

Instructions for L^AT_EX Installation

Jeff Laake

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1 Installation

1. Make sure you have R on your computer and that the directory specification to the bin sub-directory of R is in your path. For example, my path contains C:\Program Files\R\R-2.15.0\bin. If you don't know what a path is, get help from your IT folks. It is set with Control Panel/System & Security/ System/Advanced/Environment Variables. You may need Admin privilege to set it. Make sure to add/modify the path under system variables rather than user variables. Figure 1 shows the screens for setting your path on a Windows 7 machine.
2. Before installation of L^AT_EX it is best to close all programs and not do anything else on the computer as this is a time consuming process and it requires a good internet connection because it will access the internet throughout the installation. At the end it will look like it is nearly done and there is a note that it will take some time – trust it – it will take some time. Be patient and don't assume your machine has hung.
3. <ftp://ftp.lyx.org/pub/lyx/bin/> click on the link and then select the most current version (2.0.3 at time of writing) and then download the appropriate file. For windows to get the file that will install all necessary software, click on the file Lyx-2.0.3-2-Alt-Bundle.exe and save it somewhere. For the Mac, use LyX-2.0.3+qt4-carbon.dmg. Alternatively, you can get to these files from <http://www.lyx.org/Download>.
4. Right click on the above file where you saved it and use Run as Administrator – You'll need a local Administrator account. It will setup Lyx and then MikTeX and Jabref if you want.
5. When asked, make sure you set up L^AT_EX and MikTeX for all users (the default) this is especially important if you are using a separate Admin account to install the software. Also makes sense to use the default locations to store the files unless you have a good reason for doing otherwise. You may want to change the paper size from A4 to Letter. Also, answer yes to install packages on the fly under the MikTeX setup.

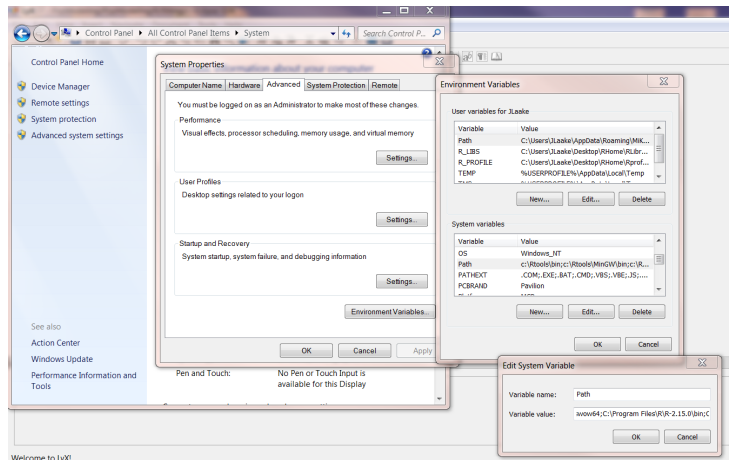


Figure 1: Setting your path on a Windows 7 machine.

6. Once it is completed, start **L_AX** (with regular non-admin account) and open (File/Open) the sweave.lyx file under Resources sub-directory of the **L_AX** directory. If you get an error message that about missing package `sweave->latex`, click on Tools/Reconfigure. When it is done, close **L_AX** and restart it. Repeat this step to see if you can open the file without that error. If you cannot then you do not have your path to R setup correctly. You can test that by Start/AllPrograms/Accessories/Command Window. Type `Rscript`. If it gives some help messages then your path is fine. If it gives an error that the command is unknown or bad then your path is not setup correctly.
7. Once you get past step 5, click on the icon with the two eyeballs on the far left. If a pdf document appears you are good to go. If it doesn't, click on View/View messages and click on the eyeballs again and copy the material in the view window and see what error it is giving.

Other errors may occur if your installation did not complete. If that happens then you should probably uninstall (Control Panel/Uninstall Programs) both **L_AX** and **MikTeX** and start over. If it is simply missing package, style or class file for a document, use this next section to add the missing files into the **L^AT_EX** (**MikTeX**) configuration.

2 Adding missing **L^AT_EX** files

Even though **MikTeX** is supposed to add packages on the fly, **L_AX** will produce an error when it cannot find a class, style or package (not to be confused with R packages). When this happens or when you want to use one of those that are not installed then you need to add it with the **MikTeX** Admin programs.

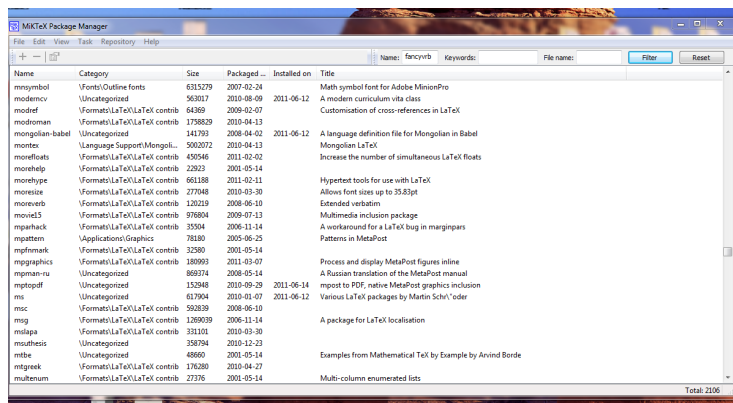


Figure 2: Adding a missing package, class or style file with MikTeX/Maintenance/Package Manager.

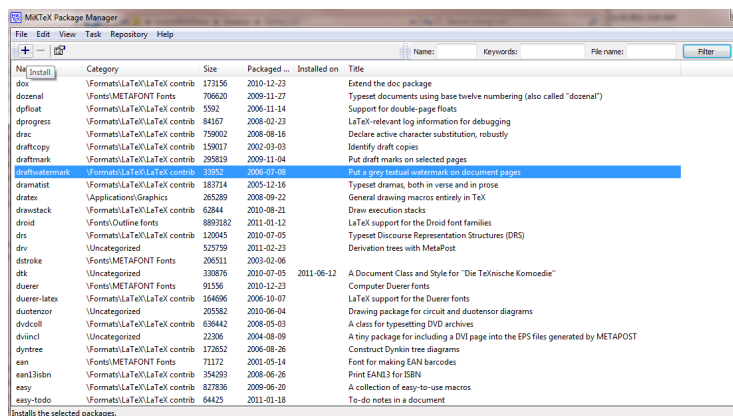


Figure 3: Installing a missing package.

You can find them in Start/Program Files/MikTeX/Maintenance. First you use Package Manager to locate and install the necessary file(s). It will show a list of all the files alphabetically and when they were installed, if they are installed. You can select one from the list manually or by entering a name, keyword or file name and select Filter.

In Figure 2 I selected fancyvrb because this is one that you may encounter. However, on my computer it is already installed, so I'll select another and show how it is installed in Figure 3.

Click on okay and it will install it if you can access the internet. After it has completed, click on the close and if you look on the package list it will show the current date under installed. Next you need to use MikTeX/Maintenance/Settings program to refresh the package database. As shown in Figure 4, you click on refresh FNDB and then Update Formats. Once both are completed click on ok.

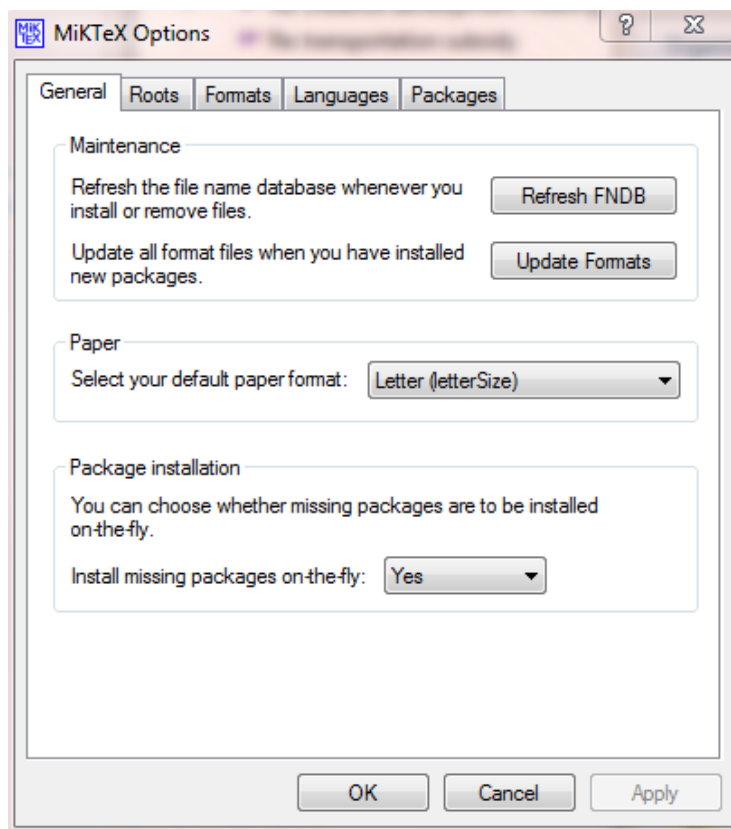


Figure 4: MikTeX settings program. Refreshing database and updating formats after adding a package, class or style file.

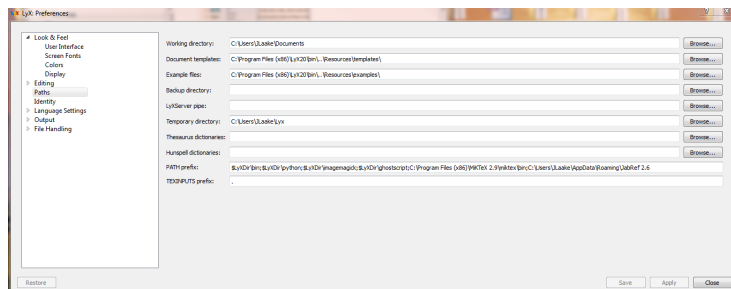


Figure 5: Changing the location of the temporary directory for the Sweave temporary files. As shown mine is setup to be C:\Users\JLaake\Lyx.

The final step is to start **LyX**, and select from the menu Tools/Reconfigure. Once it has completed the reconfiguration it will ask you to close and restart **LyX**. If everything has worked, when you restart **LyX**, the package, class or style file should be available for use.

3 More **LyX** options and setup

When you use Sweave with **LyX**, Sweave is run in R and the working directory for R is the directory that contains the **.LyX** file that you are Sweaving. However, the **.Rnw**, **.Tex** and other files that it creates for the pdf creation are contained in a temporary directory that is removed upon closing **LyX**. By default, this temporary directory is stored in a hidden directory (appdata) under the user directory (e.g., C:\Users\JLaake\AppData\Local\Temp). This location is not particularly easy to access, so I recommend changing the path with the Tools/Preferences, to a location that you can easily access as shown in Figure 5. Usually you need not bother with those files but if there is a problem with either your R code or your Tex, it can be useful to examine the **.Rnw** or **.Tex** text files in the directory.

Another way to track down errors is to select View/View Messages from the **LyX** menu. It will open a window at the bottom of the screen and as you process the pdf document it will show what is being done and any errors that occur. Look through the entire window as the R coding error may be shown prior to the last error message. This window also shows other **LyX** errors/messages. For example, in Figure 6 it keeps showing messages that I should stop trying to put 2 spaces at the end of a sentence which is an unnecessary habit from using Word. LaTeX takes care of all that formatting for you.

Another useful window is the View/View Source window which shows all of the **LaTeX** in the document that **LyX** is creating for you. Click on the box complete source to see all of the **LaTeX** (Figure 7). This is similar to Reveal Codes in other word processors.

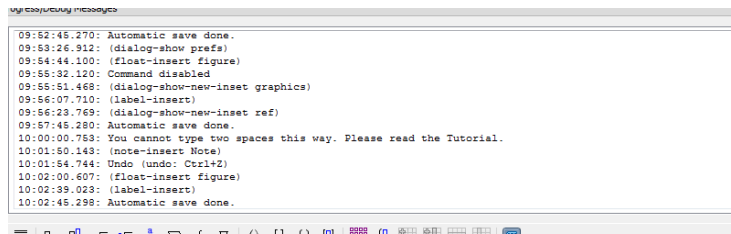


Figure 6: View messages window in LyX which is useful for tracking down R coding errors and other LyX problems.

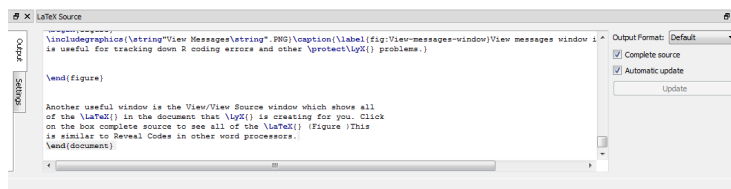


Figure 7: Viewing LaTeX source with the View/View Source option.

4 HELP!

LyX is a very capable word processor like Word and others but it works very differently from Word. Thus, it is important to spend some time with the help and tutorials that accompany LyX (Figure 8). If you open one of these files, it will appear in LyX format but if you want to read it in the more polished form, click on the two-eyeball icon and it will convert it to pdf (Figure 9). The tutorial is nicely done and will take you through all the steps needed to create a LyX document and use its features. I will follow up with a tutorial of sorts that focuses on Sweave documents.

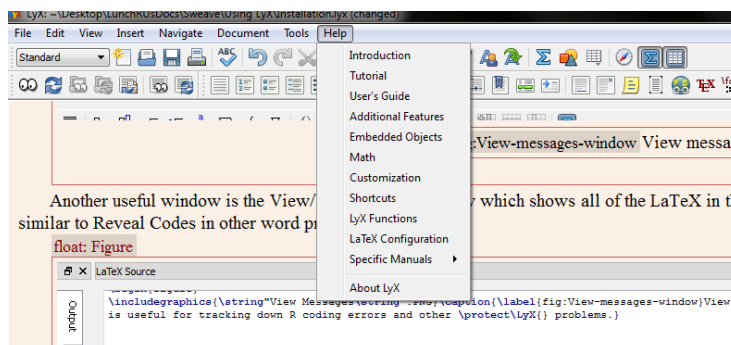


Figure 8: Accessing LyX help files.

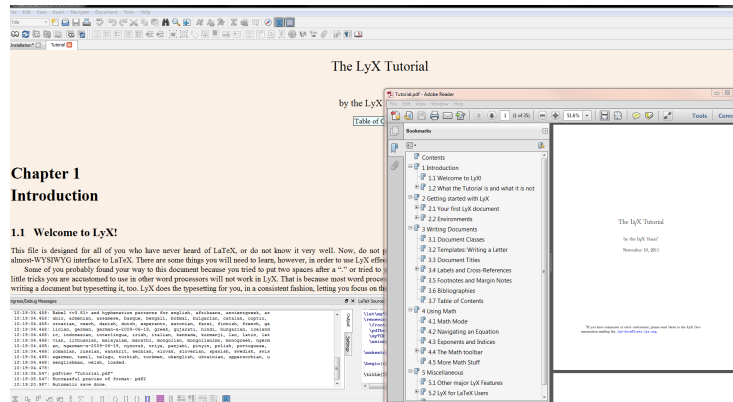


Figure 9: Viewing help files in pdf format.