

The `luatexbase` package

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v0.3 2010-05-27

Abstract

This package provides resource management for the LuaTeX macro programmer. It is divided in sub-packages which can be used independantly if desired.

Contents

1	Documentation	1
2	Implementation	2
2.1	Preliminaries	2
2.2	Packages loading	3
3	Test file	3

1 Documentation

The `luatexbase` package consists of the following sub-packages:

`luatexbase-compat`: compatibility helpers for `\directlua`, primitive names and version information from Lua.

`luatexbase-loader`: extension of LuaTeX's Lua module loader (since version 0.60.0, this is more of a compatibility layer for older versions than a real extension).

`luatexbase-regs`: extented allocation scheme for registers and the like, *à la* `etex`.

`luatexbase-cctb`: catcode table allocation.

`luatexbase-attr`: attribute allocation.

`luatexbase-mcb`: callbacks extensions allowing to register many functions in a single callback, and declare new callbacks for packages.

`luatexbase-modutils`: Lua module declaration, including version checks.

The package is mostly stable: it is unlikely that backward-incompatible changes will be made in the future, other than necessary for merging with `luatex.sty`, with which a few sub-packages strongly overlap. If they do happen, such changes will be announced on the development list, and clearly identified in the **Changes** file.

All sub-packages are tested with LuaTeX 0.25.4 to 0.60.x and formats based on Plain TeX or L^ATeX, as included in TeX Live 2008, 2009, and 2010.

2 Implementation

1 (*texpackage)

2.1 Preliminaries

Reload protection, especially for Plain T_EX.

```
2          \csname lltxb@core@loaded\endcsname
3 \expandafter\let\csname lltxb@core@loaded\endcsname\endinput

    Catcode defenses.

4 \begingroup
5   \catcode123 1 % {
6   \catcode125 2 % }
7   \catcode 35 6 % #
8   \toks0{}%
9   \def\x{}%
10  \def\y#1 #2 {%
11    \toks0\expandafter{\the\toks0 \catcode#1 \the\catcode#1}%
12    \edef\x{\x \catcode#1 #2}}%
13  \y 123 1 % {
14  \y 125 2 % }
15  \y 35 6 % #
16  \y 10 12 % ^^J
17  \y 34 12 % "
18  \y 36 3 % $ $
19  \y 39 12 % '
20  \y 40 12 % (
21  \y 41 12 % )
22  \y 42 12 % *
23  \y 43 12 % +
24  \y 44 12 % ,
25  \y 45 12 % -
26  \y 46 12 % .
27  \y 47 12 % /
28  \y 60 12 % <
29  \y 61 12 % =
30  \y 64 11 % @ (letter)
31  \y 62 12 % >
32  \y 95 12 % _ (other)
33  \y 96 12 % `
34  \edef\y#1{\endgroup\edef#1{\the\toks0\relax}\x}%
35 \expandafter\y\csname lltxb@core@AtEnd\endcsname
```

Package declaration.

```
36 \begingroup
37 \expandafter\ifx\csname ProvidesPackage\endcsname\relax
38   \def\x#1[#2]{\immediate\write16{Package: #1 #2}}
39 \else
40   \let\x\ProvidesPackage
41 \fi
42 \expandafter\endgroup
43 \x{luatexbase}[2010/10/06 v0.3 Module utilities for LuaTeX]
```

Make sure LuaTeX is used.

```
44 \begingroup\expandafter\expandafter\expandafter\endgroup
45 \expandafter\ifx\csname RequirePackage\endcsname\relax
46   \input ifluatex.sty
47 \else
48   \RequirePackage{ifluatex}
49 \fi
50 \ifluatex\else
51   \begingroup
52     \expandafter\ifx\csname PackageError\endcsname\relax
53       \def\x#1#2#3{\begingroup \newlinechar10
54         \errhelp{#3}\errmessage{Package #1 error: #2}\endgroup}
55     \else
56       \let\x\PackageError
57     \fi
58   \expandafter\endgroup
59   \x{luatexbase-attr}{LuaTeX is required for this package. Aborting.}{%
60     This package can only be used with the LuaTeX engine^^J%
61     (command 'lualatex' or 'luatex').^^J%
62     Package loading has been stopped to prevent additional errors.}
63   \lltxb@core@AtEnd
64   \expandafter\endinput
65 \fi
```

2.2 Packages loading

```
66 \begingroup\expandafter\expandafter\expandafter\endgroup
67 \expandafter\ifx\csname RequirePackage\endcsname\relax
68   \input luatexbase-compat.sty
69   \input luatexbase-loader.sty
70   \input luatexbase-regs.sty
71   \input luatexbase-attr.sty
72   \input luatexbase-cctb.sty
73   \input luatexbase-mcb.sty
74   \input luatexbase-modutils.sty
75 \else
76   \RequirePackage{luatexbase-compat}
77   \RequirePackage{luatexbase-loader}
78   \RequirePackage{luatexbase-regs}
79   \RequirePackage{luatexbase-attr}
80   \RequirePackage{luatexbase-cctb}
81   \RequirePackage{luatexbase-mcb}
82   \RequirePackage{luatexbase-modutils}
83 \fi
84 \lltxb@core@AtEnd
85 </texpackage>
```

This is the end, my friend... the end.

3 Test file

Very minimal, just check that the package correctly loads.

```
86 (testplain)\input luatexbase.sty
```

```
87 \testlatex\RequirePackage{luatexbase}
88 \testplain\bye
89 \testlatex\stop
```