Convert File Formats Using Pandoc

January 30, 2024 / by Yu-Shin, Hu

Mathematical formulas and pictures can be converted successfully!

- Convert Latex to other formats
- Convert other formats to PDF

Convert Latex to other formats

Steps

Step 1. Install the latest pandoc

- Pandoc installer
- For Windows system, download pandoc-3.1.11-windows-x86_64.msi

Step 2. Run in cmd: `pandoc -s "input_file.format" -o "output_file.format"`

- Remember to assign desired filename extension behind the input & output files
- Convert Latex to Word: `pandoc -s "input_file.tex" -o "output_file.docx"`
- Convert Latex to Markdown: `pandoc -s "input_file.tex" -o "output_file.md"`

Convert other formats to PDF

Alternative way: no pandoc

- 後來發現用 VScode 上的套件比較快: Markdown PDF
- 自行更改 `markdown-pdf.css` 到 `Settings.json`

Steps

Step 1. Install the latest pandoc

- See the above.

Step 2. Install a LaTeX distribution

- (Not recommended) Download the network install from the official website: TeX Live (it involves downloading and installing required files from the source server, which may take several hours).
- (Recommended) Download the pre-packaged installation image (*.iso) at once:
  - Enter 清华大学镜像站 and download `texlive2024.iso`
  - Open the downloaded ISO file and double-click `install-tl-windows.bat` to install.

Step 3. Find a valid Chinese font (if the document has Chinese)

- Run in cmd to see the available Chinese font: `fc-list :lang=zh`
  The font name follows the font file location. For example, `C:/WINDOWS/Fonts/mingliu.ttc:MingLiU,細明體:style=Regular`, font name is called MingLiU.

- Or download more fonts: Google Fonts / DaFont

Step 4. Set styling for the output pdf

- Download the `head.tex` into the same folder with your `input.md` to render document styles.

```latex
\usepackage{fancyvrb,newverbs}
\usepackage{hyperref}
\usepackage[top=2cm, bottom=1.5cm, left=2cm, right=2cm]{geometry}

% change background color for inline code
\definecolor{bgcolor}{HTML}{E0E0E0}
\let\oldtexttt\texttt
\renewcommand{\texttt}[1]{
  \colorbox{bgcolor}{\oldtexttt{#1}}
}

%% color and other settings for hyperref package
\hypersetup{
  bookmarksopen=true,
  linkcolor=blue,
  filecolor=magenta,
  urlcolor=RoyalBlue,
}
```

- Or download an existing LaTeX template: follow how to set up Latex template

Step 5. Run in cmd: `pandoc "input_file.format" -o "input_file.format" --pdf-engine=xelatex -V mainfont='font_name'`

- Convert Markdown to PDF using custom styling:
  `pandoc README.md -o README.pdf --pdf-engine=xelatex -V CJKmainfont='PMingLiU' -V mainfont='Times New Roman' -H head.tex`
- Convert Markdown to PDF using an existing template (Eisvogel is used here):
  `pandoc README.md -o README.pdf --pdf-engine=xelatex -V CJKmainfont='PMingLiU' -V mainfont='Times New Roman' --from markdown --template eisvogel --listings`

Reference

About TeX Live installation

- Pandoc with Chinese
- 安裝 TeX Live 镜像

About rendering styles in TeXLive

- Eisvogel: pandoc-latex-template
- customizing-pandoc

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