The \texttt{ifvtex} package

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2016/05/16 v1.6

Abstract

This package looks for \TeX, implements and sets the switches \texttt{\ifvtex}, \texttt{\ifvtex(mode)}, \texttt{\ifvtexgex}. It works with plain or \LaTeX\ formats.

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\textsuperscript{*}Please report any issues at https://github.com/ho-tex/oberdiek/issues
1 Usage

The package \texttt{ifvtex} can be used with both plain \TeX{} and \LaTeX{}:

plain \TeX{}: \texttt{\input ifvtex.sty}

\LaTeX{} \texttt{\texttt{\texttt{2}}}: \texttt{\usepackage{ifvtex}}

The package implements switches for \VTEx{} and its different modes and interprets \texttt{\VTeXversion}, \texttt{\OpMode}, and \texttt{\gexmode}.

\begin{verbatim}
\ifvtex
The package provides the switch \texttt{\ifvtex}:\par
\texttt{\ifvtex}
  ... do things, if \VTEx{} is running ...
\texttt{\else}
  ... other \TeX{} compiler ...
\texttt{\fi}
\end{verbatim}

Users of the package \texttt{ifthen} can use the switch as boolean:

\begin{verbatim}
\boolean{\ifvtex}
\end{verbatim}

\begin{verbatim}
\ifvtexdvi
\ifvtexpdf
\ifvtexps
\ifvtexhtml
\end{verbatim}

\VTEx{} knows different output modes that can be asked by these switches.

\begin{verbatim}
\ifvtexgex
\end{verbatim}

This switch shows, whether GeX is available.

2 Implementation

2.1 Reload check and package identification

1 (*package*)

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

2 \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@ifvtex.sty\endcsname
\ifx\x\relax % plain-TeX, first loading
\else
\def\empty{}
\fi
\end{verbatim}

2 \begin{verbatim}
\expandafter\let\expandafter\xname ver@ifvtex.sty\endcsname
\ifx\xname\relax % plain-TeX, first loading
\else
\def\empty{}
\fi
\end{verbatim}

2 \begin{verbatim}
\def\empty{}%
\ifx\empty % LaTeX, 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.}%
}\%
\else
\def\x#1#2\#3#4{%
  \PackageInfo{#1}{#2, #3, #4}%
}\%
\fi
\x{ifvtex}{The package is already loaded}%
\aftergroup\endinput
\fi
\fi
\endgroup%
Package identification:
\begingroup\catcode61\catcode48\catcode32=10\relax%
\catcode13=5 % ^^M
\catcode35=6 % #
\catcode39=12 % '
\catcode40=12 % (]
\catcode41=12 % )
\catcode44=12 % ,
\catcode45=12 % -
\catcode46=12 % .
\catcode47=12 % /
\catcode58=12 % :
\catcode64=11 % @
\catcode91=12 % [\]
\catcode93=12 % ]
\expandafter\ifx\csname ProvidesPackage\endcsname\relax
\def\x#1#2#3#4{%
  \immediate\write-1{Package: #3 #4}%
  \xdef#1{#4}%
}\%
\else
\def\x#1#2{%
  \ifx#1\@undefined
  \xdef#1{#2}%
  \fi
  \ifx#1\relax
  \xdef#1{#2}%
  \fi
}\%
\expandafter\edef\csname ifvtex@AtEnd\endcsname{%
#2{#3}\%
#2{#3}\%
\ifx#1\@undefined
\xdef#1{#3}\%
\fi
\fi
\iffalse
\def\x#1#2#3{%
  \ifx#1\@undefined
  \xdef#1{#2}\%
  \fi
  \ifx#1\relax
  \xdef#1{#2}\%
  \fi
}\%
\expandafter\edef\csname ifvtex@AtEnd\endcsname{%
#2{#3}\%
#2{#3}\%
\ifx#1\@undefined
\xdef#1{#3}\%
\fi
\fi
\else
\fi
\expandafter\ifx\csname ver@ifvtex.sty\endcsname\relax
\ProvidesPackage{ifvtex}[
2016/05/16 v1.6 Detect VTeX and its facilities (HO)]%
\else
\expandafter\ifx\csname ifvtex@AtEnd\endcsname\relax
\def\x#1#2#3{%
  \ifx#1\@undefined
  \xdef#1{#2}%
  \fi
  \ifx#1\relax
  \xdef#1{#2}%
  \fi
}\%
\fi
\endgroup%
2.2 Catcodes
\begingroup\catcode61\catcode48\catcode32=10\relax%
\catcode13=5 % ^^M
\catcode35=6 % #
\catcode39=12 % '
\catcode40=12 % (]
\catcode41=12 % )
\catcode44=12 % ,
\catcode45=12 % -
\catcode46=12 % .
\catcode47=12 % /
\catcode58=12 % :
\catcode64=11 % @
\catcode91=12 % [\]
\catcode93=12 % ]
\def\x{\endgroup
\expandafter\edef\csname ifvtex@AtEnd\endcsname{%
2.3 Check for previously defined \ifvtex

\begingroup
\edef\i{\expandafter\string\csname ifvtex\endcsname}
\edef\x{\PackageError{ifvtex}{\i}{\string}}
\expandafter\ifvtex\else
\PackageError{ifvtex}{\i}{\string}
\fi
\endgroup
2.4 Provide \newif

\begin{group}
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname newif\endcsname\relax
\ifvtex@newif
\begin{group}
\escapechar=-1 \%
\endgroup
\expandafter\ifvtex@@newif\string#1\@nil )%
\end{group}
\else
\ifvtex@newif\ifvtex
\begin{group}
\escapechar=-1 \%
\endgroup
\expandafter\ifx\csname VTeXversion\endcsname\relax
\else
\begin{group}
\escapechar=-1 \%
\endgroup
\expandafter\ifx\csname OpMode\endcsname\relax
\else
\vtextrue
\fi
\fi
\fi
\fi
\else
\expandafter\let\expandafter\ifvtex@newif\csname newif\endcsname
\fi
\end{group}

2.5 \iftex

\iftex Create and set the switch. \newif initializes the switch with \iffalse.
\iftex\newif\iftex
\begin{group}
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname VTeXversion\endcsname\relax
\else
\begin{group}
\expandafter\ifx\csname OpMode\endcsname\relax
\else
\vtextrue
\fi
\fi
\end{group}

2.6 Mode and GeX switches

\iftex\newif\iftexdvi
\iftex\newif\iftexpdf
\iftex\newif\iftexpdf
\iftex\newif\iftexps
\iftex\newif\iftexhtml
\iftex\newif\iftexgex
\iftex\newif\iftex
\iftex\case\OpMode\relax
\vtexdvirtue
\or \% 1
2.7 Protocol entry

Log comment:

3 Test

3.1 Catcode checks for loading
\fi
\expandafter\ifx\csname @firstofone\endcsname\relax
\long\def\@firstofone#1{#1}\i
\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
}%
def\RestoreCatcodes{}
\count@=0 %
\loop
\edef\RestoreCatcodes{%
\RestoreCatcodes\catcode\the\count@=\the\catcode\count@\relax
}%
\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
\ifnum\count@<#2\relax
\advance\count@ 1 %
\repeat
\def\space{ }
\expandafter\ifx\csname LoadCommand\endcsname\relax
\def\LoadCommand{\input ifvtex.sty}\relax%
\fi
4 Installation

4.1 Download

Package. This package is available on CTAN:\footnote{http://ctan.org/pkg/ifvtex}

\url{CTAN:macros/latex/contrib/oberdiek/ifvtex.dtx} The source file.
\url{CTAN:macros/latex/contrib/oberdiek/ifvtex.pdf} Documentation.

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.

\url{CTAN:install/macros/latex/contrib/oberdiek.tds.zip}

\emph{TDS} refers to the standard “A Directory Structure for \LaTeX\ Files” (\url{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 \texttt{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}
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 ifvtex.dtx
```

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

- ifvtex.sty → tex/generic/oberdiek/ifvtex.sty
- ifvtex.pdf → doc/latex/oberdiek/ifvtex.pdf
- test/ifvtex-test1.tex → doc/latex/oberdiek/test/ifvtex-test1.tex
- ifvtex.dtx → source/latex/oberdiek/ifvtex.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, mkTeX, ...) 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:

```
latex \let\install=y\input{ifvtex.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:

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

An example follows how to generate the documentation with pdfLaTeX:

```
pdflatex ifvtex.dtx
makeindex -s gind.ist ifvtex.idx
pdflatex ifvtex.dtx
makeindex -s gind.ist ifvtex.idx
pdflatex ifvtex.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 `ifvtex.xml`.

```
<catalogue>

<?xml version="1.0" encoding="us-ascii"?>
<DOCTYPE entry SYSTEM 'catalogue.dtd'>
```
<entry datestamp='$Date$' modifier='$Author$' id='ifvtex'>

<name>ifvtex</name>
<caption>Detects use of VTeX and its facilities.</caption>
<authorref id='auth:oberdiek'/>
<license type='lppl1.3'/>
<version number='1.6'/>
<description>
The package looks for VTeX and sets the switch \texttt{\ifvtex}.
In the presence of VTeX, the mode switches \texttt{\ifvtexdvi}, \texttt{\ifvtexpdf} and \texttt{\ifvtexps} are set;
\texttt{\ifvtexgex} tells you whether GeX is operating.
</description>
<documentation details='Package documentation'
href='ctan:/macros/latex/contrib/oberdiek/ifvtex.pdf'/>
<ctan file='true' path='/macros/latex/contrib/oberdiek/ifvtex.dtx'/>
<miktex location='oberdiek'/>
<texlive location='oberdiek'/>
<install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
</entry>
</catalogue>

6 History

[2001/09/26 v1.0]
- First public version.

[2006/02/20 v1.1]
- DTX framework.
- Undefined tests changed.

[2007/01/10 v1.2]
- Fix of the \texttt{\ProvidesPackage} description.

[2007/09/09 v1.3]
- Catcode section added.

[2008/11/04 v1.4]
- Bug fix: Mispelled \texttt{\OpMode} (found by Hideo Umeki).

[2010/03/01 v1.5]
- Compatibility with iniTeX.

[2016/05/16 v1.6]
- Documentation updates.
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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.

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