

The kvdefinekeys package

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Abstract

Package kvdefinekeys provides `\kv@define@key` to define keys the same way as keyval's `\define@key`. However, it works also using `iniTeX`.

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1 Documentation

1.1 Motivation

`\kvsetkeys` serves as replacement for keyval's `\setkeys`. This package adds macros to define keys, closing the gap `\kvsetkeys` leaves.

*Please report any issues at <https://github.com/ho-tex/kvdefinekeys/issues>

<code>\kv@define@key {<family>} {<key>} [{<default>}] {<definition>}</code>

Macro `\kv@define@key` reimplements `keyval`'s `\define@key`. Differences to the original:

- The defined keys also allow `\par` inside values.
- Shorthands of package `babel` are supported in family and key names.
- Macro `\kv@define@key` is made robust if ε -TeX's `\protected` or L^AT_EX's `\DeclareRobustCommand` are found.

2 Implementation

2.1 Identification

```
1 <*package>
```

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

```
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@kvdefinekeys.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{kvdefinekeys}{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@kvdefinekeys.sty\endcsname
67 \ProvidesPackage{kvdefinekeys}%
68 [2019/12/15 v1.5 Define keys (HO)]%
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 KVD@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\KVD@AtEnd{%
96 \KVD@AtEnd
97 \catcode#1=\the\catcode#1\relax

```

```

98 }%
99 \catcode#1=#2\relax
100 }
101 \TMP@EnsureCode{42}{12}% *
102 \TMP@EnsureCode{46}{12}% .
103 \TMP@EnsureCode{47}{12}% /
104 \TMP@EnsureCode{91}{12}% [
105 \TMP@EnsureCode{93}{12}% ]
106 \edef\KVD@AtEnd{\KVD@AtEnd\noexpand\endinput}

```

2.2 Package loading

```

107 \begingroup\expandafter\expandafter\expandafter\endgroup
108 \expandafter\ifx\csname RequirePackage\endcsname\relax
109 \def\TMP@RequirePackage#1[#2]{%
110 \begingroup\expandafter\expandafter\expandafter\endgroup
111 \expandafter\ifx\csname ver@#1.sty\endcsname\relax
112 \input #1.sty\relax
113 \fi
114 }%
115 \TMP@RequirePackage{ltxcmds}[2010/03/01]%
116 \let\@ifundefined\ltx@ifundefined
117 \let\@ifnextchar\ltx@ifnextchar
118 \long\def\@firstoftwo#1#2{#1}
119 \long\def\@secondoftwo#1#2{#2}
120 \else
121 \fi

```

2.3 Provide key defining macro

\kv@define@key

```

122 \@ifundefined{protected}{%
123 \@ifundefined{DeclareRobustCommand}{%
124 \def\kv@define@key#1#2%
125 }{%
126 \DeclareRobustCommand*{\kv@define@key}[2]%
127 }%
128 }{%
129 \protected\def\kv@define@key#1#2%
130 }%
131 {%
132 \begingroup
133 \csname @safe@activetrue\endcsname
134 \let\ifin@csname\iftrue
135 \edef\KVD@temp{\endgroup
136 \noexpand\KVD@DefineKey{#1}{#2}%
137 }%
138 \KVD@temp
139 }

```

\KVD@DefineKey

```

140 \def\KVD@DefineKey#1#2{%
141 \@ifnextchar[\@firstoftwo\@secondoftwo{%
142 \KVD@DefineKeyWithDefault{#1}{#2}%
143 }{%
144 \long\expandafter\def\csname KV@#1@#2\endcsname##1%
145 }%
146 }

```

`\KVD@DefineKeyWithDefault`

```
147 \long\def\KVD@DefineKeyWithDefault#1#2[#3]{%
148   \expandafter\def\csname KV@#1@#2@default\expandafter\endcsname
149   \expandafter{%
150     \csname KV@#1@#2\endcsname{#3}%
151   }%
152   \long\expandafter\def\csname KV@#1@#2\endcsname##1%
153 }

154 \KVD@AtEnd%
155 \</package>
```

3 Installation

3.1 Download

Package. This package is available on CTAN¹:

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

[CTAN:macros/latex/contrib/kvdefinekeys/kvdefinekeys.pdf](#) Documentation.

Bundle. All the packages of the bundle ‘kvdefinekeys’ 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/kvdefinekeys.tds.zip](#)

TDS refers to the standard “A Directory Structure for T_EX Files” ([CTAN:pkg/tds](#)). Directories with `texmf` in their name are usually organized this way.

3.2 Bundle installation

Unpacking. Unpack the `kvdefinekeys.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip kvdefinekeys.tds.zip -d ~/texmf
```

3.3 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 kvdefinekeys.dtx
```

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

```
kvdefinekeys.sty → tex/generic/kvdefinekeys/kvdefinekeys.sty
kvdefinekeys.pdf → doc/latex/kvdefinekeys/kvdefinekeys.pdf
kvdefinekeys.dtx → source/latex/kvdefinekeys/kvdefinekeys.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.

¹[CTAN:pkg/kvdefinekeys](#)

3.4 Refresh file name databases

If your \TeX distribution (\TeX Live, MiK \TeX , ...) relies on file name databases, you must refresh these. For example, \TeX Live users run `texhash` or `mktextlsr`.

3.5 Some details for the interested

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{kvdefinekeys.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 \LaTeX :

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

4 References

- [1] David Carlisle: *The keyval package*; 1999/03/16 v1.13; [CTAN:macros/latex/required/graphics/keyval.dtx](#).

5 History

[2010/03/01 v1.0]

- First version.

[2010/08/19 v1.1]

- Documentation fix, no code change.

[2011/01/30 v1.2]

- Already loaded package files are not input in plain \TeX .

[2011/04/07 v1.3]

- Support for package `babel`'s shorthands added.
- `\kv@define@key` is made robust if available.

[2016/05/16 v1.4]

- Documentation updates.

[2019/12/15 v1.5]

- Documentation updates.

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