

# Wiki Processors

Processors are WikiMacros that provide alternative markup formats for the Wiki engine. Processors can be thought of as *macro functions to process user-edited text*.

Wiki processors can be used in any Wiki text throughout Trac, such as:

- syntax highlighting or for rendering text verbatim
- rendering Wiki markup inside a context such as <div> or <span> blocks or within <td> or <th> table cells
- using an alternative markup syntax, like raw HTML and Restructured Text or ?textile

## Using Processors

To use a processor on a block of text, first delimit the lines using a *Wiki code block*:

```
{{{
The lines
that should be processed...
}}}
```

Immediately after the {{{ or on the line just below, add #! followed by the *processor name*:

```
{{{
#!processorname
The lines
that should be processed...
}}}
```

This is the "shebang" notation, familiar to most UNIX users.

Besides their content, some Wiki processors can also accept *parameters*, which are then given as *key=value* pairs after the processor name and on the same line. If *value* has to contain space, as it's often the case for the *style* parameter, a quoted string can be used (*key="value with space"*).

As some processors are meant to process Wiki markup, it's quite possible to *nest* processor blocks. You may want to indent the content of nested blocks for increased clarity, this extra indentation will be ignored when processing the content.

## Examples

### Wiki Markup

### Display

#### Example 1: Inserting raw HTML

```
{{{
#!html
<h1 style="color: grey">This is raw HTML</h1>
}}}
```

**This is raw HTML**

#### Example 2: Highlighted Python code in a <div> block with custom style

```
{{{#!div style="background: #ffd; border: 3px ridge
This is an example of embedded "code" block:
```

**This is an example of embedded "code" block:**

This is raw HTML

## Wiki Markup

```
{{{
#!python
def hello():
    return "world"
}}}
```

## Display

```
def hello():
    return "world"
```

### Example 3: Searching tickets from a wiki page, by keywords.

```
{{{
#!html
<form action="/query" method="get"><div>
<input type="text" name="keywords" value="~" size="30"/>
<input type="submit" value="Search by Keywords"/>
<!-- To control what fields show up use hidden fields
<input type="hidden" name="col" value="id"/>
<input type="hidden" name="col" value="summary"/>
<input type="hidden" name="col" value="status"/>
<input type="hidden" name="col" value="milestone"/>
<input type="hidden" name="col" value="version"/>
<input type="hidden" name="col" value="owner"/>
<input type="hidden" name="col" value="priority"/>
<input type="hidden" name="col" value="component"/>
-->
</div></form>
}}}
```

## Available Processors

The following processors are included in the Trac distribution:

- #!default** Present the text verbatim in a preformatted text block. This is the same as specifying *no* processor name (and no #!).
- #!comment** Do not process the text in this section, i.e. contents exist only in the plain text - not in the rendered page.
- #!rtl** Introduce a Right-To-Left block with appropriate CSS direction and styling. (*since 0.12.2*)

### HTML related

- #!html** Insert custom HTML in a wiki page.
- #!htmlcomment** Insert an HTML comment in a wiki page. (*since 0.12*)  
Note that **#!html** blocks have to be *self-contained*, i.e. you can't start an HTML element in one block and close it later in a second block. Use the following processors for achieving a similar effect.
- #!div** Wrap wiki content inside a `<div>` element.
- #!span** Wrap wiki content inside a `<span>` element.
- #!td** Wrap wiki content inside a `<td>` element. (*since 0.12*)
- #!th** Wrap wiki content inside a `<th>` element. (*since 0.12*)
- #!tr** Can optionally be used for wrapping **#!td** and **#!th** blocks, either for specifying row attributes or better visual grouping. (*since 0.12*)
- #!table** Can optionally be used for wrapping **#!tr**, **#!td** and **#!th** blocks, for specifying table attributes. One current limitation however is that tables cannot be nested. (*since 0.12*)

See [WikiHtml](#) for example usage and more details about these processors.

### Other Markups

**#!rst** Trac support for Restructured Text. See [WikiRestructuredText](#).  
**#!textile** Supported if [?Textile](#) is installed. See [?a Textile reference](#).

### Code Highlighting Support

**#!c**  
**#!cpp** (C++)  
**#!python**  
**#!perl**  
**#!ruby** Trac includes processors to provide inline syntax highlighting for source code in various languages.  
**#!php**  
**#!asp** Trac relies on [?Pygments](#) for syntax coloring.  
**#!java**  
**#!js** (Javascript) See [TracSyntaxColoring](#) for information about which languages are supported and how to enable support for more languages.  
**#!sql**  
**#!xml** (XML or HTML)  
**#!sh** (Bourne/Bash shell)

Since 1.1.2 the default, coding highlighting and MIME-type processors support the argument `lineno` for adding line numbering to the code block. When a value is specified, as in `lineno=3`, the numbering will start at the specified value. When used in combination with the `lineno` argument, the `marks` argument is also supported for highlighting lines. A single line number, set of line numbers and range of line numbers are allowed. For example, `marks=3`, `marks=3-6`, `marks=3, 5, 7` and `marks=3-5, 7` are all allowed. The specified values are relative to the numbered lines, so if `lineno=2` is specified to start the line numbering at 2, `marks=2` will result in the first line being highlighted.

Using the MIME type as processor, it is possible to syntax-highlight the same languages that are supported when browsing source code.

### MIME Type Processors

Some examples:

```
{{{#!text/html
<h1>text</h1>
}}}
```

```
{{{#!diff
--- Version 55
+++ Version 56
@@ -115,8 +115,9 @@
     name='TracHelloWorld', version='1.0',
     packages=find_packages(exclude=['*.tests*']),
-    entry_points = ""
-    [trac.plugins]
-    helloworld = myplugins.helloworld
-    "",
+    entry_points = {
+        'trac.plugins': [
+            'helloworld = myplugins.helloworld',
+        ],
```

The result will be syntax highlighted HTML code:

```
<h1>text</h1>
```

The same is valid for all other [mime types supported](#).

**#!diff** has a particularly nice renderer:

### •Version

```
115 115 name='TracHelloWorld', version='1.0',
116 116 packages=find_packages(exclude=['*.tests*'])
117     entry_points = ""
118     [trac.plugins]
```

## MIME Type Processors

```
+    },
)
}}}
```

```
119         helloworld = myplugins.helloworld
120         """
117     entry_points = {
118         'trac.plugins': [
119             'helloworld = myplugins.helloworld',
120         ],
121     },
121 122 )
```

Line numbers can be added to code blocks and lines can be highlighted (*since 1.1.2*).

```
{{#!python lineno=3 marks=3,9-10,16
def expand_markup(stream, ctxt=None):
    """A Genshi stream filter for expanding `genshi.Markup` events.

    Note: Expansion may not be possible if the fragment is badly
    formed, or partial.
    """
    for event in stream:
        if isinstance(event[1], Markup):
            try:
                for subevent in HTML(event[1]):
                    yield subevent
            except ParseError:
                yield event
        else:
            yield event
    }}
```

### Line

```
3 def expand_markup(stream, ctxt=None):
4     """A Genshi stream filter for expanding `genshi.Markup` events.
5
6     Note: Expansion may not be possible if the fragment is badly
7     formed, or partial.
8     """
9     for event in stream:
10         if isinstance(event[1], Markup):
11             try:
12                 for subevent in HTML(event[1]):
13                     yield subevent
14             except ParseError:
15                 yield event
16         else:
17             yield event
```

For more processor macros developed and/or contributed by users, visit the [?Trac Hacks](#) community site.

Processors are implemented using the same interfaces as Wiki macros, only the usage syntax differs. To develop a processor, see [WikiMacros#DevelopingCustomMacros](#).

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See also: [WikiMacros](#), [WikiHtml](#), [WikiRestructuredText](#), [TracSyntaxColoring](#), [WikiFormatting](#), [TracGuide](#)