

# THE CNLTX BUNDLE

Documentation for L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Packages or Classes

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L<sup>A</sup>T<sub>E</sub>X examples the CN way

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A bundle of packages and classes 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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## Part I.

# About The Bundle

### 1. Background

The **CNLTX** bundle contains different packages and classes. I developed it as a successor of my class `cnpkgdoc` that I used for writing the documentation of my packages. The intention behind this is a cleaner interface and less unnecessary ballast, hence the separation into packages and classes. The bundle provides source code environments that also print the output and defines quite a number of macros for formatting of control sequence names, package names, package options and so on.

Part of the motivation is also that users have asked me how I created the manuals for my packages. Now I can refer to this bundle.

Another reason for the splitting into separate packages is – besides the advantage of easier maintenance – is that I may want to add programming tools that I use often into **CNLTX-BASE** which may allow me (and others) to use them for other packages, too, without having to define them each time. So it is quite possible that **CNLTX-BASE** will get extended in the future.

The best documentation for the bundle as always is the source code of the `sty` and `cls` files

but I'm trying to provide a documentation as comprehensive as possible. This is one of the reasons why this documentation is noticeably longer than the one for `cnpkgdoc`.

The bundle reflects the fact that I haven't started using literate programming, yet. I don't use `docstrip` and don't write `dtx` files but always write the `sty` or `cls` files directly. The manual is always created parallel but separately. While I'm entirely aware of the advantages of literate programming I never could bring myself to start to use it myself. As a consequence I have no idea if this bundle can be used for it or not.

Source code formatting is done with the help of the powerful listings package [HM13] by Carsten Heinz and later Brooks Moses, now maintained by Jobst Hoffmann. The only real drawback I have found with it is recognizing starred and un-starred versions of an environment as different keywords. This does not seem to be possible which is why indexing of such environments will lead to wrong page numbers.

The fancy frames of the source code examples are realized with the `mdframed` package [Dan13] by Marco Daniel, loaded with the option `framemethod = tikz`.

## 2. Bundled Packages, Classes and Files

The `CNLT` bundle currently bundles the following packages and classes:

- `CNLT-BASE` – a package that defines base macros for error-messaging, expansion control and tokenlist manipulation. It also provides color definitions and defines a few color schemes for the `CNLT-DOC` class. All other packages and classes of the `CNLT` bundle load this package. This package can be used stand-alone.
- `CNLT-DOC` – a class for writing package manuals. Loads `CNLT-EXAMPLE` and `CNLT-TOOLS`.
- `CNLT-EXAMPLE` – a package that defines macros and environments for describing control sequences and options and for including source code. Loads `CNLT-LISTINGS`. This package can be used stand-alone.
- `CNLT-LISTINGS` – a package that defines the listings language 'BibTeX'. Also defines a list of highlighted control sequence names and environment names, loaded by `CNLT-EXAMPLE`. The additional control sequence and environment names used to be defined in `CNLT-CSNAMES`. That package got removed and its contents are now provided by `CNLT-LISTINGS`. This package can be used stand-alone.
- `CNLT-TOOLS` – a package that defines tools used by `CNLT-DOC` that are unrelated to  $\text{\LaTeX}$  documentation *per se*.
- `cnlt.ist` – an index style file that is used when the option `add-index` is activated and the option `index-style` is not used.
- `cnlt.bib` – a bibliography file that contains a small but growing number of package entries.
- `cnlt.bbx`, `cnlt.cbx` and `cnlt.dbx` – files related to the biblatex style `cnlt`.

Introduced in  
version 0.4

Introduced in  
version 0.2

Introduced in  
version 0.4

Introduced in  
version 0.4

### 3. License and Requirements

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

The **CNLTX-BASE** package loads the following packages: pgfplots<sup>1</sup> [Wri11], etoolbox<sup>2</sup> [Leh11], trimspaces<sup>3</sup> [Rob09] and xcolor<sup>4</sup> [Ker07].

The **CNLTX-DOC** class loads the package with the same name and additionally the following packages: **CNLTX-BASE**, **CNLTX-EXAMPLE**, translations [Nie13c], ulem<sup>5</sup> [Ars11], multicol<sup>6</sup> [Mit11], ragged2e<sup>7</sup> [Scho9], marginnote<sup>8</sup> [Koh12] and hyperref<sup>9</sup> [OR12]. It is a wrapper class for the KOMA-Script class scrartcl<sup>10</sup> [KN12].

The **CNLTX-EXAMPLE** package loads the following packages: **CNLTX-BASE**, **CNLTX-LISTINGS**, **CNLTX-TOOLS**, translations,<sup>11</sup> mdframed<sup>12</sup> [Dan13] and idxcmds<sup>13</sup> [Nie13b].

The **CNLTX-LISTINGS** package loads **CNLTX-BASE** and listings<sup>14</sup> [HM13].

The **CNLTX-TOOLS** package loads **CNLTX-BASE** and accsupp<sup>15</sup> [Obe01].

Like all of my packages **CNLTX** implicitly relies on an up to date T<sub>E</sub>X distribution.

## Part II.

# Details of Available Commands, Environments and Options

### 4. Options and Setup

The **CNLTX** bundle has a number of options. The **CNLTX-DOC** class only knows a few options (described in section 9.1 on page 19) as *class* options. All other options regardless if they’re defined by a package or a class can and should be set with the setup command:

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

`\setcnltx{⟨options⟩}`  
 setup command for **CNLT**X.

The source code environments defined by the **CNLT**X-**EXAMPLE** package also have optional arguments that can be used to set the options for the environment locally.

## 5. Available Commands

### 5.1. Description of Macros, Environments and Options

provided  
by **CNLT**X-  
**EXAMPLE**

The commands described in this section all are provided by the **CNLT**X 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.

Introduced in  
version 0.2

`\verbcode⟨delim⟩⟨code⟩⟨delim⟩`  
 A verbatim command that uses the same formatting as the source code example environments. This is a wrapper for `\lstinline` which loads the corresponding style.

`\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⟩}`.

Introduced in  
version 0.2

`\Marg{⟨arg⟩}`  
 A mandatory argument. `⟨arg⟩` is formatted with `\code` 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⟩]`.

## 5. Available Commands

Introduced in  
version 0.2

`\0arg{⟨arg⟩}`

An optional argument.  $\langle arg \rangle$  is formatted with `\code` if it is not blank, `\0arg{arg}`: [arg].

`\darg{⟨arg⟩}`

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

Introduced in  
version 0.2

`\Darg{⟨arg⟩}`

An argument with parentheses as delimiters.  $\langle arg \rangle$  is formatted with `\code` if it is not blank, `\Darg{arg}`: (arg).

`\sarg`

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

`\option*{⟨name⟩}`

An option  $\langle name \rangle$ , `\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  $\langle name \rangle$ .

`\module*{⟨name⟩}`

A module  $\langle name \rangle$ , `\module{name}`: name. Adds a corresponding index entry. The starred form does not add an index entry. In some of my package I like to organize options by grouping them in different classes that I call “modules”. This command refers to those modules.

`\moduleidx*{⟨name⟩}`

Adds an index entry but does not typeset the option  $\langle name \rangle$ .

`\key*-{⟨name⟩}{⟨value⟩}`

A key  $\langle name \rangle$  with value  $\langle value \rangle$ , the optional star prevents an index entry, the optional - strips the braces around  $\langle value \rangle$ ; `\key{key}{value}`: key = { $\langle value \rangle$ }; `\key-{key}{value}`: key =  $\langle value \rangle$

Introduced in  
version 0.2

`\keyis*{⟨name⟩}{⟨value⟩}`

A key  $\langle name \rangle$  set to value  $\langle value \rangle$ , the optional star prevents an index entry, `\key{keyis}{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  $\langle name \rangle$  with a list of possible values, `\choicekey{key}{one,two,three}`: key = one|two|three

`\boolkey{⟨name⟩}`

A boolean key  $\langle name \rangle$  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

## 5.2. Versioning Commands, Licensing and Related Stuff

provided by  
CNLTX-DOC

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.

Introduced in  
version 0.0

`\sinceversion{<version>}`

Gives a sidenote like the one on the left.

Changed in  
version 0.0

`\changedversion{<version>}`

Gives a sidenote like the one on the left.

`\newnote*{<cs>}[<num>]{<definition>}`

Defines a note like `\sinceversion`. The star makes the note macro short, `<num>` defines the number of mandatory arguments. Optional arguments are not possible. `\sinceversion` was defined as follows: `\newnote*\sinceversion[1]{Introduced in version~#1}`

`\newpackagename{<cs>}{<name>}`

Define a command `<cs>` that prints `<name>` formatted like **CNLTX**.

provided by  
CNLTX-TOOLS

`\newname{<cs>}{<first name>}{<second name>}`

Defines `<cs>` to write out the full name and add an index entry sorted by the last name. Also defines a starred variant of `<cs>` that only writes the last name but still adds the full index entry.

`\lppl`

Typesets “LPPL” and adds a corresponding index entry.

`\LPPL`

Typesets “L<sup>A</sup>T<sub>E</sub>X Project Public License” and adds the same index entry as `\lppl`.

Changed in  
version 0.2

`\license*[<maintenance status>]`

Default: maintained

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

`\ctan`

Typesets “CTAN” and adds a corresponding index entry.

`\CTAN`

Typesets “Comprehensive T<sub>E</sub>X Archive Network” and adds the same index entry as `\ctan`.

provided by  
CNLTX-TOOLS

`\cnltxacronym{<pdf and sort string>}{<acronym>}`

Typesets `<acronym>` with small caps and uses `<pdf and sort string>` as PDF string and for sorting the index entry that is added. This command was used to define `\lppl` and `\ctan`. *This is not intended as a replacement for packages like `acro` [Nie13a] or `glossaries` [Tal13]!* In fact it is a “poor man’s” solution that allows me not to require one of those packages.

## 5. Available Commands

provided by <b>CNLT</b> X- <b>EXAMPLE</b>	<b>\pkg*</b> { <i>package</i> }	Format the package name <i>package</i> and add an index entry. The starred variant adds nothing to the index.
provided by <b>CNLT</b> X- <b>EXAMPLE</b>	<b>\pkgidx</b> { <i>package</i> }	Add an index entry for the package <i>package</i> .
provided by <b>CNLT</b> X- <b>EXAMPLE</b>	<b>\cls*</b> { <i>class</i> }	Format the class name <i>class</i> and add an index entry. The starred variant adds nothing to the index.
provided by <b>CNLT</b> X- <b>EXAMPLE</b>	<b>\clsidx</b> { <i>class</i> }	Add an index entry for the class <i>class</i> .
	<b>\CTANurl</b> [ <i>directory</i> ]{ <i>name</i> }	Writes a CTAN link like the ones in section 3 on page 4 in the footnotes. The predefined directory is <code>macros/latex/contrib</code> . The link address will be:  <code>http://mirrors.ctan.org/<i>directory</i>/<i>name</i>/</code> .
Introduced in version 0.2	<b>\needpackage</b> [ <i>directory</i> ]{ <i>name</i> }	A wrapper for <code>\pkg{#2}\footnote{\CTANurl[#1]{#2}}</code>
Introduced in version 0.2	<b>\needclass</b> [ <i>directory</i> ]{ <i>name</i> }	A wrapper for <code>\cls{#2}\footnote{\CTANurl[#1]{#2}}</code>

```
1 \newpackagename{\foothree}{foo-3}%
2 now \foothree\ looks like \cnltx.
3
4 \newname\carlisle{David}{Carlisle}%
5 \carlisle\ is a well-known member of the \LaTeX\ community. \carlisle* is
6 the author of many packages such as \pkg*{longtable}.
```

---

now **FOO-3** looks like **CNLT**X.  
David Carlisle is a well-known member of the L<sup>A</sup>T<sub>E</sub>X community. Carlisle is the author of many packages such as `longtable`.

### 5.3. Input Source Code Files

Similar to the environments described in section 6.2 on page 10 **CNLT**X-**EXAMPLE** provides a few commands for inputting source code files, formatting and printing the source code and inputting the file directly.

**\inputexample**[*options*]{*file name*}

The equivalent of the example environment, see section 6.2 on page 10.



## 6. Available Environments

`\inputsidebyside[⟨options⟩]{⟨file name⟩}`

The equivalent of the `sidebyside` environment, see section 6.2 on the following page.

`\inputsourcecode[⟨options⟩]{⟨file name⟩}`

The equivalent of the `sourcecode` environment, see section 6.2 on the next page.

It is possible to define further commands like this:

`\newinputsourcefilecmd[⟨option⟩]{⟨control sequence⟩}`

Defines `⟨control sequence⟩` as a new source code input command where `⟨options⟩` are preset.

The existing commands have been defined like this:

```
1 \newinputsourcefilecmd\inputexample
2 \newinputsourcefilecmd[side-by-side]\inputsidebyside
3 \newinputsourcefilecmd[code-only]\inputsourcecode
```

## 6. Available Environments

### 6.1. Description Environments

**CNLT<sub>X</sub>-DOC** defines some description environments used to describe macros, environments or options.

`\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 7.1 on page 11.

`\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 7.2 on page 12.

`\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 7.3 on page 14.

These 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.

## 6.2. Source code Environments

**CNLTX-EXAMPLE** defines the following environments that are used to display source code and possibly the output of the source code, too.

**\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 7.4 on page 14.

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

This environment is a formatted verbatim environment that also inputs the output of the inputted code. Source and output are printed side-by-side. This environment is described in section 7.4 on page 14.

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

This environment is a formatted verbatim environment. This environment is described in section 7.4 on page 14.

Introduced in  
version 0.2

In each of these environments certain hooks are provided that can be used to add definitions you like:

**pre-code** = {*<definitions>*}

*<definitions>* are placed before the source code is inserted.

**after-code** = {*<definitions>*}

*<definitions>* are placed after the source code is inserted.

**pre-source** = {*<definitions>*}

*<definitions>* are placed before the output of the source code is inserted.

**after-source** = {*<definitions>*}

*<definitions>* are placed after the output of the source code is inserted.

It is possible to define further environments like this:

**\newsourcecodeenv**[*<option>*]{*<name>*}

Defines *<name>* as a new source code environment where *<options>* are preset.

The existing environments have been defined like this:

```
1 \newsourcecodeenv{example}
2 \newsourcecodeenv[side-by-side]{sidebyside}
3 \newsourcecodeenv[code-only]{sourcecode}
```

## 7. Usage

### 7.1. Command Descriptions

Inside of the environment commands that was introduced in section 6.1 on page 9 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` or `\option` in order to give a default definition of a macro or a default value of an option. The definition will then be placed on the same line flush right. The star prevents the insertion of `\newline` after it. The optional bang adds the information that an option is mandatory, *i.e.*, it has to be set.

Changed in  
version 0.3

```

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

## 7.2. 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 optional star prevents an index entry. The optional - strips the braces around <value>, see the example below.

`\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.

`\Default*! {<code>}`

Changed in  
version 0.3

This command can be placed after `\command` or `\option` in order to give a default definition of a macro or a default value of an option. The definition will then be placed on the same line flush right. The star prevents the insertion of `\newline` after it. The optional bang adds the information that an option is mandatory, *i.e.*, it has to be set.

`\Module*! {<name>}`

Introduced in  
version 0.3

This command can be placed after `\option` but before `\Default` in order to determine the module the option belongs to. It will be written in the left margin next to the option name. The star prevents the insertion of `\newline` after it. The optional bang *adds* an index entry for the module. This is somehow inconsistent with many of the other commands where an optional star *prevents* an index entry but it fits to the functionality of `\Default` which is why this syntax was chosen.

The following demonstrates how the commands would be used to create option descriptions:

```

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   \opt{foo}\Module{bar}
9     This option belongs to \module*{bar}. Let's add a few more words so
10    that the line gets filled and we can see how the output actually
11    looks.
12  \opt{foo}\Module{bar}\Default{baz}

```

## 7. Usage

```
13   This option belongs to \module*{bar}. Let's add a few more words so
14   that the line gets filled and we can see how the output actually
15   looks.
16   \keyval{foo}{bar}\Default
17   This makes stuff. Let's add a few more words so that the line gets
18   filled and we can see how the output actually looks.
19   \keyval{foo}{bar}\Default!
20   This makes stuff. Let's add a few more words so that the line gets
21   filled and we can see how the output actually looks.
22   \keyval*{foo}{bar}
23   This makes stuff. Let's add a few more words so that the line gets
24   filled and we can see how the output actually looks.
25   \keyval- {foo}{bar}
26   This makes stuff. Let's add a few more words so that the line gets
27   filled and we can see how the output actually looks.
28   \keychoice{foo}{one,two,three}
29   This makes stuff. Let's add a few more words so that the line gets
30   filled and we can see how the output actually looks.
31   \keybool{foo}
32   This makes stuff. Let's add a few more words so that the line gets
33   filled and we can see how the output actually looks.
34   \end{options}
```

The code above gives the following output:

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.

bar »foo

This option belongs to the module bar. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

bar »foo

Default: baz

This option belongs to the module bar. Let's add a few more words so that the line gets filled and we can see how the output actually looks.

foo = {⟨bar⟩}

(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 = {⟨bar⟩}

(required)

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.

## 7. Usage

`foo = {\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 = \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 = 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.

### 7.3. Environment Descriptions

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

`\environment*{\name}[\langle stuff after \rangle]`

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}[\langle options \rangle]`

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

### 7.4. Example Code

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

## 7. Usage

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

This example would give:

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

---

a  $\text{\LaTeX}$  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`, page breaks ...).

`code-left` = `true`|`false`

Default: `true`

If `true` and the option `side-by-side` is chosen the source code is printed on the right side else on the left.

`code-sep` = `{\definition}`

Default: `\hrulefill`

Code that is inserted between a source code and the corresponding output when printed below each other.

The same example again, this time using `side-by-side` (which is the same as using the `sidebyside` environment):

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

a  $\text{\LaTeX}$  code example

`side-by-side` and `code-left` = `false`:

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

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

The frame around the examples is done by the `mdframed` package [Dan13]. It is of course possible to customize it:

## 7. Usage

`add-frame-options = {\mdframed options}` (initially empty)  
Add options to the predefined ones.

`frame-options = {\mdframed options}`  
Default: `backgroundcolor=cnltxbg,linecolor=cnltx,roundcorner=5pt`  
Overwrite the options with new ones.

The source code is formatted using the listings package [HM13]. 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 `cnltx-listings.sty` or in section B on page 36.

`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 [HM13] environments. *This redefines the cnltx listings style and this effects all sourcecode environments!*

`listings-options = {\<listings options>}`  
Overwrite existing options with new ones. This can be used to build an own style from scratch. *This redefines the cnltx listings style and this effects all sourcecode environments!*

`sourcecode-options = {\<listings options>}`  
These options are added to the listings options of the source code environments without redefining the main style. Hence it can be used to locally add options to a source code environment.

Introduced in  
version 0.4

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

`add-silent-envs = {\<list of environment names>}`  
Like `add-silent-cmds` but for environment names.



### 7.5. Example File

Let's say you're documenting a package called `mypackage` that provides the command `\mycommand` and the environment `myenv`. The basic manual setup could then look something like this:

```

1 \documentclass[load-preamble]{cnltx-doc}
2 \usepackage[T1]{fontenc}
3 \usepackage[utf8]{inputenc}
4 \setcnltx{
5   package = mypackage ,
6   authors  = John Doe ,
7   email    = john@doe.com ,
8   add-cmds = {mycommand} ,
9   add-envs = {myenv}
10 }
11 \begin{document}
12   ...
13 \end{document}

```

## 8. Formatting Possibilities

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` and various other properties 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 12 on page 28.

### 8.1. Formatting by Redefining Hooks

You can change the formatting by redefining the following commands. They're all defined by the `CNLTX-EXAMPLE` 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`

Formatting of the notes introduced in section 5.2 on page 7.

`\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`

## 8.2. Formatting by Setting Options

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

`title-format = {⟨definition⟩}` Default: `\bfseries\scshape`  
Formatting of the document title.

Introduced in  
version 0.2

`caption-font = {⟨definition⟩}` Default: `\normalfont\small\sffamily`  
This option only has any effect if you use the option `load-preamble`, see section 9.4 on page 21 for details on the option.

`caption-label-font = {⟨definition⟩}` Default: `\normalfont\small\sffamily\scshape`  
This option only has any effect if you use the option `load-preamble`, see section 9.4 on page 21 for details on the option.

`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 5.2 on page 7.

provided by  
`CNLTX-DOC`

`acronym-format = {⟨definition⟩}` Default: `\scshape`  
Formatting of the acronyms as typeset with `\cnltxacronym`.

provided by  
`CNLTX-TOOLS`

## 9. Commands, Options and Further Settings Directly Related to the **CNLT**X-DOC Class

**pkg-format** = { $\langle$ definition $\rangle$ } Default: `\sffamily`  
The formatting of package names.

**cls-format** = { $\langle$ definition $\rangle$ } Default: `\sffamily`  
The formatting of class names.

**arg-format** = { $\langle$ definition $\rangle$ } Default: `\normalfont\itshape`  
The formatting of `\meta{ $\langle$ meta $\rangle$ }`.

**default-format** = { $\langle$ code $\rangle$ } Default: `\uline`  
The formatting of `\default`'s argument.  $\langle$ code $\rangle$ 's last macro should take one argument.

Introduced in  
version 0.2

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

---

*foo* and *bar*, option *baz*

## 9. Commands, Options and Further Settings Directly Related to the **CNLT**X-DOC Class

### 9.1. Using Class Options

The **CNLT**X-DOC class only knows a few options:

**load-preamble** = `true`|`false` Default: `false`  
See section 9.4 on page 21 for details.

**load-preamble+** = `true`|`false` Default: `false`  
See section 9.5 on page 22 for details.

**add-index** = `true`|`false` Default: `false`  
See section 9.5 on page 22 for details.

**babel-options** = { $\langle$ options $\rangle$ } Default: `english`  
Options given to the `babel`<sup>16</sup> package. This option only has an effect if **load-preamble** = `true`.

**scrartcl** = { $\langle$ options $\rangle$ } (initially empty)  
Options that are passed to the underlying class `scrartcl`. *All global options you want to use should be given here.*

---

<sup>16</sup> on CTAN as `babel`: <http://mirrors.ctan.org/macros/latex/required/babel/>

## 9.2. Information on the Described Package or Class

A manual for a package or a class needs some information on the described package 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** = { $\langle$ package $\rangle$ }

The name of the package that is described. Either this option or **class** or **name** 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**X.

**class** = { $\langle$ class $\rangle$ }

The name of the class that is described. Either this option or **package** or **name** 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**X.

**name** = { $\langle$ name $\rangle$ }

The name of the class/package that is described. Either this option or **package** or **class** 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**X.

**authors** = { $\langle$ author list $\rangle$ }

Comma separated list of package/class authors. After each author name you can add an email address by writing it in square brackets: Some Name[some@name.com]. Email addresses specified this way get written as a footnote.

**version** = { $\langle$ version number $\rangle$ }

Version number of the package/class. **CNLT**X tries to extract the information from the given **package** or **class**. This option can be used to set it explicitly.

**date** = { $\langle$ date $\rangle$ }

Date of the package/class. **CNLT**X tries to extract the information from the given **package** or **class**. This option can be used to set it explicitly.

**info** = { $\langle$ package/class info $\rangle$ }

Information about the package/class. **CNLT**X tries to extract the information from the given **package** or **class**. This option can be used to set it explicitly.

**subtitle** = { $\langle$ subtitle $\rangle$ }

A subtitle that is typeset *instead* of the package/class info.

**url** = { $\langle$ url $\rangle$ }

The homepage of the package.

**email** = { $\langle$ email $\rangle$ }

A contact email address.

Changed in  
version 0.4

`abstract = {\abstract}`

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.

### 9.3. 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. The automatic building of the title page can be prevented by explicitly setting the following option:

`build-title = true|false`

The default state depends on other options given like `package`. However, setting this option to `false` *after* any of the options described in section 9.2 on the previous page will prevent the building of a title page and allows you to design your own.

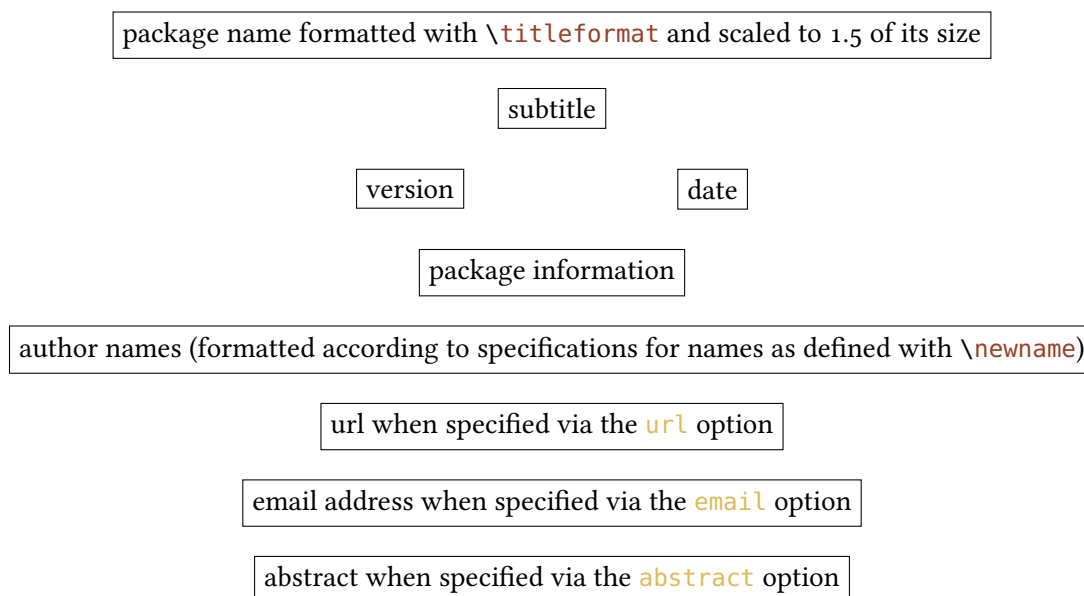


FIGURE 1: Schematic sketch of the title page.

### 9.4. 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{ifxetex,ifluatex}
2 \ifbool{not bool{xetex} and not bool{luatex}}
3   {\RequirePackage[T1]{fontenc}}
4   {\RequirePackage{fontspec}}
5 \RequirePackage[oldstyle]{libertine}
6 % 'libertinehologopatch' is not on CTAN, yet!
7 % you can get it at https://bitbucket.org/cgnieder/libertinehologopatch/
8 \RequirePackage{libertinehologopatch}
9 \RequirePackage[supstfm=libertinesups]{superiors}
10 \RequirePackage{microtype}
11 % activate my microtype settings for tracking of small caps
12 % with \microtypesetup{tracking=scshape}
13 % needs files from https://bitbucket.org/cgnieder/microtype-config/
14 \ifbool{not bool{xetex} and not bool{luatex}}
15   {\RequirePackage[scaled=.83]{beramono}}
16   {\setmonofont[Scale=MatchLowercase]{Bitstream Vera Sans Mono}}
17 \RequirePackage{fnpct}
18 \expandafter\RequirePackage\expandafter{\cnltx@babel@options}{babel}
19 \renewcommand*\othersectionlevelsformat[3]{%
20   \textcolor{cnltx}{#3\autodot}\enskip}
21 \renewcommand*\partformat{%
22   \textcolor{cnltx}{\partname~\thepart\autodot}}
23 \def\footnote[2em]{1em}{\llap{\thefootnotemark. }}%
24 \pagestyle{headings}
25 \setcapindent{1.5em}
26 \setkomafont{caption}{\cnltx@caption@font}
27 \setkomafont{captionlabel}{\cnltx@captionlabel@font}

```

The effect of this preamble is demonstrated by the document you're reading at this moment.

## 9.5. Predefined Indexing

*CNLT*X-DOC allows the automated creation of an index. This is done with the help of the *imakeidx* package by Enrico Gregorio [Gre13]. To use this feature you have two class options. They cannot be set with `\setcnltx` but must be given as class options.

`add-index = true|false` Default: false

Enables the automatic creation of an index at the end of the document.

`load-preamble+ = true|false` Default: false

This option has the same effect as adding the options `load-preamble`, `add-index` and `add-bib`.

Enabling the feature

- loads the *imakeidx*<sup>17</sup> package,

---

17. on CTAN as *imakeidx*: <http://mirrors.ctan.org/macros/latex/contrib/imakeidx/>

## 9. Commands, Options and Further Settings Directly Related to the *CNLT*X-DOC Class

- uses a given style file for the index that can be specified with the `index-style` option,
- sets a certain setup for the index that can be specified with the `index-setup` option and
- adds an index at the end of the document.

The following options are available to customize the appearance of the index:

`index-prologue` = { $\langle text \rangle$ }

Adds  $\langle text \rangle$  as index prologue between heading and the actual index.

`index-space` = { $\langle dimension \rangle$ }

Default: 0pt

The vertical space between index prologue and index.

`index-setup` = { $\langle options \rangle$ }

Default: `othercode=\footnotesize, level=\section`

The options that are passed to imakeidx's `\indexsetup` command.

`makeindex-setup` = { $\langle options \rangle$ }

Default: `columns=2, columnsep=1em`

The options that are passed to the `\makeindex` command.

`index-style` = { $\langle style file \rangle$ }

Default: `cnltx.ist`

The style file that is used for formatting the index.

The index style file `cnltx.ist` contains the following lines:

```
1 heading_prefix "{\bfseries "  
2 heading_suffix "{\hfil}\nopagebreak\n"  
3 headings_flag 1  
4 delim_0 "\\dotfill"  
5 delim_1 "\\dotfill"  
6 delim_2 "\\dotfill"  
7 delim_r "\\nohyperpage{\textendash}"  
8 delim_t ""  
9 suffix_2p "\\nohyperpage{\,,\\GetTranslation{cnltx-f.}\\@}"  
10 suffix_3p "\\nohyperpage{\,,\\GetTranslation{cnltx-ff.}\\@}"
```

The feature is demonstrated by this document which does not contain a single control sequence containing the string `index`!

## 9.6. Bibliography with biblatex

### 9.6.1. A Bibliography Entry Type package for biblatex

Introduced in  
version 0.4

*CNLT*X-DOC defines a bibliography entry type package when biblatex [Leh13] is used. This allows specifying L<sup>A</sup>T<sub>E</sub>X packages in bib files:

```

1 @package{pkg:chngcntr,
2   title      = {chngcntr} ,
3   author     = {Peter Wilson} ,
4   maintainer = {Will Robertson} ,
5   date       = {2009-09-02} ,
6   version    = {1.0a} ,
7   url        = {http://mirror.ctan.org/macros/latex/contrib/chngcntr}
8 }

```

As you can see also an entry field `maintainer` is defined. For this to work you have to use the `biblatex` bibliography style `cnltx`. This style basically is a clone of the style `alphabetic` but defines the necessary additions for the package entry type and the `maintainer` entry field. Along with the bibliography style a citation style `cnltx` is provided, again a clone of the `alphabetic` style. The only addition it makes is that indexing of `maintainer` names is enabled if `biblatex`'s indexing option is used. *The styles can only be used with the **CNLT**X-DOC class as it relies on definitions made by it.*

This document uses the following call of `biblatex`:

```

1 \usepackage[
2   backend=biber,
3   style=cnltx,
4   sortlocale=en_EN,
5   indexing=cite,
6   useprefix]{biblatex}
7 \addbibresource{cnltx.bib}

```

Actually it let's **CNLT**X-DOC do it, see section 9.6.2 for details.

Just for the sake of the example I am going to cite the `chngcntr` package now [Wil09] so you can see both the bibliography entry and the indexed names of package, author and `maintainer` in the appendix.

### 9.6.2. Automatic Bibliography

**CNLT**X-DOC allows the automated creation of a bibliography.

`add-bib` = `true`|`false` Default: `false`

Enables the automatic creation of a bibliography at the end of the document.

`load-preamble+` = `true`|`false` Default: `false`

This option has the same effect as adding the options `load-preamble`, `add-index` and `add-bib`.

What this options does is including the following code:



```

1 \RequirePackage[
2   backend=biber,
3   style=cnltx,
4   sortlocale=en_EN,
5   indexing=cite,
6   useprefix]{biblatex}
7 \addbibresource{cnltx.bib}
8 \AtEndDocument{\printbibliography}

```

As you can see there's also a bibliography database file `cnltx.bib` that provides a yet small but growing number of package entries.

## 10. Predefined listings and mdframed Styles

### 10.1. mdframed

The source code environments (see section 7.4 on page 14) all get a frame with the help of the `mdframed` [Dan13] package. For this a custom style is defined called `cnltx`. The options `frame-options` and `add-frame-options` mentioned in section 7.4 on page 14 manipulate this style. It is predefined with these values:

```

1 \def\cnltx@mdframed@options
2 {
3   backgroundcolor = cnltxbg ,
4   linecolor      = cnltx ,
5   roundcorner    = 5pt
6 }

```

### 10.2. listings

#### 10.2.1. Sourcecode

The code of the source code environments (see section 7.4 on page 14) is formatted with the help of the `listings` package [HM13]. A listings style is defined called `cnltx`. The options `add-cmds`, `add-silent-cmds`, `add-envs`, `add-silent-envs`, `listings-options` and `add-listings-options` manipulate this style. It is predefined by `CNLTX-EXAMPLE` as follows:

```

1 \def\cnltx@listings@style{
2   language      = [AllaTeX]TeX,
3   alsolanguage  = [plain]TeX,
4   basicstyle    = {\sourceformat},
5   numbers      = left,
6   numberstyle   = \tiny,

```

```

7  xleftmargin      = 1em,
8  numbersep       = .5em,
9  gobble           = \cnltx@gobble ,
10 columns          = fullflexible,
11 literate         =
12   {ä}{{\"a}}1
13   {ö}{{\"o}}1
14   {ü}{{\"u}}1
15   {Ä}{{\"A}}1
16   {Ö}{{\"O}}1
17   {Ü}{{\"U}}1
18   {ß}{{\ss}}1 ,
19 breaklines       = true,
20 keepspaces       = true,
21 breakindent      = 1em,
22 commentstyle     = \color{comment},
23 keywordstyle     = \color{cs},
24 deletetexcs     =
25   {
26     a,o,u,A,O,U,
27     begin,
28     center,
29     description,document,
30     end,enumerate,
31     figure,flushleft,flushright,
32     itemize,
33     otherlanguage,
34     table,tabu,tabular
35   },
36 % \begin, \end:
37 texcsstyle       = [2]\color{beginend},
38 index            = [2][texcs2],
39 indexstyle       = [2]\@gobble,
40 moretexcs        = [2]{begin,end},
41 % environments:
42 texcsstyle       = [3]\color{env},
43 index            = [3][texcs3],
44 indexstyle       = [3]\@gobble,
45 % control sequences:
46 texcsstyle       = [4]\color{cs},
47 index            = [4][texcs4],
48 indexstyle       = [4]\@gobble ,
49 % added control sequences:
50 texcsstyle       = [5]\color{cs},
51 index            = [5][texcs5],
52 indexstyle       = [5]\indexcs,
53 % added environments:
54 texcsstyle       = [6]\color{env},

```

```

55 index          = [6][texcs6],
56 indexstyle     = [6]\envidx,
57 }

```

### 10.2.2. BibTeX entries

Introduced in  
version 0.4

The **CNLTX-LISTINGS** package defines a listings language BibTeX by defines a huge number of bibentry types and bibentry field types, have a look at section 9.6.1 on page 23. **CNLTX-EXAMPLE** defines a listings style for formatting them:

```

1 \def\cnltx@bibtex@listings@style{
2   language          = BiBTeX,
3   basicstyle        = {\sourceformat},
4   numbers           = left,
5   numberstyle       = \tiny,
6   xleftmargin       = 1em,
7   numbersep         = .5em,
8   gobble            = \cnltx@gobble ,
9   columns           = fullflexible,
10  literate           =
11    {ä}{{\a}}1
12    {ö}{{\o}}1
13    {ü}{{\u}}1
14    {Ä}{{\A}}1
15    {Ö}{{\O}}1
16    {Ü}{{\U}}1
17    {ß}{{\ss}}1 ,
18  breaklines        = true,
19  keepspaces        = true,
20  breakindent       = 1em,
21  commentstyle      = \color{comment},
22  keywordstyle      = \color{bibentry} ,
23  keywordstyle      = [2]\color{bibentryfield}\itshape ,
24  showstringspaces = false ,
25 }

```

## 11. PDF Strings and hyperref

Since the formatting and indexing commands `\cs`, `\env`, `\option`, `\pkg`, `\cls` and `\key` are robust they are ignored in PDF strings. For this reason you should *only use the starred variants* in places where PDF bookmarks are built from such as section titles when you use hyperref [OR12]. Since **CNLTX-DOC** loads hyperref this means you should do so, too, when you use **CNLTX-DOC**. This is important for two reasons:

1. Indexing in strings that get written to the table of contents does noch make much sense,

anyway, so the starred versions should be used in section titles even if you don't use `hyperref`.

2. When `hyperref` is loaded the mentioned commands are disabled in PDF strings in a way that *expects* them to be followed by a star. This means leaving the star out will result in doesn't match its definition errors.

## 12. Predefined Colors and Color-Schemes

### 12.1. Explicitly Defined Colors

The `CNLTX-BASE` package defines a number of colors:

`cnltxbrown` Per default used for the control sequences.

`cnltxblue` Unused per default.

`cnltxred` Per default used as base color in various places.

`cnltxgreen` Unused per default.

`cnltxgray` Per default used for formatting comments.

`cnltxyellow` Per default used for options.

`cnltxformalblue` Unused per default.

`cnltxformalred` Unused per default.

### 12.2. Actual Used Color Names and Color Schemes

The colors defined in section 12.1 are not directly used with those names. Instead colors are used whose names describe their function rather than the color. For this the color names are mapped to actual colors and saved as a coloring scheme. There are currently three predefined color schemes whose definitions are given below. Those definitions also show the actually used color names:

The 'default' color scheme is defined as follows:

```

1 \cnltx@define@colorscheme{default}{
2   cs           => cnltxbrown , % command sequences
3   option       => cnltxyellow ,% options
4   option       => cnltxyellow ,% modules
5   comment      => cnltxgray ,  % comments
6   beginend     => red ,        % \begin and \end
7   env          => black ,      % environment names
8   argument     => black ,      % argument delimiters
9   meta         => black!80 ,   % arguments of \meta
10  cnltx        => cnltxred ,   % base color
11  cnltxbg      => white ,      % source code box background

```

## 12. Predefined Colors and Color-Schemes

```
12 link          => black!90 , % hyperlinks
13 versionnote   => black!75   % versioning notes text
14 bibentry       => cnltxgreen , % BibTeX entry types
15 bibentryfield  => black      % BibTeX entry fields
16 }
```

The ‘blue’ color scheme is defined this way:

```
1 \cnltx@define@colorscheme{blue}{
2   cs          => cnltxbrown ,
3   option       => cnltxgreen ,
4   module       => cnltxred ,
5   comment      => cnltxgray ,
6   beginend     => red ,
7   env          => black ,
8   argument     => black ,
9   meta         => black!80 ,
10  cnltx         => cnltxblue ,
11  cnltxbg       => yellow!10 ,
12  link          => cnltx ,
13  versionnote   => black!75
14  bibentry      => cnltxyellow ,
15  bibentryfield => black
16 }
```

Finally the ‘formal’ color scheme is defined like this:

```
1 \cnltx@define@colorscheme{formal}{
2   cs          => black ,
3   option       => cnltxformalblue ,
4   module       => cnltxblue ,
5   comment      => cnltxgray ,
6   beginend     => red ,
7   env          => black ,
8   argument     => black ,
9   meta         => black!80 ,
10  cnltx         => cnltxformalblue ,
11  cnltxbg       => white ,
12  link          => black!90 ,
13  versionnote   => black!75 ,
14  bibentry      => black ,
15  bibentryfield => black
16 }
```

## 13. Language Support

Introduced in  
version 0.2

The **CNLT**X-DOC and the **CNLT**X-EXAMPLE package both rely on the translations package [Nie13c] for providing some document language dependent strings. Currently only translations for English and German are provided. Others can be added and the existing ones changed with the following command provided by the translations package:

```
\DeclareTranslation{<language>}{<keyword>}{<translation>}
```

Provide translations for the string identified by the ID <keyword>.

The defined strings are listed in table 1 on the next page. They are used in indexing strings and in different parts of the document.

# Part III. Appendix

## A. Internal Helper Commands

The commands in this section are only described for the sake of completeness. They are not meant to be used in a document.

### A.1. Defined by **CNLT**X-BASE

Especially **CNLT**X-BASE defines some useful helper macros that are also used by the other packages and classes.

```
\cnltx@@date
```

The creation date of the current version of the bundle.

```
\cnltx@@version
```

The version number of the bundle.

```
\cnltx@@info
```

The short description of the bundle.

```
\cnltx@create@message*{<module>}{Error|Warning|WarningNoLine|Info}
```

Create suiting error and warning messaging commands for the module <module>. The starred version creates messages for a class the un-starred version messages for a package.

```
\cnltx@base@error{<message>}
```

Issue an error message using \PackageError{cnltx-base}.

```
\cnltx@base@warning{<message>}
```

Issue a warning message using \PackageWarning{cnltx-base}.

Changed in  
version 0.2

## A. Internal Helper Commands

TABLE 1: Overview over available internationalization key words.

Package	key word	English version	German version
<b>CNLTX-EXAMPLE</b>	<code>cnltx-package</code>	package	Paket
<b>CNLTX-EXAMPLE</b>	<code>cnltx-class</code>	class	Klasse
<b>CNLTX-EXAMPLE</b>	<code>cnltx-environment</code>	environment	Umgebung
<b>CNLTX-DOC</b>	<code>cnltx-default</code>	Default	Voreinstellung
<b>CNLTX-DOC</b>	<code>cnltx-empty</code>	initially empty	zunächst leer
<b>CNLTX-DOC</b>	<code>cnltx-required</code>	required	erforderlich
<b>CNLTX-DOC</b>	<code>cnltx-toc</code>	Table of Contents	Inhaltsverzeichnis
<b>CNLTX-DOC</b>	<code>cnltx-license</code>	Permission is granted to copy, distribute and/or modify this software under the terms of the L <sup>A</sup> T <sub>E</sub> X Project Public License (LPPL), version 1.3 or later ( <a href="http://www.latex-project.org/lppl.txt">http://www.latex-project.org/lppl.txt</a> ). The software has the status	Es ist erlaubt, diese Software zu kopieren und zu verteilen unter den Bedingungen der L <sup>A</sup> T <sub>E</sub> X Project Public License (LPPL), Version 1.3 oder später. ( <a href="http://www.latex-project.org/lppl.txt">http://www.latex-project.org/lppl.txt</a> ). Sie hat den Status
<b>CNLTX-DOC</b>	<code>cnltx-introduced</code>	Introduced in version	Eingeführt in Version
<b>CNLTX-DOC</b>	<code>cnltx-changed</code>	Changed in version	Geändert in Version
<b>CNLTX-DOC</b>	<code>cnltx-f.</code>	f.	f.
<b>CNLTX-DOC</b>	<code>cnltx-ff.</code>	ff.	ff.
<b>CNLTX-DOC</b>	<code>cnltx-maintainer</code>	current maintainer	aktueller Maintainer
<b>CNLTX-DOC</b>	<code>cnltx-maintainer</code>	current maintainers	aktuelle Maintainer

## A. Internal Helper Commands

`\cnltx@base@warningnoline{⟨message⟩}`

Issue a warning message using `\PackageWarningNoLine{cnltx-base}`.

`\cnltx@base@info{⟨message⟩}`

Issue a message using `\PackageInfo{cnltx-base}`.

`\cnltx@par`

Expands to `\par`. Sometimes you need to smuggle a `\par` in a short macro ...

`\cnltx@ifsym{⟨token⟩}{⟨true⟩}{⟨false⟩}`

A generic version of L<sup>A</sup>T<sub>E</sub>X's `\ifstar` that checks if `⟨token⟩` follows if the input stream. If yes it is removed and `⟨true⟩` is placed in the input stream else `⟨false⟩`.

`\cnltx@ifdash{⟨true⟩}{⟨false⟩}`

A wrapper for `\cnltx@ifsym{-}`.

`\cnltx@ifbang{⟨true⟩}{⟨false⟩}`

A wrapper for `\cnltx@ifsym{!}`.

Introduced in  
version 0.3

`\cnltx@expand@arg{⟨cs⟩}{⟨macro⟩}`

Expands `⟨macro⟩` once before it is passed as argument to `⟨cs⟩`.

`\cnltx@fullexpand@arg{⟨cs⟩}{⟨argument⟩}`

Exhaustive expansion of `⟨argument⟩` before it is passed as argument to `⟨cs⟩`.

`\cnltx@fullexpand@twoargs{⟨cs⟩}{⟨argument1⟩}{⟨argument2⟩}`

Exhaustive expansion of `⟨argument1⟩` and `⟨argument2⟩` before they're passed as argument to `⟨cs⟩`. This is an alias of the kernel command `\expandtwoargs` defined for the sake of consistency.

`\cnltx@fullexpand@afterarg{⟨cs⟩}{⟨argument⟩}{⟨code⟩}`

Places the exhaustively expanded `⟨code⟩` after `⟨cs⟩{⟨argument⟩}` in the input stream (e.g. for expanding an argument to an environment).

Introduced in  
version 0.4

`\cnltx@stripbs`

A shortcut for `\expandafter\@gobble\string`.

`\cnltx@if@in{⟨tokenlist⟩}{⟨search⟩}{⟨true⟩}{⟨false⟩}`

Places `⟨true⟩` in the input stream if `⟨search⟩` is found in `⟨tokenlist⟩` and `⟨false⟩` if it isn't.

`\cnltx@replace@once{⟨cs⟩}{⟨search⟩}{⟨replace⟩}`

Replaces the first occurrence of `⟨search⟩` in the first expansion of `⟨cs⟩` with `⟨replace⟩`.

`\cnltx@long@replace@once{⟨cs⟩}{⟨search⟩}{⟨replace⟩}`

The same as `\cnltx@replace@once` but `⟨cs⟩` will be redefined with `\long`.

Introduced in  
version 0.3

`\cnltx@replace@all{⟨cs⟩}{⟨search⟩}{⟨replace⟩}`

Replaces all occurrences of `⟨search⟩` in the first expansion of `⟨cs⟩` with `⟨replace⟩`.



## A. Internal Helper Commands

`\cnltx@long@replace@all{<cs>}{<search>}{<replace>}`  
Introduced in version 0.3  
The same as `\cnltx@replace@all` but `<cs>` will be redefined with `\long`.

`\cnltx@remove@once{<cs>}{<search>}`  
Introduced in version 0.3  
Removes the first occurrence of `<search>` in the first expansion of `<cs>`.

`\cnltx@long@remove@once{<cs>}{<search>}`  
Introduced in version 0.3  
The same as `\cnltx@remove@once` but `<cs>` will be redefined with `\long`.

`\cnltx@remove@all{<cs>}{<search>}`  
Introduced in version 0.3  
Removes all occurrences of `<search>` in the first expansion of `<cs>`.

`\cnltx@long@remove@all{<cs>}{<search>}`  
Introduced in version 0.3  
The same as `\cnltx@remove@all` but `<cs>` will be redefined with `\long`.

`\cnltx@define@colorscheme{<name>}{<scheme definition>}`  
Command that can be used to define a color scheme.

### A.2. Defined by **CNLTX-DOC**

`\cnltx@doc@error{<message>}`  
Issue an error message using `\ClassError{cnltx-doc}`.

`\cnltx@doc@warning{<message>}`  
Issue a warning message using `\ClassWarning{cnltx-doc}`.

`\cnltx@doc@warningnoline{<message>}`  
Issue a warning message using `\ClassWarningNoLine{cnltx-doc}`.

`\cnltx@doc@info{<message>}`  
Issue a message using `\ClassInfo{cnltx-doc}`.

`\cnltx@getfileinfo{<file name>}{<file extension>}`  
Extract the date, version and background information for a package or a class.

`\cnltx@version@note{<note>}`  
Command that is used for the versioning notes internally. Sets `\reversemarginpar` and then writes the note `<note>` to the margin with corresponding formatting.

`\begin{cnltxlist}`  
The list environment that is used by the environments commands, options and environments.

### A.3. Defined by **CNLTX-EXAMPLE**

`\cnltx@example@error{<message>}`  
Issue an error message using `\PackageError{cnltx-example}`.

`\cnltx@example@warning{<message>}`  
Issue a warning message using `\PackageWarning{cnltx-example}`.

`\cnltx@example@warningnoline{<message>}`

Issue a warning message using `\PackageWarningNoLine{cnltx-example}`.

`\cnltx@example@info{<message>}`

Issue a message using `\PackageInfo{cnltx-example}`.

`\cnltxat`

Robust command that typesets ‘@’ with category code 11. An @ in command names confuses the indexing of the command names. Either one uses another symbol for makeindex’s “actual” recognition and also tells idxcmds [Nie13b] about it or one uses `\cnltxat` in `\cs` and friends. For the sake of convenience you can define a command like `\at` that expands to it.<sup>18</sup> In order not to overwrite any such existing macro it is not defined by `CNLTX-EXAMPLE`. This document for example defines `\def\at{\cnltxat}`.

`\cnltxletterat`

An alias of `\cnltxat`.

`\cnltxotherat`

The same as `\cnltxat` but with a ‘@’ with category code 12.

`\cnltxbang`

The same as `\cnltxotherat` except that it contains a ‘!’.

`\cnltxequal`

The same as `\cnltxotherat` except that it contains a ‘=’.

`\cnltx@isvalue`

Used in definitions of the key/value option typesetting commands. Inserts a = with some stretchable space around and a legal break-point after it.

`\indexcs`

Version of `\csidx` that takes care of a `\textcompwordmark` inserted by listings. Also replaces all occurrences of @ with category code 11 or 12 with `\cnltxat`. Used to index commands in the sourcecode and example environments that have been added with `add-cmds`.

`\newarg[<arg formatting>]{<cs>}{<left delim>}{<right delim>}`

Default: `\meta`

Command used to define the argument commands: `\newarg\marg{\}{\}`. The optional argument determines how the argument of the new command will be formatted. This is done with `\meta` per default. `\newarg[\code]\Marg{\}{\}`

`\MakePercentComment`

Sets the category code of % to 14.

`\cnltx@copyablespace`

Prints a space that is also copyable. Uses the accsupp package by Heiko Oberdiek [Obeo1].

---

<sup>18</sup>. This is important. If you `\let` it to `\cnltxat` index entries may be sorted differently! Remember: `\cnltxat` is robust.

`\cnltx@mdframed@options`

Predefined option list for the mdframed [Dan13] style cnltx.

`\cnltx@listings@style`

Predefined option list for the listings [HM13] style cnltx.

#### A.4. Defined by **CNLTX-LISTINGS**

`\cnltx@listings@error{\<message>}`

Issue an error message using `\PackageError{cnltx-listings}`.

`\cnltx@listings@warning{\<message>}`

Issue a warning message using `\PackageWarning{cnltx-listings}`.

`\cnltx@listings@warningnoline{\<message>}`

Issue a warning message using `\PackageWarningNoLine{cnltx-listings}`.

`\cnltx@listings@info{\<message>}`

Issue a message using `\PackageInfo{cnltx-listings}`.

`\cnltx@predefined@control@sequences`

A comma-separated list of predefined ‘silent’ control sequence names.

`\cnltx@predefined@environments`

A comma-separated list of predefined ‘silent’ environment names.

`\listsilentcmds`

Prints all known control sequence names formatted and separated with a comma.

`\listsilentenvs`

Prints all known environment names formatted and separated with a comma.

#### A.5. Defined by **CNLTX-TOOLS**

`\cnltx@tools@error{\<message>}`

Issue an error message using `\PackageError{cnltx-tools}`.

`\cnltx@tools@warning{\<message>}`

Issue a warning message using `\PackageWarning{cnltx-tools}`.

`\cnltx@tools@warningnoline{\<message>}`

Issue a warning message using `\PackageWarningNoLine{cnltx-tools}`.

`\cnltx@tools@info{\<message>}`

Issue a message using `\PackageInfo{cnltx-tools}`.

`\cnltx@accsupp{\<actual text>}\{\<additional options>}\{\<TeX text>}`

A wrapper for package accsupp’s `\BeginAccSupp{ActualText = \<actual text>}\<TeX text>}`  
`\EndAccSupp{}`.

## B. List of Known $\text{\LaTeX}$ Control Sequences

Below are listed all *predefined* control sequence names that are treated as “silent” names by **CNLT $\text{\LaTeX}$** , that is, those defined by **CNLT $\text{\LaTeX}$ -LISTINGS**. You may notice that the list does not cover all control sequences that are formatted. That is because listings [HM13] already has a number of known control sequence names. This list probably overlaps with those on some parts, though.

<code>\-, \@, \@alph, \@Alph,</code>	<code>\endgroup, \endnote,</code>	<code>\mathsection,</code>
<code>\@arabic, \@ctrerr,</code>	<code>\enlargethispage,</code>	<code>\mbox, \mdseries,</code>
<code>\@empty, \@gobble,</code>	<code>\fbox, \fontsize,</code>	<code>\NeedsTeXFormat,</code>
<code>\@ifnextchar, \@ifstar,</code>	<code>\fontshape, \fontspec,</code>	<code>\newcommand, \newcounter,</code>
<code>\@roman, \@Roman,</code>	<code>\footnote, \footnotesize,</code>	<code>\newfontfamily, \newlabel,</code>
<code>\@slowromancap,</code>	<code>\footnotetext,</code>	<code>\newline, \newpage,</code>
<code>\addbibresource,</code>	<code>\foreignlanguage,</code>	<code>\newrobustcmd, \ng, \NG,</code>
<code>\addtokomafont, \ae,</code>	<code>\frenchspacing,</code>	<code>\node, \nolinebreak,</code>
<code>\AE, \AfterEndPreamble,</code>	<code>\global, \H, \hskip,</code>	<code>\nonfrenchspacing,</code>
<code>\AfterPreamble,</code>	<code>\hspace, \huge, \Huge,</code>	<code>\noindent, \notblank,</code>
<code>\AfterEndDocument,</code>	<code>\hypersetup, \hyphenation,</code>	<code>\nopagebreak, \normalsize,</code>
<code>\AfterEndEnvironment,</code>	<code>\ifblank, \ifboolexpe,</code>	<code>\normalfont, \number,</code>
<code>\alph, \Alph, \author,</code>	<code>\ifboolexpr, \ifcsdef,</code>	<code>\numexpr, \o, \O, \oe, \OE,</code>
<code>\autodot, \arabic,</code>	<code>\ifinlist, \ifstr,</code>	<code>\othersectionlevelsformat,</code>
<code>\AtBeginDocument,</code>	<code>\ifstrempy, \ifstrequal,</code>	<code>\P, \pagebreak, \par,</code>
<code>\AtBeginEnvironment,</code>	<code>\ignorespaces,</code>	<code>\paragraph, \parindent,</code>
<code>\AtEndDocument,</code>	<code>\ignorespacesafterend,</code>	<code>\part, \partformat,</code>
<code>\AtEndEnvironment,</code>	<code>\include, \includeonly,</code>	<code>\partname, \pounds,</code>
<code>\AtEndPreamble,</code>	<code>\indent, \input,</code>	<code>\printacronyms,</code>
<code>\baselineskip,</code>	<code>\InputIfFileExists,</code>	<code>\printbibliography,</code>
<code>\BeforeBeginEnvironment,</code>	<code>\item, \itshape, \j,</code>	<code>\printendnotes,</code>
<code>\begingroup, \bfseries,</code>	<code>\k, \KOMAOption,</code>	<code>\printindex,</code>
<code>\bgroup, \c, \caption, \cb,</code>	<code>\KOMAOptions, \l, \L,</code>	<code>\protected, \protecting,</code>
<code>\centering, \chapter,</code>	<code>\labelenumi, \labelenumii,</code>	<code>\providecommand,</code>
<code>\cleardoublepage,</code>	<code>\labelenumiii,</code>	<code>\providerobustcmd,</code>
<code>\clearpage, \color,</code>	<code>\labelenumiv, \label,</code>	<code>\ProvidesClass,</code>
<code>\cref, \csdef, \csname,</code>	<code>\labelitemi, \labelitemii,</code>	<code>\ProvidesPackage, \quad,</code>
<code>\csuse, \d, \date, \dh,</code>	<code>\labelitemiii,</code>	<code>\qqquad, \r, \raggedright,</code>
<code>\DH, \DeclareListParser,</code>	<code>\labelitemiv, \labelsep,</code>	<code>\raggedleft, \RaggedRight,</code>
<code>\DeclareRobustCommand,</code>	<code>\large, \Large, \LARGE,</code>	<code>\ref, \refstepcounter,</code>
<code>\deffootnote,</code>	<code>\LaTeX, \LaTeXe,</code>	<code>\relax, \renewcommand,</code>
<code>\deffootnotemark,</code>	<code>\linebreak, \linewidth,</code>	<code>\renewrobustcmd,</code>
<code>\definecolor,</code>	<code>\LoadClassWithOptions,</code>	<code>\RequirePackage,</code>
<code>\descriptionlabel,</code>	<code>\LoadClass,</code>	<code>\rightarrow, \robustify,</code>
<code>\dimexpr, \discretionary,</code>	<code>\ltx@ifnextchar,</code>	<code>\roman, \Roman,</code>
<code>\dj, \DJ, \documentclass,</code>	<code>\maketitle,</code>	<code>\rmfamily, \S, \samepage,</code>
<code>\egroup, \emph, \endcsname,</code>	<code>\mathparagraph,</code>	<code>\scriptsize, \scshape,</code>

### C. List of Known $\text{\LaTeX}$ Environments

<code>\section, \selectfont,</code>	<code>\tableofcontents, \TeX,</code>	<code>\textquotedblright,</code>
<code>\selectlanguage,</code>	<code>\test, \textasciicircum,</code>	<code>\textquoteleft,</code>
<code>\setcapindent,</code>	<code>\textasciitilde,</code>	<code>\textquoteright,</code>
<code>\setcounter, \setfnpc,</code>	<code>\textasteriskcentered,</code>	<code>\textsc, \textsection,</code>
<code>\setkomafont, \setlength,</code>	<code>\textbackslash, \textbar,</code>	<code>\textsl, \textsubscript,</code>
<code>\setmainfont,</code>	<code>\textbf, \textbraceleft,</code>	<code>\textsuperscript,</code>
<code>\setmainlanguage,</code>	<code>\textbraceright,</code>	<code>\textsterling, \texttt,</code>
<code>\setmonofont,</code>	<code>\textcolor,</code>	<code>\textunderscore, \textup,</code>
<code>\setotherlanguage,</code>	<code>\textcompwordmark,</code>	<code>\textwidth, \th, \TH,</code>
<code>\setotherlanguages,</code>	<code>\textdollar, \textemdash,</code>	<code>\the, \theendnotes,</code>
<code>\setsansfont,</code>	<code>\textendash, \textenglish,</code>	<code>\theenumi, \theenumii,</code>
<code>\shorthandoff,</code>	<code>\textexclamdown,</code>	<code>\theenumiii, \theenumiv,</code>
<code>\shorthandon,</code>	<code>\textgreater, \textit,</code>	<code>\thefootnotemark,</code>
<code>\sidenote, \sffamily,</code>	<code>\textless, \textmd,</code>	<code>\thepart, \tikz, \tiny,</code>
<code>\slshape, \small, \ss,</code>	<code>\textogonekcentered,</code>	<code>\title, \today, \ttfamily,</code>
<code>\SS, \stepcounter,</code>	<code>\textrm, \textsc, \textsf,</code>	<code>\two@digits, \usecounter,</code>
<code>\subparagraph,</code>	<code>\textquestiondown,</code>	<code>\usepackage, \upshape,</code>
<code>\subsection,</code>	<code>\textquotedbl,</code>	<code>\v, \vskip, \vspace,</code>
<code>\subsubsection, \t,</code>	<code>\textquotedblleft,</code>	<code>\xdefinecolor</code>

### C. List of Known $\text{\LaTeX}$ Environments

Below are listed all *predefined* control sequence names that are treated as “silent” names by **CNLT $\text{\X}$** , that is, those defined by **CNLT $\text{\X}$ -LISTINGS**.

<code>center, description,</code>	<code>flushright, itemize,</code>	<code>table, tabu, tabular,</code>
<code>document, enumerate,</code>	<code>labeling, longtable,</code>	<code>tabularx, tabulary,</code>
<code>figure, flushleft,</code>	<code>otherlanguage, tabbing,</code>	<code>verbatim</code>

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