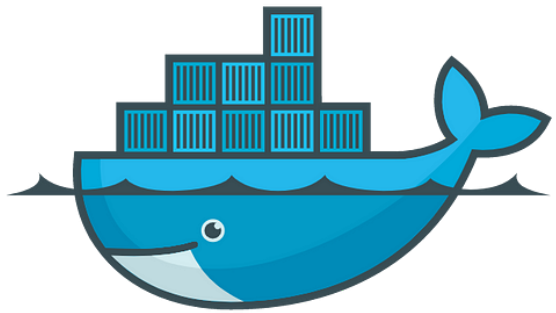


How to docker?

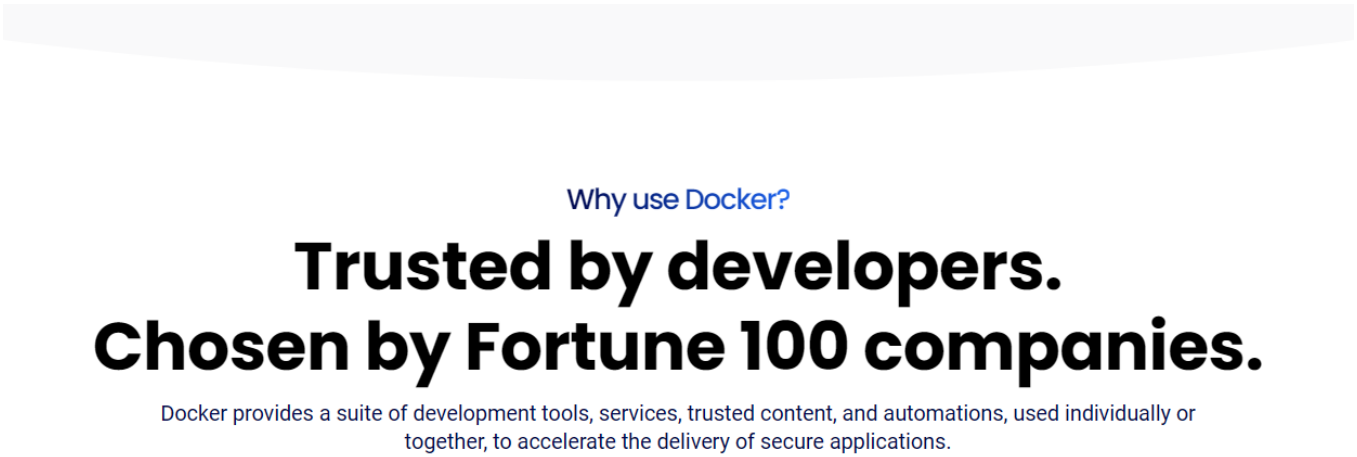
Docker something

Julia Winkler

19.06.2024

Gliederung

Wiso, Weshalb, Warum?

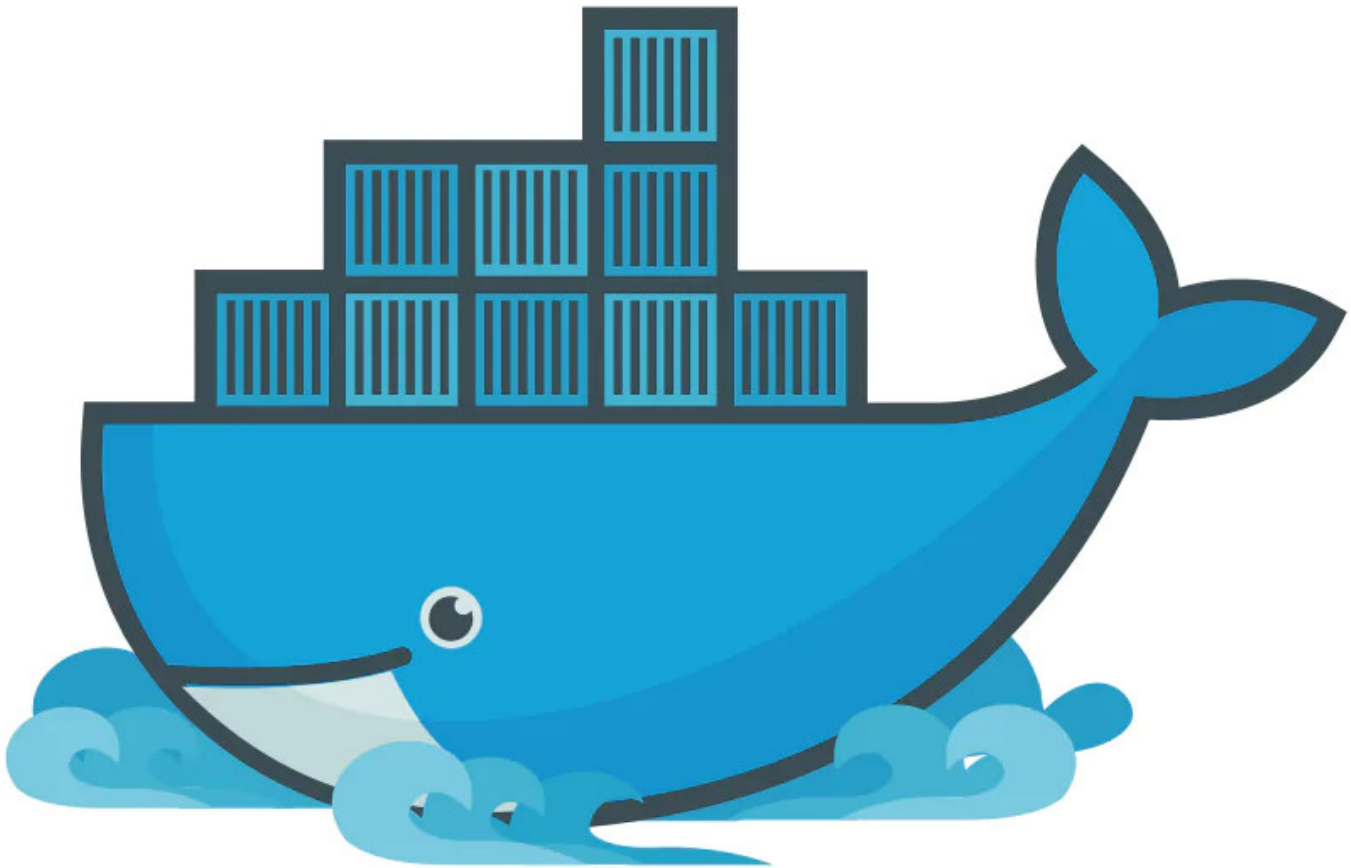


"a sandboxed process on your machine that is isolated from all other processes on the host machine"

"It works on my computer"

"faster onboarding and testing while also simplifying the deployment of services"

Wer ist Moby Dock?



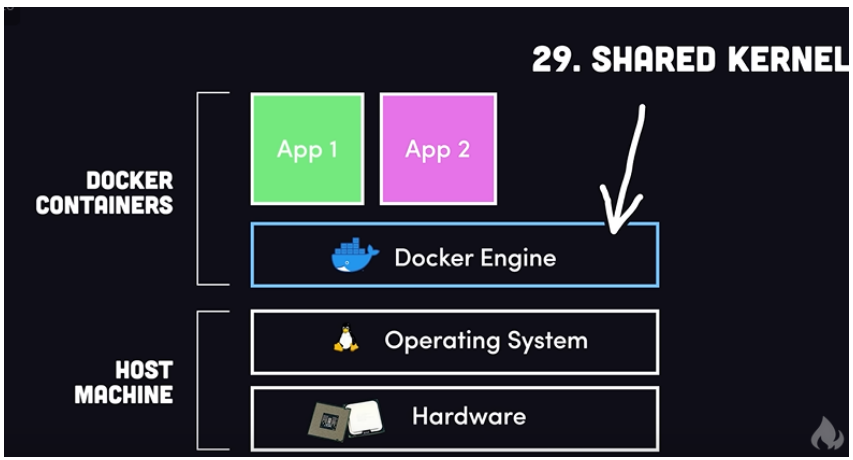
Was ist Docker?

? (vllt nicht als Folie sondern nur was erwähnen)

Toolbox

sandbox

configurierbare Umgebung



Was ist Docker?

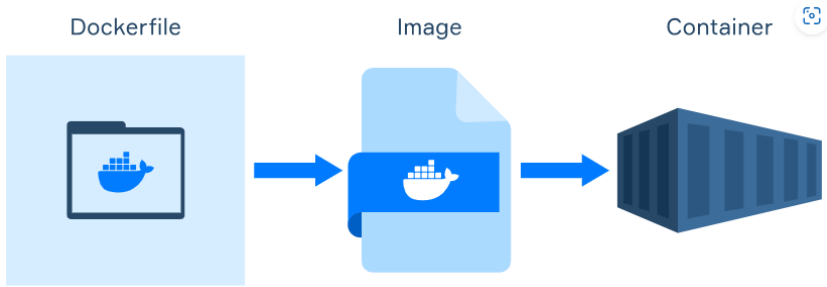


Figure: Zusammenhang der Docker Komponenten

Wichtige Begriffe

Docker

freie Software zur Isolierung von Anwendungen mit Hilfe von Docker Containervirtualisierung

Container

Umgebung in der die tatsächliche Anwendung läuft

Image

Blaupausen, um einen Container zu erstellen

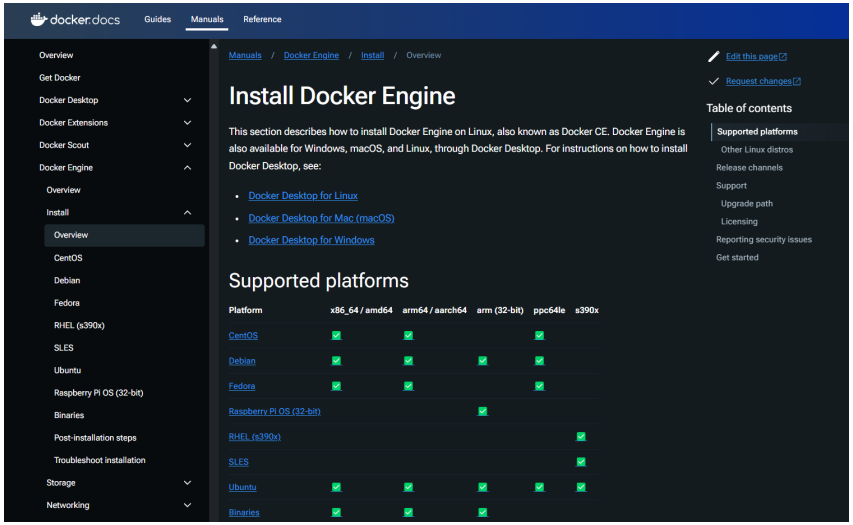
Dockerfile

Anleitung, um ein Image zu erstellen

Registry

z.B. Docker Hub, EAC.... Ort an dem viele verschindene Images gespeichert und geteilt werden können

Wie kreige ich dieses "Docker"?



Doku

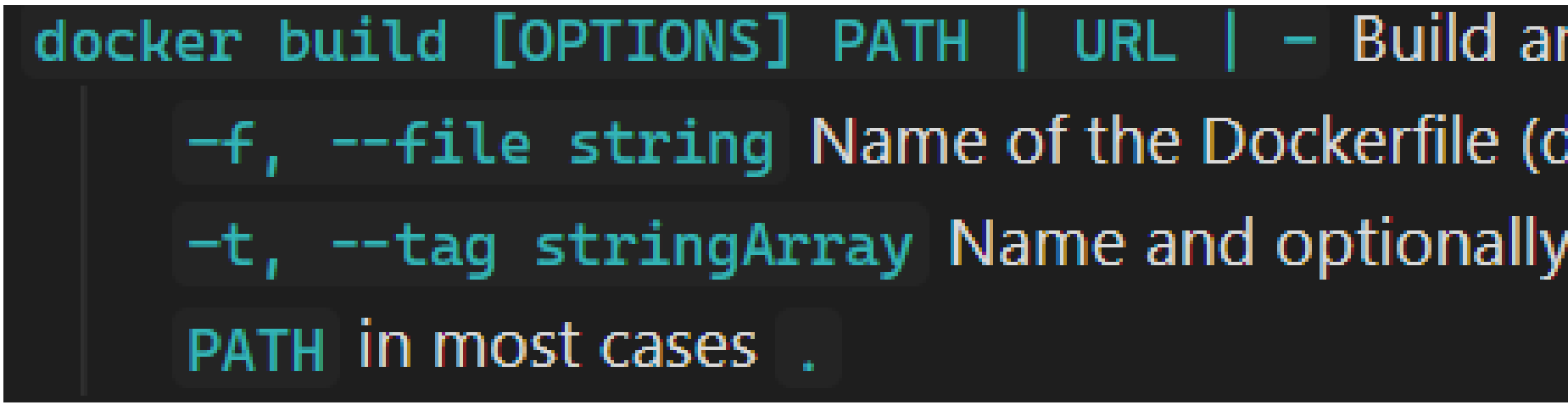
Hello World

```
$ docker -v
$ docker --help
$ docker run hello-world
```

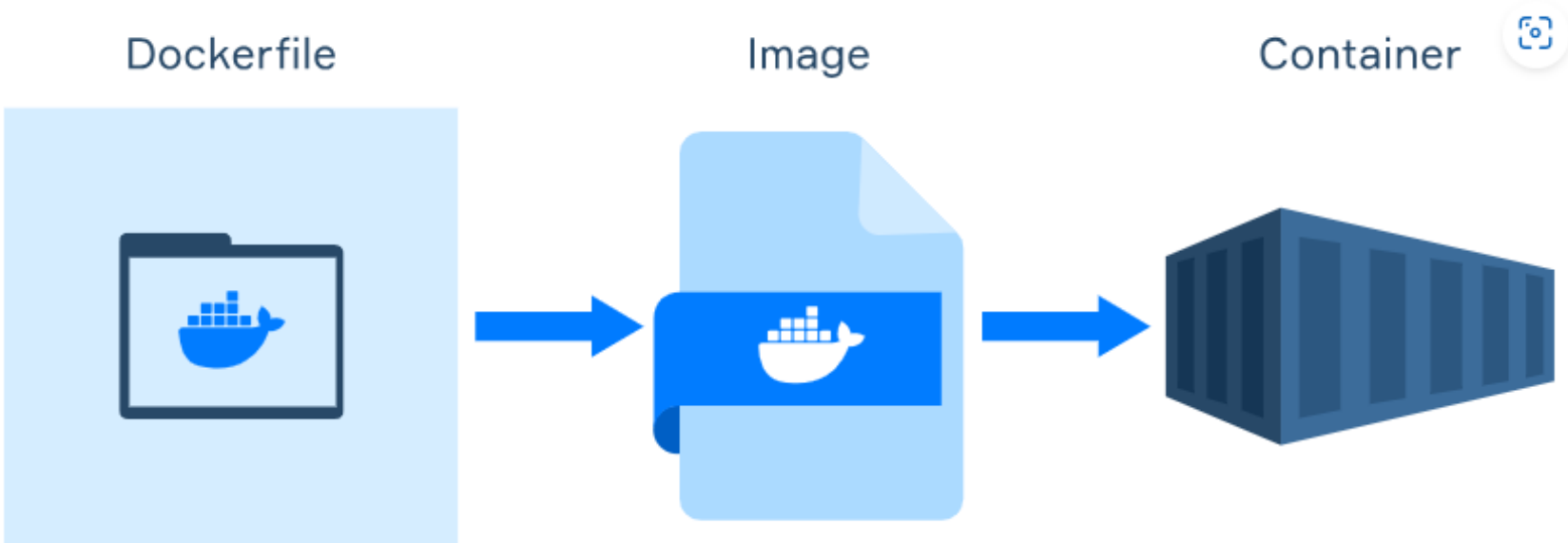
Ab ins Terminal

docker run

```
$ docker
    adf
    sadf
```



Was ist Docker?



Dockerfile

Ein Dockerfile ist die Anleitung um ein Image zu erstellen.

Image zu einem Dockerfile erstellen: `docker build .`

Standardmäßig hießt die Datei 'Dockerfile'

wieter Optionen mit `docker buildx build`

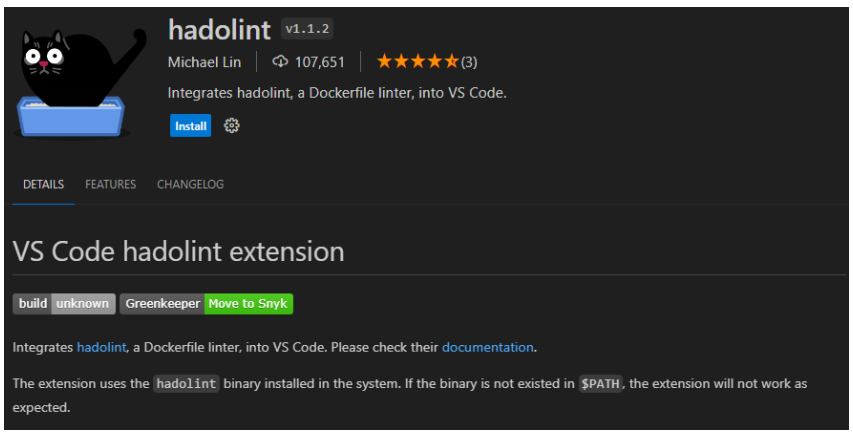


Figure: Plugin für die Arbeit mit Docker

docker build command

`docker build [OPTIONS] PATH | URL | -`

Build an image from a Dockerfile `[OPTIONS]`

-f, –file string Name of the Dockerfile (default: "PATH/Dockerfile")

-t, –tag stringArray Name and optionally a tag (format: "name:tag")

PATH in most cases .

Dockerfile

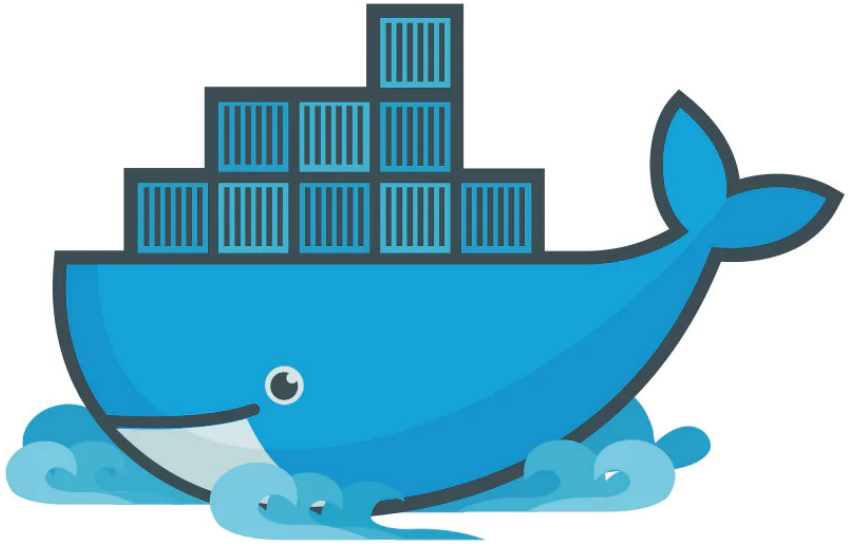


Figure: Code Tour

CMD vs. ENTRYPOINT

```
docker build -t example:cmd -f Dockerfile.cmd .
docker build -t example:entry -f Dockerfile.entry .

docker run example:cmd
docker run example:cmd hello
docker run example:entry hello
```

CMD: wird überschrieben EP: bestimmte den command, argumente können hinzugefügt werden beide: bestimmen, was nach dem start ausgeführt wird

RUN

```
docker build -t example:single -f Dockerfile.single .
docker build -t example:multi -f Dockerfile.multi .

docker ps -a
docker images
```

spart speicher schnellerer build

Python bsp

```
FROM alpine


# Exec form
CMD ["echo", "Hello World."]

#shell form
CMD echo Hello Students
```

Volumes

React

```
FROM alpine


# Exec form
CMD ["echo", "Hello World."]

#shell form
CMD echo Hello Students
```

Multistage builds

1

React - Multistage

```
FROM alpine


# Exec form
CMD ["echo", "Hello World."]

#shell form
CMD echo Hello Students
```

Dockerfile Best practices

RUN commands

Order of COPY

Volumes

Multistage

Docker Compose

Vorteile

UseCases

Docker Compose zu Python

```
FROM alpine


# Exec form
CMD ["echo", "Hello World."]

#shell form
CMD echo Hello Students
```

Docker Compose Webapp

```
FROM alpine


# Exec form
CMD ["echo", "Hello World."]

#shell form
CMD echo Hello Students
```

title

OpenDrone Map

tes Arbeit

Hiwi arbeit

ame work

Cheatsheet

docker run

docker build

docker push, pull

docker ps -a

docker rm / rmi

...

Coole Quellen und so weiter

https://www.docker.com/

https://docs.docker.com/get-started/