

## Providing Docker images for T<sub>E</sub>X Live and ConT<sub>E</sub>Xt

Island of T<sub>E</sub>X

### Abstract

With the spread of version control and continuous integration services among T<sub>E</sub>X users there is a need to provide T<sub>E</sub>X distributions for containerized services. As most available images are not updated regularly and many of them lack relevant tools, we aim to provide images for the regular user who wants continuous integration to work like any other T<sub>E</sub>X distro.

### 1 An excursion into continuous integration and the relevance of Docker images

Today, many T<sub>E</sub>X users rely on version control to have a steady backup of their document sources. While the sources are handled smoothly by version control systems, binary files such as PDF are not. To prevent bloating the repository with such, it is very useful to have an alternative to pushing a compiled result and still have it available on request. That is where continuous integration steps in.

Basically, this requires the user to add yet another text file to your repository specifying how the continuous integration service (CI) should handle the document. As an example we will have a look at a GitLab CI file. (The `image:` line is only broken for *TUGboat*; it should be all one line in the source.)

```
image: registry.gitlab.com/islandoftex/
images/texlive:latest
```

```
build:
  script:
    - arara -v mydocument.tex
  artifacts:
    paths:
      - ./*.pdf
```

The above `.gitlab-ci.yml` file tells the GitLab CI to pull our latest image of T<sub>E</sub>X Live (without documentation and source files, as discussed later on) and execute one build stage: calling `arara` on a file `mydocument.tex`. After the run has finished all PDF files from the current folder will be saved as artifacts and are available for download.

Above, the first line represents the Docker image the CI will use; most providers offer a similar way to specify the image. A Docker image itself is similar to a snapshot of a lightweight virtual machine. When running an image (then it is called a container, broadly speaking) it shares the same kernel as the host system but provides a complete

and independent infrastructure of operating system and software packages, as well as configuration files and environment variables.

### 2 Using the T<sub>E</sub>X Live images

For most (L<sup>A</sup>)T<sub>E</sub>X documents out there, people will want to use a complete T<sub>E</sub>X distribution. Hence, we are providing multiple images of T<sub>E</sub>X Live. The respective Dockerfiles can be found at <https://gitlab.com/islandoftex/images/texlive>.

The most important image is `texlive:latest`. This image is based on GNU/Linux and ships with all required tools for running T<sub>E</sub>X Live, among them Java (e.g. for `arara`), Python (e.g. for `Pygmentize`) and Perl (e.g. for `xindy`).

Please note that the `latest` image does not contain the documentation and source tree of T<sub>E</sub>X Live. For users that need these components we provide `latest-doc`, `latest-src` and `latest-doc-src` which contain documentation, sources or documentation and sources respectively.

The images starting with `latest` are rebuilt weekly. If you want to use a stable snapshot, you can select the one that suits your needs at [https://gitlab.com/islandoftex/images/texlive/container\\_registry](https://gitlab.com/islandoftex/images/texlive/container_registry).

To use our images in a custom Dockerfile, you can use the following line (again broken only for *TUGboat*):

```
FROM registry.gitlab.com/islandoftex/
images/texlive:latest
```

The source repository already contains Dockerfiles for providing historic releases. While you have to build them yourself for now, we are confident to provide the images in the near future.

### 3 Using the ConT<sub>E</sub>Xt images

Similar to the T<sub>E</sub>X Live images, we provide images with the ConT<sub>E</sub>Xt standalone distribution. The respective Dockerfiles can be found at <https://gitlab.com/islandoftex/images/context>.

Apart from the MkIV current release `current` there are also images for the MkIV beta release `beta` and the LMTX release `lmtx`. For the available snapshot releases, go to [https://gitlab.com/islandoftex/images/context/container\\_registry](https://gitlab.com/islandoftex/images/context/container_registry).

The use in custom Dockerfiles is similar to the T<sub>E</sub>X Live images:

```
FROM registry.gitlab.com/islandoftex/
images/context:lmtx
```

◇ Island of T<sub>E</sub>X (developers)  
<https://gitlab.com/islandoftex>