

TUG-TEXLIVE-2014

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1. BASICTEX-2014

This is the portion of the TUG documentation which deals with making the BasicTeX-2014.

2. IMPORTANT WARNINGS

This section contains lessons learned in 2014. The material here is important for all packages made with the new PackageMaker.

Folders in which packages are built should live on the hard disk rather than an external disk. Building constructs subfolders named “root” which contain copies of material to be installed. This root folder and its contents are usually owned by root. But material on an external drive is owned by the user instead, so owners will be incorrect after installing.

The final MacTeX template refers to root folders of the various sub projects. In the template, each sub project is listed in the left column; clicking on an arrow there reveals a panel in which the root folder is determined and configured.

This root item must be reconfigured if the contents of the corresponding root are changed. Remove the item on the left listing the root (for example, /Applications/TeX) by selecting it and pushing “Delete”. Then drag a new copy of the root folder to this spot. Wait until PackageMaker has digested the new comments by watching a spinning cursor. Then reconfigure that root material. Each project contains *two* copies of the template to make this easy. Copy the configuration material from the “copy” of the template to the “active” template.

Configuration of a root folder is governed by a panel with four tabs: Configuration, Contents, Components, and Scripts. The material in the first and last tabs is important and should be entered carefully. The second Contents tab allows owners, groups, and permissions of individual files in the folder to be set. This task is impossible for a huge root folder like TeXLive, but luckily Apple provides a button “Apply Recommendations” which does it automatically following Apple’s “best practices policy.” Always click this button.

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For binary files like `texlive/2014/bin/universal-darwin`, the recommendations are unexpected. Actual binaries have owner root and group wheel, but symbolic links have owner an individual user and group wheel. Permissions are `-rwxr-xr-x`. Experiments and email conversations show that these choices work well.

For the GUI-package, the third tab, "Components", is very important. It lists actual apps and offers to relocate them. *Turn this off*. Otherwise the installer won't upgrade programs in `/Applications/TeX`, but instead will search the disk for a copy to update. Always check that these items are off.

3. CONTENTS

A clean package file will contain

- The folder "About" with User Documentation about BasicTeX
- The file "buildPackage.sh"
- The files `background.jpg`, `License.rtf`, `ReadMe.rtf`, and `Welcome.rtf`
- "scripts" folder, containing the files "Description.rtf", "postinstall", "setloginpath", "setmanpath", "texdist", "TeXDist-description.rtf", "TeXDistVersion", "TeXManPath", "TeXPath", and a folder named "PrefPane" containing "info.plist" and the "TeX Distribution" preference pane
- BasicTeXBuild, the PackageMaker "project" which builds the BasicTeX install package.
- "TUG" folder with this document

4. UPDATING FOR A NEW YEAR

To update the package for a new year, edit "buildPackage.sh" to reflect the new year. Also update `License.rtf`, `ReadMe.rtf`, and `Welcome.rtf` if necessary. Edit the "postflight" script in "scripts" to reflect the new year. For instance, to change from 2011 to 2014, use Search and Replace to change the many, many occurrences of 2011 to 2014 in this file. Finally edit the BasicTeXBuild project file for Packagemaker as described below.

Note that the "About" folder in the documentation contains a detailed description of the logic behind the package.

5. CREATING THE PACKAGE

To construct the package, begin by renaming `/usr/local`. Then install TeXLive using the TeX Live install script. Select both universal binaries and `x86_64` binaries. Select the installation scheme "TeX Live Small Scheme".

Under Options, check “use letter size” and uncheck everything else. In particular, uncheck “make format files.”

Change TEXDIR to /usr/local/texlive/2014basic

Change TEXMFHOME to \$HOME/Library/texmf

Change TEXMFVAR to \$HOME/Library/texlive/2014basic/texmf-var

Change TEXMFCONFIG to \$HOME/Library/texlive/2014basic/texmf-config

Then install.

After these steps, the “root” directory in the BasicTeX folder is built using the commands

```
sudo sh buildPackage.sh
```

6. BUILDING THE FINAL INSTALL PACKAGE WITH PACKAGEMAKER

Now edit BasicTeXBuild, the Packagemaker project file, using the GUI interface, as follows.

- (1) Click the top item on the left. The right side will change to a view with three tabs. First select the Configuration tab. Edit so
 - (a) Title: BasicTeX-2014
 - (b) User Sees: Easy Install Only
 - (c) Install Destination: System volume
 - (d) Certificate: Leave this blank. You might think that putting a certificate name here would correctly sign the package, but experiments show that it does not. The package needs to be signed after it is constructed.
 - (e) Description: Empty
- (2) The Requirements and Actions tab entries for the top item can be left blank
- (3) Click the entry BasicTeX-2014 in the Contents section on the left. The right side will change to a view with two tabs. Select the Configuration tab. Edit so
 - (a) Choice Name: BasicTeX-2014
 - (b) Identifier: choice1
 - (c) Initial State: Selected and Enabled
 - (d) Destination: Leave Blank
 - (e) Tooltip: Leave Blank

- (f) Description: Leave Blank
- (4) The Requirements tab entries for this contents item can be left blank
- (5) Open the BasicTeX-2014 entry in the bottom left column. This item should show a “2014basic” directory, obtained by dragging root/user/local/texlive/2014basic to the left column. The right side will change to a view with four tabs. The item under the Components tab can be left blank. It is not necessary to edit the items under the Contents tab. The items under the Configuration tab should be edited as follows:
 - (a) Install: root/usr/local/texlive (The item on the right should have selected “Relative To Project”)
 - (b) Destination: /usr/local/texlive (The item on the right should have selected “Relative To Project”)
 - (c) Do not check “Allow custom location”
 - (d) Patch: No patch root selected
 - (e) Package Identifier: org.tug.mactex.basictex2014
 - (f) Package Version: 1.0
 - (g) Restart Action: None
 - (h) Check “Require admin authentication”
 - (i) PackageLocation: Self-Contained

The items under the Scripts tab should be edited to read

- (a) Scripts directory: scripts (The item on the right should have selected “Relative To Project”)
- (b) Preinstall: Leave Blank
- (c) Postinstall: scripts/postinstall (The item on the right should have selected “Relative To Project”)

After verifying all these items, build the install package by clicking the “Build” icon. When asked to select a name, choose “BasicTeX-2014-Temp”. After the package has been made, sign it by executing the following line in Terminal:

```
sh signPackage.sh
```

This script simply calls

```
productsign --sign "Developer ID Installer: Richard Koch" old-name new-name
```

where “old-name” is BasicTeX-2014-Temp.pkg and “new-name” is BasicTeX-2014.pkg