

TiefDownConverter Documentation

Tiefseetauchner et al.

May 15, 2025

CONTENTS

1	LICENSE	2
2	The what?	3
2.1	Why?	3
2.2	How, oh wise programmer, did you solve this problem?	3
2.3	So, what's the point?	4
2.4	Use Cases	4
2.5	Support	5
3	Usage	6
3.1	Installation	6
3.2	Getting started	6
3.3	The markdown “directory”	7
3.4	Markdown projects	8
3.5	Customising the template	9
3.6	Adjusting template behaviour	9
3.7	Conversion Profiles	9
3.8	Writing templates	10
3.9	Shared Metadata	10
3.9.1	Accessing metadata in LaTeX	10
3.9.2	Accessing metadata in Typst	10
3.10	Epub Support	10
3.10.1	Customizing CSS	10
3.10.2	Adding Fonts	11
3.10.3	Metadata and Structure	11
3.10.4	Using Lua Filters	12
3.11	Conversion Engines	12
3.11.1	LaTeX	12
3.11.2	Typst	12
3.11.3	EPUB	12
3.11.4	Custom Pandoc Converter	13
3.12	Writing filters	13
3.13	Preprocessing	14
3.14	Custom Pandoc Conversion	14
3.15	Custom Processor Arguments	15
3.16	Smart Cleaning	15

4	Usage Details	16
4.1	tiefdownconverter	16
4.1.1	Usage:	16
4.1.2	Subcommands:	16
4.2	tiefdownconverter convert	16
4.2.1	Usage:	17
4.3	tiefdownconverter init	17
4.3.1	Usage:	17
4.4	tiefdownconverter project	18
4.4.1	Usage:	18
4.4.2	Subcommands:	19
4.5	tiefdownconverter project templates	19
4.5.1	Usage:	19
4.5.2	Subcommands:	19
4.6	tiefdownconverter project templates add	20
4.6.1	Usage:	20
4.7	tiefdownconverter project templates remove	21
4.7.1	Usage:	21
4.8	tiefdownconverter project templates update	21
4.8.1	Usage:	21
4.9	tiefdownconverter project update-manifest	22
4.9.1	Usage:	22
4.10	tiefdownconverter project pre-processors	23
4.10.1	Usage:	23
4.10.2	Subcommands:	23
4.11	tiefdownconverter project pre-processors add	24
4.11.1	Usage:	24
4.12	tiefdownconverter project pre-processors remove	24
4.12.1	Usage:	24
4.13	tiefdownconverter project pre-processors list	24
4.13.1	Usage:	24
4.14	tiefdownconverter project processors	24
4.14.1	Usage:	25
4.14.2	Subcommands:	25
4.15	tiefdownconverter project processors add	25
4.15.1	Usage:	25
4.16	tiefdownconverter project processors remove	25
4.16.1	Usage:	26
4.17	tiefdownconverter project processors list	26
4.17.1	Usage:	26
4.18	tiefdownconverter project profiles	26
4.18.1	Usage:	26
4.18.2	Subcommands:	27
4.19	tiefdownconverter project profiles add	27
4.19.1	Usage:	27
4.20	tiefdownconverter project profiles remove	27
4.20.1	Usage:	27
4.21	tiefdownconverter project profiles list	27

4.21.1	Usage:	27
4.22	<code>tiefdownconverter project shared-meta</code>	28
4.22.1	Usage:	28
4.22.2	Subcommands:	28
4.23	<code>tiefdownconverter project shared-meta set</code>	28
4.23.1	Usage:	28
4.24	<code>tiefdownconverter project shared-meta remove</code>	29
4.24.1	Usage:	29
4.25	<code>tiefdownconverter project shared-meta list</code>	29
4.25.1	Usage:	29
4.26	<code>tiefdownconverter project markdown</code>	29
4.26.1	Usage:	29
4.26.2	Subcommands:	30
4.27	<code>tiefdownconverter project markdown add</code>	30
4.27.1	Usage:	30
4.28	<code>tiefdownconverter project markdown update</code>	30
4.28.1	Usage:	31
4.29	<code>tiefdownconverter project markdown meta</code>	31
4.29.1	Usage:	31
4.29.2	Subcommands:	31
4.30	<code>tiefdownconverter project markdown meta set</code>	32
4.30.1	Usage:	32
4.31	<code>tiefdownconverter project markdown meta remove</code>	32
4.31.1	Usage:	32
4.32	<code>tiefdownconverter project markdown meta list</code>	32
4.32.1	Usage:	32
4.33	<code>tiefdownconverter project markdown resources</code>	32
4.33.1	Usage:	33
4.33.2	Subcommands:	33
4.34	<code>tiefdownconverter project markdown resources add</code>	33
4.34.1	Usage:	33
4.35	<code>tiefdownconverter project markdown resources remove</code>	34
4.35.1	Usage:	34
4.36	<code>tiefdownconverter project markdown resources list</code>	34
4.36.1	Usage:	34
4.37	<code>tiefdownconverter project markdown remove</code>	34
4.37.1	Usage:	34
4.38	<code>tiefdownconverter project markdown list</code>	34
4.38.1	Usage:	35
4.39	<code>tiefdownconverter project list-templates</code>	35
4.39.1	Usage:	35
4.40	<code>tiefdownconverter project validate</code>	35
4.40.1	Usage:	35
4.41	<code>tiefdownconverter project clean</code>	35
4.41.1	Usage:	35
4.42	<code>tiefdownconverter project smart-clean</code>	36
4.42.1	Usage:	36
4.43	<code>tiefdownconverter check-dependencies</code>	36

4.43.1	Usage:	36
5	Contributing	37
5.1	The architecture	37
5.2	Pull Requests	37
5.3	Conversion	38
5.4	Presets	38
5.5	Manifest	38
5.6	Tests	38
5.7	Documentation	38
5.8	Code Style	39



Figure 1: TiefDownConverter Mascot

1 LICENSE

1 MIT License

2

3 Copyright (c) 2025 Lena Tauchner

4

5 Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software
"), to deal in the Software without restriction, including without
limitation the rights to use, copy, modify, merge, publish, distribute,
sublicense, and/or sell copies of the Software, and to permit persons to
whom the Software is furnished to do so, subject to the following
conditions:

6

7 The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

8

9 THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL
THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR
OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR
OTHER DEALINGS IN THE SOFTWARE.

2 THE WHAT?

If you want to skip the funny written explanations, skip to the > [Usage](#) section.

Well, that's a good question. Ask it later.

Jk, of course you may ask it now. TiefDown is a project format I made up to make it easier to convert my markdown files into something pretty. As a matter of fact, this documentation is managed by a TiefDown project!

The important thing is that this isn't a markdown parser, replacement or anything like that. It's a project format, and it's not even a format, it's pretty much just a manifest file and an executable.

2.1 WHY?

I wonder myself every day. But alas, I should know, I wrote this cluster**** so let me explain. The initial concept was born from pain (as many are). I was pretty tired of exporting my markdown files, then converting them, overwriting my old files, then converting them again, overwriting all history in the process. It was just... a mess.

So I did what any sane person would do: I learned Python.

Well, I'm being facetious. I didn't "learn Python," I just expanded my capabilities to calling programs from the command line.

So my script, at first, just called Pandoc, then pdflatex, and then pdflatex again for good measure. It created a PDF, overwriting my old one. It was basically just converting a single markdown file into a PDF with a basic TeX template (in my case, LiX Novel).

Then I realized that writing a 40-chapter story in a single markdown file was even dumber than whatever I made in Python. So I added a little combination logic. In the process, I had to write Lua filters as well, and then I added versioning, and then I added conversion to multiple different PDFs, and then I added EPUB support and—you know what? That was a dumb idea. The Python script soon reached 200 lines of code, which was untenable.

So yeah, I decided to make a new book. And of course - *everything* broke. Instantly. I had to copy and paste things, adjust my Python script, rewrote it a bit, and boom - suddenly I had two different projects with different processes, different outputs, different versions, different everything.

And then... I started a third book. Aaaand the Python script didn't really fulfill my needs, so I rewrote it in Bash. But worse.

I thought I had it all figured out. With Python. Then Bash. Then I started a short story and lost my ***** mind.

2.2 HOW, OH WISE PROGRAMMER, DID YOU SOLVE THIS PROBLEM?

I'm glad you asked! I'm glad. I... I hope you asked? Well, regardless of whether or not you did, I'll tell you.

I learned Rust.

For real this time, I learned a completely new programming language just for this. But there was a reason, or a few rather:

1. I wanted cross-platform support.
2. I wanted a single executable.
3. I needed a language with good CLI support because, believe it or not, I'm *awful* at GUIs.

4. I'm crazy.

These reasons led me to two options: Python, a language I was somewhat familiar with but didn't particularly enjoy writing in, and Rust, a language I had never written in before but was very interested in.

Evidently, I chose Rust.

So I started: a CLI interface, command-line calls, and so on. Here's the rundown of how it works internally:

- You initialize a project with `tiefdownconverter init`. This creates a few bits and bobs, but importantly the `manifest.toml` file. This contains all the information needed to actually manage and convert the project.
- You can then manipulate the project, and so on.
- When you add your markdown files to the Markdown directory, running `tiefdownconverter convert` will do a few things:
 - Create a new folder for the current compilation. That way, you have a history.
 - Combine all the markdown files into one megafile called `combined.md`.
 - Run Pandoc conversion to TeX, EPUB, or Typst. This uses Lua filters and preprocessors that are defined in the `manifest.toml` file.
 - Run XeLaTeX on all TeX templates, Typst on all Typst templates, and so on. It even supports EPUB conversion.
 - Copy the files around so you end up with your output files in the right places.

Isn't that simple?

It isn't. But oh well. We've got a lot of work to do on this, and if you're interested, don't shy away from the [Contributing](#) section!

2.3 SO, WHAT'S THE POINT?

Really? Making my life easier. I wanted to export my novel as a PDF in A4, 8x5in, so on. If I can make your life easier as well, then I'm the happiest woman alive.

2.4 USE CASES

So where does TiefDownConverter actually come in handy? Well, anywhere you need Markdown to turn into something nice without manually fiddling with formats every time. Here are a few scenarios where it saves the day:

- **Writing Books** - Markdown is great for writing, but formatting a 300-page novel? Not so much. TiefDown handles that for you. Well, at least the part where you need to convert stuff, you still need to write out your templates.
- **Technical Documentation** - Software projects need structured documentation, and TiefDown makes sure it's consistent. Case in point, this documentation is managed as a TiefDown project.

- **Multi-format Exports** - Need a A4 PDF, a Book PDF, a letter PDF, EPUB, so on? TiefDown can generate them all from the same source.

Basically, if your workflow involves Markdown and you're sick of manually converting everything, TiefDown is your new best friend.

2.5 SUPPORT

Now, you want support? Check out the Discord or write an issue on GitHub!

- [Discord Server](https://discord.gg/EG3zU9cTFx) (<https://discord.gg/EG3zU9cTFx>)
- [GitHub Issues](https://github.com/Tiefseetauchner/TiefDownConverter/issues) (<https://github.com/Tiefseetauchner/TiefDownConverter/issues>)

3 USAGE

The basic usage of `tiefdownconverter` is relatively simple. The difficult part is understanding the templating system and how to customise it for your usecases. Presets can only do so much.

Note: I wrote this paragraph before the big refactor. The basic usage is no longer simple.

3.1 INSTALLATION

Currently the only way to install `tiefdownconverter` is to either build it yourself, install it from cargo, or download a precompiled binary from the [releases page](#). Then just add it to the path and you're good to go. You can of course also just call it relatively by placing the binary in your project folder or something like that.

If you build from source, run `cargo build [--release]` or `cargo install --path ..`

That said, the recommended way to install TiefDownConverter is `cargo install tiefdownconverter`. This will always install the latest version.

Downloading from the release is as simple as downloading the appropriate version (Windows, Mac, Linux) and adding it to a folder in the path. You could also add `tiefdownconverter` to a folder and run it from there.

There are a few dependencies that you need to install.

- [Pandoc](#): Conversion from Markdown to TeX, Typst and Epub.
- A TeX distribution: For converting TeX files to PDF. It has to include xelatex.
 - If using [TeX Live](#) you may need to additionally install `texlive-xetex` depending on your system.
 - If using [MikTeX](#), no need to do anything.
- [Typst](#): For converting Typst files to PDF.

Windows is easy enough: `winget install miktex pandoc typst`.

Linux varies by distro of course, but for ubuntu it's `apt install texlive-xetex pandoc` and `cargo install typst` or downloading the typst binary and adding it to the path.

Mac is still to be tested, but MacTeX should have XeTeX installed.

Now you should be able to run `tiefdownconverter` from the command line. You can test it by initialising a test project using `tiefdownconverter init testproject` and running `tiefdownconverter convert` in the project directory or `tiefdownconverter convert -p testproject`. You could also, as a test, clone the [Github Repo](#) and run `tiefdownconverter convert -p docs`.

3.2 GETTING STARTED

TL;DR: Make a folder, go into it and run `tiefdownconverter init` and `tiefdownconverter convert`. That's it.

Long anser: First off, you need to create a project using `tiefdownconverter init`. This will create a new project **in the current directory**. You can (and maybe should) specify a project.

This command creates the basic template structure like so:

```

1 your_project/|—
2 Markdown/|
3   |— Chapter 1 - Introduction.md|—
4   template/|
5     |— meta.tex|
6     |— template.tex|—
7   manifest.toml

```

The Markdown folder contains an example Markdown file. When placing your markdown files in this folder, make sure they're named like **Chapter X.md**, with anything following the number being ignored. *This is important*, as the converter will use this to sort the files for conversion, as otherwise it'd have no idea in which order they should be converted.

Now you should be able to run `tiefdownconverter convert -p path/to/your_project` (or omitting the `-p` flag if you're already in the project directory) and it should generate a PDF file in the project directory. You can now adjust the template, add your own Markdown files, and so on.

3.3 THE MARKDOWN “DIRECTORY”

Markdown files are the main input for the converter, and as such their structure is important. The converter will look for markdown files in the **Markdown** directory, and will sort them by a chapter number. Namely, your files should be named **Chapter X Whatever else.md**, where X is a number (you don't have to name them `01`, `02` etc., as we parse the number as an integer anyways). The converter will then sort them by the number and combine them in that order.

You can also add subdirectories in the Markdown directory. These will be combined after the file with the same number. For example, consider the following directory structure:

```

1 Markdown/|—
2   Chapter 1 - Introduction.md|—
3   Chapter 2 - Usage.md|—
4   Chapter 2 - Usage/|
5     |— Chapter 1 - Usage detail 1.md|
6     |— Chapter 2 - Usage detail 2.md|—
7   Chapter 3 - Customisation.md

```

The converter will combine the files in the following order:

1. Chapter 1 - Introduction.md
2. Chapter 2 - Usage.md
3. Chapter 2 - Usage/Chapter 1 - Usage detail 1.md
4. Chapter 2 - Usage/Chapter 2 - Usage detail 2.md
5. Chapter 3 - Customisation.md

That is, the converter orders a directory by the same logic as other files (and even does so recursively), and directories are combined after the file with the same number.

You can change what directory the converter looks for markdown files in by changing the `markdown_dir` field in the `manifest.toml` file or saying `-m path/to/markdown/dir` when initialising the project.

3.4 MARKDOWN PROJECTS

Now, above is a simplified explanation. If you want the full picture, read on.

With version 0.8.0 and above, the converter can handle multiple markdown folders at the same time. This is called a “markdown project” and it is the most convoluted way to think about markdown directories. Basically, a TiefDown project can have multiple markdown projects, that are loaded as described above. But they have additional information stored in them, importantly **markdown project specific metadata**.

Now, why does this exist? Well, the basic idea is that you can have multiple projects per project. Markdown projects per TiefDown project, that is. It’s useful for books for example, where you may have shared templates and metadata (like an author) but separate content and metadata (like a title) for the different books. This, in theory, simplifies the workflow substantially - but makes it more complicated to understand.

First off, the setup. You can run

```
❯ tiefdownconverter project markdown add <PROJECT_NAME> <PATH_TO_MARKDOWN_DIR> <PATH_TO_OUTPUT_DIR>
```

to add a markdown project to a TiefDown project. Per default, this is either not set at all, using the default markdown directory and output directory, or it is set to the default markdown directory and output directory of the TiefDown project, which are `Markdown` and `.` respectively. Importantly, the output directory is relevant for the conversion - it is used to separate the templating for the different projects, as well as the markdown files. So don’t use the same output directory for multiple projects.

The output directory is also important as the templates are all saved to the same file name per default (as in, the template output file name), and if you didn’t use a different output directory, you’d overwrite the template for the other project.

Metadata is interesting as well, as in the end, it is merged with the shared metadata. So when you run the conversion, first the shared metadata is loaded and then the markdown project specific metadata, overwriting the shared metadata.

Setting metadata is done by using the meta command, similarly to the [shared-meta](#) command, except that you have to specify the markdown project name as well. As an example, you may run

```
❯ tiefdownconverter project markdown meta <PROJECT_NAME> set <KEY> <VALUE>
```

to set a metadata value for a markdown project.

You can also assign resources, which are files that are copied to the compile directory from the markdown project directory. This is done by using the resource command. For example, if you had multiple books as separate markdown projects, you could have a `cover.png` file for each book separately and then use the resource management to copy it to be able to be used in a template, for example an epub or as the cover of a PDF. Check out the [resources command](#) for more information.

You can also assign a [profile](#) to a markdown project which, if I may say so myself as the person who needed it, is awesome.

Imagine... Well, don’t imagine. Look at this documentation on github. You can see, there’s a markdown project called `Markdown` and a markdown project called `man_markdown`. They both contain different markdown files, but they act quite different. One generates the manpage, and one the documentation you are reading right now.

A default profile is assigned using the `--default-profile` flag. This is the profile that will be used to convert the markdown project *by default*. That doesn’t mean you can’t use all templates as you wish, you can always use the `--profile` flag to specify a different profile or the `--templates` flag to specify a different set of templates.

3.5 CUSTOMISING THE TEMPLATE

The key idea behind `tiefdownconverter` is, that it can handle multiple templates at the same time. This is done by creating a template file in the template directory and adding it to the project's `manifest.toml` file.

You could do this manually, if you were so inclined, but using `tiefdownconverter project template <TEMPLATE_NAME> add` is much easier. Check the [Usage Details](#) and specifically [the templates add command](#) for the usage of this command. But importantly, once you created the template and added it to the manifest, you will be able to convert using it. `tiefdownconverter convert -p path/to/your_project --templates <TEMPLATE_NAME>` will convert only the selected template, aiding in debugging.

And now, you're pretty much free to do whatever you want with the template. Write tex or typst templates, use custom filters, so on.

3.6 ADJUSTING TEMPLATE BEHAVIOUR

You have a few options for editing template behaviour using `tiefdownconverter`. You can of course edit the template files directly, but there are a few more options.

Mainly and most interestingly, lua filters can adjust the behaviour of the markdown conversion. These are lua scripts that are run before the markdown is converted to tex or typst. You can add lua filters to a template by either editing the manifest or using `tiefdownconverter project templates <TEMPLATE_NAME> update --add-filters <FILTER_NAME>`. This can be either the path to a lua filter (relative to the project directory) or a directory containing lua filters.

You can also change the name of the exported file by setting the `output` option. For example, `tiefdownconverter project templates <TEMPLATE_NAME> update --output <NEW_NAME>`. This will export the template to `<NEW_NAME>` instead of the default `<TEMPLATE_NAME>.pdf`.

Similarly, you could change the template file and type, though I advice against it, as this may break the template. I advice to just add a new template and remove the old one using `tiefdownconverter project templates <TEMPLATE_NAME> remove`.

3.7 CONVERSION PROFILES

A conversion profile is a shortcut to defining templates for the conversion. If you're dealing with a lot of templates, you may be considering only converting some at any time - for example, web ready PDFs vs. print ready PDFs, or only converting a certain size of PDF.

For that, there are conversion profiles which simply are a list of templates. It's essentially like saving your `--templates` arguments.

You can create these profiles with the `project profile add` command, setting a name and a comma seperated list of templates. Removing a profile is also possible with the `project profile remove` command.

Running a conversion with a profile is as simple as adding the `--profile` flag.

The manifest file can optionally contain a section for this, if you desire to configure them manually:

```
1 [[profiles]]
2 name = "PDF"
3 templates = ["PDF Documentation LaTeX", "PDF Documentation"]
```

3.8 WRITING TEMPLATES

Importantly, when you write your own template, you need to include the content somehow. That somehow is done via `\input\{output.tex\}` or `\#include "./output.typ"`. This will include the output of the Markdown conversion in your template file. If you're using custom preprocessors, you can change the output file of the conversion. See [Preprocessing](#) for more information.

3.9 SHARED METADATA

Metadata is a key part of any project. That's why TiefDown allows adding project wide metadata as well as per markdown project metadata (see [Markdown Projects](#)). This makes sharing metadata not only between templates easier, but even between projects.

Imagine you want to manage four books. Each of them has a different author, but the same publisher. You could add the publisher to the metadata of each project, but that would be a lot of work, especially if the publisher changes branding. Instead, you can add the publisher to the shared metadata, and then add the author to the metadata of each project.

To add metadata to a project, use the `tiefdownconverter project shared-meta set` command. This writes the metadata to the project's `manifest.toml` file and when converting the project, the metadata will be written to respective metadata files for the template type (e.g. `metadata.tex` for LaTeX and `metadata.typ` for Typst). You can then import these files in your template and access the metadata.

3.9.1 ACCESSING METADATA IN LATEX

Metadata, per default, is accessed in LaTeX via the `\meta` command. This command takes a key and returns the value of that key. However, accessing undefined values is undefined behaviour. Be careful to only access metadata that is defined, and double check, I never know what happens when you access undefined metadata. It may just throw an error, it may also write random characters to your document.

3.9.2 ACCESSING METADATA IN TYPST

Much nicer than LaTeX, Typst has a type system! Just import `meta` and access the keys on it. Though the linter will error out if you do this, so you can write your own `metadata.typ` in the template directory with placeholder values.

3.10 EPUB SUPPORT

EPUB support in TiefDownConverter isn't as fancy as LaTeX or Typst, but you can still tweak it to look nice. You don't get full-blown templates, but you can mess with CSS, fonts, and Lua filters to make it work how you want. *This template type is however somewhat deprecated. It will not be removed but there likely won't be any new features added to it.*

3.10.1 CUSTOMIZING CSS

EPUBs use stylesheets to control how everything looks. Any `.css` file you drop into `template/my_epub_template/` gets automatically loaded.

For example, you can change the font, line height, and margins like so:

```
1 body {
2   font-family: "Noto Serif", serif;
3   line-height: 1.6;
```

```

4   margin: 1em;
5 }
6 blockquote {
7   font-style: italic;
8   border-left: 3px solid #ccc;
9   padding-left: 10px;
10 }

```

3.10.2 ADDING FONTS

Fonts go into `template/my_epub_template/fonts/`, and TiefDownConverter will automatically pick them up. To use them, you just need to reference them properly in your CSS:

```

1 @font-face {
2   font-family: "EB Garamond";
3   font-style: normal;
4   font-weight: normal;
5   src: url("../fonts/EBGaramond-Regular.ttf");
6 }
7
8 body {
9   font-family: "EB Garamond", serif;
10 }

```

This is a good time to mention, epub is just a zip file. As such, as it is generated by pandoc, it has a predefined structure, and you have to bend to that. Fonts are in a font directory, and stylesheets in a styles directory. Thus you have to *break out* of the styles directory with `..` to get to the fonts directory. Keep that in mind, it took me a while to figure out.

3.10.3 METADATA AND STRUCTURE

EPUBs need some basic metadata, which you define in the YAML front matter of your Markdown files. Stuff like title, author, and language goes here:

```

1 ---
2 title:
3 - type: main
4 text: "My Publication"
5 - type: subtitle
6 text: "A tale of loss and partying hard"
7 creator:
8 - role: author
9 text: Your Name
10 rights: "Copyright © 2012 Your Name"
11 ---

```

You can also do this via the custom processor arguments, adding metadata as described in the pandoc documentation. For example, to use a separate metadata file, you can do this:

```

1 tiefdownconverter project [PROJECT_NAME] processors add "Metadata for EPUB"
   -- --metadata-file metadata.yaml
2 tiefdownconverter project [PROJECT_NAME] templates <TEMPLATE_NAME> update
   --processor "Metadata for EPUB"

```

This will include the metadata file in the conversion process, removing the need for the YAML front matter in your Markdown files and allowing you to use different metadata files for different templates.

3.10.4 USING LUA FILTERS

Want to tweak the structure? That's what Lua filters are for. You can use them to rename chapters, remove junk, or modify how elements are processed.

Example: Automatically renaming chapter headers:

```
1 function Header(e1)
2   if e1.level == 1 then
3     return pandoc.Header(e1.level, "Chapter: " .. pandoc.utils.stringify(e1
4       .content))
5   end
end
```

And that's it. You get a customized EPUB without having to fight with the defaults. Enjoy!

3.11 CONVERSION ENGINES

There are currently four ways to convert your Markdown files. All of them are based on the same system. The main difference is the output format and the program it gets converted with.

3.11.1 L^AT_EX

LaTeX is the best supported by TiefDownConverter, with the most presets. But as TiefDownConverter is a general-purpose Markdown to PDF converter, the format doesn't matter. LaTeX provides the highest degree of customization, making it ideal for structured documents, novels, and academic papers.

The primary way to interact with LaTeX is through templates. Lua filters and such are secondary, but an important part of the conversion process to adjust behavior for different document classes.

3.11.2 TYPST

Typst is another supported engine, offering a more modern alternative to LaTeX with a simpler syntax and automatic layout adjustments. TiefDownConverter allows you to specify Typst templates in the project manifest.

Typst templates work similarly to LaTeX templates but are easier to modify if you need structured documents without deep LaTeX knowledge.

As far as I could tell, typst templates are also far more adherent to the general typst syntax, so Lua filters are not as important. But they can still be used to adjust the output, especially for more advanced use cases.

3.11.3 EPUB

TiefDownConverter also supports EPUB conversion, making it suitable for e-book generation. The conversion process uses Pandoc to transform the Markdown content into EPUB, applying any Lua filters defined in the manifest.

This however does not really support much in the way of templating. Customization should be done primarily via Lua filters. Custom preprocessors are currently not supported at all.

However, you can still get some customization by including CSS and font files in your template folder. That's the reason epub has to have a folder in the first place, so you can place CSS and font files in there. Of course you can add multiple epub templates, but I don't know why you would want to.

EPUB output is particularly useful for digital publishing, ensuring compatibility with e-readers and mobile devices.

3.11.4 CUSTOM PANDOC CONVERTER

Okay. Stick with me here. The idea is, you are already converting my Markdown files with Pandoc, why not let me convert them to whatever format? Well, this is where Custom Pandoc Conversion comes in. This long fabled feature is the most complicated one, and you need a deep understanding of how TiedDownConverter works and at least the ability to read Pandoc's documentation to even use it. But if you're willing to put in the effort, you can do some pretty cool things.

The basic idea is, just, let the user decide what pandoc does. The result is chaos.

I'm being facetious, but this is actually the most powerful way to customize the output. You add a preprocessor as described in [Preprocessing](#) and set the output path of the preprocessor and template to the same path. Then you can do whatever pandoc allows. Want to convert to RTF? No issue. But beware: you need to actually understand what's going on, otherwise you'll end up in implementation hell.

3.12 WRITING FILTERS

Note: This section only really addresses LaTeX, but the concepts are the same for Typst and epub.

If you are in the business of writing filters (and don't just solve everything in TeX itself), I advice checking out the documentation at <https://pandoc.org/lua-filters.html>. But here's a quick rundown of what you can do. For example, if you wanted to change the font of all block quotes, there's a few things you'd need to do. First off, in your template, you will need to define a font. It could look something like this:

```
1 \usepackage{fontspec}
2 \newfontfamily\blockquotefont{Noto Sans}
```

Then, add a filter to your template as described above. The filter could look something like this:

```
1 function BlockQuote(el)
2   local tt_start = pandoc.RawBlock('latex', '\\blockquotefont\\small')
3
4   table.insert(el.content, 1, tt_start)
5
6   return el
7 end
```

Of course, you could just redefine the font in TeX but I think this is a bit more flexible. One usecase that is quite important is to change the way chapters are handled for LiX. In case of LiX, they expect `\\h{chapter_name}` instead of `\\section`, which is the standard behaviour of pandoc. So when you create a LiX backed template, you have to add a filter to change that behaviour. Something like this:

```
1 function Header(elem)
2   if elem.level == 1 then
3     return pandoc.RawBlock("latex", "\\h{" .. pandoc.utils.stringify(elem.
4       content) .. "}")
5   end
6   if elem.level == 2 then
```



```

6     return pandoc.RawBlock("latex", "\\hh{" .. pandoc.utils.stringify(elem.
      content) .. "}")
7   end
8   -- add more levels here if needed
9 end

```

3.13 PREPROCESSING

A “Preprocessor” is a stupid word for defining your own pandoc conversion parameters. You can (and should) use this to adjust the behaviour of the converter. For example, you could define a preprocessor to add `--listings` to the pandoc command. This is useful if you want to have reasonable code output in your pdf.

If no preprocessor is defined, the converter will use default pandoc parameters, converting to the intermediate output file (in case of LaTeX, this is `output.tex`). But if you for example are using lua filters, you may want to export to a different path. This can be done by defining a preprocessor.

If you want to define a preprocessor, you can do so by running

```

1 tiefdowndownconverter project templates <TEMPLATE_NAME> update --preprocessor <
  PREPROCESSOR_NAME>

```

to assign it to a template and

```

1 tiefdowndownconverter project preprocessors <PREPROCESSOR_NAME> add -- [
  PANDOC_ARGS]

```

to create a new preprocessor.

For example, if you want to add `--listings` to the pandoc command, you could do so by adding `--listings` to the preprocessor. But importantly, **this overwrites the default preprocessor**. So you will have to add the `-o output.tex` argument to the preprocessor as well. The full command then would be:

```

1 tiefdowndownconverter project preprocessor "Enable Listings" add -- -o output.
  tex --listings

```

The manifest would look something like this:

```

1 ...
2
3 [[custom_processors.preprocessors]]
4 name = "Enable Listings"
5 pandoc_args = ["-o", "output.tex", "--listings"]
6
7 [[templates]]
8 filters = ["luafilters/chapter_filter.lua"]
9 name = "PDF Documentation LaTeX"
10 output = "docs_tex.pdf"
11 preprocessor = "Enable Listings"
12 template_file = "docs.tex"
13 template_type = "Tex"
14
15 ...

```

3.14 CUSTOM PANDOC CONVERSION

I already hinted at it in [Custom Pandoc Converter](#), but I’ll go into more detail here. The idea is to run a preprocessor and just skip any further processing. Straight from pandoc to the output.

You can do this by first defining a preprocessor, for example:

```
1 tiefdownconverter project preprocessor "RTF Preprocessor" add -- -o
   documentation.rtf
```

As you can see, we're outputting as an RTF file, and the file name is `documentation.rtf`. This means we need to add a template that deals with the same output:

```
1 tiefdownconverter project template "RTF Template" add -o documentation.rtf
   -t custompandoc
```

And that's it. `TiefDownConverter` will run the preprocessor, which outputs to `documentation.rtf`, and then the templating system will copy that output to your directory. Hopefully. Did I mention that this is experimental? Yeah, so if you have issues, please report them. Even if you're thinking "this is not a bug, it's a feature". It likely isn't.

3.15 CUSTOM PROCESSOR ARGUMENTS

You can define custom arguments for your processors. These are passed to the processor, so `xelatex`, `typst`, so on, on compilation. For example, if you needed to add a font directory to your `typst` conversion, you could do so by adding the following to your manifest:

```
1 ...
2
3 [[custom_processors.processors]]
4 name = "Typst Font Directory"
5 processor_args = ["--font-path", "fonts/"]
6
7 [[templates]]
8 name = "PDF Documentation"
9 output = "docs.pdf"
10 processor = "Typst Font Directory"
11 template_file = "docs.typ"
12 template_type = "Typst"
13
14 ...
```

Or... Just use the command to create it.

```
1 tiefdownconverter project processor "Typst Font Directory" add -- --font-
   path fonts/
```

Then append it to a template.

```
1 tiefdownconverter project template "PDF Documentation" update --processor "
   Typst Font Directory"
```

3.16 SMART CLEANING

Smart cleaning is a feature that is relatively simple. If you enable it in your manifest, it will automatically remove stale or old conversion directories.

Enable it with the `--smart-clean` and set the threshold with `--smart-clean-threshold`. The threshold is 5 by default.

You can also manually trigger a smart clean with `tiefdownconverter project smart-clean` or a normal clean with `tiefdownconverter project clean`. The latter will remove all conversion directories, while the former will only remove the ones that are older than the threshold.

4 USAGE DETAILS

Below are the usage details for the various commands. **Note:** These are autogenerated! For clearer documentation, please see the [Usage](#) section.

4.1 tiefdownconverter

Version: tiefdownconverter 0.8.0

4.1.1 USAGE:

```
1 TiefDownConverter manages TiefDown projects.
2 TiefDown is a project structure meant to simplify the conversion process
  from Markdown to PDFs.
3 TiefDownConverter consolidates multiple conversion processes and templating
  systems to generate a configurable set or subset of output documents.
4 It is not in itself a converter, but a wrapper around pandoc, xelatex and
  typst. As such, it requires these dependencies to be installed.
5
6 Usage: tiefdownconverter [OPTIONS] <COMMAND>
7
8 Commands:
9   convert          Convert a TiefDown project. By default, it will
  convert the current directory.
10  init             Initialize a new TiefDown project.
11  project          Update the TiefDown project.
12  check-dependencies Validate dependencies are installed.
13  help            Print this message or the help of the given
  subcommand(s)
14
15 Options:
16   -v, --verbose    Enable verbose output.
17
18   -h, --help       Print help (see a summary with '-h')
19
20   -V, --version    Print version
21
22
23
```

4.1.2 SUBCOMMANDS:

- [convert](#)
- [init](#)
- [project](#)
- [check-dependencies](#)

4.2 tiefdownconverter convert

Version: tiefdownconverter 0.8.0

4.2.1 USAGE:

```
1 Convert a TiefDown project. By default, it will convert the current
  directory.
2
3 Usage: tiefdownconverter convert [OPTIONS]
4
5 Options:
6 -p, --project <PROJECT>      The project to convert. If not provided,
  the current directory will be used.
7 -v, --verbose                 Enable verbose output.
8 -t, --templates <TEMPLATES>... The templates to use. If not provided,
  the default templates from the manifest file will be used. Cannot be
  used with --profile.
9 -P, --profile <PROFILE>      The conversion profile to use. Cannot be
  used with --templates.
10 -h, --help                   Print help
```

4.3 tiefdownconverter init

Version: tiefdownconverter 0.8.0

4.3.1 USAGE:

```
1 Initialize a new TiefDown project.
2
3 Usage: tiefdownconverter init [OPTIONS] [PROJECT]
4
5 Arguments:
6 [PROJECT]
7     The project to initialize. If not provided, the current directory
  will be used.
8
9 Options:
10 -t, --templates <TEMPLATES>...
11     The preset templates to use. If not provided, the default
  template.tex will be used.
12     For custom templates, use the update command after initializing
  the project.
13     If using a LiX template, make sure to install the corresponding .
  sty and .cls files from https://github.com/NicklasVraa/LiX. Adjust the
  metadata in template/meta.tex accordingly.
14
15     [possible values: template.tex, booklet.tex, lix_novel_a4.tex,
16     lix_novel_book.tex, template_typ.typ, default_epub]
17
18 -v, --verbose
19     Enable verbose output.
20
21 -n, --no-templates
22     Do not include the default templates. You will need to add
  templates manually with Update
23
24 -f, --force
25     Delete the project if it already exists.
```

```

26 -m, --markdown-dir <MARKDOWN_DIR>
27     The directory where the Markdown files are located. If not
28     provided, Markdown/ will be used.
29
30     --smart-clean
31     Enables smart clean for the project with a default threshold of
32     5.
33     If the number of conversion folders in the project is above this
34     threshold, old folders will be cleaned, leaving only the threshold
35     amount of folders.
36
37     --smart-clean-threshold <SMART_CLEAN_THRESHOLD>
38     The threshold for smart clean. If not provided, the default
39     threshold of 5 will be used.
40     If the number of conversion folders in the project is above this
41     threshold, old folders will be cleaned, leaving only the threshold
42     amount of folders.
43
44 -h, --help
45     Print help (see a summary with '-h')
```

4.4 tiefdownconverter project

Version: tiefdownconverter 0.8.0

4.4.1 USAGE:

```

1 Update the TiefDown project.
2
3 Usage: tiefdownconverter project [OPTIONS] [PROJECT] <COMMAND>
4
5 Commands:
6   templates      Add or modify templates in the project.
7   update-manifest Update the project manifest.
8   pre-processors Manage the preprocessors of the project.
9   processors      Manage the processors of the project.
10  profiles        Manage the conversion profiles of the project.
11  shared-meta     Manage the shared metadata of the project.
12  markdown        Manage the markdown projects of the project.
13  list-templates  List the templates in the project.
14  validate        Validate the TiefDown project structure and metadata.
15                  NOTE: This command is deprecated and will be removed in
16                  a future release. It's pointless and a maintenance nightmare.
17  clean           Clean temporary files from the TiefDown project.
18  smart-clean     Clean temporary files from the TiefDown project, leaving
19                  only the threshold amount of folders.
20  help           Print this message or the help of the given subcommand(s)
21
22 Arguments:
23   [PROJECT] The project to edit. If not provided, the current directory
24             will be used.
25
26 Options:
27   -v, --verbose Enable verbose output.
```

25 -h, --help Print help

4.4.2 SUBCOMMANDS:

- [templates](#)
- [update-manifest](#)
- [pre-processors](#)
- [processors](#)
- [profiles](#)
- [shared-meta](#)
- [markdown](#)
- [list-templates](#)
- [validate](#)
- [clean](#)
- [smart-clean](#)

4.5 tiefdownconverter project templates

Version: tiefdownconverter 0.8.0

4.5.1 USAGE:

```
1 Add or modify templates in the project.
2
3 Usage: tiefdownconverter project templates [OPTIONS] <TEMPLATE> <COMMAND>
4
5 Commands:
6   add      Add a new template to the project.
7   remove   Remove a template from the project.
8   update   Update a template in the project.
9   help     Print this message or the help of the given subcommand(s)
10
11 Arguments:
12   <TEMPLATE>  The template name to edit or add.
13
14 Options:
15   -v, --verbose  Enable verbose output.
16   -h, --help     Print help
```

4.5.2 SUBCOMMANDS:

- [add](#)
- [remove](#)
- [update](#)

4.6 tiefdownconverter project templates add

Version: tiefdownconverter 0.8.0

4.6.1 USAGE:

```
1 Add a new template to the project.
2 If using a preset template name, the preset will be copied to the template
  folder.
3 If using a custom template, make sure to add the respective files to the
  template folder.
4 Available preset templates are: template.tex, booklet.tex, lix_novel_a4.tex
  , lix_novel_book.tex, template_typ.typ, default_epub
5
6 Usage: tiefdownconverter project templates <TEMPLATE> add [OPTIONS]
7
8 Options:
9   -f, --template-file <TEMPLATE_FILE>
10      The file to use as the template. If not provided, the template
      name will be used.
11
12   -v, --verbose
13      Enable verbose output.
14
15   -t, --template-type <TEMPLATE_TYPE>
16      The type of the template. If not provided, the type will be
      inferred from the template file.
17
18      [possible values: tex, typst, epub, custom-pandoc]
19
20   -o, --output <OUTPUT>
21      The output file. If not provided, the template name will be used.
22
23   --filters <FILTERS>...
24      The luafilters to use for pandoc conversion of this templates
      markdown.
25      Luafilters are lua scripts applied during the pandoc conversion.
26      You can add a folder or a filename. If adding a folder, it will
      be traversed recursively, and any .lua file will be added.
27      See the pandoc documentation and 'Writing filters' of the
      TiefDownConverter documentation for more details.
28
29   --preprocessor <PREPROCESSOR>
30      The preprocessor to use for this template.
31      A preprocessor defines the arguments passed to the pandoc
      conversion from markdown.
32      If using a CustomPandoc template, a preprocessor is required.
33      Preprocessors replace all arguments. Thus, with preprocessors,
      you need to define the output file and format.
34      For templates, that is the file imported by the template.
35      Preprocessors are incompatible with epub conversion. Use
      processors instead.
36
37   --processor <PROCESSOR>
38      The processor to use for this template.
39      A processor defines additional arguments passed to the conversion
      command.
```

```

40     For LaTeX and typst templates, this allows extending the
      respective conversion parameters.
41     For epub templates, this allows adding custom pandoc parameters.
42     Processors are incompatible with CustomPandoc conversions. Use
      preprocessors instead.
43
44 -h, --help
45     Print help (see a summary with '-h')
```

4.7 tiefdownconverter project templates remove

Version: tiefdownconverter 0.8.0

4.7.1 USAGE:

```

1 Remove a template from the project.
2
3 Usage: tiefdownconverter project templates <TEMPLATE> remove [OPTIONS]
4
5 Options:
6 -v, --verbose  Enable verbose output.
7 -h, --help     Print help
```

4.8 tiefdownconverter project templates update

Version: tiefdownconverter 0.8.0

4.8.1 USAGE:

```

1 Update a template in the project.
2
3 Usage: tiefdownconverter project templates <TEMPLATE> update [OPTIONS]
4
5 Options:
6     --template-file <TEMPLATE_FILE>
7         The file to use as the template. If not provided, the template
          name will be used.
8
9 -v, --verbose
10        Enable verbose output.
11
12     --template-type <TEMPLATE_TYPE>
13         The type of the template. If not provided, the type will be
          inferred from the template file.
14         Changing this is not recommended, as it is highly unlikely the
          type and only the type has changed. It is recommended to create a new
          template instead.
15
16         [possible values: tex, typst, epub, custom-pandoc]
17
18     --output <OUTPUT>
19         The output file. If not provided, the template name will be used.
20
21     --filters <FILTERS>...
```



```

22     The luafilters to use for pandoc conversion of this templates
    markdown.
23     This replaces all existing filters.
24
25     --add-filters <ADD_FILTERS>...
26     The luafilters to use for pandoc conversion of this templates
    markdown.
27     This adds to the existing filters.
28
29     --remove-filters <REMOVE_FILTERS>...
30     The luafilters to use for pandoc conversion of this templates
    markdown.
31     This removes the filter from the existing filters.
32
33     --preprocessor <PREPROCESSOR>
34     The preprocessor to use for this template.
35     A preprocessor defines the arguments passed to the pandoc
    conversion from markdown.
36     If using a CustomPandoc template, a preprocessor is required.
37     Preprocessors replace all arguments. Thus, with preprocessors,
    you need to define the output file and format.
38     For templates, that is the file imported by the template.
39     Preprocessors are incompatible with epub conversion. Use
    processors instead.
40
41     --processor <PROCESSOR>
42     The processor to use for this template.
43     A processor defines additional arguments passed to the conversion
    command.
44     For LaTeX and typst templates, this allows extending the
    respective conversion parameters.
45     For epub templates, this allows adding custom pandoc parameters.
46     Processors are incompatible with CustomPandoc conversions. Use
    preprocessors instead.
47
48     -h, --help
49     Print help (see a summary with '-h')
```

4.9 tiefdowndconverter project update-manifest

Version: tiefdowndconverter 0.8.0

4.9.1 USAGE:

```

1 Update the project manifest.
2
3 Usage: tiefdowndconverter project update-manifest [OPTIONS]
4
5 Options:
6     --smart-clean <SMART_CLEAN>
7         Enables smart clean for the project with a default threshold of
8         5.
9         If the number of conversion folders in the project is above the
        smart_clean_threshold, old folders will be cleaned, leaving only the
        threshold amount of folders.
```

```

10         [possible values: true, false]
11
12     -v, --verbose
13         Enable verbose output.
14
15         --smart-clean-threshold <SMART_CLEAN_THRESHOLD>
16         The threshold for smart clean. If not provided, the default
17         threshold of 5 will be used.
18         If the number of conversion folders in the project is above this
19         threshold, old folders will be cleaned, leaving only the threshold
20         amount of folders.
21
22     -h, --help
23         Print help (see a summary with '-h')

```

4.10 tiefdownconverter project pre-processors

Version: tiefdownconverter 0.8.0

4.10.1 USAGE:

```

1 Manage the preprocessors of the project.
2 A preprocessor defines the arguments passed to the pandoc conversion from
3 markdown.
4 If using a CustomPandoc template, a preprocessor is required.
5 Preprocessors replace all arguments. Thus, with preprocessors, you need to
6 define the output file and format.
7 For templates, that is the file imported by the template.
8 Preprocessors are incompatible with epub conversion. Use processors instead
9 .
10
11 Usage: tiefdownconverter project pre-processors [OPTIONS] <COMMAND>
12
13 Commands:
14   add      Add a new preprocessor to the project.
15   remove   Remove a preprocessor from the project.
16   list     List the preprocessors in the project.
17   help     Print this message or the help of the given subcommand(s)
18
19 Options:
20   -v, --verbose
21       Enable verbose output.
22
23   -h, --help
24       Print help (see a summary with '-h')

```

4.10.2 SUBCOMMANDS:

- [add](#)
- [remove](#)
- [list](#)

4.11 tiefdowconverter project pre-processors add

Version: tiefdowconverter 0.8.0

4.11.1 USAGE:

```
1 Add a new preprocessor to the project.
2
3 Usage: tiefdowconverter project pre-processors add [OPTIONS] <NAME> [-- <
  PANDOC_ARGS>...]
4
5 Arguments:
6   <NAME>           The name of the preprocessor to create.
7   [PANDOC_ARGS]... The arguments to pass to the preprocessor.
8
9 Options:
10  -v, --verbose    Enable verbose output.
11  -h, --help       Print help
```

4.12 tiefdowconverter project pre-processors remove

Version: tiefdowconverter 0.8.0

4.12.1 USAGE:

```
1 Remove a preprocessor from the project.
2
3 Usage: tiefdowconverter project pre-processors remove [OPTIONS] <NAME>
4
5 Arguments:
6   <NAME>           The name of the preprocessor to remove.
7
8 Options:
9   -v, --verbose    Enable verbose output.
10  -h, --help       Print help
```

4.13 tiefdowconverter project pre-processors list

Version: tiefdowconverter 0.8.0

4.13.1 USAGE:

```
1 List the preprocessors in the project.
2
3 Usage: tiefdowconverter project pre-processors list [OPTIONS]
4
5 Options:
6   -v, --verbose    Enable verbose output.
7   -h, --help       Print help
```

4.14 tiefdowconverter project processors

Version: tiefdowconverter 0.8.0

4.14.1 USAGE:

```
1 Manage the processors of the project.
2 A processor defines additional arguments passed to the conversion command.
3 For LaTeX and typst templates, this allows extending the respective
  conversion parameters.
4 For epub templates, this allows adding custom pandoc parameters.
5 Processors are incompatible with CustomPandoc conversions. Use
  preprocessors instead.
6
7 Usage: tiefdowndownconverter project processors [OPTIONS] <COMMAND>
8
9 Commands:
10  add      Add a new processor to the project.
11  remove   Remove a processor from the project.
12  list     List the processors in the project.
13  help     Print this message or the help of the given subcommand(s)
14
15 Options:
16  -v, --verbose      Enable verbose output.
17
18  -h, --help         Print help (see a summary with '-h')
```

4.14.2 SUBCOMMANDS:

- [add](#)
- [remove](#)
- [list](#)

4.15 tiefdowndownconverter project processors add

Version: tiefdowndownconverter 0.8.0

4.15.1 USAGE:

```
1 Add a new processor to the project.
2
3 Usage: tiefdowndownconverter project processors add [OPTIONS] <NAME> [-- <
  PROCESSOR_ARGS>...]
4
5 Arguments:
6  <NAME>          The name of the processor to create.
7  [PROCESSOR_ARGS]... The arguments to pass to the processor.
8
9 Options:
10  -v, --verbose      Enable verbose output.
11  -h, --help         Print help
```

4.16 tiefdowndownconverter project processors remove

Version: tiefdowndownconverter 0.8.0

4.16.1 USAGE:

```
1 Remove a processor from the project.
2
3 Usage: tiefdowndconverter project processors remove [OPTIONS] <NAME>
4
5 Arguments:
6   <NAME>   The name of the processor to remove.
7
8 Options:
9   -v, --verbose   Enable verbose output.
10  -h, --help       Print help
```

4.17 tiefdowndconverter project processors list

Version: tiefdowndconverter 0.8.0

4.17.1 USAGE:

```
1 List the processors in the project.
2
3 Usage: tiefdowndconverter project processors list [OPTIONS]
4
5 Options:
6   -v, --verbose   Enable verbose output.
7   -h, --help       Print help
```

4.18 tiefdowndconverter project profiles

Version: tiefdowndconverter 0.8.0

4.18.1 USAGE:

```
1 Manage the conversion profiles of the project.
2 A conversion profile defines a collection of templates to be converted at
  the same time.
3 This can be used to prepare presets (for example, web export, PDF export,
  ...).
4 It can also be used for defining default templates for markdown projects.
5
6 Usage: tiefdowndconverter project profiles [OPTIONS] <COMMAND>
7
8 Commands:
9   add      Add a new conversion profile to the project.
10  remove    Remove a conversion profile from the project.
11  list      List the conversion profiles in the project.
12  help      Print this message or the help of the given subcommand(s)
13
14 Options:
15   -v, --verbose
16           Enable verbose output.
17
18   -h, --help
19           Print help (see a summary with '-h')
```

4.18.2 SUBCOMMANDS:

- [add](#)
- [remove](#)
- [list](#)

4.19 tiefdownconverter project profiles add

Version: tiefdownconverter 0.8.0

4.19.1 USAGE:

```
1 Add a new conversion profile to the project.
2
3 Usage: tiefdownconverter project profiles add [OPTIONS] <NAME> [TEMPLATES
  ]...
4
5 Arguments:
6   <NAME>          The name of the profile to create.
7   [TEMPLATES]...  The templates to add to the profile.
8
9 Options:
10  -v, --verbose    Enable verbose output.
11  -h, --help       Print help
```

4.20 tiefdownconverter project profiles remove

Version: tiefdownconverter 0.8.0

4.20.1 USAGE:

```
1 Remove a conversion profile from the project.
2
3 Usage: tiefdownconverter project profiles remove [OPTIONS] <NAME>
4
5 Arguments:
6   <NAME>  The name of the profile to remove.
7
8 Options:
9   -v, --verbose    Enable verbose output.
10  -h, --help       Print help
```

4.21 tiefdownconverter project profiles list

Version: tiefdownconverter 0.8.0

4.21.1 USAGE:

```
1 List the conversion profiles in the project.
2
3 Usage: tiefdownconverter project profiles list [OPTIONS]
4
```

```
5 Options:
6 -v, --verbose  Enable verbose output.
7 -h, --help     Print help
```

4.22 tiefdownconverter project shared-meta

Version: tiefdownconverter 0.8.0

4.22.1 USAGE:

```
1 Manage the shared metadata of the project.
2 This Metadata is shared between all markdown projects.
3 When converting, it is merged with the markdown project specific metadata.
4 When using the same key for shared and project metadata, the project
  metadata overrides the shared metadata.
5
6 Usage: tiefdownconverter project shared-meta [OPTIONS] <COMMAND>
7
8 Commands:
9   set      Add or change the metadata. Overrides previous keys.
10  remove    Remove metadata.
11  list      List the metadata.
12  help      Print this message or the help of the given subcommand(s)
13
14 Options:
15   -v, --verbose
16         Enable verbose output.
17
18   -h, --help
19         Print help (see a summary with '-h')
```

4.22.2 SUBCOMMANDS:

- [set](#)
- [remove](#)
- [list](#)

4.23 tiefdownconverter project shared-meta set

Version: tiefdownconverter 0.8.0

4.23.1 USAGE:

```
1 Add or change the metadata. Overrides previous keys.
2
3 Usage: tiefdownconverter project shared-meta set [OPTIONS] <KEY> <VALUE>
4
5 Arguments:
6   <KEY>      The key to set.
7   <VALUE>    The value to set.
8
9 Options:
```

```
10 -v, --verbose  Enable verbose output.
11 -h, --help    Print help
```

4.24 tiefdownconverter project shared-meta remove

Version: tiefdownconverter 0.8.0

4.24.1 USAGE:

```
1 Remove metadata.
2
3 Usage: tiefdownconverter project shared-meta remove [OPTIONS] <KEY>
4
5 Arguments:
6 <KEY>  The key to remove.
7
8 Options:
9 -v, --verbose  Enable verbose output.
10 -h, --help    Print help
```

4.25 tiefdownconverter project shared-meta list

Version: tiefdownconverter 0.8.0

4.25.1 USAGE:

```
1 List the metadata.
2
3 Usage: tiefdownconverter project shared-meta list [OPTIONS]
4
5 Options:
6 -v, --verbose  Enable verbose output.
7 -h, --help    Print help
```

4.26 tiefdownconverter project markdown

Version: tiefdownconverter 0.8.0

4.26.1 USAGE:

```
1 Manage the markdown projects of the project.
2 A markdown project defines the markdown conversion process for a project.
3 There can be multiple markdown projects with different markdown files.
4 Each markdown project also has a separate output folder ('.' per default).
5 A markdown project can have separate metadata.
6 A markdown project can have resources that are copied to the respective
  conversion folder.
7
8 Usage: tiefdownconverter project markdown [OPTIONS] <COMMAND>
9
10 Commands:
11 add      Add a new markdown project to the project.
12 update   Update a markdown project in the project.
```



```

13 meta      Manage the metadata of a markdown project.
14 resources Manage the resources of a markdown project.
15 remove    Remove a markdown project from the project.
16 list      List the markdown projects in the project.
17 help      Print this message or the help of the given subcommand(s)
18
19 Options:
20   -v, --verbose      Enable verbose output.
21
22   -h, --help
23                     Print help (see a summary with '-h')
24

```

4.26.2 SUBCOMMANDS:

- [add](#)
- [update](#)
- [meta](#)
- [resources](#)
- [remove](#)
- [list](#)

4.27 tiefdowndconverter project markdown add

Version: tiefdowndconverter 0.8.0

4.27.1 USAGE:

```

1 Add a new markdown project to the project.
2
3 Usage: tiefdowndconverter project markdown add [OPTIONS] <NAME> <PATH> <
  OUTPUT>
4
5 Arguments:
6   <NAME>      The name of the markdown project to create.
7   <PATH>      The path to the markdown project.
8   <OUTPUT>    The output folder.
9
10 Options:
11   --default-profile <DEFAULT_PROFILE> The default profile to use for
    converting this project.
12   -v, --verbose      Enable verbose output.
13   -h, --help         Print help

```

4.28 tiefdowndconverter project markdown update

Version: tiefdowndconverter 0.8.0

4.28.1 USAGE:

```
1 Update a markdown project in the project.
2
3 Usage: tiefdowndownconverter project markdown update [OPTIONS] <NAME>
4
5 Arguments:
6   <NAME>   The name of the markdown project to update.
7
8 Options:
9   --path <PATH>           The path to the markdown project
10  .
11  -v, --verbose            Enable verbose output.
12  --output <OUTPUT>       The output folder.
13  --default-profile <DEFAULT_PROFILE> The default profile to use for
    converting this project.
13  -h, --help              Print help
```

4.29 tiefdowndownconverter project markdown meta

Version: tiefdowndownconverter 0.8.0

4.29.1 USAGE:

```
1 Manage the metadata of a markdown project.
2 This metadata is markdown project specific and is not shared between
  projects.
3 This metadata takes precedence over the shared metadata.
4
5 Usage: tiefdowndownconverter project markdown meta [OPTIONS] <NAME> <COMMAND>
6
7 Commands:
8   set      Add or change the metadata. Overrides previous keys.
9   remove   Remove metadata.
10  list      List the metadata.
11  help      Print this message or the help of the given subcommand(s)
12
13 Arguments:
14   <NAME>
15         The name of the markdown project to update.
16
17 Options:
18   -v, --verbose            Enable verbose output.
19
20
21  -h, --help              Print help (see a summary with '-h')
22
```

4.29.2 SUBCOMMANDS:

- [set](#)
- [remove](#)
- [list](#)

4.30 tiefdownconverter project markdown meta set

Version: tiefdownconverter 0.8.0

4.30.1 USAGE:

```
1 Add or change the metadata. Overrides previous keys.
2
3 Usage: tiefdownconverter project markdown meta <NAME> set [OPTIONS] <KEY> <
  VALUE>
4
5 Arguments:
6   <KEY>      The key to set.
7   <VALUE>    The value to set.
8
9 Options:
10  -v, --verbose  Enable verbose output.
11  -h, --help    Print help
```

4.31 tiefdownconverter project markdown meta remove

Version: tiefdownconverter 0.8.0

4.31.1 USAGE:

```
1 Remove metadata.
2
3 Usage: tiefdownconverter project markdown meta <NAME> remove [OPTIONS] <KEY
  >
4
5 Arguments:
6   <KEY>      The key to remove.
7
8 Options:
9   -v, --verbose  Enable verbose output.
10  -h, --help    Print help
```

4.32 tiefdownconverter project markdown meta list

Version: tiefdownconverter 0.8.0

4.32.1 USAGE:

```
1 List the metadata.
2
3 Usage: tiefdownconverter project markdown meta <NAME> list [OPTIONS]
4
5 Options:
6   -v, --verbose  Enable verbose output.
7   -h, --help    Print help
```

4.33 tiefdownconverter project markdown resources

Version: tiefdownconverter 0.8.0

4.33.1 USAGE:

```
1 Manage the resources of a markdown project.
2 Resources are a way to include meta information and resources on a per
  project basis.
3 This is helpful for example for including a custom css file for a project,
  as that is not possible purely with metadata.
4 Resources are stored in the markdown folder and copied to the conversion
  directory for that profile before conversion.
5
6 Usage: tiefdowndownconverter project markdown resources [OPTIONS] <NAME> <
  COMMAND>
7
8 Commands:
9   add      Add a new resource to the project.
10  remove    Remove a resource from the project.
11  list      List the resources in the project.
12  help      Print this message or the help of the given subcommand(s)
13
14 Arguments:
15   <NAME>
16         The name of the markdown project to update.
17
18 Options:
19   -v, --verbose    Enable verbose output.
20
21
22   -h, --help
23         Print help (see a summary with '-h')
```

4.33.2 SUBCOMMANDS:

- [add](#)
- [remove](#)
- [list](#)

4.34 tiefdowndownconverter project markdown resources add

Version: tiefdowndownconverter 0.8.0

4.34.1 USAGE:

```
1 Add a new resource to the project.
2
3 Usage: tiefdowndownconverter project markdown resources <NAME> add [OPTIONS]
  [-- <PATHS>...]
4
5 Arguments:
6   [PATHS]... The paths to the resources. Seperated by spaces.
7
8 Options:
9   -v, --verbose    Enable verbose output.
10  -h, --help        Print help
```

4.35 tiefdownconverter project markdown resources remove

Version: tiefdownconverter 0.8.0

4.35.1 USAGE:

```
1 Remove a resource from the project.
2
3 Usage: tiefdownconverter project markdown resources <NAME> remove [OPTIONS]
   <PATH>
4
5 Arguments:
6   <PATH>  The path to the resource.
7
8 Options:
9   -v, --verbose  Enable verbose output.
10  -h, --help      Print help
```

4.36 tiefdownconverter project markdown resources list

Version: tiefdownconverter 0.8.0

4.36.1 USAGE:

```
1 List the resources in the project.
2
3 Usage: tiefdownconverter project markdown resources <NAME> list [OPTIONS]
4
5 Options:
6   -v, --verbose  Enable verbose output.
7   -h, --help      Print help
```

4.37 tiefdownconverter project markdown remove

Version: tiefdownconverter 0.8.0

4.37.1 USAGE:

```
1 Remove a markdown project from the project.
2
3 Usage: tiefdownconverter project markdown remove [OPTIONS] <NAME>
4
5 Arguments:
6   <NAME>  The name of the markdown project to remove.
7
8 Options:
9   -v, --verbose  Enable verbose output.
10  -h, --help      Print help
```

4.38 tiefdownconverter project markdown list

Version: tiefdownconverter 0.8.0

4.38.1 USAGE:

```
1 List the markdown projects in the project.
2
3 Usage: tiefdowndownconverter project markdown list [OPTIONS]
4
5 Options:
6   -v, --verbose  Enable verbose output.
7   -h, --help     Print help
```

4.39 tiefdowndownconverter project list-templates

Version: tiefdowndownconverter 0.8.0

4.39.1 USAGE:

```
1 List the templates in the project.
2
3 Usage: tiefdowndownconverter project list-templates [OPTIONS]
4
5 Options:
6   -v, --verbose  Enable verbose output.
7   -h, --help     Print help
```

4.40 tiefdowndownconverter project validate

Version: tiefdowndownconverter 0.8.0

4.40.1 USAGE:

```
1 Validate the TiefDown project structure and metadata.
2 NOTE: This command is deprecated and will be removed in a future release.
   It's pointless and a maintenance nightmare.
3
4 Usage: tiefdowndownconverter project validate [OPTIONS]
5
6 Options:
7   -v, --verbose  Enable verbose output.
8   -h, --help     Print help
```

4.41 tiefdowndownconverter project clean

Version: tiefdowndownconverter 0.8.0

4.41.1 USAGE:

```
1 Clean temporary files from the TiefDown project.
2
3 Usage: tiefdowndownconverter project clean [OPTIONS]
4
5 Options:
6   -v, --verbose  Enable verbose output.
7   -h, --help     Print help
```

4.42 tiefdownconverter project smart-clean

Version: tiefdownconverter 0.8.0

4.42.1 USAGE:

```
1 Clean temporary files from the TiefDown project.
2 If the number of conversion folders in the project is above this threshold,
  old folders will be cleaned, leaving only the threshold amount of
  folders.
3 The threshold is set to 5 by default, and is overwritten by the threshold
  in the manifest.
4
5 Usage: tiefdownconverter project smart-clean [OPTIONS]
6
7 Options:
8   -v, --verbose      Enable verbose output.
9
10  -h, --help
11                      Print help (see a summary with '-h')
12
```

4.43 tiefdownconverter check-dependencies

Version: tiefdownconverter 0.8.0

4.43.1 USAGE:

```
1 Validate dependencies are installed.
2
3 Usage: tiefdownconverter check-dependencies [OPTIONS]
4
5 Options:
6   -v, --verbose      Enable verbose output.
7   -h, --help          Print help
```

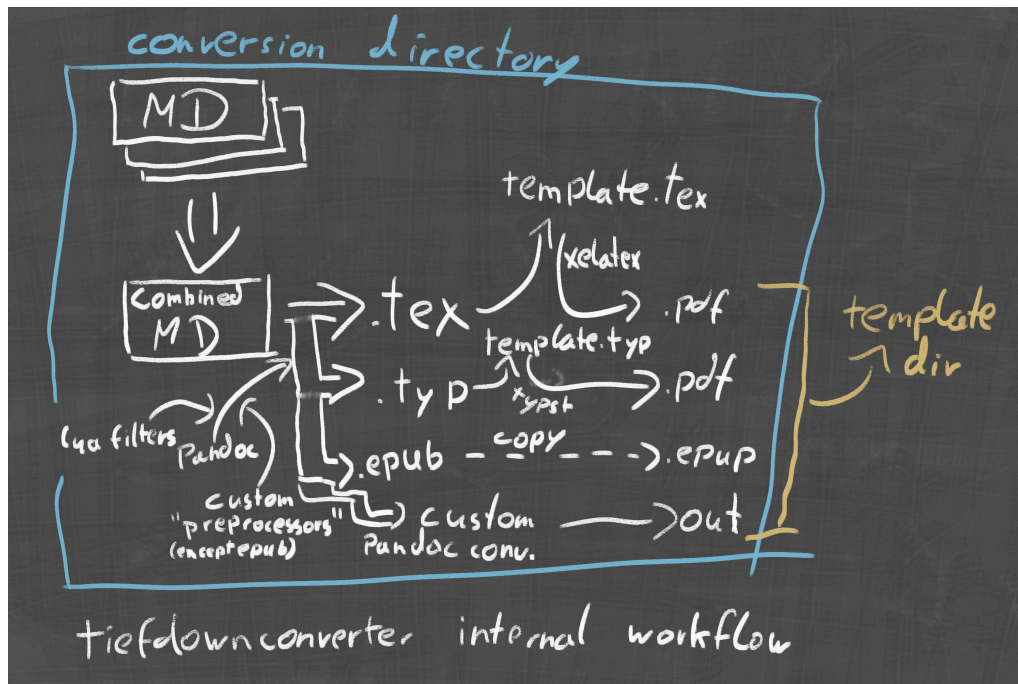


Figure 2: Conversion Process

5 CONTRIBUTING

This project is open source, and I'd love for you to contribute! There's a few things you should know before you start.

NOTE: When raising the version, don't forget to change the version in the documentation as well!!!

5.1 THE ARCHITECTURE

The project has a relatively straight forward conversion process, as shown in the diagram below.

5.2 PULL REQUESTS

Pull Requests should be made with either a link to an issue or an explanation of

1. What was the problem
2. How is it solved now
3. How did it affect the documentation

It takes a lot of work to understand the intention of code you didn't write and then judging whether this was indeed the intended outcome. That's why it's helpful for everyone if there's an explanation on what was changed and why.

5.3 CONVERSION

Conversion is split in a few different steps:

1. Combine all the markdown files into one megafile called `combined.md`.
2. Run Pandoc conversion to TeX, EPUB, or Typst. This uses Lua filters that are defined in the `manifest.toml` file.
3. Run XeLaTeX on all TeX templates, Typst on all Typst templates, and so on.

Say you were to add a new conversion type. In `converters.rs`, you'd need to add a new function that handles the full conversion. Including handling lua filters, markdown conversion, so on. This converter function has to then be included in our conversion decision logic in `conversion_decider.rs`. And for that you need to add a new `TemplateType`, which includes editing the implementations. Then you need to add the new template type decision logic to `get_template_type_from_path`.

5.4 PRESETS

NOTE: This is a bit of a niche usecase, so documentation is lacking. You can always ask for help on this in a GitHub issue.

You can also add new presets, but that's a bit more involved. You should check the implementation for the existing presets, I don't think it's useful to document this niche usecase for now.

5.5 MANIFEST

Hope you don't have to change the `manifest.toml` file. If you do, change the manifest model, increase the version number in `consts.rs` and add a upgrade logic to `manifest_model.rs`.

5.6 TESTS

Currently primarily integration tests. See the `tests` folder for examples. Any pull request to main will automatically run tests, and the expectation is that at least the existing tests work. If they break, fix your code or, if you changed behavior on purpose, the tests.

I appreciate it if you add test coverage for your changes. I especially would appreciate more unit tests, but the tests I have are sufficient for now. Integration tests take priority over unit tests for me, as the overall behavior is more important to me than the individual functions, and I only have so much time that I want to spend on this project.

5.7 DOCUMENTATION

When changing the documentation, it is of utmost importance that the documentation outputs are correctly generated. *These are not automatically generated on release* but rather held in git to more easily track changes during a pull request.

To make sure this documentation is up to date, consider whether your changes significantly affect the workflow of using TiefDownConverter. If you add a command or flag, make sure to run `tools/generate_docs.py`. Either way, when changing the documentation, always run `tiefdownconverter convert -p docs` before committing the changes.

Praise be you don't need to have any fonts installed anymore - they are packaged in the `fonts` directory. But if you happen to change the fonts, you will need to replace them in `fonts/` and add your own fonts to the templates.

5.8 CODE STYLE

I don't have one. I'm sorry.