Markdown syntax for writing documents

Markdown comes with a simple syntax to create headers, links, images, and paragraphs with formatted text, lists. However, that's not enough. Some Markdown extensions bring more syntaxes to create complex elements or new layouts that help writing documents easier, faster, and look professional.

#markdown

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For basic markdown syntax, refer to Markdown Guide.

1. Meta-data

The Meta-Data extension adds a syntax for defining meta-data of a document. It is inspired by and follows the syntax of MultiMarkdown. Meta-data is the additional information that can be used to briefly describe the content of a post, such as the title, the short description, tags, and sometimes the banner image.

Enable the extension:

```
markdown_extensions:
    - meta
```

Meta-data consists of a series of keywords and values defined at the beginning of a Markdown document like this:

```
title: The page title
description: The summary of the page content
```

Alternatively, meta-data can be written in YAML style, using two triple-dash `---` tags to mark the start and the end of the meta-data section:

```
---
title: The page title
description: The summary of the page content
---
```

The metadata can be used in the template and the page content[1]. In Jinja syntax, each page is represented as a *page* object, then the meta-data field `{{ page.meta.title }}` will be replaced by the string `The page title`.

MkDocs uses the title of each post to show in the navigation sidebar. In case the title is long, it can make the side look a bit messy. A solution is to use a short title on navigation, and a long title on the post. Read more in Customize theme.

2. Code blocks

The SuperFences extension provides a number of features including allowing the nesting of fences, and ability to specify custom fences to provide features like flowcharts, sequence diagrams, or other custom blocks. Highlighting can be further controlled via the Highlight extension.

Enable the extension:

```
markdown_extensions:
    - pymdownx.superfences
    - pymdownx.highlight
```

The standard format which supports to add *id*, *class* or custom *key=value* is as below:

````
```{ .language  #id .class key="value" linenums="n" hl_lines="x y-z"}
codeblock content
```
````

or in a simple syntax:

````
```language linenums="n" hl_lines="x y-z"
codeblock content
```
````

Option `linenums="n"` creates line numbers starting from *n*.

Option `hl_lines="x y-z"` highlights the *x-th* line and lines in the range from *y-th* to *z-th*. Line numbers are always referenced starting at 1 ignoring what the line number is started labeling at the number set by the option `linenums="n"`.

Example:

````
```cpp linenums="2" hl_lines="1 4-5"
#include <stdio.h>

int main(void) {
    printf("Hello world!\n");
    return 0;
}
```
````

```
2   #include <stdio.h>
3
4   int main(void) {
5       printf("Hello world!\n");
6       return 0;
7   }
```

Some styles will be added to the code blocks to make it look a bit bigger and wrap long lines. Read more in Customize theme.

3. Inline code

The InlineHilite extension is an inline code highlighter inspired by CodeHilite.

Enable the extension:

```
markdown_extensions:
    - pymdownx.inlinehilite
```

Borrowing from CodeHilite's existing syntax, InlineHilite utilizes the following syntax to insert inline highlighted code: `` `:::language my code` `` or `` `#!language my code` ``.

This will render this line `` `#!python [x for x in range(1, 10) if x % 2]` `` to a fully colored inline Python code: `[x for x in range(1, 10) if x % 2]`.

4. Admonition

The Admonition extension adds rST-style admonitions to Markdown documents. This block displays its content in a block, with or without a title.

Enable the extension:

```
markdown_extensions:
    - admonition
```

Admonitions are created using the following syntax. The title is optional, use an empty string to remove the title:

```
!!! type "Title"

    Content of the admonition is indented

!!! type ""

    There is no title
```

Title

Content of the admonition is indented

There is no title

Other types

note, seealso

Content of the admonition is indented

abstract, summary, tldr

Content of the admonition is indented

info, todo

Content of the admonition is indented

tip, hint, important

Content of the admonition is indented

success, check, done

Content of the admonition is indented

question, help, faq

Content of the admonition is indented

warning, caution, attention

Content of the admonition is indented

failure, fail, missing

Content of the admonition is indented

danger, error

Content of the admonition is indented

bug

Content of the admonition is indented

example

Content of the admonition is indented

quote, cite

Content of the admonition is indented

With some additional styles, it is possible to create an admonition without title but still has icon, by using `.no-title` class and an empty title (use `" "`, or `"\ "` if Escape All extension is used). Read more in Customize theme.

```
!!! info no-title " "

    This admonition has icon as an inline element with the content
```

This admonition has icon as an inline element with the content

5. Attribute list

The Attribute Lists extension adds a syntax to add attributes on the various HTML elements in Markdown's output.

Enable the extension:

```
markdown_extensions:
    - attr_list
```

An example of using attribute list might look like this:

```
{ #id .class key='value' }
```

5.1. Block attribute

To define attributes for a block level element, the attribute list should be defined on the last line of the block by itself.

```
This is a paragraph colored in **teal** by using a block attribute.
{style="color: teal;"}
```

This is a paragraph colored in **teal** by using a block attribute.

5.2. Element attribute

To define attributes on inline elements, the attribute list should be defined immediately after an inline element generated by Markdown with no white space.

```
This is a _green_{style="color:green"} word.\
This is a <span>non-markdown span</span>{style="color:green"} word therefore the
attribute is not parsed.
```

This is a *green* word.
This is a non-markdown span{style=”color:green”} word therefore the attribute is not parsed.

6. Lists

Markdown supports Ordered and Unordered lists. Extensions provide 2 more kinds of list as Tasks and Definitions. The Sane Lists extension alters the behavior of the Markdown List syntax to be less surprising. Sane Lists do not allow the mixing of list types. In other words, an ordered list will not continue when an unordered list item is encountered and vice versa.

Enable the extension:

```
markdown_extensions:
    - pymdownx.tasklist:
        custom_checkbox: true
    - def_list
    - sane_lists
```

Some styles need to be added to show lists in a better view. Read more in Customize theme.

6.1. Ordered list

```
1. Ordered item 1
    1. Child 1
    2. Child 2
2. Ordered item 2
```

1. Ordered item 1
    a. Child 1
    b. Child 2
2. Ordered item 2

6.2. Unordered list

```
-   Unordered item 1
    -   Child 1
    -   Child 2
-   Unordered item 2
```

- Unordered item 1
    - Child 1
    - Child 2
- Unordered item 2

6.3. Task list

```
-   [x] item 1
    -   [x] item a
    -   [ ] item b
-   [ ] item 2
```

- item 1
    - item a
    - item b
- item 2

6.4. Definition

```
Roses
: are red

Violets
: are blue
```

Roses
: are red

Violets
: are blue

6.5. Sane list

```
1. Ordered item 1
2. Ordered item 2

-   Unordered item 1
-   Unordered item 2
```

1. Ordered item 1
2. Ordered item 2

- Unordered item 1
- Unordered item 2

7. Images

There are some extensions to add a caption to an image. After testing, markdown-captions is a good one that uses the alternate text to make caption, accepts markdown in the alternate text.

Install the extension:

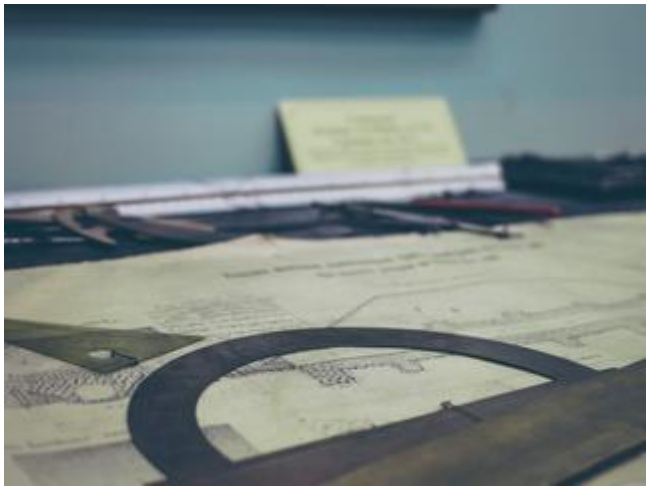
```
pip install -U markdown-captions
```

then enable it in the config file:

```
markdown_extensions:
    - markdown_captions
```

Some images have big size that does not show the detail, therefore, it's better to zoom in by clicking on them, and pan the image on the screen. The view-bigimg library can do that requirement well. Read more in Customize theme to learn how to enable that library.

```
![A photo from <https://picsum.photos>](https://picsum.photos/320/240)
```



A photo from https://picsum.photos

8. Tabs

Tabbed extension provides a syntax to easily add tabbed Markdown content.

Enable the extension:

```
markdown_extensions:
    - pymdownx.tabbed
```

Tabs start with `===` to signify a tab followed by a quoted title. Consecutive tabs are grouped into a tab set.

```
=== "Tab 1"

    Some texts

    === "Tab A"

        Text A

    === "Tab B"

        Text B

=== "Tab 2"

    Some other texts
```

Tab 1

Some texts

Tab A

Text A

Tab B

Text B

Tab 2

Some other texts

Styles for tabs need to change a little to have left margin in tab's content. Read more in Customize theme.

9. Tables

The Tables extension adds the ability to create tables in Markdown documents.

Enable the extension:

```
markdown_extensions:
    - tables
```

Markdown Tables are written in pipe-line format: row is on one line, cell is inline text only. The 1st line contains the column headers. The 2nd line is to control text alignment in a column: `:---`, `:---:` and `---:` are left, center, and right alignment. Styles for table need to change a little to show cell border. Read more in Customize theme.

```
| Syntax      | Description  |   Test Text |
| :---------- | :----------: | ----------: |
| Left align | Center align | Right align |
| A text      | Another text |  More texts |
```

Syntax	Description	Test Text

Syntax	Description	Test Text
Left align	Center align	Right align
A text	Another text	More texts

10. Formatting

Some texts may have special formats, and here are extensions that can help to add some styles.

10.1. Caret

Caret optionally adds two different features which are syntactically built around the `^` character.

Enable the extension:

```
markdown_extensions:
    - pymdownx.caret
```

The double carets `^^` inserts `<ins></ins>` tags, and the single caret `^` inserts `<sup></sup>` tags.

```
^^Insert^^ the energy E=mc^2^
```

Insert the energy E=mc^{2}

10.2. Mark

Mark adds the ability to insert `<mark></mark>` tags.

Enable the extension:

```
markdown_extensions:
    - pymdownx.mark
```

The syntax requires the text to be surrounded by double equal signs `==` .

```
==mark me== and ==mark==me==all==
```

mark me and mark==me==all

10.3. Tildes

Tildes optionally adds two different features which are syntactically built around the `~` character: delete using double tildes `~~` which inserts `<del></del>` tags and subscript using single tilde `~` which inserts `<sub></sub>` tags.

Enable the extension:

```
markdown_extensions:
    - pymdownx.tilde
```

For example:

```
~~Delete~~ the existence of
CH~3~CH~2~OH
```

~~Delete~~ the existence of CH_3CH_2OH

10.4. Critic

Critic is an extension that adds handling and support of Critic Markup which uses a special syntax to represent edits to a Markdown document. This extension runs before all other extensions to parse the critic edits.

Enable the extension:

```
markdown_extensions:
    - pymdownx.critic
```

Critic Markup uses special markup to insert, delete, substitute, highlight, and comment.

```
To insert or remove text, use {++insert me++} and {--remove me--}.\
Denote a substitution with {~~substitute this~>with this~~}.

Highlight specific text with {==highlight me==}.\
Or even add {>>a comment<<}.
```

To insert or remove text, use insert me and ~~remove me~~.
Denote a substitution with ~~substitute this~~with this.

Highlight specific text with highlight me.
Or even add /* a comment */.

11. HTML block

The Markdown in HTML extension that parses Markdown inside of HTML block tags.

Enable the extension:

```
markdown_extensions:
    - md_in_html
```

By default, Markdown ignores any content within a raw HTML block-level element. With this extension enabled, the content of a raw HTML block-level element can be parsed as Markdown by including a markdown attribute on the opening tag.

```
<div>
This is __not parsed word__ by Markdown.
</div>
<div markdown="1">
This is a __bold__ word parsed by Markdown.
</div>
```

This is __not parsed word__ by Markdown.

This is a **bold** word parsed by Markdown.

12. Icons & Emojis

The Emoji extension adds support for inserting emoji via simple short names enclosed within colons `:short_name:`. This is accomplished by using a short name index to map easy-to-remember names to the corresponding emoji characters.

Enable the extension:

```
markdown_extensions:
    - pymdownx.emoji:
         emoji_index: !!python/name:materialx.emoji.twemoji
         emoji_generator: !!python/name:materialx.emoji.to_svg
```

12.1. Emojis

Emojis can be written by putting the short-code of the emoji between two colons. Look up the short-codes at Emojipedia.

`:smile:` 😄 `:heart:` ❤️

12.2. Icons

Icons can be used similarly to emojis, by referencing a valid path to any icon bundled with the theme, which are located in the `.icons` directory, and replacing `/` with `-`.

For example:

The short-code `:material-account-circle:` will be converted to an SVG image element with the path `.icons/material/account-circle.svg` which eventually shows the icon on the webpage.

12.3. Use in template

Using `include` function of Jinja to add an icon wrapped in a `twemoji` class:

```
<span class="twemoji">
    {% include ".icons/fontawesome/brands/twitter.svg" %}
</span>
```

To show the Twitter icon .

13. Escape All

The Escape All extension makes the backslash `\` character escape everything after it, except things in code blocks of any kind.

Enable the extension:

```
markdown_extensions:
    - pymdownx.escapeall:
          hardbreak: true
          nbsp: true
```

There are two special escapes among all of these escapes though: escaping *space* characters and escaping *newline* characters:

- Enable `nbsp` to convert an escaped space into a non-breaking space: ` ` .
- Enable `hardbreak` to convert an escaped newline to a hard break `<br>` . The advantage of hard break is that the backslash is visually seen in the document, opposed to the Markdown's default method of two spaces at the end of a line.

For example:

```
This is a line with one                space.\
This is a new line with some \ \ \ \ \ spaces.
```

This is a line with one space.
This is a new line with some spaces.

14. Sane Headers

The Sane Headers is an extension that alters the default hashed headers extension to require headers to have spaces after the hashes `#` in order to be recognized as headers. This allows for other extension syntaxes to use # in their syntaxes as long as no spaces follow the # at the beginning of a line.

Enable the extension:

```
markdown_extensions:
    - pymdownx.saneheaders
```

In default, both of these are treated as headers:

```
## Header

##Also a Header
```

With Sane Headers, only the first is a header:

```
## Header

##Not a Header
```

15. Special characters

The Smarty Pants extension converts ASCII dashes, quotes and ellipses to their HTML entity equivalents.

The Smart Symbols adds syntax for creating special characters such as trademarks, arrows, fractions, etc.

Enable the extension:

```
markdown_extensions:
    - smarty:
        smart_angled_quotes: true
    - pymdownx.smartsymbols
```

15.1. Smarty Pants

```
'single quote'
"double quote"
<<angle quote>>
ellipses ...
N-dash --
M-dash ---
```

- ‘single quote’
- “double quote”
- «angle quote»
- ellipses …
- N-dash –
- M-dash —

15.2. Smart Symbols

```
trademark (tm)
copyright (c)
registered (r)
in care of c/o
plus or minus +/-
arrows --> <-- <-->
not equal =/=
fractions 1/4
ordinal numbers 1st 2nd 3rd 4th 5th
```

- trademark ™
- copyright ©
- registered ®
- in care of ℅
- plus or minus ±
- arrows → ← ↔
- not equal ≠
- fractions ¼ ½ ¾
- ordinal numbers 1st 2nd 3rd 4th 5th

16. Snippets

The Snippets insert the content of a file into the Markdown document. It is great for situations where there is a content that needs to be inserted into multiple documents.

⚠ Snippets is run as a preprocessor, so if a snippet is found in a fenced code block etc., it will still get processed.

Enable the extension:

```
markdown_extensions:
    - pymdownx.snippets
```

There are two modes of inserting snippets: single line and block. Single line mode accepts a single file name, and block accepts multiple files.

Single line format is done by placing the following markup for the single line notation:

```
--8<-- "filename.ext"
```

In block format, it is important to note that empty lines are preserved for formatting.

```
--8<--
filename.md
the below empty line is preserved.log

filename.log
--8<--
```

To temporarily ignore a file, comment it out by pre-pending the path with semicolon `;` and a space. This works for both single line and block format:

```
--8<-- "; skip.md"
--8<--
include.md
; skip.md
--8<--
```

17. Custom block

The Custom Blocks extension defines a common markup to create parameter-supported and nested custom blocks.

Install the extension:

```
pip install -U markdown-customblocks
```

Enable the extension:

```
markdown_extensions:
    - customblocks
```

This extension parses markup structures like this one:

```
::: type class param=value

    Indented content
```

Example usage

Add the filename of a code block, to show where it belongs.

Syntax:

````
::: file
main.c

```cpp
int main(void) {
    return 0;
}
```
````

with style:

```
.md-typeset .file + p {
    font-size: 0.9em;
    color: gray;
    margin-bottom: -1.2em;
}
```

will generate:

main.c

```
int main(void) {
    return 0;
}
```

There are some more custom block created with new layout and style, such as `row` and `col`. Read more in Customize theme.

18. Footnotes

The Footnotes extension adds syntax for defining footnotes in Markdown documents.

Enable the extension:

```
markdown_extensions:
    - footnotes
```

And use the following syntax:

```
Footnotes[^1] have a label[^fn] and the footnote's content.

[^1]: This is a footnote content.
[^fn]: A footnote on the label `fn`.
```

Footnotes[2] have a label[3] and the footnote's content.

19. Tips

There are some tips when writing document in Markdown which help to format the content in a good layout.

19.1. Small headers

At small header levels `<h5>` and `<h6>`, the header text is smaller than the body text, and the header is transformed to all capitalized characters. Use a hard break and a bold text instead. This make text clear to be read, and have a good space to the previous paragraph.

```
\
**Item**
```

19.2. Ignore formatting

When using Prettier extension to format the documents, some block can be ignored from formatting by adding directives. Refer to the Prettier — Ignore Code. Note the extension only format the markdown file, and when it is rendered to HTML, it will be displayed in HTML rendered visual.

In Markdown, use block directive before a block that needs to be preserved:

```
<!-- prettier-ignore -->
Do   not   format   this
```

In case of a big block or multiple blocks, use the range directive:

```
<!-- prettier-ignore-start -->
| MY | AWESOME | AUTO-GENERATED | TABLE |
|-|-|-|-|
| a | b | c | d |
<!-- prettier-ignore-end -->
```

19.3. Look up an icon or emoji

Material for MkDocs provides a tool to look up an icon or an emoji by searching a name. It has fast copy to clipboard when selecting on the wanted icon. Please go there https://squidfunk.github.io/mkdocs-material/reference/icons-emojis/.

---

1. Use mkdocs-macros plugin to use Jinja template directly in the Markdown content. ↩
2. This is a footnote content. ↩
3. A footnote on the label `fn`. ↩