The \texttt{ifluatex} package

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Abstract
This package looks for \texttt{Lua\TeX} regardless of its mode and provides the switch \texttt{ifluatex}. Also it makes \texttt{\luatexversion} available if it is not present. It works with plain \TeX{} or \LaTeX{}.

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1 Documentation

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

\texttt{plain \TeX{}: \textbackslash input ifluatex.sty}
\LaTeXx: $\usepackage{ifluatex}$

\ifluatex
\ifluatex
Lua\TeXx is running
\else
Without Lua\TeXx
\fi
\fi

Since version 0.39 Lua\TeXx 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\TeXx version. Therefore this package also makes $\texversion$ and $\texrevision$ available, if it is not yet done.

If you want to detect the mode (DVI or PDF), then use package ifpdf. Lua\TeXx has inherited $\pdfoutput$ from pdf\TeXx.

\section{Implementation}

\subsection{Reload check and package identification}

Reload check, especially if the package is not used with \LaTeXx.

\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@ifluatex.sty\endcsname
\ifx\x\relax % plain-TeX, first loading
\else
\edef\empty{}%
\if\empty \relax % LaTeX, first loading,
% variable is initialized, but \ProvidesPackage not yet seen
\else
\endlinechar=13 %
\endgroup\endlinechar=13 %
\catcode35=6 % #
\catcode39=12 % '
\end{verbatim}

Package identification:

\begin{verbatim}
\begingroup\catcode61\catcode48\catcode32=10\relax%
\catcode13=5 % ^^M
\endlinechar=13 %
\catcode35=6 % #
\catcode39=12 % '
\end{verbatim}
2.2 Catcodes
2.3 Macro for error messages

\ifluatexError

\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname PackageError\endcsname\relax
\begingroup
\newlinechar=10 %
\def\MessageBreak{^^J}%
\edef\x{\errhelp{#2}}%
\x
\errmessage{Package ifluatex Error: #1}%
\endgroup
\}\%
\else
\def\ifluatexError{%
\PackageError{ifluatex}%
}\fi
\endgroup
\edef\ifluatex\iffalse

2.4 Check for previously defined \ifluatex

\begingroup
\expandafter\ifx\csname ifluatex\endcsname\relax
\else
\edef\i/{\expandafter\string\csname ifluatex\endcsname}%
\ifluatexError{Name clash, \i/ is already defined}%
\MessageBreak
therefore package loading is aborted.%
\}%
\endgroup
\expandafter\ifluatex\iffalse

2.5 \ifluatex

\ifluatex
\let\ifluatex\iffalse

Test \luatexversion. Is it defined and different from \relax? Someone could have used \LaTeX internal \@ifundefined, or something else involving. Notice, \csname is executed inside a group for the test to cancel the side effect of \csname.
2.6 LuaTeX v0.39

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

\begin{verbatim}
\ifluatex
\else
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname directlua\endcsname\relax
\else
\expandafter\let\csname ifluatex\endcsname\csname iftrue\endcsname
\begingroup
\newlinechar=10 %
\endlinechar=\newlinechar%
\ifnum0%
\directlua{%
  if tex.enableprimitives then
    tex.enableprimitives('ifluatex', {'luatexversion'})
  tex.print('1')
end
\}%
\ifluatex\luatexversion\@undefined\else 1\fi %
=11 %
\global\let\luatexversion\ifluatex\luatexversion%
\else%
\ifluatex\Error{%
  Missing \string\luatexversion%
}%
Update LuaTeX.%
)%
\fi%
\endgroup%
\fi
\fi
\fi\ifluatex
\begin{verbatim}
\begingroup\expandafter\expandafter\expandafter\endgroup
\expandafter\ifx\csname luatexrevision\endcsname\relax
\ifnum\luatexversion<36 %
\else
\begingroup
\if\luatexrevision\@undefined\else 1\fi %
\global\let\luatexrevision\if\luatexrevision\luatexrevision%
\else%
\if\luatexrevision\Error{%
  Missing \string\luatexversion%
}%
Update LuaTeX.%
)%
\fi%
\endgroup%
\fi
\fi
\end{verbatim}
\end{verbatim}
\end{verbatim}
2.7 Protocol entry

Log comment:

\begingroup
\expandafter\ifx\csname PackageInfo\endcsname\relax
\def\x#1#2{\immediate\write-1{Package #1 Info: #2.}}\else
\let\x\PackageInfo\expandafter\let\csname on@line\endcsname\empty\fi
\x{ifluatex}{LuaTeX \ifluatex\else not \fi detected}\endgroup
\ifluatex@AtEnd
⟨/𭗉𭖺𭖼𭗄𭖺𭗀𭖾⟩
3 Test
3.1 Catcode checks for loading
\begroup
\catcode`\{=1 \catcode``=2 \catcode``#=6 \catcode``@=11 \countdef\count@=255
\expandafter\ifx\csname count@\endcsname\relax\countdef\count@=255\fi
\expandafter\ifx\csname @gobble\endcsname\relax\long\def\@gobble#1{}\fi
\expandafter\ifx\csname @firstofone\endcsname\relax\long\def\@firstofone#1{#1}\fi
\expandafter\ifx\csname loop\endcsname\relax
\else\expandafter\@gobble\fi{\def\loop#1\repeat}
4 Reload check for plain

(*test-reload1)
\input ifluatex.sty\relax
\input ifluatex.sty\relax
\csname @@end\endcsname\end
(*test-reload1)
\input miniltx.tex\relax
\input ifluatex.sty\relax
\input ifluatex.sty\relax
\csname @@end\endcsname\end
(*test-reload2)

5 Installation

5.1 Download

Package. This package is available on CTAN\footnote{ftp://ftp.ctan.org/tex-archive/}:


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 \texttt{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 \texttt{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 \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 (\TeX, \miktex, ...) relies on file name databases, you must refresh these. For example, \TeX users run texhash or mktexlsr.

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 pdflatex:

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

6 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 `ifluatex.xml`.

```xml
<entry datestamp='$Date$' modifier='$Author$' id='ifluatex'>
  <name>ifluatex</name>
  <caption>Provides the \ifluatex switch.</caption>
  <authorref id='auth:oberdiek'/>
  <copyright owner='Heiko Oberdiek' year='2007,2009,2010'/>
  <license type='lppl1.3'/>
  <version number='1.3'/>
  <description>
    The package looks for Lua\TeX regardless of its mode and provides
    the switch \texttt{\ifluatex}; it works with Plain \TeX or \LaTeX.
  </description>
  <documentation details='Package documentation' href='ctan:/macros/latex/contrib/oberdiek/ifluatex.pdf'/>
  <ctan file='true' path='/macros/latex/contrib/oberdiek/ifluatex.dtx'/>
  <miktex location='oberdiek'/>
  <texlive location='ifluatex'/>
  <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
</entry>
```

7 History

[2007/12/12 v1.0]
- First public version.

[2009/04/10 v1.1]
- Test adopted for Lua\TeX 0.39.
- Makes \texttt{\luatexversion} available.

[2009/04/17 v1.2]
- Fixes (Manuel Pégourié-Gonnard).
- \texttt{\luatextrue} and \texttt{\luatexfalse} are no longer defined.
- Makes \texttt{\luatexrevision} available, too.
• Line ends fixed in case `\endlinechar = \newlinechar`.
## 8 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.

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