Installation of TeX and Friends

Dr. V. Sasi Kumar

FSF India

Knuth's TEX

TEX and Friends

Knuth's TEX

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Several collections of Macros developed based on TEX

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All of them simplify the use of TEX

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A typical TₑX installation will contain many TₑX components and LATₑX

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- The distribution of TEX used till around 2006 was TeTeX, developed by Thomas Esser in 1994 and maintained by him.
- Now superseded by TEXLive, developed by Karl Berry and the TEX Users Group, that can be run live from a CD or DVD or installed into hard disk.

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A typical TEXLive directory tree will look like this:

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The directories represent:

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TEX and Friends

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<div style="margin-left: 2em;">

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dvips: dvi to ps conversion

fonts: of course, fonts for all forms of TEX

makeindx: creating indices

</div>

Knuth's TeX

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metafont: a language for creating fonts for TEX

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scripts: Various scripts

source: Source files of TEX

Knuth's TEX

Knuth's T_EX

tex: class, style and other files related to LaTeX, ConTeXt, etc.

TeX and Friends

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T_EX and Friends

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texdoctk:	list of documents and configuration
ttf2pk:	some font mapping information and configuration
web2c:	T_EX character translation (.tcx) files (for non-ASCII characters)
xdvi:	xdvi related files

TEX and Friends

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This directory follows the *TEX Directory Structure* – "a directory hierarchy for macros, fonts, and the other implementation-independent TEX system files" (Wikipedia)

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The top level directories of the TDS are:

Directory	Description
tex	TEXfiles (including LaTeX and other macro packages)
bibtex	BibTeX files
doc	user documentation
fonts	font-related files
metafont	METAFONT files
metapost	MetaPost files
scripts	platform-independent executables
source	sources

TEX and Friends

Installing TEX

To install directly from the Internet in GNU/Linux operating system:

TₑX and Friends

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Red Hat: type "yum install texlive" in command line as root user

Gentoo: type "emerge texlive" in the command line as root user

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To use the TEXLive CD/DVD from the download directory, give the command:

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- `install-tl -gui text` for text (command line) mode; default on Unix-like systems; or

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To use the TEXLive CD/DVD from the download directory, give the command:

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The command is the same for all platforms.

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PATH=/usr/local/texlive/2010/bin/i386-linux:$PATH
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TEX and Friends

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Use the syntax for your shell, your installation directory, and your binary platform name. It may be good to add the path in your .bashrc

TₑX and Friends

Installing TₑX

The installer does some special things on Windows

TEX and Friends

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- Adds the directory of TeX Live Windows binaries to the search path:
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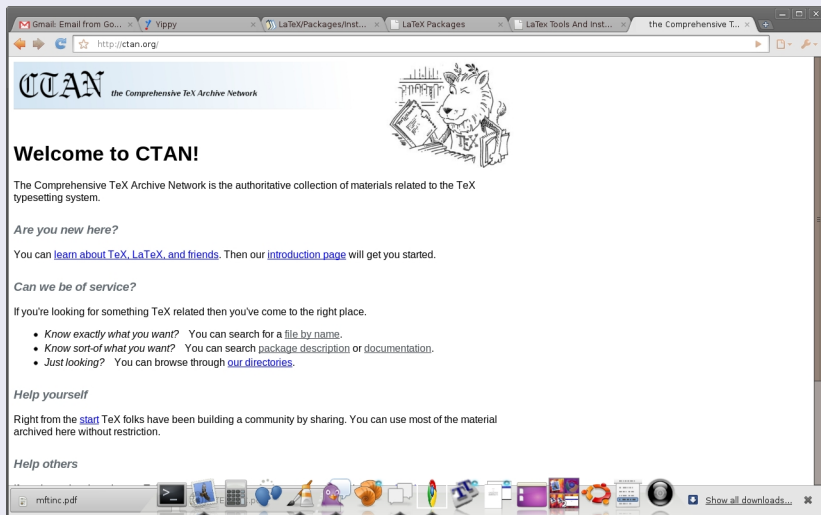
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  - The TeXworks editor is provided for composing TeX documents.

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  - otherwise, the new binary directory is added at the end of the path.
- Adds a few shortcuts on the desktop (feel free to remove any or all of them).
  - The TeXworks editor is provided for composing TeX documents.
  - You can drag PostScript and PDF files onto the PS View shortcut for viewing. (To view DVI files, use the dviout program from the menu.)

Installing LaTeX packages

Getting LaTeX packages

Installing LATEX packages

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- Run latex on the .ins file (`latex filename.ins`)
- This will extract all the files needed from the .dtx file
- Run LaTeX on the .dtx file (twice or more to get cross references right)
- Move files to their appropriate directories

Installing LaTeX packages

Installing LaTeX packages

The appropriate directories are:

Type	Directory (under texmf-local/)	Description
.cls	tex/latex/base	Document class file
.sty	tex/latex/packagename	Style file: the normal package content
.bst	bibtex/bst/packagename	BibTeX style
.mf	fonts/source/public/typeface	METAFONT outline
.fd	tex/latex/mfnfss	Font Definition files for METAFONT fonts
.fd	tex/latex/psnfss	Font Definition files for PostScript Type 1 fonts

Installing LATEX packages

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Type	Directory (under texmf-local/)	Description
.pfb	/fonts/type1/foundry/typeface	PostScript Type 1 outline
.afm	/fonts/afm/foundry/typeface	Adobe Font Metrics for Type 1 fonts
.tfm	/fonts/tfm/foundry/typeface	TeX Font Metrics for META-FONT and Type 1 fonts
.vf	/fonts/vf/foundry/typeface	TeX virtual fonts
.dvi	/doc	package documentation
.pdf	/doc	package documentation
others	tex/latex/packagename	other types of file unless instructed otherwise

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All this information is available at:

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For most purposes, just copying the .sty file into its directory and running `texhash` should be enough.

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Happy TeXing