

# VuFind mit Docker an der ULB Münster

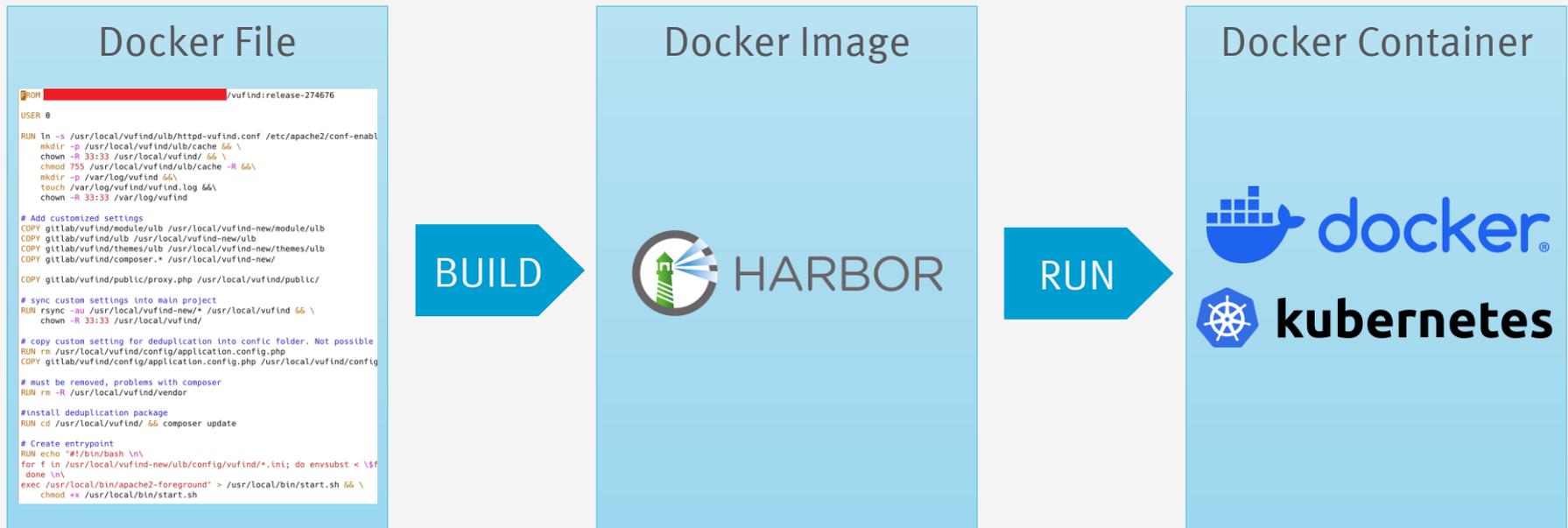
Entwicklung und Betrieb  
Kai Ermeling / Sven Haubold



# Motivation

- Entwicklung (Dev):
  - **Release-Prozess und lokale Entwicklung vereinfachen**
- Betrieb (Ops):
  - **„Dependency hell“ auflösen**
  - **Vereinheitlichung und Automatisierung der VuFind-Deployments**

# Containervirtualisierung mit Docker



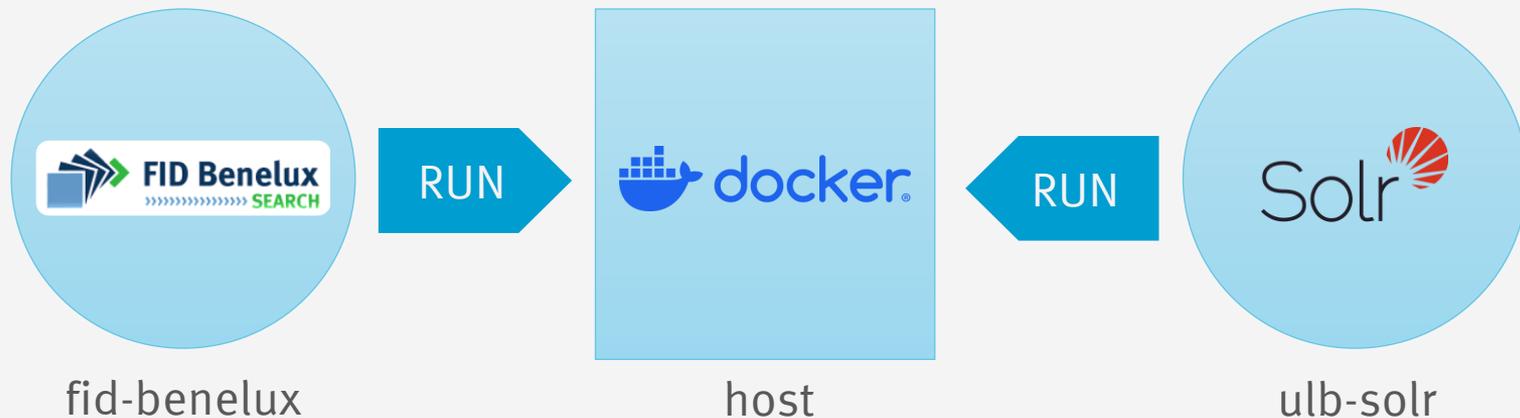
# Image - BUILD

- Best Practice: Wiederverwendbarkeit durch mehrstufigen Build-Prozess



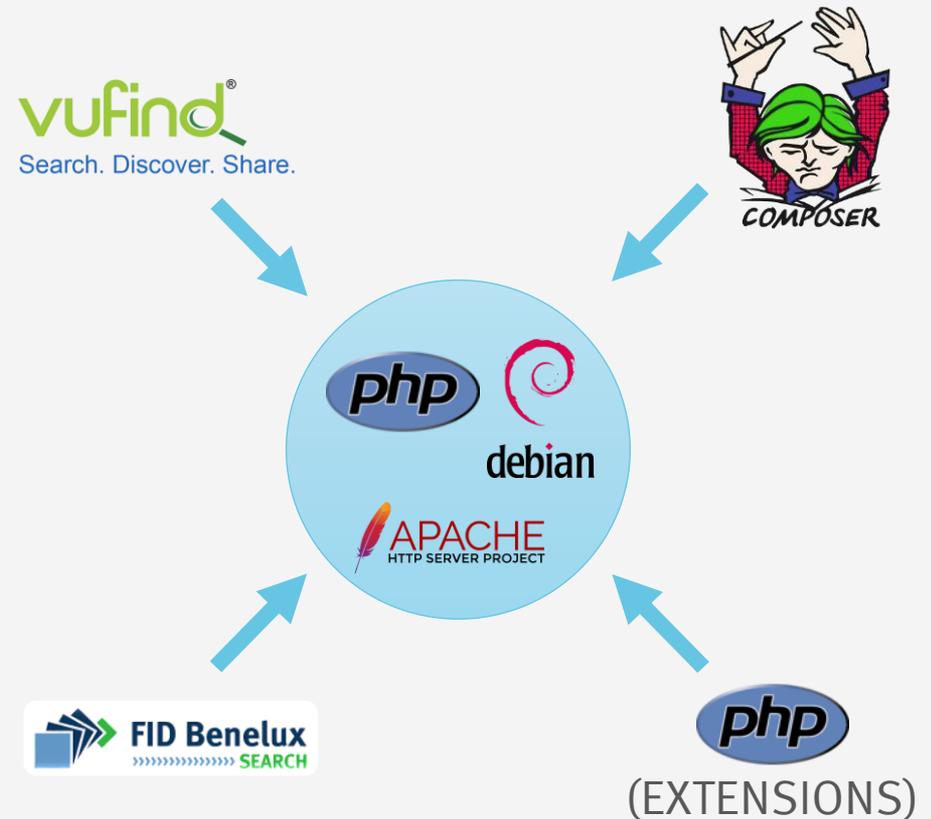
# Container - RUN

- Best Practice: Ein Prozess pro Container



# Voraussetzungen - VuFind

- base image
  - **php/Debian/apache**
  - **VuFind**
  - **php-Erweiterungen**
  - **composer**
- FID-Benelux
  - **Konfigurationsdateien**
  - **ULB-Thema**



# Dockerfile – vufind base image

```
FROM docker.io/library/php:8.3.1-apache-bookworm
LABEL de.wvu.ulb.maintainer="Sven Haubold <shaubold@uni-muenster.de>"
LABEL de.wvu.ulb.name="vufind"
LABEL de.wvu.ulb.desc="vufind base image"
ENV TZ="Europe/Berlin"
ENV VUFIND_VERSION=8.1.2
USER 0
# Needs a helper to install up2date extensions
ADD https://github.com/mlocati/docker-php-extension-installer/releases/download/2.1.58/install-php-extensions /usr/local/bin/
# Enable rewrite module and install dependencies
RUN chmod +x /usr/local/bin/install-php-extensions && \
    install-php-extensions mbstring gd intl json ldap pgsql mysqli xml soap curl pdo pdo_pgsql pdo_mysql && \
    a2enmod rewrite && \
    apt-get update && \
    apt-get -y install gettext rsync && \
    apt-get clean && \
    rm -rf /var/lib/apt/lists/*
```

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# Dockerfile – vufind base image

```
RUN apt-get update && \
apt-get upgrade -y && \
apt-get install -y git && apt-get install zip unzip

# Install composer
RUN curl -sS https://getcomposer.org/installer | php && \
  chmod +x composer.phar && mv composer.phar /usr/local/bin/composer && \
  mkdir /var/www/.composer/

# Install vufind
RUN cd /tmp && \
  curl -L --silent -o vufind-${VUFIND_VERSION}.tar.gz https://github.com/vufind-org/vufind/releases/download/v${VUFIND_VERSION}/vufind-${VUFIND_VERSION}.tar.gz && \
  tar -xzf vufind-${VUFIND_VERSION}.tar.gz && \
  mv vufind-${VUFIND_VERSION} /usr/local/vufind && \
  rm -rf /usr/local/vufind/solr && \
  rm -rf /tmp/*

# place php.ini
RUN mv "$PHP_INI_DIR/php.ini-production" "$PHP_INI_DIR/php.ini"
```

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# Dockerfile – vufind FID-Benelux

```
FROM /vufind:release-274676

USER 0

RUN ln -s /usr/local/vufind/ulb/httpd-vufind.conf /etc/apache2/conf-enabled/vufind.conf && \
  mkdir -p /usr/local/vufind/ulb/cache && \
  chown -R 33:33 /usr/local/vufind/ && \
  chmod 755 /usr/local/vufind/ulb/cache -R && \
  mkdir -p /var/log/vufind && \
  touch /var/log/vufind/vufind.log && \
  chown -R 33:33 /var/log/vufind

# Add customized settings
COPY gitlab/vufind/module/ulb /usr/local/vufind-new/module/ulb
COPY gitlab/vufind/ulb /usr/local/vufind-new/ulb
COPY gitlab/vufind/themes/ulb /usr/local/vufind-new/themes/ulb
COPY gitlab/vufind/composer.* /usr/local/vufind-new/

COPY gitlab/vufind/public/proxy.php /usr/local/vufind/public/

# sync custom settings into main project
RUN rsync -au /usr/local/vufind-new/* /usr/local/vufind && \
  chown -R 33:33 /usr/local/vufind/

# copy custom setting for deduplication into config folder. Not possible with rsync, folder is not empty
RUN rm /usr/local/vufind/config/application.config.php
COPY gitlab/vufind/config/application.config.php /usr/local/vufind/config/application.config.php
```

# Dockerfile – vufind FID-Benelux

```
# must be removed, problems with composer
RUN rm -R /usr/local/vufind/vendor

#install deduplication package
RUN cd /usr/local/vufind/ && composer update

# Create entrypoint
RUN echo "#!/bin/bash \n\
for f in /usr/local/vufind-new/ulb/config/vufind/*.ini; do envsubst < \$f > \"\$VUFIND_LOCAL_DIR/config/vufind/\$(basename \$f)\"; done \n\
exec /usr/local/bin/apache2-foreground" > /usr/local/bin/start.sh && \
  chmod +x /usr/local/bin/start.sh

USER 33

ENTRYPOINT ["/usr/local/bin/start.sh"]
```

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- Konfiguration durch environment variable substitution

```
[Site]
; Base URL is normally auto-detected, but this setting is used when autodetection is
; not possible (i.e. during sitemap generation at the command line).
url = http://$VUFIND_DOMAIN:$VUFIND_PORT/
```

# Voraussetzungen - Solr

- Base image
  - **contrib-jars**
- FID-Benelux
  - **core-Konfiguration**
  - **Import-Skripte**



# Dockerfile – Solr base image

```
FROM docker.io/library/solr:8.11.2

ARG SOLR_VERSION=8.11.2
ARG VUFIND_VERSION=8.1.2

LABEL de.wwu.ulb.maintainer="Sven Haubold <shaubold@uni-muenster.de>"
LABEL de.wwu.ulb.name="solr"
LABEL de.wwu.ulb.desc="solr base image"

ENV TZ="Europe/Berlin"

USER 0
RUN mkdir -p /var/solr/data/.cache && chown -R 8983:8983 /var/solr/

RUN apt update && apt install -y gettext && rm -r /var/lib/apt/lists/*

RUN cd /tmp && \
  curl -L --silent -o vufind-${VUFIND_VERSION}.tar.gz https://github.com/vufind-org/vufind/releases/download/v${VUFIND_VERSION}/vufind-${VUFIND_VERSION}.tar.gz && \
  tar -xzf vufind-${VUFIND_VERSION}.tar.gz && \
  mkdir -p /opt/solr/contrib/jars && \
  cp vufind-${VUFIND_VERSION}/solr/vufind/jars/* /opt/solr/contrib/jars/ && \
  rm -rf /tmp/vufind-${VUFIND_VERSION} && \
  rm -rf /tmp/vufind-${VUFIND_VERSION}.tar.gz && \
  mkdir -p /opt/solr/contrib/dataimporthandler/lib/ && \
  curl -L --silent -o /opt/solr/contrib/dataimporthandler/lib/postgresql-42.2.5.jar https://repo1.maven.org/maven2/org/postgresql/postgresql/42.2.5/postgresql-42.2.5.jar

USER 8983
```

# Dockerfile – Solr für FID-Benelux

```
FROM /solr:build-275832

ARG VUFIND_HOME_LOCAL="/usr/local/vufind"

USER 0
RUN mkdir -p /var/solr/data/.cache && chown -R 8983:8983 /var/solr/
RUN mkdir -p /var/solr/data/benelux && chown -R 8983:8983 /var/solr/data/benelux
RUN mkdir -p /opt/solr/contrib/jars

RUN apt update && apt install -y gettext && rm -r /var/lib/apt/lists/*

RUN echo "#!/bin/bash \n\
mkdir -p /var/solr/data/tmp_conf \n\
envsubst < /var/solr/data/benelux/core.properties > /var/solr/data/tmp_conf/core.properties \n\
mv -f /var/solr/data/tmp_conf/core.properties /var/solr/data/benelux/core.properties \n\
rmdir /var/solr/data/tmp_conf \n\
solr-precreate \$SOLR_DATABASE" > /usr/local/bin/start.sh && \
chmod +x /usr/local/bin/start.sh && \
chown -R solr:solr /usr/local/bin/start.sh

COPY --chown=8983:8983 gitlab/vufind/solr/vufind/benelux/conf /var/solr/data/benelux/conf
COPY --chown=8983:8983 gitlab/vufind/solr/vufind/benelux/core.properties /var/solr/data/benelux/
COPY --chown=8983:8983 gitlab/vufind/solr/vufind/jars /opt/solr/contrib/jars

RUN chown -R 8983:8983 /var/solr/

USER 8983

ENTRYPOINT ["/usr/local/bin/start.sh"]
```

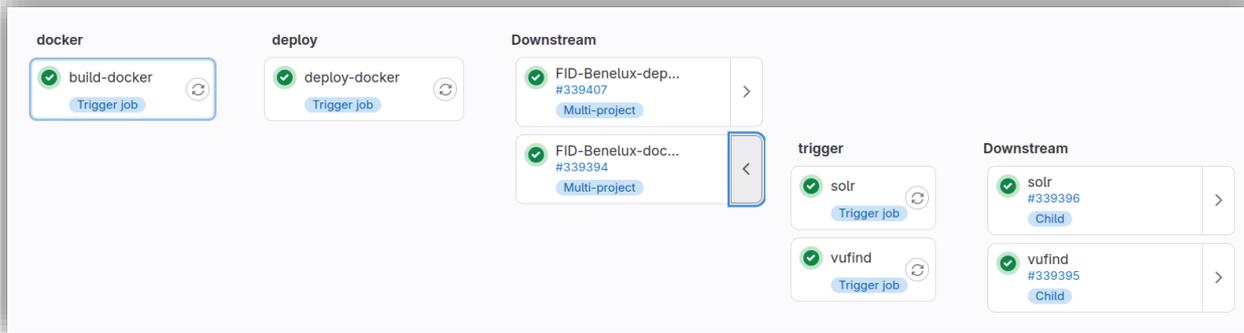
# Hostsystem – docker-compose.yml

```
version: '3'

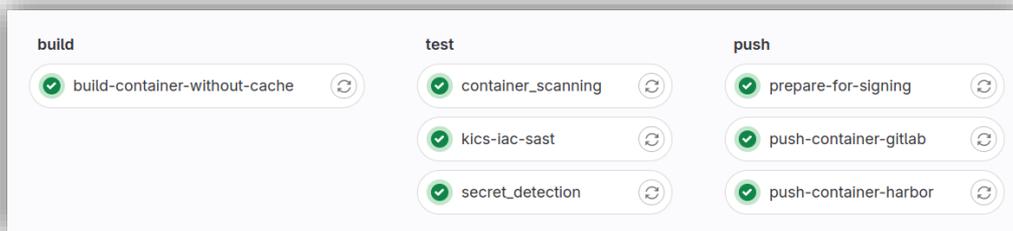
services:
  solr:
    container_name: solr
    image: [REDACTED]/fid-benelux-solr:development
    ports:
      - "8983:8983"
    env_file:
      - .env
    volumes:
      - ./index:/var/solr/data/benelux/index
      - ./cert:/var/solr/data/benelux/cert
    networks:
      - vufind

  vufind:
    container_name: vufind
    image: [REDACTED]/fid-benelux-vufind:development
    depends_on:
      - solr
    ports:
      - "80:80"
    env_file:
      - .env
    networks:
      - vufind
    volumes:
      - ./logs/vufind.log:/var/log/vufind/vufind.log
```

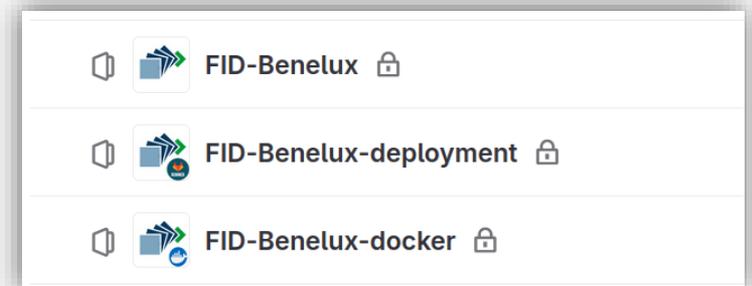
# Automation - CI/CD



## Parent- und Child-Pipeline



## Build-Pipeline

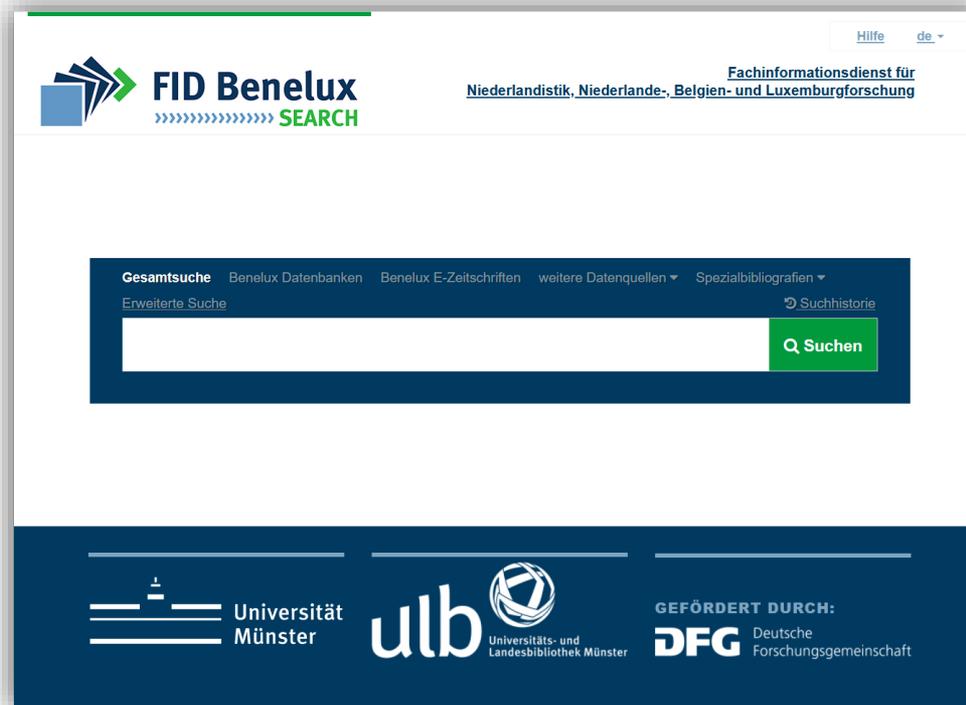


## GitLab-Projekte

# Zusammenfassung & Abschluss

- VuFind wurde in eine Docker-Konfiguration überführt:
  - **Einheitlicher Prozess für Betrieb und Entwicklung von FID-Benelux**
  - **Grundlage für eine „Dockerisierung“ weiterer Instanzen**

# Fragen?



FID Benelux SEARCH