The \texttt{etexcmds} package

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Abstract

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

Contents

1 Documentation \hspace{1em} 2
  1.1 \unexpanded \hspace{1em} 2
  1.2 \expanded \hspace{1em} 2

2 Implementation \hspace{1em} 2
  2.1 Reload check and package identification \hspace{1em} 2
  2.2 Catcodes \hspace{1em} 3
  2.3 Provide \texttt{\newif} \hspace{1em} 4
  2.4 Load package \texttt{infwarerr} \hspace{1em} 4
  2.5 \unexpanded \hspace{1em} 5
  2.6 \expanded \hspace{1em} 5

3 Test \hspace{1em} 6
  3.1 Catcode checks for loading \hspace{1em} 6
  3.2 Macro tests \hspace{1em} 8

4 Installation \hspace{1em} 9
  4.1 Download \hspace{1em} 9
  4.2 Bundle installation \hspace{1em} 9
  4.3 Package installation \hspace{1em} 10
  4.4 Refresh file name databases \hspace{1em} 10
  4.5 Some details for the interested \hspace{1em} 10

5 Catalogue \hspace{1em} 11

6 History \hspace{1em} 11
  [2007/05/06 v1.0] \hspace{1em} 11
  [2007/09/09 v1.1] \hspace{1em} 11
  [2007/12/12 v1.2] \hspace{1em} 11
  [2010/01/28 v1.3] \hspace{1em} 11
  [2011/01/30 v1.4] \hspace{1em} 11
  [2011/02/16 v1.5] \hspace{1em} 12
  [2016/05/16 v1.6] \hspace{1em} 12

7 Index \hspace{1em} 12

\footnotesize *Please report any issues at https://github.com/ho-tex/oberdiek/issues
1 Documentation

1.1 \unexpanded

\etex@unexpanded

New primitive commands are introduced in \(\varepsilon\)-\TeX. Unhappily \unexpanded\ collides with a macro in Con\TeX\Xt 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.

\ifetex@unexpanded

Package etexcmds can be loaded even if \(\varepsilon\)-\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.

1.2 \expanded

Probably \expanded will be added in pdf\TeX\ 1.50 and Lua\TeX. Again Con\TeX\Xt defines this as macro. Therefore version 1.2 of this packages also provides \etex@expanded and \ifetex@unexpanded.

2 Implementation

2.1 Reload check and package identification

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

\begin{verbatim}
\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
\else
\def\empty{}%
\ifx\empty % LaTe\TeX, first loading,
% variable is initialized, but \ProvidesPackage not yet seen
\else
\expandafter\ifx\csname PackageInfo\endcsname\relax
\def\x#1#2{%
\immediate\write-1{Package #1 Info: #2.}%
}
%\end{verbatim}
\end{verbatim}
\begin{verbatim}
\else %
\expandafter\ifx\csname PackageInfo\endcsname\relax
\def\x#1#2{%
\immediate\write-1{Package #1 Info: #2.}%
}
%\end{verbatim}
\end{verbatim}
\begin{verbatim}
\else
\expandafter\ifx\csname PackageInfo\endcsname\relax
\def\x#1#2{%
\immediate\write-1{Package #1 Info: #2, stopped}%
}
%\end{verbatim}
\end{verbatim}
\begin{verbatim}
\fi
\x{etexcmds}(The package is already loaded)%
\end{verbatim}


2.2 Catcodes

\begingroup\catcode61\catcode48\catcode32=10\relax%
\catcode13=5 \^^M
\endlinechar=13 %
\catcode35=6 %
\catcode39=12 %
\catcode40=12 %
\catcode41=12 %
\catcode44=12 %
\catcode45=12 %
\catcode46=12 %
\catcode47=12 %
\catcode58=12 %
\catcode64=11 %
\catcode91=12 %
\catcode93=12 %
\catcode123=1 %
\catcode125=2 %
\expandafter\ifx\csname ProvidesPackage\endcsname\relax
\def\x#1#2#3[#4]\{\endgroup
\immediate\write-1{Package: #3 #4}%
\xdef#1{#4}%
\}%
\else
\def\x#1#2[#3]{\endgroup
#2[{#3}]%
\ifx#1\@undefined
\xdef#1{#3}%
\fi
\ifx#1\relax
\xdef#1{#3}%
\fi
}%
\fi
\expandafter\ifx\csname ver@etexcmds.sty\endcsname
\ProvidesPackage{etexcmds}[
\[2016/05/16 v1.6 Avoid name clashes with e-TeX commands (HO)]%
\endgroup
\begin{itemize}
\item Item 1
\item Item 2
\end{itemize}
2.3 Provide \newif

\etexcmds@newif

2.4 Load package infwarerr

\begingroup\expandafter\expandafter\expandafter\endgroup

\RequirePackage[endcsname=relax}

\def\input #1.sty\relax

\RequirePackage[ifluatex]

\endgroup
\fi

2.5 \unexpanded

\ifetex@unexpanded
\etexcmds@newif{unexpanded}
\etex@unexpanded
\begingroup
\edef\x{\string\unexpanded}\
\edef\y{\meaning\unexpanded}\
\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 %
\begingroup
\directlua{tex.enableprimitives('etex@',{unexpanded})}\
\global\let\etex@unexpanded\etex@unexpanded
\endgroup
\fi
\fi
\edef\y{\meaning\etex@unexpanded}\
\ifx\x\y
\endgroup
\etex@unexpandedtrue
\else
\endgroup
@endPackageInfoNoLine{etexcmds}{\MessageBreak
Could not find \string\unexpanded.\MessageBreak
That can mean that you are not using e-TeX or\MessageBreak
that some package has redefined \string\unexpanded.\MessageBreak
In the latter case, load this package earlier%}
\etex@unexpandedfalse
\fi
\fi
\fi

2.6 \expanded

\ifetex@expanded
\etexcmds@newif{expanded}
\etex@expanded
\begingroup
\edef\x{\string\expanded}\
\edef\y{\meaning\expanded}\
\endgroup
\let\etex@expanded\expanded
\etex@expandedtrue
\else
\edef\y{\meaning\etex@expanded}\
\ifx\x\y
\endgroup
\let\etex@expanded\etex@expanded
\etex@expandedtrue
\else
\endgroup
@endPackageInfoNoLine{etexcmds}{\MessageBreak
Could not find \string\expanded.\MessageBreak
That can mean that you are not using e-TeX or%}
\MessageBreak
that some package has redefined \string\expanded.%
\MessageBreak
In the latter case, load this package earlier%
\etex@expandedfalse
\fi
\fi
\fi
\fi
\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%
\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 pdf\TeX\ 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
\etexcmds@AtEnd%
\PackageWarningNoLine{etexcmds}{Could not find \string\expanded.
MessageBreak
That can mean that you are not using pdf\TeX\ 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
\etexcmds@AtEnd%
</package>

3 Test

3.1 Catcode checks for loading

\catcode`\{=1 %
\catcode`\}=2 %
\catcode`\#=6 %
\catcode`@=11 %
\expandafter\ifx\csname count@\endcsname\relax
\countdef\count@=255 %
\fi
\expandafter\ifx\csname @gobble\endcsname\relax
\long\def\@gobble#1{}%
\fi
\expandafter\ifx\csname @firstofone\endcsname\relax
\long\def\@firstofone#1{#1}%
\fi
\expandafter\ifx\csname loop\endcsname\relax
\expandafter\@firstofone
\else
\expandafter\@gobble
\fi
{%
\def\loop#1\repeat{%
    \def\body{#1}%
    \iterate
}
\def\iterate{%
    \body
    \let\next\iterate
    \else
    \let\next\relax
    \fi
}
\next
\let\repeat=\fi
}%
\def\RestoreCatcodes{}% 
\count@=0 %
\loop
\edef\RestoreCatcodes{%
    \RestoreCatcodes
    \catcode\the\count@=\the\catcode\count@%}
\ifnum\count@<255 %
\advance\count@ 1 %
\repeat
\def\RangeCatcodeInvalid#1#2{%
    \count@=#1\relax
    \loop
    \catcode\count@=15 %
    \ifnum\count@<#2\relax
    \advance\count@ 1 %
    \repeat
    \def\RangeCatcodeCheck#1#2#3{%
        \count@=#1\relax
        \loop
        \ifnum#3=\catcode\count@
        \else
            \errmessage{Character \the\count@ space with wrong catcode \the\catcode\count@ space instead of \number#3%}
        \fi
    }%
    \fi
\def\RangeCatcodeCheck#1#2#3{%
    \count@=#1\relax
    \loop
    \ifnum#3=\catcode\count@
    \else
        \errmessage{Character \the\count@ space with wrong catcode \the\catcode\count@ space instead of \number#3%}
    \fi
}%
3.2 Macro tests

(*test2*)
\immediate\write16{etexcmds-test2.tex: test file for plainTeX}
\input etexcmds.sty\relax
\catcode`\@=11 \%
\edef\x{\string\unexpanded}
\edef\y{\meaning\etex@unexpanded}
\ifx\x\y
\else
\@PackageError{etexcmds-test2}{Test failed}@ehc\fi
\end
(*test2*)

(*test3*)
\NeedsTeXFormat{LaTeX2e}
\ProvidesFile{etexcmds-test3.tex}[2016/05/16 v1.6 Test file for LaTeX]
\RequirePackage{etexcmds}
\makeatletter
\edef\x{\string\unexpanded}
\edef\y{\meaning\etex@unexpanded}
\ifx\x\y
\else
\@PackageError{etexcmds-test3}{Test failed}@ehc\fi
\stop
(*test3*)
4 Installation

4.1 Download

Package. This package is available on CTAN:\)


Bundle. All the packages of the bundle ‘oberdiek’ 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/oberdiek.tds.zip

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

4.2 Bundle installation

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

\begin{verbatim}
unzip oberdiek.tds.zip -d ~/texmf
\end{verbatim}

Script installation. Check the directory TDS:scripts/oberdiek/ for scripts that need further installation steps. Package \texttt{attachfile2} comes with the Perl script \texttt{pdfatfi.pl} that should be installed in such a way that it can be called as \texttt{pdfatfi}. Example (linux):

\begin{verbatim}
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
\end{verbatim}

\footnote{http://ctan.org/pkg/etexcmds}
4.3 Package installation

Unpacking. The .dtx file is a self-extracting docstrip archive. The files are extracted by running the .dtx through plain TeX:

```
tex etexcmds.dtx
```

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

```
etexcmds.sty → tex/generic/oberdiek/etexcmds.sty
etexcmds.pdf → doc/latex/oberdiek/etexcmds.pdf
test/etexcmds-test1.tex → doc/latex/oberdiek/test/etexcmds-test1.tex
test/etexcmds-test2.tex → doc/latex/oberdiek/test/etexcmds-test2.tex
test/etexcmds-test3.tex → doc/latex/oberdiek/test/etexcmds-test3.tex
test/etexcmds-test4.tex → doc/latex/oberdiek/test/etexcmds-test4.tex
etexcmds.dtx → source/latex/oberdiek/etexcmds.dtx
```

If you have a 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.

4.4 Refresh file name databases

If your TeX distribution (teTeX, miktex, ...) relies on file name databases, you must refresh these. For example, teTeX users run texhash or mktexlsr.

4.5 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:

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

An example follows how to generate the documentation with pdfLATEX:

```
pdf.ravel etexcmds.dtx
makeindex -s gind.ist etexcmds.idx
pdf.ravel etexcmds.dtx
makeindex -s gind.ist etexcmds.idx
pdf.ravel etexcmds.dtx
```
5 Catalogue

The following XML file can be used as source for the \TeX{} Catalogue. The elements `caption` and `description` are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is `etexcmds.xml`.

398  (*catalogue*)
399  <!--xml version='1.0' encoding='us-ascii'?>
400  <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
401  <entry datestamp='$Date$' modifier='$Author$' id='etexcmds'>
402  <name>etexcmds</name>
403  <caption>A void name clashes with e-TeX commands.</caption>
404  <authorref id='auth:oberdiek'/>
405  <copyright owner='Heiko Oberdiek' year='2007,2010,2011'/>  
406  <license type='lppl1.3'/>
407  <version number='1.6'/>  
408  <description>
409  New primitive commands are introduced in e-TeX; sometimes the 
410  names collide with existing macros. This package solves the 
411  name clashes by adding a prefix to e-TeX’s commands. For 
412  example, eTeX’s `<tt>\unexpanded</tt>` is provided as 
413  `<tt>\etex@unexpanded</tt>.
414
415  <p/>
416  The package is part of the `<xref refid='oberdiek'>oberdiek</xref> bundle.
417  </description>
418  </entry>
419  </catalogue>

6 History

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

[2007/09/09 v1.1]
  - Documentation for `\ifetex@unexpanded` added.
  - Catcode section rewritten.

[2007/12/12 v1.2]
  - `\etex@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{}.
7 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

\# ........................................ 251
\% ....................................... 327
\@ ...................................... 252, 325, 350
\@expanded ........................... 210, 213
\@unexpanded ......................... 159, 162
\@PackageError ......................... 355, 368
\@PackageInfoNoLine .................... 182, 233
\@PackageWarningNoLine ............... 389, 392
\@ .................................... 15, 18, 21, 50, 66,
\endcsname .................. 14, 21, 50, 66,
\endinput ................................ 29, 114
\endlinechar ....................... 4, 35, 71, 77, 89
\errmessage ...................... 306
\escapechar ...................... 113, 116
\etex@expanded ..................... 196
\etex@expandedfalse .............. 241
\etex@expandedtrue ............. 202, 208, 214, 230
\etex@unexpanded .................... 190
\etex@unexpandedfalse .......... 352, 365, 386, 413
\etex@unexpandedtrue .......... 151, 157, 163, 179
\etexcmds@AtEnd ................. 95, 96, 111, 112, 246
\etexcmds@newif ................. 117, 144, 195
\expanded .......................... 197, 198, 201, 234, 237
\iffalse ............................. 121
\ifluatex ............................ 165, 216
\ifnum ............................... 166, 217, 289, 297, 304, 312
\iftrue ............................... 126
\ifx ................................. 15, 18, 21, 50,
\input ................................ 135, 318, 349
\iterate ............................. 270, 272, 274
\LoadCommand ...................... 318, 328
\loop ................................ 268, 284, 295, 303
\luatexversion ...................... 166, 217
\makeatletter ...................... 363, 383
\meaning ......................... 147, 153, 159, 176,
\MessageBreak ...................... 198, 204, 210, 227, 352, 365, 386
\MessageBreak ...................... 183, 185, 187, 234, 236, 238
\NeedsTeXFormat ..................... 360, 373
\next ............................... 274, 276, 278

\advance .......................... 290, 298, 313
\aftergroup ................................ 29
\body .................................. 269, 273
\catcode .......................... 2, 3, 5, 6, 7, 8, 9, 10, 11,
\count@ ............................. 254, 283,
\countdef .......................... 254
\csname .............................. 14, 21, 50, 66,
\directlua ................................
\documentclass .................... 169, 220
\end .................................. 345, 357
\empty ................................ 17, 18
A

B

C

D

E

I

L

M

N

12
<table>
<thead>
<tr>
<th>Command</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>\normalexpanded</td>
<td>204, 207</td>
</tr>
<tr>
<td>\normalunexpanded</td>
<td>153, 156</td>
</tr>
<tr>
<td>\normalwritestatus</td>
<td>377, 378</td>
</tr>
<tr>
<td>\number</td>
<td>309</td>
</tr>
<tr>
<td>\PackageInfo</td>
<td>26</td>
</tr>
<tr>
<td>\ProvidesFile</td>
<td>361, 374</td>
</tr>
<tr>
<td>\ProvidesPackage</td>
<td>19, 67</td>
</tr>
<tr>
<td>\RangeCatcodeCheck</td>
<td>301, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340</td>
</tr>
<tr>
<td>\RangeCatcodeInvalid</td>
<td>293, 321, 322, 323, 324</td>
</tr>
<tr>
<td>\repeat</td>
<td>268, 280, 291, 299, 314</td>
</tr>
<tr>
<td>\RequirePackage</td>
<td>141, 142, 362</td>
</tr>
<tr>
<td>\RestoreCatcodes</td>
<td>282, 285, 286, 341</td>
</tr>
<tr>
<td>\space</td>
<td>307, 308, 316</td>
</tr>
<tr>
<td>\stop</td>
<td>370, 396</td>
</tr>
<tr>
<td>\Test</td>
<td>320, 343</td>
</tr>
<tr>
<td>\the</td>
<td>77, 78, 79, 80, 81, 82, 83, 84, 97, 113, 287, 307, 308</td>
</tr>
<tr>
<td>\TMPEnsureCode</td>
<td>104, 105, 106, 107, 108, 109, 110</td>
</tr>
<tr>
<td>\TMPRequirePackage</td>
<td>132, 138, 139</td>
</tr>
<tr>
<td>\typeout</td>
<td>378, 379</td>
</tr>
<tr>
<td>\unexpanded</td>
<td>146, 147, 150, 183, 186, 351, 364, 385, 412</td>
</tr>
<tr>
<td>\usepackage</td>
<td>376, 381, 382</td>
</tr>
<tr>
<td>\write</td>
<td>23, 52, 348</td>
</tr>
<tr>
<td>\x</td>
<td>14, 15, 18, 22, 26, 28, 51, 56, 66, 75, 87, 146, 148, 154, 160, 177, 197, 199, 205, 211, 228, 351, 353, 364, 366, 385, 387</td>
</tr>
<tr>
<td>\y</td>
<td>147, 148, 153, 154, 159, 160, 176, 177, 198, 199, 204, 205, 210, 211, 227, 228, 352, 353, 365, 366, 386, 387</td>
</tr>
</tbody>
</table>