Installing LaTeX

Distributions and editors

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LaTeX-related programs

To write a document with LaTeX, the user must install specific programs, as for any other text editor. These are:

- a distribution,
- an editor.

The LaTeX distribution contains all tools necessary to generate a document (usually a PDF) from the "code". The editor is a program which simplifies the LaTeX writing by providing shortcuts for compilation (cf. next tutorial) and shortcuts for text styling (e.g., `CTRL+B` creates bold text).

Which distribution to choose

Comparison of LaTeX distributions based on OS compatibility

	Distributions		
OS	TEX Live	MiKTEX	MacTEX
Windows	yes	yes	no
Linux	yes	yes	yes
MacOS	no	yes	yes

Which distribution to choose
Feedback from my own experience

As I have used both Windows and Linux (mainly CentOS) operating systems but never Mac, I cannot provide any feedback about MacTEX. Sorry for Mac users…

However, I have used extensively MiKTEX (on Windows only) and TEX Live (both Linux and Windows):

- I faced problems for using some packages or compilers with MiKTEX that were not existing with TEX Live such as
    - compilation issues when using LuaLaTeX (cf. tutorial B002),
    - `biber` engine not recognised while I was using the `biblatex` package,
- this is what I experienced
    - I compared up-to-date versions,
    - I did it a few years ago so it could have changed since the comparison was done,
- I **recommend** the use of **TEX Live**.

Which editor to choose

Comparison of LaTeX editors based on OS compatibility

	Editors		
OS	TEXstudio	TEXmaker	TEXnicCenter
Windows	yes	yes	yes
Linux	yes	yes	no
MacOS	yes	yes	no

Which editor to choose
Feedback from my own experience

As I have used both TEXmaker and TEXstudio but TEXnicCenter. Sorry that I cannot provide any feedback about it…

I have used a lot TEXmaker (on Windows only) then I switched to TEXstudio (both Linux and Windows) because to my opinion:

- the tool was more "clever" considering the key management (references, bibliography),
- it proposes automatic alignment in `tabular` environments (even though this is not working when the `multicolumn` command is used).

However, for those who like a fine control, e.g. for compilation, TEXmaker is providing a more visible interface.

Anyway, the editor is a matter of taste. So try some and do not hesitate to change and to compare them to find yours.

Installation process
Preliminary notes

Here after examples of installation for different distributions are shown. Among the details provided for each step, the installer download is intended for Windows users. For Linux users, it is strongly recommended to use the program installer utility related to the Linux distribution. For example, `apt-get` on Ubuntu.

Installation process

Here below the installation of the TeX Live distribution together with the TeXstudio editor is presented.
Follow the steps:

1. install the TeX Live distribution
   1. download the installer and run it,
   2. choose "Custom install" and click on "Next",
   3. select the scheme and the packages that you need
      - if you have any doubt select the "scheme-full" that installs all packages,
      - otherwise you can change the installation collections,
   4. click on "Install TeX Live" → this takes a moment,
2. install the TeXstudio editor
   1. download the installer and run it,
   2. the editor should detect your LaTeX distribution at first run.

Installation process

Here below the installation of the MiKTEX distribution together with the TEXstudio editor is presented.
Follow the steps:

1. install the MiKTEX distribution
   1. go in the download section of the MiKTEX website,
   2. click on the "All downloads" tab,
   3. select the installer that you need
      - Basic Installer for a standard LATEX system,
      - Net Installer for a complete LATEX system,
   4. run the installer → this takes a moment,
2. install the TEXstudio editor
   1. download the installer and run it,
   2. the editor should detect your LATEX distribution at first run.