

mylatexformat

Use mylatexformat to make a format based on the preamble of any LaTeX file

FC

2011/01/14 – version 3.1

Abstract

mylatexformat can be used to make a format from the preamble of any \LaTeX file. The use of formats helps to speed up compilations: packages which have been dumped in the format are loaded at very high speed. A format (also known as *dump*) is therefore very suitable:

- if you have many documents that share the same preamble,
- if you have a document which loads a large amount of packages (like TikZ graphics libraries).

mylatexformat will dump all definitions until `\begin{document}` or `\endofdump`, more precisely:

<code>\RequirePackage{...}</code> <code>\documentclass{...}</code> <code>\usepackage{...}</code> <code>\begin{document}</code>	<code>\RequirePackage{...}</code> <code>\documentclass{...}</code> <code>\usepackage{...}</code> <code>\endofdump</code> ... <code>\begin{document}</code>	<code>\RequirePackage{...}</code> <code>\documentclass{...}</code> <code>\usepackage{...}</code> <code>\csname endofdump\endcsname</code> ... <code>\begin{document}</code>
---	---	--

The colored parts correspond to the format. The `.log` file will report:

start reading document "my document" on input line *** (<code>\begin{document}</code>)	start reading document "my document" on input line *** (<code>\endofdump</code>)
---	---

mylatexformat was primarily written from **mylatex** by David Carlisle, but it is different in many points (see 3). In particular, **mylatexformat** allows to put almost any package in the format, with one exception: the package **minitoc** cannot be included in the format (you must use `\endofdump` before `\usepackage{minitoc}`).

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This documentation is produced with the DocStrip utility.

- To get the package, run: `etex mylatexformat.dtx`
- To get the documentation run (thrice): `pdflatex mylatexformat.dtx`
- To get the index, run: `makeindex -s gind.ist mylatexformat.idx`

The `.dtx` file is embedded into this pdf file thank to `embedfile`¹ by H. Oberdiek.

1 Creating a format

1.1 Using MikTeX

1.1.1 With preloaded pdflatex format (pdf output)

Use the following command line:

```
etex -initialize [opts] "&pdflatex" mylatexformat.ltx ""abc.tex""
```

You need 3 quotes around your .tex file if its name contains space (only one quote if it does not contain any space, but 3 quotes is more general...)

Full example:

```
etex -initialize -save-size=20000 -stack-size=20000
               -jobname="The-Name-Of-The-.fmt-File(without .fmt extension)"
               "&pdflatex" mylatexformat.ltx ""Mon Fichier TeX.tex""
```

1.1.2 With preloaded latex format (dvi output)

Use the following command line:

```
etex -initialize [opts] "&latex" mylatexformat.ltx ""abc.tex""
```

1.1.3 With preloaded format xelatex (pdf output)

Use the following command line:

```
xetex -initialize [opts] "&xelatex" mylatexformat.ltx ""abc.tex""
```

1.2 Using other distributions

As I pointed out in the abstract, I have not been able to test the file on other distributions.

Some users told me they typed the following command line:

```
latex -ini -jobname="thenameoffmtfile" "&latex" mylatexformat.ltx ""abc.tex""
```

2 Using a format

2.1 Using MikTeX

Add the format to the very first line of your LaTeX file :

```
%&"Mon Beau Format"
```

You may use the $\varepsilon\text{-TeX}$ option : `-dont-parse-first-line` to avoid loading the format.

2.2 Using other distributions

As I pointed out in the abstract, I have not been able to test the file on other distributions.

3 How does it work ? (and why it is different from mylatex.ltx)

mylatex.ltx has three important limitations:

- 1) The end of the format is either `\begin{document}` or the comment `%mylatex`.
Therefore, after the format has been loaded, T_EX checks the commentaries in the preamble in order to skip everything before `%mylatex`.
But this way, braces **must match inside commentaries !**
- 2) mylatex.ltx temporarily redefines the command `\document` in order to stop the creation of the format (execution of `\dump`) at begin document.
However, the **initial definition of the macro `\document`** is saved and reloaded after the format has been loaded.
Therefore, packages that modifies this macro (such as `auxhook`² or `etoolbox`³ cannot be included in the format!
- 3) If your document starts with :
`\begin{document}% commentary` or with :
`\begin{document}\makeatletter`
the format is not stopped at `\begin{document}` and an error occurs.

With mylatexformat.ltx, those limitations are lifted.

mylatexformat.ltx:

- 1) Temporarily redefines `\begin` in order to check if its argument is `<document>`.
Therefore, packages like `auxhook` or `etoolbox` can be included in the format.
- 2) Stops the format when it encounters `\begin{document}` or `\endofdump`.
- 3) Does not read inside commentaries
- 4) After the format has been loaded, each line is checked to see if it **contains** either:

`\begin{document}`

or: `\endofdump`

or: `\csname endofdump\endcsname*`

Report is written in the `.log` file, with the job name, the name of the preloaded format, the list of preloaded files and the first input line read after loading of format.

* this way, the command `\csname endofdump\endcsname` is silently ignored (equiv. to `\relax`) in case the format is not used.

2. auxhook: CTAN:macros/latex/contrib/oberdiek/auxhook H. Oberdiek
3. etoolbox: CTAN:macros/latex/contrib/etoolbox P. Lehman

4 Implementation

```

1 <*package>
2 %%% -----
3 %%%                               mylatexformat.ltx
4 %%%                               ^^^^^^^^^^^^^^^^^^
5 %%% From an original idea by David Carlisle - mylatex.ltx 1994/09/27
6 %%% © lpp1 2010-2011 - F Chervet - 2011/01/14
7 %%% -----
8 %%%
9 %%% Use this file to make a format based on the preamble of any LaTeX
10 %%% file.
11 %%%
12 %%% The format is made from the very beginning of the file up to either:
13 %%%   i) the command : \endofdump
14 %%%                  placed in the preamble
15 %%%   ii) the command : \csname endofdump\endcsname
16 %%%                   placed in the preamble
17 %%%   iii) \begin{document}
18 %%%                  if \endofdump nor \csname endofdump\endcsname
19 %%%                  haven't been found in the preamble.
20 %%%
21 %%% A format helps to speed up compilations, packages which have been
22 %%% dumped in the format are loaded at very high speed.
23 %%% -----
24 %%% There are no restrictions on the distribution or modification of
25 %%% this file, except that other people should not attempt to alter
26 %%% the master copy on the ctan archives.
27 %%%
28 %%% Making the format -----
29 %%% ^^^^^^^^^^^^^^^^^^                               USING MikTeX
30 %%% * With preloaded pdflatex format (pdf output) :
31 %%%   etex -initialize [opts] "&pdflatex" mylatexformat.ltx ""abc.tex""
32 %%%   => compile your document using :
33 %%%       pdflatex
34 %%%       or texify --tex-option=-output-format=pdf
35 %%%
36 %%% * With preloaded latex format (dvi output) :
37 %%%   etex -initialize [opts] "&latex" mylatexformat.ltx ""abc.tex""
38 %%%   => compile your document using
39 %%%       latex
40 %%%       or texify --tex-option=-output-format=dvi
41 %%%
42 %%% * With preloaded format xelatex (pdf output) :
43 %%%   xetex -initialize [opts] "&xelatex" mylatexformat.ltx ""abc.tex""
44 %%%   => compile your document using xelatex
45 %%%
46 %%% NOTA BENE:   Please, notice the 3 quotes !
47 %%% ^^^^^^^^^^
48 %%%
49 %%% In fact, 3 quotes are necessary only if you "file name.tex" contains a space !
50 %%%
51 %%% -----
52 %%% Exemple of a command line for making format using pdfTeX :
53 %%%
54 %%%   etex -initialize -interaction=nonstopmode
55 %%%         -save-size=20000 -stack-size=20000
56 %%%         -jobname="Mon Beau Format Perso"
57 %%%         "&pdflatex" mylatexformat.ltx "Mon Fichier TeX.tex"
58 %%%
59 %%%   "Mon Beau Format Perso.fmt" (en Français dans le texte) will be created
60 %%%   (or overwritten) in the current working directory.
61 %%%
62 %%% Using the format -----

```

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```

127%% \begin{document}
128%% Everything up to (but not including) the \begin{document} will
129%% be saved in the format and not executed in subsequent runs.
130%%
131%% If you are modifying the document (or working on a similar document)
132%% you may wish to add new commands to your document preamble.
133%% The 'mylatex' format normally skips the whole preamble (believing
134%% it to be pre-loaded) and so such new commands do not take effect.
135%% You could re-make the format, preloading the new preamble, but that
136%% might be inconvenient to do every time, and so an alternative scheme
137%% has been introduced.
138%% If the preamble contains a comment mylatex (ie a line just
139%% containing a % white space and the word mylatex) then the mylatex
140%% format will start reading the preamble at that point so any new
141%% commands can be placed after such a comment and they will be
142%% executed.
143%% -----
144%%
145%% \RequirePackage{etex}% \RequirePackage may be used before the class
146%%
147%% In principle \openout stream= filename need not be space terminated,
148%% and need not be immediate, but this covers \makeindex \makeglossary
149%% and index package's \newindex which are all the cases of \openout
150%% that occur before \begin{document} that I could see.
151%% Thanks to Ross Moore for pointing out \AtBeginDocument is too late
152%% eg changebar package *closes* the stream in \AtBeginDocument, so need
153%% to make sure it is opened before that. Make a special purpose hook.
154%%
155%% Save the original definition.
156\makeatletter
157\let\etex@primitive@openout \openout
158\let\ltx@listfiles\listfiles
159\def\openout#1 {\g@addto@macro\MYLATEX@opens{\immediate\openout#1 }}
160\def\MYLATEX@opens{%
161  \let\openout\etex@primitive@openout
162  \let\etex@primitive@openout\@undefined
163}% \MYLATEX@opens
164\def\MYLATEX@cmap@hook{%
165  {\@for\x:={lae,lfe,lgr,ot1,ot1tt,ot6,t1,t2a,t2b,t2c,t5}\do{%
166    \expandafter\MYLATEX@cmap@h@@k \x\@nil
167    \uppercase\expandafter{\expandafter\MYLATEX@cmap@h@@k \x\@nil}}}%
168  \global\let\MYLATEX@cmap@h@@k \@undefined
169  \global\let\MYLATEX@cmap@hook \@undefined
170}% \MYLATEX@cmap@hook
171\def\MYLATEX@cmap@h@@k #1\@nil{%
172  \ifcsname cmap@set@#1\endcsname
173    \global\expandafter\let\csname cmap@set@#1\endcsname \@undefined
174  \fi
175}% \MYLATEX@cmap@h@@k
176%% \begin is overloaded in order to stop \dump at begin document
177%% if the macro \endofdump is not given somewhere in the preamble.
178%% Rem: it is NOT POSSIBLE to redefine \document, for the macro
179%%       \document is changed or patched by some classes or packages
180%%       (auxhook, etoolbox etc.)
181\let\MYLATEX@ltx@begin \begin
182\def\begin#1{%
183  \expandafter \ifx\csname#1\endcsname\document
184    \expandafter\expandafter\expandafter\endofdump
185    \expandafter\@gobble
186  \else \expandafter\MYLATEX@ltx@begin
187  \fi{#1}%
188}% \begin
189%% The version of \document to use on the initex run.
190%% Just preloads some fonts, puts back \document and \openout,

```

```

191%% sets up the banner to display the file list of files preloaded,
192%% then sets up some special catcodes so the preamble will be
193%% skipped on normal runs with the new format.
194\def\endofdump{%
195%% Force some font preloading.
196 {\setbox\z@\hbox{%
197     $$% math (not bold, some setups don't have \boldmath)
198     \normalfont% normal
199     {\bfseries\itshape}{\itshape}\ttfamily\sffamily
200     \ifdefined\large\large\fi
201     \ifdefined\Large\Large\fi
202     \ifdefined\LARGE\LARGE\fi
203     \ifdefined\Huge\Huge\fi
204     \ifdefined\small\small\fi
205     \ifdefined\footnotesize\footnotesize\fi
206     \ifdefined\tiny\tiny\fi
207 }}%
208 \let\openout \etex@primitive@openout% just in case - normally not necessary
209 \let\begin \MYLATEX@ltx@begin
210 \let\MYLATEX@ltx@begin \@undefined
211 \MYLATEX@cmap@hook
212 \makeatother
213 \everyjob\expandafter{\the\everyjob
214     \begingroup
215         \listfiles\let\listfiles\ltx@listfiles
216         \expandafter\MYLATEXcustomised\@dofilelist
217     \endgroup
218     \MYLATEX@scan@preamble
219 }%
220 \let\endofdump\relax
221 \dump
222 }
223%% Banner for \everyjob.
224\edef\MYLATEXcustomised#1#2#3\typeout#4{%
225     \noexpand\typeout{%
226         =====}%
227     \noexpand\typeout{%
228         JOB NAME\noexpand\@spaces\noexpand\@spaces\noexpand\space\noexpand\space:%
229             \string\noexpand\jobname\string}%
230     \noexpand\typeout{CUSTOMISED FORMAT :\string\jobname\string}%
231     \noexpand\typeout{PRELOADED FILES:}%
232     #3%
233     \noexpand\typeout{%
234         =====}%
235     \noexpand\typeout{(mylatexformat)Info: start reading document
236         \string\noexpand\jobname\string}%
237 }% \MYLATEXcustomised
238%% While the preamble is being skipped (inside a group)
239%% the EOL is active and defined to grab each line and
240%% inspect it looking for :
241%%     \endofdump
242%% or     \csname endofdump\endcsname
243%% or     \begin{document}.
244%%
245%% The special catcodes required are not enabled until after the
246%% first TeX command in the file, so as to avoid problems with
247%% the special processing that TeX does on the first line, choosing
248%% the format, or the file name etc.
249{% Entering simple groupe (level 1) => skip the preamble
250\catcode'\^^M=\active
251\catcode'\& 8 %
252\long\gdef\MYLATEX@start#1#2{%
253    \typeout{(mylatexformat)\@spaces\space\on@line.\space(
254        \ifcase#1 \string\endofdump\else\string\begin{document}\fi)}}%

```



```

255 \typeout{%
256 =====}%
257 \endgroup%
258 \catcode'\^^M=5\relax \let^^M\par%
259 \MYLATEX@opens#2%
260}% \MYLATEX@start
261 \long\gdef\MYLATEX@scan@preamble{\catcode'\^^M=13\relax%
262 \begingroup%
263 \long\def\MYLATEX@endofdump##1\endofdump##2##3&##4##5##6\MYLATEX{##5}%
264 \long\def\MYLATEX@endofdump@cs##1\csname endofdump\endcsname##2##3&##4##5##6\MYLATEX{##5}%
265 \long\def\MYLATEX@document ##1document##2##3&##4##5##6\MYLATEX{##5}%
266 \long\def\MYLATEX@begindocument##1\begin##2##3\MYLATEX##4{%
267 \MYLATEX@document ##2document&&\MYLATEX@start1{##4}{^^M}\MYLATEX}%
268 \long\gdef^^M##1^^M{%
269 \MYLATEX@endofdump##1\endofdump&&%
270 {\MYLATEX@start0{##1}}%
271 {\MYLATEX@endofdump@cs##1\csname endofdump\endcsname&&%
272 {\MYLATEX@start0{##1}}%
273 {\MYLATEX@begindocument##1\begin\relax\MYLATEX{##1}}%
274 \MYLATEX}%
275 \MYLATEX}%
276 ^^M}% \MYLATEX@scan@preamble
277}% Leaving simple group (level 1) => start reading document

278%% Trick lookahead to allow mylatex.ltx and the document filename to be
279%% given on the same command line. (initex &latex mylatex.ltx {abc.tex})
280\expandafter\input\endinput%
281</package>

```

5 History

[2011/01/14 v3.1]

- \@for loop introduced for compatibility with the `cmap` package had the bad side effect to define a control sequence `\x`. Fixed.

[2011/01/12 v3.0]

- Fix a problem with package `cmap` which could not be included in the format.
- Documentation revisited after Users' feedback (and the `interfaces` package).

[2010/08/09 v2.9]

- Modification of the macros that scan the preamble when the `.tex` file is compiled with its format. It is now possible to start a file with `\begin{document}` just after the format specification (`&myformat`).

To do: Command line to make the format on Linux (`-ini` instead of `-initialize` ???).

[2010/06/30 v2.1]

- Added: `\listfiles` is now available in the preamble, after `\endofdump`, when the document is compiled with its format.
- Documentation update.

[2010/05/20 v1.2]

- Fixed a bug in `\MYLATEXopens`
(There was problems when including an index in the format for example...)

[2010/04/30 v1.0]

- First version.

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