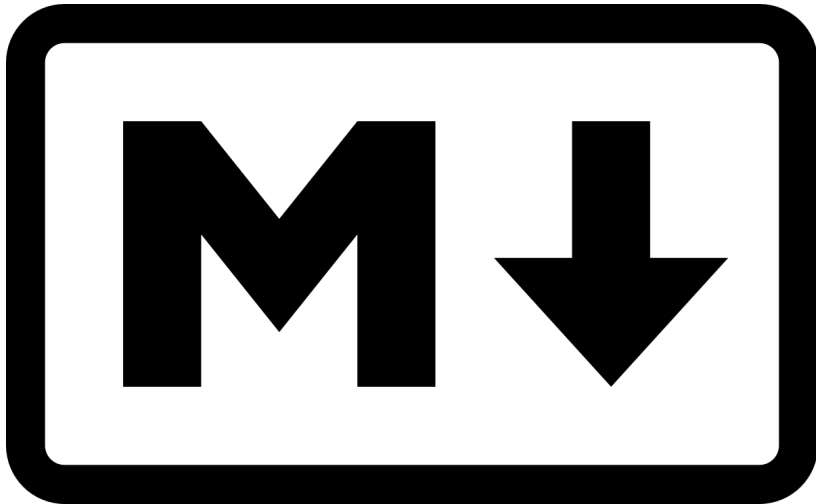


Markdown and applications

<https://gogs.elic.ucl.ac.be/pbarriat/learning-markdown>



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What is Markdown ?

Lightweight **markup language** (a *text-encoding system*)

"Set of symbols inserted in a text document to control its structure, formatting, or the relationship between its parts."

Others markup languages: HTML, LaTeX, etc

Created in 2004, **Markdown** is now one of the world's most popular markup languages

Markdown is different than using a **WYSIWYG**

Why Markdown ?

- Markdown is for **everything**: websites, documents, notes, books, presentations, email messages, technical documentation
- Markdown is **portable**
 - | MS Word locks your content into a proprietary file format
- Markdown is platform **independent**
- Markdown is **simple** and future proof
 - | so easy to learn (\neq LaTeX)
- Markdown is **everywhere** : Reddit, GitHub, readme, etc

Live Demo

Several online Markdown editors to try writing in Markdown

For example, try [Dillinger](#)

After you've become familiar with Markdown, you may want to use a Markdown application that can be installed on your computer

Prerequisites

- text editor : [Visual Studio Code](#)
- universal document converter : [Pandoc](#)
- TeX distribution : [LaTeX](#)
- Markdown presentation ecosystem : [Marp](#)

Visual Studio Code

VSC is one of the most popular and powerful text editors used by software engineers today

free and available for [macOS](#), [Windows](#) and [Linux](#)

You didn't already install VS Code ?

Take a look here

<https://gogs.elic.ucl.ac.be/pbarriat/learning-vscode>

VS Code in WSL

Open a **Powershell terminal in Administrator mode** and do

```
wsl --update
```

Open the **Ubuntu terminal** and do

```
sudo apt update  
sudo apt upgrade  
sudo apt install gedit -y  
sudo apt install chromium-browser -y
```

VS Code in Ubuntu

Open the **terminal** and do

```
sudo apt update  
sudo apt upgrade  
sudo apt install chromium-browser -y
```

VS Code in any case

Open VS Code and install the following extensions

- Markdown All in One
- Marp
- Pandoc Markdown

Pandoc

Pandoc is a library for converting from one markup format to another, and a command-line tool that uses this library.

free and available for macOS, Windows, and Linux

- [Pandoc](#)
- [Pandoc-crossref](#)

```
cd
wget https://github.com/jgm/pandoc/releases/download/3.1.2/pandoc-3.1.2-linux-amd64.tar.gz
wget https://github.com/lierdakil/pandoc-crossref/releases/download/v0.3.16.0/pandoc-crossref-Linux.tar.xz
tar xzf pandoc-3.1.2-linux-amd64.tar.gz
tar -xf pandoc-crossref-Linux.tar.xz
mv pandoc-3.1.2/* .
mv pandoc-crossref bin
mv pandoc-crossref.1 share/man/man1
echo "export PATH=\$PATH:\$HOME/bin" >> .bashrc
echo "export MANPATH=\$MANPATH:\$HOME/share" >> .bashrc
rm -rf pandoc-3.1.2 pandoc-3.1.2-linux-amd64.tar.gz pandoc-crossref-Linux.tar.xz
```

TeX distribution

LaTeX is a high-quality typesetting system; it includes features designed for the production of technical and scientific documentation.

free and available for [macOS](#), [Windows](#), and Linux

```
sudo apt install -y texlive-latex-base \  
                  texlive-latex-recommended \  
                  texlive-fonts-recommended \  
                  texlive-latex-extra \  
                  texlive-fonts-extra \  
                  texlive-xetex \  
                  texlive-lang-french \  
                  texlive-latex-extra
```

Marp

Marp (MarkDown slides extension) can convert **Marp Markdown** files into static HTML/CSS, PDF, PowerPoint document, and image(s) easily

Download and install marp-cli (a **CLI** interface for Marp) from the standalone binaries

free and [available](#) for macOS, Windows and Linux
you must install Chrome, Chromium or Edge

```
cd
wget https://github.com/marp-team/marp-cli/releases/download/v2.5.0/marp-cli-v2.5.0-linux.tar.gz
tar xzf marp-cli-v2.5.0-linux.tar.gz
mv marp bin ; rm -f marp-cli-v2.5.0-linux.tar.gz
```

VS Code nice extensions

- Remote - SSH : lets you use any remote machine with a SSH server
- Tabnine : code faster with AI code completions
- Regex Previewer : shows the current regular expression's matches
- Markdown Preview Enhanced
- Markdownlint

And :

- Modern Fortran

Markdown Basic Syntax

<https://www.markdownguide.org/basic-syntax/>

My first example: **README.md** on a Git web server

<https://gogs.elic.ucl.ac.be/pbarriat/learning-markdown/src/master/example>

How to convert it ?

```
pandoc -s README.md -o README.pdf
```

```
pandoc -s README.md -o README.docx
```

```
pandoc -s README.md -o README.html --metadata title="README for EceARTH"
```

How to custom the target style ?

Using HTML template (html file and/or css)

```
pandoc -s README.md -o README.html --metadata title="README for EeEARTH" \  
--template=html_templates/easy_template.html --toc
```

don't forget to add `--toc` if you want a table of contents

you can also use the **VS Code Pandoc extension** to export/preview in HTML

Using Latex template (latex file)

```
pandoc -s README.md -o README.pdf --template tex_templates/eisvogel
```

My second example: a letter

Using my **UCLouvain letter** template (latex file)

```
pandoc -s letter.md -o letter.pdf --pdf-engine=xelatex --template tex_templates/letter
```

pdflatex and **xelatex** are two implementations for the same purpose.

One of the main differences is that **xelatex** has better support for fonts: in particular you can use system fonts instead of only TeX fonts. It also has better support for non-latin character encodings.

Markdown Extended Syntax

<https://www.markdownguide.org/extended-syntax/>

A scientific report

```
pandoc -s report.md -o report.html --webtex -H html_templates/report.css \  
      --bibliography assets/MyLib.bib --citeproc  
  
pandoc -s report.md -o report.pdf --template tex_templates/eisvogel \  
      --bibliography assets/MyLib.bib --citeproc
```

don't forget to add `--webtex` if you want TeX formula in HTML

here we integrate a TeX bibliography

don't forget to add `--citeproc` if you want a list of references

Extended syntax example

```
pandoc -s advanced.md -o advanced.html --webtex -H html_templates/report.css --citeproc  
pandoc -s advanced.md -o advanced.pdf --template tex_templates/eisvogel --citeproc
```

Compare the HTML output and the PDF output !

Some features are rendered only for PDF or HTML :

- depends on **CSS** or **HTML** template
- depends on **LaTeX** template

Markdown for slides

Replace `pandoc` command with `marp`

```
marp slides.md -o slides.pdf
```

```
marp --bespoke.progress slides.md -o slides.html
```

don't forget to add `--bespoke.progress` if you want a progress status

Now you can take a look of the Markdown code of these **current slides** !

Markdown for a paper ?

Scientific manuscript for submission

```
pandoc -d article.yaml
```

Here, we use a `yaml` file to write all the pandoc options (passed with `-d`)

Scientific manuscript

```
pandoc -d article_nice.yaml
```

Conclusion

- You can learn Markdown very quickly
- Markdown is directly human-readable so it's easy to share with people who don't have Markdown processor installed
- Installing a Markdown processor is easy
- Markdown is easily convertible to HTML

best choice for documents to be published both on the web and as printed text

- You can create high-quality scientific documents

- Markdown is also good for quick note taking

you can effortlessly apply text formattings to, e.g., highlight parts in your notes or to create formatted lists

- The layout can be controlled by settings within the raw documents or you simply keep the default settings
- The design of your document guarantees a consistent and uniform layout

font types and sizes of text and headings, tables and directories, footnotes, page numbering, line spacing and borders, etc

- The file formats for writing the raw content in both languages (`*.md` , `*.tex`) are designated as **open format**