Installation

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Version 2.0, May 15, 2012

KIT packages

KIT packages for TeX are distributed as zip archives containing installation instructions, the user documentation, a zip archive containing files common to all KIT packages and two zip archives for every supported document type - one containing the installation data, the second containing examples. The distributed zip archives – up to now `KIT-Vorlagen-Briefe.zip`, `KIT-Vorlagen-Folien.zip` and `KIT-Vorlagen-Poster.zip` – should be extracted at a temporary directory which can be removed completely as soon as the installation task is completed. This temporary directory, where distributed zip archives are extracted, is called `<temp>` in the following.

Installation directories

The installation directories differ for different TeX distributions. Here, the installation directories of MiKTeX version 2.9 and Linux are discussed.

Both distributions treat installation directories of the distribution itself and local installation directories differently: installation directories of the distribution are replaced in case of a new installation or occasionally even in case of an upgrade, whereas local installation directories are not changed.

Thus, packages belonging to the distribution should be installed at the installation directories of the distribution in the usual way additional packages are installed. On the other hand, packages like the KIT packages should be installed at a local installation directory, which is not involved when the distribution is changed.

In the following the choosen installation directory – in case of MiKTeX as well as in case of Linux – will be called `<texmf-local>`.

MiKTeX

In case of MiKTeX a list of all known installation directories is available by opening *Start → Programs → MiKTeX → Maintenance → Settings* and changing to the tab Roots. To display the directories (paths) maintained by MiKTeX (including directories created by the user) "Show MiKTeX-maintained root directories" must be activated. The directories set up by MiKTeX hold the files of the MiKTeX distribution and should according to the MiKTeX documentation not be used to install files not being part of the distribution like the KIT packages. Directories in the list which can be used to install additional packages show the information "This directory can be used for local additions" in case the mouse is moved onto the path displayed. In case no such directory exists a new one should be created for example as subdirectory of own documents and settings or – using a privileged user like *Administrator* to make them available to all users at the computer – of the corresponding parallel directory for all users. The created directory in addition must be made known to MiKTeX using the button Add ... .

Linux

With Linux a list of the `texmf` trees inspected while formatting is shown by the following command:

```
kpsewhich --var-value TEXMF
```

Displayed are the roots of the `texmf` trees. Trees, for which only the "data base" (a recursive directory listing) is inspected, start with `!!`; other trees are inspected using a recursive directory search. The list shows as well the installation directories of the distribution as the local installation directories and the private `texmf` tree.

To restrict the list to the local installation directories, to which packages like the KIT packages should be installed, the more specific command

```
kpsewhich --var-value TEXMFLOCAL
```

should be used. In case the installation is only for a single user, alternatively the private `texmf` tree `~/texmf` can be used. The local installation directories and the private `texmf` tree are not involved by changes of the distribution as mentioned above.

Required Packages

The "Gestaltungsrichtlinien" of the KIT require to use the font "Arial". Thus, the KIT document classes do load the package **uarial** using the command `\RequirePackage{uarial}`. For formulas, in addition the package **mathpazo** is loaded.

To format letters, faxes and scientific posters using the LATEX classes **KITbrief**, **KITfax** and **KITposter** and slides using the LATEX class **beamer** in combination with the KIT adaptations, some more LATEX packages and classes must be installed. The following list names all packages needed except those required by LATEX 2ε:

a0poster	rcs	
beamer	refcount	
bophook	sciposter	
boxedminipage	shadow	
dinbrief	tikz	(pgf)
hyperref	uarial	(arial, urw-arial)
lettrine	xcolor	
mathpazo		

If a LaTeX package is part of a package with differing name, the names used by MiKTEX or the TEX Catalogue are given in addition. In case some of these packages are missing, please install them using the TEX installer of your TEX installation (the "Package manager" in case of MiKTEX and `tlmgr` in case of a TEX Live distribution). In case an installation using the TEX installer is not possible, please install the package(s) as specified by the package description.

Installation of the font "Arial"

According to the "Gestaltungsrichtlinien" of the KIT the font "Arial" is to be used. However, this font practically does not differ from the font "Helvetica" which is part of any TEX installation in contrary to the required Arial font. Since these fonts are nearly identical it would be sufficient to make the Helvetica font available under the name `uarial.sty`. However, to make the requested Arial font available this font must be installed in addition. How the installation is done depends on the TEX installation in use.

MiKTEX

The installation for MiKTEX is straight forward by using the default mechanism for installation of additional packages, since the package needed is part of the MiKTEX distribution.

Opening *Start → Programs → MiKTeX → Package Manager* shows the packages supported by MiKTEX. Look there for the package **arial**. Alternatively, you can restrict the display to the searched package by entering `arial` into the field *Name:* and hitting the `Filter` button. In case the package already is installed the installation date is shown. Otherwise select the package **arial** and press the entry `+` or select the menu entry *Task → Install...* to install the package. Please be sure to have access to the internet since in general a network is needed to install packages. As soon as the installation is finished, TEX should be able to use the font "Arial". The package **uarial** requires to use the font "Arial" as sans serif family.

Linux

A bit more complicated is the installation of the font "Arial" under Linux. This is caused by the fact that the font itself is not integrated into the TEX system automatically. To install it, you can proceed as follows:

1. Load the zip archive of the Arial font:
   ```
   wget ftp://ftp.dante.de/tex-archive/fonts/urw/arial.zip
   ```

2. Unpack the archive to a temporary directory called `<temp>` in the following

3. Change to the texmf directory `<texmf-local>` choosen above

At older versions the files needed by LATEX have been distributed packed within the zip archive `ua1.zip` unpacked by the last step. These old versions should no longer be used, and this instructions are not related to the old versions.

4. Create the following directories:
   ```
   mkdir -p fonts/afm/urw fonts/tfm/urw fonts/type1/urw fonts/vf/urw
            fonts/map/dvips/ua1 fonts/map/vtex dvips/config doc/fonts
   ```

5. Move or copy the directories `afm`, `tfm`, `type1`, and `vf` to the corresponding directories just created:
   ```
   mv <Dir> fonts/<Dir>/urw/arial
   ```

6. Move or copy the directory `latex`:
   ```
   mv latex tex/latex/ua1
   ```

7. Copy and move the map files:
   ```
   cp -p map/ua1.map dvips/config
   mv map/ua1.map fonts/map/dvips/ua1
   mv map/ua1.ali fonts/map/vtex
   ```

8. Install the documentation files (optional):
   ```
   mv doc doc/fonts/urw
   mv README doc/fonts/urw
   ```

9. Update the list of available TEX files of this `texmf` directory:
   ```
   mktexlsr <texmf-local>
   ```

10. Integrate the new fonts into the TEX system (often root privileges are required to do this):
    ```
    updmap-sys --enable Map ua1.map
    ```

11. Finally, update the list of available TEX files again - for all `texmf` directories (again, often root privileges are required):
    ```
    mktexlsr
    ```

In case no errors occurred during the installation, now the Arial font can be used by TEX.

Installing KIT Packages

With these packages installed, the wanted KIT packages can be installed. A KIT package consists – as mentioned above – out of the base package `KITbase.zip` containing data needed by all KIT packages and the packages itself, up to now `KITbrief.zip` for letters and faxes, `KITbeamer.zip` for presentations created using the **beamer** class, and `KITposter.zip` for scientific Posters.

The base package should be current as far as possible – anyways at least the version distributed with the current KIT packages. Software on Web pages of the PKM department are not updated soon after new versions are available. Thus, versions not already available on PKM pages are distributed along with other KIT packages. The names of the packages available up to now are mentioned above. Hence, everybody can decide whether additional packages are to be installed or not.

The base package `KITbase.zip` as well as the wanted zip archives `KITbrief.zip`, `KITbeamer.zip` and/or `KITposter.zip` should be extracted at the root of the `texmf` directory tree `<texmf-local>`. Finally, the "data base" used by the TEX programs must be refreshed (according to your TEX installation).

MiKTEX

Change to the installation directory `<texmf-local>` choosen above and unpack there the wanted archives `<temp>/KIT*.zip` (`<temp>/KITbase.zip` / `<temp>/KITbrief.zip` / `<temp>/KITbeamer.zip` / `<temp>/KITposter.zip`).

Now, the list of files within this directory (the "data base") must be updated. To run the refresh, follow *Start → Programs → MiKTeX → Settings* and select the tab ‾General‾. Klick there on the button ‾Refresh FNDB‾. Finally, close the window *MiKTeX Options* by klicking on ‾OK‾.

Linux

Change to the directory `<texmf-local>` and unpack there the archive and unpack there the wanted archives `<temp>/KIT*.zip` (`<temp>/KITbase.zip` / `<temp>/KITbrief.zip` / `<temp>/KITbeamer.zip` / `<temp>/KITposter.zip`).

To refresh the "data bases" for all `texmf` trees, run

```
mktexlsr
```

In general, you will need root privileges to do this. Alternatively, you can run

```
mktexlsr <texmf-local>
```

to refresh the "data base" of a single `texmf` tree `<texmf-local>`, where `<texmf-local>` is the directory the KIT archives (e.g. `KITbrief.zip`) have been unpacked to.

Examples

To all KIT packages the distribution contains an archive with at least one example. The name of the example archive is build from the name of the KIT archive by appending `Xmpl`. Thus, to the letter and fax archive `KITbrief.zip` belongs the example archive `KITbriefXmpl.zip`, to `KITbeamer.zip` the example archive `KITbeamerXmpl.zip` and to `KITposter.zip` the example archive `KITposterXmpl.zip`. All examples consist of the LATEX source code together with all files needed in addition to the KIT package when formatting the example, and the formatted PDF file.

Archives containing examples can be unpacked to any – possibly temporary – directory. Alternatively, examples can be put to the directory `<texmf-local>/doc/latex/KIT`, but in this case be sure that additional packages like `blindtext.sty` and `lipsum.sty` – both used to generate pseudo text – do not collide with a previously installed version. Thus, any additional

packages from the example archive should be placed at a directory outside the `texmf` tree. In case you want to use some of these additional packages yourself you should install it separately (since the KIT distributions e.g. do not contain documentation).

Letters and Faxes

The example for KIT letters is `KITbrfXmpl.tex` and generates some letters of one and more pages. The corresponding example for faxes is `KITfaxXmpl.tex`.

Presentations

For presentations three examples are offered: The PowerPoint example is available at `KIT-Folien-de.tex` and its English version at `KIT-Folien-en.tex`. The integration of mathematical formulas as well as different font sizes are shown by the example `KITfolXmpl.tex`.

Posters

For posters the example `KITposXmpl.tex` is provided. Depending on the selected `\documentclass` command German or English portrait or landscape posters can be generated at different sizes. Variants of headings can be used e.g. by using the package `sectionbox.sty`; the corresponding lines are present as comments (containing the string `sectionbox`). For portrait posters the example provides an alternate title with an explicit line-break (in case of landscape posters the title must be not longer than a single line).

In addition two pdf examples – the portrait poster `KIT-Poster_b0.pdf` and the landscape poster `KIT-Poster_b0_l.pdf` – are part of the zip archive with poster examples. Both posters show all supported poster sizes A4 to A0 and B4 to B0 combined within a single poster. Since at the SCC only posters up to size A0 can be printed, in addition the two A0 size posters are included, where the size B0 is skipped. Since these posters can not be generated by a single step, the source is not included.