

TeX¹ on Windows by Doc Dis

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See website www.docendo-discimus.info

I'm writing this blog to explain my experience with **installing and using TeX**, the typesetting system used to publish books, articles etc, on **Windows XP**.

Apologies to any experienced Windows users that may find my explanation too elementary, and apologies to the people at Live TeX if I've not explained things properly, etc.

Why do I want to use TeX rather than a word processor like MS Word?

I have various reasons:

1. TeX is free
2. I want to write and publish a technical book – TeX is good at this
3. I want the finished book to look as good as I can make it – TeX can help me achieve this
4. TeX is cross-platform

TeX Live http://en.wikipedia.org/wiki/TeX_Live is the full monty as regards a TeX installation. What I'm talking about here is a full implementation of all the various bit and pieces of TeX software (including documentation) that has accumulated over the years into a downloadable package for Windows and other operating systems. It seems to me that TeX has been mainly used on these other operating systems (Linux, Mac) – much of the documentation reflects this, and often Windows isn't even mentioned. I could be wrong about this but this is my over-riding impression. For instance XeTeX a TeX variation has only recently supported Tru Type fonts

See this web site that goes some way into answering the question What is TeX?
<http://www.tug.org/pracjourn/2005-3/walden-what-is/>

For the beginner, and I include myself, Live TeX seems to be a slightly confusing mass of files, websites and names that mean something... and hopefully my experience will help others to gain a foothold in the fascinating world of TeX – learning from my experience.

See also: <http://www.tug.org/>

¹Tex and LaTeX are used interchangeably

Installing Live TeX

Prerequisites:

The documentation recommends this first:

Before beginning the installation, use Cygwin's setup.exe program to install the perl and wget packages if you have not already done so. The following additional packages are recommended:

- fontconfig [needed by XeTeX]
- ghostscript [needed by various utilities]
- libXaw7 [needed by xdvi]
- ncurses [provides the 'clear' command used by the installer]

You can find Cygwin here: <http://www.cygwin.com/>.

Do not install everything (well you can but it'll take ages and it'll fill up quite a bit of your hard-drive). Just the above. I already had ghostscript on my PC, so I omitted that. The installer has a rather weird design at first glance. So I recommend you play with it before installing anything. Fontconfig definitely as this is used by XeTeX - a variation of which I'm going to use - as it allows the use of any windows fonts.

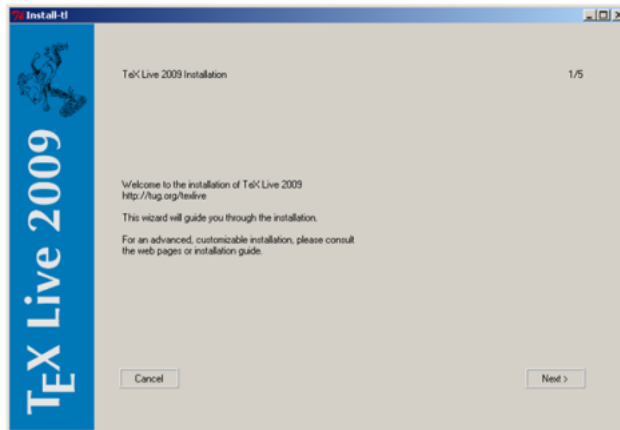
net installer

I first tried the recommended method which is to install Live TeX over the web by downloading a small installation file, which when unzipped has some readme's and some batch files (files with the extension .bat). Running the batch file (double click the file install-tl.bat) starts the download of the Live TeX files to your hard-drive and installs Live TeX on your computer. (The screenshot below shows the startup splash.) Or at least this is what it is supposed to do. Unfortunately it didn't - I kept getting the 'permission denied' error message when the installation program tried to untar a file (un-tarring a file is similar to unzipping a file). I then had to exit the DOS window that the installation program uses, and start all over again - which I did a number of times, to no avail. The resultant error log is stored in the folder the install-tl.bat is run from - the text file is called install-tl.log. Here is an extract from the end of the error log file:

```
Installing [268/850, time/total: 03:45/10:45]: dvips [561k]
Installing [269/850, time/total: 03:46/10:45]: dvips.win32 [67k]
untar: untarring C:/texlive/2009/temp/dvips.win32.tar failed (in C:\texlive\2009)
untarring C:\texlive\2009\temp\dvips.win32.tar failed, stopping install.
Installation failed.
Rerunning the installer will try to restart the installation.
Or you can restart by running the installer with:
  install-tl.bat --profile installation.profile [EXTRA-ARGS]
```

I logged on to my PC as administrator, as I hoped this would prevent the error messages - it didn't.

I made sure that my Anti-virus knew that the Live TeX bat file could operate at the highest trust level in the hope that this would help - it didn't



Downloading the ISO

At this point I gave up on using the net installer. So I decided to download the compressed ISO file. This file, `texlive2009-20091107.iso.xz`, is large: 1.37 gig. The uncompressed file is 2.86 gig. See <http://www.tug.org/texlive/acquire-iso.html>

I selected the link: download from a nearby CTAN mirror which selected the site `ftp://ftp.tex.ac.uk`. Unfortunately the connection was reset when downloading this large file, which meant my connection was lost and I had to try downloading again. All to no avail – I lost the connection again. This is very unusual for me. Can't think when this has happened before. Very frustrating. I therefore decided that the main Live Tex website would probably be best to try and download from: <http://www.ctan.org/tex-archive/systems/texlive/Images/>

This time I was successful. Now to un-compress the file, which has the unusual file extension XZ. The TeX Live people recommend using this on the command line:
`xzdec <texlive2009.iso.xz >texlive2009.iso`

Which basically means using the `xzdec.exe` file pass it the following parameters:

1. the file to be uncompressed
2. the file name to uncompress to

This file (`xzdec`) can be downloaded from here: <http://www.tug.org/texlive/xz/>

I placed the file in the folder with my compressed ISO:

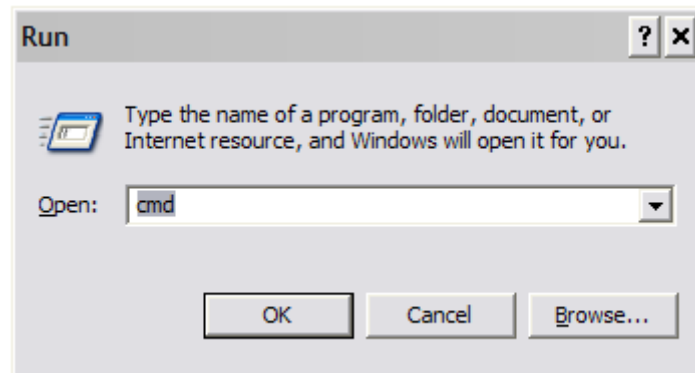
`texlive2009-20091107.iso.xz` (not the file name difference with the one given above) – to use the command line script it would have to read:

```
xzdec < texlive2009-20091107.iso.xz >texlive2009.iso
```

If you are not familiar with using the command line in Windows here's what to do:

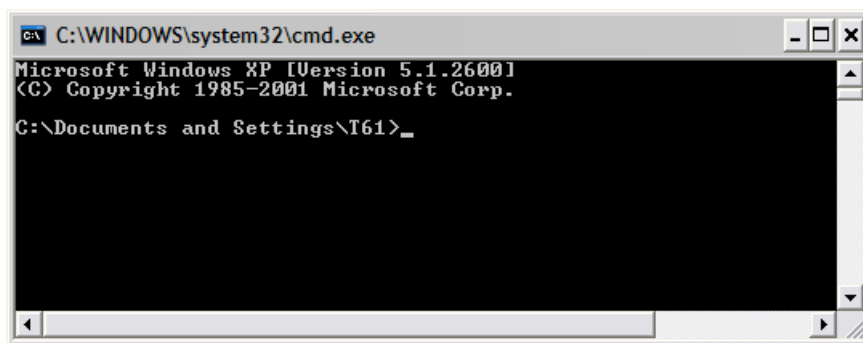
Make sure that you have explorer open the folder that the ISO is in (which I'm sure will differ from mine), and now select Start (from the windows menu bottom left of your screen) then Run and type

cmd in the Run dialog box:

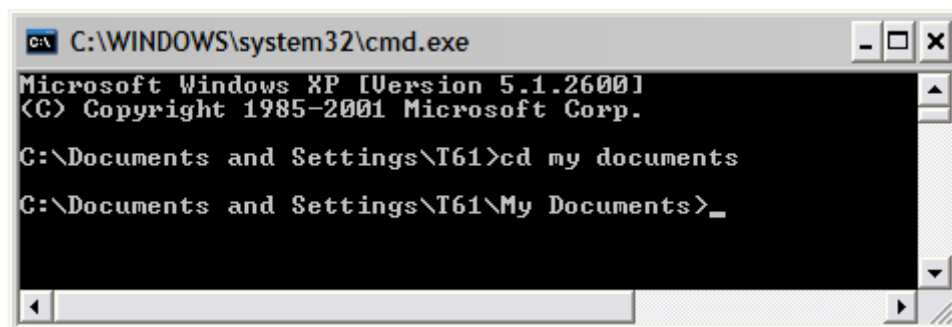


Select OK. This will open up a DOS window. You will probably have to navigate to the folder that your ISO is in.

My cmd command gave me this window:

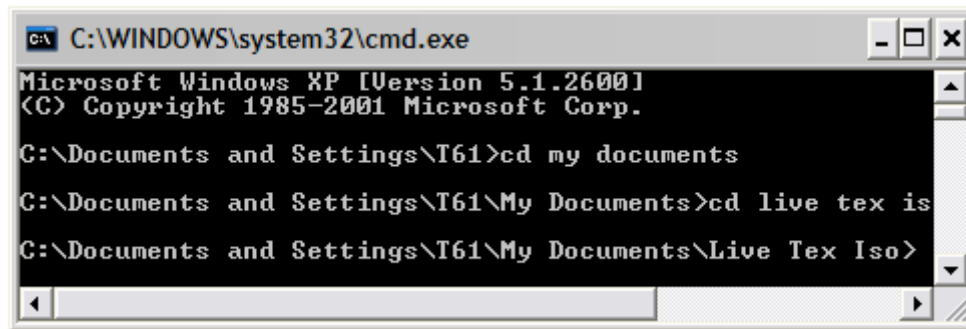


Now you will need to type the next level of folder which in my case was My Documents, and type cd my documents and press Return. The cd means change directory.



Now type (or copy and paste) the unzip command:

xzdec < texlive2009-20091107.iso.xz >texlive2009.iso iin the DOS window and press the return key.

A screenshot of a Windows XP command prompt window. The title bar reads "C:\WINDOWS\system32\cmd.exe". The window content shows the following text:

```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\T61>cd my documents
C:\Documents and Settings\T61\My Documents>cd live tex is
C:\Documents and Settings\T61\My Documents\Live Tex Iso>
```

After the file has been uncompressed type exit (and press return) to exit the DOS window, and have a look in the folder where your compressed ISO is. There you should find the file `texlive2009.iso`

Using the ISO

To use this ISO file on your PC you need a program that can pretend it's a DVD. The one I use is: <http://www.daemon-tools.cc/eng/downloads/dtproStd> - **DAEMON Tools Lite**. After installing this application, run it. It shows up to the right of my Windows status bar - bottom right of your screen. There you can right-click and select Virtual CD/DVD-ROM and then Mount Image and select the Live TeX ISO file, `texlive2009.iso`. When I did this it automatically started the installation process, and after a while Live TeX had been successfully installed. You'll want to unmount the drive containing the ISO, by selecting the DAEMON Tools Lite, Unmount Image. Keep the ISO file safe, but you'll probably not require it again if your installation was successful.