

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 0.40 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` 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 [2009/04/10 v1.1 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{61}{12}% =
97 \TMP@EnsureCode{94}{7}% ^
98 \TMP@EnsureCode{96}{12}% ‘

```

2.3 Check for previously defined \ifluatex

```

99 \begingroup
100 \expandafter\ifx\csname ifluatex\endcsname\relax
101 \else
102   \edef\i/{\expandafter\string\csname ifluatex\endcsname}%
103   \expandafter\ifx\csname PackageError\endcsname\relax
104     \def\x#1#2{%
105       \edef\z{#2}%
106       \expandafter\errhelp\expandafter{\z}%
107       \errmessage{Package ifluatex Error: #1}%
108     }%
109     \def\y{^^J}%
110     \newlinechar=10 %
111   \else
112     \def\x#1#2{%
113       \PackageError{ifluatex}{#1}{#2}%
114     }%
115     \def\y{\MessageBreak}%
116   \fi
117   \x{Name clash, \i/ is already defined}{%
118     Incompatible versions of \i/ can cause problems,\y
119     therefore package loading is aborted.%
120   }%
121 \endgroup
122 \ifluatex@AtEnd
123 \expandafter\endinput
124 \fi
125 \endgroup

```

2.4 \ifluatex

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

```

126 \begingroup
127 \expandafter\ifx\csname newif\endcsname\relax
128   \def\x#1#2{#1}%
129   \else
130     \def\x#1#2{#2}%
131   \fi
132 \expandafter\endgroup\x
133 {%
134   \let\ifluatex\iffalse
135   \def\luatextrue{%
136     \let\ifluatex\iftrue
137   }%
138   \def\luatexfalse{%
139     \let\luatexfalse
140   }%
141 }{%
142   \csname newif\endcsname\ifluatex
143 }

```

Test `\pdfoutput`. 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`.

```

144 \begingroup\expandafter\expandafter\expandafter\endgroup
145 \expandafter\ifx\csname luatexversion\endcsname\relax
146 \else
147   \luatextrue
148 \fi

```

2.5 LuaT_EX v0.40

Starting with version 0.40 L^AT_EX wants to provide `\directlua` as only primitive at startup time beyond vanilla T_EX's primitives. Then `\directlua` ex-

ists, 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^AT_EX's Lua function `tex.enableprimitives`.

```

149 \ifluatex
150 \else
151   \begingroup\expandafter\expandafter\expandafter\endgroup
152   \expandafter\ifx\csname directlua\endcsname\relax
153   \else
154     \luatextrue
155     \begingroup
156     \newlinechar=10 %
157     \endlinechar=\newlinechar %
158     \ifcase0%
159       \directlua{%
160         if tex.enableprimitives then
161           tex.enableprimitives('ifluatex', {'luatexversion'})
162         else
163           tex.print('1')
164         end
165       }%
166       \ifx\ifluatexluatexversion\@undefined \fi %
167       \relax %
168       \global\let\luatexversion\ifluatexluatexversion
169     \else %
170       \expandafter\ifx\csname PackageError\endcsname\relax %
171         \def\PackageError#1#2#3{%
172           \errhelp{#3}%
173           \errmessage{Package '#1' Error: #2}%
174         }%
175       \fi %
176       \PackageError{ifluatex}{%
177         Missing \string\luatexversion%
178       }{%
179         Update LuaTeX.%
180       }%
181     \fi %
182   \endgroup %
183 \fi
184 \fi

```

2.6 Protocol entry

Log comment:

```

185 \begingroup
186   \expandafter\ifx\csname PackageInfo\endcsname\relax
187     \def\x#1#2{%
188       \immediate\write-1{Package #1 Info: #2.}%
189     }%
190   \else
191     \let\x\PackageInfo
192     \expandafter\let\csname on@line\endcsname\empty
193   \fi
194   \x{ifluatex}{LuaTeX \ifluatex\else not \fi detected}%
195 \endgroup
196 \ifluatex@AtEnd
197 </package>

```

3 Test

3.1 Catcode checks for loading

```
198 (*test1)
199 \catcode'\{=1 %
200 \catcode'\}=2 %
201 \catcode'\#=6 %
202 \catcode'\@=11 %
203 \expandafter\ifx\csname count@\endcsname\relax
204 \countdef\count@=255 %
205 \fi
206 \expandafter\ifx\csname @gobble\endcsname\relax
207 \long\def\@gobble#1{}%
208 \fi
209 \expandafter\ifx\csname @firstofone\endcsname\relax
210 \long\def\@firstofone#1{#1}%
211 \fi
212 \expandafter\ifx\csname loop\endcsname\relax
213 \expandafter\@firstofone
214 \else
215 \expandafter\@gobble
216 \fi
217 {%
218 \def\loop#1\repeat{%
219 \def\body{#1}%
220 \iterate
221 }%
222 \def\iterate{%
223 \body
224 \let\next\iterate
225 \else
226 \let\next\relax
227 \fi
228 \next
229 }%
230 \let\repeat=\fi
231 }%
232 \def\RestoreCatcodes{}
233 \count@=0 %
234 \loop
235 \edef\RestoreCatcodes{%
236 \RestoreCatcodes
237 \catcode\the\count@=\the\catcode\count@\relax
238 }%
239 \ifnum\count@<255 %
240 \advance\count@ 1 %
241 \repeat
242
243 \def\RangeCatcodeInvalid#1#2{%
244 \count@=#1\relax
245 \loop
246 \catcode\count@=15 %
247 \ifnum\count@<#2\relax
248 \advance\count@ 1 %
249 \repeat
250 }
251 \expandafter\ifx\csname LoadCommand\endcsname\relax
252 \def\LoadCommand{\input ifluatex.sty\relax}%
253 \fi
254 \def\Test{%
255 \RangeCatcodeInvalid{0}{47}%
```

```

256 \RangeCatcodeInvalid{58}{64}%
257 \RangeCatcodeInvalid{91}{96}%
258 \RangeCatcodeInvalid{123}{255}%
259 \catcode'\@=12 %
260 \catcode'\=0 %
261 \catcode'\{=1 %
262 \catcode'\}=2 %
263 \catcode'\#=6 %
264 \catcode'\[=12 %
265 \catcode'\]=12 %
266 \catcode'\%=14 %
267 \catcode'\ =10 %
268 \catcode13=5 %
269 \LoadCommand
270 \RestoreCatcodes
271 }
272 \Test
273 \csname @@end\endcsname
274 \end
275 </test1>

```

4 Reload check for plain

```

276 <*test – reload1>
277 \input ifluatex.sty\relax
278 \input ifluatex.sty\relax
279 \csname @@end\endcsname\end
280 </test – reload1>

281 <*test – reload2>
282 \input miniltx.tex\relax
283 \input ifluatex.sty\relax
284 \input ifluatex.sty\relax
285 \csname @@end\endcsname\end
286 </test – reload2>

```

5 Installation

5.1 Download

Package. This package is available on CTAN¹:

[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
```

¹<http://ftp.ctan.org/tex-archive/>

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-TeX`:

```
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):

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

5.4 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 `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 \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{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 0.40.
- Makes `\luatexversion` available.

7 Index

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