

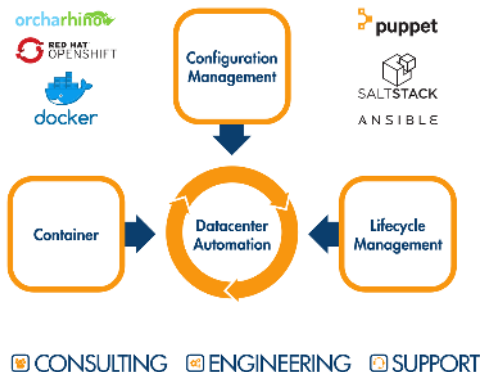
Docker

Grundbaustein moderner Anwendungen



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04. Juni 2019

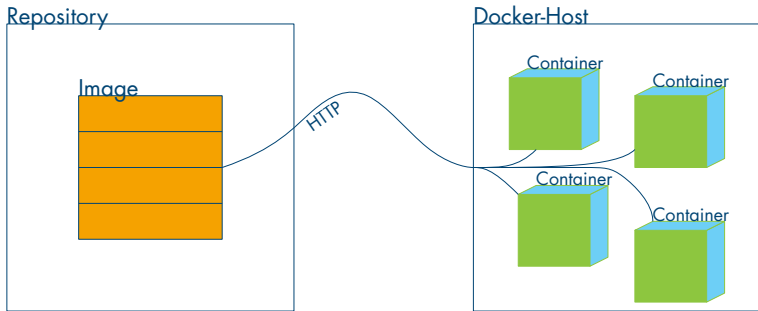


orcharhino

DEPLOY
RUN
CONTROL



- ▶ Technik für Linux Container
 - ▶ Isolierte Anwendungsumgebung
 - ▶ verwendet Kernel Mechanismen: cgroups und namespaces
 - ▶ Alternativen: OpenVZ, LXC, rkt, cri-o
-
- ▶ OS-Virtualisierung $\Rightarrow$ Anwendungscontainer (Microservices)
 - ▶ einheitliche Umgebung für Entwickler



- ▶ Image: Blob, Container: Prozess
- ▶ Nutzer legen Image fest
- ▶ Docker / Orchestration erstellt die Prozesse

```
docker run hello-world
```

Hello from Docker!

This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:

1. The Docker client contacted the Docker daemon.
2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
(amd64)
3. The Docker daemon created a new container from that image which runs the executable that produces the output you are currently reading.
4. The Docker daemon streamed that output to the Docker client, which sent it to your terminal.

To try something more ambitious, you can run an Ubuntu container with:

```
# docker run -it ubuntu bash
```

Share images, automate workflows, and more with a free Docker ID:

<https://hub.docker.com/>

For more examples and ideas, visit:

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

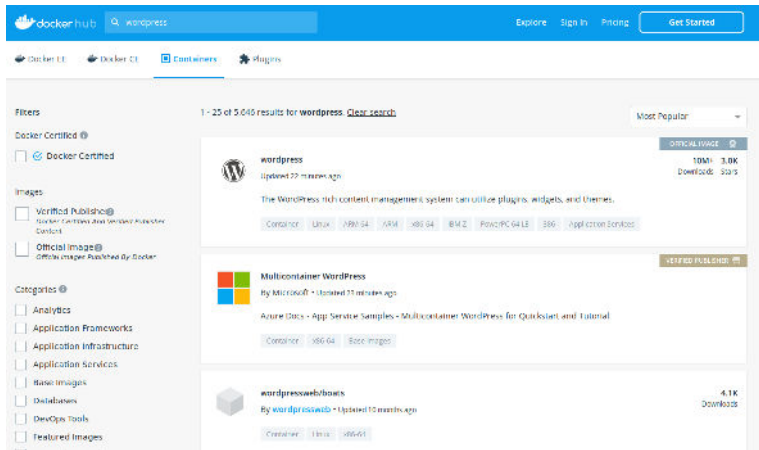


- ▶ derzeit Default für Container
- ▶ Overhead: "more than just containers"
- ▶ mangelnde Abwärtskompatibilität



- ▶ leichtgewichtige Alternative
- ▶ designed für die Verwendung mit Kubernetes
- ▶ Standard SUSE CaaS Platform und Red Hat OpenShift

- ▶ einheitliche Entwicklungsumgebung
- ▶ Isolation ohne großen Overhead
- ▶ abweichen vom Betriebssystem
- ▶ Quick-and-easy Proof of Concepts
- ▶ Heimserver
- ▶ skalierbare, flexible Webdienste



The screenshot shows the Docker Hub search results for 'wordpress'. The top navigation bar includes the Docker Hub logo, a search bar with 'wordpress' entered, and links for 'Explore', 'Sign In', 'Pricing', and a 'Get Started' button. Below the navigation bar, there are tabs for 'Docker EE', 'Docker CE', 'Containers', and 'Plugins'. The main content area displays search results for 'wordpress'. On the left, there are filters for 'Docker Certified' (with a 'Docker Certified' checkbox), 'Images' (with 'Verified Publisher' and 'Official Image' checkboxes), and 'Categories' (with various category checkboxes). The search results list three items: 1. 'wordpress' (Official Image, 10M, 3.0K Downloads, Stars), 2. 'Multicontainer WordPress' (By Microsoft, 77 minutes ago, 4.1K Downloads), and 3. 'wordpresswebhooks' (By wordpresswebhooks, Updated 10 months ago, 4.1K Downloads). Each item includes a description, a 'Container' button, and a list of supported architectures.

Filters: 1 - 25 of 5,046 results for **wordpress**. [Clear search](#) Most Popular

Docker Certified

☐ Docker Certified

Images

☐ Verified Publisher
Docker Certified and Verified Publisher Content

☐ Official Image
Official images published by Docker

Categories

☐ Analytics

☐ Application Frameworks

☐ Application Infrastructure

☐ Application Services

☐ Base Images

☐ Databases

☐ DevOps Tools

☐ Featured Images

wordpress Official Image
Updated 77 minutes ago
10M 3.0K Downloads Stars
The WordPress rich content management system can utilize plugins, widgets, and Themes.
Container Linux x86_64 ARM x86_64 IBM Z PowerPC 64 LE 386 Application Services

Multicontainer WordPress Verified Publisher
By Microsoft • Updated 77 minutes ago
Azure Docs • App Service Samples • Multicontainer WordPress for Quickstart and Tutorial
Container x86_64 500 images

wordpresswebhooks
By wordpresswebhooks • Updated 10 months ago
4.1K Downloads
Container Linux x86_64

- ▶ Filesharing-Software
- ▶ Fork von ownCloud
- ▶ entwickelt in PHP
- ▶ zahlreiche Erweiterungen
- ▶ "Dropbox-Alternative"

hub.docker.com/_/nextcloud

```
docker run --rm --network host --name nextcloud -d
  nextcloud
```

- ▶ Enterprise-Variante von LibreOffice
- ▶ Online-Variante
- ▶ Collabora Online Development Edition (CODE) zur freien Verfügung
- ▶ "Office365-Alternative"

hub.docker.com/r/collabora/code

Wenig zu sehen

```
docker run --name collabora --rm \  
-t -d --network=host \  
-e 'domain=cloud\\.nextcloud' \  
-e "username=jan" -e "password=supergeheim" \  
-e extra_params='--o:ssl.enable=false' \  
--cap-add MKNOD \  
collabora/code
```

- ▶ Verbunden per Nextcloud-Erweiterung
- ▶ Collabora Online erhält Zugriff auf Nextcloud
- ▶ Office im Browser

- ▶ besonders geeignet für Web-Anwendungen
- ▶ Kommunikation über APIs
- ▶ Beispiel: LDAP + Nextcloud + Collabora + RocketChat
- ▶ über 2 Mio. Images im Docker Hub
- ▶ erlaubt Fokus auf Betrieb anstelle von Installation

```
> debootstrap xenial xenial > /dev/null  
> tar -C xenial -c . | docker import - my_xenial
```

Dockerfile:

```
FROM my_xenial  
  
RUN echo "deb http://archive.ubuntu.com/ubuntu bionic  
universe" >> /etc/apt/sources.list  
  
RUN apt-get update && DEBIAN_FRONTEND=noninteractive  
apt-get install -y diffoscope && rm -rf /var/lib/  
apt/lists/*
```

```
docker build -t my_diffoscope .
```

- ▶ kommerzielles Produkt
- ▶ Docker Desktop Enterprise: IDE zum Entwickeln von Docker-Images
- ▶ Docker Kubernetes Services: Integration der IDE in Container-Cluster
- ▶ EE hat längere Release-Zyklen als CE
- ▶ Zertifiziert für Infrastruktur

- ▶ Verbund mehrerer Container-Hosts
- ▶ Ressourcen über API bestellen
- ▶ Kubernetes de-facto Standard
- ▶ skaliert bis 5000 Knoten

- ▶ Schnelles Setup komplexer Anwendungen
- ▶ hohe Kontrolle über die Umgebung
- ▶ Schwerpunkt auf Web-Anwendungen
- ▶ Produktiveinsatz häufig in Clustern