

CROSSREFTOOLS

Expandable extraction of cleveref data

Documentation

Version 0.1

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Typographical conventions

Throughout this documentation following symbols and conventions are used:

-  **foo** means a the class `foo`
-  **foo** names a package `foo`
-  **foo** indicates a counter named `foo`
-  `foo` will indicate either a file named `foo` or a file extension `foo`
-  `foo` will indicate some files
-  `foo` names a special feature or tag `foo`
-  **foo** deals with a command or package option named `foo`

Part I

Introduction

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Preface

This package provides expandable extraction of information stored in labels generated with  [cleveref](#).

Whereas  [cleveref](#) provides `\labelcref` and other commands, none of those are expandable and can not be used in an `\edef` - approach.

 Most times class and package authors will benefit of this package, but there might be usual documents that need the features of `|crossreftools|`

1 Requirements, loading and incompatibilities

1.1 Required packages and T_EX engine

The package does not require features from Xe_LT_EX or Lua_LT_EX but can be run with those features as well as with L_AT_EX or pdf_LT_EX. The compilation documentation requires however pdf_LT_EX as of version 0.1.

No packages are loaded by  [crossreftools](#), this package does not load  [cleveref](#) itself.

1.2 Loading of the package

Loading is done with

```
\usepackage[options]{crossreftools}
```

As of version 0.1  [crossreftools](#) does not have options.

1. REQUIREMENTS, LOADING AND INCOMPATIBILITIES

There is no loading order required. The macros expand to `[UNDEFINED]` if [cleveref](#) is not loaded.

1.3 Incompatibilities

As of 0.1 this package cannot be used with plain T_EX

Part II

Macro descriptions

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2 Extracting information from cleveref

The  **cleveref** package redefines the `\label` macro and stores another label with the same basic name and a suffix `@cref`, so

```
\label{foo}
```

would generate both the labels `foo` and `foo@cref`. The  **cleveref** - version of a label saves basically five properties to the `.aux` - file.

- counter

This property holds the name of the counter that was used in `\refstepcounter`.

- number

This property holds the value of label, this is usually the value of a counter

 Please note that this property does not mean the reference value that is displayed with `\cref` or `\Cref`.

- result
- reference This property holds the reference that is to be typeset, i.e. the content displayed with `\cref` or `\Cref`, however, without hyperlinks.
- page This property stores the page number of the `\label` usage.

2. EXTRACTING INFORMATION FROM CLEVEREF

✉ **crossreftools** extracts those properties with `\crtextractcref`.

Expandable

`\crtextractcref{<property>}{<labelname>}`

This command will extract one of the properties `counter`, `number`, `result`, `reference` and `page` from the label given as the 2nd mandatory argument.

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For convenience, there are shortcuts to extract a specific property:

Expandable

`\crtcrefcounter{<labelname>}`

This extracts the counter belonging to a certain labelname.

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Expandable

`\crtcrefnumber{<labelname>}`

This extracts the counter value (or something that is stored by `\cref@currentlabel` belonging to a certain labelname.

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Expandable

`\crtcrefresult{<labelname>}`

This extracts the result of the splitting of a counter belonging to a certain labelname.

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Expandable

`\crtcrefreference{<labelname>}`

This extracts the reference that would be printed by `\cref` or `\Cref`, without hyperlinks.

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Expandable

`\crtcrefpage{<labelname>}`

This extracts the page number that would be printed by `\pageref`.

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3 Additional macros and utilities

✉ **crossreftools** provides some expandable helper macros in order to query the cross reference names that are stored with `\crefname` and `\Crefname` from ✉ **cleveref**.

`\crtcrefname`{*<counter name>*}

This extracts the lower case cross reference name of a given counter.

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`\crtCrefname`{*<counter name>*}

This extracts the upper case cross reference name of a given counter.

Expandable

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`\crtcrefpluralname`{*<counter name>*}

This extracts the lower case cross reference plural name of a given counter.

Expandable

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`\crtCrefpluralname`{*<counter name>*}

This extracts the upper case cross reference plural name of a given counter.

Expandable

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`\crtcrefnamebylabel`{*<labelname>*}

This extracts the lower case cross reference name of a given label.

Expandable

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`\crtCrefnamebylabel`{*<labelname>*}

This extracts the upper case cross reference name of a given label.

Expandable

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Part III

Examples

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4 Driver example

```
%% LaTeX package crossreftools - version 0.1 (2017/10/08 -- 22:58:50)
%% Driver file for crossreftools.sty
%%
%%
%%
-----
%% Copyright (c) 2017 by Dr. Christian Hupfer <typography dot with dot latex
    at gmail dot com>
%%
-----
%%
%% This work may be distributed and/or modified under the
%% conditions of the LaTeX Project Public License, either version 1.3
%% of this license or (at your option) any later version.
%% The latest version of this license is in
%% http://www.latex-project.org/lppl.txt
%% and version 1.3 or later is part of all distributions of LaTeX
%% version 2005/12/01 or later.
%%
%%
%% This work has the LPPL maintenance status ‘author-maintained’
%%
%%
```

```
\documentclass{book}

\usepackage{crossreftools}

\usepackage{hyperref}
\usepackage{cleveref}

\setlength{\parindent}{0em}

\def\labeltoshow{foochapterlabel}

\def\equationlabeltoshow{fooequationlabel}

\begin{document}

\setcounter{chapter}{16}

Let us refer the usual way: \Cref{\labeltoshow}

\edef\foocntr{\crtcrefcounter{\labeltoshow}}

The counter for \fbox{\labeltoshow} is \foocntr\ or
\crtcrefcounter{\labeltoshow}. It is used on page
\crtcrefpage{\labeltoshow}. The value for the misspelled label name is
\crtcrefnumber{labeltoshowstuff}, whereas the correct value is
\crtcrefnumber{\labeltoshow}.

The result is \fbox{\crtcrefresult{\labeltoshow}}

\edef\labeltoshowname{\crtcrefname{chapter}}

\section{Extracting the cleveref names}

\begin{itemize}

\item The lower case cross reference name for \fbox{\equationlabeltoshow} is
```

4. DRIVER EXAMPLE

```
\crtcrefnamebylabel{\equationlabeltoshow}, this time using
\verb!\crtcrefnamebylabel!; the upper case name is
\crtCrefnamebylabel{\equationlabeltoshow}.
\item Extracting content with \verb!\crtextractcref!
\begin{itemize}
\item counter: \crtextractcref{counter}{\labeltoshow}
\item number: \crtextractcref{number}{\labeltoshow}
\item result: \crtextractcref{result}{\labeltoshow}
\item reference: \crtextractcref{reference}{\labeltoshow}
\item page: \crtextractcref{page}{\labeltoshow}
\end{itemize}
\end{itemize}

The macro \verb!\crtextractcref! is
expandable!\edef\counterof{\crtextractcref{counter}{\labeltoshow}} Using
the stored value for counter: \counterof!

\chapter{This is foo}\label{foochapterlabel}

\setcounter{section}{5}
\section{Foo}\label{foosectionlabel}

\begin{equation}
E=mc^2\label{firstequationlabel}
\end{equation}

\begin{equation}
E=mc^2\label{fooequationlabel}
\end{equation}

\end{document}
```

5 **Version history**

- Version v0.1 2017-10-08 First version

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