

# 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`.

## Contents

<b>1</b>	<b>Documentation</b>	<b>1</b>
1.1	Motivation . . . . .	1
<b>2</b>	<b>Implementation</b>	<b>2</b>
2.1	Identification . . . . .	2
2.2	Package loading . . . . .	4
2.3	Provide key defining macro . . . . .	4
<b>3</b>	<b>Installation</b>	<b>5</b>
3.1	Download . . . . .	5
3.2	Bundle installation . . . . .	5
3.3	Package installation . . . . .	5
3.4	Refresh file name databases . . . . .	6
3.5	Some details for the interested . . . . .	6
<b>4</b>	<b>References</b>	<b>6</b>
<b>5</b>	<b>History</b>	<b>6</b>
	[2010/03/01 v1.0] . . . . .	6
	[2010/08/19 v1.1] . . . . .	6
	[2011/01/30 v1.2] . . . . .	6
	[2011/04/07 v1.3] . . . . .	6
	[2016/05/16 v1.4] . . . . .	7
	[2019/12/15 v1.5] . . . . .	7
	[2019-12-19 v1.6] . . . . .	7
<b>6</b>	<b>Index</b>	<b>7</b>

## 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.

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

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

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  $\varepsilon$ -TeX's `\protected` or L<sup>A</sup>T<sub>E</sub>X's `\DeclareRobustCommand` are found.

## 2 Implementation

### 2.1 Identification

```
1 <*package>
```

Reload check, especially if the package is not used with L<sup>A</sup>T<sub>E</sub>X.

```
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 [2019-12-19 v1.6 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{ltxcms}[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\ifincsname\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 \begingroup
142 \toks\z@\endgroup\KVD@DefineKeyWithDefault{#1}{#2}}%
143 \toks\tw@\endgroup\long\expandafter\def\csname KV@#1@#2\endcsname##1}%
144 \@ifnextchar[{\the\toks\z@}{\the\toks\tw@}%
145 }

```

\KVD@DefineKeyWithDefault

```

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

153 \KVD@AtEnd%
154 \endpackage

```

## 3 Installation

### 3.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

[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  $\TeX$  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  $\TeX$ :

```
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`.

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<sup>1</sup>[CTAN:pkg/kvdefinekeys](#)

### 3.4 Refresh file name databases

If your T<sub>E</sub>X distribution (T<sub>E</sub>X Live, MiK<sub>T</sub>E<sub>X</sub>, ...) relies on file name databases, you must refresh these. For example, T<sub>E</sub>X Live users run `texhash` or `mktextlsr`.

### 3.5 Some details for the interested

**Unpacking with L<sup>A</sup>T<sub>E</sub>X.** The `.dtx` chooses its action depending on the format:

**plain T<sub>E</sub>X:** Run `docstrip` and extract the files.

**L<sup>A</sup>T<sub>E</sub>X:** Generate the documentation.

If you insist on using L<sup>A</sup>T<sub>E</sub>X for `docstrip` (really, `docstrip` does not need L<sup>A</sup>T<sub>E</sub>X), 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 pdfL<sup>A</sup>T<sub>E</sub>X:

```
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](http://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 T<sub>E</sub>X.

[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.

[2019-12-19 v1.6]

- Fix definition of \KVD@DefineKey for gh issue embedfile/2

## 6 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.

<b>Symbols</b>	
\@firstoftwo	118
\@ifnextchar	117, 144
\@ifundefined	116, 122, 123
\@secondoftwo	119
\@undefined	58
<b>A</b>	
\aftergroup	29
<b>C</b>	
\catcode	2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 69, 70, 72, 73, 74, 78, 79, 80, 81, 82, 83, 84, 87, 88, 90, 91, 92, 93, 97, 99
\csname	14, 21, 50, 66, 76, 108, 111, 133, 143, 147, 149, 151
<b>D</b>	
\DeclareRobustCommand	126
<b>E</b>	
\empty	17, 18
\endcsname	14, 21, 50, 66, 76, 108, 111, 133, 143, 147, 149, 151
\endinput	29, 106
\endlinechar	4, 35, 71, 77, 89
<b>I</b>	
\ifincname	134
\iftrue	134
\ifx	15, 18, 21, 50, 58, 61, 108, 111
\immediate	23, 52
\input	112
<b>K</b>	
\kv@define@key	2, 122
\KVD@AtEnd	95, 96, 106, 153
\KVD@DefineKey	136, 140
\KVD@DefineKeyWithDefault	142, 146
\KVD@temp	135, 138
<b>L</b>	
\ltx@ifnextchar	117
\ltx@ifUndefined	116
<b>P</b>	
\PackageInfo	26
\protected	129
\ProvidesPackage	19, 67
<b>T</b>	
\the	77, 78, 79, 80, 81, 82, 83, 84, 97, 144
\TMP@EnsureCode	94, 101, 102, 103, 104, 105
\TMP@RequirePackage	109, 115
\toks	142, 143, 144
\tw@	143, 144
<b>W</b>	
\write	23, 52
<b>X</b>	
\x	14, 15, 18, 22, 26, 28, 51, 56, 66, 75, 87
<b>Z</b>	
\z@	142, 144