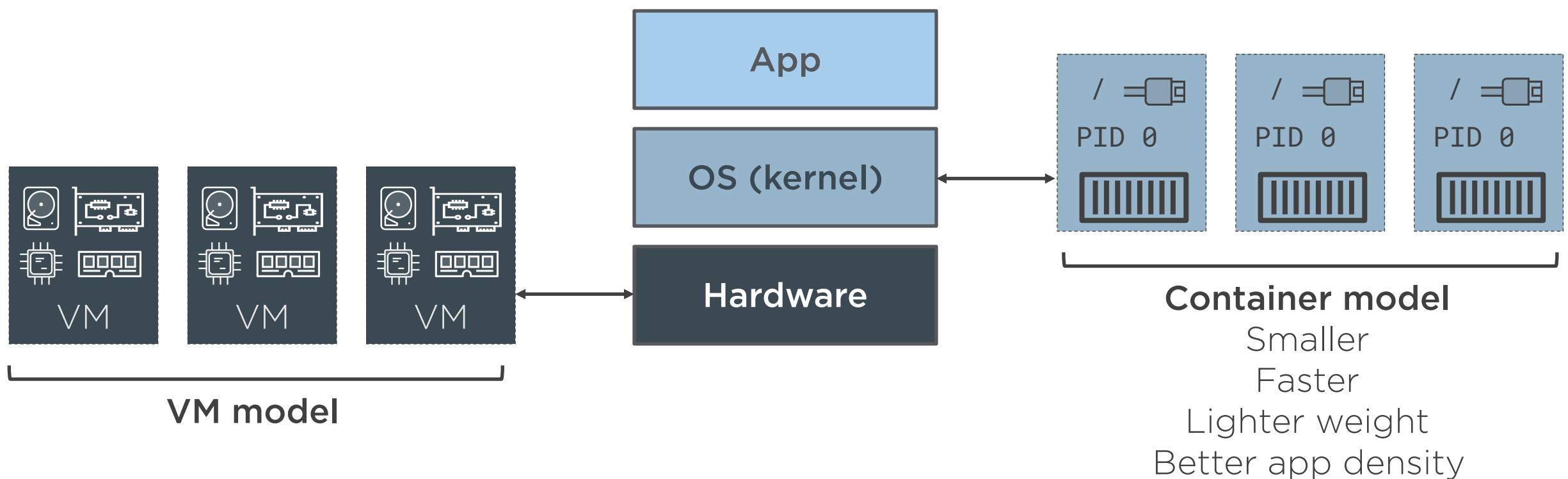
\$ docker image build

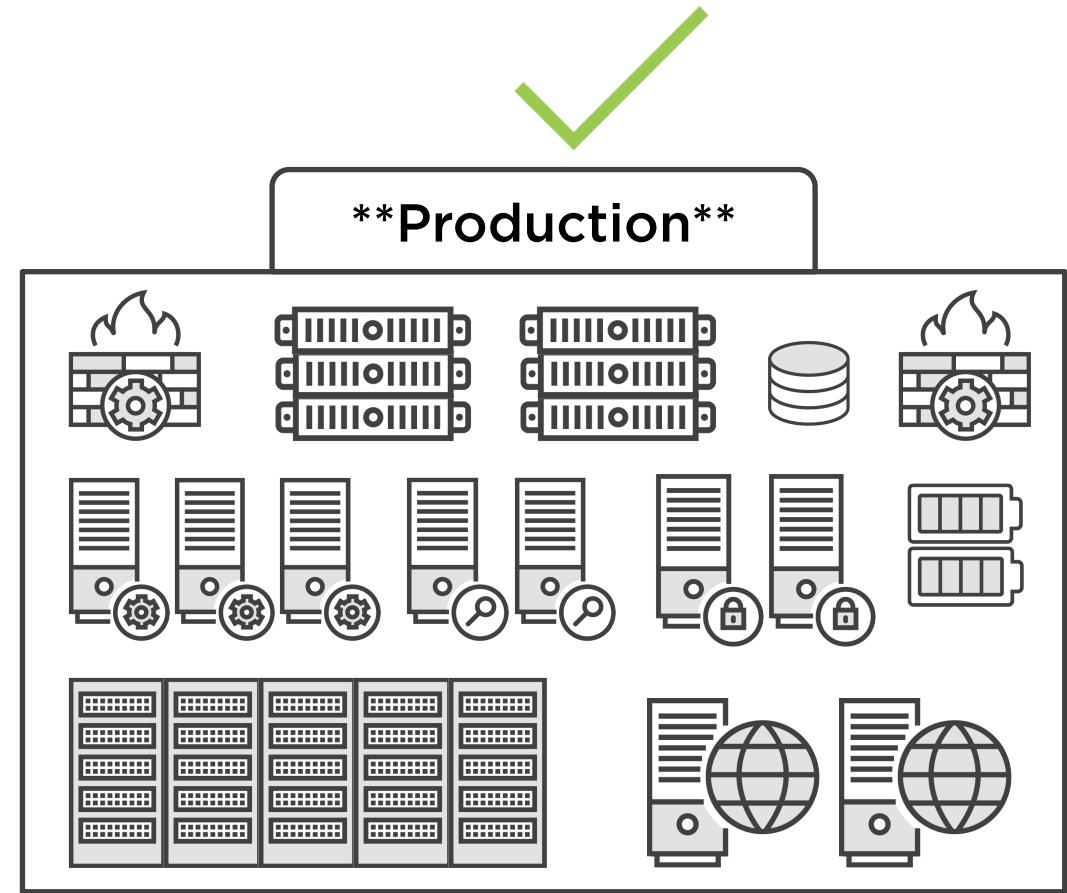
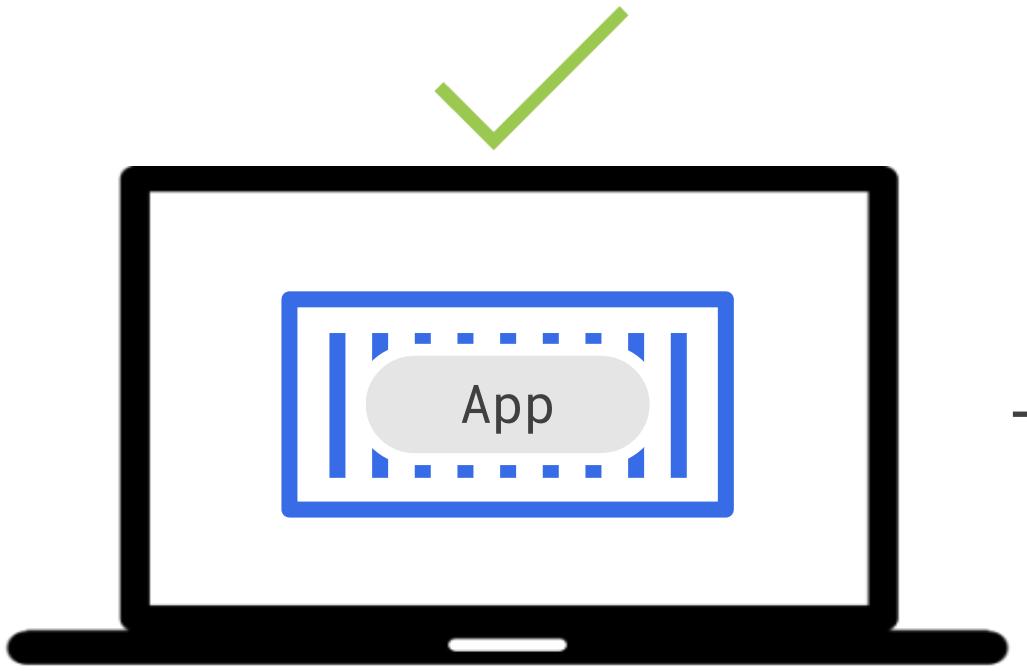
\$ docker image push

\$ docker container run
\$ docker container stop
\$ docker container start









Up Next: Microservices and the Real World



Microservices and the Real World



Nigel Poulton

@nigelpoulton www.nigelpoulton.com



Overview



Cloud-native Microservices

Multi-container Apps with Docker Compose

Docker Swarm

Docker Services

Multi-container Apps with Docker Stacks



Cloud-native Microservices



App

v6.6



abc



xyz



App

v6.6



abc



xyz



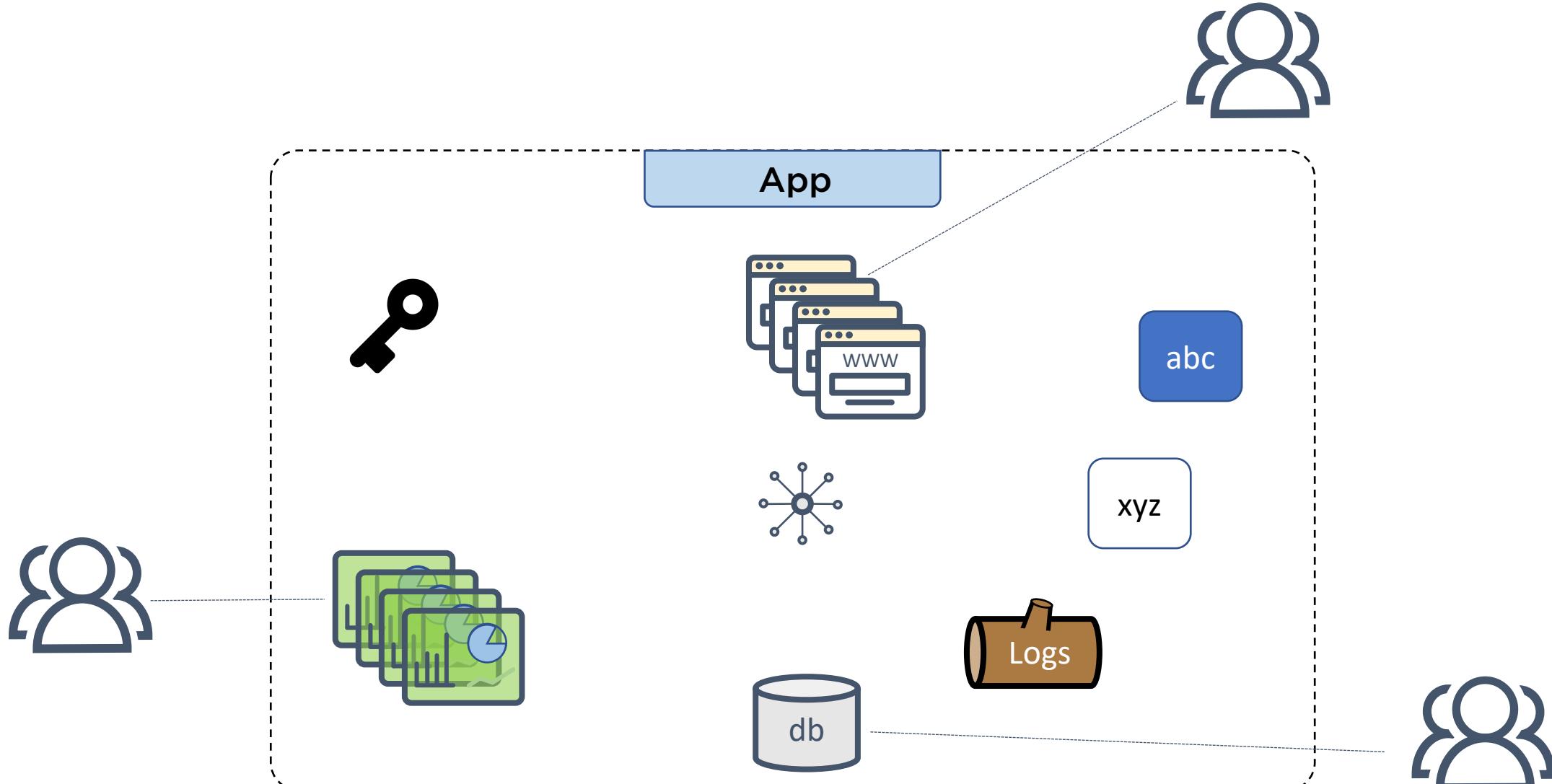


abc



xyz





Public
cloud

Private/hybrid
cloud

On prem
Data center



Multi-container Apps with Docker Compose



Declarative

Describing the desired state of your application in a config file that you use to deploy and manage the app.

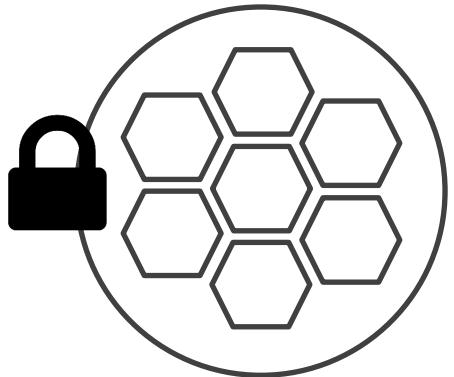


Up Next:
Taking Things to the Next Level...

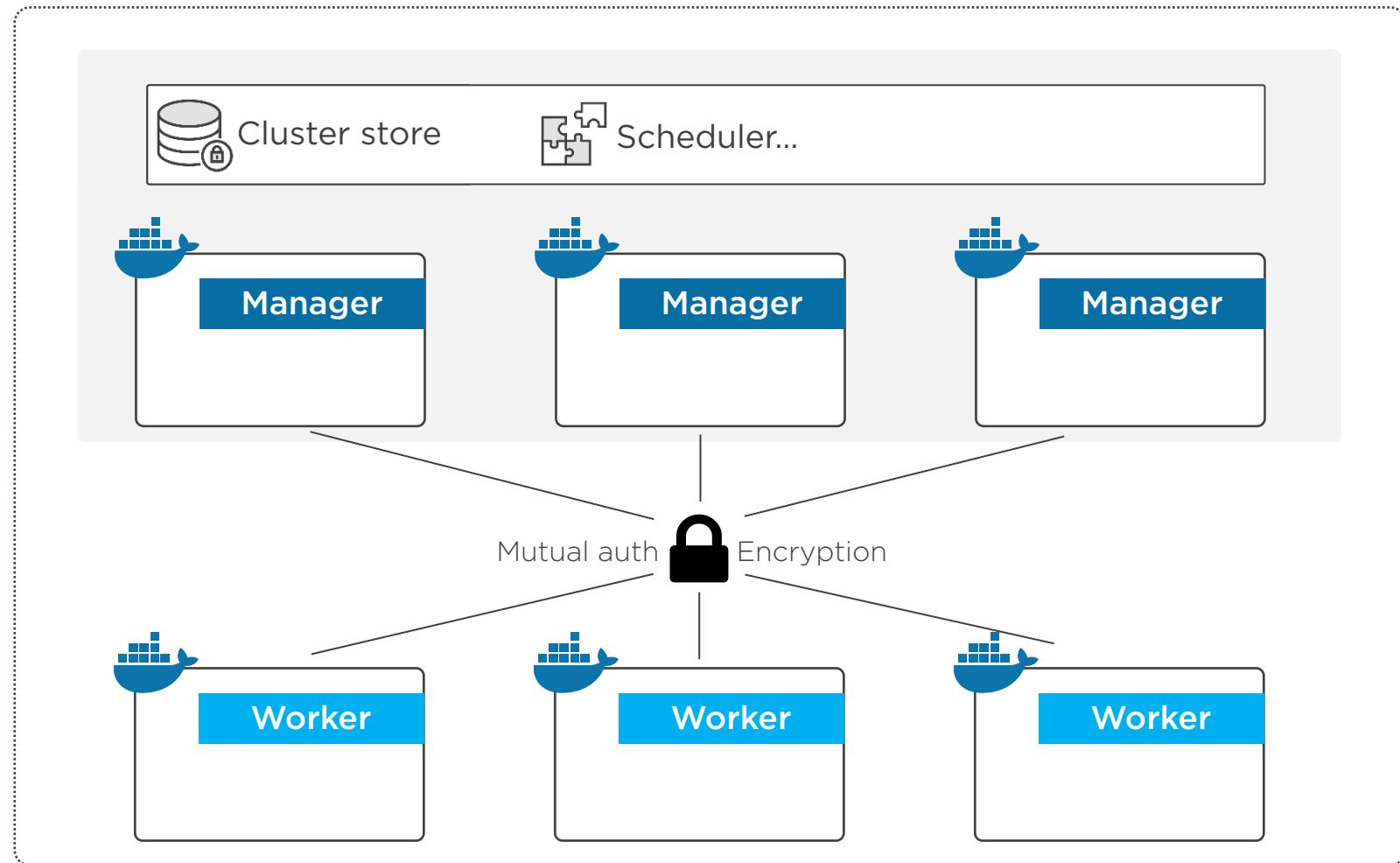


Taking Things to the Next Level with Docker Swarm

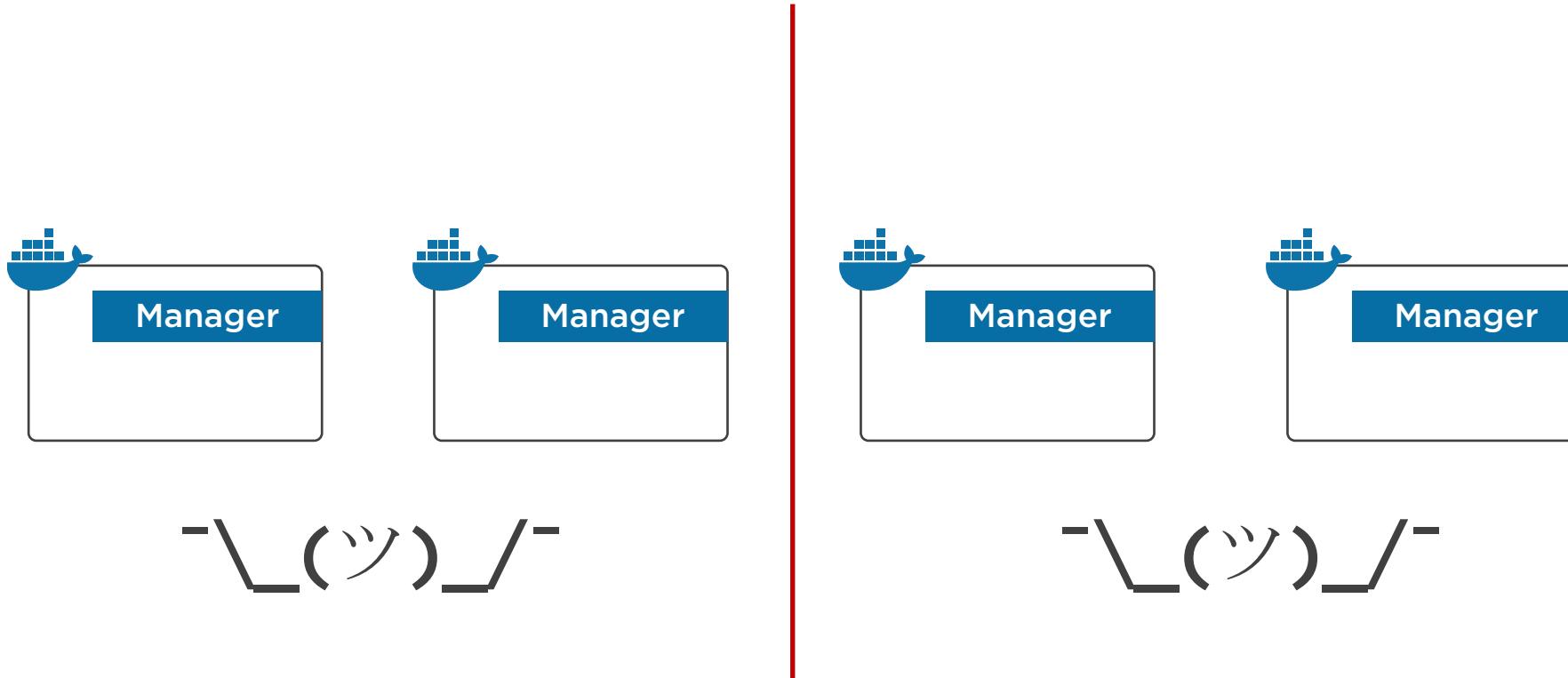




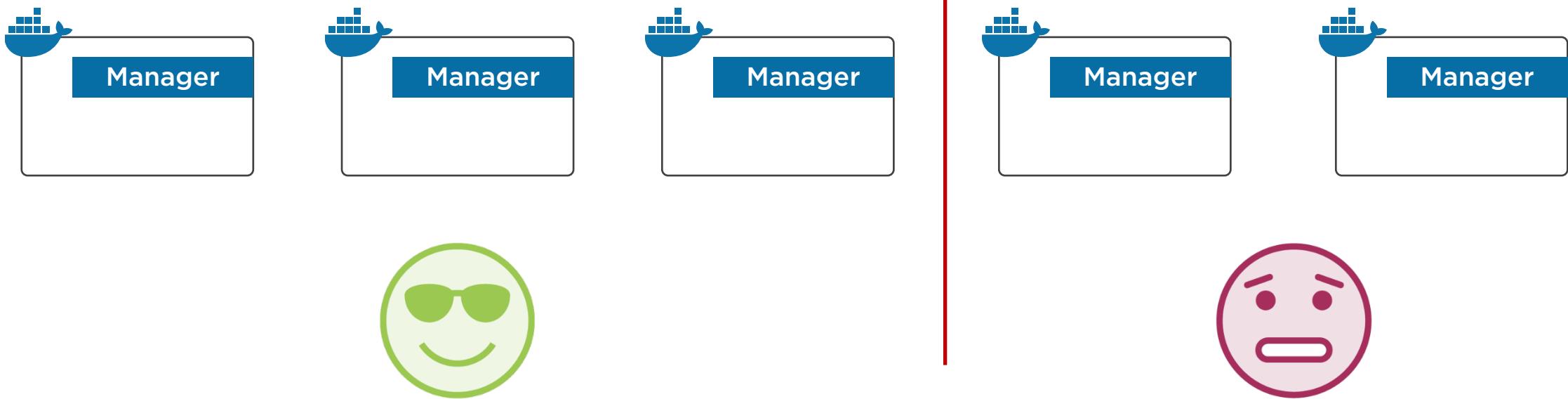
Secure Swarm cluster

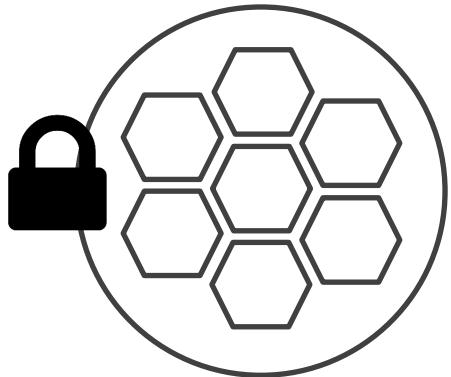


Network segmentation/failure



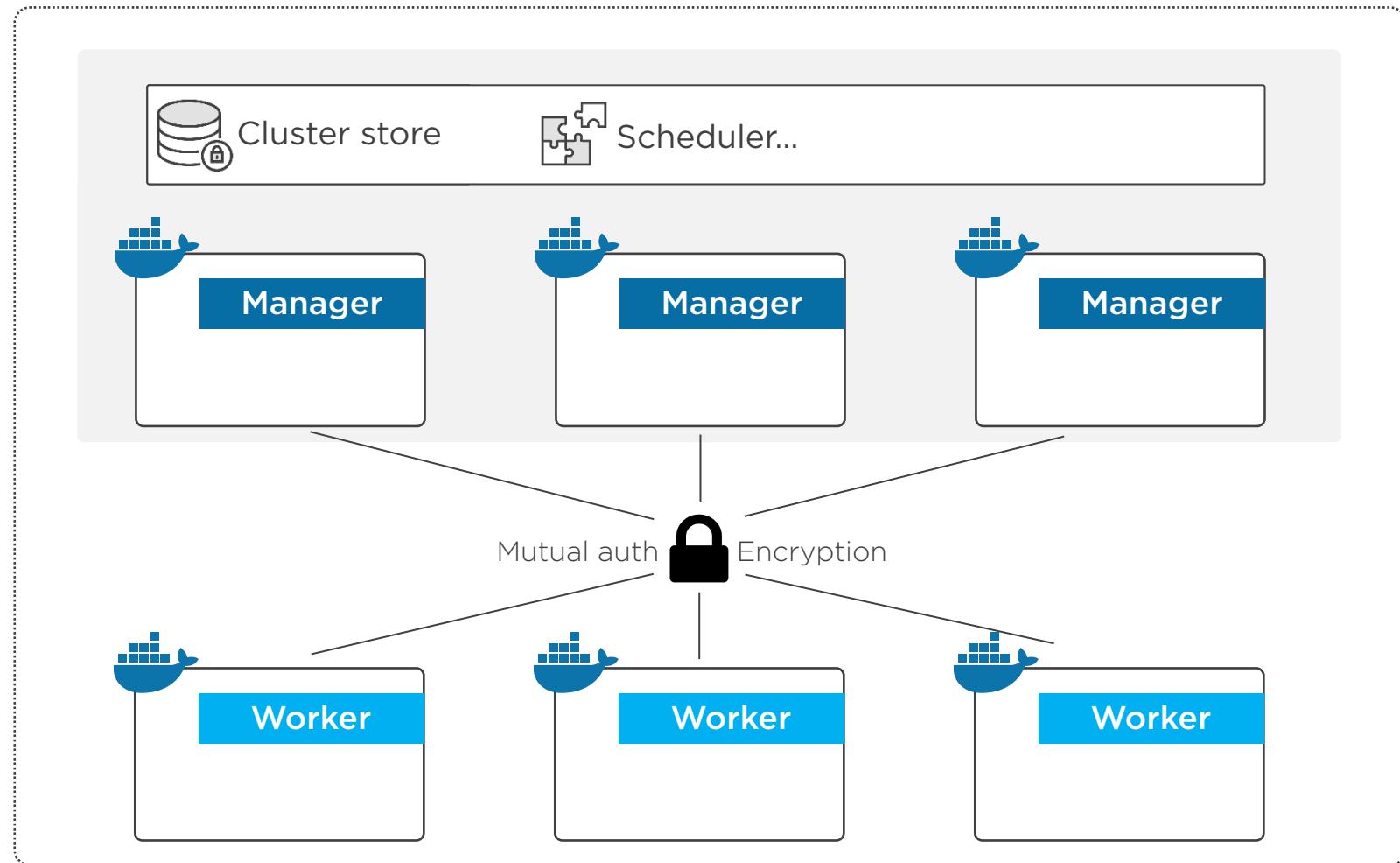
Network segmentation/failure

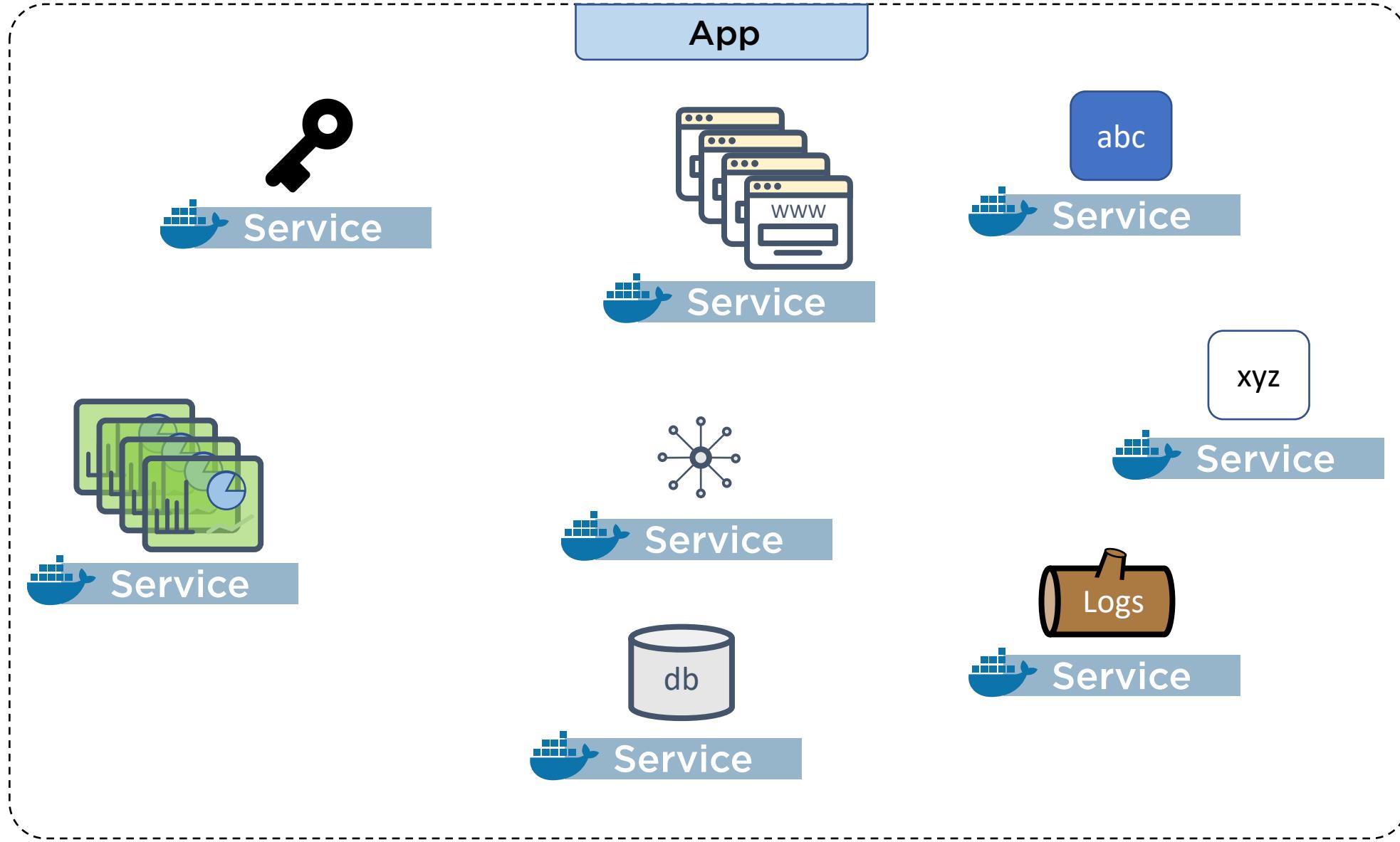


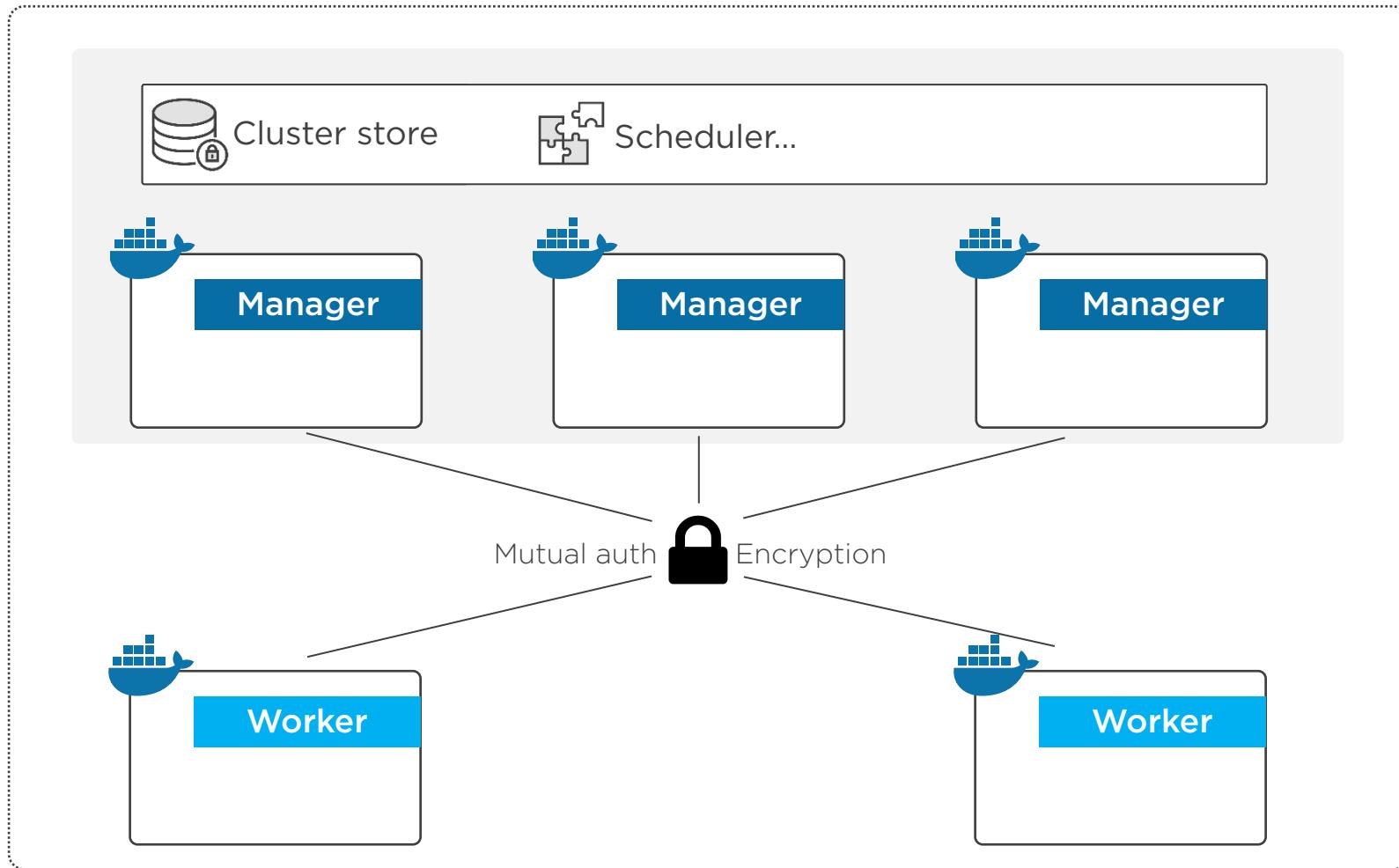


Swarm unlocks Docker Services!

Secure Swarm cluster

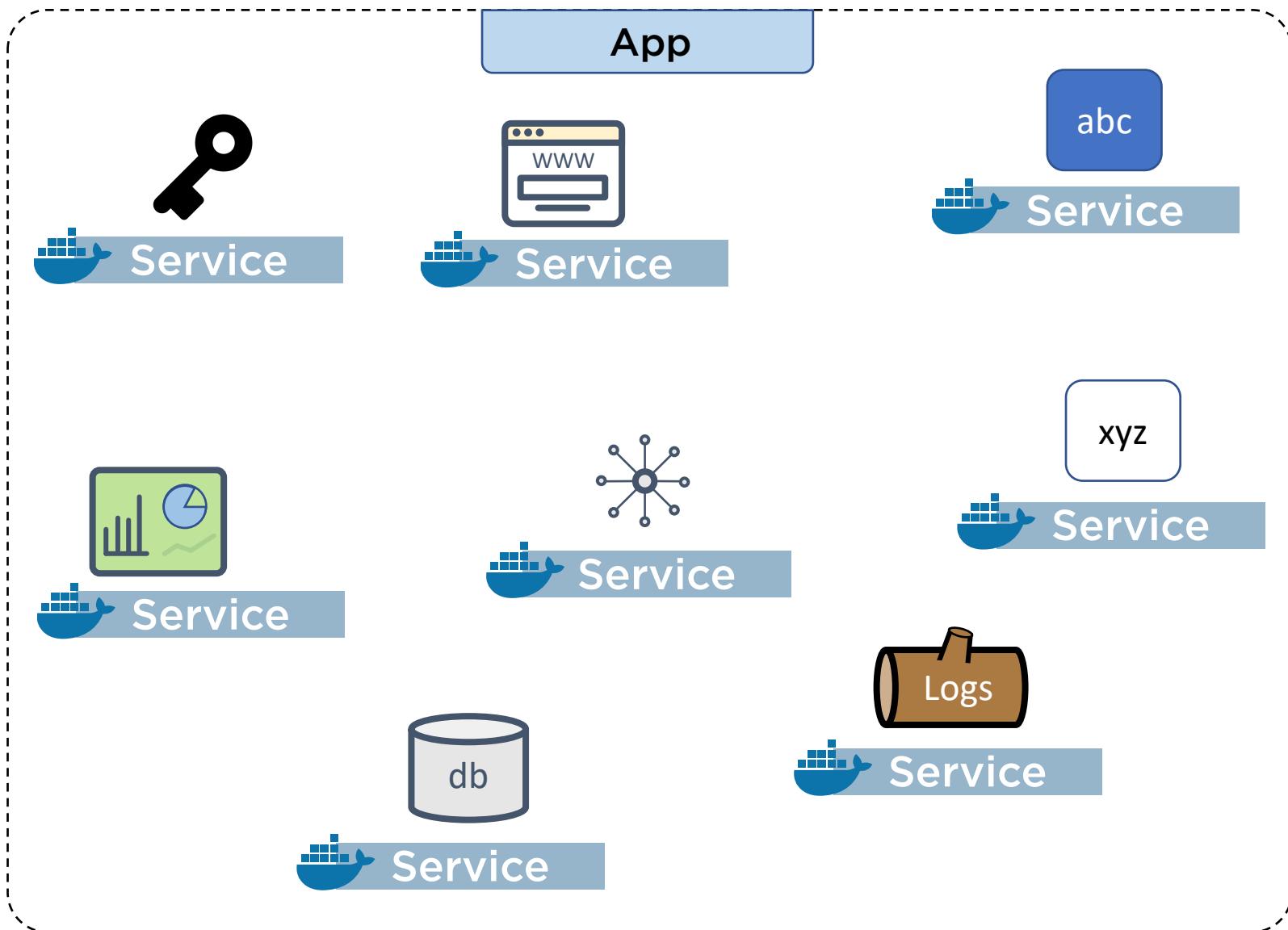


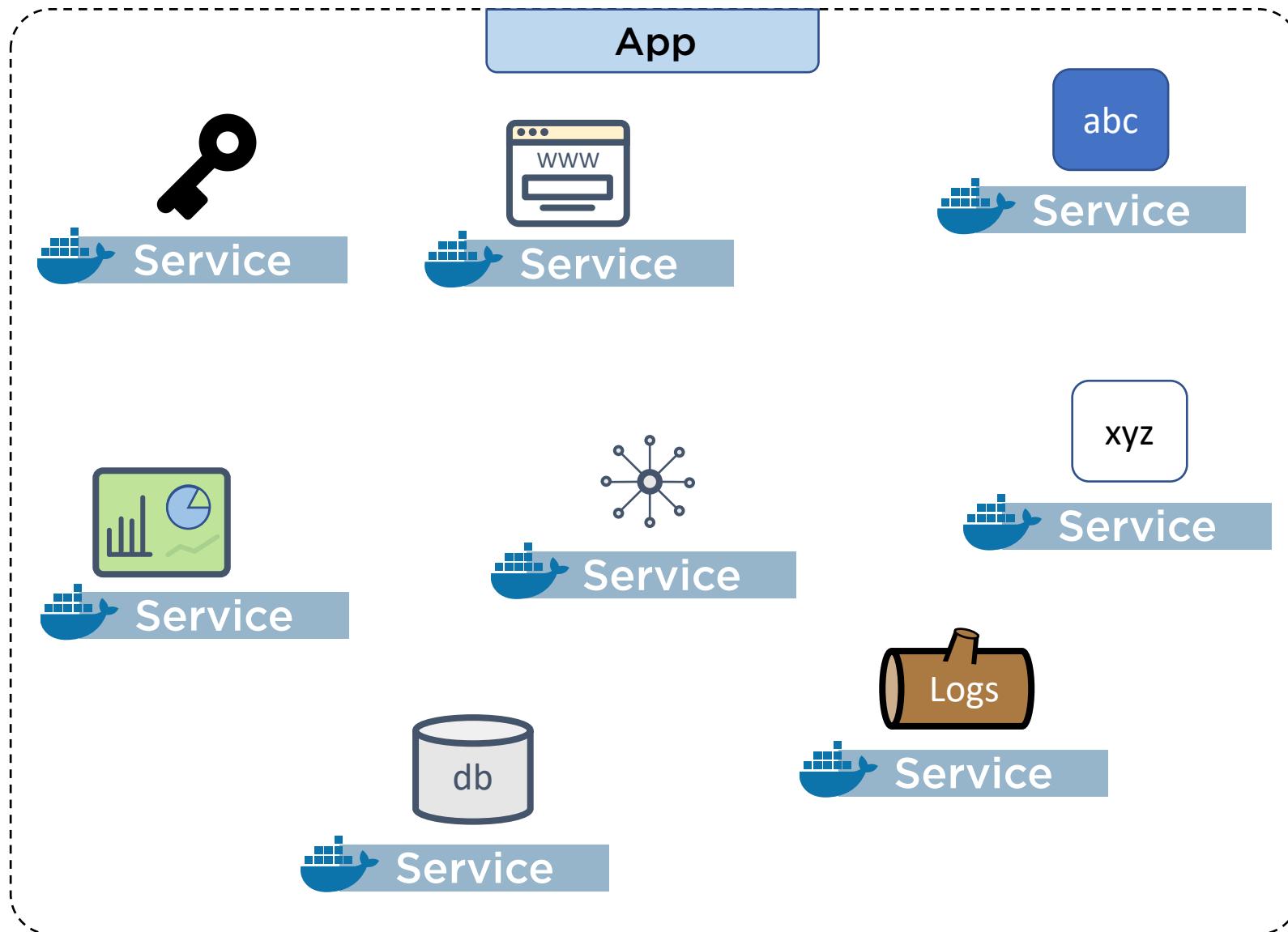




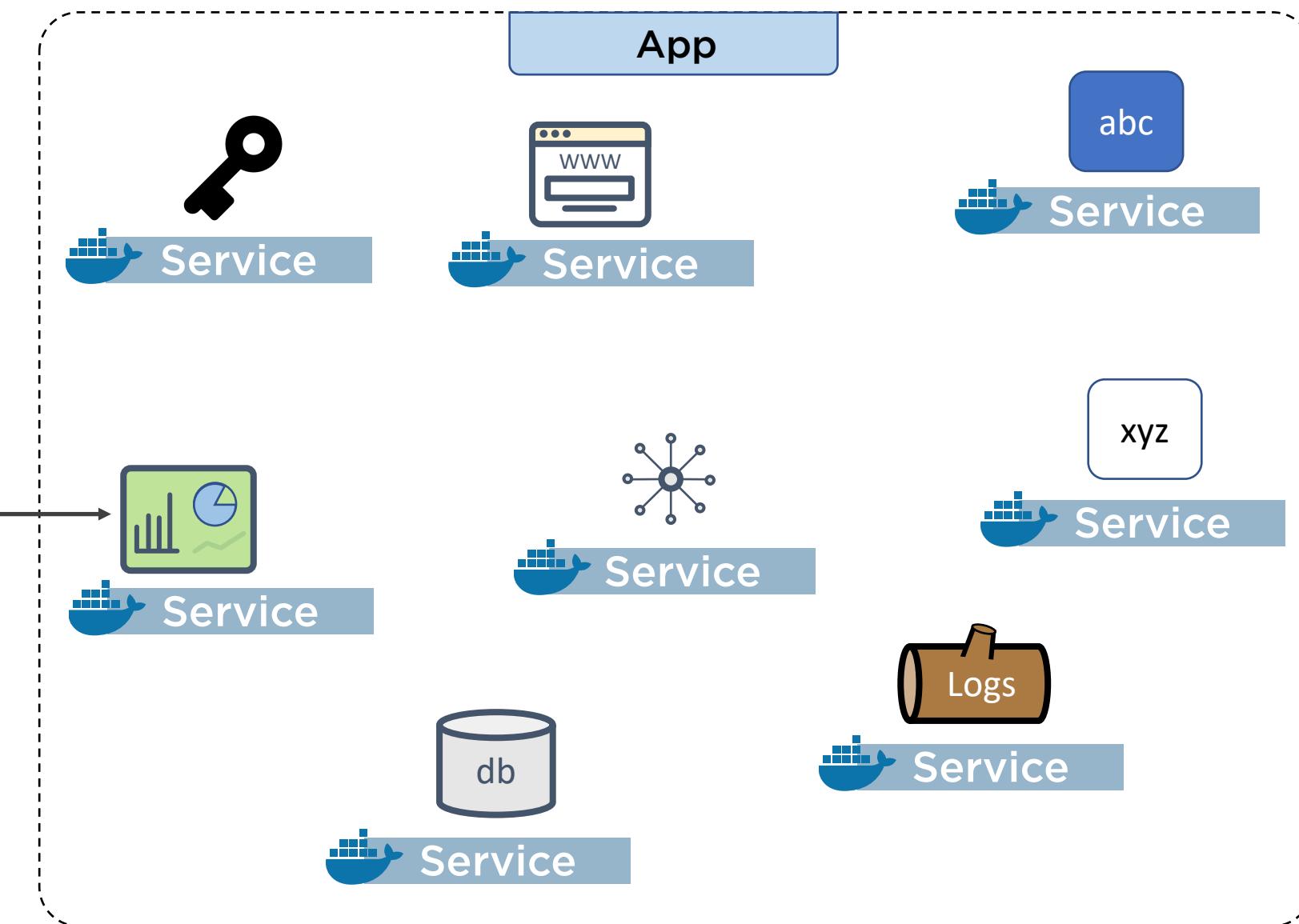
Microservices and Docker Services



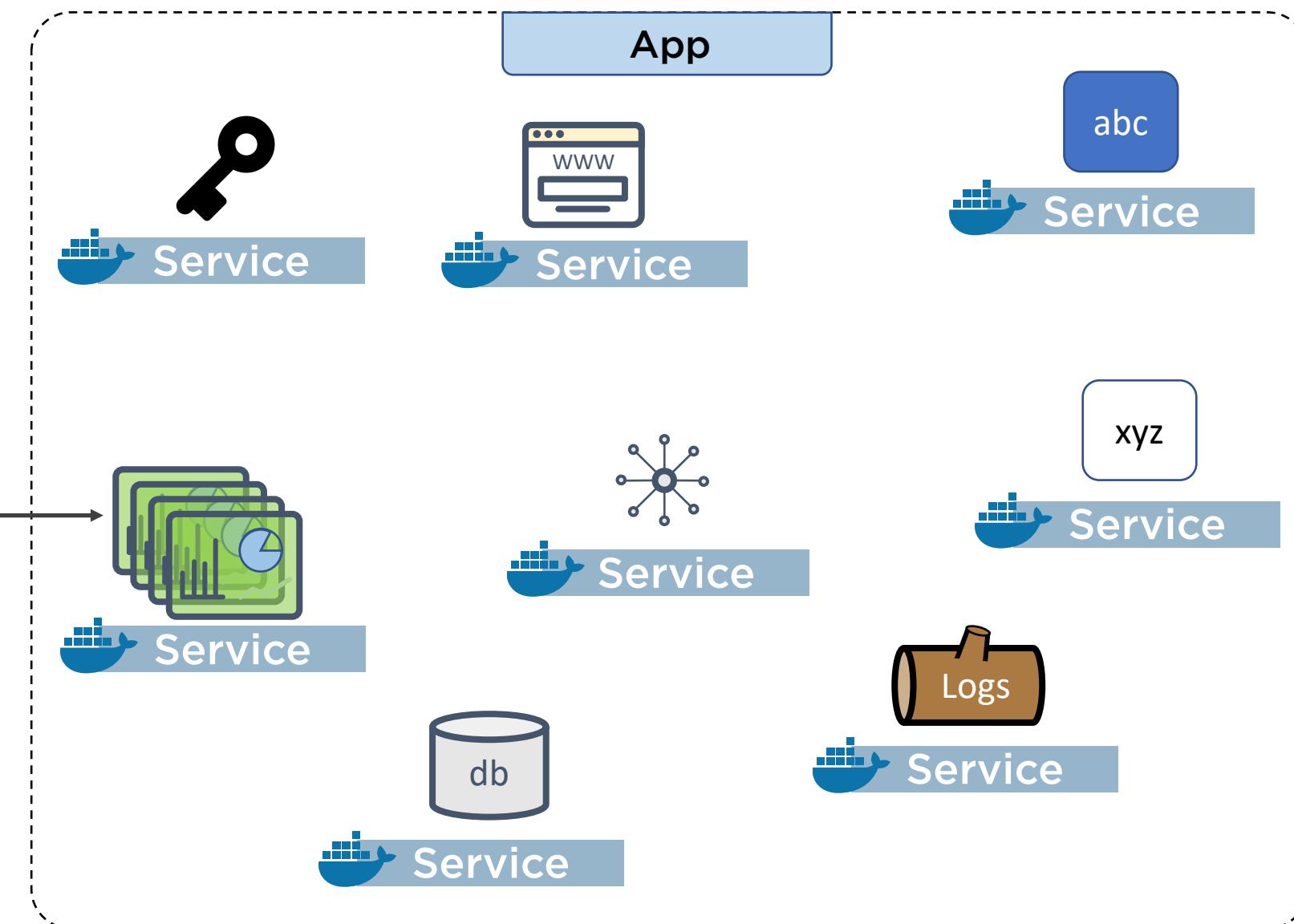




```
$ docker service scale \
reporting=4
```



```
$ docker service scale \
reporting=4
```



Up Next:
The Declarative Way...



Multi-container Apps with Docker Stacks



```
1  version: "3.8"
2  services:
3    web-fe:
4      image: nigelpoulton/gsd:swarm-stack
5      command: python app.py
6      deploy:
7        replicas: 10
8      ports:
9        - target: 8080
10       published: 5000
11     networks:
12       - counter-net
13   volumes:
14     - type: volume
15       source: counter-vol
16       target: /code
17   redis:
18     image: "redis:alpine"
19     networks:
20       counter-net:
21
22   networks:
23     counter-net:
24
25   volumes:
26     counter-vol:
```



Up Next:
What Next...



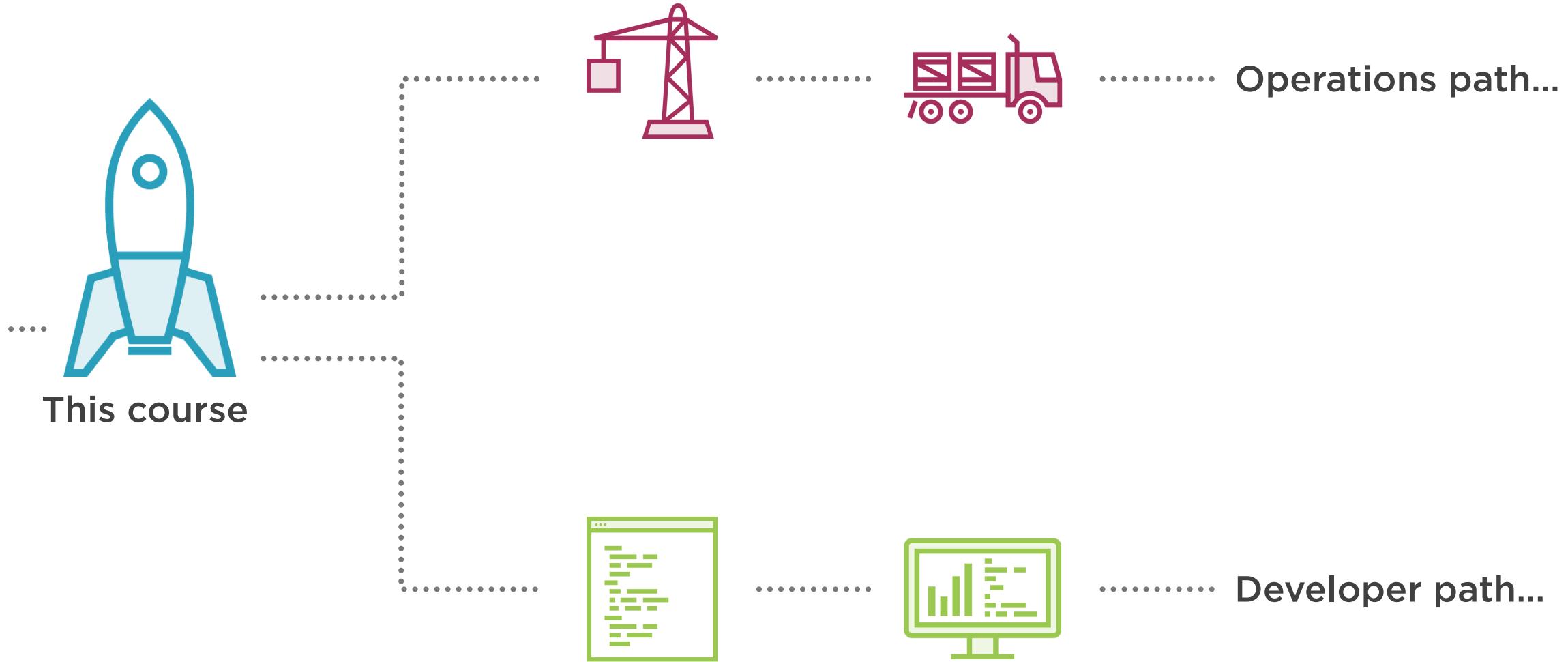
What Next...

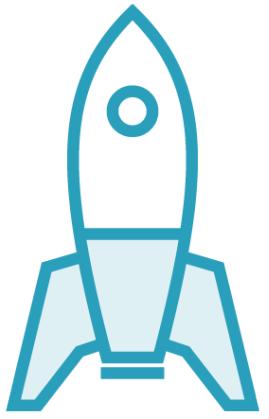


Nigel Poulton

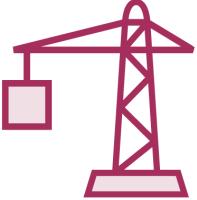
@nigelpoulton www.nigelpoulton.com







This course



Operations path...



Developer path...

COURSE

Docker for Web Developers

By Dan Wahlin

Beginner · ★★★★★ (656) · 5h 38m

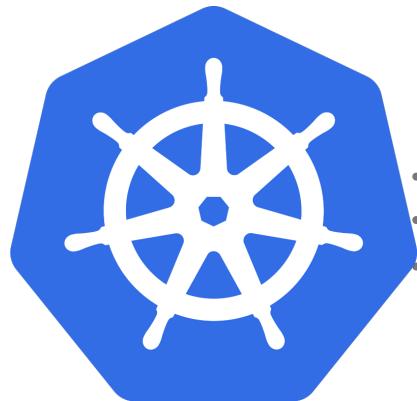
COURSE

Docker Deep Dive

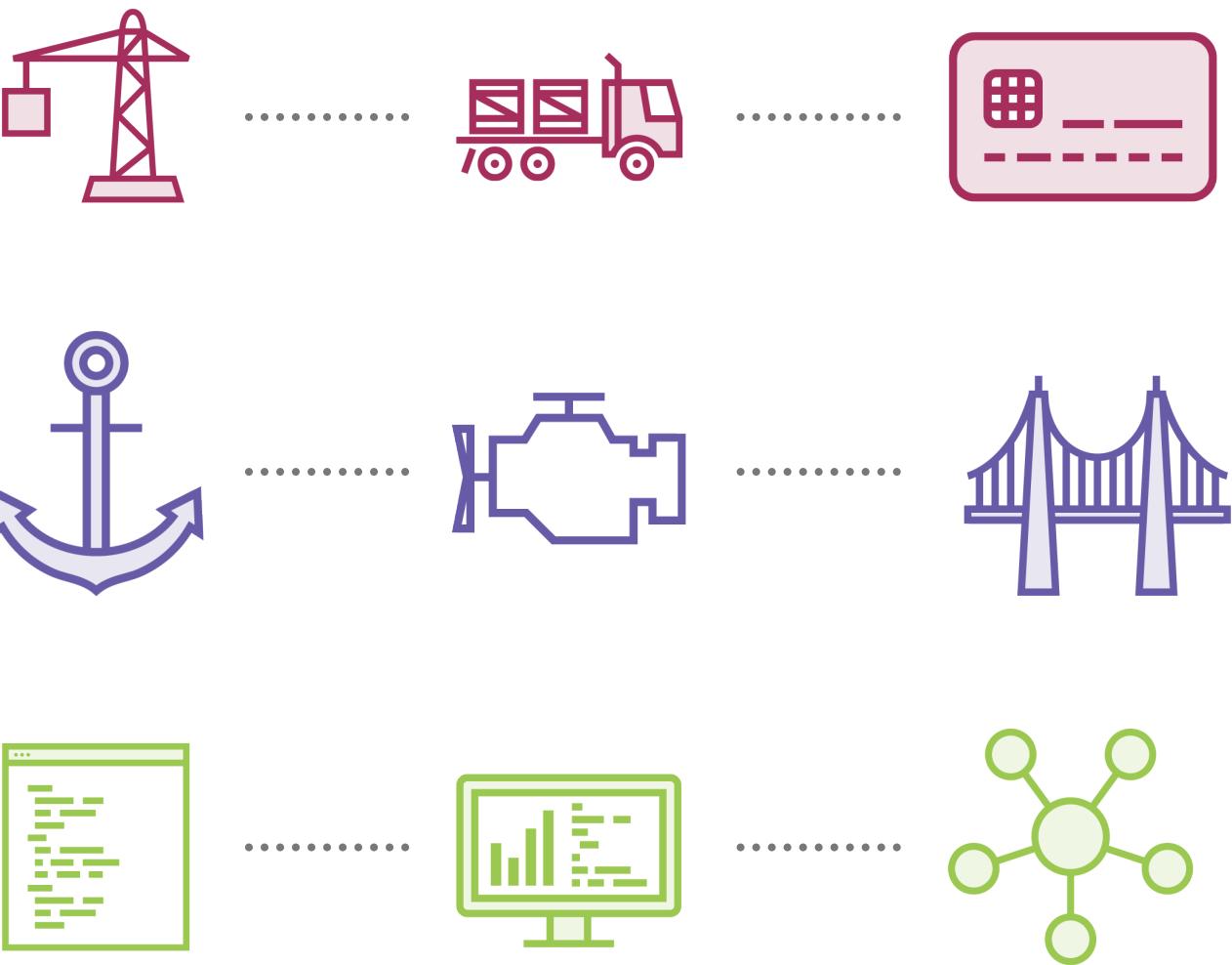
By Nigel Poulton

Intermediate · ★★★★★ (589) · 4h 35m





Kubernetes



COURSE

Getting Started with Kubernetes

By Nigel Poulton

Beginner · ★★★★★ (1213) · 2h 53m



Containers / Apps

Images

 docker

No containers running

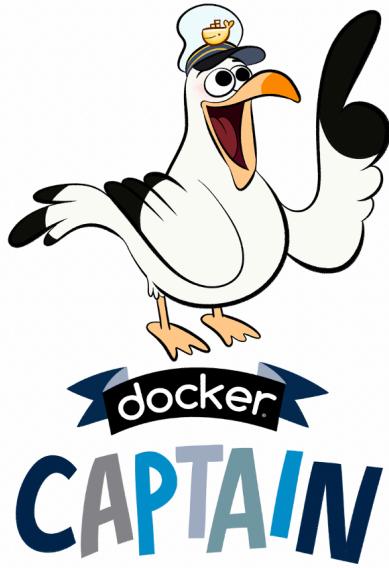
Try running a container: Copy and paste this command into your terminal and then come back

```
docker run -d -p 80:80 docker/getting-started
```

Explore more in the Docker Docs

Docker running





@ **nigelpoulton**

