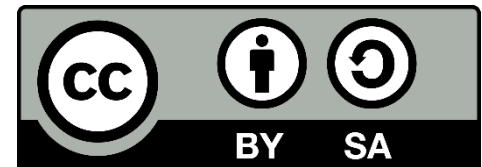


# Kontinuierliche Übersetzung von LaTeX-Dokumenten mittels CircleCI

Oliver Kopp



# Motivation

---

- LaTeX-Umgebung: Verschiedene Paketversionen
- Kollaboration: GitHub (nahezu) de-facto Standard

Snapshot der aktuellen LaTeX-Umgebung:  
`mkjobtexmf` – Generate a texmf tree for a particular job

# LaTeX Installation

---

- `apt-get install texlive-full`
- Was ist mit latexmk?
  - `apt-get install latexmk`
- Was ist mit minted?
  - `apt-get install python-pygments`
- Was ist mit pax?
  - `apt-get install openjdk-8-jre-headless`
  - `perl `kpsewhich -var-value TEXMFDIST`/scripts/pax/pdfannotextractor.pl --install`

```
FROM debian:sid
```

```
RUN apt-get update -qq && apt-get upgrade -qq && \  
    apt-get install -y texlive-full latexmk fonts-texgyre && \  
    apt-get install python-pygments openjdk8-jre-headless
```

```
RUN perl `kpsewhich -var-value TEXMFDIST`/scripts/pax/pdfannotextractor.pl  
--install
```

# Vollständiges Beispiel

```
1 FROM debian:sid
2 LABEL maintainer "Oliver Kopp <kopp.dev@gmail.com>"
3 ENV LANG=C.UTF-8 \
4     LC_ALL=C.UTF-8 \
5     TERM=dumb
6 ARG BUILD_DATE
7
8 # we additionally need python, java (because of pax), perl (because of pax), pdftk, ghostscript, and unzip (because of pax)
9 RUN apt-get update -qq && apt-get upgrade -qq && \
10     # proposal by https://github.com/sumandoc/TeXLive-2017
11     apt-get install -y wget curl libgetopt-long-descriptive-perl libdigest-perl-md5-perl fontconfig && \
12     # libfile-copy-recursive-perl is required by ctanify
13     apt-get install -y --no-install-recommends openjdk-8-jre-headless libfile-which-perl libfile-copy-recursive-perl pdftk ghostscr
14     apt-get install -y ruby poppler-utils && \
15     # for plantuml, we need graphviz and inkscape. For inkscape, there is no non-X11 version, so 200 MB more
16     apt-get install -y --no-install-recommends graphviz inkscape && \
17     # install texlive-full. The documentation ( texlive-latex-base-doc- texlive-latex-extra-doc- texlive-latex-recommended-doc- tex
18     apt-get install -y --no-install-recommends texlive-full latexml && \
19     # texlive-full depends on python3. These packages currently depend on python2.7.
20     # install pygments to enable minted
21     apt-get install -y python-pygments python-pip && \
22     rm -rf /var/lib/apt/lists/*
23
24 # update texlive is not required as we base on debian/sid
25
26 # update font index
27 RUN luaotfload-tool --update
28
29 WORKDIR /home
30
31 # pandoc is installed because of CTAN package releasing, where .md is converted to .pdf
32 # pandoc in the repositories is 1.x, but there is 2.x released, which changed command line parameters.
33 # To enable release.sh working also in CircleCI, we use a recent pandoc version there, too.
34 RUN wget https://github.com/jgm/pandoc/releases/download/2.1.3/pandoc-2.1.3-1-amd64.deb -q --output-document=/home/pandoc.deb && dp
35
36 # get PlantUML in place
37 RUN wget https://netix.dl.sourceforge.net/project/plantuml/1.2018.2/plantuml.1.2018.2.jar -q --output-document=/home/plantuml.jar
38 ENV PLANTUML_JAR=/home/plantuml.jar
39
40 # install Ruby's bundler
41 RUN gem install bundler
42
43 # enable using the scripts of https://github.com/gi-ev/LNI-proceedings
44 RUN pip install pyparsing && pip install python-docx
45
46 # prepare usage of pax
47 RUN mkdir /root/.texlive2017 && perl `kpsewhich -var-value TEXMFDIST`/scripts/pax/pdfannotextractor.pl --install
48
49 # output current version
50 CMD ["t1mex" "--version"]
```

Siehe <https://github.com/koppor/docker-texlive>

# Versionierung



# GitHub

GitHub, Inc. (US) | https://github.com | Suchen

This repository Search Pull requests Issues Trending Explore

koppor / docker-textlive Add Repo View Repository Unwatch 1 Star 0 Fork 1

<> Code Issues 0 Pull requests 0 ZenHub Releases 7 More Settings

Full TeX Live [hub.docker.com/r/koppor/textlive](https://hub.docker.com/r/koppor/textlive) Edit

textlive textlive-distribution Manage topics

32 commits 2 branches 7 releases 1 contributor MIT

Branch: master v1.5.0 Create new file Find file Clone or download

koppor Switch to self-contained Dockerfile Latest commit ee2c040 14 hours ago

docs/adr	Switch to self-contained Dockerfile	10 hours ago
.gitignore	Install programs required for plantuml latex package	16 days ago
CHANGELOG.md	Switch to self-contained Dockerfile	10 hours ago
Dockerfile	Switch to self-contained Dockerfile	10 hours ago
LICENSE	Create LICENSE	2 months ago
README.md	Add links to included programs	16 days ago

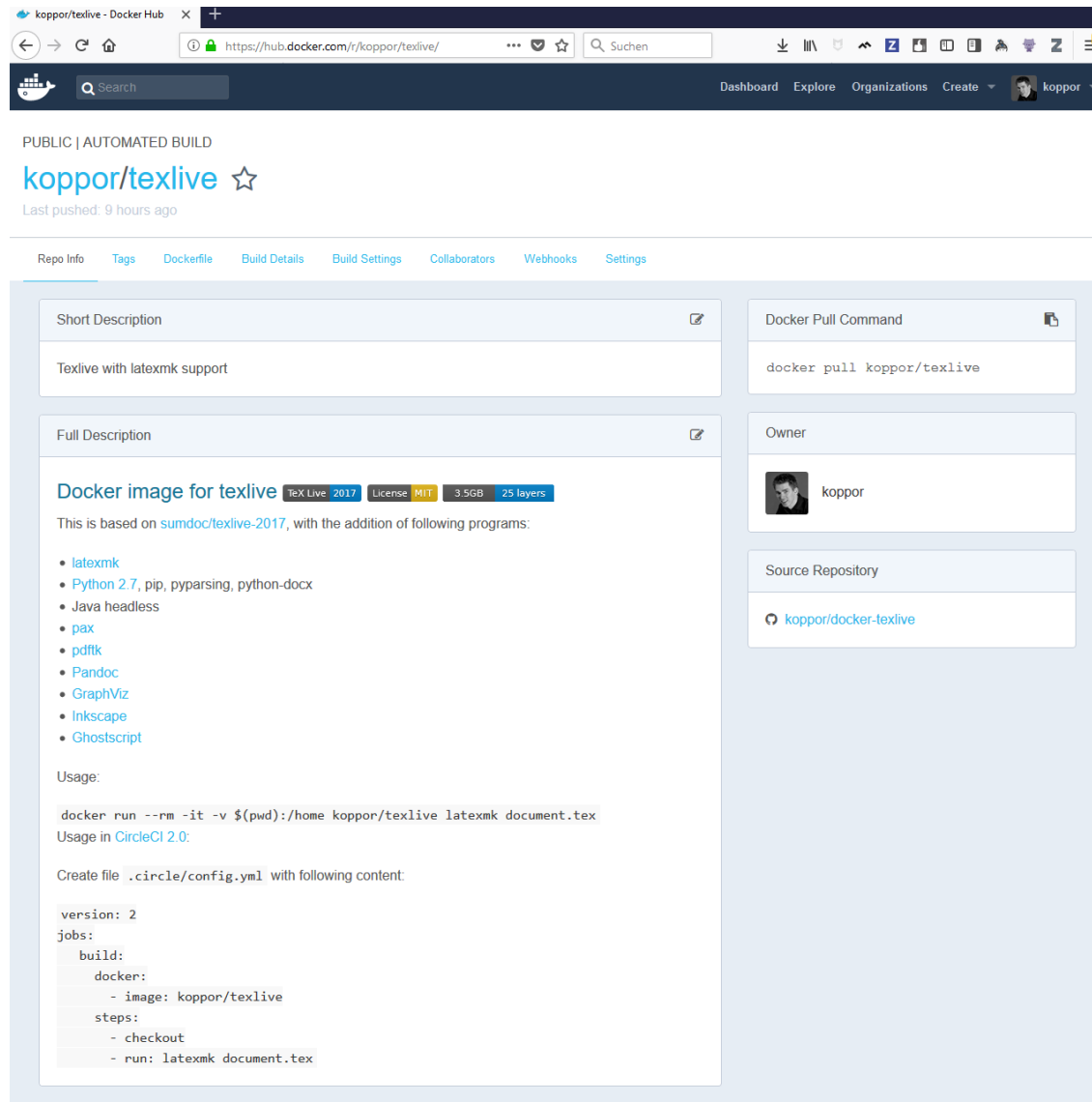
## Docker image for textlive

TeX Live 2017 License MIT 3.5GB 25 layers

This is based on [sumdoc/textlive-2017](#), with the addition of following programs:

- [latexmk](#)
- [Python 2.7](#), [pip](#), [pyparsing](#), [python-docx](#)
- Java headless
- [pax](#)
- [pdftk](#)
- [Pandoc](#)
- [GraphViz](#)
- [Inkscape](#)
- [Ghostscript](#)

# Wo liegt das Image?



kopper/texlive - Docker Hub

Public | Automated Build

kopper/texlive ☆

Last pushed: 9 hours ago

Repo Info Tags Dockerfile Build Details Build Settings Collaborators Webhooks Settings

Short Description

Texlive with latexmk support

Full Description

Docker image for texlive TeX Live 2017 License MIT 3.5GB 25 layers

This is based on [sumdoc/texlive-2017](#), with the addition of following programs:

- [latexmk](#)
- [Python 2.7](#), [pip](#), [pyparsing](#), [python-docx](#)
- [Java headless](#)
- [pax](#)
- [pdftk](#)
- [Pandoc](#)
- [GraphViz](#)
- [Inkscape](#)
- [Ghostscript](#)

Usage:

```
docker run --rm -it -v $(pwd):/home kopper/texlive latexmk document.tex
```

Usage in [CircleCI 2.0](#):

Create file `.circle/config.yml` with following content:


```
version: 2
jobs:
  build:
    docker:
      - image: kopper/texlive
    steps:
      - checkout
      - run: latexmk document.tex
```

Docker Pull Command

```
docker pull kopper/texlive

Owner



 kopper



Source Repository



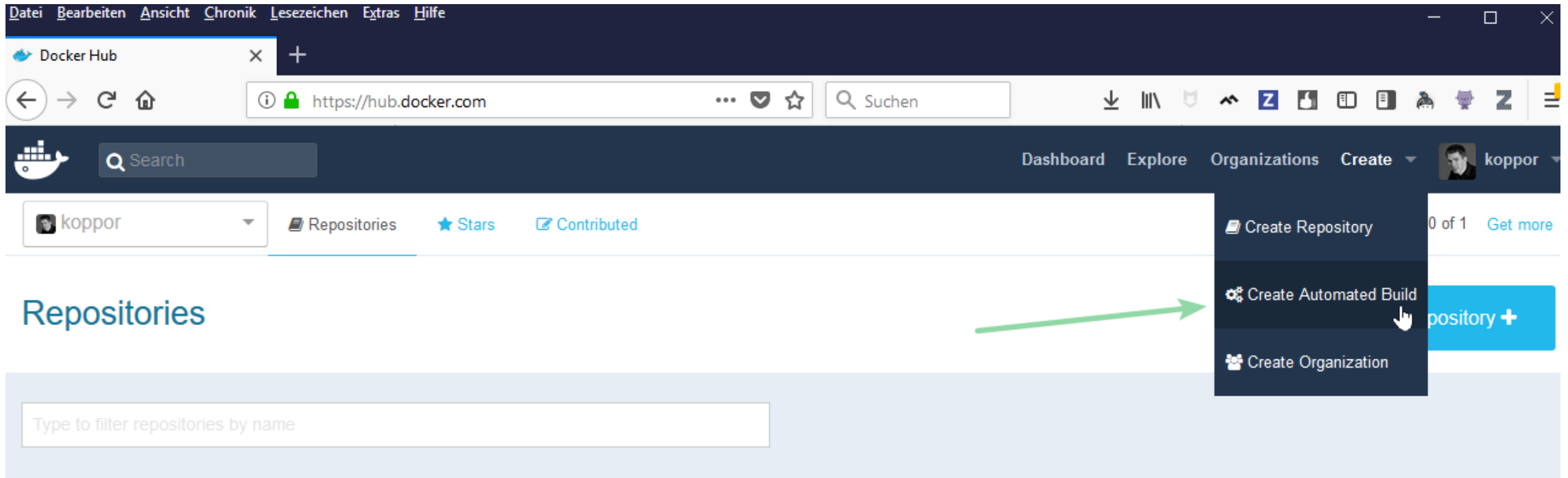
kopper/docker-texlive


```

Siehe <https://hub.docker.com/r/kopper/texlive/>



# Wie wird es erstellt?



# Aktueller Build

←

→

↺

🏠

🔒

https://hub.docker.com/r/koppor/texlive/builds/

⋮

🔒

☆

🔍

Suchen

🚢

🔍

Search

Dash

PUBLIC | AUTOMATED BUILD

**koppor/texlive** ☆

Last pushed: 9 hours ago

- Repo Info
- Tags
- Dockerfile
- Build Details
- Build Settings
- Collaborators
- Webhooks
- Settings

Status	Actions	Tag	Created	Last Updated
✓ Success		latest	10 hours ago	9 hours ago
✓ Success		latest	17 hours ago	17 hours ago
✓ Success		latest	a day ago	a day ago

# Nutzung

- `docker run -v"C:\git-repositories\latex-templates\scientific-thesis-template:/home" --rm -it koppor/texlive bash`

Interaktiv zum Ausprobieren



```
> docker run -v"C:\git-repositories\latex-templates\scientific-thesis-template:/home" --rm -it koppor/texlive bash
Unable to find image 'koppor/texlive:latest' locally
latest: Pulling from koppor/texlive
2115d46e7396: Already exists
36cf1fbab58a: Downloading [> ] 3.211MB/3.533GB
0ba7b181d05d: Download complete
c87ba1a19185: Downloading [====> ] 3.06MB/27.33MB
c1a918cd55f7: Downloading [=====> ] 1.113MB/6.675MB
ce2925d6a703: Waiting
75f1728e39a4: Waiting
744fb89c7dc1: Waiting
```

```
> docker run -v"C:\git-repositories\latex-templates\scientific-thesis-template:/home" --rm -it koppor/texlive bash
Unable to find image 'koppor/texlive:latest' locally
latest: Pulling from koppor/texlive
2115d46e7396: Already exists
36cf1fbab58a: Pull complete
0ba7b181d05d: Pull complete
c87ba1a19185: Pull complete
c1a918cd55f7: Pull complete
ce2925d6a703: Pull complete
75f1728e39a4: Pull complete
744fb89c7dc1: Pull complete
Digest: sha256:01be49df03e9dc6f4e8412a7c8e71c9324100d4d9822fde1801af4b6cbbe7a05
```

# Starte Kompilierung

---

- latexmk main-english

# Reproduzierbare Builds

Browser address bar: <https://hub.docker.com/r/koppor/texlive/tags/>

Search:

Dashboard

PUBLIC | AUTOMATED BUILD

**koppor/texlive** ☆

Last pushed: 15 hours ago

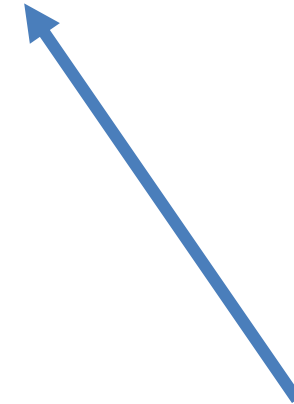
Repo Info | Tags | Dockerfile | Build Details | Build Settings | Collaborators | Webhooks | Settings

**Tags**

The scanning service will be removed for private repositories on March 31st, 2018. In the meantime, security scans tag in private repos. [Learn more](#)

Tag Name	Compressed Size	Last Updated
latest	4 GB	15 hours ago
v1.5.0	4 GB	17 days ago
v1.4.1	4 GB	a month ago
v1.4.0	4 GB	2 months ago
v1.3.0	4 GB	3 months ago
v1.2.0	2 GB	7 months ago
v1.1.0	1 GB	7 months ago
v1.0.0	1 GB	8 months ago

- `docker run -v"C:\git-repositories\texdoc\l2kurz:/home" --rm -it koppor/texlive:v1.5.0 latexmk main`



# Automatisierung?

---

## ■ CircleCI 2.0

```
version: 2
jobs:
  build:
    docker:
      - image: koppor/texlive
    steps:
      - checkout
      - run: latexmk document.tex
```

Inhalt in `.circleci/config.yaml` ablegen, bei <https://circleci.com/> einloggen, Repository hinzufügen.

- CircleCI aktivieren
- PDF herunterladbar machen? - mkdir build && cp l2kurz.pdf build/
- Homepage?
- PDF auf Homepage
  - ssh-key
  - script



# Zusammenfassung und Ausblick

---

- GitHub zur Kollaboration
- Docker-Image als definierte Umgebung
- CircleCI als Integrationslösung
  
- Einsatz bei vielen Projekten auf GitHub