



## Core Usage & Basics

### Basic Conversion Syntax

|                                              |                                                                    |
|----------------------------------------------|--------------------------------------------------------------------|
| Convert Markdown to HTML:                    | <code>pandoc input.md -o output.html</code>                        |
| Convert HTML to Markdown:                    | <code>pandoc input.html -o output.md</code>                        |
| Convert Markdown to PDF (requires LaTeX):    | <code>pandoc input.md -o output.pdf</code>                         |
| Convert Markdown to DOCX:                    | <code>pandoc input.md -o output.docx</code>                        |
| Specify input and output formats explicitly: | <code>pandoc -f markdown -t html input.txt -o output.html</code>   |
| Convert from stdin to stdout:                | <code>echo '# Hello'   pandoc</code>                               |
| Convert multiple input files:                | <code>pandoc chapter1.md chapter2.md -o book.html</code>           |
| Convert from a URL:                          | <code>pandoc -o page.html https://www.example.com/page.html</code> |

|                                                       |                                                                                                                                                                                                                              |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>--standalone</code> , <code>-s</code>           | <p>Produce a standalone document (with header and footer).</p> <p><b>Example:</b></p> <pre>pandoc -s input.md -o output.html</pre>                                                                                           |
| <code>--metadata KEY=VALUE</code>                     | <p>Add metadata. Can be used multiple times.</p> <p><b>Example:</b></p> <pre>pandoc -s --metadata title="My Document" --metadata author="Me" input.md -o output.html</pre>                                                   |
| <code>--metadata-file FILE</code>                     | <p>Read metadata from a YAML file.</p> <p><b>Example:</b></p> <pre>pandoc -s --metadata-file meta.yaml input.md -o output.html</pre> <p><b>meta.yaml:</b></p> <pre>title: Another Doc author: [Author One, Author Two]</pre> |
| <code>--toc</code> , <code>--table-of-contents</code> | <p>Include an automatically generated table of contents.</p> <p><b>Example:</b></p> <pre>pandoc --toc input.md -o output.html</pre>                                                                                          |
| <code>--number-sections</code>                        | <p>Number section headings in the output.</p> <p><b>Example:</b></p> <pre>pandoc --number-sections input.md -o output.html</pre>                                                                                             |
| <code>--variable KEY=VALUE</code>                     | <p>Set template variables. Useful for customizing output templates.</p> <p><b>Example:</b></p> <pre>pandoc -s --variable lang=en input.md -o output.html</pre>                                                               |
| <code>--css FILE</code>                               | <p>Link to a CSS file in HTML output.</p> <p><b>Example:</b></p> <pre>pandoc -s --css style.css input.md -o output.html</pre>                                                                                                |

Input/Output Formats (-f, -t)

|                                                                   |                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Common Input Formats ( <code>-f</code> )                          | <code>markdown</code> (default)<br><code>commonmark</code><br><code>gfm</code> (GitHub Flavored Markdown)<br><code>latex</code><br><code>html</code><br><code>docx</code><br><code>odt</code><br><code>rst</code> (reStructuredText)<br><code>mediawiki</code><br><code>json</code>                                                                                    |
| Common Output Formats ( <code>-t</code> )                         | <code>html</code> (default)<br><code>html5</code><br><code>latex</code><br><code>beamer</code> (LaTeX slides)<br><code>docx</code><br><code>odt</code><br><code>epub</code><br><code>pdf</code> (requires LaTeX or other engine)<br><code>markdown</code><br><code>gfm</code><br><code>rst</code><br><code>mediawiki</code><br><code>json</code><br><code>plain</code> |
| List all supported formats:                                       | <code>pandoc --list-input-formats</code><br><code>pandoc --list-output-formats</code>                                                                                                                                                                                                                                                                                  |
| Use format extensions (e.g., <code>-f markdown+footnotes</code> ) | Extensions enable/disable specific features. Use <code>pandoc --list-extensions [FORMAT]</code> to see options.<br><br>Example:<br><code>pandoc -f markdown+smart --toc input.md -o output.html</code>                                                                                                                                                                 |
| Convert to HTML with specific extensions:                         | <code>pandoc -f markdown -t html+smart+footnotes input.md -o output.html</code>                                                                                                                                                                                                                                                                                        |
| Convert to PDF using <code>xelatex</code> engine:                 | <code>pandoc input.md -o output.pdf --pdf-engine=xelatex</code>                                                                                                                                                                                                                                                                                                        |
| Convert to DOCX with a reference document:                        | <code>pandoc input.md -o output.docx --reference-doc template.docx</code><br><br>(Template DOCX controls styles)                                                                                                                                                                                                                                                       |
| Convert to HTML using a custom template:                          | <code>pandoc -s --template my-template.html input.md -o output.html</code><br><br>(Templates control the overall document structure)                                                                                                                                                                                                                                   |

Markdown Extensions & Content

Tables

|                                                                                                  |
|--------------------------------------------------------------------------------------------------|
| <b>Pipe Tables:</b> Simple syntax, requires header and separator line. Align with colons.        |
| <pre>  Header 1   Header 2    ----- -----    Cell 1     Cell 2       Cell 3     Cell 4    </pre> |
| <b>Pipe Table Alignment:</b>                                                                     |
| <pre>  Left   Right   Center    :----- -----: :-----:    Aligned   Aligned   Aligned </pre>      |

**Simple Tables:** More flexible, no pipes needed. Requires blank lines before and after.

```
Header 1  Header 2
-----  -----

Cell 1    Cell 2

Cell 3    Cell 4
```

**Simple Table Alignment:** Determined by the colon placement in the separator line.

```
Left      Right      Center
:-----:  :-----:  :-----:

Aligned   Aligned   Aligned
```

**Grid Tables:** Full features (multi-line cells, row/col spans). More complex.

```
+-----+-----+-----+
| Header      | Header      | Header      |
+=====+=====+=====+
| Primary block | Secondary    | Third        |
|              | block        | column       |
+-----+-----+-----+
|              |              |              |
+-----+-----+-----+
```

Enable grid tables explicitly if needed:

```
pandoc -f markdown+grid_tables input.md -o output.html
```

Compact tables (for simple 2-column data):

```
Item 1
  Description 1

Item 2
  Description 2
```

**Fenced Code Blocks:** Use triple backticks or tildes. Add language identifier for highlighting.

```
```python
def hello():
    print("Hello, world!")
```
```

**Indented Code Blocks:** Indent lines by 4 spaces or 1 tab. No language highlighting.

```
def hello():
    print("Hello, world!")
```

**Inline Code:** Use single backticks.

```
This is `inline code`.
```

Syntax Highlighting:  
By default, Pandoc tries to guess the language or uses the identifier. Uses `highlighting-kate` package.

**Example (with language):**

```
print('Hello')
```

**Example (no language):**

```
This won't be highlighted.
```

Disable highlighting:

```
pandoc --no-highlight input.md -o output.html
```

List available highlighting styles:

```
pandoc --list-highlight-styles
```

Apply a specific highlighting style:

```
pandoc --highlight-style tango input.md -o output.html
```

Create a custom highlighting style (usually requires dumping default style and editing).

**Bulleted Lists:** Use `-`, `+`, or `*` followed by a space.

```
- Item one
+ Item two
  - Sub-item
* Item three
```

**Ordered Lists:** Use numbers followed by a period or parenthesis.

```
1. First item
2. Second item
  a. Sub-item A
  b. Sub-item B
#. Third item (automatic numbering)
```

**Definition Lists:** Term on a line, definition indented on the next line(s).

```
Term 1
  Definition of term 1.

Term 2
  Definition of term 2, continued on next line.

Another Term
  : Definition with colon
```

Pandoc supports various list markers (e.g., `(i)`, `A.`, `I)`). It tries to follow the initial marker style.

Lists can contain multiple paragraphs, code blocks, etc., by indenting everything belonging to the list item.

Example of list with multiple blocks:

```
- First item.

  Second paragraph of first item.

  ```python
  # Code block in list item
  ```

- Second item.
```

Ensure blank lines between list items if they contain multiple paragraphs or blocks.

|                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Inline Images:</b> <code>![Alt text](URL "Optional title")</code></p> <pre>![Pandoc Logo](pandoc-logo.png "The Pandoc logo")</pre>                                                                                                                                                                                                          |
| <p><b>Reference Images:</b> <code>![Alt text][label]</code> then <code>[label]: URL "Optional title"</code></p> <pre>![Pandoc Logo][logo]</pre> <pre>[logo]: pandoc-logo.png "The Pandoc logo"</pre>                                                                                                                                              |
| <p><b>Inline Links:</b> <code>[Link text](URL "Optional title")</code></p> <pre>Visit the [Pandoc website](https://pandoc.org "Pandoc Homepage").</pre>                                                                                                                                                                                           |
| <p><b>Reference Links:</b> <code>[Link text][label]</code> then <code>[label]: URL "Optional title"</code></p> <pre>Visit the [Pandoc website][pandoc-url].</pre> <pre>[pandoc-url]: https://pandoc.org "Pandoc Homepage"</pre>                                                                                                                   |
| <p><b>Automatic Links:</b> URLs in angle brackets <code>&lt;URL&gt;</code> or email addresses.</p> <pre>&lt;https://pandoc.org&gt;</pre> <pre>&lt;user@example.com&gt;</pre>                                                                                                                                                                      |
| <p><b>Footnotes:</b> Place <code>[^label]</code> where you want the reference, then define the footnote anywhere else.</p> <pre>This is my point.[^1]</pre> <pre>[^1]: This is the footnote content.</pre> <pre>Another point.[^longnote]</pre> <pre>[^longnote]: This is a longer footnote.</pre> <pre>It can contain multiple paragraphs.</pre> |
| <p>Use <code>[^#]</code> for automatically numbered footnotes.</p> <pre>First footnote.[^#]</pre> <pre>Second footnote.[^#]</pre>                                                                                                                                                                                                                 |

Advanced Features & Tips

Citations and Bibliography

|                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Pandoc can automatically generate citations and a bibliography from various formats (BibTeX, CSL-JSON, etc.) using a Citation Style Language (CSL) file.</p>                                                                                                                            |
| <p>Required options:</p> <ul style="list-style-type: none"><li><code>--citeproc</code> : Enables the citation processor.</li><li><code>--bibliography FILE</code> : Specify the bibliography file.</li><li><code>--cs1 FILE</code> : Specify the CSL style file (e.g., apa.csl).</li></ul> |
| <p><b>Example:</b></p> <pre>pandoc --citeproc --bibliography myrefs.bib --cs1 chicago-author-date.csl input.md -o output.html</pre>                                                                                                                                                        |
| <p>Place citations using keys from your bibliography file, enclosed in square brackets and prefixed with <code>@</code>.</p>                                                                                                                                                               |
| <p><b>Example Markdown:</b></p> <pre>This is a point [@smith2004].</pre> <pre>Multiple citations [@smith2004; @jones2006].</pre> <pre>Narrative citation: Smith says [@smith2004, p. 33].</pre>                                                                                            |
| <p>The bibliography will be inserted automatically at the end of the document where a section titled “Bibliography” or “References” (or similar) is found, or appended if no such section exists.</p>                                                                                      |

Common bibliography formats:

- `.bib` (BibTeX)
- `.json` (CSL-JSON)
- `.yaml` (CSL-YAML)

Find CSL styles:

Download from the [CSL repository](#).

Using a `.bib` file:

```
@article{smith2004,  
  title={Article Title},  
  author={Smith, John},  
  journal={Journal Name},  
  year={2004}  
}
```

## Filters (Lua)

Filters are programs that can read the pandoc Abstract Syntax Tree (AST) in JSON format, modify it, and write it back out. Lua filters are powerful and easy to use.

Use the `--lua-filter FILE` option.

**Example:**

```
pandoc --lua-filter myfilter.lua input.md -o output.html
```

A simple Lua filter to change all emphasis (`*text*`) to strong (`**text**`):

```
-- myfilter.lua  
function Emph(elem)  
  return Strong(elem.c)  
end
```

Filters can inspect and modify any element in the AST (paragraphs, headings, links, images, etc.).

Multiple filters can be applied by listing them sequentially:

```
pandoc --lua-filter filter1.lua --lua-filter filter2.lua input.md -o output.html
```

Explore the Pandoc documentation for the full AST structure and examples of more complex filters.

Filters are useful for:

- Custom AST transformations
- Adding features not built-in
- Processing specific attributes (e.g., on Divs or Spans)



Useful Tips & Tricks

|                                                                      |                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Debug AST:                                                           | <div>Convert to JSON format to inspect the intermediate representation:</div> <div><code>pandoc input.md -t json</code></div>                                                                                                                                |
| Get default template:                                                | <div>Dump the default template for a specific format to customize it:</div> <div><code>pandoc -D html5 &gt; my-template.html</code></div>                                                                                                                    |
| Include raw content (e.g., LaTeX in Markdown):                       | <div>Use raw attribute blocks.</div> <div><code>```\${=latex}</code><br/><code>\usepackage{fancyhdr}</code><br/><code>\pagestyle{fancy}</code></div> <div><code>&lt;script&gt;alert('Hello!');&lt;/script&gt;</code></div>                                   |
| Convert directory of files:                                          | <div>Use shell scripting to process multiple files.</div> <div><code>for f in *.md; do pandoc "\$f" -o "\${f%.md}.html"; done</code></div>                                                                                                                   |
| Processing front-matter:                                             | <div>Pandoc reads YAML metadata blocks at the start of the document.</div> <div><code>---</code><br/><code>title: My Title</code><br/><code>author: John Doe</code><br/><code>---</code><br/><br/><code># Start of content</code><br/><code>...</code></div> |
| Convert Markdown to PDF with custom margins (using LaTeX variables): | <div><code>pandoc input.md -o output.pdf \</code><br/><code>-V geometry:margin=1in \</code><br/><code>--pdf-engine=pdflatex</code></div>                                                                                                                     |
| Using includes:                                                      | <div>Include headers, before/after body content in LaTeX/PDF output.</div> <div><code>--include-in-header=header.tex</code><br/><code>--include-before-body=before.tex</code><br/><code>--include-after-body=after.tex</code></div>                          |
| Adding classes/IDs to elements:                                      | <div>Use curly braces <code>{ }</code> with <code>#id</code> or <code>.class</code>.</div> <div><code># My Heading {#custom-id .main-title}</code><br/><br/><code>Paragraph text. {.intro}</code></div>                                                      |

Troubleshooting & Help

|                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Check Pandoc version:                                                                                                                                                |
| <code>pandoc --version</code>                                                                                                                                        |
| Get help on options:                                                                                                                                                 |
| <code>pandoc --help</code><br><code>pandoc -h</code>                                                                                                                 |
| Check for required dependencies (e.g., LaTeX for PDF, citeproc for citations, highlighting-kate for highlighting).                                                   |
| Common PDF issues often stem from missing LaTeX packages. Pandoc usually tells you which one is missing.                                                             |
| Complex conversions or template issues can often be debugged by converting to the intermediate JSON AST ( <code>-t json</code> ) to see how Pandoc parsed the input. |
| Consult the official Pandoc User's Guide online for the most comprehensive information and advanced features.                                                        |