

# The makerobust package

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2016/05/16 v1.1

## Abstract

Package makerobust provides `\MakeRobustCommand` that converts an existing macro to a robust one.

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## 1 User interface

L<sup>A</sup>T<sub>E</sub>X offers `\DeclareRobustCommand` to define a robust macro that does not break if it is used in moving arguments. Sometimes a macro is already defined, but not robust. For example, `\(` and `\)` are not robust, inside `\section` the user must use `\protect` explicitly. This could be avoided by making `\(` and `\)` robust.

`\MakeRobustCommand{⟨cmd⟩}`

`\MakeRobustCommand` redefines the macro `⟨cmd⟩` by using `\DeclareRobustCommand` and the existing definition of the macro `⟨cmd⟩`.

- It is an error if `⟨cmd⟩` is undefined. If you want to define a robust command, then you can use `\DeclareRobustCommand` directly.

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

- If the macro has previously been defined by `\DeclareRobustCommand` then the redefinition of `\MakeRobustCommand` is omitted, because the macro is already robust. Only an information entry is written to the `.log` file. Thus you do not get a warning or an error if the macro is already robust because of an updated LaTeX or package that defines the macro.
- Two macros are defined for a macro, defined by `\DeclareRobustCommand`. Example:

```
\DeclareRobustCommand{\foobar}{definition text}
```

Then the macro “`\foobar`” contains the protection code and, depending on the protection mode, calls the internal macro “`\foobar`”. Notice the space at the end of the macro name. This internal macro “`\foobar`” now contains the definition “`definition text`”, given in `\DeclareRobustCommand`.

Sometimes it can happen, that the internal macro already exists. This can be caused by a previous `\DeclareRobustCommand` followed by `\renewcommand`. Then the redefinition by `\MakeRobustCommand` would be safe.

However, it can also be possible that the macro is already robust, using the internal macro, but with a different protection code. The redefinition by `\MakeRobustCommand` would then generate an infinite loop.

Therefore `\MakeRobustCommand` raises an error message, if the internal macro (with space at the end) already exists.

## 1.1 Example

```
1 \(*example)
2 \documentclass{article}
3 \usepackage{makerobust}
4 \MakeRobustCommand\
5 \MakeRobustCommand\
6 \pagestyle{headings}
7 \begin{document}
8 \tableofcontents
9 \section{Einstein:  $E=mc^2$ }
10 \newpage
11 Second page.
12 \end{document}
13 \(*example)
```

## 2 Implementation

```
14 \(*package)
15 \NeedsTeXFormat{LaTeX2e}
16 \ProvidesPackage{makerobust}%
17 [2016/05/16 v1.1 Make existing macro robust (HO)]%
18 \def\MakeRobustCommand#1{%
19   \begingroup
20   \@ifundefined{expandafter\@gobble\string#1}{%
21     \endgroup
22     \PackageError{makerobust}{%
23       Macro \string\string#1\string' is not defined%
24     }\@ehc
25   }{%
26     \global\let\MR@gtemp#1%
27     \let#1\@undefined
28     \expandafter\let\expandafter\MR@temp
29       \csname\expandafter\@gobble\string#1\endcsname
30     \DeclareRobustCommand#1{}%
31     \ifx#1\MR@gtemp
```

```

32 \endgroup
33 \PackageInfo{makerobust}{%
34   \string`\string#1\string' is already robust%
35 }%
36 \else
37 \ifundefined{MR@temp}{%
38   \global\let\MR@gtemp#1%
39 \endgroup
40 \expandafter\let\csname\expandafter\@gobble\string#1 \endcsname#1%
41 \let#1\MR@gtemp
42 }{%
43 \endgroup
44 \PackageError{makerobust}{%
45   Internal macro \string`\string#1 \string' already exists%
46 }\@ehc
47 }%
48 \fi
49 }%
50 }
51 \</package>

```

## 3 Installation

### 3.1 Download

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

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

[CTAN:macros/latex/contrib/oberdiek/makerobust.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.

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

*TDS* refers to the standard “A Directory Structure for T<sub>E</sub>X Files” ([CTAN:tds/tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

### 3.2 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/
```

### 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<sub>E</sub>X:

```
tex makerobust.dtx
```

---

<sup>1</sup><http://ctan.org/pkg/makerobust>

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

```
makerobust.sty      → tex/latex/oberdiek/makerobust.sty
makerobust.pdf      → doc/latex/oberdiek/makerobust.pdf
makerobust-example.tex → doc/latex/oberdiek/makerobust-example.tex
makerobust.dtx      → source/latex/oberdiek/makerobust.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`.

### 3.4 Refresh file name databases

If your  $\text{T}_{\text{E}}\text{X}$  distribution (`teTEX`, `mikTEX`, ...) relies on file name databases, you must refresh these. For example, `teTEX` users run `texhash` or `mktextlsr`.

### 3.5 Some details for the interested

**Unpacking with  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ .** The `.dtx` chooses its action depending on the format:

**plain  $\text{T}_{\text{E}}\text{X}$ :** Run `docstrip` and extract the files.

**$\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ :** Generate the documentation.

If you insist on using  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  for `docstrip` (really, `docstrip` does not need  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ ), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{makerobust.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 makerobust.dtx
makeindex -s gind.ist makerobust.idx
pdflatex makerobust.dtx
makeindex -s gind.ist makerobust.idx
pdflatex makerobust.dtx
```

## 4 Catalogue

The following XML file can be used as source for the [T<sub>E</sub>X 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 `makerobust.xml`.

```
52 (*catalogue)
53 <?xml version='1.0' encoding='us-ascii'?>
54 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
55 <entry datestamp='$Date$' modifier='$Author$' id='makerobust'>
56   <name>makerobust</name>
57   <caption>Making a macro robust.</caption>
58   <authorref id='auth:oberdiek'/>
59   <copyright owner='Heiko Oberdiek' year='2006'/>
60   <license type='lppl1.3'/>
61   <version number='1.1'/>
```

```

62 <description>
63   This package provides the command MakeRobustCommand
64   that converts an existing macro to a robust one.
65 <p/>
66   The package is part of the <xref refid='oberdiek'>oberdiek</xref>
67   bundle.
68 </description>
69 <documentation details='Package documentation'
70   href='ctan:/macros/latex/contrib/oberdiek/makerobust.pdf'/>
71 <ctan file='true' path='/macros/latex/contrib/oberdiek/makerobust.dtx'/>
72 <miktex location='oberdiek'/>
73 <texlive location='oberdiek'/>
74 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
75 </entry>
76 </catalogue>

```

## 5 History

[2006/03/18 v1.0]

- First version.

[2016/05/16 v1.1]

- Documentation updates.

## 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.

Symbols		M	
\(	4, 9	\MakeRobustCommand	1, 4, 5, 18
\)	5, 9	\MR@gtemp	26, 31, 38, 41
\@ehc	24, 46	\MR@temp	28
\@gobble	20, 29, 40		
\@ifundefined	20, 37	N	
\@undefined	27	\NeedsTeXFormat	15
		\newpage	10
B		P	
\begin	7	\PackageError	22, 44
C		\PackageInfo	33
\csname	29, 40	\pagestyle	6
D		\ProvidesPackage	16
\DeclareRobustCommand	30	S	
\documentclass	2	\section	9
E		T	
\end	12	\tableofcontents	8
\endcsname	29, 40	U	
I		\usepackage	3
\ifx	31		