

# Paris-thesis packages bundle

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October 16, 2023

## Abstract

The `paristhesis` bundle is a kind of YATHT<sup>1</sup>, that adds a new element to the almost countless variants that can be found on CTAN or elsewhere on the Internet<sup>2</sup>. Unlike many alternative solutions, it deeply rely on the standard `book` class and neither KOMA-script `scrbook` nor `memoir`. It provides a number of tools that either help to conform to the French typographical rules and customs, or facilitate specific tasks for French doctoral theses, taking into account that most French universities do not provide binding rules on the format of the thesis, with the notable exception of cover pages

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## Introduction

This bundle contains eight packages, that have been carefully made compatible as a whole, and can be loaded or not, depending on the end user's choice<sup>3</sup>. They are also assumed to work

<sup>1</sup>YATHT=Yet another (PhD) thesis template

<sup>2</sup>Not to mention all the templates, most of them very obsolete, that are lying around in the laboratories.

<sup>3</sup>All of them however heavily rely on the packages `etoolbox` and `kvoptions`.

whether or not one use `hyperref` and/or `babel`<sup>4</sup>. It also include a skeleton that can be used as a “template”, based on the standard class `book`, and likely work only with it.

As it contains a large set of packages, that often work only with the standard `book` class, this bundle would deserve the creation of a class, that could be done in the future if users request it. However, it seemed preferable to the author to keep it in the form of separate packages in order to preserve the modularity and if needed, ease its customization.

## Alternatives

Most thesis template found on CTAN (more than 110) are not recommended (if not strongly discouraged). However two alternatives could be considered :

- Template and package bundle `yathesis` on CTAN
- Template and package bundle by Matthias-POSPIECH, at URL <https://www.matthiaspospiech.de/latex/templates/thesis/>.

## 1 The five packages *preamb-\*\*\**

The descriptions below briefly describe the features added by custom packages and also list the packages that are loaded directly into these packages, mostly *without* their dependencies.

### Legend:

- ♥ : commands defined by the package will likely be used by the standard user.
- ★ : packages conditionally loaded depending on selected options.
- ✎ : the corresponding setting can be overridden after package loading.

### 1.1 Package *preamb-util*

This package loads many utilities packages, and is essential for the others to work properly.

**Packages loaded** The packages loaded by *preamb-util* are listed on table 1 on the facing page.

**Options** None

### Custom commands provided

- `\inputpath` (similar to `\graphicspath`) provides a paths list to `\input`/`\include`’d files<sup>5</sup>. Use as e.g. `\inputpath{{.}/{../fig}/{../chap1/}}`.
- `\IfShellEscape[<mode>]{<true>}{<false>}` detects the status of `-shell-escape` and then executes `<true>` or `<false>` code. Default `<mode>` is ‘Enabled’, but other values are ‘Restricted’ or ‘Disabled’.
- `\fmeaning` typesets in PDF the `\meaning` of a normal macro.
- `\xfmeaning` does the same for macros that are `protected` or have optional arguments.
- `\convertto{<unit>}{<\lenght>}` typeset in PDF the value of the dimension `<\lenght>` using an arbitrary (standard TeX) unit `<unit>` instead of `pt`.
- `\KillExtView{<viewername>}` (MS-Windows only, but could be easily extended to linuxes), this command closes an external viewer which locks the PDF file. Should be called as early as possible<sup>6</sup>. Requires `-shell-escape`.
- Some other utility commands stubs when the package defining them is not loaded.

<sup>4</sup>Only the `french` and `english` babel’s options have been tested.

<sup>5</sup>It works for packages files too, but ideally, they *should be installed* in `TEXMFHOME`.

<sup>6</sup>The exact value of the `<viewername>`, use the command line:

`TASKLIST /FI "WINDOWTITLE eq \jobname*" where \jobname is the main file’s name.`

Table 1: Packages loaded by *preamb-util*

Name	Date	Version	Comment	
<b>etoolbox</b>	2020/10/05	v2.5k	e-TeX tools for LaTeX (JAW)	♥
<b>afterpage</b>	2014/10/28	v1.08	After-Page Package (DPC)	
<b>afterpackage</b>	2006/01/17	v1.1	Apply Commands After Package (NCC)	
<b>kvoptions</b>	2022/06/15	v3.15	Key value format for package options (HO)	
<b>keyval</b>	2022/05/29	v1.15	key=value parser (DPC)	
<b>kvsetkeys</b>	2022-10-05	v1.19	Key value parser (HO)	
<b>enumitem</b>	2019/06/20	v3.9	Customized lists (JB)	♥
<b>array</b>	2022/09/04	v2.5g	Tabular extension package (FMi)	♥
<b>booktabs</b>	2020/01/12	v1.6180...	Publication quality tables	♥
<b>silence</b>	2012/07/02	v1.5b	Selective filtering of warnings and error msg	
<b>xstring</b>	2023/01/14	v1.85	String manipulations (CT)	♥
<b>xspace</b>	2014/10/28	v1.13	Space after command names (DC,MH)	♥
<b>versions</b>	2005/04/28	v0.55	ignore passages optionally (UL)	♥
<b>infwarerr</b>	2019/12/03	v1.5	Providing info/warning/error messages (HO)	
<b>iftex</b>	2022/02/03	v1.0f	TeX engine tests (L3T)	♥
<b>ifthen</b>	2022/04/13	v1.1d	Standard LaTeX ifthen package (DC)	
<b>ltxcmds</b>	2020/05/10	v1.25	LaTeX kernel commands for general use (HO)	
<b>pdftexcmds</b>	2020/06/27	v0.33	Utility functions of pdfTeX for LuaTeX (HO)	
<b>letltxmacro</b>	2019/12/03	v1.6	Let assignment for LaTeX macros (HO)	
<b>textcase</b>	2022/07/10	v1.03	Text only upper/lower case changing (DC)	♥
<b>listofitems</b>	2019/08/21	v1.63	Grab items in lists using user-specified sep (CT,SBS)	♥
<b>setspace</b>	2022/12/04	v6.7b	Set line spacing (GT,RF) <sup>†</sup>	♥
<b>iflang</b>	2018/01/21	v1.7	Checks for the current language (HO)	
<b>textgreek</b>	2011/10/09	v0.7	Greek symbols in text (LM)	♥
<b>expl3</b>	2023/06/05		LaTeX3 programming layer (L3T) <sup>§</sup>	
<b>xparse</b>	2023/02/02		LaTeX3 Document command parser (L3T) <sup>§</sup>	♥

<sup>†</sup> By using `\singlespacing`, `\onehalfspacing` or `\doublespacing`

<sup>§</sup> Packages **expl3** and **xparse** are needed by several package, but included in the format since 2020.

## 1.2 Package *preamb-graph*



This package aims to ease the placement of graphics and their captions. It does not load any part of *PGF* package in order to not overload the compilation for users who do not need it<sup>7</sup>.

**Packages loaded** The packages loaded by *preamb-graph* are listed in table 2 on the next page.

### Options

- floatbarrier**: if *empty* *placeins*'s `\FloatBarrier` is made available but not automatically used ; if set to *section* (or any option recognized by *placeins*) it is automatically used. Default : *empty*
- draft/final** Enforce the *draft/final* option of `\includegraphics`, but give priority to the homonymous options of `\documentclass`. Default : *final*
- epstopdf** Loads the *epstopdf* package to (silently and automatically) convert to PDF EPS files provided to `\includegraphics` (without extension). Default : *empty*
- wrapfig** Loads *wrapfig* to enable typesetting narrow floats into the text. Default : *empty*

### Settings

- Defines (French) figure caption with `\captionsetup`. 
- Increase the maximal `\***fraction` and decreases the minimal ratios to ease the float placement. 

## 1.3 Package *preamb-math*

### Packages loaded

The list of packages loaded by *preamb-math* is given on table below.

### Options

- amsmath**: Loads *amsmath* package (via *mathtools*). (default: false)
- showonlyrefs**: *mathtools*'s non-numbering of non-referenced equations. (default: true)
- slantedgreekcaps**: Slant the Greek capital letters<sup>8</sup>. (default: false)
- boldmath** Ensure that math is bold in bold titles (default: false)
- blackboard** Load various blackboard fonts depending on option value (default: empty)
- ams**: default `\mathbb` defined in *amsfonts/amssymb*, uppercase only
- bbm**: loads *bbm*, including lowercase letters and digits.
- dsfonts**: *dsfont* has **l** and **k**, in Type 1
- Note: Options **bbm** and **dsfonts** override `\mathbb`. see *sampler*)

## 1.4 Package *preamb-titles*

This package controls the formatting of sectioning commands

**Packages loaded** The following packages are loaded only if the corresponding option is set.

<sup>7</sup>In the same way, the *thcover* custom package does not use it for text positioning.

<sup>8</sup>The slanted version is like `\Gamma` →  $\Gamma$ , but the upright version remains available with `\varGamma` →  $\Gamma$ .

Table 2: Packages loaded by *preamb-graph*

Name	Date	Version	Comment	
<i>xcolor</i>	2022/06/12	v2.14	LaTeX color extensions (UK) <sup>†</sup>	♥
<i>colortbl</i>	2022/06/20	v1.0f	Color table columns (DC)	
<i>graphicx</i>	2021/09/16	v1.2d	Enhanced LaTeX Graphics (DC,SPQR) <sup>§</sup>	♥
<i>grffile</i>	2019/11/11	v2.1	Extended file name support for graphics (legacy)	
<i>eso-pic</i>	2023/05/03	v3.0c	Add picture absolute positions (RN)	♥
<i>pdfpages</i>	2022/12/19	v0.5x	Insert pages of external PDF documents (AM)	♥
<i>caption</i>	2022/03/01	v3.6b	Customizing captions (AR) <sup>‡</sup>	♥
<i>subcaption</i>	2022/01/07	v1.5	Sub-captions (AR)	♥
<i>ltxcaption</i>	2021/01/08	v1.4c	longtable captions (AR)	
<i>pdfcolmk</i>	2019/11/24	v2.0	Color support for pdfTeX via marks	
<i>epstopdf-base</i>	2020/01/24	v2.11	Base part for package <i>epstopdf</i>	
<i>lscape</i>	2020/05/28	v3.02	Landscape Pages (DC)	♥
<i>pdfscape</i>	2022-10-27	v0.13	Display of landscape pages in PDF (HO) <sup>*</sup>	♥
<i>wrapfig</i>	2003/01/31	v3.6	★ Typesetting narrow floats at the text edge (DA)	♥
<i>epstopdf</i>	2020/01/24	v2.11	★ On the fly conversion of EPS files (HO)	

<sup>†</sup> Loaded with *pdfTeX*, *svgnames*, *table*, *fixpdfTeX*, *hyperref* options

<sup>‡</sup> Also loads *caption3* v2.3b, which provides the captions “core”.

<sup>§</sup> Also loads packages *graphics*, *trig*, *calc*.

<sup>\*</sup> Also loads *pdfscape-nometadata*

Table 3: Packages loaded by *preamb-math*

Name	Date	Version	Comment	
<i>mathtools</i>	2022/06/29	v1.29	★ loads <i>amsmath</i> with fixes and extensions (MH,LM)	♥
<i>amssymb</i>	2013/01/14	v3.01	math symbol from <i>msam</i> and <i>msbm</i> . Also loads <i>amsfonts</i> (AMS)	♥
<i>bm</i>	2022/01/05	v1.2f	adds bold math and symbols to <i>amsfonts</i> (DC,FM)	♥
<i>icomma</i>	2002/03/10	v2.0	correct spacing for comma as numeric separator (WS). <sup>‡</sup>	
<i>upgreek</i>	2003/02/12	v2.0	upright greek letters for e.g. $\mu\text{m}$ and $\beta\text{-decay}$	♥
<i>bbm</i>	1999/03/15	v1.2	★ more blackboard char, including lowercase and digits (TH) <sup>†</sup>	
<i>dsfont</i>	1995/08/01	v0.1	★ package <i>doublestroke</i> provides another set of blackboard fonts (OK) <sup>†</sup>	

<sup>†</sup> Standard blackboard bold fonts are provided by *amssymb*’s `\mathbb` using option *ams*.

Common alternatives are *bbold* (sans serif), *bbm*, *doublestroke*. *bbm* provides more glyphs than *amssymb* but in *type 3* only. *doublestroke* has *l* and *k* and many more shapes and exists in *type 1* format (to be installed).

<sup>‡</sup> This package is a very simple shortcut, more control would be gained by using *numprint* or *siunitx*.

Table 4: Packages loaded by *preamb-titles*

Name	Date	Version	Comment	
<i>minitoc</i>	2018/07/12	v62	★ Provides small table of contents for each chapter.(JPFD)	♥
<i>slantsc</i>	2012/01/01	v2.11	★ For slanted small caps in running header. (HH)	♥
<i>microtype</i>	2023/03/13	v3.1a	★ Micro-typographic extensions (RS)	♥

## Options

Options provided by *preamb-titles* are summarized in the following table. They are described in more details in the next subsections.

<b>patchtitles</b>	Alter the titles forming - <b>false</b> Does not change titles format - <b>true</b> Patch using <b>etoolbox</b> 's <b>\patchcmd</b>	(default: <b>false</b> )
<b>titlesfam</b>	Change the font family for titles (level -1 to 3) Other options are <b>rmfamily</b> and <b>ttfamily</b> .	(default: <b>sffamily</b> )
<b>headings</b>	Alter the running headings. - <b>empty</b> or option not set : does nothing. - <b>small</b> keeps uppercase but reduces the font size. - <b>slansc</b> remove uppercase and use slanted small caps. - <b>smallsfbold</b> remove uppercase and use small bold sans-serif.	(default: <i>empty</i> )
<b>rmchap</b>	Number chapters with roman uppercase	(default: false)
<b>alphsubsub</b>	Numbering of subsubsections with <b>a)</b> , <b>b)</b> ...	(default: false)
<b>appendixpart</b>	Setup the (experimental) appendix part	(default: false)
<b>minitoc</b>	Loads package <b>minitoc</b> and setup <b>minitocs</b> per chapters	(default: false)
<b>microtype</b>	Loads package but enable only for <b>final</b> in class, or <b>finalize</b>	

## Settings and commands

### *Titles forming*

The forming options of the “titles” (also called “sectioning headings”) is provided here by using **etoolbox**'s command **\patchcmd**. This approach ensure the compatibility with **hyperref** and **minitoc** package, assuming that the patch is performed before loading these packages. If you prefer to use the more common **titlessec** and its command **\titleformat**, despite its compatibility issues, you should use **patchtitles=false,titlesfam=rmfamily**, and then load and setup **titlessec**, or not use **premb-titles** at all.

The minimal change in titles is the replacement of the default roman font (**\rmfamily**) by sansserif font (**\sffamily**), conforming to the European typography rules. This change is applied to all the “large” titles, i.e. from level -1 (part) to level 3 (subsubsection), paragraph and subparagraph remaining untouched. For example use **titlesfam=rmfamily**.

The more powerfull changes are performed by patching the internal commands **\@startsection** and **\@makechapterhead** and the like to insert an internal forming command (**\font@section** and the like). This command can then be altered bu using te custom commands

**\setsectioningfont** or **\addtosectioningfont**. Both command take a first argument which is the name of the level (e.g. **subsection**) and a second one which is a font toggle formatting command like **\itshape**, or **\mdseries**, or any combination of them. But it can also be **\raggedright** or **\color{blue}**!

### *Headings forming*

The **book** class sets by default the headings and footer to the **\pagestyle{headings}**, and his setting is reapplied by the **premb-titles**. However, for various reasons, one could decide to change the format of the header, which by default contains the chapter title on even pages (on the left) and the section titles on odd ages (on the right). Of course this should be done at document level, and the tree options listed above provide a simple and efficient ways to reformat the large uppercased text which often does not fit in the header area or produce awful overlaps. If the predefined settings doesn't suits put needs or taste, you can use the custom

macro `\setheadingsfont` or `\addtosheadingsfont` whose argument defines the new format. For further customization (oppositely to the breaking `titlesec`), you could here omit the `headings` option, an load and setup the `fancyhdr` package, even if this is not a good idea for a thesis.

### Others

- With `minitoc`, the `minitoc` package is loaded and configured to be used at *chapter* level. The `\prepare` command is issued, and you only have to add the `\minitoc` at the beginning of each chapter. This assumes that a counter `\tocdepth` has been set *before* `minitoc` loading and it sets `minitoc`'s depth to `\tocdepth+2`.<sup>📝</sup>
- This package also set the numbering by chapter for `equation`, `figure`, `table`.<sup>📝</sup>
- If the `appendixpart` breaks or doesn't do what you would expect, (1) set `appendixpart=false`, (2) add `\appendix` after the main chapters but *before* the `\backmatter`, (3) use the suitable commands to format the appendices and their display in the `toc`.
- This package redefines `\mainmatter` to add an optional argument. If this argument is `continue`, the numbering of the pages is switched from `roman` to `arabic`, but without resetting the `page` counter to 0. This enables a continuous page numbering, which is more convenient for an electronic document.
- One also introduces a new version of `\cleardoublepage` with an optional argument, which is a text to be typeset on a blank page.
- Macro `\custombibpreamblecontent`, defines text or code to be prepended to bibliography by redefining `natbib`'s `\bibpreamble`.

## 1.5 Package *preamb-work*

This package loads or implement several tools that can be useful during the time you are writing your thesis. It must be commented out for the final version, or better, use the `final` option, either for the package or for the document class, in order to disable it's features (including not loading any package, and refining all the related commands to do nothing).

### Packages loaded

Name	Date	Version	Comment	
<code>lipsum</code>	2021/09/20	v2.7	★ Generate dummy text (PH,PO)	♥
<code>blindtext</code>	2012/01/06	v2.0	★ Generate extended dummy document (KL)	♥
<code>changebar</code>	2022/05/07	v3.6d	★ Add bars in margin to mark changed parts (MF,JB)	♥
<code>showkeys</code>	2023/05/11	v3.19	★ Display the (hidden) <code>\label&amp;\cite</code> keys (DC, MH)	

### Options

Options of this package mostly set or unset the loading of corresponding packages.

<code>lipsum</code>	Load the package, providing <code>\lipsum[]</code>	(default: <code>true</code> )
<code>blindtext</code>	Load the package, providing <code>\Blinddocument</code>	(default: <code>true</code> )
<code>changebar</code>	Load the package, providing <code>\cbstart/\cbend</code>	(default: <code>true</code> )
<code>showkeys</code>	Load the package, set options and colors	(default: <code>true</code> )
<code>drafting</code>	Don't disable the above listed packages	(default : <code>true</code> )
<code>finalize</code>	Opposite of <code>drafting</code>	(default : <code>false</code> )

### Settings

- Set `blindtext` options to get an extended version when using its command `\Blinddocument`.<sup>📝</sup>
- Setup `showkeys` to show only `\labels` and not `\refs` nor `\cites`.<sup>📝</sup>
- Automatically append compilation date time in the bottom margin of each even page.



Example:

Version compilée le 2021-05-27, à 12:21:21

## 2 Package **citebackref**

This very small package helps to include back references in the bibliography. It handles the different case either or not **hyperref** and/or **babel** is used. It must be loaded after **babel** and before **hyperref**. Its output is in the **babel**'s default language (default to English) and features hyperlinks if relevant.

- If **hyperref** is loaded, it pass to it the option **pagepackref**
- If not, it loads the package **backref** with option **pagepackref**
- 

## 3 Package **versionswitch**

### 3.1 Context and aim

The French regulation requires that thesis are presented in two versions:

- The so-called “diffusion” version, which must be strictly compliant with the copyright rules and therefore free of any third-party content for which the explicit authorization of the authors and the rights holder has not been obtained.
- The so-called “archival” (en French “archivage”), which may contain such elements, but is necessarily restricted for distribution and reproduction.

As the maintenance of two different versions of the same document, differing only by the fact that one is expurgated of some elements (mostly figures), is a tedious and error-prone task, it is interesting to have only one source file and to be able to switch easily from one mode to the other.

### 3.2 Usage

This simplification is the purpose of the **versionswitch** package, which defines a dedicated environment, named **copyrighted**, in which the elements to be deleted must be enclosed.

- When the documents is compiled normally, or with the `\documentclass`'s options **archiv**, the complete “archival” version is produced.
- Oppositely, if one uses the option **diffus** (or the equivalent **diffusion**), the content of each **copyrighted** environment is replaced by a box of exactly the same size, ensuring that the surrounding part of the document is typeset in exactly the same way.

The option **diffusion** is somehow similar to the **draft** option, with important differences:

- The overfull mark is not printed.
- Only some specific figures (or texts) are replaced by a box.
- This box not only contains the name of the file but also the full bibliographic reference, including an hyper-link to the original work, if **hyperref** is loaded and the bib record contains the link.



The bibliographic reference can be provided in two versions of the **copyrighted** environment.

#### First version

```
\begin{copyrighted}[option]{bibkey}
\begin{figure}[tbph]
...
\end{figure}
\end{copyrighted}
```

where **bibkey** is the BibTeX key of the corresponding reference (the corresponding `\cite` is also added in the figure `\caption`). This reference (the `\bibitem`) is extracted from the reference list as provided by BibTeX, by the mean of the **bibentry** package. This **bibentry** package is tightly linked with the **natbib** package, by the same author, which is very convenient to improve the formatting of the `\cite` in the text. Therefore, it is necessary to load the **natbib** package *prior* to the **versionswitch** package. The **bibentry** it self is loaded by **versionswitch**, and *should in no way* be loaded independently, as it would clash with **hyperref** or the **citebackref** package<sup>9</sup>. The optional argument **option** can be set to **diffus** in order to locally emulate the “diffusion” mode, even if the global document mode is “archival” mode.

#### Second version

```
\begin{copyrighted}[option]{bibkey}[fullbibref]
\begin{figure}[tbph]
...
\end{figure}
\end{copyrighted}
```

In this version the **bibkey** is used only to provide the link to the bibliography, but the **bibentry** is not used. The second optional argument **fullbibref** must then provide the formatted content that will be put into the box.

### 3.3 Examples

Several examples are provided in the file `app-versionswitch.tex` included in the template.

## 4 Package **thcover**

This packages creates front- and back-cover pages (1 & 4) according to the style prescribed by the university<sup>10</sup>. It also embeds the (user provided) metadata in the PDF file and can optionally create a PDF/A file.

Please refer to its own separate documentation.

<sup>9</sup>Hence the prescribed order of packages loading is : **babel,natbib,preamb-graph,versionswitch**, and possibly, **citebackref,hyperref**.

<sup>10</sup>At time of writing (October 16, 2023) the cover pages are implemented for the main universities in Paris: Sorbonne Université (SU), Paris Sciences et Lettres (PSL), Université de Paris (UP) and Université Paris-Saclay (UPSaclay). Hence the name of the bundle. It’s extension would be rather straightforward

## A Where to put the packages?

The standard answer to this very common question is “where  $\text{\TeX}$  can find it” which is anything but informative! A poor-man solution could be “put all the files in the working directory”, but this would be very cumbersome! A more useful answer is “in your ‘home’ TDS directory”.

### A.1 TDS Directories

A “TDS directory” (TDS means “ $\text{\TeX}$  Directory Structure”) is a directory tree which conforms with the standard structure that any a  $\text{\TeX}$  distribution should conform to<sup>11</sup>. The main (or ROOT, or system wide) TDS directory is usually named “**texmf**” (mf stands for METAFONT, a companion program of  $\text{\TeX}$ ), except for MiKTeX (on Windows computers) where it is the `C:\programs\miktex` directory. In fact the TDS directory is split in various places, depending on the OS. As list of typical locations is <https://miktex.org/kb/texmf-roots>.

The ‘home’ TDS directory is specifically intended to store custom packages installed “by hand”. It is usually in the user profile directory. If it already exist, and is known by  $\text{\TeX}$ , one gets its location by the command in console<sup>12</sup>: `kpsewhich -var-value=TEXMFHOME`.

If the answer is empty, create it at any place in your home directory. If it already exist, you can use it directly. In both cases you should respect the TDS structure. This means specifically that the three directories found in the **texmf** in this archive must be copied in the TDS Home directory.

Then you have to instruct  $\text{\TeX}$  about the location of the various files, depending on the OS and the distribution. This can be performed in various ways.

**Quick and dirty:** Locate the system-wide TDS Root directory with the comand `kpsewhich -var-value=TEXMFDIST` (returning `C:/Program Files/MiKTeX` or `/usr/share/texlive/texmf-dist` or anything like this). Then copy the provided **texmf/tex/latex/these** folder into your `<TEXMFDIST>/tex/late` folder. Optional, copy the the provided **texmf/doc/these** folder into your `<TEXMFDIST>/doc/` folder. Finally update the filename database with the command `initexmf -verbose -update-fndb` for MiKTeX, ans `texhash` or `mktextlsr` for Linux/MacOS. But this method (*i*) is strongly discouraged (*ii*) requires that you have enough right to write in this directory.

### A.2 Using User Home TDS Directory

**Unix** On Unix-like OS, the TDS Home directory is by default set to `~/texmf` where `~` represents the path to the per user home directory. This can be verified with `kpsewhich -var-value=TEXMFHOME` or `tlmgr conf | grep TEXMFHOME`. If this directory does not yet exist, create it. Once the files copied in this TDS compliant folder, the corresponding file-names database is created/updated with the command `texhash ~/texmf` o or `mktextlsr ~/texmf`

**MacOS** On Apple computers, the standard distribution is also TeXLive, so the strategy explained above for Unix, is also valid, except that the default TDS Home directory is `~/Library/texmf`, and that the command `texhash` / `mktextlsr` are not necessarily in the `$PATH`.

**MiKTeX** (Windows) either use the GUI ‘MiKTeX Console’<sup>13</sup>, or the command line.

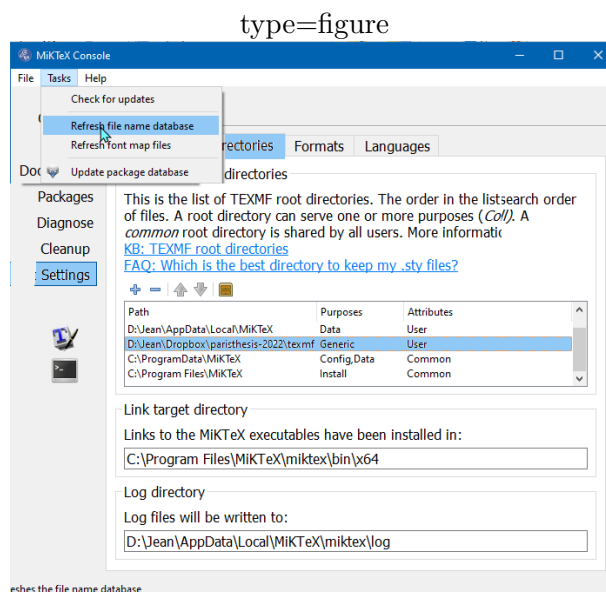
<sup>11</sup>More about TDS at <https://tug.org/tds/tds.html> or with more details and explanation on <https://tug.org/texinfohtml/kpathsea.html#TeX-directory-structure>

<sup>12</sup>Name of comand derived from “Karl’s Path SEarch Library WHICH”.

<sup>13</sup>Launch it from the Start menu, or from a terminal using the command `mpm`

**GUI** In `mpm`, if you are asked to, select the ‘User mode’ and not the ‘Administrator mode’, then go to the ‘Settings’ panel and select the ‘Directories’ tab. Check the presence of the selected Home directory, or add it to the list, and then ‘Refresh file names database’.

**Command line** Check the status of your directory with `initexmf -verbose -report` or `kpsewhich -var-value=TEXMFHOME`. If not listed, add it with `initexmf -verbose -user-roots=<path>`. Finally, refresh the filenames database with `initexmf -verbose -update-fndb`.



Screen-shot of MiKTeX console management

### A.3 Two alternatives

**Links** (use with care) If you have a ‘local’ TDS directory and the rights to write in it, you can use a symbolic link, in order to avoid to copy the whole set of files<sup>14</sup>. In this case, create, for each folder in the bundle’s `texmf` directory, a symbolic link too it in the local TDS directory.

For Windows (with NTFS file system, i.e. v. 7–10), you can use as a local TDS directory the `%USERPROFILE%\AppData\Local\MiKTeX` and the command to create the link (aka ‘junction’) is `mklink /j <sourcepath> <targetpath>` where `<sourcepath>` is the absolute path to the folder containing the set of files (any of the subfolders of the `texmf` in the archive), and `<targetpath>` the name of a **non-existing** sub-path of the local TDS directory.

For Unix-like computers, including MacOS, the folder location is read as said above, and the links are created by `ln -v -sf <sourcepath> <targetpath>`, with the same meaning of `<sourcepath>` and `<targetpath>`, and the same restriction that `<targetpath>` does not already exist. Note that `sudo` may be needed to write to `TEXMFLOCAL...`

**Environment variables** The old fashioned way relies on environment variables (not set by modern  $\text{\TeX}$  distributions), and among them `TEXINPUTS`. The folder defined by this variable is searched after the current working directory but before any `TEXMFHOME` or `TEXMFLOCAL`. To check it, type console `echo %TEXINPUTS%` (Windows) or `printenv TEXINPUTS` (Linux & MacOS). To set it, use `set TEXINPUTS=%USERPROFILE%/<path>///` (Windows), or `export TEXINPUTS='~/<path>///'` (Linux & MacOS). In theses commands, the `<path>` is the path of your personal `texmf` tree (e.g. `mylocaltexmf`), relative to your home directory (`%USERPROFILE%` or `~`). Notice that `<path>` **should** be followed by a double slash (`///`) to ask  $\text{\TeX}$  to search non only in this folder but also in all subdirectories. This setting can be temporary if inserted in the script which launches the compilation, or made permanent...

<sup>14</sup>The only advantage of this approach is that the maintenance of the package is more easier if you have to update it, or your  $\text{\TeX}$  distribution

## B Frequently asked questions

1. The option `french` of `babel` changes the labels of `itemize` of `•` to `—` to change this, we have three methods to choose from:
  - (a) Add in the *preamble* : `\frenchsetup{ItemLabels=textbullet}`
  - (b) Add in the *preamble*: `\frenchsetup{StandardItemLabels=true}`
  - (c) Load the package `enumitem` and add in the *preamble*, for example `\setlist[itemize,1]{label=textbullet}`.  
Note that the latter option is more powerful because you can also customize the label for each kind and level of lists in the *preamble*, or list by list in the *text*.
2. At the first page of `\mainmatter`, the numbering is reset to 1 by the (implicit) command `\pagenumbering{arabic}`. This it is convenient for a paper document, but rather annoying for a document used in electronic form (as the logical page number no longer matches the printed one). To fix this, empty this command by adding *just before* `\mainmatter`, the command `\renewcommand*\pagenumbering[1]{}`, or at least remove the page counter reset with `\renewcommand*\pagenumbering[1]{\renewcommand\thepage{\csuse{#1}{page}}}`
3. The front pages are numbered in Roman numerals (lowercase). To change this put *just after* `\frontmatter` the command `\renewcommand\thepage{\arabic{page}}`.
4. By default the table of contents and bibliography (and any `\listof<something>` and `index`) are not included in the `toc`. To change this, the easiest way is to load the package `tocbibind` (with possible options to exclude some contents) but more sophisticated option methods are also available, with `\addcontentsline`.
5. With standard or custom packages, the error message “options clash” may occurs, if the list of options is not strictly equivalent (i.e. identical except for the order) to a previous request. In such case, provided the concerned options are not opposed, the solution can be to add, just after (or even just before) the `\documentclass` line, the command `\PassOptionsToPackage<options>{<package>}`, where `<options>` is a comma separated list of options.