Installing LaTeX2HTML with MiKTeX

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1 Preliminary comments

This document describes how to install the LaTeX2HTML package as part of a scientific typesetting system implemented with MikTeX in a Windows 9x environment. My hope is that it will be useful for the users of this system and that it will be a valuable tool for converting LaTeX documents to `html`. It is not the only tool of this type, nor will I say that it is the best; I of course do not want to discount similar efforts, such as `TtH` or fpTeX.

Mi aim is to show that LaTeX2HTML can be installed under Windows 9x (something I did not believe just a few days ago) and that it is not too complicated (to be sure, with Linux it is all much simpler). The source of this small adventure was the course that I will be teaching at my university. I therefore would like to extend my thanks to my department, ICE at the Polytechnical University of Madrid, and Professor J.M. Goicolea, who invited me to teach the subject.

I have tried my best to make this document error-free and precise, but be warned that I have only tested what I describe herein on two systems: a Pentium 166MMX (64Mb RAM, W98) and another 166 (32Mb RAM, W95). I do not have access to an NT system, but I doubt it would be very different in the essentials. It goes without saying that this document HAS NO GUARANTEES WHATSOEVER. USE IT UNDER YOUR OWN RESPONSIBILITY AND AT YOUR OWN RISK. In no case can the present author, his institution, the developers of LaTeX2HTML MiKTeX, or the members of CervanTeX be faulted. If something goes wrong, it's Mr. Gates' fault.[1]

[1] Translator's note: Despite the Italian saying *tradutore, traditore*, the translator also washes his hands of anything that can be attributed to him.

Unfortunately, I cannot guarantee that I will be able to update this document, nor can I guarantee that I will be able to take care of questions that may arise. This document should therefore be considered PROVISIONAL and only valid for this week (and maybe next).

2 Ingredients

Before starting, we need to be sure that we have all the necessary programs. I assume that MiKTEX is installed and that it is the most recent version. It is not especially necessary that it be the latest version (1.20e), though. My setup includes the installation directory `c:\texmf` and the local directory `c:\localtexmf`. Note the directory `c:\texmf\miktex\bin`, which is located in the `$PATH`[2]. As usual, you should have Ghostscript installed. I am going to assume that version 5.50 is installed in `c:\texutils\gs5.50` [3]. I am going to put all the utilities in the `texutils` directory so as to maintain a bit of order. Nonetheless, it is probably a good idea to *avoid* directories or folders with spaces (e.g., `Program Files`).

You should get a version of `perl` for Windows9x/NT. As mentioned in MiKTEX 's Local Guide, the most recommended option can be found at http://www.activestate.com/ActivePerl/download.htm. The size of the installation file is about 5.5 Mb and is called `APi522e.exe`. This file is not freely distributable, although the Web page says that it can be distributed to everybody at every institution. You may also notice that you will need DCOM for Win95. However, for our purposes this is not the case.

At the MiKTEX update page http://www.miktex.de/download/index.html you can find the file `netpbm.zip`. This contains graphics-conversion utilities such as LATEX2HTML.

Finally, you will need LATEX2HTML. You can get this program at http://saftsack.fs.uni-bayreuth.de/ latex2ht/current/ (it is important to get the latest version). As of right now the most recent version is `latex2html-99.2beta6.tar.gz`. It is important to remember that LATEX2HTML is just a set of *scripts* written in `perl`. Therefore, nothing has to be compiled, so long as you have `perl` and the above-mentioned auxiliary utilities.

[2] I assume that the reader already knows how the change this variable.

[3] The latest Beta, version 5.99, has been giving problems with *script* `config.bat`. If you have this version installed, you should make some modifications.

3 Installing `perl` and `netpbm`

To install `perl` no instructions are needed. Just execute the installation program and it will do the rest, including modify your `autoexec.bat` so that it is included in the `$PATH`. I assume that it will install itself in `c:\Perl`.

You now have to unzip the file `netpbm.zip`. Be sure to keep all the folder names intact. I assume that everything will be unzipped into the `c:\texutils\netpbm` subdirectory.

4 Installing and configuring LaTeX2HTML

Now we have to unzip `latex2html-99.2beta6.tar.gz` into a temporary directory, also making sure that we keep the folder names intact. Next, we can configure and install LaTeX2HTML. This is quite simple thanks to the *scripts* `config.bat`, `test.bat`, and `install.bat`. Since they are `.bat` files, it is best to open an MS-DOS window (if we remember what that is). It is also useful to print and read the `install` file that can be found in `c:\TEMP\latex2html-99.2beta6`.

4.1 Editing `prefs.pm`

Look in the `c:\TEMP\latex2html-99.2beta6` subdirectory. There you will find the file `prefs.pm`. Open it with your favorite editor and modify:

line 123 `$prefs('EXTRAPATH')='C:\\TEXUTILS\\GS5.50;C:\\TEXUTILS\\NETPBM\\BIN';`

line 129 `$prefs('PREFIX')= 'C:\\TEXUTILS\\L2H';`

(Note the double backslashes.) By doing this we are saying where to find Ghostscript and netpbm and we are deciding that the directory in which we are going to install LaTeX2HTML is `c:\texutils\l2h`.

4.2 Executing `config.bat`

In our venerable MS-DOS window, we now change directories to `c:\TEMP\latex2html-99.2beta6` and execute `config.bat`. This is the most critical moment of all. In my experience the program hangs when it is going to recognize the version of dvips. Nevertheless, pressing the return button a couple of times is enough to get it going again. I have also already mentioned that the the latest version of Ghostscript (5.99) does not recognize it very well. Except for these potential problems, everything should go well. If not,

then start over again. For reference purposes, I include the result that is saved in the `config.log` file.

```
config.pl, Release 99.2 beta 6 (Revision 1.30)
Accompanies LaTeX2HTML, (C) 1999 GNU Public License.
checking for old config file (cfgcache.pm)... not found (ok)
checking for platform... MSWin32 (Windows 32 bit)
checking for C:\Perl\bin\perl.exe... C:\Perl\bin\perl.exe
checking perl version... 5.00503checking if perl supports some dbm... yes
checking if perl globbing works... yes
checking for tex... C:\TEXMF\MIKTEX\BIN\tex.exe
checking for latex... C:\TEXMF\MIKTEX\BIN\latex.exe
checking for initex... C:\TEXMF\MIKTEX\BIN\initex.exe
checking for kpsewhich... no
checking for TeX include path... NONE
Warning: Will not automatically install LaTeX2HTML style files.
checking for dvips... C:\TEXMF\MIKTEX\BIN\dvips.exe
checking dvips version... 5.86
checking if dvips supports the combination of -E and -i -S 1... yes
checking for html4-check... no
checking for gswin32c... \TEXUTILS\GS5.50\gswin32c.exe
checking for ghostscript version... 5.50
checking for ghostscript portable bitmap device... pnmraw
checking for full color device for anti-aliasing... ppmraw
checking for ghostscript library and font paths... built-in paths are correct
checking for pnmcrop... \TEXUTILS\NETPBM\BIN\pnmcrop.exe
checking if pnmcrop can crop from one direction... yes
checking for pnmflip... \TEXUTILS\NETPBM\BIN\pnmflip.exe
checking for ppmquant... \TEXUTILS\NETPBM\BIN\ppmquant.exe
checking for pnmfile... \TEXUTILS\NETPBM\BIN\pnmfile.exe
checking for pnmcat... \TEXUTILS\NETPBM\BIN\pnmcat.exe
checking for pbmmake... \TEXUTILS\NETPBM\BIN\pbmmake.exe
checking for ppmtogif... \TEXUTILS\NETPBM\BIN\ppmtogif.exe
checking if ppmtogif can make transparent GIFs... yes
checking if ppmtogif can make interlaced GIFs... yes
checking for pnmtopng... \TEXUTILS\NETPBM\BIN\pnmtopng.exe
checking if multiple pipes work... no
Unfortunately multiple pipes are not reliable on this OS.
checking for temporary disk space... C:\WINDOWS\TEMP
creating cfgcache.pm
creating test.bat
creating install.batNote: Will install...
      ... executables to : C:\TEXUTILS\L2H\bin
      ... library items to : C:\TEXUTILS\L2H
```

4.3 Executing `test.bat` and `install.bat`

So as to be sure that everything has gone perfectly, try executing the `test.bat` file. This will check the program and the utilities on a small TEX file. The result can be seen on our favorite Web browser. You should see various equations against a rather ugly grey background. By default, LATEX2HTML creates images of equations and uses the PNG format; the problem is that Web browsers do not render transparent-background PNGs very well. This can be changed if we do not mind the controversy surrounding the GIF-format patents.

Lastly, execute `install.bat`. This will copy certain necessary files to `C:\TEXUTILS\L2H` (about 5.5 Mb). Now we can erase the temporary directory `c:\TEMP\latex2html-99.2beta6`. The only thing left to do is configure a few things so it suits our needs. Perhaps this is a good moment to copy what is in `C:\TEXUTILS\L2H\texinputs` so that MiKTEX can find everything (for example, `C:\localtexmf\tex\l2h`, remember to update the database (Maintenance — Refresh Filename Database)).

4.4 Configuring LATEX2HTML

Although configuring LATEX2HTML can be done by command-line options or by a file (`.latex2html-init`) for every user and every task, I would suggest editing the `l2hconf.pm` file, which is now found in `C:\TEXUTILS\L2H`, to make a few general modifications. From here on, you should read the manual (125 pages).

Edit the above-mentioned file and make the following changes:

line 52 `@IMAGE_TYPES = qw(gif png);`

line 290 `$LOCAL_ICONS = 1;`

line 553 `$HTML_VERSION = '3.2,math';`

line 567 `$UNSEGMENT = 1;`

line 767 `$EXTRA_IMAGE_SCALE = 2;`

In order to understand the usefulness of these modifications, you will have to use the program. As the manual (which can be generated with LATEX or converted to HTML), LATEX2HTML converts the file, say, `thesis.tex` into a series of HTML and GIF files, which are then saved in a subdirectory (e.g., `thesis`) containing the source file. It is not the purpose of this document to explain the ins and outs of LATEX2HTML. Note that, upon executing

`latex2html thesis.tex`, what you will see in the MS-DOS window might be a bit disquieting and it can take a while. It is worthwhile to test a few examples (i.e., simple small files) before trying to convert a book-length monograph with lots of equations and figures. I have almost forgotten to mention that you will want to have the folder `C:\localtexmf\tex\l2h\bin` in your `$PATH`.

Surely there are more elegant or simple ways to do what I have just described. To give me signs of support, helpful pointers or criticisms, please write the author.