

# Source Code Highlight Filter

<b>REVISION HISTORY</b>
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The AsciiDoc distribution includes a source code syntax highlight filter (`source-highlight-filter.conf`).

## 1 HTML Outputs

The highlighter uses **GNU source-highlight** to highlight *html4* and *xhtml11* outputs. You also have the option of using the **Pygments** syntax highlighter for *xhtml11* outputs.

To use Pygments you need to define an AsciiDoc attribute named *pygments* (either from the command-line or in the global `asciidoc.conf` configuration file) and you will also need to have Pygments installed and the *pygmentize* command in your PATH.

- You can customize Pygments CSS styles by editing `./stylesheets/pygments.css`.
- To make Pygments your default highlighter put the following line your `~/.asciidoc/asciidoc.conf` file:

```
pygments=
```

- The AsciiDoc *encoding* attribute is passed to Pygments as a `-O` command-line option.

## 2 DocBook Outputs

DocBook outputs are highlighted by toolchains that have `programlisting` element highlight support, for example *dblatex*.

## 3 Examples

### 3.1 Source code paragraphs

The `source` paragraph style will highlight a paragraph of source code. These three code paragraphs:

```
[source,python]
if n < 0: print 'Hello World!'

:language: python

[source]
if n < 0: print 'Hello World!'

[source,ruby,numbered]
[true, false].cycle([0, 1, 2, 3, 4]) do |a, b|
  puts "#{a.inspect} => #{b.inspect}"
```

Render this highlighted source code:

```
if n < 0: print 'Hello World!'
```

```
if n < 0: print 'Hello World!'
```

```
1 [true, false].cycle([0, 1, 2, 3, 4]) do |a, b|
2   puts "#{a.inspect} => #{b.inspect}"
```

### 3.2 Unnumbered source code listing

This source-highlight filtered block:

```
[source,python]
-----
''' A multi-line
    comment.'''
def sub_word(mo):
    ''' Single line comment.'''
    word = mo.group('word')    # Inline comment
    if word in keywords[language]:
        return quote + word + quote
    else:
        return word
-----
```

Renders this highlighted source code:

```
''' A multi-line
    comment.'''
def sub_word(mo):
    ''' Single line comment.'''
    word = mo.group('word')    # Inline comment
    if word in keywords[language]:
        return quote + word + quote
    else:
        return word
```

### 3.3 Numbered source code listing with callouts

This source-highlight filtered block:

```
[source,ruby,numbered]
-----
#
# Useful Ruby base class extensions.
#

class Array

  # Execute a block passing it corresponding items in
  # +self+ and +other_array+.
  # If self has less items than other_array it is repeated.

  def cycle(other_array) # :yields: item, other_item
    other_array.each_with_index do |item, index|
      yield(self[index % self.length], item)
    end
  end

end

if $0 == __FILE__                                     <1>
  # Array#cycle test
  # true => 0
  # false => 1
  # true => 2
  # false => 3
  # true => 4
```

```
puts 'Array#cycle test' <2>
[true, false].cycle([0, 1, 2, 3, 4]) do |a, b|
  puts "#{a.inspect} => #{b.inspect}"
end
end
-----
```

<1> First callout.

<2> Second callout.

Renders this highlighted source code:

```
1 #
2 # Useful Ruby base class extensions.
3 #
4
5 class Array
6
7   # Execute a block passing it corresponding items in
8   # +self+ and +other_array+.
9   # If self has less items than other_array it is repeated.
10
11   def cycle(other_array) # :yields: item, other_item
12     other_array.each_with_index do |item, index|
13       yield(self[index % self.length], item)
14     end
15   end
16
17 end
18
19 if $0 == __FILE__ ❶
20   # Array#cycle test
21   # true => 0
22   # false => 1
23   # true => 2
24   # false => 3
25   # true => 4
26   puts 'Array#cycle test' ❷
27   [true, false].cycle([0, 1, 2, 3, 4]) do |a, b|
28     puts "#{a.inspect} => #{b.inspect}"
29   end
30 end
```

❶ First callout.

❷ Second callout.

---

### Tip

- If the source *language* attribute has been set (using an *AttributeEntry* or from the command-line) you don't have to specify it in each source code block.
  - You may need to place callout markers inside source code comments to ensure they are not misinterpreted and mangled by the highlighter.
-

## 4 Installation

### 4.1 HTML

If you want to syntax highlight AsciiDoc HTML outputs (`html4` and `xhtml11` backends) you need to install [GNU source-highlight](#) or [Pygments](#) (most distributions have these packages).

### 4.2 DocBook

AsciiDoc encloses the source code in a DocBook *programlisting* element and leaves source code highlighting to the DocBook toolchain (d<sub>o</sub>blatex has a particularly nice programlisting highlighter). The DocBook programlisting element is assigned two attributes:

1. The *language* attribute is set to the AsciiDoc *language* attribute.
2. The *linenumbers* attribute is set to the AsciiDoc *src\_numbered* attribute (*numbered* or *unnumbered*).

### 4.3 Testing

Test the filter by converting the test file to HTML with AsciiDoc:

```
$ asciidoc -v ./filters/source/source-highlight-filter-test.txt
$ firefox ./filters/source/source-highlight-filter-test.html &
```