

# Basic Book Builder

A Pandoc build process for books, docs and articles



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|                     |                                    |
|---------------------|------------------------------------|
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# Introduction

This is a basic book (or article / document) builder template based on a Pandoc([Pandoc - Index, n.d.](#)) build process in conjunction with a number of other tools to generate PDF, HTML, LaTeX, Markdown, ODT, DOCX, and Epub book output formats from a single set Markdown source content , which can optionally be edited as an Obsidian vault.

This **basic book builder**([Jehaverlack/Basic-Book-Builder, n.d.](#)) template has been curated by John Haverlack.([John Haverlack | ACEP, n.d.](#))

# Getting Started

## 2.1 Cloning the Basic Book Builder

### Clone the repository

```
git clone https://github.com/jehaverlack/basic-book-builder.git
```

### Navigate to the repo directory

```
cd basic-book-builder
```

## 2.2 Setting Up Build Environment

### Debian Linux

This script only support Debian based Linux system (Debian, Ubunutu, Zorin, etc) This script has not been widely tested across platforms

### Setup Build Environment

```
./scripts/setup-linux-deb.sh
```

For more information on setting up the build environment for your system see Appendix A.

## 2.3 Testing

If you can build all format for the **Basic Book Build** then you have a working build environment.

|                                  |
|----------------------------------|
| <b>Testing Build Environment</b> |
| <code>make all</code>            |

## 2.4 Creating a New Project

### 2.4.1 Zotero Configuration (Optional)

# Usage

## 3.1 Creating a Project

To create a new Project based on the Basic Book Builder template:

1. Run the new-project.sh script.

```
./scripts/new-project.sh <PATH_TO_PROJECT>
```

- should be outside of the **basic-book-builder** directory

```
cd <PATH_TO_PROJECT>
```

Update:

1. metadata.yaml
2. templates/pandoc.yaml

[!info] Suggestion Create a git repository to version control your new content.

## 3.2 Editing Content

Edit your source content Markdown under the chapters directory.

### Optional

- Open your <PATH\_TO\_PROJECT> directory as an Obsidian vault.
- Edit your Markdown with Obsidian

## 3.3 Building

### 3.3.1 PDF

```
make pdf
```

NOTE: Building the PDF also builds the **LaTeX** version of the book.



### **3.3.2 HTML**

`make html`

### **3.3.3 DocX**

`make docx`

NOTE: DocX is a work in progress. Frontmatter and formatting need work.

### **3.3.4 ODT**

`make odt`

NOTE: ODT is a work in progress. Frontmatter and formatting need work.

### **3.3.5 Make All**

To build all supported formats

`make all`

# Features

## 4.1 Metadata

Metadata for the project is managed in `metadata.yaml`. Edit this file to make global changes to variables for your document. Changes here will propagate to all format builds.

## 4.2 Front-matter

Front matter content is managed in:

- `templates/frontmatter.tex`
- `templates/frontmatter.html`
- `templates/frontmatter-md.html`

### Tip

Unfortunately when you edit one, you need to edit the respective changes to the other front-matter formats. ### Title Page

Edit the **Front-matter** files to modify the formatting of the Title Page.

### Tip

You'll need to modify the HTML / LaTeX.

### 4.2.1 Meta Data Page

Edit the **Front-matter** files to modify the 2nd page Metadata format.

### 4.2.2 Cover Illustration

Edit the **Front-matter** files to optionally un-comment the Cover Art Acknowledgement.

- This is disabled by default

### 4.2.3 Dedication

Edit the **Front-matter** files to modify un-comment the Book Dedication.

- This is disabled by default ## Table of Contents

## 4.3 Chapters

Chapter Markdown source files are located in the chapters directory. Edit the `template\pandoc.yaml` file to control which chapter markdown files are in what order.

## 4.4 Appendixes

TBD

## 4.5 Glossary

TBD

## 4.6 Index

TBD

### 4.6.1 Markdown Indexes

TBD

## 4.7 Bibliography

TBD

### 4.7.1 Zotero Integration

TBD

### 4.7.2 Obsidian Citations

TBD

## 4.8 Mathjax Equations

TBD

### 4.8.1 Left Justified / Inline

TBD

### 4.8.2 Centered

TBD

## 4.9 Custom Markdown

TBD

### 4.9.1 Call-outs

A few call-out box styles have been custom added to easily highlight certain types of content.

| Markdown Example                                                |
|-----------------------------------------------------------------|
| <code>[!established] Green Call-out Title</code><br>A green box |

Will render:

| Green Call-out Title |
|----------------------|
| A green box          |

### Markdown Example

```
[!proposed] Blue Call-out Title  
A blue box
```

Will render:

### Blue Call-out Title

A blue box

### Markdown Example

```
[!info] Info Box  
Same as a blue box
```

Will render:

[!info] Info Box Same as a blue box

### Markdown Example

```
[!speculative] Purple Call-out Title  
A purple box
```

Will render:

### Purple Call-out Title

A purple box

### Markdown Example

```
[!caution] Caution Note  
Beware of this section.  AKA a orange box.
```

Will render:

## CHAPTER 4. FEATURES

### Caution Note

Beware of this section. AKA a orange box.

---

### Markdown Example

```
[!warning] Warning Note  
Same as the Caution Box
```

Will render:

### Warning Note

Same as the Caution Box

---

### Markdown Example

```
[!danger] Alert  
A slightly stronger warning.  AKA a red box.
```

Will render:

### Alert

A slightly stronger warning. AKA a red box.

---

### Markdown Example

```
[!code] Code Block  
' ''  
if [ true ]; do  
    echo "The Cow Jumps over the Moon"  
fi  
' ''
```

Will render:

## CHAPTER 4. FEATURES

### Code Block

```
if [ true ]; do
    echo "The Cow Jumps over the Moon"
fi
```

---

### Markdown Example

```
[!cli] Command line
A command line example
'''
$ ls
build chapters conf filters lib LICENSE.md Makefile metadata.yaml >README
'''
```

Will render:

### Command line

```
A command line example
$ ls
build chapters conf filters lib LICENSE.md Makefile metadata.yaml README
```

Appendix A

# Appendix A: Build Environment Notes

## A.1 Installing Pre-Requisites

### Not Cross-platform Tested

For Debian / ZorinOS and likely Ubuntu based systems.

### A.1.1 Required

#### A.1.1.1 Pandoc

- <https://pandoc.org/>
- [Download](#)

```
sudo apt install https://github.com/jgm/pandoc/releases/download/3.8.2.1
```

#### A.1.1.2 Code Editor

##### Code Editor

[VSCodium](#) is recommend for privacy (telemetry/tracking) reasons - <https://vscodium.com/>

But any text editor will work. #### make

```
sudo apt install make
```

#### A.1.1.3 jq and yq

```
sudo apt install jq yq
```

#### A.1.1.4 texlive

```
sudo apt install texlive texlive-xetex texlive-latex-extra
texlive-fonts-recommended texlive-fonts-extra
```



### A.1.1.5 MathJax

- <https://www.mathjax.org/>

```
wget https://registry.npmjs.org/mathjax/-/mathjax-3.2.2.tgz
tar xzf mathjax-3.2.2.tgz
mv package/es5/* lib/mathjax
rm -rf package mathjax-3.2.2.tgz
```

**TODO**

This need to be rolled into a setup script.

## A.1.2 Optional

The following are not strictly requires to use this book builder template.

### A.1.2.1 Obsidian

**Highly Recommended**

Editing book chapter content in Obsidian is a very productive means for editing Markdown source content.

- <https://obsidian.md/>
- [Deb Package](#)

```
sudo apt install https://github.com/obsidianmd/obsidian-releases/releases/download/
```

### A.1.2.2 Zotero

**Highly Recommended**

If you need to managed citations and references, Zotero integration is highly recommended.

- <https://www.zotero.org/>

```
sudo cp ./scripts/deps/zotero.list /etc/apt/sources.list.d/
sudo apt update
sudo apt install zotero
```

**A.1.2.2.1 Better BibTex for Zotero** Install the Better BibTex Plugin for Zotero - Zotero > Tool > Plugins

#### **A.1.2.2.2 Export citations.bib**

- Zotero > File > Export Library > Format: Better BibTeX
- ☐ Keep Updated
- ☐ Save to: ~/Documents/Lib/zotero.bib
- ☐ Symlink your ~/Documents/Lib/Citations.bib to basic-book-builder/lib/zotero.bib

#### **A.1.2.2.3 Zotero Connector Browser Plugin**

- <https://chromewebstore.google.com/detail/zotero-connector/ekhagklcjbdpajgpjgmbionohl>

Provides you the ability to auto add Web resources to your Zotero citation database.

#### **A.1.2.3 lmodern**

```
sudo apt install lmodern
```

#### **A.1.2.4 epubcheck**

```
sudo apt install epubcheck
```

#### **A.1.2.5 foliate**

An EPub Reader

- <https://johnfactotum.github.io/foliate/>

```
sudo apt install https://github.com/johnfactotum/foliate/releases/download/2
```

#### **A.1.2.6 calibre**

An EPub Reader

- <https://calibre-ebook.com>

```
sudo apt install calibre
```

## **A.2 Editing the Configuration**

# Glossary

| Term                              | Description                                                                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>AST (Abstract Syntax Tree)</b> | Pandoc's internal structured representation of a document. Lua filters operate on the AST before rendering to a target format.              |
| <b>Bibliography</b>               | A .bib file (e.g., Zotero export) used by Pandoc with citeproc to generate formatted citations and reference lists.                         |
| <b>Callout</b>                    | A styled block (e.g., [!warning]) transformed by Lua filters into format-specific output such as LaTeX environments or HTML <div> elements. |
| <b>Defaults File (YAML)</b>       | A Pandoc configuration file defining output format, filters, metadata, and rendering options (e.g., pdf.yaml, html.yaml).                   |
| <b>DOCX</b>                       | Microsoft Word document format generated by Pandoc; styling is controlled via a reference.docx file.                                        |
| <b>Filter (Lua)</b>               | A script that modifies Pandoc's AST before rendering. Used in this workflow for callouts and other structural transformations.              |
| <b>Frontmatter</b>                | Format-specific content inserted before the main body (e.g., frontmatter.tex, frontmatter.html, frontmatter-docx.md).                       |
| <b>HTML</b>                       | Web output format generated by Pandoc, typically styled via CSS and supporting interactive features.                                        |
| <b>LaTeX</b>                      | Typesetting system used for high-quality PDF generation via XeLaTeX in this workflow.                                                       |
| <b>Lua Filter</b>                 | A lightweight scripting extension used by Pandoc to customize document transformations programmatically.                                    |
| <b>Makefile</b>                   | Automation script orchestrating the build pipeline for PDF, HTML, DOCX, ODT, and Markdown outputs.                                          |
| <b>Markdown</b>                   | Plain-text markup language serving as the source format for all outputs in the workflow.                                                    |
| <b>Metadata</b>                   | Key-value pairs (e.g., metadata.yaml) defining title, author, license, version, and other document variables.                               |
| <b>ODT</b>                        | OpenDocument Text format used by LibreOffice; similar to DOCX but open-standard.                                                            |

## APPENDIX A. APPENDIX A: BUILD ENVIRONMENT NOTES

| Term                           | Description                                                                                                     |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Pandoc</b>                  | Universal document converter used to transform Markdown into PDF, HTML, DOCX, ODT, EPUB, and more.              |
| <b>PDF</b>                     | Portable Document Format output produced via Pandoc + XeLaTeX.                                                  |
| <b>Reference Document</b>      | A DOCX or ODT file defining styles (fonts, headings, spacing) used when generating Word/LibreOffice outputs.    |
| <b>Resource Path</b>           | Directories Pandoc searches for images, diagrams, and other assets during rendering.                            |
| <b>Template</b>                | A format-specific layout file (e.g., LaTeX template) used to control document structure beyond styling.         |
| <b>TOC (Table of Contents)</b> | Automatically generated navigation structure controlled by <code>toc</code> and <code>toc-depth</code> options. |
| <b>XeLaTeX</b>                 | LaTeX engine used to generate PDFs with modern font support (via <code>fontspec</code> ).                       |
| <b>Zotero</b>                  | Reference manager used to generate <code>.bib</code> files for citation processing with Pandoc.                 |

# Index

Pandoc, [1](#)

## Bibliography

# Bibliography

*Jehaverlack/Basic-Book-Builder: A Pandoc Workflow for Building PDF, HTML, EPUB, and LaTeX Book Format.* n.d. <https://github.com/jehaverlack/basic-book-builder>.

*John Haverlack | ACEP.* n.d. <https://www.uaf.edu/acep/about/our-team/john-haverlack.php>.

*Pandoc - Index.* n.d. <https://pandoc.org/>.

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