

# 9.2: Oberfläche für Management & Monitoring für containerbasierte Anwendungen auf einem (Edge-)Server

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# Motivation



Quelle: [pixino.com](https://pixino.com)

# Zielsetzung

Konzeption und Entwicklung einer **Orchestrationslösung** für **fachfremden Anwender** (Landwirte), um lokale und containerbasierte Anwendungen auf eigenen (Edge-)Servern zu betreiben und den Gesundheitsstatus des Clusters zu überwachen.

# Anwendungsfälle

- (1) Status des Clusters überprüfen
- (2) Neuen Container erstellen
- (3) Bestehenden Container löschen
- (4) Bestehenden Container bearbeiten
- (5) Wechseln in den “Pro-Modus”
- (6) Erstellen und Laden einer eigenen Anwendung

# Analyse bestehender Lösungen



Pro-Modus

## Health

A Grade

AAAAA: 123

AAAAA: 123

AAAAA: 123

AAAAA: 123

AAAAA: 123

AAAAA: 123

Container 1



Container 2



Container 3



Container 4



Container 4



Container 5



+

### Health

**A** Grade

AAAAA:	123	AAAAA:	123
AAAAA:	123	AAAAA:	123
AAAAA:	123	AAAAA:	123

### Details

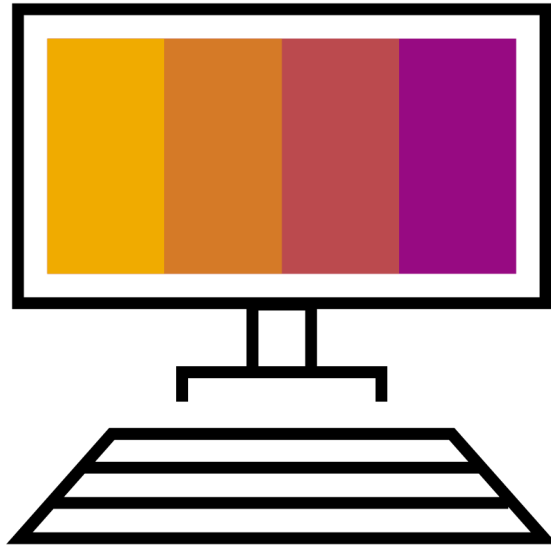
Name:	AAA
Anwendung:	BBB
Kubernetes-Version:	1.16.2
Created by:	Nils
Created at:	05.11.2019

### Lifecycle

Hiernation:	<button>Stop</button>
Delete Cluster:	<button>Delete</button>



# Demo



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Endpoint summary

Endpoint info

Endpoint local 8 33.7 GB - Standalone 18.09.7

URL /var/run/docker.sock

Tags -

0 Stacks

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3 running 2 stopped

11 Images 2.9 GB

5 Networks

3 Networks

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Endpoint summary

HofBox - Status

A+

Name

local

Laufzeit

12 Tage 2 Stunden 46 Minuten

Auslastung

CPU: 0.00%  
RAM: 29.4 MB/33.7 GB

Temperatur

43°C

Container

Search...

Caddy

HTTP/2 web server with automatic HTTPS

running

portainer

Comment here please

running

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running

MySQL-Test

The most popular open-source database

stopped

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http://localhost:9000/#/containers

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MySQL-Test

Ownership

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administrators

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VPN

http://localhost:9000/#/containers/24f30bd616a5f9d857843433f33ca4956c868db04c9226b48b60f44c6cfeaf4f

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Easy Container details

Containers > Caddy

admin

my account

log out

Container status

Name	Caddy
Application	Caddy - HTTP/2 web server with automatic HTTPS
Status	🟢 Running for a day
Created	2019-12-05 14:14:12
Start time	2019-12-05 14:14:13
Failure count	0
Last output	N/A

⚙️ Actions

▶ Start

■ Stop

↺ Restart

⏸ Pause

▶ Resume

🗑 Remove

📄 Create backup image

You can create an image from this container, this allows you to backup important data or save helpful configurations. You'll be able to spin up another container based on this image afterward.

Name

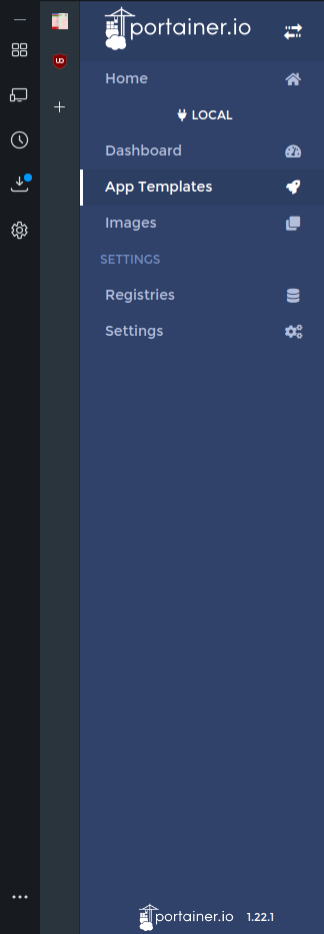
e.g. my\_important\_backup

⚠ Backup name is required.

Create backup

📄 Backup images

Backup name	Size	Created
No backups available!		



Show container templates ☒

Q Search...


**Registry**  container  
 Docker image registry
 
[Update](#) [Delete](#)

**Nginx**  container  
High performance web server

[Update](#) [Delete](#)

webserver



Httpd

Open-source HTTP server

container


Update

Delete

webserver

 **Caddy**  container  
HTTP/2 web server with automatic HTTPS


**MySQL**  container  
 The most popular open-source database
 
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 database


**MariaDB** container  
 Performance beyond MySQL


**PostgreSQL**
 container
 
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The most advanced open-source database
 database


**Mongo**  container  
 Open-source document-oriented database
 
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**CockroachDB**  container  
 An open-source, survivable, strongly consistent, scale-out SQL database
 
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**CrateDB** 🔮 container  
 An open-source distributed SQL database
 
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Update

Delete

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Application settings

Snapshot interval

5m

Expert Mode

Use custom logo

App Templates

Use external templates

Security

Disable bind mount

Disable privileged containers

Enable volume mounts

Enable host management

Edge

Edge agent poll frequency

5 seconds

Save settings

Hidden containers

You can hide containers with specific labels from Portainer UI. You need to specify the label name and value.

Name

e.g. com.example.foo

Value

e.g. bar

Add filter

## ❖ (Weiter-)Entwicklung der Orchestrationslösung

- Implementierung einzelner Features
- Ausarbeitung des Grading-Systems
- Analyse vom Nutzerverhalten bezüglich des Pro-Modus

## ❖ Validierung und Test durch vordefinierte Anwendungsfälle



# Vielen Dank für Eure Aufmerksamkeit

