The \texttt{kvdefinekeys} package

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Abstract

Package \texttt{kvdefinekeys} provides \texttt{\kv@define@key} to define keys the same way as \texttt{keyval}'s \texttt{\define@key}. However, it works also using ini-T\TeX.

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\textsuperscript{*}Please report any issues at \url{https://github.com/ho-tex/oberdiek/issues}
1 Documentation

1.1 Motivation

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

\begin{verbatim}
\kv@define@key{⟨family⟩}{⟨key⟩}{⟨default⟩}{⟨definition⟩}
\end{verbatim}

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

- The defined keys also allow \texttt{par} inside values.
- Shorthands of package \texttt{babel} are supported in family and key names.
- Macro \texttt{kv@define@key} is made robust if \texttt{e-\TeX}’s \texttt{protected} or \texttt{\LaTeX}’s \texttt{\DeclareRobustCommand} are found.

2 Implementation

2.1 Identification

1 (*package)

Reload check, especially if the package is not used with \texttt{\LaTeX}.

2 \begin{group}
code61\catcode48\catcode32=10\relax

code13=5 \char~\char\M

code35=6 \char$

code39=12 \char$

code44=12 \char$

code45=12 \char$

code46=12 \char$

code58=12 \char$

code64=11 \char$

code123=1 \char$

code125=2 \char$

def@after\et@after\x@csname ver@kvdefinekeys.sty\endcsname
\texttt{\def\empty{}}\%
\texttt{\ifx\empty{}}\%
\texttt{\else\ifx\csname PackageInfo\endcsname\relax}
\texttt{\immediate\write-1{Package #1 Info: #2.}}\%
\texttt{\else}
\texttt{\PackageInfo{#1}{#2, stopped}}\%
\texttt{\fi}
\texttt{\x@csname kvdefinekeys\endcsname\PackageInfo\endcsname\relax}
\texttt{\def\x@#1#2{}}\%
\texttt{\if\immediate\write-1{\PackageInfo{#1}{#2, stopped}}\}
\texttt{\else}
\texttt{\def\x@#1#2{}}\%
\texttt{\fi}
\texttt{\else}
\texttt{\def\x@#1#2{}}\%
\texttt{\fi}
\texttt{\x@{kvdefinekeys}{The package is already loaded}}\%
\texttt{\aftergroup\endinput}
\end{group}

Package identification:

3 \begin{group}
code61\catcode48\catcode32=10\relax

code13=5 \char~\char\M

code35=6 \char$

2
2.2 Package loading

2.3 Provide key defining macro
3 Test

3.1 Catcode checks for loading

\verb|\catcode`\{=1 |
\verb|\catcode`\}=2 |
\verb|\catcode`#=6 |
\verb|\catcode`@=11 |
\verb|\expandafter\ifx\csname count@\endcsname\relax |
\verb|\countdef\count@=255 |
\verb|\fi |
\verb|\expandafter\ifx\csname @gobble\endcsname\relax |
\verb|\long\def\@gobble#1{}% |
\verb|\fi |
\verb|\expandafter\ifx\csname @firstofone\endcsname\relax |
\verb|\long\def\@firstofone#1{#1}|
\verb|\fi |
\verb|\expandafter\ifx\csname loop\endcsname\relax |
\verb|\else |
\verb|\expandafter\@gobble |
\verb|\fi |
\verb|\def\loop#1\repeat{|
\verb|\def\body{#1} |
\verb|\iterate |
\verb|\def\iterate{|
\verb|\body |
\verb|\let\next\iterate |
\verb|\else |
\verb|\let\next\relax |
\verb|\fi |
\verb|\next |
\verb|\let\repeat=\fi |
\verb|\def\RestoreCatcodes{} |
\verb|\count@=0 |
\verb|\loop |
\verb|\edef\RestoreCatcodes{|
\verb|\RestoreCatcodes |
\verb|\catcode\the\count@=\the\catcode\count@\relax |
\verb|\ifnum\count@<255 |
\verb|\advance\count@ 1 |
\verb|\repeat |
\verb|\def\RangeCatcodeInvalid#1#2{|
\verb|\count@=#1elax |
\verb|\loop |
\verb|\catcode\count@=\count@1elax |
\verb|\ifnum\count@<255 |
\verb|\advance\count@ 1 |
\verb|\repeat |
\verb|\def\RangeCatcodeCheck#1#2#3{|
\verb|\count@=#1#2elax |
Installation

4.1 Download

Package. This package is available on CTAN:\footnote{http://ctan.org/pkg/kvdefinekeys}

\url{CTAN:macros/latex/contrib/oberdiek/kvdefinekeys.dtx} The source file.
\url{CTAN:macros/latex/contrib/oberdiek/kvdefinekeys.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.

\url{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 texmf in their name are usually organized this way.

4.2 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
```

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/
```

4.3 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/oberdiek/kvdefinekeys.sty
kvdefinekeys.pdf → doc/latex/oberdiek/kvdefinekeys.pdf
test/kvdefinekeys-test1.tex → doc/latex/oberdiek/test/kvdefinekeys-test1.tex
kvdefinekeys.dtx → source/latex/oberdiek/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.

4.4 Refresh file name databases

If your \TeX distribution (\TeXe, \miktex, ...) relies on file name databases, you must refresh these. For example, \TeXe users run texhash or mktexlar.

4.5 Some details for the interested

Unpacking with \input\TeX. The .dtx chooses its action depending on the format:

\input\TeX: Run docstrip and extract the files.

\input\TeX: Generate the documentation.

If you insist on using \input\TeX for docstrip (really, docstrip does not need \input\TeX), then inform the autodetect routine about your intention:

```
l_latex\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 pdflatex:

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

5 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 kvdefinekeys.xml.

```
<entry datestamp='$Date$' modifier='$Author$' id='kvdefinekeys'>
  <name>kvdefinekeys</name>
  <caption>Define keys for use in the kvsetkeys package.</caption>
  <authorref id='auth:oberdiek'/>
  <copyright owner='Heiko Oberdiek' year='2010,2011'/>
  <license type='lppl1.3'/>
  <version number='1.4'/>
  <description>
    The package provides a macro \texttt{\kv@define@key} (analogous to \texttt{keyval}'s \texttt{\define@key}, to define keys for use by \texttt{kvsetkeys}).
    The package is part of the \texttt{oberdiek} bundle.
  </description>
  <documentation details='Package documentation'
    href='ctan:/macros/latex/contrib/oberdiek/kvdefinekeys.pdf'/>
  <ctan file='true' path='/macros/latex/contrib/oberdiek/kvdefinekeys.dtx'/>
  <miktex location='oberdiek'/>
  <texlive location='oberdiek'/>
  <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
</entry>
```

6 References


7 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.

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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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