

L^AT_EX installation guide

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Contents

1	Obtaining a \LaTeX distribution	3
2	Windows	4
2.1	Installing MiK \TeX	4
2.2	Setting the PATH variable	4
2.3	Installing Packages in MiK \TeX	5
2.4	Installing \TeX works	5
3	Mac OSX	6
3.1	Installing Mac \TeX	6
3.2	Setting the PATH variable	6
3.3	Installing Packages in Mac \TeX	6
3.4	Installing \TeX works	6
4	Linux	7
4.1	Installing \TeX live	7
4.2	Setting the PATH variable	7
4.3	Installing Packages in \TeX Live	7

1 Obtaining a L^AT_EX distribution

L^AT_EX comes in distributions which make sure that you get everything needed to use L^AT_EX. A good distribution has a package manager that can be used to install and update packages with relative ease. In this paper I will give a guide on how to obtain the distributions I prefer for Windows, Mac and Linux. You can skip the parts that are not relative to your operating system.

As we will see in the course, the L^AT_EX compiling programs are run from the command line (command prompt in Windows and terminal in Mac and Linux). To make sure that your computer knows where to find these programs we need to set the PATH variable of your computer. This is simply a string with paths to folders containing programs. Below will be explained how to set the PATH variable for your operating system. Most L^AT_EX editors however do not need a correct PATH variable, but it is useful to have this right for more advanced topics later on in the course. The sections on setting the PATH variable can be skipped for now.

Finally, it is recommended to do a *full install* of the distribution you choose if there is enough room on your computer. This will install all packages available in a distribution. Later on in the course we will need the `apa` and `apacite` packages. This guide will also explain how to install these.

To write L^AT_EX documents a plain text editor is also needed. In this course we will use T_EXworks, but other programs such as notepad++, Gedit, TeXniccenter, TeXmaker and Emacs are also possible. After installing T_EXworks it is recommended to enable syntax highlighting and line numbering. This can be done from the *format* menu: first select *Line Numbers*, next under *syntax coloring* select *LaTeX*.

2 Windows

2.1 Installing MiKTeX

For Windows 7¹ we will be looking at the MiKTeX distribution. First, go to *miktex.org* and press in *MiKTeX 2.9* under *Download*. Scroll down to *Installing the complete MiKTeX system*², select the version appropriate for your system and press *Download*. If you are not sure on what system you have then go to the start menu and type *dxdiag* and look for *Operating system*, which is either *32-bit* or *64-bit*.

Open the setup window and press *next*, check the accept box and *next* again. Select *Download MiKTeX* and press *next*. Select *Complete MiKTeX* and press *next*. Choose a mirror close to your location (for me that is Netherlands, HTTP) and press *next*. Now select a folder (recommended to leave this to the default location), press *next* and then *start*. Now you can go set some coffee because this will take a while.

After installing you might get a windows message saying that the install was not correct, but ignore that. Now we have downloaded MiKTeX but we still need to install it. Run the setup program again and this time select *Install MiKTeX* and press *next*. Select *Complete MiKTeX* and press *next*. Select which users you want to install L^AT_EX for and press *next*. Now select the folder you downloaded MiKTeX in (just press *next* if you used the default location). Choose an installation folder (best leave this to *C:\Program Files\MiKTeX 2.9*) and press *next*. Select next to *Preferred paper A4* and next to *Install missing packages on-the-fly Yes* and press *next*. Now press *Start* and the installation will start. After installing close the setup screen. You should now have MiKTeX installed.

2.2 Setting the PATH variable

After installing MiKTeX the PATH variable should be automatically set. Open a command prompt (*Start, All Programs, Accesories, Command Prompt*). And type in:

```
pdflatex
```

You should see something like *This is pdfTeX, version....* If so, your PATH variable is successfully set. Close the command prompt and skip the next step.

If your PATH is not correctly set you need to do this manually. To do this, click on *start*, right click on *computer* and select *properties*. Click on *Advanced system settings* and then on *Environment variables*. Under *system variables* find *Path* and click on *Edit*. Enter the path to the MiKTeX folder containing programs in front of the PATH variable followed by a semi colon. For me, the first part of my PATH variables looks like:

```
C:\\Program Files\\MiKTeX 2.9\\miktex\\bin; (...)
```

Reboot the computer and you are done.

¹But this should work on XP and Vista as well

²If you do not have a lot of memory on your computer you might want to download the basic version instead

2.3 Installing Packages in MiKTeX

MiKTeX has a Package Manager that easily allow you to manage your L^AT_EX packages. Find it in the start menu and search for *apa* in the *Name* field. Make sure that *apa* and *apacite* are installed (you can right click the names to install them).

With T_EXworks any missing packages are also installed when you try to compile a document.

2.4 Installing T_EXworks

T_EXworks should already be installed with the MiKTeX installation and is available in the start menu.

3 Mac OSX

For Mac OSX we will be looking at MacTeX. This is a very simple and straightforward installation.

3.1 Installing MacTeX

First go to <http://www.tug.org/mactex/> and click on the link *MacTeX.pkg* to start downloading the distribution. This will take a while since the file is 1.5 gb big. After downloading the install screen should automatically come up.

Simply keep pressing *continue* and *accept* until you get to the install screen (just use all default values), then press *install* and the installation begins. When this is completed you have your L^AT_EX distribution installed.

3.2 Setting the PATH variable

After installing MacTeX the PATH variable should be automatically set. Open a terminal (*Applications, utilities, Terminal*). And type in:

```
pdflatex
```

You should see something like *This is pdfTeX, version....* If so, your PATH variable is successfully set. Close the terminal.

3.3 Installing Packages in MacTeX

We can manage L^AT_EX packages by using *tlmgr* in terminal. For example, we can update all packages by typing:

```
tlmgr update --all
```

To check if a package is installed we can use *tlmgr show*. Check if *apa* and *apacite* are installed:

```
tlmgr show apa
```

```
tlmgr show apacite
```

If not, you need to install them. This must be done as root:

```
sudo tlmgr install apa
```

```
sudo tlmgr install apacite
```

3.4 Installing T_EXworks

T_EXworks should already be installed with the MacTeX installation and can be found in the TeX folder in the applications folder.

4 Linux

For Linux the preferred L^AT_EX distribution is T_EX live. Note that this is only tested on Ubuntu 11.04.

4.1 Installing T_EX live

First download the following file:

```
http://mirror.ctan.org/systems/texlive/tlnet/install-tl-unx.tar.gz
```

and extract it. Next open a terminal window, and cd to the extracted folder. For example:

```
cd Downloads/install-tl-20110526
```

Once there install T_EX live with:

```
sudo ./install-tl
```

And choose a full install.

4.2 Setting the PATH variable

After installing T_EXlive you can edit your PATH variable by opening a terminal and entering:

```
sudo gedit /etc/environment
```

Be sure not to remove anything. Enter as first entry `/usr/local/texlive/2010/bin/x86_64-linux` followed by a colon. `x86_64` depends on your system and might be `i386` if you have a 32 bit system, and `2010` might be a newer version when you are reading this. If not sure then browse to `/usr/local/texlive/` and look for the folder containing `latex`. For me the content of my environment file (truncated) looks like:

```
PATH="/usr/local/texlive/2010/bin/x86_64-linux:/usr/local/sbin: (...)"
```

Save the environment file and close gedit. You should now have a full install of L^AT_EX

4.3 Installing Packages in T_EXLive

We can manage L^AT_EX packages by using `tlmgr` in terminal. For example, we can update all packages by typing:

```
tlmgr update --all
```

Top check if a package is installed we can use `tlmgr show`. Check if `apa` and `apacite` are installed:

```
tlmgr show apa
```

```
tlmgr show apacite
```

If not, you need to install them. This must be done as root:

```
sudo tlmgr install apa
```

```
sudo tlmgr install apacite
```

Note that on Ubuntu this will give an error because Ubuntu's PATH variable for root is different than the normal PATH variable. We can change this, but look out that you don't change anything else!

To change the root PATH in Ubuntu to be the same as the normal PATH, go to terminal and type:

```
sudo gedit ~/.bashrc
```

Then add in the file that opens the following line:

```
alias sudo='sudo env PATH=$PATH'
```

Save and exit. Run on terminal:

```
. ~/.bashrc
```

to reload the bashrc file, and now it should work.