The \texttt{ifvtex} package

Heiko Oberdiek*

\texttt{<heiko.oberdiek at googlemail.com>}

2016/05/16 v1.6

Abstract

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

Contents

1 Usage 2

2 Implementation 2

2.1 Reload check and package identification 2

2.2 Catcodes 3

2.3 Check for previously defined \texttt{\ifvtex} 4

2.4 Provide \texttt{\newif} 5

2.5 \texttt{\ifvtex} 5

2.6 Mode and GeX switches 5

2.7 Protocol entry 6

3 Test 6

3.1 Catcode checks for loading 6

4 Installation 8

4.1 Download 8

4.2 Bundle installation 8

4.3 Package installation 9

4.4 Refresh file name databases 9

4.5 Some details for the interested 9

5 Catalogue 9

6 History 10

[2001/09/26 v1.0] 10
[2006/02/20 v1.1] 10
[2007/01/10 v1.2] 10
[2007/09/09 v1.3] 10
[2008/11/04 v1.4] 10
[2010/03/01 v1.5] 10
[2016/05/16 v1.6] 10

7 Index 11

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

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

- \texttt{plain \TeX{}}: \texttt{\input ifvtex.sty}
- \texttt{\LaTeX{} 2.\varepsilon{}}: \texttt{\usepackage{ifvtex}}

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

\texttt{\ifvtex{}}

The package provides the switch \texttt{\ifvtex{}}:

\begin{verbatim}
\ifvtex
  ... do things, if \VTEx{} is running ...
\else
  ... other \TeX{} compiler ...
\fi
\end{verbatim}

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

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

\texttt{\ifvtexdvi \ifvtexpdf \ifvtexps \ifvtexhtml}

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

\texttt{\ifvtexgex{}}

This switch shows, whether GeX is available.

2 Implementation

2.1 Reload check and package identification

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

\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}
\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 
\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 % / 
\catcode48=12 % : 
\catcode49=12 % 
\catcode51=12 % 
\catcode54=12 % 
\endgroup 
\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@ifvtex.sty\endcsname 
\ProvidesPackage{ifvtex} 
[2016/05/16 v1.6 Detect VTeX and its facilities (HO)] 
\endgroup

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 % / 
\catcode48=12 % : 
\catcode49=12 % 
\endgroup 
\expandafter\ifx\csname ifvtex@AtEnd\endcsname\relax 
\expandafter\edef\csname ifvtex@AtEnd\endcsname{% 
\expandafter\ifx\csname ver@ifvtex.sty\endcsname 
\ProvidesPackage{ifvtex} 
[2016/05/16 v1.6 Detect VTeX and its facilities (HO)] 
\endgroup 

3
2.3 Check for previously defined \ifvtex

\begingroup
\expandafter\ifx\csname ifvtex\endcsname\relax
\else
\edef\i/\expandafter\string\csname ifvtex\endcsname\relax
\expandafter\ifx\csname PackageError\endcsname\relax
\def\x#1#2{\
\edef\z{#2}\
\expandafter\errhelp\expandafter{\z}\
\errmessage{Package ifvtex Error: #1}\%}
\def\y{\MessageBreak}\%}
\expandafter\if\expandafter\string\csname ifvtex\endcsname\relax
\expandafter\if\expandafter\string\csname PackageError\endcsname\relax
\def\x#1#2{\
\PackageError{ifvtex}{#1}{#2}\%}
\def\y{\MessageBreak}\%}
\fi
\edef\i/\expandafter\string\csname ifvtex\endcsname\relax
\fi
\expandafter\ifvtex\AtEnd{\ifvtex\AtEnd\noexpand\endinput}\endgroup
2.4 Provide \newif

```
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname newif\endcsname\relax
\ifvtex\@newif
\def\ifvtex@newif#1{%
\begingroup
\escapechar=-1%
\expandafter\endgroup
\expandafter\ifvtex@@newif\string#1\@nil
}%
\ifvtex@newif
\def\ifvtex@@newif#1#2#3\@nil{%
\expandafter\edef\csname#3true\endcsname{\let
\expandafter\noexpand\csname if#3\endcsname
\expandafter\noexpand\csname iftrue\endcsname}
\expandafter\edef\csname#3false\endcsname{\let
\expandafter\noexpand\csname if#3\endcsname
\expandafter\noexpand\csname iffalse\endcsname}
\csname#3false\endcsname
\else
\ifvtex\@newif
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname VTeXversion\endcsname\relax
\else
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname OpMode\endcsname\relax
\vtextrue
\else
\fi
\fi
\fi
\else
\fi
```

2.5 \ifvtex

\ifvtex Create and set the switch. \newif initializes the switch with \iffalse.
```
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\if\csname newif\endcsname\iffalse
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\if\csname VTeXversion\endcsname\relax
\else
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\if\csname OpMode\endcsname\relax
\vtextrue
\else
\fi
\fi
```

2.6 Mode and GeX switches

```
\ifvtex\newif\ifvtexdvi
\ifvtex\newif\ifvtexpdf
\ifvtex\newif\ifvtexpst\newif\ifvtexps
\ifvtex\newif\ifvtexhtml
\ifvtex\newif\ifvtexgex
\ifvtex
\ifcase\OpMode\relax
\vtexdvirtue
\fi
\fi
```
2.7 Protocol entry

Log comment:

\begin{group}
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname gexmode\endcsname\relax
\else
\ifnum\gexmode>0 %
\ vítima true
\fi
\fi
\fi
\fi
\fi
\fi

2.7 Protocol entry

Log comment:

\begin{group}
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname gexmode\endcsname\relax
\else
\ifnum\gexmode>0 %
\ vítima true
\fi
\fi
\fi
\fi
\fi

3 Test

3.1 Catcode checks for loading

\begin{group}
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname gexmode\endcsname\relax
\else
\ifnum\gexmode>0 %
\ vítima true
\fi
\fi
\fi
\fi
\fi

3 Test

3.1 Catcode checks for loading

\begin{group}
\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname gexmode\endcsname\relax
\else
\ifnum\gexmode>0 %
\ vítima true
\fi
\fi
\fi
\fi
\fi
\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@\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
}%
\space{ }
\expandafter\ifx\csname LoadCommand\endcsname\relax
\def\LoadCommand{\input ifvtex.sty}\relax)%
\fi

7
4 Installation

4.1 Download

Package. This package is available on CTAN¹:


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 texmf in their name are usually organized this way.

4.2 Bundle installation

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

```
unzip oberdiek.tds.zip -d ~/texmf
```

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

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

¹http://ctan.org/pkg/ifvtex
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, 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:

```
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 `lxtdoc.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.

```
323 ⟨*catalogue⟩
324 <?xml version="1.0" encoding="us-ascii"?>
325 <!DOCTYPE entry SYSTEM ‘catalogue.dtd’>
```
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.

The package is part of the \texttt{oberdiek} bundle.

The package is part of the \texttt{oberdiek} bundle.

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.
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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td>227</td>
</tr>
<tr>
<td>%</td>
<td>303</td>
</tr>
<tr>
<td>@</td>
<td>228, 301,</td>
</tr>
<tr>
<td>@firstofone</td>
<td>236, 239,</td>
</tr>
<tr>
<td>@gobble</td>
<td>233, 241,</td>
</tr>
<tr>
<td>@nil</td>
<td>145, 147</td>
</tr>
<tr>
<td>@undefined</td>
<td>58</td>
</tr>
<tr>
<td>\</td>
<td>302</td>
</tr>
<tr>
<td>{</td>
<td>225</td>
</tr>
<tr>
<td>}</td>
<td>226</td>
</tr>
</tbody>
</table>

### A

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\advance</td>
<td>266, 274, 289</td>
</tr>
<tr>
<td>\aftergroup</td>
<td>23</td>
</tr>
</tbody>
</table>

### B

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\body</td>
<td>245, 249,</td>
</tr>
</tbody>
</table>

### C

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\catcode</td>
<td>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, 102, 272, 280, 284, 301, 302, 303, 230, 259, 263, 265, 266, 270, 272, 273, 274, 278, 280, 283, 284, 288, 289</td>
</tr>
<tr>
<td>\count@</td>
<td>230, 259,</td>
</tr>
<tr>
<td>\countdef</td>
<td>230</td>
</tr>
<tr>
<td>\csname</td>
<td>14, 21, 50, 66, 76, 114, 116, 117, 140, 148, 150, 151, 153, 155, 156, 158, 161, 165, 168, 191, 199, 205, 229, 232, 235, 238, 293, 320</td>
</tr>
</tbody>
</table>

### E

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\empty</td>
<td>17, 18, 205</td>
</tr>
<tr>
<td>\end</td>
<td>421</td>
</tr>
<tr>
<td>\endcsname</td>
<td>14, 21, 50, 66, 76, 114, 116, 117, 140, 148, 150, 151, 153, 155, 156, 158, 161, 165, 168, 191, 199, 205, 229, 232, 235, 238, 293, 320</td>
</tr>
<tr>
<td>\endinput</td>
<td>29, 112</td>
</tr>
<tr>
<td>\endlinechar</td>
<td>4, 35, 71, 77, 89</td>
</tr>
<tr>
<td>\errhelp</td>
<td>120</td>
</tr>
<tr>
<td>\errmessage</td>
<td>121, 282</td>
</tr>
<tr>
<td>\escapechar</td>
<td>143</td>
</tr>
</tbody>
</table>

### G

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\gexmode</td>
<td>193</td>
</tr>
</tbody>
</table>

### I

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\i</td>
<td>116, 131, 132</td>
</tr>
<tr>
<td>\ifcase</td>
<td>179</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\ifnum</td>
<td>193, 265, 273, 280, 288</td>
</tr>
<tr>
<td>\ifnum</td>
<td>2, 163, 178, 209, 334</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>145, 147</td>
</tr>
<tr>
<td>\ifnum@AtEnd</td>
<td>95, 96, 112, 116, 222</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>141, 163, 173, 174, 175, 176, 177</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>161, 163, 173, 174, 175, 176, 177</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>2, 173, 210, 335</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>2, 177, 215, 337</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>2, 176, 213</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>2, 174, 211, 336</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>2, 175, 212, 336</td>
</tr>
<tr>
<td>\ifnum@newif</td>
<td>15, 18, 21, 50, 58, 61, 114, 117, 140, 165, 168, 191, 199, 229, 232, 235, 238, 293</td>
</tr>
<tr>
<td>\immediate</td>
<td>23, 52, 201</td>
</tr>
<tr>
<td>\input</td>
<td>294</td>
</tr>
<tr>
<td>\iterate</td>
<td>246, 248, 250</td>
</tr>
</tbody>
</table>

### L

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\LoadCommand</td>
<td>294, 304</td>
</tr>
<tr>
<td>\loop</td>
<td>244, 260, 271, 279</td>
</tr>
</tbody>
</table>

### M

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\MessageBreak</td>
<td>129</td>
</tr>
</tbody>
</table>

### N

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\newlinechar</td>
<td>124</td>
</tr>
<tr>
<td>\next</td>
<td>250, 292, 254</td>
</tr>
<tr>
<td>\number</td>
<td>285</td>
</tr>
</tbody>
</table>

### O

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\OpMode</td>
<td>179</td>
</tr>
</tbody>
</table>

### P

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\PackageError</td>
<td>127</td>
</tr>
<tr>
<td>\PackageInfo</td>
<td>26, 204</td>
</tr>
<tr>
<td>\ProvidesPackage</td>
<td>19, 67</td>
</tr>
</tbody>
</table>

### R

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\RangeCatcodeCheck</td>
<td>277, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316</td>
</tr>
<tr>
<td>\RangeCatcodeInvalid</td>
<td>269, 297, 298, 299, 300</td>
</tr>
<tr>
<td>\repeat</td>
<td>244, 256, 267, 275, 290</td>
</tr>
<tr>
<td>\RestoreCatcodes</td>
<td>258, 261, 262, 317</td>
</tr>
<tr>
<td>\space</td>
<td>214, 215, 283, 284, 292</td>
</tr>
</tbody>
</table>

### T

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>\Test</td>
<td>296, 319</td>
</tr>
<tr>
<td>\the</td>
<td>77, 78, 79, 80, 81, 82, 83, 84, 97, 263, 283, 284</td>
</tr>
<tr>
<td>\tmp@ensurecode</td>
<td>94, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111</td>
</tr>
</tbody>
</table>