

# Local-TeX-PrefPane

Richard Koch

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## 1 Global and Local PrefPanes

MacTeX installs a TeX Dist Pref Pane by Jerome Laurens, which allows users to switch between TeX Distributions with one button click. I'll call it the *Global PrefPane* because it allows anyone with Admin Privileges to select a new TeX distribution for *all* users. This pane uses a TeXDist data structure in `/Library` by Gerben Wierda and Jerome Laurens to describe available distributions. The symbolic link `/usr/texbin` points to the binaries in the chosen active distribution.

The optional *Local TeX PrefPane* is a corresponding Pref Pane for individual users, allowing them to accept the global choice or override it. The new pane uses the same TeXDist data as the old pane, and can also select distributions installed by the user in their home directory or on an external hard disk. it does not require admin privileges and is totally independent of the old pane; it works at the same time as the old pane or when the old pane is missing entirely. It does not modify links in the old structure in any way. The symbolic link `~/Library/TeX/texbin` points to the binaries in the chosen active local distribution.

## 2 Installing the New Pane

To install the new pane, double click the enclosed prefPane file. OS X will put up a dialog offering to install the Pane for one user, or for all users. Select *one user* and click OK.

Next reconfigure TeXShop, TeX Live Utility, BibDesk, and LaTeXiT to use the new pane. These reconfigurations need only be done once. The idea of the new configuration is easy: find the active binaries at `~/Library/TeX/texbin` instead of `/usr/texbin`.

To reconfigure TeXShop, open its Preference Panel, select the Engine tab, and change the top item to `~/Library/TeX/texbin`.

To reconfigure BibDesk, open its Preference Pael, select the TeX Preview icon, and change the two items to

```
/Users/koch/Library/TeX/texbin/pdflatex  
/Users/koch/Library/TeX/texbin/bibtex
```

replacing “koch” with your own login name. This application requires full paths and cannot accept the `~/Library/TeX` abbreviation.

To reconfigure LaTeXiT, open its Preference Panel and select the Typesetting icon. Click on the pdflatex ratio button to activate the first field, and change its value to

```
/Users/koch/Library/TeX/texbin/pdflatex
```

replacing “koch” with your own login name. This application also requires full paths and cannot accept the `~/Library/TeX` abbreviation. Make similar changes in the second and third items, activating their buttons in turn. The remaining items starting with dvipdf refer to programs in Ghostscript and should not be changed.

To reconfigure TeX Live Utility, first open Apple’s System Preferences, find the Local TeX PrefPane on the bottom line, run it, and select a distribution. This step creates the `~/Library/TeX/texbin` link. Next open the TeX Live Utilities Preference Pane. Switch to the Finder and use the Go menu to go to `~/Library/TeX`. Drag the texbin icon to the TeX Live Utilities Preference Pane and drop it at the spot just after “TeX programs:”.

Command line programs should automatically work with the new Pane, because MacTeX adds both `~/Library/TeX/texbin` and `/usr/texbin` to the default paths for shells. This is done by the “TeX” file which MacTeX installs in `/etc/paths.d`.

### 3 Removing the New Pane

To remove the new pane, run Apple’s System Preferences, choose the Pane, and select the top item “Use Global Preference Pane”. Then move Local TeX.prefPane from `~/Library/PreferencePanes` to the trash. The first step makes reconfiguration of GUI Applications unnecessary, but reconfiguration can be done if desired.

### 4 Features of the Local Pane

The new pane will automatically create two links in `~/Library/TeX` when it first runs: `~/Library/TeX/texbin` and `~/Library/TeX/texRoot`. The first link points to the binary

directory of the chosen distribution and the second link points to the full chosen distribution. This second link can be dragged to the left panel in Finder if you want to easily access the full active distribution. The location `~/Library/TeX` can safely be used by other TeX programs for their configuration data.

The local pane deliberately follows Jerome's design but omits several features. The radio buttons are gone. Instead a selection is made as soon as an item in the distribution list is clicked. Since the link is owned by the user making the change, no password is required.

The first item listed in the new pane is "Use Global Preference Pane." When this item is chosen, the Global PrefPane's choice will be used. Changes made in the global pane will then automatically be made locally.

At the right side of the pane, the binaries being used are indicated as before: Intel 64 or Universal. But this item can no longer be changed. When 64 bit binaries were first introduced, users wanted to switch between 32 bit and 64 bit binaries while testing. That experimentation period is over; in a few years we may no longer provide 32 bit binaries.

The pane was compiled on Mavericks should work on Mountain Lion and Mavericks, but not necessarily on earlier systems. A distribution is only visible if its binary directory contains *tex*, *pdftex*, *xetex* or *luatex*.

When upgrading the system, Apple often removes the link `/usr/texbin`. An advantage of the new pane is that Apple will not touch `~/Library/TeX`.

## 5 Using Distributions Installed in Unusual Places

Some users prefer to install TeX Live in `/their` home directory, with files owned by themselves rather than in `/usr/local/texlive/2014` with files owned by root. For instance, students working at Universities often do not have Admin privileges and can only install in their home directory. Other users want to install TeX Live on an external drive.

Currently MacTeX can only install TeX in `/usr/local/texlive`, but the TeX Live install script at <http://tug.org> allows users to choose the install location. This script can be run as an ordinary user without root privileges, installing files owned by that user to one of the user's locations.

The new Pref Pane can accommodate these users.

A new button *Add Distribution* on the pane brings up a panel in which users can add a new distribution to the Pane. Users must provide three pieces of information:

- Name: This is the name to appear in the Preference Pane. It can be any string easily recognizable by the user.
- Path to Distribution: This is the path to the root folder for the distribution.
- Path to Binaries: This is the path to the folder holding the distribution's binaries. This path must point to a location containing one of *tex*, *pdftex*, *xetex*, or *luatex*.

Once entered, the new item will be remembered by the Local PrefPane and listed any time the binary directory is available. In particular, TeX can be installed on an external disk. When the disk is not mounted, the Pref Pane will not list its distribution, but when the disk is mounted, its distribution will be listed.

A second button, *Remove Distribution*, is provided for users who want to clean up after removing a distribution. This button is really not necessary since the PrefPane will only list distributions still available. The button only applies to distributions added using *Add Distribution*; distributions in the Wierda-Laurens data structure in */Library/TeX* cannot be removed.

The ability to add distributions can be used for special purposes. For instance, the 64 bit binaries in TeX Live are currently compiled on Snow Leopard. A user testing TeXLive-2014 could add binaries compiled on Mavericks with LLVM and Clang to the distribution and add a new element to the PrefPane pointing to these binaries. Then typesetting speeds could be compared easily by switching between the two distributions.