

The ifluatex package

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Abstract

This package looks for L^AT_EX regardless of its mode and provides the switch `\ifluatex`. Also it makes `\luatexversion` available if it is not present. It works with plain-T_EX or L^AT_EX.

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1 Documentation

The package ifluatex can be used with both plain-T_EX and L^AT_EX:

plain-T_EX: `\input ifluatex.sty`

L^AT_EX 2_ε: `\usepackage{ifluatex}`

`\ifluatex` The package provides the switch `\ifluatex`:

```

\ifluatex
LUATEX is running
\else
Without LUATEX
\fi

```

Since version 0.39 LUA_TE_X only provides `\directlua` at startup time. Also the syntax of `\directlua` changed in version 0.36. Thus the user might want to check the Lua_TE_X version. Therefore this package also makes `\luatexversion` and `\luatexrevision` available, if it is not yet done.

If you want to detect the mode (DVI or PDF), then use package `ifpdf`. LUA_TE_X has inherited `\pdfoutput` from pdf_TE_X.

2 Implementation

```
1 <package>
```

2.1 Reload check and package identification

Reload check, especially if the package is not used with L^AT_EX.

```

2 \begingroup
3   \catcode44 12 % ,
4   \catcode45 12 % -
5   \catcode46 12 % .
6   \catcode58 12 % :
7   \catcode64 11 % @
8   \expandafter\let\expandafter\x\csname ver@ifluatex.sty\endcsname
9   \ifcase 0%
10    \ifx\x\relax % plain
11    \else
12      \ifx\x\empty % LaTeX
13      \else
14        1%
15      \fi
16    \fi
17  \else
18    \catcode35 6 % #
19    \catcode123 1 % {
20    \catcode125 2 % }
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@ifluatex{The package is already loaded}%
29  \endgroup
30  \expandafter\endinput
31  \fi
32 \endgroup

```

Package identification:

```

33 \begingroup
34   \catcode35 6 % #
35   \catcode40 12 % (
36   \catcode41 12 % )
37   \catcode44 12 % ,
38   \catcode45 12 % -
39   \catcode46 12 % .
40   \catcode47 12 % /
41   \catcode58 12 % :

```

```

42 \catcode64 11 % @
43 \catcode123 1 % {
44 \catcode125 2 % }
45 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
46 \def\x#1#2#3[#4]{\endgroup
47 \immediate\write-1{Package: #3 #4}%
48 \xdef#1{#4}%
49 }%
50 \else
51 \def\x#1#2[#3]{\endgroup
52 #2[#3]}%
53 \ifx#1\undefined
54 \xdef#1{#3}%
55 \fi
56 \ifx#1\relax
57 \xdef#1{#3}%
58 \fi
59 }%
60 \fi
61 \expandafter\x\csname ver@ifluatex.sty\endcsname
62 ProvidesPackage{ifluatex}%
63 [2009/04/17 v1.2 Provides the ifluatex switch (H0)]

```

2.2 Catcodes

```

64 \begingroup
65 \catcode123 1 % {
66 \catcode125 2 % }
67 \def\x{\endgroup
68 \expandafter\edef\csname ifluatex@AtEnd\endcsname{%
69 \catcode35 \the\catcode35\relax
70 \catcode64 \the\catcode64\relax
71 \catcode123 \the\catcode123\relax
72 \catcode125 \the\catcode125\relax
73 }%
74 }%
75 \x
76 \catcode35 6 % #
77 \catcode64 11 % @
78 \catcode123 1 % {
79 \catcode125 2 % }
80 \def\TMP@EnsureCode#1#2{%
81 \edef@ifluatex@AtEnd{%
82 \ifluatex@AtEnd
83 \catcode#1 \the\catcode#1\relax
84 }%
85 \catcode#1 #2\relax
86 }
87 \TMP@EnsureCode{10}{12}% ^^J
88 \TMP@EnsureCode{39}{12}% '
89 \TMP@EnsureCode{40}{12}% (
90 \TMP@EnsureCode{41}{12}% )
91 \TMP@EnsureCode{44}{12}% ,
92 \TMP@EnsureCode{45}{12}% -
93 \TMP@EnsureCode{46}{12}% .
94 \TMP@EnsureCode{47}{12}% /
95 \TMP@EnsureCode{58}{12}% :
96 \TMP@EnsureCode{60}{12}% <
97 \TMP@EnsureCode{61}{12}% =
98 \TMP@EnsureCode{94}{7}% ^
99 \TMP@EnsureCode{96}{12}% '

```

2.3 Macro for error messages

```
\ifluatex@Error
100 \begingroup\expandafter\expandafter\expandafter\endgroup
101 \expandafter\ifx\csname PackageError\endcsname\relax
102   \def\ifluatex@Error#1#2{%
103     \begingroup
104       \newlinechar=10 %
105       \def\MessageBreak{^^J}%
106       \edef\x{\errhelp{#2}}%
107       \x
108       \errmessage{Package ifluatex Error: #1}%
109     \endgroup
110   }%
111 \else
112   \def\ifluatex@Error{%
113     \PackageError{ifluatex}%
114   }%
115 \fi
```

2.4 Check for previously defined \ifluatex

```
116 \begingroup
117 \expandafter\ifx\csname ifluatex\endcsname\relax
118   \else
119     \edef\i/{\expandafter\string\csname ifluatex\endcsname}%
120     \ifluatex@Error{Name clash, \i/ is already defined}{%
121       Incompatible versions of \i/ can cause problems,\MessageBreak
122       therefore package loading is aborted.%
123     }%
124   \endgroup
125   \ifluatex@AtEnd
126   \expandafter\endinput
127 \fi
128 \endgroup
```

2.5 \ifluatex

```
\ifluatex
129 \let\ifluatex\iffalse
```

Test `\luatexversion`. Is it defined and different from `\relax`? Someone could have used L^AT_EX internal `\@ifundefined`, or something else involving. Notice, `\csname` is executed inside a group for the test to cancel the side effect of `\csname`.

```
130 \begingroup\expandafter\expandafter\expandafter\endgroup
131 \expandafter\ifx\csname luatexversion\endcsname\relax
132 \else
133   \expandafter\let\csname ifluatex\expandafter\endcsname
134     \csname iftrue\endcsname
135 \fi
```

2.6 LuaT_EX v0.39

Starting with version 0.39 L^UA_TE_X wants to provide `\directlua` as only primitive at startup time beyond vanilla T_EX's primitives. Then `\directlua` exists, but `\luatexversion` cannot be found. Unhappily also the syntax of `\directlua` changed in v0.36, thus the user would want to check `\luatexversion`. Therefore we make `\luatexversion` available using L^UA_TE_X's Lua function `tex.enableprimitives`.

```
136 \ifluatex
137 \else
```

```

138 \begingroup\expandafter\expandafter\expandafter\endgroup
139 \expandafter\ifx\csname directlua\endcsname\relax
140 \else
141   \expandafter\let\csname ifluatex\expandafter\endcsname
142     \csname iftrue\endcsname
143   \begingroup
144     \newlinechar=10 %
145     \endlinechar=\newlinechar %
146     \ifnum0%
147       \directlua{%
148         if tex.enableprimitives then
149           tex.enableprimitives('ifluatex', {'luatexversion'})
150           tex.print('1')
151         end
152       }%
153       \ifx\ifluatexluatexversion\@undefined\else 1\fi %
154       =11 %
155       \global\let\luatexversion\ifluatexluatexversion %
156     \else %
157       \ifluatex@Error{%
158         Missing \string\luatexversion%
159       }{%
160         Update LuaTeX.%
161       }%
162     \fi %
163   \endgroup %
164 \fi
165 \fi

166 \ifluatex
167 \begingroup\expandafter\expandafter\expandafter\endgroup
168 \expandafter\ifx\csname luatexrevision\endcsname\relax
169   \ifnum\luatexversion<36 %
170   \else
171     \begingroup
172       \ifx\luatexrevision\relax
173         \let\luatexrevision\@undefined
174       \fi
175       \newlinechar=10 %
176       \endlinechar=\newlinechar %
177       \ifcase0%
178         \directlua{%
179           if tex.enableprimitives then
180             tex.enableprimitives('ifluatex', {'luatexrevision'})
181           else
182             tex.print('1')
183           end
184         }%
185         \ifx\ifluatexluatexrevision\@undefined 1\fi %
186         \relax %
187         \global\let\luatexrevision\ifluatexluatexrevision
188       \fi
189     \endgroup
190   \fi
191 \begingroup\expandafter\expandafter\expandafter\endgroup
192 \expandafter\ifx\csname luatexrevision\endcsname\relax
193   \ifluatex@Error{%
194     Missing \string\luatexrevision%
195   }{%
196     Update LuaTeX.%
197   }%
198 \fi
199 \fi

```

200 \fi

2.7 Protocol entry

Log comment:

```
201 \begingroup
202   \expandafter\ifx\csname PackageInfo\endcsname\relax
203     \def\x#1#2{%
204       \immediate\write-1{Package #1 Info: #2.}%
205     }%
206   \else
207     \let\x\PackageInfo
208   \expandafter\let\csname on@line\endcsname\empty
209   \fi
210   \x{ifluatex}{LuaTeX \ifluatex\else not \fi detected}%
211 \endgroup

212 \ifluatex@AtEnd
213 \</package>
```

3 Test

3.1 Catcode checks for loading

```
214 <*test1>

215 \catcode'\{=1 %
216 \catcode'\}=2 %
217 \catcode'\#=6 %
218 \catcode'\@=11 %
219 \expandafter\ifx\csname count@\endcsname\relax
220   \countdef\count@=255 %
221 \fi
222 \expandafter\ifx\csname @gobble\endcsname\relax
223   \long\def\@gobble#1{%
224 \fi
225 \expandafter\ifx\csname @firstofone\endcsname\relax
226   \long\def\@firstofone#1{#1}%
227 \fi
228 \expandafter\ifx\csname loop\endcsname\relax
229   \expandafter\@firstofone
230 \else
231   \expandafter\@gobble
232 \fi
233 {%
234   \def\loop#1\repeat{%
235     \def\body{#1}%
236     \iterate
237   }%
238   \def\iterate{%
239     \body
240     \let\next\iterate
241   \else
242     \let\next\relax
243   \fi
244   \next
245 }%
246 \let\repeat=\fi
247 }%
248 \def\RestoreCatcodes{}
249 \count@=0 %
250 \loop
```

```

251 \edef\RestoreCatcodes{%
252   \RestoreCatcodes
253   \catcode\the\count@=\the\catcode\count@\relax
254 }%
255 \ifnum\count@<255 %
256   \advance\count@ 1 %
257 \repeat
258
259 \def\RangeCatcodeInvalid#1#2{%
260   \count@=#1\relax
261   \loop
262     \catcode\count@=15 %
263     \ifnum\count@<#2\relax
264       \advance\count@ 1 %
265     \repeat
266 }
267 \expandafter\ifx\csname LoadCommand\endcsname\relax
268   \def\LoadCommand{\input ifluatex.sty\relax}%
269 \fi
270 \def\Test{%
271   \RangeCatcodeInvalid{0}{47}%
272   \RangeCatcodeInvalid{58}{64}%
273   \RangeCatcodeInvalid{91}{96}%
274   \RangeCatcodeInvalid{123}{255}%
275   \catcode'\@=12 %
276   \catcode'\=0 %
277   \catcode'\{=1 %
278   \catcode'\}=2 %
279   \catcode'\#=6 %
280   \catcode'\[=12 %
281   \catcode'\]=12 %
282   \catcode'\%=14 %
283   \catcode'\_ =10 %
284   \catcode\l3=5 %
285   \LoadCommand
286   \RestoreCatcodes
287 }
288 \Test
289 \csname @@end\endcsname
290 \end
291 \</test1>

```

4 Reload check for plain

```

292 \<test - reload1>
293 \input ifluatex.sty\relax
294 \input ifluatex.sty\relax
295 \csname @@end\endcsname\end
296 \</test - reload1>
297 \<test - reload2>
298 \input miniltx.tex\relax
299 \input ifluatex.sty\relax
300 \input ifluatex.sty\relax
301 \csname @@end\endcsname\end
302 \</test - reload2>

```

5 Installation

5.1 Download

Package. This package is available on CTAN¹:

¹[ftp://ftp.ctan.org/tex-archive/](http://ftp.ctan.org/tex-archive/)

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

[CTAN:macros/latex/contrib/oberdiek/ifluatex.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_EX Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

5.2 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/
```

5.3 Package installation

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

```
tex ifluatex.dtx
```

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

<code>ifluatex.sty</code>	→ <code>tex/generic/oberdiek/ifluatex.sty</code>
<code>ifluatex.pdf</code>	→ <code>doc/latex/oberdiek/ifluatex.pdf</code>
<code>test/ifluatex-test1.tex</code>	→ <code>doc/latex/oberdiek/test/ifluatex-test1.tex</code>
<code>test/ifluatex-test2.tex</code>	→ <code>doc/latex/oberdiek/test/ifluatex-test2.tex</code>
<code>test/ifluatex-test3.tex</code>	→ <code>doc/latex/oberdiek/test/ifluatex-test3.tex</code>
<code>ifluatex.dtx</code>	→ <code>source/latex/oberdiek/ifluatex.dtx</code>

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`.

5.4 Refresh file name databases

If your T_EX distribution (teT_EX, mikT_EX, ...) relies on file name databases, you must refresh these. For example, teT_EX users run `texhash` or `mktextlsr`.

5.5 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 ifluatex.pdf unpack_files output .
```


Unpacking with L^AT_EX. The .dtx chooses its action depending on the format:

plain-T_EX: Run docstrip and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for docstrip (really, docstrip does not need L^AT_EX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{ifluatex.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 pdfL^AT_EX:

```
pdflatex ifluatex.dtx
makeindex -s gind.ist ifluatex.idx
pdflatex ifluatex.dtx
makeindex -s gind.ist ifluatex.idx
pdflatex ifluatex.dtx
```

6 History

[2007/12/12 v1.0]

- First public version.

[2009/04/10 v1.1]

- Test adopted for L^AT_EX 0.39.
- Makes \luatexversion available.

[2009/04/17 v1.2]

- Fixes (Manuel Pégourié-Gonnard).
- \luatextrue and \luatexfalse are no longer defined.
- Makes \luatexrevision available, too.

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