

# The `ifvtex` package

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## Abstract

This package looks for  $\text{V}\text{T}\text{E}\text{X}$ , implements and sets the switches `\ifvtex`, `\ifvtex<mode>`, `\ifvtexgex`. It works with plain or  $\text{L}\text{A}\text{T}\text{E}\text{X}$  formats.

## Contents

<b>1 Usage</b>	<b>1</b>
<b>2 Implementation</b>	<b>2</b>
2.1 Reload check and package identification	2
2.2 Catcodes	3
2.3 Check for previously defined <code>\ifvtex</code>	4
2.4 Provide <code>\newif</code>	4
2.5 <code>\ifvtex</code>	5
2.6 Mode and GeX switches	5
2.7 Protocol entry	6
<b>3 Test</b>	<b>6</b>
3.1 Catcode checks for loading	6
<b>4 Installation</b>	<b>8</b>
4.1 Download	8
4.2 Bundle installation	8
4.3 Package installation	8
4.4 Refresh file name databases	9
4.5 Some details for the interested	9
<b>5 Catalogue</b>	<b>9</b>
<b>6 History</b>	<b>10</b>
[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
<b>7 Index</b>	<b>10</b>

## 1 Usage

The package `ifvtex` can be used with both plain  $\text{T}\text{E}\text{X}$  and  $\text{L}\text{A}\text{T}\text{E}\text{X}$ :

**plain  $\text{T}\text{E}\text{X}$ :** `\input ifvtex.sty`

**L<sup>A</sup>T<sub>E</sub>X 2:** `\usepackage{ifvtex}`

The package implements switches for V<sub>T</sub>E<sub>X</sub> and its different modes and interprets `\TeXversion`, `\OpMode`, and `\gexmode`.

`\ifvtex`

The package provides the switch `\ifvtex`:

```
\ifvtex
... do things, if VTEX is running ...
\else
... other TEX compiler ...
\fi
```

Users of the package `ifthen` can use the switch as boolean:

```
\boolean{ifvtex}
```

`\ifvtexdvi`  
`\ifvtexpdf`  
`\ifvtexps`  
`\ifvtexhtml`

V<sub>T</sub>E<sub>X</sub> knows different output modes that can be asked by these switches.

`\ifvtexgex`

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 L<sup>A</sup>T<sub>E</sub>X.

```
2 \begingroup\catcode61\catcode48\catcode32=10\relax%
3 \catcode13=5 % ^M
4 \endlinechar=13 %
5 \catcode35=6 % #
6 \catcode39=12 % '
7 \catcode44=12 % ,
8 \catcode45=12 % -
9 \catcode46=12 % .
10 \catcode58=12 % :
11 \catcode64=11 % @
12 \catcode123=1 % {
13 \catcode125=2 % }
14 \expandafter\let\expandafter\x\csname ver@ifvtex.sty\endcsname
15 \ifx\x\relax % plain-TeX, first loading
16 \else
17 \def\empty{}%
18 \ifx\x\empty % LaTeX, first loading,
19 % variable is initialized, but \ProvidesPackage not yet seen
20 \else
21 \expandafter\ifx\csname PackageInfo\endcsname\relax
22 \def\x#1#2{%
23 \immediate\write-1{Package #1 Info: #2.}%
```

```

24     }%
25     \else
26         \def\x#1#2{\PackageInfo{#1}{#2, stopped}}%
27     \fi
28     \x{ifvtex}{The package is already loaded}%
29     \aftergroup\endinput
30 \fi
31 \fi
32 \endgroup%

```

Package identification:

```

33 \begingroup\catcode61\catcode48\catcode32=10\relax%
34 \catcode13=5 % ^~M
35 \endlinechar=13 %
36 \catcode35=6 % #
37 \catcode39=12 % '
38 \catcode40=12 % (
39 \catcode41=12 % )
40 \catcode44=12 % ,
41 \catcode45=12 % -
42 \catcode46=12 % .
43 \catcode47=12 % /
44 \catcode58=12 % :
45 \catcode64=11 % @
46 \catcode91=12 % [
47 \catcode93=12 % ]
48 \catcode123=1 % {
49 \catcode125=2 % }
50 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
51     \def\x#1#2#3[#4]{\endgroup
52         \immediate\write-1{Package: #3 #4}%
53         \xdef#1{#4}%
54     }%
55 \else
56     \def\x#1#2[#3]{\endgroup
57         #2[#{#3}]%
58         \ifx#1@undefined
59             \xdef#1{#3}%
60         \fi
61         \ifx#1\relax
62             \xdef#1{#3}%
63         \fi
64     }%
65 \fi
66 \expandafter\x\csname ver@ifvtex.sty\endcsname
67 \ProvidesPackage{ifvtex}%
68 [2010/03/01 v1.5 Detect VTeX and its facilities (HO)]%

```

## 2.2 Catcodes

```

69 \begingroup\catcode61\catcode48\catcode32=10\relax%
70 \catcode13=5 % ^~M
71 \endlinechar=13 %
72 \catcode123=1 % {
73 \catcode125=2 % }
74 \catcode64=11 % @
75 \def\x{\endgroup
76     \expandafter\edef\csname ifvtex@AtEnd\endcsname{%
77         \endlinechar=\the\endlinechar\relax
78         \catcode13=\the\catcode13\relax
79         \catcode32=\the\catcode32\relax
80         \catcode35=\the\catcode35\relax
81         \catcode61=\the\catcode61\relax
82         \catcode64=\the\catcode64\relax

```

```

83     \catcode123=\the\catcode123\relax
84     \catcode125=\the\catcode125\relax
85   }%
86 }%
87 \x\catcode61\catcode48\catcode32=10\relax%
88 \catcode13=5 % ^^M
89 \endlinechar=13 %
90 \catcode35=6 % #
91 \catcode64=11 % @
92 \catcode123=1 % {
93 \catcode125=2 % }
94 \def\TMP@EnsureCode#1#2{%
95   \edef\ifvtex@AtEnd{%
96     \ifvtex@AtEnd
97     \catcode#1=\the\catcode#1\relax
98   }%
99   \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{10}{12}% ^^J
102 \TMP@EnsureCode{39}{12}% '
103 \TMP@EnsureCode{44}{12}% ,
104 \TMP@EnsureCode{45}{12}% -
105 \TMP@EnsureCode{46}{12}% .
106 \TMP@EnsureCode{47}{12}% /
107 \TMP@EnsureCode{58}{12}% :
108 \TMP@EnsureCode{60}{12}% <
109 \TMP@EnsureCode{62}{12}% >
110 \TMP@EnsureCode{94}{7}% ^
111 \TMP@EnsureCode{96}{12}% `
112 \edef\ifvtex@AtEnd{\ifvtex@AtEnd\noexpand\endinput}

```

### 2.3 Check for previously defined \ifvtex

```

113 \begingroup
114   \expandafter\ifx\csname ifvtex\endcsname\relax
115   \else
116     \def\i/{\expandafter\string\csname ifvtex\endcsname}%
117     \expandafter\ifx\csname PackageError\endcsname\relax
118       \def\x#1#2{%
119         \edef\z{#2}%
120         \expandafter\errhelp\expandafter{\z}%
121         \errmessage{Package ifvtex Error: #1}%
122       }%
123       \def\y{^^J}%
124       \newlinechar=10 %
125     \else
126       \def\x#1#2{%
127         \PackageError{ifvtex}{#1}{#2}%
128       }%
129       \def\y{\MessageBreak}%
130     \fi
131     \x{Name clash, \i/ is already defined}{%
132       Incompatible versions of \i/ can cause problems,\y
133       therefore package loading is aborted.%
134     }%
135   \endgroup
136   \expandafter\ifvtex@AtEnd
137 \fi%
138 \endgroup

```

### 2.4 Provide \newif

```

139 \begingroup\expandafter\expandafter\expandafter\endgroup
140 \expandafter\ifx\csname newif\endcsname\relax

```

```

\ifvtex@newif
141 \def\ifvtex@newif#1{%
142   \begingroup
143   \escapechar=-1 %
144   \expandafter\endgroup
145   \expandafter\ifvtex@@newif\string#1\@nil
146 }%

```

```

\ifvtex@@newif
147 \def\ifvtex@@newif#1#2#3\@nil{%
148   \expandafter\edef\csname#3true\endcsname{%
149     \let
150     \expandafter\noexpand\csname if#3\endcsname
151     \expandafter\noexpand\csname iftrue\endcsname
152   }%
153   \expandafter\edef\csname#3false\endcsname{%
154     \let
155     \expandafter\noexpand\csname if#3\endcsname
156     \expandafter\noexpand\csname iffalse\endcsname
157   }%
158   \csname#3false\endcsname
159 }%

```

```
160 \else
```

```

\ifvtex@newif
161 \expandafter\let\expandafter\ifvtex@newif\csname newif\endcsname
162 \fi

```

## 2.5 \ifvtex

`\ifvtex` Create and set the switch. `\newif` initializes the switch with `\iffalse`.

```

163 \ifvtex@newif\ifvtex
164 \begingroup\expandafter\expandafter\expandafter\endgroup
165 \expandafter\ifx\csname VTeXversion\endcsname\relax
166 \else
167   \begingroup\expandafter\expandafter\expandafter\endgroup
168   \expandafter\ifx\csname OpMode\endcsname\relax
169   \else
170     \vtexttrue
171   \fi
172 \fi

```

## 2.6 Mode and GeX switches

```

173 \ifvtex@newif\ifvtexdvi
174 \ifvtex@newif\ifvtexpdf
175 \ifvtex@newif\ifvtexpst
176 \ifvtex@newif\ifvtexhtml
177 \ifvtex@newif\ifvtexgex
178 \ifvtex
179   \ifcase\OpMode\relax
180     \vtextdvi true
181   \or % 1
182     \vtextpdf true
183   \or % 2
184     \vtextpst true
185   \or % 3
186     \vtextpst true
187   \or\or\or\or\or\or % 10
188     \vtexthtml true

```

```

189 \fi
190 \begingroup\expandafter\expandafter\expandafter\endgroup
191 \expandafter\ifx\csname gexmode\endcsname\relax
192 \else
193   \ifnum\gexmode>0 %
194     \vtexgextrue
195   \fi
196 \fi
197 \fi

```

## 2.7 Protocol entry

Log comment:

```

198 \begingroup
199 \expandafter\ifx\csname PackageInfo\endcsname\relax
200   \def\x#1#2{%
201     \immediate\write-1{Package #1 Info: #2.}%
202   }%
203 \else
204   \let\x\PackageInfo
205   \expandafter\let\csname on@line\endcsname\empty
206 \fi
207 \x{ifvtex}{%
208   VTeX %
209   \ifvtex
210     in \ifvtexdvi DVI\fi
211     \ifvtexpdf PDF\fi
212     \ifvtexps PS\fi
213     \ifvtexhtml HTML\fi
214     \space mode %
215     with\ifvtexgex\else out\fi\space GeX %
216   \else
217     not %
218   \fi
219   detected%
220 }%
221 \endgroup
222 \ifvtex@AtEnd%
223 </package>

```

## 3 Test

### 3.1 Catcode checks for loading

```

224 <{*test1}
225 \catcode`\{=1 %
226 \catcode`\}=2 %
227 \catcode`\#=6 %
228 \catcode`\@=11 %
229 \expandafter\ifx\csname count@\endcsname\relax
230   \countdef\count@=255 %
231 \fi
232 \expandafter\ifx\csname @gobble\endcsname\relax
233   \long\def\@gobble#1{%
234 \fi
235 \expandafter\ifx\csname @firstofone\endcsname\relax
236   \long\def\@firstofone#1{#1}%
237 \fi
238 \expandafter\ifx\csname loop\endcsname\relax
239   \expandafter\@firstofone
240 \else

```

```

241 \expandafter\@gobble
242 \fi
243 {%
244 \def\loop#1\repeat{%
245 \def\body{#1}%
246 \iterate
247 }%
248 \def\iterate{%
249 \body
250 \let\next\iterate
251 \else
252 \let\next\relax
253 \fi
254 \next
255 }%
256 \let\repeat=\fi
257 }%
258 \def\RestoreCatcodes{}
259 \count@=0 %
260 \loop
261 \edef\RestoreCatcodes{%
262 \RestoreCatcodes
263 \catcode\the\count@=\the\catcode\count@\relax
264 }%
265 \ifnum\count@<255 %
266 \advance\count@ 1 %
267 \repeat
268
269 \def\RangeCatcodeInvalid#1#2{%
270 \count@=#1\relax
271 \loop
272 \catcode\count@=15 %
273 \ifnum\count@<#2\relax
274 \advance\count@ 1 %
275 \repeat
276 }
277 \def\RangeCatcodeCheck#1#2#3{%
278 \count@=#1\relax
279 \loop
280 \ifnum#3=\catcode\count@
281 \else
282 \errmessage{%
283 Character \the\count@\space
284 with wrong catcode \the\catcode\count@\space
285 instead of \number#3%
286 }%
287 \fi
288 \ifnum\count@<#2\relax
289 \advance\count@ 1 %
290 \repeat
291 }
292 \def\space{ }
293 \expandafter\ifx\csname LoadCommand\endcsname\relax
294 \def\LoadCommand{\input ifvtex.sty\relax}%
295 \fi
296 \def\Test{%
297 \RangeCatcodeInvalid{0}{47}%
298 \RangeCatcodeInvalid{58}{64}%
299 \RangeCatcodeInvalid{91}{96}%
300 \RangeCatcodeInvalid{123}{255}%
301 \catcode`\@=12 %
302 \catcode`\=0 %

```

```

303 \catcode`\%=14 %
304 \LoadCommand
305 \RangeCatcodeCheck{0}{36}{15}%
306 \RangeCatcodeCheck{37}{37}{14}%
307 \RangeCatcodeCheck{38}{47}{15}%
308 \RangeCatcodeCheck{48}{57}{12}%
309 \RangeCatcodeCheck{58}{63}{15}%
310 \RangeCatcodeCheck{64}{64}{12}%
311 \RangeCatcodeCheck{65}{90}{11}%
312 \RangeCatcodeCheck{91}{91}{15}%
313 \RangeCatcodeCheck{92}{92}{0}%
314 \RangeCatcodeCheck{93}{96}{15}%
315 \RangeCatcodeCheck{97}{122}{11}%
316 \RangeCatcodeCheck{123}{255}{15}%
317 \RestoreCatcodes
318 }
319 \Test
320 \csname @@end\endcsname
321 \end
322 </test1>

```

## 4 Installation

### 4.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

[CTAN:macros/latex/contrib/oberdiek/ifvtex.dtx](#) The source file.

[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.

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

*TDS* refers to the standard “A Directory Structure for T<sub>E</sub>X 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/
```

### 4.3 Package installation

**Unpacking.** The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain T<sub>E</sub>X:

```
tex ifvtex.dtx
```

---

<sup>1</sup><ftp://ftp.ctan.org/tex-archive/>



**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  $\text{T}_{\text{E}}\text{X}$  distribution (`te $\text{T}_{\text{E}}\text{X}$` , `mik $\text{T}_{\text{E}}\text{X}$` , ...) relies on file name databases, you must refresh these. For example, `te $\text{T}_{\text{E}}\text{X}$`  users run `texhash` or `mktextlsr`.

#### 4.5 Some details for the interested

**Attached source.** The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk ifvtex.pdf unpack_files output .
```

**Unpacking with  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ .** The `.dtx` chooses its action depending on the format:

**plain  $\text{T}_{\text{E}}\text{X}$ :** Run `docstrip` and extract the files.

**$\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ :** Generate the documentation.

If you insist on using  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  for `docstrip` (really, `docstrip` does not need  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ ), 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 `pdf $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$` :

```
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  [\$\text{T}\_{\text{E}}\text{X}\$  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'>
326 <entry datestamp='$Date$' modifier='$Author$' id='ifvtex'>
```

```

327 <name>ifvtex</name>
328 <caption>Detects use of VTeX and its facilities.</caption>
329 <authorref id='auth:oberdiek' />
330 <copyright owner='Heiko Oberdiek' year='2001,2006-2008,2010' />
331 <license type='lpl1.3' />
332 <version number='1.5' />
333 <description>
334   The package looks for VTeX and sets the switch <tt>\ifvtex</tt>.
335   In the presence of VTeX, the mode switches <tt>\ifvtexdvi</tt>,
336   <tt>\ifvtexpdf</tt> and <tt>\ifvtexps</tt> are set;
337   <tt>\ifvtexgex</tt> tells you whether GeX is operating.
338   <p/>
339   The package is part of the <xref refid='oberdiek'>oberdiek</xref> bundle.
340 </description>
341 <documentation details='Package documentation'
342   href='ctan:/macros/latex/contrib/oberdiek/ifvtex.pdf' />
343 <ctan file='true' path='/macros/latex/contrib/oberdiek/ifvtex.dtx' />
344 <miktex location='oberdiek' />
345 <texlive location='oberdiek' />
346 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip' />
347 </entry>
348 </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 `\ProvidesPackage` description.

### [2007/09/09 v1.3]

- Catcode section added.

### [2008/11/04 v1.4]

- Bug fix: Misspelled `\OpMode` (found by Hideo Umeki).

### [2010/03/01 v1.5]

- Compatibility with `iniTeX`.

## 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.

<b>Symbols</b>	<code>\%</code> .....	303	
<code>\#</code> .....	227	<code>\@</code> .....	228, 301

