



Содержание

Formatting Syntax	3
Basic Text Formatting	3
Links	3
External	3
Internal	4
Interwiki	4
Windows Shares	5
Image Links	5
Footnotes	6
Sectioning	6
Headline Level 3	6
Headline Level 4	6
Media Files	6
Supported Media Formats	8
Fallback Formats	8
Lists	8
Text Conversions	9
Text to Image Conversions	9
Text to HTML Conversions	10
Quoting	10
Tables	11
No Formatting	12
Code Blocks	13
Syntax Highlighting	13
Downloadable Code Blocks	14
RSS/ATOM Feed Aggregation	15
Control Macros	15
Syntax Plugins	16

Formatting Syntax

 [DokuWiki](#) supports some simple markup language, which tries to make the datafiles to be as readable as possible. This page contains all possible syntax you may use when editing the pages. Simply have a look at the source of this page by pressing «Edit this page». If you want to try something, just use the [playground](#) page. The simpler markup is easily accessible via  [quickbuttons](#), too.

Basic Text Formatting

DokuWiki supports **bold**, *italic*, underlined and monospaced texts. Of course you can **combine** all these.

```
DokuWiki supports **bold**, //italic//, __underlined__ and  
'monospaced' texts.  
Of course you can __//''combine''//__ all these.
```

You can use subscript and ^{superscript}, too.

```
You can use <sub>subscript</sub> and <sup>superscript</sup>, too.
```

You can mark something as ~~deleted~~ as well.

```
You can mark something as <del>deleted</del> as well.
```

Paragraphs are created from blank lines. If you want to **force a newline** without a paragraph, you can use two backslashes followed by a whitespace or the end of line.

This is some text with some linebreaks
Note that the two backslashes are only recognized at the end of a line
or followed by
a whitespace \\this happens without it.

```
This is some text with some linebreaks\\ Note that the  
two backslashes are only recognized at the end of a line\\  
or followed by\\ a whitespace \\this happens without it.
```

You should use forced newlines only if really needed.

Links

DokuWiki supports multiple ways of creating links.

External

External links are recognized automagically: <http://www.google.com> or simply


www.google.com - You can set the link text as well: [This Link points to google](#). Email addresses like this one: andi@splitbrain.org are recognized, too.

```
DokuWiki supports multiple ways of creating links. External links are
recognized
automagically: http://www.google.com or simply www.google.com - You can
set
link text as well: [[http://www.google.com|This Link points to
google]]. Email
addresses like this one: <andi@splitbrain.org> are recognized, too.
```

Internal

Internal links are created by using square brackets. You can either just give a [pagename](#) or use an additional [link text](#).

```
Internal links are created by using square brackets. You can either
just give
a [[pagename]] or use an additional [[pagename|link text]].
```

 [Wiki pagenames](#) are converted to lowercase automatically, special characters are not allowed.

You can use [namespaces](#) by using a colon in the pagename.



```
You can use [[some:namespaces]] by using a colon in the pagename.
```

For details about namespaces see  [namespaces](#).



Linking to a specific section is possible, too. Just add the section name behind a hash character as known from HTML. This links to [this Section](#).

```
This links to [[syntax#internal|this Section]].
```

Notes:

- Links to [existing pages](#) are shown in a different style from [nonexisting](#) ones.
- DokuWiki does not use  [CamelCase](#) to automatically create links by default, but this behavior can be enabled in the  [config](#) file. Hint: If DokuWiki is a link, then it's enabled.
- When a section's heading is changed, its bookmark changes, too. So don't rely on section linking too much.

Interwiki

DokuWiki supports  [Interwiki](#) links. These are quick links to other Wikis. For example this is a link to Wikipedia's page about Wikis:  [Wiki](#).

```
DokuWiki supports [[doku>Interwiki]] links. These are quick links to
other Wikis.
```

For example this is a link to Wikipedia's page about Wikis:
 [[wp>Wiki]].

Windows Shares

Windows shares like [this](#) are recognized, too. Please note that these only make sense in a homogeneous user group like a corporate [Intranet](#).

Windows Shares like `[[\\server\share|this]]` are recognized, too.

Notes:

- For security reasons direct browsing of windows shares only works in Microsoft Internet Explorer per default (and only in the «local zone»).
- For Mozilla and Firefox it can be enabled through different workaround mentioned in the [Mozilla Knowledge Base](#). However, there will still be a JavaScript warning about trying to open a Windows Share. To remove this warning (for all users), put the following line in `conf/lang/en/lang.php` (more details at [localization](#)):

[conf/lang/en/lang.php](#)

```
<?php
/**
 * Customization of the english language file
 * Copy only the strings that needs to be modified
 */
$lang['js']['nosmblinks'] = '';
```

Image Links

You can also use an image to link to another internal or external page by combining the syntax for links and [images](#) (see below) like this:

`[[http://php.net|{{wiki:dokuwiki-128.png}}]]`



Please note: The image formatting is the only formatting syntax accepted in link names.

The whole [image](#) and [link](#) syntax is supported (including image resizing, internal and external images and URLs and interwiki links).

Footnotes

You can add footnotes ¹⁾ by using double parentheses.

You can add footnotes ((This is a footnote)) by using double parentheses.

Sectioning

You can use up to five different levels of headlines to structure your content. If you have more than three headlines, a table of contents is generated automatically - this can be disabled by including the string `~NOTOC~` in the document.

Headline Level 3

Headline Level 4

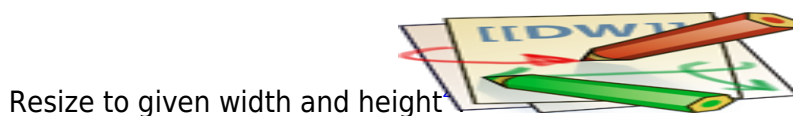
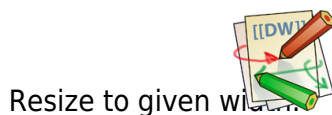
Headline Level 5

```
==== Headline Level 3 ====
=== Headline Level 4 ===
== Headline Level 5 ==
```

By using four or more dashes, you can make a horizontal line:

Media Files

You can include external and internal  [images](#), [videos](#) and [audio files](#) with curly brackets. Optionally you can specify the size of them.



```
Real size:                {{wiki:dokuwiki-128.png}}
Resize to given width:   {{wiki:dokuwiki-128.png?50}}
Resize to given width and height: {{wiki:dokuwiki-128.png?200x50}}
Resized external image:  {{https://www.php.net/images/php.gif?200x50}}
```

By using left or right whitespaces you can choose the alignment.



```
{{ wiki:dokuwiki-128.png}}
{{wiki:dokuwiki-128.png }}
{{ wiki:dokuwiki-128.png }}
```

Of course, you can add a title (displayed as a tooltip by most browsers), too.



```
{{ wiki:dokuwiki-128.png |This is the caption}}
```

For linking an image to another page see [Image Links](#) above.

Supported Media Formats

DokuWiki can embed the following media formats directly.

Image	gif, jpg, png
Video	webm, ogv, mp4
Audio	ogg, mp3, wav
Flash	swf

If you specify a filename that is not a supported media format, then it will be displayed as a link instead.

By adding `?linkonly` you provide a link to the media without displaying it inline

```
{{wiki:dokuwiki-128.png?linkonly}}
```

[dokuwiki-128.png](#) This is just a link to the image.

Fallback Formats

Unfortunately not all browsers understand all video and audio formats. To mitigate the problem, you can upload your file in different formats for maximum browser compatibility.

For example consider this embedded mp4 video:

```
{{video.mp4|A funny video}}
```

When you upload a `video.webm` and `video.ogv` next to the referenced `video.mp4`, DokuWiki will automatically add them as alternatives so that one of the three files is understood by your browser.

Additionally DokuWiki supports a «poster» image which will be shown before the video has started. That image needs to have the same filename as the video and be either a `jpg` or `png` file. In the example above a `video.jpg` file would work.

Lists

Dokuwiki supports ordered and unordered lists. To create a list item, indent your text by two spaces and use a `*` for unordered lists or a `-` for ordered ones.

- This is a list
 - The second item
 - You may have different levels
 - Another item
1. The same list but ordered
 2. Another item
 1. Just use indention for deeper levels

3. That's it

- ```
* This is a list
* The second item
 * You may have different levels
* Another item

- The same list but ordered
- Another item
 - Just use indentation for deeper levels
- That's it
```

Also take a look at the [FAQ on list items](#).











## Text Conversions












DokuWiki can convert certain pre-defined characters or strings into images or other text or HTML.

The text to image conversion is mainly done for smileys. And the text to HTML conversion is used for typography replacements, but can be configured to use other HTML as well.

### Text to Image Conversions

DokuWiki converts commonly used [emoticons](#) to their graphical equivalents. Those [Smileys](#) and other images can be configured and extended. Here is an overview of Smileys included in DokuWiki:

-  8-)
-  8-O
-  :-(
-  :-)
-  =)
-  :-/
-  :-\
-  :-?
-  :-D
-  :-P

-  :-O
-  :-X
-  :-|
-  ;-)
-  ^\_^
-  m(
-  :?:
-  :!:
-  LOL
-  **Fix Me!** FIXME
-  **Delete!** DELETEME

### Text to HTML Conversions

Typography: [DokuWiki](#) can convert simple text characters to their typographically correct entities. Here is an example of recognized characters.

→ ← ↔ ⇒ ⇐ ⇔ » « – — 640x480 © ™ ® «He thought 'It's a man's world'...»

```
-> <- <-> => <=> <=> >> << -- --- 640x480 (c) (tm) (r)
"He thought 'It's a man's world'..."
```

The same can be done to produce any kind of HTML, it just needs to be added to the [pattern file](#).

There are three exceptions which do not come from that pattern file: multiplication entity (640x480), 'single' and «double quotes». They can be turned off through a [config option](#).

### Quoting

Some times you want to mark some text to show it's a reply or comment. You can use the following syntax:

```
I think we should do it
> No we shouldn't
```

```
>> Well, I say we should
> Really?
>> Yes!
>>> Then lets do it!
```

I think we should do it

No we shouldn't

| Well, I say we should

Really?

| Yes!

| | Then lets do it!

## Tables

DokuWiki supports a simple syntax to create tables.

| Heading 1   | Heading 2                           | Heading 3   |
|-------------|-------------------------------------|-------------|
| Row 1 Col 1 | Row 1 Col 2                         | Row 1 Col 3 |
| Row 2 Col 1 | some colspan (note the double pipe) |             |
| Row 3 Col 1 | Row 3 Col 2                         | Row 3 Col 3 |

Table rows have to start and end with a | for normal rows or a ^ for headers.

```
^ Heading 1 ^ Heading 2 ^ Heading 3 ^
Row 1 Col 1	Row 1 Col 2	Row 1 Col 3	
Row 2 Col 1	some colspan	some colspan	
Row 3 Col 1	Row 3 Col 2	Row 3 Col 3	
```

To connect cells horizontally, just make the next cell completely empty as shown above. Be sure to have always the same amount of cell separators!

Vertical tableheaders are possible, too.

|           | Heading 1            | Heading 2   |
|-----------|----------------------|-------------|
| Heading 3 | Row 1 Col 2          | Row 1 Col 3 |
| Heading 4 | no colspan this time |             |
| Heading 5 | Row 2 Col 2          | Row 2 Col 3 |

As you can see, it's the cell separator before a cell which decides about the formatting:

```
| ^ Heading 1 ^ Heading 2 ^
^ Heading 3 | Row 1 Col 2 | Row 1 Col 3 |
^ Heading 4 | no colspan this time | |
^ Heading 5 | Row 2 Col 2 | Row 2 Col 3 |
```

You can have rowspans (vertically connected cells) by adding `:::` into the cells below the one to which they should connect.

| Heading 1   | Heading 2                  | Heading 3   |
|-------------|----------------------------|-------------|
| Row 1 Col 1 |                            | Row 1 Col 3 |
| Row 2 Col 1 | this cell spans vertically | Row 2 Col 3 |
| Row 3 Col 1 |                            | Row 2 Col 3 |

Apart from the rowspan syntax those cells should not contain anything else.

```
^ Heading 1 ^ Heading 2 ^ Heading 3 ^
Row 1 Col 1	this cell spans vertically	Row 1 Col 3
Row 2 Col 1	:::	Row 2 Col 3
Row 3 Col 1	:::	Row 2 Col 3
```

You can align the table contents, too. Just add at least two whitespaces at the opposite end of your text: Add two spaces on the left to align right, two spaces on the right to align left and two spaces at least at both ends for centered text.

| Table with alignment |               |               |
|----------------------|---------------|---------------|
| right                | center        | left          |
| left                 | right         | center        |
| xxxxxxxxxxxxx        | xxxxxxxxxxxxx | xxxxxxxxxxxxx |

This is how it looks in the source:

```
^ Table with alignment ^^^
right	center	left
left	right	center
xxxxxxxxxxxxx	xxxxxxxxxxxxx	xxxxxxxxxxxxx
```

Note: Vertical alignment is not supported.

## No Formatting

If you need to display text exactly like it is typed (without any formatting), enclose the area either with `<nowiki>` tags or even simpler, with double percent signs `%%`.

This is some text which contains addresses like this: `http://www.splitbrain.org` and `**formatting**`, but nothing is done with it. The same is true for `//_this_ text//` with a smiley `;-)`.

```
<nowiki>
This is some text which contains addresses like this:
http://www.splitbrain.org and **formatting**, but nothing is done with
it.
</nowiki>
The same is true for %%//__this__ text// with a smiley ;-)%%.
```

## Code Blocks

You can include code blocks into your documents by either indenting them by at least two spaces (like used for the previous examples) or by using the tags `<code>` or `<file>`.

```
This is text is indented by two spaces.
```

```
This is preformatted code all spaces are preserved: like
<-this
```

```
This is pretty much the same, but you could use it to show that you
quoted a file.
```

Those blocks were created by this source:

```
This is text is indented by two spaces.
```

```
<code>
This is preformatted code all spaces are preserved: like
<-this
</code>
```

```
<file>
This is pretty much the same, but you could use it to show that you
quoted a file.
</file>
```

## Syntax Highlighting

[DokuWiki](#) can highlight sourcecode, which makes it easier to read. It uses the [GeSHi](#) Generic Syntax Highlighter - so any language supported by GeSHi is supported. The syntax uses the same code and file blocks described in the previous section, but this time the name of the language syntax to be highlighted is included inside the tag, e.g. `<code java>` or `<file java>`.

```
/**
 * The HelloWorldApp class implements an application that
 * simply displays "Hello World!" to the standard output.
 */
class HelloWorldApp {
 public static void main(String[] args) {
```

```

 System.out.println("Hello World!"); //Display the string.
 }
}

```

The following language strings are currently recognized: *4cs 6502acme 6502kickass 6502tasm 68000devpac abap actionscript3 actionscript ada aimms algol68 apache applescript apt\_sources arm asm asp asymptote autoconf autohotkey autoit avisynth awk bascomavr bash basic4gl batch bf biblatex bibtex blitzbasic bnf boo caddcl cadlisp ceylon cfdg cfm chaiscript chapel cil c\_loadrunner clojure c\_mac cmake cobol coffeescript c cpp cpp-qt cpp-winapi csharp css cuesheet c\_winapi dart dcl dcpu16 dcs delphi diff div dos dot d ecmascript eiffel email epc e erlang euphoria ezt f1 falcon fo fortran freebasic freeswitch fsharp gambas gdb genero genie gettext glsl gml gnuplot go groovy gwbasic haskell haxe higest hq9plus html html4strict html5 icon idl ini inno intercal io ispfpanel java5 java javascript jcl j jquery julia kixtart klonex klonexcpp kotlin latex lb ldif lisp llvm locobasic logtalk lolcode lotusformulas lotusscript lscript lsl2 lua m68k magiksf make mapbasic mathematica matlab mercury metapost mirc mk-61 mmix modula2 modula3 mpasm mxml mysql nagios netrexx newlisp nginx nimrod nsis oberon2 objc object ocaml-brief ocaml octave oobas oorexx oracle11 oracle8 oxygene oz parasail parigp pascal pcre perl6 perl per pf phix php-brief php pic16 pike pixelbender pli plsql postgresql postscript povray powerbuilder powershell proftpd progress prolog properties providex purebasic pycon pys60 python qbasic qml q racket rails rbs rebol reg rexx robots roff rpmspec rsplus ruby rust sas sass scala scheme scilab scl sdlbasic smalltalk smarty spark sparql sql sshconfig standardml stonscript swift systemverilog tcl tcl tcl term texgraph text thinbasic tsql twig typoscript unicon upc urbi uscript vala vbnet vb vbscript vedit verilog vhdl vim visualfoxpro visualprolog whitespace whois winbatch wolfram xbasic xml xoyo xorg\_conf xpp yaml z80 zxbasic*

There are additional [advanced options](#) available for syntax highlighting, such as highlighting lines or adding line numbers.

## Downloadable Code Blocks

When you use the `<code>` or `<file>` syntax as above, you might want to make the shown code available for download as well. You can do this by specifying a file name after language code like this:

```

<file php myexample.php>
<?php echo "hello world!"; ?>
</file>

```

[myexample.php](#)

```

<?php echo "hello world!"; ?>

```

If you don't want any highlighting but want a downloadable file, specify a dash (-) as the language code: `<code - myfile.foo>`.

## RSS/ATOM Feed Aggregation

[DokuWiki](#) can integrate data from external XML feeds. For parsing the XML feeds, [SimplePie](#) is used. All formats understood by SimplePie can be used in DokuWiki as well. You can influence the rendering by multiple additional space separated parameters:

Parameter	Description
any number	will be used as maximum number items to show, defaults to 8
reverse	display the last items in the feed first
author	show item authors names
date	show item dates
description	show the item description. All HTML tags will be stripped
nosort	do not sort the items in the feed
n[dhm]	refresh period, where d=days, h=hours, m=minutes. (e.g. 12h = 12 hours).

The refresh period defaults to 4 hours. Any value below 10 minutes will be treated as 10 minutes. [DokuWiki](#) will generally try to supply a cached version of a page, obviously this is inappropriate when the page contains dynamic external content. The parameter tells [DokuWiki](#) to re-render the page if it is more than *refresh period* since the page was last rendered.

By default the feed will be sorted by date, newest items first. You can sort it by oldest first using the reverse parameter, or display the feed as is with nosort.

### Example:

```
{{rss>http://slashdot.org/index.rss 5 author date 1h }}
```


- [Canada Announces First High-Speed Rail Between Toronto and Quebec City](#) — BeauHD (2025/02/20 10:00)
- [Palantir CEO Calls for Tech Patriotism, Warns of AI Warfare](#) — msmash (2025/02/20 07:01)
- [Microsoft Declutters Windows 11 File Explorer in the Name of Euro Privacy](#) — msmash (2025/02/20 05:00)
- [China's Electric-Vehicle-To-Humanoid-Robot Pivot](#) — BeauHD (2025/02/20 03:30)
- [Historic Ocean Liner Departs Philadelphia On Voyage To Become the World's Largest Artificial Reef](#) — BeauHD (2025/02/20 01:00)

## Control Macros

Some syntax influences how DokuWiki renders a page without creating any output it self. The following control macros are available:

Macro	Description
~~NOTOC~~	If this macro is found on the page, no table of contents will be created
~~NOCACHE~~	DokuWiki caches all output by default. Sometimes this might not be wanted (eg. when the <php> syntax above is used), adding this macro will force DokuWiki to rerender a page on every call

## Syntax Plugins

DokuWiki's syntax can be extended by  [Plugins](#). How the installed plugins are used is described on their appropriate description pages. The following syntax plugins are available in this particular DokuWiki installation:

- [Add New Page plugin 2024-12-24](#) — [Damien Regad](#), [Benjamin Santalucia](#), [Sam Wilson](#) and [other contributors](#)  
Adds a "new page form" to any wiki page.
- [Anchor Plugin 2024-02-10](#) — [Eli Fenton](#)  
Create an HTML anchor.
- [Autonumbering Plugin 2023-03-04](#) — [Florian Wehner](#)  
This plugin allows the use of multiples counters with multiples levels, within the same page.
- [Barcodes 2024-09-17](#) — [Matthias Lohr](#)  
Barcodes (1D & 2D) for DokuWiki
- [Bootstrap Wrapper Plugin 2022-09-22](#) — [Giuseppe Di Terlizzi](#)  
Bootstrap Wrapper for DokuWiki
- [caption plugin 2024-11-22](#) — [Till Biskup](#)  
adding figure and table captions
- [color syntax plugin 2022-10-19](#) — [Harald Hanche-Olsen](#)  
Write colored text in DokuWiki.
- [Comment Syntax support 2022-01-01](#) — [Satoshi Sahara](#)  
Allow to use source comment syntax to leave edit instructions of the page. Comments are visible only in the source view, not rendered as any page elements.
- [const plugin 2023-04-04](#) — [lisps](#), [peterfromearth](#)  
work on wiki pages with constants, self defined variables and make calculations
- [Structured Data Plugin 2024-01-30](#) — [Andreas Gohr](#)  
Add and query structured data in your wiki
- [Draw.io plugin 2021-02-21](#) — [Milos Kozak](#)  
Draw.io integration
- [Dw2Pdf plugin 2023-11-25](#) — [Andreas Gohr](#) and [Luigi Micco](#)  
DokuWiki to PDF converter
- [Extended Table Syntax 3 2021-03-24](#) — [Satoshi Sahara](#)  
Allows extended (MediaWiki-style) table syntax in DokuWiki
- [Graphviz Plugin 2016-02-03](#) — [Andreas Gohr](#)  
Create graph images from Graphviz dot language
- [hidden Plugin 2023-11-07](#) — [Guillaume Turri](#)  
Enable to hide/show details
- [Icons Plugin 2024-10-30](#) — [Giuseppe Di Terlizzi](#)  
Embed icons in Dokuwiki
- [iframe plugin 2023-08-17](#) — [Christopher Smith](#)  
Allows external URLs to be loaded into an iframe in your DokuWiki page.
- [imagecarousel plugin 2020-02-29](#) — [lisps](#), [peterfromearth](#)  
carousel for images with imagebox
- [include plugin 2023-09-22](#) — [Michael Hamann](#), [Gina Häussge](#), [Christopher Smith](#), [Michael Klier](#), [Esther Brunner](#)  
Functions to include another page in a wiki page
- [Indexmenu Plugin 2024-01-05](#) — [Samuele Tognini](#), [Gerrit Uitslag](#)



- Show a customizable and sortable index for a namespace
- [Info Plugin 2020-06-04](#) — [Andreas Gohr](#)  
Displays information about various DokuWiki internals
  - [keyboard 2023-02-23](#) — [Gina Häußge](#)  
The keyboard plugin provides a combined syntax and action plugin in order to markup text as keyboard keys, similar to (and making use of) the existing (X)HTML tag `<kbd>...</kbd>`. A quick button for the markup is automatically inserted into the toolbar of the edit form.
  - [Markdown Page Plugin 2021-01-09](#) — [Mizunashi Mana](#)  
Write your own Markdown page
  - [Note Plugin 2024-04-15](#) — [Anael Mobilia](#)  
Add Note/Important/Tip/Warning Capability (DIV+CSS box)
  - [Numbered Headings 2023-09-12](#) — [Satoshi Sahara](#)  
Prepend tiered numbers as indexes for hierarchical headings
  - [Open Document Plugin 2023-03-03](#) — [Andreas Gohr](#), [Aurelien Bompard](#), [Florian Lamml](#), [LarsDW223](#)  
Export the current Wiki page to a OpenOffice ODT file
  - [Pagebreak plugin 2016-02-16](#) — [Jonathan McBride](#) and [Chris Sturm](#)  
Inserts " `<br style="page-break-after:always;">` " into the html of the document for every `<pagebreak>` it encounters
  - [Pagelist Plugin 2023-08-27](#) — [Matthias Schulte](#), [Michael Hamann](#), [Michael Klier](#), [Gina Haeussge](#)  
Lists pages in a nice formatted way
  - [PDF-Tools for dw2pdf 2021-11-11](#) — [Gero Gothe](#)  
Additional features for PDF-Generation (requires dw2pdf)
  - [PopUpViewer Linking Component](#) —  
Takes a Page to be displayed in an overlay pop-out
  - [scrape plugin 2023-09-14](#) — [Andreas Gohr](#)  
Include HTML parts from other website into the wiki
  - [tablelayout plugin 2022-03-28](#) — [Michael Große](#)  
Set the width of table columns and set which lines to fix
  - [Tag Plugin 2023-10-17](#) — [Michael Hamann](#), [Gina Häussge](#), [Christopher Smith](#), [Michael Klier](#), [Esther Brunner](#)  
tag wiki pages
  - [ToDo 2024-05-10](#) — [Leo Eibler](#), [Christian Marg](#), [Markus Gschwendt](#), [Robert Weinmeister](#)  
Create a checkbox based todo list with optional user assignment (basic syntax: `<todo>This is a ToDo</todo>`). It can also be used as a lightweight task list management system.
  - [Wrap Plugin 2023-08-13](#) — [Anika Henke](#)  
Universal plugin which combines functionalities of many other plugins. Wrap wiki text inside containers (divs or spans) and give them a class (choose from a variety of preset classes), a width and/or a language with its associated text direction.

1)

This is a footnote

2)

when the aspect ratio of the given width and height doesn't match that of the image, it will be cropped to the new ratio before resizing