# minimalthesis Getting started with v0.0.2-alpha-1



## Dissertation To obtain the Academic Degree "Philosophical Doctor (PhD)"

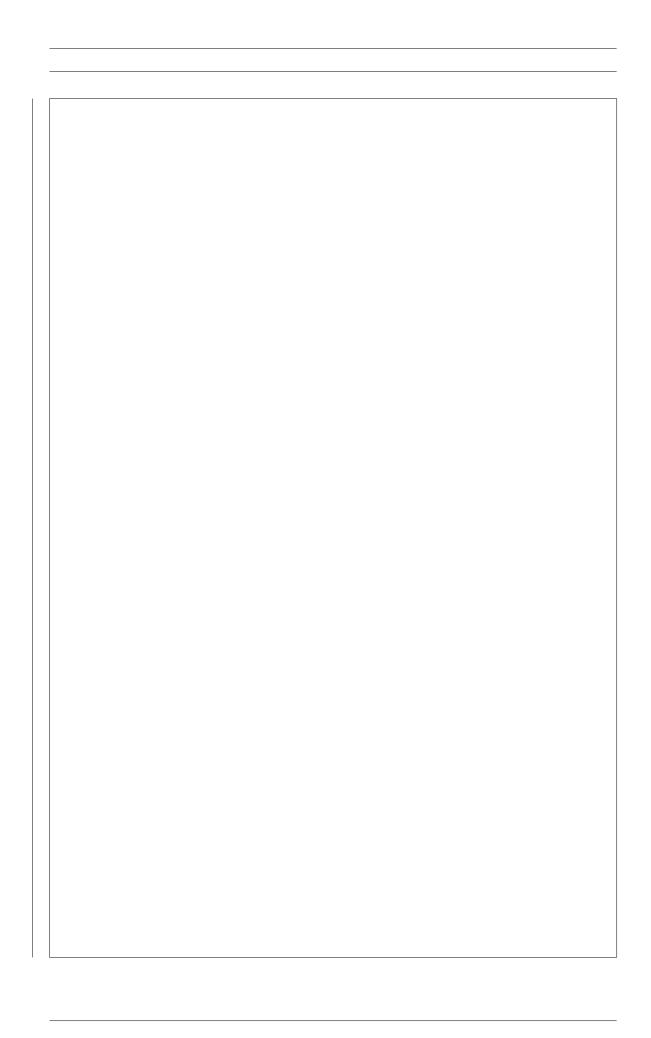
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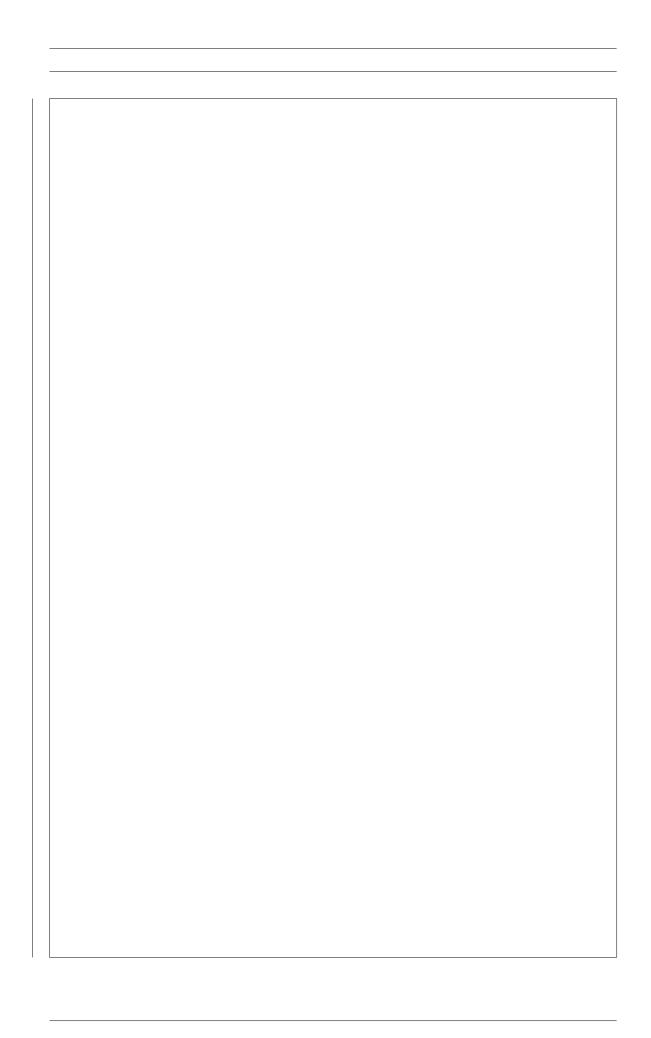
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### Contents

1	1.1	neral Information       5         Default Settings & User Choice       5         1.1.1 Base Class & Basic Layout       5         1.1.2 Language & Locale       5         1.1.3 Font, Visuals & Color       5         1.1.4 Hyperlinks & pdf Metadata       5         General Functionality Overview       6         1.2.1 Quotation Marks       6				
2	Bibl	Bibliography: Prerequisites, Usage & Functionality 7				
3	3.1 3.2	ural Science9Mathematical Formulae9Chemical Formulae10Units10				
4	4.1	angelog 11 v0.0.2-alpha-1				



### 1 General Information

#### 1.1 Default Settings & User Choice

#### 1.1.1 Base Class & Basic Layout

Per default, minimalthesis uses the scrreprt koma document class with a two sided layout (binding correction: 1 cm) as a basis. The page headers and footers are centered; the footer contains the current page number. The header either contains the current section name (if a section exists; see e.g. page 6) or the current chapter name (see e.g. page 8).

Captions include in small, bold font the type of float, its number and are separated by a colon from the description in normal, small font (see e.g. table 3.3).

#### 1.1.2 Language & Locale

The default document language is set to english and currently cannot be changed by the user. The settings for typesetting units (see section 3.3) are directly derived from the default language.

#### 1.1.3 Font, Visuals & Color

The typesetting design is more classic-minimalist: The user has the choice between the standard serif lmodern LATEX font or a sans serif variant as well as three visual styles (plain, fancy-grayscale, fancy-colorful), which differ in highlighting/usage of color.

#### 1.1.4 Hyperlinks & pdf Metadata

Per default, hidden hyperlinks are activated. The pdf Metadata is created from the user information: The pdf author is equal to mt::author::name, the pdf title will be constructed from mt::thesis::title and/or mt::thesis::subtitle (which ever is available; if both exist, they will be combined). The pdf subject as well as the pdf keywords are set by default to "Academic Thesis" and cannot be changed by the user.

1.2 Gener	al Functionality Overview
1.2.1 Quota	tion Marks
allows to autor	e usage of quotation marks, minimalthesis loads the csquotes package, which matically selects the appropriate quotation marks based on language preset and meters by using \enquote{text}.
	quotation mark test.} → "A quotation mark test." \enquote{quotation mark} test.} → "A 'quotation mark' test."
A	\enquote\{quotation \mark\} \test.\} $\rightarrow$ A quotation mark lest.

# 2 Bibliography: Prerequisites, Usage & Functionality

The bibliography is created by using biber. On a Linux based OS with TeXlive as a Lagex backend, it can be installed via the

```
texlive-bibtex-extra (Debian based distro) texlive-bibtexextra (Arch based disto) packages.
```

To create the required bibliography files, one has to run in the terminal:

biber TEXFILENAME

To update the output pdf accordingly, the following sequence of commands is recommended:

```
pdflatex TEXFILENAME.tex &&
biber TEXFILENAME &&
pdflatex TEXFILENAME.tex &&
pdflatex TEXFILENAME.tex
```

For TeXstudio users, it is possible to select under

```
Options → Configure TeXstudio → Build → Default Bibliography Tool
```

biber as the default bibliography tool. After that, as soon as a change will occur in any of the bibliography files/data, TeXstudio will automatically rebuild the bibliography during the next compilation (so no additional user interaction required). If TeXstudio will not do that, a bibliography rebuild can be forced manually by pressing F8.

minimalthesis uses per default the "Angewandte Chemie" (chem-angew) bibliography standard. Currently, this cannot be changed by the user, except by modifying the preamble file.

In addition, minimalthesis provides the @arxiv [arxivExample] and @thesis [thesisExample] bibliography drivers, so that Arxiv preprints and theses can be cited properly without any manual adjustments by the user.

### 3 Natural Science

#### 3.1 Mathematical Formulae

To facilitate the typesetting of mathematical equations, especially with respect to physical use cases, minimalthesis not only loads the amsmath, bm and amssymb packages, but also the derivative and physics package to especially help with typesetting differentials and derivatives.

Typesetting derivatives via the derivative package is very flexible: An example for typesetting

**Table 3.1:** Examples on how to typeset derivatives with the derivative package

\pdv{f}{x}, \quad \odv{Q}{t}=\odv{s}{t}, \quad \pdv{f}{x,y}, \quad
\derivset{\odv}[switch-\*=false] \odv{y}{x}, \quad \odv[order=n]{y}{x}, \quad
\derivset{\odv}[] \odv\*{\odv{y}{x}}{x}, \quad
\derivset{\pdv}[sort-method={sign,symbol,abs}]
\pdv[order={c+kn,-b+2a}]{f}{x,y}

$$c\frac{\partial f}{\partial x},\quad \frac{\mathrm{d} Q}{\mathrm{d} t}=\frac{\mathrm{d} s}{\mathrm{d} t},\quad \frac{\partial^2 f}{\partial x\,\partial y},\quad \frac{\mathrm{d} y}{\mathrm{d} x},\quad \frac{\mathrm{d}^n y}{\mathrm{d} x^n},\quad \frac{\mathrm{d}}{\mathrm{d} x}\frac{\mathrm{d} y}{\mathrm{d} x},\quad \frac{\partial^{kn+2a+c-b}f}{\partial x^{c+kn}\,\partial y^{-b+2a}}$$

differentials with the physics and derivative packages:

Table 3.2: Examples on how to typeset differentials with the physics and derivative package

$$T = \int_0^\infty t \, dt, \quad V = \int_a^b r \, d^3r = \int_a^b r \, dx \, dy \, dz$$

#### 3.2 Chemical Formulae

For typesetting chemical formulae, minimalthesis loads the mhchem package.

**Table 3.3:** Examples how to use mhchem. Excerpt from the manual.

```
\label{eq:cefh20}, $$ \eq{CO2}, $$ \eq{NH3}$ $\to$ $H_2O, $CO_2, $NH_3$ $$ \eq{EH20}, $$ \eq{CO2}, $$ \eq{CO2
```

For more information, please refer to the official mhchem manual.

#### 3.3 Units

To aid with typesetting units, minimalthesis loads the siunitx package. This package ensures that independent of the user input, all the number and unit conventions derived from the locale settings are satisfied. It also handles the different behavior in math and text environments.

**Table 3.4:** Examples how to use siunitx.

```
\label{eq:cond_squared} $$ \sum_{23.3, 23.3} \sl{23.3}_{\volt}, \sl{23.
```

4 Changelog
4.1 v0.0.2-alpha-1
Warning: Not backwards compatible to v0.0.1-alpha!
Switched user settings from komavar to pgfkeys
4.2 v0.0.1-alpha
Release date: 2023-09-27, Initial implementation with komavar