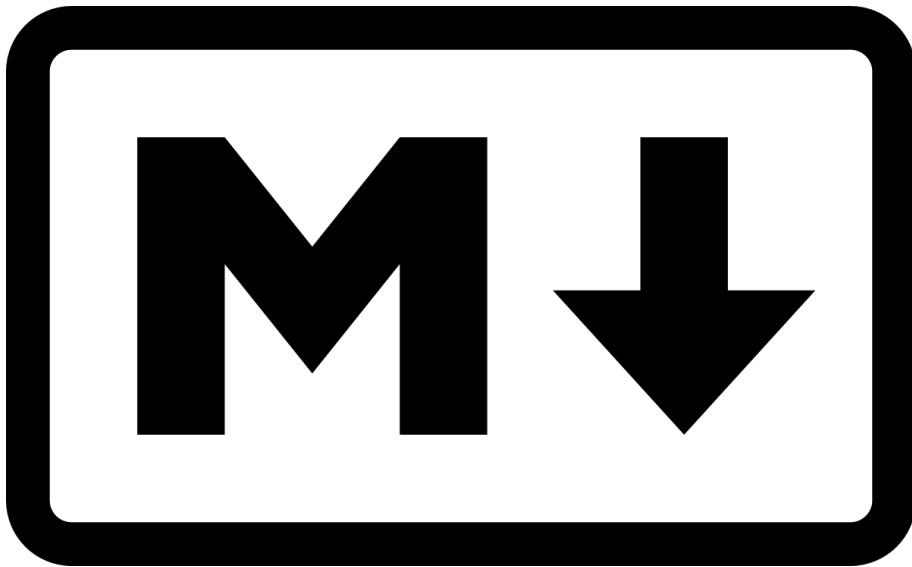


Markdown and applications

<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 EeEARTH"
```

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 ?

<https://jaantollander.com/post/scientific-writing-with-markdown/>

<https://curvenote.com/blog/writing-a-scientific-paper-faster-myst-markdown>

https://github.com/MartinHeroux/pandoc_article_template

<https://phd.row1.ca/phd>

<https://github.com/MartinHeroux/latex-paper-template>

<https://github.com/MartinHeroux/markdown-latex-template>