

CNLTEXAMPLE

Documentation for L^AT_EX 2_ε Packages or Classes

? ?

L^AT_EX examples the CN way

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A bundle of a package and a class for consistent format of control sequences, package options, source code with examples, writing a package manual (including an index containing the explained control sequences, options, ...).

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1 Background

The **CNLT**X bundle contains of a package and a class both with the same name. I developed them as a successor of a class that I used for writing the documentation of my packages with the intention of a cleaner interface and less unnecessary ballast. Hence the separation into package and class. The package provides a source code environment that also prints the output and defines quite a number of macros for formatting of control sequence names, package names, package options and so on. The best documentation for the bundle as always is the source code but I'm trying to provide a documentation as comprehensive as possible.

2 License and Requirements

Permission is granted to copy, distribute and/or modify this software under the terms of the L^AT_EX Project Public License, version 1.3 or later (<http://www.latex-project.org/lppl.txt>). The package has the status “maintained.”

The **CNLT**X package loads the following packages: etoolbox,¹ xcolor,² pgfopts,³ listings,⁴ trimspaces,⁵ accsupp,⁶ mdframed⁷ and idxcmds.⁸

The **CNLT**X class loads the package with the same name and additionally the following packages: ulem,⁹ multicol,¹⁰ ragged2e,¹¹ marginnote¹² and hyperref.¹³ It is a wrapper class for the KOMA-Script class scrartcl.¹⁴

Like all of my packages **CNLT**X implicitly relies on an up to date T_EX distribution.

3 Options and Setup

The **CNLT**X bundle has a number of options. The package knows most of them as package option, the class only knows the **load-preamble** (described in section 7.3). All options except the one class option regardless if they're defined by the package or the class can be set with a setup command:

```
\setcnltxample{<options>}  
setup command for CNLTX.
```

-
1. on CTAN as etoolbox: <http://mirrors.ctan.org/macros/latex/contrib/etoolbox/>
 2. on CTAN as xcolor: <http://mirrors.ctan.org/macros/latex/contrib/xcolor/>
 3. on CTAN as pgfopts: <http://mirrors.ctan.org/macros/latex/contrib/pgfopts/>
 4. on CTAN as listings: <http://mirrors.ctan.org/macros/latex/contrib/listings/>
 5. on CTAN as trimspaces: <http://mirrors.ctan.org/macros/latex/contrib/trimspaces/>
 6. on CTAN as accsupp: <http://mirrors.ctan.org/macros/latex/contrib/oberdiek/accsupp/>
 7. on CTAN as mdframed: <http://mirrors.ctan.org/macros/latex/contrib/mdframed/>
 8. on CTAN as idxcmds: <http://mirrors.ctan.org/macros/latex/contrib/idxcmds/>
 9. on CTAN as ulem: <http://mirrors.ctan.org/macros/latex/contrib/ulem/>
 10. on CTAN as multicol: <http://mirrors.ctan.org/macros/latex/required/tools/multicol/>
 11. on CTAN as ragged2e: <http://mirrors.ctan.org/macros/latex/contrib/ms/ragged2e/>
 12. on CTAN as marginnote: <http://mirrors.ctan.org/macros/latex/contrib/marginnote/>
 13. on CTAN as hyperref: <http://mirrors.ctan.org/macros/latex/contrib/hyperref/>
 14. on CTAN as koma-script: <http://mirrors.ctan.org/macros/latex/contrib/koma-script/>

The source code environments also have optional arguments that can be used to set the options for the environment locally.

4 Available Commands

4.1 Description of Macros, Environments and Options

provided by the
CNLTX-EXAMPLE
package

The commands described in this section all are provided by the **CNLTX** package. They all are related to the typesetting of provided macros, options and the like.

\code{*arg*}

Formatting of source code. This is *no* verbatim command. Used internally in the following commands.

\cs*{*name*}

Format the control sequence *name*, **\cs**{*name*}: **name**. Adds a corresponding index entry. The starred form does not add an index entry.

\csidx{*name*}

Adds an index entry but does not typeset the control sequence *name*.

\env*{*name*}

Format the environment *name*, **\env**{*name*}: *name*. Adds a corresponding index entry with a hint that the entry refers to an environment. The starred form does not add an index entry.

\envidx{*name*}

Adds an index entry but does not typeset the environment *name*.

\meta{*meta*}

Description of an argument, **\meta**{*meta*}: *meta*.

\marg{*arg*}

A mandatory argument. *arg* is formatted with **\meta** if it is not blank, **\marg**{*arg*}: {*arg*}.

\oarg{*arg*}

An optional argument. *arg* is formatted with **\meta** if it is not blank, **\oarg**{*arg*}: [*arg*].

\darg{*arg*}

An argument with parentheses as delimiters. *arg* is formatted with **\meta** if it is not blank, **\darg**{*arg*}: (*arg*).

\sarg

An optional star argument, **\sarg**: *.

\option*{*name*}

An option *name*, **\option**{*name*}: *name*. Adds a corresponding index entry. The starred form does not add an index entry.

`\optionidx{⟨name⟩}`

Adds an index entry but does not typeset the option `⟨name⟩`.

`\key*{⟨name⟩}{⟨values⟩}`

A key `⟨name⟩` with values `⟨values⟩`, `\key{key}{value}`: `key = {⟨value⟩}`; `\key*{key}{value}`: `key = ⟨value⟩`

`\choices{⟨clist of choices⟩}`

A list of choices, `\choices{one,two,three}`: `one|two|three`

`\choicekey{⟨name⟩}{⟨clist of choices⟩}`

A key `⟨name⟩` with a list of possible values, `\choicekey{key}{one,two,three}`: `key = one|two|three`

`\boolkey{⟨name⟩}`

A boolean key `⟨name⟩` with choices `true` and `false`, `\boolkey{key}`: `key = true|false`

`\default{⟨value⟩}`

Markup for a default choice, `\choices{one,\default{two},three}`: `one|two|three`

4.2 Versioning Commands, Licensing and Related Stuff

provided by the
`CNLTx-DOC` class

The commands described in this section are provided by the `CNLTx` class except where indicated differently. These commands are related to information about the legal stuff of a package and where to find it on the world wide web.

`\sinceversion{⟨version⟩}`

Introduced in
version 0.0

Gives a sidenote like the one on the left.

`\changedversion{⟨version⟩}`

Changed in
version 0.0

Gives a sidenote like the one on the left.

`\lppl`

Typesets “LPPL” and adds a corresponding index entry.

`\LPPL`

Typesets “L^AT_EX Project Public License” and adds the same index entry as `\lppl`.

`\license*`

Typesets “Permission is granted to copy, distribute and/or modify this software under the terms of the L^AT_EX Project Public License, version 1.3 or later (<http://www.latex-project.org/lppl.txt>). The package has the status “maintained.”. The un-starred variant adds a `\par`.

`\ctan`

Typesets “CTAN” and adds a corresponding index entry.

`\CTAN`

Typesets “Comprehensive T_EX Archive Network” and adds the same index entry as `\ctan`.

`\pkg*{⟨package⟩}`
 provided by the **CNLTX-EXAMPLE** package
 Format the package name `⟨package⟩` and add an index entry. The starred variant adds nothing to the index.

`\pkgidx{⟨package⟩}`
 provided by the **CNLTX-EXAMPLE** package
 Add an index entry for the package `⟨package⟩`.

`\cls*{⟨class⟩}`
 provided by the **CNLTX-EXAMPLE** package
 Format the class name `⟨class⟩` and add an index entry. The starred variant adds nothing to the index.

`\clsidx{⟨class⟩}`
 provided by the **CNLTX-EXAMPLE** package
 Add an index entry for the class `⟨class⟩`.

`\CTANurl[⟨/⟩]directory{⟨name⟩}`
 Writes a CTAN link like the ones in section 2 in the footnotes. The predefined directory is `macros/latex/contrib`.

4.3 Formatting Commands

One of the goals I wanted to achieve with this package is a consistent look and an easy interface for customization. No font choice and no color choice is fixed. In this section ways to change the formatting are shown.

The formatting of the different commands provided by **CNLTX** can be changed in two ways: either by redefining the internal commands that are used for the formatting or by setting a corresponding option. Both variants are described in the next subsections.

How the colors should be changed is described in section 8.

4.3.1 Formatting by Redefining Hooks

You can change the formatting by redefining the following commands. They're all defined by the **CNLTX** package except where indicated differently.

`\codefont` Default: `\ttfamily`
 This command is used for all formatting of source code.

`\sourceformat` Default: `\codefont\small`
 Formatting of the listings.

`\exampleformat` (initially empty)
 Special formatting of the output of a listing.

`\versionnoteformat` Default: `\footnotesize\sffamily\RaggedRight`
 provided by the **CNLTX-DOC** class
 Formatting of the notes introduced in section 4.2.

`\packageformat` Default: `\sffamily`
 The formatting of package names.

`\classformat` Default: `\sffamily`
The formatting of class names.

`\argumentformat` Default: `\normalfont\itshape`
The formatting of `\meta{⟨meta⟩}`.

```
1 \renewcommand*\codefont{\sffamily\bfseries}
2 \code{foo} and \cs*{bar}, option \option{baz}
```

`foo` and `\bar`, option `baz`

4.3.2 Formatting by Setting Options

You can change the formatting by setting the following options. They're all defined by the `CNLTX` package except where indicated differently.

`code-font` = {⟨definition⟩} Default: `\ttfamily`
Used for all formatting of source code.

`source-format` = {⟨definition⟩} Default: `\codefont\small`
Formatting of the listings.

`expl-format` = {⟨definition⟩} (initially empty)
Special formatting of the output of a listing.

`version-note-format` = {⟨definition⟩} Default: `\footnotesize\sffamily\RaggedRight`
Formatting of the notes introduced in section 4.2.

provided by the
`CNLTX-DOC` class

`pkg-format` = {⟨definition⟩} Default: `\sffamily`
The formatting of package names.

`cls-format` = {⟨definition⟩} Default: `\sffamily`
The formatting of class names.

`arg-format` = {⟨definition⟩} Default: `\normalfont\itshape`
The formatting of `\meta{⟨meta⟩}`.

```
1 \setcnltxample{code-font=\sffamily\itshape}
2 \code{foo} and \cs*{bar}, option \option{baz}
```

`foo` and `\bar`, option `baz`

5 Available Environments

CNLTX defines a few environments most of them related to the way how descriptions of commands are typeset.

The example environment is defined by the **CNLT**X package, the others are defined by the class.

\begin{example}[*<options>*]

This environment is a formatted verbatim environment that also inputs the output of the inputted code. This environment is described in section 6.4.

\begin{sourcecode}[*<options>*]

This environment is a formatted verbatim environment. This environment is described in section 6.4.

\begin{commands}

A description-like environment for describing commands. While this environment is a list internally and thus recognizes **\item** own commands are used to describe macros. They are explained in section 6.1.

\begin{options}

A description-like environment for describing options. While this environment is a list internally and thus recognizes **\item** own commands are used to describe options. They are explained in section 6.2.

\begin{environments}

A description-like environment for describing environments. While this environment is a list internally and thus recognizes **\item** own commands are used to describe environments. They are explained in section 6.3.

Except for the example and the sourcecode environments the environments are lists all using the same internal **\list**. The setup of this list can be changed via an option:

list-setup = {*<definitions>*}

Default: **\leftmargin=0pt \labelwidth=2em \labelsep=0pt \itemindent=-1em**

The setup of the **\list** used by the commands, options and environments environments.

6 Usage

6.1 Command Descriptions

Inside of the environment commands that was introduced in section 5 items are input via the following command:

\command*{*<name>*}[*<stuff after>*]

This macro formats a control sequence with **\cs** and puts a line break after it. The optional argument allows printing things directly after the command name and can thus be used for adding arguments.

`\Default{⟨code⟩}`

This command can be placed after `\command` in order to give a default definition. The definition will then be placed on the same line flush right.

```
1 \begin{commands}
2   \command{cs}
3     This is about foo bar baz.
4   \command{cs}[\margin{arg}]
5     This one has an argument.
6   \command{cs}[\sarg\oarg{option}]
7     This has a star variant and an optional argument.
8   \command{cs}\Default{foo bar}
9     This one has the default replacement text \code{foo bar}
10 \end{commands}
```

`\cs`
This is about foo bar baz.

`\cs{⟨arg⟩}`
This one has an argument.

`\cs*[⟨option⟩]`
This has a star variant and an optional argument.

`\cs` Default: foo bar
This one has the default replacement text foo bar

6.2 Option Descriptions

The options environment knows a few more commands to meet all the different kinds of options.

`\opt*`

An option. The star prevents an index entry.

`\keyval*{⟨key⟩}{⟨value⟩}`

A key/value option. The star prevents an index entry.

`\keychoice*{⟨key⟩}{⟨list of choices⟩}`

A key/value option where the value is one of a list of choices. The star prevents an index entry.

`\keybool*{⟨name⟩}`

A boolean key, that is a choice key with choices true and false. The star prevents an index entry.


```

1 \begin{options}
2   \opt{foo}
3     This makes stuff. Let's add a few more words so that the line gets
4     filled and we can see how the output actually looks.
5   \opt*{foo}\Default{bar}
6     This makes stuff. Let's add a few more words so that the line gets
7     filled and we can see how the output actually looks.
8   \keyval{foo}{bar}\Default
9     This makes stuff. Let's add a few more words so that the line gets
10    filled and we can see how the output actually looks.
11  \keyval*{foo}{bar}
12    This makes stuff. Let's add a few more words so that the line gets
13    filled and we can see how the output actually looks.
14  \keychoice{foo}{one,two,three}
15    This makes stuff. Let's add a few more words so that the line gets
16    filled and we can see how the output actually looks.
17  \keybool{foo}
18    This makes stuff. Let's add a few more words so that the line gets
19    filled and we can see how the output actually looks.
20 \end{options}

```

foo

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

foo

Default: bar

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

foo = { \langle bar \rangle }

(initially empty)

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

foo = \langle bar \rangle

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

foo = one|two|three

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

```
foo = true|false
```

This makes stuff. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

6.3 Environment Descriptions

Environment descriptions are made – unsurprisingly – with the `environments` environment. It knows the command `\environment`:

```
\environment*{<name>}[<stuff after>]
```

This macro prints the environment name and puts a line break after it. The optional argument allows printing things directly after the environment name and can thus be used for adding arguments.

```
1 \begin{environments}
2   \environment*{foobar}[\oarg{options}]
3     This is environment \env*{foobar}. The star prevents it from being
4     added to the index.
5 \end{environments}
```

```
\begin{foobar}[<options>]
```

This is environment foobar. The star prevents it from being added to the index.

6.4 Example Code

Example code can be included through the `example` environment or the `sourcecode` environment.

```
1 \begin{example}
2   a \LaTeX\ code example
3 \end{example}
```

This example would give:

```
1 a \LaTeX\ code example
```

a \LaTeX code example

Both environments can be influenced by options:

`code-only = true|false`

Default: false

Only typeset the code as code but don't include it afterwards. The code box above is an example for the usage of this option. This option has no effect on the `sourcecode` environment: this is already what that environment does.

`side-by-side = true|false`

Default: false

Typeset source and output side by side. The code is input on the left and the output on the right. Side by side examples are typeset in `minipage` environments with all consequences that come with them (think of `\parindent ...`).

The same example again, this time using `side-by-side`:

<code>a \LaTeX\ code example</code>	<code>a L^AT_EX code example</code>
-------------------------------------	---

The frame around the examples is done by the `mdframed` package. It is of course possible to customize it:

`add-frame-options = {⟨mdframed options⟩}`

(initially empty)

Add options to the predefined ones.

`frame-options = {⟨mdframed options⟩}`

Default: `backgroundcolor=cnltxamplebg,linecolor=cnltxample,roundcorner=5pt`
Overwrite the options with new ones.

The source code is formatted using the `listings` package. Similar options exist to adapt listings' options that are used for formatting the source code. The predefined style has many options that will not be mentioned here. If you're interested you can find them in `cnltxample.sty`.

`gobble = {⟨integer⟩}`

Default: 2

The number of initial characters that is gobbled from each line.

`add-cmds = {⟨list of csnames⟩}`

(initially empty)

A list of control sequence names that should be recognized as a command sequence in the source code examples and should be formatted accordingly. The control sequence names in this list will also get an index entry when they're used in the source example. This is done internally via `\csidx`. The option should be used to add the new commands that are defined by the package for which you are writing the manual for.

`add-silent-cmds = {⟨list of csnames⟩}`

A list of control sequence names that should be recognized as a command sequence in the source code examples and should be formatted accordingly. The control sequence names in this list will *not* get an index entry when they're used in the source example. There already is quite a large but far from comprehensive list of silent commands but many are still missing. This option allows you to extend the list on a per document basis.

`add-listings-options = {\<listings options>}` (initially empty)
Additional options for the listings environments.

`listings-options = {\<listings options>}`
Overwrite existing options with new ones. This can be used to build an own style from scratch.

`add-envs = {\<list of environment names>}` (initially empty)
Like `add-cmds` but for environment names.

7 Package or Class Information, Building of the Manuals Title Page

7.1 Package or Class Information

A manual for a package or a class needs some information like the package name, the version number, the date and so on. This information is given with the following options. They are used to build the title page of the manual.

`package = {\<package>}`
The name of the package that is described. Either this option or `class` should always be given. This command also defines a command sequence from the package name that formats the package name with color and small caps like `CNLT`.

`class = {\<class>}`
The name of the class that is described. Either this option or `package` should always be given. This command also defines a command sequence from the class name that formats the class name with color and small caps like `CNLT`.

`authors = {\<author list>}`
Comma separated list of package/class authors.

`version = {\<version number>}`
Version number of the package/class. `CNLT` tries to extract the information from the given `package` or `class`. This option can be used to set it explicitly.

`date = {\<date>}`
Date of the package/class. `CNLT` tries to extract the information from the given `package` or `class`. This option can be used to set it explicitly.

`info = {\<package/class info>}`
Information about the package/class. `CNLT` tries to extract the information from the given `package` or `class`. This option can be used to set it explicitly.

`subtitle = {\<subtitle>}`
A subtitle that is typeset *instead* of the package/class info.

`url = {\<url>}`
The homepage of the package.

`email = {\langle email \rangle}`

A contact email address.

`abstract = {\langle abstract \rangle}`

An abstract of the package/class/manual. This is text typeset in a box of `.75\linewidth`. Actually it does not have to be text but could be an image or whatever you like.

7.2 Building of the Manuals Title Page

If either the `package` or `class` has been given an automatic title page is built using the gathered information. Figure 1 roughly sketches which informations is used and how the different elements are arranged on the title page. The page style of the title page is `plain`. Additionally a table of contents is automatically built that is set in two columns.

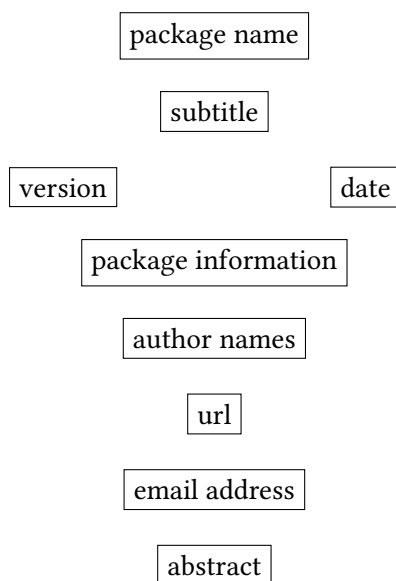


Figure 1: Schematic sketch of the title page.

7.3 Predefined Preamble

It is possible to load a part of my standard preamble automatically by passing an option as class option.

`load-preamble`

Class option that preloads part of my custom preamble.

Using the option will include the following code:

```

1 \RequirePackage[oldstyle]{libertine}
2 \RequirePackage{libertinehologopatch}% not on CTAN, yet!
3 \RequirePackage[supstfm=libertinesups]{superiors}
4 \RequirePackage{microtype}
5 \RequirePackage[scaled=.83]{beramono}
6 \RequirePackage{fnpct}
7 \RequirePackage[english]{babel}
8 \renewcommand*{\othersectionlevelsformat[3]{%
9   \textcolor{cnltxample}{#3\autodot}\enskip}
10 \renewcommand*{\partformat}{%
11   \textcolor{cnltxample}{\partname~\thepart\autodot}}
12 \deffootnote{2em}{1em}{\llap{\thefootnotemark. }}%

```

8 Predefined Colors and Color-Schemes

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