



Image Processing - Challenge Project

OST — Ostschweizer Fachhochschule

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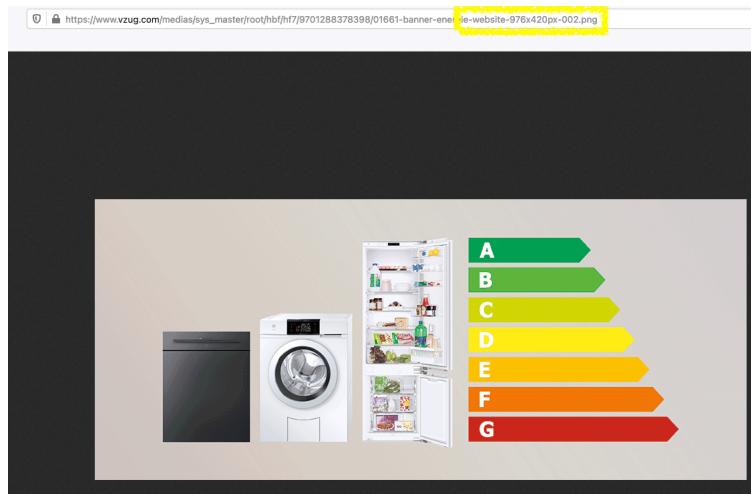
DS1 - Thomas Bocek

1. Introduction

Goal

Problem: ...

- Responsive Websites



- Upload eines Profilbildes

Solution: Unser ImgProcessing CDN Service führt dies **on-the-fly** durch und bietet zugleich eine *REST API*.

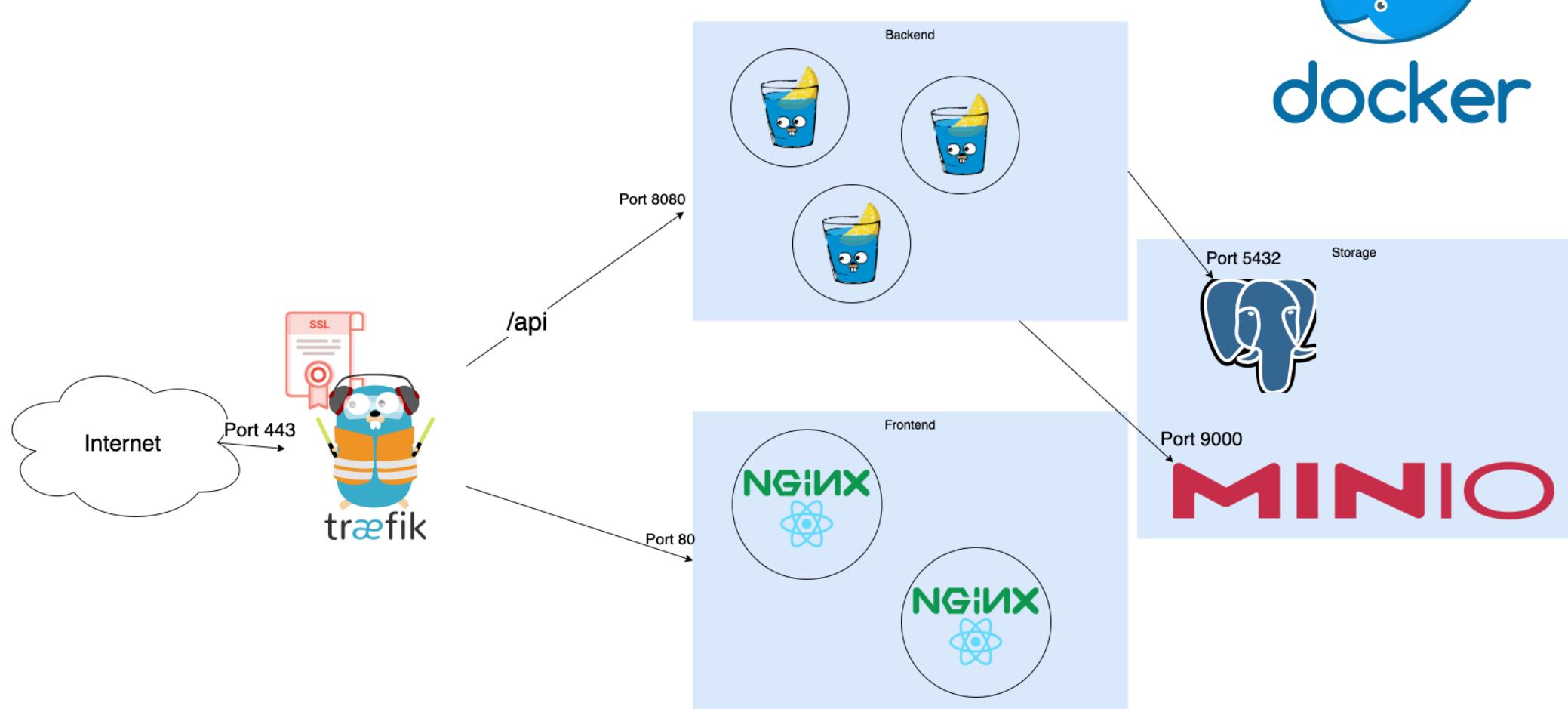
2. Technology

Setup

- Backend
 - `go` (1.16.3)
 - `gin` (1.6.2)
 - JWT
- Frontend
 - `ReactJS` (17.0.2)
 - Material-UI
 - Ausgeliefert durch `Nginx` (1.19.9)
- Loadbalancer
 - `Traefik` (2.4.8)
- Storage
 - `PostgreSQL` (13.2)
 - `MinIO - Object Storage` (RELEASE.2021-03-26)
- Präsentation
 - `LaTeX`

2. Technology

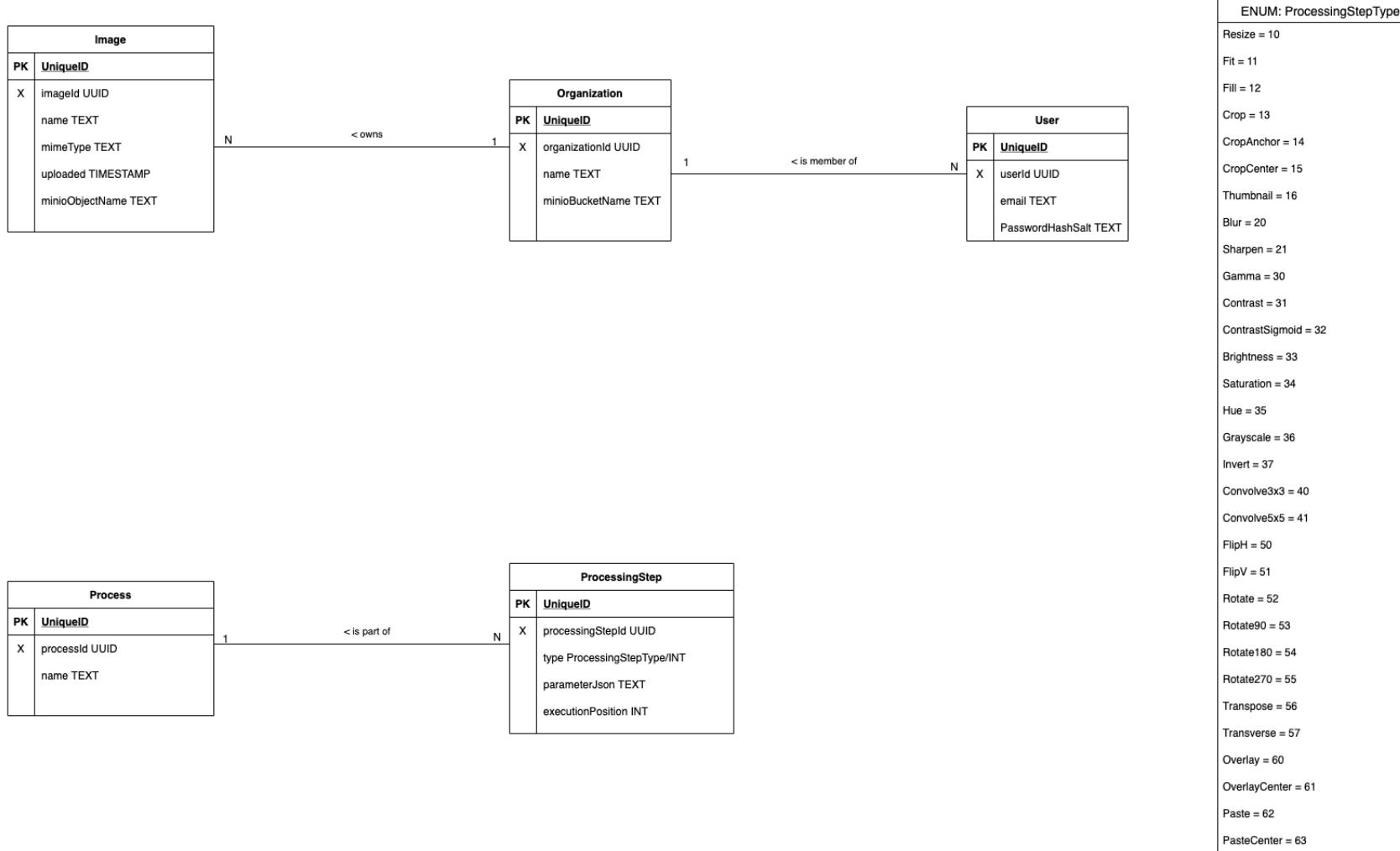
System Diagram



3. Development

Data Model

imgProcessing Entity Relations



3. Development

Github Actions

- Docker Images - builded and versioned by Github Actions
 - Frontend
 - Backend
- Security by scanning for **CVE**

📦 2 packages

📦 frontend latest	⬇️ 276
Published 8 days ago by imgProcessing in imgProcessing/backend	
📦 backend latest	⬇️ 270
Published 8 days ago by imgProcessing in imgProcessing/backend	

3. Development

docker-compose

- Prod and Dev environment
- Restricted access on prod

3. Development

Loadbalancer

Traefik:

- Docker Socket mounted:
 - + Autodiscover
 - - Security
- HTTP -> HTTPS Middleware
- Self-signed cert with `mkcert` for development
- Healthchecks

3. Development

Backend

3. Development

Frontend

3. Development

Storage

4. Legal

Fulfillment of Requirements

- Simple Frontend: React Frontend
- Loadbalancer: Trafik
- Two instances of a service: Backend and Frontend
- One storage backend: PostgreSQL and MinIO
- JWT Authentication: Used
- FOSS Used: Used

Demo

<https://imgprocessing.pesc.xyz>

End

Source Code