The `etexcmds` package

Heiko Oberdiek*

2019/12/15 v1.7

Abstract

New primitive commands are introduced in `\eTeX`. Sometimes the names collide with existing macros. This package solves this name clashes by adding a prefix to `\eTeX`’s commands. For example, `\eTeX`’s `\unexpanded` is provided as `\etex@unexpanded`.

Contents

1 Documentation .......................... 2
  1.1 `\unexpanded` ........................ 2
  1.2 `\expanded` ........................ 2

2 Implementation .......................... 2
  2.1 Reload check and package identification .......................... 2
  2.2 Catcodes ............................. 3
  2.3 Provide `newif` ........................ 4
  2.4 Load package `infwarerr` ........................ 4
  2.5 `\unexpanded` ........................ 5
  2.6 `\expanded` ........................ 6

3 Installation ................................ 7
  3.1 Download ............................. 7
  3.2 Bundle installation ...................... 7
  3.3 Package installation ..................... 7
  3.4 Refresh file name databases .................. 8
  3.5 Some details for the interested ............. 8

4 History .................................. 8
  [2007/05/06 v1.0] ......................... 8
  [2007/09/09 v1.1] ......................... 8
  [2007/12/12 v1.2] ......................... 8
  [2010/01/28 v1.3] ......................... 8
  [2011/01/30 v1.4] ......................... 8
  [2011/02/16 v1.5] ......................... 9
  [2016/05/16 v1.6] ......................... 9
  [2019/12/15 v1.7] ......................... 9

5 Index .................................... 9

1 Documentation

1.1 \unexpanded

New primitive commands are introduced in \TeX. Unhappily \unexpanded
collides with a macro in Con\TeXt with the same name. This also affects the \LaTeX
world. For example, package \m-ch-de loads base/syst-gen.tex that redefines \unexpanded
Thus this package defines \etex@unexpanded to get rid of the
name clash.

1.2 \expanded

Package etexcmds can be loaded even if \TeX is not present or \unexpanded
cannot be found. The switch \ifetex@unexpanded tells whether it is safe to
use \etex@unexpanded. The switch is true (\iftrue) only if the primitive
\unexpanded has been found and \etex@unexpanded is available.

2 Implementation

2.1 Reload check and package identification

Reload check, especially if the package is not used with \LaTeX.

\begingroup\catcode61\catcode48\catcode32=10\relax%
\catcode13=5 % ^^M
\endlinechar=13 %
\catcode35=6 % #
\catcode39=12 % '
\catcode44=12 % ,
\catcode45=12 % -
\catcode46=12 % .
\catcode58=12 % :
\catcode64=11 % @
\catcode123=1 % {
\catcode125=2 % }
\expandafter\let\expandafter\x\csname ver@etexcmds.sty\endcsname
\ifx\x\relax % plain-\TeX, first loading
\immediate\write1{Package \etex@unexpanded Info: \relax.}%
\else
\def\empty{}%
\ifx\x\empty % \LaTeX, first loading, % variable is initialized, but \ProvidesPackage not yet seen
\else
\expandafter\ifx\csname PackageInfo\endcsname\relax
\immediate\write1{Package \x\#1 Info: \#2.%}
\else
\endgroup
\endinput
2.3 Provide \newif

\etexcmds@newif

2.4 Load package infwarerr
\begingroup\expandafter\expandafter\expandafter\endgroup
\def\TMP@RequirePackage#1[#2]{%
  \begingroup\expandafter\expandafter\expandafter\endgroup
  \ifx\csname ver@#1.sty\endcsname\relax
    \input #1.sty\relax
  \fi
}\enddef
\TMP@RequirePackage{infwarerr}[2007/09/09]%
\TMP@RequirePackage{iftex}[2019/11/07]%
\else
  \RequirePackage{infwarerr}[2007/09/09]%
  \RequirePackage{iftex}[2019/11/07]%
\fi
2.5 \unexpanded
\iftex@unexpanded
\etex@unexpanded
\begingroup
\edef\x{\string\unexpanded}\
\edef\y{\meaning\unexpanded}\
\ifx\x\y
\endgroup
\let\etex@unexpanded\unexpanded
\etex@unexpandedtrue
\else
\edef\y{\meaning\normalunexpanded}\
\ifx\x\y
\endgroup
\let\etex@unexpanded\normalunexpanded
\etex@unexpandedtrue
\else
\edef\y{\meaning\@@unexpanded}\
\ifx\x\y
\endgroup
\let\etex@unexpanded\@@unexpanded
\etex@unexpandedtrue
\else
\ifluatex
  \ifnum\luatexversion<36 %
  \else
    \begingroup
      \directlua{\text{enableprimitives('etex@',{'unexpanded'})}};
    \endgroup
  \fi
  \else
  \edef\y{\meaning\etex@unexpanded}\
  \ifx\x\y
  \endgroup
  \etex@unexpandedtrue
  \else
    \PackageInfoNoLine{etexcmds}{%
Could not find \string\unexpanded.
That can mean that you are not using e-TeX or that some package has redefined \string\unexpanded.
In the latter case, load this package earlier.
\etex@unexpandedfalse
\fi
\fi
\fi

\expanded
\ifetex@expanded
\etexcmds@newif{expanded}
\etex@expanded
\begingroup
\edef\x{\string\expanded}%
\edef\y{\meaning\expanded}%
\ifx\x\y
\endgroup
\let\etex@expanded\expanded
\etex@expandedtrue
\else
\edef\y{\meaning\normalexpanded}%
\ifx\x\y
\endgroup
\let\etex@expanded\normalexpanded
\etex@expandedtrue
\else
\edef\y{\meaning\@@expanded}%
\ifx\x\y
\endgroup
\let\etex@expanded\@@expanded
\etex@expandedtrue
\else
\ifluatex
\ifnum\luatexversion<36 %
\else
\begingroup
\directlua{%
tex.enableprimitives('etex@',{'expanded'})%
\}%
\global\let\etex@expanded\etex@expanded
\endgroup
\fi
\fi
\edef\y{\meaning\etex@expanded}%
\ifx\x\y
\endgroup
\etex@expandedtrue
\else
\endgroup
\@PackageInfoNoLine{etexcmds}{
Could not find \string\expanded.\MessageBreak
That can mean that you are not using pdfTeX 1.50 or%
\MessageBreak
that some package has redefined \string\expanded.%
\MessageBreak
In the latter case, load this package earlier%
\%\etex@expandedfalse
\fi
\fi
\fi
\fi
\etexc@AtEnd%
(/package)

3 Installation

3.1 Download

Package. This package is available on CTAN¹:


Bundle. All the packages of the bundle ‘etexcmds’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

CTAN:install/macros/latex/contrib/etexcmds.tds.zip

TDS refers to the standard “A Directory Structure for \TeX Files” (CTAN:pkg/tds). Directories with \texttt{texmf} in their name are usually organized this way.

3.2 Bundle installation

Unpacking. Unpack the \texttt{etexc@ds.tds.zip} in the TDS tree (also known as \texttt{texmf} tree) of your choice. Example (linux):

\texttt{unzip etexc@ds.tds.zip -d "/texmf"

3.3 Package installation

Unpacking. The \texttt{.dtx} file is a self-extracting docstrip archive. The files are extracted by running the \texttt{.dtx} through plain \texttt{\LaTeX}:

\texttt{tex etexc@ds.dtx}

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as \texttt{texmf} tree):

\texttt{etexc@ds.sty → tex/generic/etexc@ds/etexc@ds.sty}
\texttt{etexc@ds.pdf → doc/latex/etexc@ds/etexc@ds.pdf}
\texttt{etexc@ds.dtx → source/latex/etexc@ds/etexc@ds.dtx}

If you have a \texttt{docstrip.cfg} that configures and enables docstrip’s TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

¹CTAN:pkg/etexc@ds
3.4 Refresh file name databases

If your \TeX{} distribution (\TeX{} Live, MiK\TeX{}, \ldots{}) relies on file name databases, you must refresh these. For example, \TeX{} Live users run `texhash` or `mktexlsr`.

3.5 Some details for the interested

Unpacking with \LaTeX{}. The `.dtx` chooses its action depending on the format:

plain \TeX{}: Run `docstrip` and extract the files.

\LaTeX{}: Generate the documentation.

If you insist on using \LaTeX{} for `docstrip` (really, `docstrip` does not need \LaTeX{}), then inform the autodetect routine about your intention:

```latex
\let\install=\texttt{y}\input{etexcmds.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

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

An example follows how to generate the documentation with `pdflatex`:

```
\texttt{pdflatex etexcmds.dtx}
\texttt{makeindex \text{-s} gind.ist etexcmds.idx}
\texttt{pdflatex etexcmds.dtx}
\texttt{makeindex \text{-s} gind.ist etexcmds.idx}
\texttt{pdflatex etexcmds.dtx}
```

4 History

[2007/05/06 v1.0]
- First version.

[2007/09/09 v1.1]
- Documentation for `\texttt{ife\textbackslash etex}@\texttt{unexpanded}` added.
- Catcode section rewritten.

[2007/12/12 v1.2]
- `\texttt{e\textbackslash etex}@\texttt{expanded}` added.

[2010/01/28 v1.3]
- Compatibility to ini\TeX{} added.

[2011/01/30 v1.4]
- Already loaded package files are not input in plain \TeX{}. 
Using LuaTeX's `tex.enableprimitives` if available.

Documentation updates.

Documentation updates.

Use `iftex` package.

## 5 Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

### Symbols

- `\@@expanded` ................. 210, 213
- `\@@unexpanded` .............. 159, 162
- `\@PackageInfoNoLine` ........ 182, 233
- `\@undefined` ................. 58
  
- `\aftergroup` .................. 29
  
- `\catcode` 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 69, 70, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 88, 90, 91, 92, 93, 97, 99
- `\csname` ...................... 14, 21, 50, 66, 76, 118, 120, 123, 125, 128, 131, 134
- `\directlua` ................... 169, 220
  
- `\empty` ...................... 17, 18
- `\endsname` .................... 14, 21, 50, 66, 76, 118, 120, 123, 125, 128, 131, 134
- `\endinput` .................... 29, 114
- `\endlinechar` ................ 4, 35, 71, 77, 89
- `\escapechar` .................. 113, 116
- `\etex@expanded` .............. 196
- `\etex@expandedfalse` ........ 241
- `\etex@expandedtrue` .......... 202, 208, 214, 230
- `\etex@unexpanded` ........... 2, 145
- `\etex@unexpandedfalse` ...... 190
- `\etex@unexpandedtrue` ...... 151, 157, 163, 179
- `\etexcmds@AtEnd` ............ 95, 96, 111, 112, 246
- `\etexcmds@newif` ............ 117, 144, 195
- `\expanded` ............... 197, 198, 201, 234, 237
- `\ifetex@expanded` ........... 195
- `\ifetex@unexpanded` .......... 2, 144
- `\iffalse` ...................... 121
- `\ifluatex` ............... 165, 216
- `\ifnum` ..................... 166, 217
- `\iftrue` ...................... 126
- `\ifx` ........................ 15, 18, 21, 50, 58, 61, 131, 134, 148, 154, 160, 177, 199, 205, 211, 228
- `\immediate` .................. 23, 52
- `\input` ....................... 135
- `\luatexversion` .............. 166, 217
- `\meaning` ................... 147, 153, 159, 176, 198, 204, 210, 227
- `\MessageBreak` .............. 183, 185, 187, 234, 236, 238
- `\normalexpanded` ............ 204, 207
- `\normalunexpanded` .......... 153, 156
- `\PackageInfo` ............... 26
- `\ProvidesPackage` ........... 19, 67
  
- `\RequirePackage` ............. 141, 142
- `\the` 77, 78, 79, 80, 81, 82, 83, 84, 97, 113
- `\\TMP@EnsureCode` .......... 94, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110
- `\\TMP@RequirePackage` ...... 132, 138, 139
<table>
<thead>
<tr>
<th>Symbol</th>
<th>\unexpanded</th>
<th>W</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>U</td>
<td>146, 147, 150, 183, 186</td>
<td>146, 148, 154, 160, 177, 197, 199, 205, 211, 228</td>
<td></td>
</tr>
<tr>
<td>write</td>
<td>23, 52</td>
<td></td>
<td>147, 148, 153, 154, 159, 160, 176, 177, 198, 199, 204, 205, 210, 211, 227, 228</td>
</tr>
<tr>
<td>x</td>
<td>14, 15, 18, 22, 26, 28,</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>