

The file `ltxdoc.dtx` for use with $\text{\LaTeX} 2_{\epsilon}$.^{*}

It contains the code for `ltxdoc.cls`

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This file is maintained by the \LaTeX Project team.
Bug reports can be opened (category `latex`) at
<https://latex-project.org/bugs.html>.

1 Documentation of the \LaTeX sources

This class file is designed for documenting the \LaTeX source files. You may however find it generally useful as a class for typesetting the documentation of files produced in ‘doc’ format.

Each documented file in the standard distribution comes with extension `dtx`. The appropriate class package or initex file will be extracted from the source by the docstrip system. Each `dtx` file may be directly processed with $\text{\LaTeX} 2_{\epsilon}$, for example

```
latex2e docclass.dtx
```

would produce the documentation of the class and package interface.

Each file that is used in producing the $\text{\LaTeX} 2_{\epsilon}$ format (ie not including the standard class and packages) will be printed together in one document if you \LaTeX the file `sources2e.tex`. This has the advantage that one can produce a full index of macro usage across all the source files.

If you need to customise the typesetting of any of these files, there are two options:

- You can use DOCSTRIP with the module ‘driver’ to extract a small \LaTeX file that you may edit to use whatever class or package options you require, before inputting the source file.
- You can create a file `ltxdoc.cfg`. This configuration file will be read whenever the `ltxdoc` class is used, and so can be used to customise the typesetting of all the source files, without having to edit lots of small driver files.

The second option is usually more convenient. Various possibilities are discussed in the next section.

^{*}This file has version number v2.11, dated 2026/04/06.

2 Customisation

The simplest form of customisation is to pass more options to the `article` class which is loaded by `ltxdoc`. For instance if you wish all the documentation to be formatted for A4 paper, add the following line to `ltxdoc.cfg`:

```
\PassOptionsToClass{a4paper}{article}
```

All the source files are in two parts, separated by `\MaybeStop`. The first part (should) contain ‘user’ documentation. The second part is a full documented listing of the source code. The `doc` package provides the command `\OnlyDescription` which suppresses the code listings. This may also be used in the configuration file, but as the `doc` package is read later, you must delay the execution of `\OnlyDescription` until after the `doc` package has been read. The simplest way is to use `\AtBeginDocument`. Thus you could put the following in your `ltxdoc.cfg`.

```
\AtBeginDocument{\OnlyDescription}
```

If your document relies on using the old `doc` version, you can request that the class loads `doc` version 2 by passing the option `doc2`.

If the full source listing `sources2e.tex` is processed, then an index and change history are produced by default, however indexes are normally not produced for individual files.

As an example, consider `ltclass.dtx`, which contains the sources for the new class and package interface commands. With no `cfg` file, a 19 pages document is produced. With the above configuration a slightly more readable document (4 pages) is produced.

Conversely, if you really want to read the source listings in detail, you will want to have an index. Again the index commands provided by the `doc` package may be used, but their execution must be delayed.

```
\AtBeginDocument{\CodelineIndex\EnableCrossrefs}  
\AtEndDocument{\PrintIndex}
```

The `doc` package writes index files to be sorted using `MakeIndex` with the `gind` style, so one would then use a command such as

```
makeindex -s gind.ist ltclass.idx
```

and re-run \LaTeX .

Similarly to print a Change history, you would add

```
\AtBeginDocument{\RecordChanges}  
\AtEndDocument{\PrintChanges}
```

to `ltxdoc.cfg`, and use `MakeIndex` with a command such as

```
makeindex -s gglo.ist -o ltclass.gls ltclass.glo
```

Finally if you do not want to list all the sections of `source2e.tex`, you can use `\includeonly` in the `cfg` file:

```
\includeonly{ltvers,ltboxes}
```

3 Options

```

1 <{*class>
2 \DeclareOption{a5paper}{\@latexerr{Option not supported}}%
3 {}

```

Prevent loading of a config file.

```

4 \newif\ifltxdoc@load@cfg@ \ltxdoc@load@cfg@true
5 \DeclareOption{nocfg}{\ltxdoc@load@cfg@false}

Support rolling back doc to version 2:
6 \let\ltxdoc@doc@version\@empty % use current version by default
7 \DeclareOption{doc2}{%
8   \def\ltxdoc@doc@version{=v2}%
9   \DeclareRobustCommand\cs[1]{\texttt{\backslash #1}}%
10 }
11 \DeclareOption*{%
12   \PassOptionsToClass {\CurrentOption}{article}}

```

4 Option Processing

```

13 \ProcessOptions

```

5 Local configuration

Input a local configuration file, if it exists.

```

14 \ifltxdoc@load@cfg@
15 \InputIfFileExists{ltxdoc.cfg}
16   {\typeout{*****^J%
17             * Local config file ltxdoc.cfg used^J%
18             *****}}
19   {}
20 \else
21   \typeout{*****^J%
22             * Local config file ignored^J%
23             *****}
24 \fi

```

6 Loading article and doc

```

25 \LoadClass{article}

```

By default, load the current doc version (`\ltxdoc@doc@version` is empty). If option `doc2` is given version 2 is loaded (`\ltxdoc@doc@version` contains `=v2`).

```

26 \RequirePackage{doc}[\ltxdoc@doc@version]

```

Make `|` be a ‘short verb’ character, but not in the document preamble, where an active character may interfere with packages that are loaded.

```

27 \AtBeginDocument{\MakeShortVerb{\|}}

```

As ‘doc’ documents tend to have a lot of monospaced material, set up some `tt` substitutions to occur silently.

```

28 \DeclareFontShape{OT1}{cmtt}{bx}{n}{<-> ssub * cmtt/m/n}{}
29 \DeclareFontFamily{OMS}{cmtt}{\skewchar\font 48} % '60
30 \DeclareFontShape{OMS}{cmtt}{m}{n}{<-> ssub * cmsy/m/n}{}

```

```
31 \DeclareFontShape{OMS}{cmtt}{bx}{n}{<-> ssub * cmsy/b/n}{}

```

This substitution is in the standard fd file, but not silent.

```
32 \DeclareFontShape{OT1}{cmss}{m}{it}{<->ssub*cmss/m/sl}{}

```

```
33 \CodelineNumbered

```

```
34 \DisableCrossrefs

```

Increase the text width slightly so that with the standard fonts 72 columns of code may appear in a macrocode environment.

```
35 \setlength{\textwidth}{355pt}

```

Increase the marginpar width slightly, for long command names. And increase the left margin by a similar amount

```
36 \addtolength{\marginparwidth}{30pt}

```

```
37 \addtolength{\oddsidemargin}{20pt}

```

```
38 \addtolength{\evensidemargin}{20pt}

```

```
39 \setcounter{StandardModuleDepth}{1}

```

7 Useful abbreviations

`\cmd{\foo}` prints `\foo` verbatim. It may be used inside moving arguments. It can *not* be used to record commands that are defined as “`\outer`” nor is it possible to use it on conditionals such as `\iftrue` or defined by `\newif`. `\cs{foo}` already available with the `doc` package and also prints `\foo`, for those who prefer that syntax. (This second form can be used to record all types of command so the above restrictions do not apply.)

`\cmd`

```
\cs 40 %\DeclareRobustCommand\cs[1]... % defined later
41 %\def\cmd#1{\cs{\expandafter\cmd@to@cs\string#1}} % can't use with new \cs
42 \def\cmd#1{\texttt{\char'\'\expandafter\cmd@to@cs\string#1}}

```

hyperref allow to fill the pdfstringdef-hook before the package is loaded:

```
43 \providecommand\pdfstringdefPreHook{}
44 \g@addto@macro\pdfstringdefPreHook{%
45   \def\cmd#1{\textbackslash\expandafter\@gobble\string#1}}%
46 \def\cmd@to@cs#1#2{\char\number'#2\relax}

```

`\marg \marg{text}` prints `{<text>}`, ‘mandatory argument’.

```
47 \providecommand\marg[1]{%
48   {\ttfamily\char'\{\}\meta{#1}{\ttfamily\char'\}}

```

`\oarg \oarg{text}` prints `[<text>]`, ‘optional argument’.

```
49 \providecommand\oarg[1]{%
50   {\ttfamily[]\meta{#1}{\ttfamily[]}}

```

`\parg \parg{te,xt}` prints `(<te,xt>)`, ‘picture mode argument’.

```
51 \providecommand\parg[1]{%
52   {\ttfamily{}\meta{#1}{\ttfamily{}}}

```

8 Old Comments

The $\text{\LaTeX} 2_{\epsilon}$ sources contain a lot of code inherited from $\text{\LaTeX} 2.09$. The comments in this code were not designed to be typeset, and do not contain the necessary \LaTeX markup. The `oldcomments` environment typesets these comments, automatically sensing when any control sequence appears, and implicitly adding the `\verb`. This procedure does not produce particularly beautiful pages, but it allows us to fully document new sections, and have some form of typeset comments on all the old code.

Scan control names and put them in tt. Will actually (incorrectly) scan past `\\` but this does not matter as this is almost never followed by a letter in practice. (ie `\\foo`) would put `foo` in `\ttfamily`.

```

53 \def\oc@scan#1{%
54   \ifx\oc@bslash#1%
55     \egroup\let\next\oc@bslash\else
56   \ifcat a\noexpand#1%
57     #1\let\next\oc@scan\else
58   \ifx\oc@percent#1%
59     \def\next{\char'\%\egroup}%
60   \else
61     #1\let\next\egroup
62   \fi\fi\fi\next}

63 \def\oc@bslash{\bgroup\oc@ttf\char'\%\oc@scan}%

64 \def\oc@verb#1{%
65   \catcode'#1\active
66   \uccode'\~'#1%
67   \uppercase{\def~{\oc@ttf\char'#1}}}

68 \begingroup
69   \obeyspaces%
70   \catcode'\!=\catcode'\\
71   /catcode'/\!/active
72   /catcode'<=\catcode'{%
73   /catcode'>=\catcode'}%
74   /catcode'/{/active%
75   /catcode'/}/active%
76   /gdef/oldc< \end{oldcomments}>%
77   /gdef/begmac< \begin{macrocode}>%
78   /gdef/obs</def <</oc@ttf/ >>>%
79 /endgroup%

80 \begingroup
81   \catcode'\!=\catcode'\\
82   \catcode'\\=13
83   /catcode'/|=\catcode'/%
84   /catcode'/%=13
85   /gdef/oldcomments{|
86     /makeatletter
87     /let/do/oc@verb/dospecials
88     /frenchspacing/@vobeyspaces/obs
89     /raggedright
90     /oc@verb/>|
91     /oc@verb/<|

```

```

92 /let\@bslash
93 /let%\@percent
94 /obeylines
95 /parindent/z@
96 /ttfamily/expandafter/let/expandafter/oc@ttf/the/font
97 /rmfamily
98 /textit{Historical /LaTeX/,2.09 comments (not necessarily accurate any more):}
99 /hfuzz/maxdimen
100 }
101 /endgroup

102 \begingroup
103 \sloppy%
104 \obeylines%
105 \gdef\oc@percent#1^M{%
106 \ifvmode%
107 \def\commentline{#1}%
108 \ifx\commentline\oldc%
109 \textit{End of historical \LaTeX\,2.09 comments.}
110 \end{oldcomments}%
111 \else%
112 \ifx\commentline\begmac%
113 \begin{macrocode}%
114 \else%
115 \leavevmode%
116 #1^M%
117 \fi\fi%
118 \else%
119 {\oc@ttf\char'\%}#1^M%
120 \fi}%
121 \endgroup%

```

9 DocInclude

```

122 \@addtoreset{CodelineNo}{part}

\DocInclude More or less exactly the same as \include, but uses \DocInput on a dtx file, not
\input on a tex file.

123 \def\partname{File}

124 \newcommand*\DocInclude[1]{%
125 \relax
126 \clearpage
127 \docincludeaux
128 \IfFileExists{#1.fdd}%
129 {\def\currentfile{#1.fdd}}%
130 {\def\currentfile{#1.dtx}}%
131 \ifnum\@auxout=\@partaux
132 \@latexerr{\string\include\space cannot be nested}\@eha
133 \else
134 \setcurrfile{#1}%
135 \edef\@currfile{\@strip@tex@ext\@currfile}%
136 \expandafter\@docinclude\expandafter{\@currfile}
137 \fi}
138 \def\@docinclude#1 {\clearpage

```

```

139 \if@filesw \immediate\write\@mainaux{\string\@input{#1.aux}}\fi
140 \@tempswtrue\if@partsw \@tempswafalse\edef\@tempb{#1}\@for
141 \@tempa:=\@partlist\do{\ifx\@tempa\@tempb\@tempswtrue\fi}\fi
142 \if@tempswa \let\@auxout\@partaux \if@filesw
143 \immediate\openout\@partaux "#1.aux"
144 \immediate\write\@partaux{\relax}\fi
145 \@filehook\set@CurrentFile

```

We need to save (and later restore) various index-related commands which might be changed by the included file.

```

146 \let\@ltxdoc@PrintIndex\PrintIndex
147 \let\PrintIndex\relax
148 \let\@ltxdoc@PrintChanges\PrintChanges
149 \let\PrintChanges\relax
150 \let\@ltxdoc@theglossary\theglossary
151 \let\@ltxdoc@endtheglossary\endtheglossary
152 \part{\currentfile}%
153   {\let\ttfamily\relax
154   \xdef\filekey{\filekey, \thepart={\ttfamily\currentfile}}}%
155 \DocInput{\currentfile}%
156 \let\PrintIndex\@ltxdoc@PrintIndex
157 \let\PrintChanges\@ltxdoc@PrintChanges
158 \let\theglossary\@ltxdoc@theglossary
159 \let\endtheglossary\@ltxdoc@endtheglossary
160 \clearpage
161 \@writeckpt{#1}\if@filesw \immediate\closeout\@partaux \fi
162 \else\@nameuse{cp@#1}\fi\let\@auxout\@mainaux}

163 \gdef\codeline@wrindex#1{\if@filesw

```

Set `\protect` to a suitable value in the index entries (we can't use `\set@display@protect` as that would result in different number of spaces after a command depending on the number of expansion happening prior to writing the index).

```

164   \begingroup
165     \let\protect\noexpand
166     \immediate\write\@indexfile
167       {\string\indexentry{#1}%
168       {\filesep\number\c@CodelineNo}}%
169   \endgroup\fi}

170 \let\filesep\@empty

```

`\aalph` Special form of `\alph` as currently `source2e.tex` includes more than 26 files .

```

171 \def\aalph#1{\@aalph{\csname c@#1\endcsname}}
172 \def\@aalph#1{%
173   \ifcase#1\or a\or b\or c\or d\or e\or f\or g\or h\or i\or
174     j\or k\or l\or m\or n\or o\or p\or q\or r\or s\or
175     t\or u\or v\or w\or x\or y\or z\or A\or B\or C\or
176     D\or E\or F\or G\or H\or I\or J\or K\or L\or M\or
177     N\or O\or P\or Q\or R\or S\or T\or U\or V\or W\or
178     X\or Y\or Z\else\@ctrerr\fi}

```

`\docincludeaux`

```

179 \def\docincludeaux{%
180   \def\thepart{\aalph{part}}\def\filesep{\thepart-}%

```

```

181 \let\filekey\@gobble
182 \g@addto@macro\index@prologue{%
183   \gdef\@oddfoot{\parbox[t]{\textwidth}{\strut\footnotesize
184     \raggedright{\bfseries File Key:} \filekey}}%
185   \let\@evenfoot\@oddfoot}%
186 \global\let\docincludeaux\relax
187 \gdef\@oddfoot{%
188   \expandafter\ifx\csname ver@\currentfile\endcsname\relax
189     File \thepart: {\ttfamily\currentfile} %
190   \else
191     \GetFileInfo{\currentfile}%
192     File \thepart: {\ttfamily\filename} %
193     Date: \filedate\ %
194     Version \fileversion
195   \fi
196   \hfill\thepage}%
197 \let\@evenfoot\@oddfoot}%

```

\MaintainedByLaTeXTeam Generate boilerplate reference to bug database.

```

198 \def\MaintainedBy#1{\gdef\@maintainedby{#1}}
199 \let\@maintainedby\@empty
200 \def\MaintainedByLaTeXTeam#1{%
201 {\gdef\@maintainedby{%
202 This file is maintained by the \LaTeX{} Project team.\\%
203 Bug reports can be opened (category \texttt{#1}) at\\%
204 \url{https://latex-project.org/bugs.html}.}}}%
205 \def\@maketitle{%
206   \newpage
207   \null
208   \vskip 2em%
209   \begin{center}%
210     \let \footnote \thanks
211     {\LARGE \@title \par}%
212     \vskip 1.5em%
213     {\large
214       \lineskip .5em%
215       \begin{tabular}[t]{c}%
216         \@author
217       \end{tabular}\par}%
218     \vskip 1em%
219     {\large \@date}%
220     \ifx\@maintainedby\@empty
221     \else
222       \vskip 1em%
223       \fbox{\fbox{\begin{tabular}{@{}l@{}}\@maintainedby\end{tabular}}}%
224     \fi
225   \end{center}%
226   \par
227   \vskip 1.5em}
228 \def\task#1#2{}

```

Some features from l3doc.cls Eventually, \cs should get the definition from l3doc but for now we revert to the simple one from doc.


```

229 %\DeclareRobustCommand\cs[1]{\texttt{\bslash #1}}%          -- def in doc.sty
230 \AtBeginDocument{%
231 %   \renewcommand\PrintMacroName[1]{\MacroFont\string #1\ }%  -- def in doc.sty
We provide those delated in case somebody has loaded csquotes or makes some
definitions in the preamble.
232   \providecommand\LuaTeX{Lua\TeX}
233   \providecommand\cls{\textsf}
234   \providecommand\pkg{\textsf}
235   \providecommand\enquote[1]{‘‘#1’’}
236   \providecommand\url{\texttt}
237 }
238 </class>

```

10 Document elements for new style documentation

The next block defines commands and environments that we use in newer code documentation. This is put into a separate file, because we also need it in `source2edoc.cls` and in other places.

```
239 <!--ltx-->
```

If the `ltxdoc` class is loaded with option `doc2` the `doc` commands from version 3 are unavailable, in that case we do nothing in this section!

```
240 \ifcsname NewDocElement\endcsname
```

It is helpful though no longer essential if this file can be loaded several times, for example, to redeclare the `doc` elements for tagging. At the moment `doc` doesn't offer an unconditional `\DeclareDocElement` so we do this below.

10.1 Hooks, Sockets, and Plugs

```

241 \providecommand\hook[1]{\texttt{#1\DescribeHook[noprint]{#1}}}
242 \providecommand\socket[1]{\texttt{#1\DescribeSocket[noprint]{#1}}}
243 \providecommand\plug[1]{\texttt{#1\DescribePlug[noprint]{#1}}}

```

This should probably go into `doc`.

```

244 \providecommand\DeclareDocElement[3][[]]{\@NewDocElement{#1}{#2}{#3}}
245 \DeclareDocElement[printtype=\textit{socket},idxtype=socket,idxgroup=Sockets]{Socket}{socket}
246 \DeclareDocElement[printtype=\textit{hook},idxtype=hook,idxgroup=Hooks]{Hook}{hookdecl}
247 \DeclareDocElement[printtype=\textit{plug},idxtype=plug,idxgroup=Plugs]{Plug}{plugdecl}

```

For templates, used in block and sec-template code:

```

248 \DeclareDocElement[envlike,idxtype=type,idxgroup=template types,
249                   printtype=\textit{type}] {TemplateType}{templatetype}
250 \DeclareDocElement[envlike,idxtype=template,idxgroup=templates,
251                   printtype=\textit{templ.}] {Template}{template}
252 \DeclareDocElement[envlike,idxtype=instance,idxgroup=instances,
253                   printtype=\textit{inst.}] {Instance}{instance}
254 \DeclareDocElement[printtype=\textit{tag socket},idxtype=tag socket,
255                   idxgroup=Tagging Sockets]{TaggingSocket}{taggingsocketdecl}
256 \DeclareDocElement[printtype=\textit{tag plug},idxtype=tag plug,
257                   idxgroup=Tagging Plugs]{TaggingPlug}{taggingplugdecl}

```

```

258 \fi % end of \ifcsname NewDocElement\endcsname
259 </ltx>

```

11 Configuration file

```

260 <*cfg>
261 %
262 % This is the ltxdoc configuration file we use to format the LaTeX
263 % kernel sources.
264 %
265 %
266 % Copyright 2006, 2007, 2011
267 % Heiko Oberdiek
268 % Copyright (C) 2014-2026
269 % The LaTeX Project
270 %
271
272 \ProvidesFile{ltxdoc.cfg}%
273   [2022/06/14 v2.0d ltxdoc.cls configuration (LaTeX Project)]
274 \PassOptionsToClass{a4paper}{article}
275
276 % hyperref and hypdoc are now loaded late (or by the user) so we have to wait
277 % with any adjustments until that has happened
278
279 \AddToHook{package/hyperref/after}{%
280 %% \RequirePackage{hypdoc}%           % this is now triggered by doc
281 \RequirePackage{pdftexcmds}\relax
282 \ifnum\pdf@strcmp{\jobname}{inputenc}=0 %
283 \hypersetup{pdfencoding=auto}%
284 \pdfstringdefDisableCommands{%
285 \def\meta#1{% inputenc.dtx
286 \9060\010#1\9060\011%
287 }%
288 }%
289 \else
290 \fi
291 \pdfstringdefDisableCommands{%
292 \let\env\relax % longtable.dtx
293 \let\mytt\relax % tabularx.dtx
294 }%
295 }
296
297 % This should work well for documentation of packages outside the
298 % LaTeX kernel, but if not, you can prevent the loading with the
299 % option "nocfg", i.e.,
300 %
301 % \documentclass[nocfg]{ltxdoc}
302 %
303 % or by providing your own config file
304
305 \endinput
306 </cfg>

```