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# **sphinx-toolbox**

***Release 2.15.1***

**Box of handy tools for Sphinx**

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## Installation

### 1.1 from PyPI

```
$ python3 -m pip install sphinx-toolbox --user
```

### 1.2 from Anaconda

First add the required channels

```
$ conda config --add channels https://conda.anaconda.org/conda-forge  
$ conda config --add channels https://conda.anaconda.org/domdfcoding
```

Then install

```
$ conda install sphinx-toolbox
```

### 1.3 from GitHub

```
$ python3 -m pip install git+https://github.com/sphinx-toolbox/sphinx-toolbox@master --user
```





# **Part I**

## **Extensions**



## Overview

Enable `sphinx-toolbox` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx.ext.viewcode',
    'sphinx_tabs.tabs',
    'sphinx-prompt',
    'sphinx_toolbox',
]
```

The following features are enabled by default:

- `sphinx_toolbox.assets`
- `sphinx_toolbox.changeset`
- `sphinx_toolbox.code`
- `sphinx_toolbox.collapse`
- `sphinx_toolbox.confval`
- `sphinx_toolbox.decorators`
- `sphinx_toolbox.formatting`
- `sphinx_toolbox.github`
- `sphinx_toolbox.installation`
- `sphinx_toolbox.issues`
- `sphinx_toolbox.latex`
- `sphinx_toolbox.rest_example`
- `sphinx_toolbox.shields*`
- `sphinx_toolbox.sidebar_links`
- `sphinx_toolbox.source`
- `sphinx_toolbox.wikipedia`
- `sphinx_toolbox.more_autodoc.autonamedtuple`
- `sphinx_toolbox.more_autodoc.autoprotocol`
- `sphinx_toolbox.more_autodoc.autotypeddict`

\* Indicates that the extension cannot be enabled separately from the rest of `sphinx_toolbox`.

Some features must be enabled separately:

- `sphinx_toolbox.more_autodoc`
  - `sphinx_toolbox.more_autodoc.augment_defaults`
  - `sphinx_toolbox.more_autodoc.generic_bases`
  - `sphinx_toolbox.more_autodoc.genericalias`
  - `sphinx_toolbox.more_autodoc.no_docstring`
  - `sphinx_toolbox.more_autodoc.overloads`
  - `sphinx_toolbox.more_autodoc.regex`
  - `sphinx_toolbox.more_autodoc.sourcelink`
  - `sphinx_toolbox.more_autodoc.typehints`
  - `sphinx_toolbox.more_autodoc.typevars`
  - `sphinx_toolbox.more_autodoc.variables`

`sphinx_toolbox.more_autodoc` can also be specified as an extension, which enables all of the above features.

- `sphinx_toolbox.more_autosummary`

Provides a patched version of `sphinx.ext.autosummary.Autosummary` to fix an issue where the module name is sometimes duplicated.

I.e. `foo.bar.baz()` became `foo.bar.foo.bar.baz()`, which of course doesn't exist and created a broken link.

## assets

Role to provide a link to open a file within the web browser, rather than downloading it.

New in version 0.5.0.

Enable `sphinx_toolbox.assets` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.assets',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 3.1 Usage

#### **:asset:**

Adds a link to a local file that can be viewed within the web browser. The file will be copied from the directory set in `assets_dir` to `/_assets` in the HTML output.

This is similar to the `download` role, but that role will download the file to the user's computer instead. This role may be useful for PDFs, which most web browsers can display.

If the file can't be found an error will be shown in the build output:

```
<page where the error occurred>: Asset file '<missing asset file name>' not found.
```

#### **Asset**

```
:asset:`hello_world.txt`

:asset:`hello_world <hello_world.txt>`
```

hello\_world.txt

hello\_world

#### **Download**

```
:download:`hello_world.txt <../assets/hello_world.txt>`
```

hello\_world.txt

## 3.2 Configuration

### `assets_dir`

**Type:** `str`

**Required:** `False`

**Default:** `'./assets'`

The directory in which to find assets for the `asset` role.

## 3.3 API Reference

### Functions:

<code>asset_role(name, rawtext, text, lineno, inliner)</code>	Adds a link to an asset.
<code>visit_asset_node(translator, node)</code>	Visit an <code>AssetNode</code> .
<code>depart_asset_node(translator, node)</code>	Depart an <code>AssetNode</code> .
<code>setup(app)</code>	Setup <code>sphinx_toolbox.assets</code> .

### Classes:

<code>AssetNode([rawsource, text])</code>	Node representing a link to an asset.
---	---------------------------------------

**`asset_role`** (*name, rawtext, text, lineno, inliner, options={}, content=[]*)

Adds a link to an asset.

#### Parameters

- **name** (`str`) – The local name of the interpreted role, the role name actually used in the document.
- **rawtext** (`str`) – A string containing the entire interpreted text input, including the role and markup.
- **text** (`str`) – The interpreted text content.
- **lineno** (`int`) – The line number where the interpreted text begins.
- **inliner** (`Inliner`) – The `docutils.parsers.rst.states.Inliner` object that called `source_role()`. It contains the several attributes useful for error reporting and document tree access.
- **options** (`Dict`) – A dictionary of directive options for customization (from the `role` directive), to be interpreted by the function. Used for additional attributes for the generated elements and other functionality. Default `{}`.
- **content** (`List[str]`) – A list of strings, the directive content for customization (from the `role` directive). To be interpreted by the function. Default `[]`.

**Return type** `Tuple[Sequence[AssetNode], List[system_message]]`

**Returns** A list containing the created node, and a list containing any messages generated during the function.

**class `AssetNode`** (*rawsource="", text="", \*children, \*\*attributes*)

Bases: `reference`

Node representing a link to an asset.

**visit\_asset\_node** (*translator, node*)

Visit an *AssetNode*.

**Parameters**

- **translator** (*HTMLTranslator*)
- **node** (*AssetNode*) – The node being visited.

**depart\_asset\_node** (*translator, node*)

Depart an *AssetNode*.

**Parameters**

- **translator** (*HTMLTranslator*)
- **node** (*AssetNode*) – The node being visited.

**setup** (*app*)

Setup *sphinx\_toolbox.assets*.

New in version 1.0.0.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*





## changeset

Customised versions of Sphinx's *versionadded*, *versionchanged* and *deprecated* directives to correctly handle bullet lists.

New in version 2.11.0.

Enable `sphinx_toolbox.changeset` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.changeset',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 4.1 Usage

**.. versionadded:: version**

Documents the version of the project which added the described feature.

The first argument must be given and is the version in question; you can add a second argument consisting of a *brief* explanation of the change. Alternatively, a longer description may be given in the body of the directive.

**.. versionchanged:: version**

Similar to *versionadded*, but describes when and what changed in the feature in some way (new parameters, changed side effects, etc.).

**.. deprecated:: version**

Similar to *versionchanged*, but describes when the feature was deprecated. An explanation can also be given, for example to inform the reader what should be used instead.

This extension also adds the following directive:

**.. versionremoved:: version [details]**

Similar to *versionchanged*, but describes when the feature was or will be removed. An explanation can also be given, for example to inform the reader what should be used instead.

## 4.2 API Reference

**class** `VersionChange` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `VersionChange`

Directive to describe a addition/change/deprecation/removal in a specific version.

**setup** (*app*)

Setup `sphinx_toolbox.changeset`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 4.3 Examples

```
.. versionadded:: 2.4
.. versionadded:: 2.5 The *spam* parameter.

.. versionadded:: 2.6
   The *parrot* parameter.

.. deprecated:: 3.1
   Use :func:`spam` instead.

.. deprecated:: 3.2 Use :func:`lobster` instead.

.. versionremoved:: 1.2.3 Use :func:`foo` instead.

.. versionremoved:: 1.2.3

   Due to an unfixable bug this function has been removed.
   If you desperately need this functionality please write to the mailing list at
   :email:`python-users@example.org`

.. versionchanged:: 0.3.0

   * Parameters for __init__ can be documented either in the class docstring
     or alongside the attribute.
     The class docstring has priority.
   * Added support for autodocsumm <https://github.com/Chilipp/autodocsumm>.
```

New in version 2.4.

New in version 2.5: The *spam* parameter.

New in version 2.6: The *parrot* parameter.

Deprecated since version 3.1: Use `spam()` instead.

Deprecated since version 3.2: Use `lobster()` instead.

Removed in version 1.2.3: Use `foo()` instead.

Removed in version 1.2.3: Due to an unfixable bug this function has been removed. If you desperately need this functionality please write to the mailing list at [python-users@example.org](mailto:python-users@example.org)

Changed in version 0.3.0:

- Parameters for `__init__` can be documented either in the class docstring or alongside the attribute. The class docstring has priority.
- Added support for [autodocsumm](#).



Customised `.. code-block::` directive with an adjustable indent size.

Enable `sphinx_toolbox.code` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.code',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 5.1 Usage

`.. code-block::` [language]

`.. sourcecode::` [language]

Customised `.. code-block::` directive with an adjustable indent size.

`:tab-width: width (integer)`

Sets the size of the indentation in spaces.

All other options from `code-block` are available, see the [Sphinx documentation](#) for details.

### Examples

```
.. code-block:: python

    def print(text):
        sys.stdout.write(text)
```

```
def print(text):
    sys.stdout.write(text)
```

```
.. code-block:: python
    :tab-width: 8

    def print(text):
        sys.stdout.write(text)
```

```
def print(text):
    sys.stdout.write(text)
```

```
.. code-cell:: [language]
.. output-cell:: [language]
```

Customised `.. code-block::` directives which display an execution count to the left of the code block, similar to a Jupyter Notebook cell.

New in version 2.6.0.

**:execution-count: count (positive integer)**

The execution count of the cell.

All other options from the `code-block` directive above are available.

### Examples

```
.. code-cell:: python
   :execution-count: 1

   def print(text):
       sys.stdout.write(text)

   print("hello world")

.. output-cell::
   :execution-count: 1

   hello world
```

In [1]:

```
def print(text):
    sys.stdout.write(text)

print("hello world")
```

[1]:

```
hello world
```

```
.. code-cell:: python
   :execution-count: 2
   :tab-width: 8

   def print(text):
       sys.stdout.write(text)
```

In [2]:

```
def print(text):
    sys.stdout.write(text)
```

**See also:** [nbsphinx](#), which inspired these directives and provides additional functionality for integrating Jupyter Notebooks with Sphinx.

## 5.2 API Reference

### Classes:

<code>CodeBlock(name, arguments, options, content, ...)</code>	Directive for a code block with special highlighting or line numbering settings.
<code>CodeCell(name, arguments, options, content, ...)</code>	Customised code block which displays an execution count to the left of the code block, similar to a Jupyter Notebook cell.
<code>OutputCell(name, arguments, options, ...)</code>	Variant of <code>CodeCell</code> for displaying the output of a cell in a Jupyter Notebook.
<code>Prompt([rawsource, text])</code>	Represents a cell prompt for a <code>CodeCell</code> and <code>OutputCell</code> .

### Functions:

<code>visit_prompt_html(translator, node)</code>	Visit a <code>Prompt</code> node with the HTML translator.
<code>visit_prompt_latex(translator, node)</code>	Visit a <code>Prompt</code> node with the LaTeX translator.
<code>copy_asset_files(app[, exception])</code>	Copy additional stylesheets into the HTML build directory.
<code>configure(app, config)</code>	Configure <code>sphinx_toolbox.code</code> .
<code>setup(app)</code>	Setup <code>sphinx_toolbox.code</code> .

**class** `CodeBlock` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `CodeBlock`

Directive for a code block with special highlighting or line numbering settings.

The `indent_size` can be adjusted with the `:tab-width: <int>` option.

**run** ()

Process the content of the code block.

**Return type** `List[Node]`

**class** `CodeCell` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `CodeBlock`

Customised code block which displays an execution count to the left of the code block, similar to a Jupyter Notebook cell.

The `indent_size` can be adjusted with the `:tab-width: <int>` option.

The execution count can be set using the `:execution-count: <int>` option.

New in version 2.6.0.

**run** ()

Process the content of the code block.

**Return type** `List[Node]`

**class** `OutputCell` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `CodeCell`

Variant of `CodeCell` for displaying the output of a cell in a Jupyter Notebook.

The `indent_size` can be adjusted with the `:tab-width: <int>` option.

The execution count can be set using the `:execution-count: <int>` option.

New in version 2.6.0.

**class** `Prompt` (*rawsource="", text="", \*children, \*\*attributes*)

Bases: `General`, `FixedTextElement`

Represents a cell prompt for a `CodeCell` and `OutputCell`.

New in version 2.6.0.

**visit\_prompt\_html** (*translator, node*)

Visit a `Prompt` node with the HTML translator.

New in version 2.6.0.

#### Parameters

- **translator** (`HTMLTranslator`)
- **node** (`Prompt`)

**visit\_prompt\_latex** (*translator, node*)

Visit a `Prompt` node with the LaTeX translator.

New in version 2.6.0.

#### Parameters

- **translator** (`LaTeXTranslator`)
- **node** (`Prompt`)

**copy\_asset\_files** (*app, exception=None*)

Copy additional stylesheets into the HTML build directory.

New in version 2.6.0.

#### Parameters

- **app** (`Sphinx`) – The Sphinx application.
- **exception** (`Optional[Exception]`) – Any exception which occurred and caused Sphinx to abort. Default `None`.

**configure** (*app, config*)

Configure `sphinx_toolbox.code`.

New in version 2.9.0.

#### Parameters

- **app** (`Sphinx`) – The Sphinx application.
- **config** (`Config`)



**setup** (*app*)

Setup *sphinx\_toolbox.code*.

New in version 1.0.0.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*



## collapse

Adds a collapsible section to an HTML page using a `details` element.

New in version 2.5.0.

Enable `sphinx_toolbox.collapse` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.collapse',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 6.1 Usage

**.. collapse::** [label]

Adds a collapsible section to an HTML page using a `details` element.

With non-HTML builders, the content will be added as-is.

```
.. collapse:: Details

    Something small enough to escape casual notice.

.. collapse:: A Different Label
   :class: custom-summary
   :name: summary0

    Something else that might escape notice.

.. collapse:: A long code block

   .. code-block:: python

       print("Not really")
```

Something small enough to escape casual notice.

Something else that might escape notice.

```
print("Not really")
```

## 6.2 API Reference

### Classes:

<code>CollapseDirective</code> (name, arguments, options, ...)	A Sphinx directive to add a collapsible section to an HTML page using a <code>details</code> element.
<code>CollapseNode</code> ([rawsource, label])	Node that represents a collapsible section.

### Functions:

<code>visit_collapse_node</code> (translator, node)	Visit a <code>CollapseNode</code> .
<code>depart_collapse_node</code> (translator, node)	Depart a <code>CollapseNode</code> .
<code>setup</code> (app)	Setup <code>sphinx_toolbox.collapse</code> .

**class** `CollapseDirective` (name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine)

Bases: `SphinxDirective`

A Sphinx directive to add a collapsible section to an HTML page using a `details` element.

### Methods:

<code>run</code> ()	Process the content of the directive.
---------------------	---------------------------------------

**run** ()

Process the content of the directive.

**Return type** `Sequence[Node]`

**class** `CollapseNode` (rawsource="", label=None, \*children, \*\*attributes)

Bases: `Body`, `Element`

Node that represents a collapsible section.

### Parameters

- **rawsource** (`str`) – Default `''`.
- **label** (`Optional[str]`) – Default `None`.

**visit\_collapse\_node** (translator, node)

Visit a `CollapseNode`.

### Parameters

- **translator** (`HTMLTranslator`)
- **node** (`CollapseNode`) – The node being visited.

**depart\_collapse\_node** (translator, node)

Depart a `CollapseNode`.

### Parameters

- **translator** (`HTMLTranslator`)
- **node** (`CollapseNode`) – The node being visited.

**setup** (*app*)

Setup *sphinx\_toolbox.collapse*.

**Parameters** *app* (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*



## confval

The `confval` directive and role for configuration values.

Enable `sphinx_toolbox.confval` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.confval',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 7.1 Usage

.. **confval::** name

Used to document a configuration value.

**:type:** (string)

Indicates the configuration value's type.

**:default:** (string)

Indicates the default value.

**:required:** (flag)

Indicates the whether the configuration value is required.

**:noindex:** (flag)

Disables the index entry and cross-referencing for this configuration value.

New in version 2.11.0.

**:confval:**

Role which provides a cross-reference to a `confval` directive.

#### Examples:

```
.. confval:: demo
   :type: string
   :default: ``"Hello World"``
   :required: False
```

**demo**

**Type:** string

**Required:** False

**Default:** "Hello World"

To enable this feature set the `:confval:`demo`` configuration value to "True".

To enable this feature set the `demo` configuration value to “True”.

## 7.2 API Reference

### Classes:

---

<code>ConfigurationValue</code> (name, arguments, options, ...)	The confval directive.
---	------------------------

---

### Functions:

---

<code>register_confval</code> (app[, override])	Create and register the confval role and directive.
<code>setup</code> (app)	Setup <code>sphinx_toolbox.confval</code> .

---

**class ConfigurationValue** (name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine)

Bases: GenericObject

The confval directive.

Changed in version 1.1.0: The formatting of the type, required and default options can be customised using the `self.format_*` methods.

Changed in version 2.11.0: Added the `:noindex:` option, which disables the index entry and cross-referencing for this configuration value.

### Methods:

---

<code>run</code> ()	Process the content of the directive.
<code>format_type</code> (the_type)	Formats the <code>:type:</code> option.
<code>format_required</code> (required)	Formats the <code>:required:</code> option.
<code>format_default</code> (default)	Formats the <code>:default:</code> option.

---

**run** ()

Process the content of the directive.

**Return type** `List[Node]`

**static format\_type** (the\_type)

Formats the `:type:` option.

New in version 1.1.0.

**Parameters** the\_type (`str`)

**Return type** `str`

**static format\_required** (required)

Formats the `:required:` option.

New in version 1.1.0.



**Parameters** `required` (`str`)

**Return type** `bool`

**static** `format_default` (*default*)

Formats the `:default:` option.

New in version 1.1.0.

**Parameters** `default` (*str*)

**Return type** *str*

**register\_confval** (*app*, *override=False*)

Create and register the `confval` role and directive.

**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **override** (*bool*) – Default `False`.

**setup** (*app*)

Setup `sphinx_toolbox.confval`.

New in version 0.7.0.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*

## decorators

reStructuredText XRef role for decorators.

New in version 0.9.0.

Enable `sphinx_toolbox.decorators` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.decorators',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 8.1 Usage

**:deco:**

Adds a cross reference to a decorator, prefixed with an @.

```
.. decorator:: my_decorator

    A decorator.

:deco:`my_decorator`

:deco:`@my_decorator`

:deco:`Title <my_decorator>`
```

```
@my_decorator
    A decorator.

@my_decorator

@my_decorator

Title
```

## 8.2 API Reference

### Classes:

---

<code>PyDecoXRefRole([fix_parens, lowercase, ...])</code>	XRef Role for decorators members.
---	-----------------------------------

---

### Functions:

---

<code>setup(app)</code>	Setup <code>sphinx_toolbox.decorators</code> .
-------------------------	--

---

**class** `PyDecoXRefRole` (*fix\_parens=False, lowercase=False, nodeclass=None, innernodeclass=None, warn\_dangling=False*)

Bases: `PyXRefRole`

XRef Role for decorators members.

### Methods:

---

<code>process_link(env, refnode, ...)</code>	Called after parsing title and target text, and creating the reference node (given in <code>refnode</code> ).
--	---

---

**process\_link** (*env, refnode, has\_explicit\_title, title, target*)

Called after parsing title and target text, and creating the reference node (given in `refnode`).

This method can alter the reference node and must return a new (or the same) (`title`, `target`) tuple.

### Parameters

- **env** (`BuildEnvironment`)
- **refnode** (`Element`)
- **has\_explicit\_title** (`bool`)
- **title** (`str`)
- **target** (`str`)

**Return type** `Tuple[str, str]`

**setup** (*app*)

Setup `sphinx_toolbox.decorators`.

**Parameters** **app** (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## documentation\_summary

Allows insertion of a summary line on the title page generated with the LaTeX builder, and at a custom location throughout the document.

New in version 2.2.0.

Enable `sphinx_toolbox.documentation_summary` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.documentation_summary',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 9.1 Configuration

### documentation\_summary

Type: `str`

The documentation summary to display on the title page with the LaTeX builder, and at the location of `documentation-summary` directives for other builders.

If undefined no summary is shown.

## 9.2 Usage

**.. documentation-summary::**

Adds the documentation summary as configured above.

### Example

```
.. documentation-summary::
```

**:meta:**

Include the summary as a `meta` “description” tag in the HTML output.

The structure of the description is `{project} -- {summary}`, where `project` is configured in `conf.py`.

See the [sphinx documentation](#) for more information on the `project` option.

New in version 2.10.0.

## 9.3 API Reference

### Classes:

---

<code>DocumentationSummaryDirective(name, ...)</code>	A Sphinx directive for creating a summary line.
---	---

---

### Functions:

---

<code>configure(app, config)</code>	Configure	<code>sphinx_toolbox.documentation_summary.</code>
<code>setup(app)</code>	Setup	<code>sphinx_toolbox.documentation_summary.</code>

---

**class** `DocumentationSummaryDirective` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

A Sphinx directive for creating a summary line.

### Methods:

---

<code>run()</code>	Process the content of the directive.
--------------------	---------------------------------------

---

**run** ()

Process the content of the directive.

**Return type** `List[Node]`

**configure** (*app, config*)

Configure `sphinx_toolbox.documentation_summary.`

### Parameters

- **app** (`Sphinx`) – The Sphinx application.
- **config** (`Config`)

**setup** (*app*)

Setup `sphinx_toolbox.documentation_summary.`

**Parameters** **app** (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## flake8

A Sphinx directive for documenting flake8 codes.

New in version 1.6.0.

Enable `sphinx_toolbox.flake8` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.flake8',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 10.1 Usage

.. **flake8-codes**:: plugin

Adds a table documenting a flake8 plugin's codes.

The directive takes a single argument – the fully qualified name of the flake8 plugin module.

Codes to document are given in the body of the directive.

### Example

```
.. flake8-codes:: flake8_dunder_all

DALL000
```

Code	Description
DALL000	Module lacks <code>__all__</code> .

## 10.2 API Reference

**class Flake8CodesDirective** (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

A Sphinx directive for documenting flake8 codes.

**setup** (*app*)

Setup `sphinx_toolbox.flake8`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`





## formatting

Directives, roles and nodes for text formatting.

New in version 0.2.0.

Enable `sphinx_toolbox.formatting` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.formatting',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 11.1 Usage

#### **:iabbr:**

An abbreviation. If the role content contains a parenthesized explanation, it will be treated specially: it will be shown in a tool-tip in HTML, and output only once in LaTeX.

Unlike Sphinx's `abbr` role, this one shows the abbreviation in italics.

New in version 0.2.0.

#### **Example**

```
:iabbr:`LIFO (last-in, first-out)`
```

LIFO (*last-in, first-out*)

#### **:bold-title:**

Role for displaying a pseudo title in bold.

This is useful for breaking up Python docstrings.

New in version 2.12.0.

#### **Example**

```
:bold-title:`Examples:`  
  
:bold-title:`Other Extensions`
```

#### **Examples:**

## Other Extensions

## 11.2 API Reference

## Classes:

<code><i>ItalicAbbreviationNode</i>([rawsource, text])</code>	Docutils Node to show an abbreviation in italics.
<code><i>ItalicAbbreviation</i>()</code>	Docutils role to show an abbreviation in italics.

## Functions:

<code><i>visit_iabbr_node</i>(translator, node)</code>	Visit an <i>ItalicAbbreviationNode</i> .
<code><i>depart_iabbr_node</i>(translator, node)</code>	Depart an <i>ItalicAbbreviationNode</i> .
<code><i>latex_visit_iabbr_node</i>(translator, node)</code>	Visit an <i>ItalicAbbreviationNode</i> .
<code><i>latex_depart_iabbr_node</i>(translator, node)</code>	Depart an <i>ItalicAbbreviationNode</i> .
<code><i>setup</i>(app)</code>	Setup <i>sphinx_toolbox.formatting</i> .

**class** **ItalicAbbreviationNode** (*rawsource*="", *text*="", \**children*, \*\**attributes*)

Bases: `abbreviation`

Docutils Node to show an abbreviation in italics.

**class** **ItalicAbbreviation**

Bases: `Abbreviation`

Docutils role to show an abbreviation in italics.

## Methods:

<code><i>run</i>()</code>	Process the content of the italic abbreviation role.
---------------------------	--

**run** ()

Process the content of the italic abbreviation role.

**Return type** `Tuple[List[Node], List[system_message]]`

**visit\_iabbr\_node** (*translator*, *node*)

Visit an *ItalicAbbreviationNode*.

## Parameters

- **translator** (`HTMLTranslator`)
- **node** (*ItalicAbbreviationNode*) – The node being visited.

**depart\_iabbr\_node** (*translator*, *node*)

Depart an *ItalicAbbreviationNode*.

## Parameters

- **translator** (`HTMLTranslator`)
- **node** (*ItalicAbbreviationNode*) – The node being visited.

**latex\_visit\_iabbr\_node** (*translator, node*)

Visit an *ItalicAbbreviationNode*.

**Parameters**

- **translator** (*LaTeXTranslator*)
- **node** (*ItalicAbbreviationNode*) – The node being visited.

**latex\_depart\_iabbr\_node** (*translator, node*)

Depart an *ItalicAbbreviationNode*.

**Parameters**

- **translator** (*LaTeXTranslator*)
- **node** (*ItalicAbbreviationNode*) – The node being visited.

**setup** (*app*)

Setup *sphinx\_toolbox.formatting*.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*



## github

Sphinx domain for GitHub.com, and related utilities.

New in version 2.4.0.

Enable `sphinx_toolbox.github` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.github',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 12.1 Configuration

### **github\_username**

**Type:** `str`

**Required:** `True`

The username of the GitHub account that owns the repository this documentation corresponds to.

### **github\_repository**

**Type:** `str`

**Required:** `True`

The GitHub repository this documentation corresponds to.

## 12.2 Usage

### **:github:issue:**

Role which shows a link to the given issue on GitHub.

If the issue exists, the link has a tooltip that shows the title of the issue.

#### **Example**

```
:github:issue:`1`
```

#1

You can also reference an issue in a different repository by adding the repository name inside `<>`.

```
:github:issue:`7680 <pytest-dev/pytest>`
```

`pytest-dev/pytest#7680`

**:github:pull:**

Role which shows a link to the given pull request on GitHub.

If the pull requests exists, the link has a tooltip that shows the title of the pull requests.

**Example**

```
:github:pull:`2`
```

`#2`

You can also reference a pull request in a different repository by adding the repository name inside `<>`.

```
:github:pull:`7671 <pytest-dev/pytest>`
```

`pytest-dev/pytest#7671`

**:github:repo:**

Role which shows a link to the given repository on GitHub.

**Example**

```
:github:repo:`sphinx-toolbox/sphinx-toolbox`
```

`sphinx-toolbox/sphinx-toolbox`

You can also use a different label for the link:.

```
See more in the :github:repo:`pytest repository <pytest-dev/pytest>`.
```

See more in the `pytest` repository.

**:github:user:**

Role which shows a link to the given user on GitHub.

**Example**

```
:github:user:`domdfcoding`
```

`@domdfcoding`

You can also use a different label for the link:.

```
See more of my :github:user:`repositories <domdfcoding>`.
```

See more of my `repositories`.

**:github:org:**

Role which shows a link to the given organization on GitHub.

**Example**

```
:github:org:`sphinx-toolbox`
```

`@sphinx-toolbox`

You can also use a different label for the link:.

See more repositories in the `:github:org:pytest-dev org <pytest-dev>`.

See more repositories in the [pytest-dev org](#).

## 12.3 Caching

HTTP requests to obtain issue/pull request titles are cached for four hours.

To clear the cache manually, run:

```
$ python3 -m sphinx_toolbox
```

## 12.4 API Reference

Enable this extension from your extension's setup function like so:

```
def setup(app: Sphinx) -> Dict[str, Any]:
    app.setup_extension('sphinx_toolbox.github')
    return {}
```

This will guarantee that the following values will be available via `app.config`:

- **github\_username** (`str`) – The username of the GitHub account that owns the repository this documentation corresponds to.
- **github\_repository** (`str`) – The GitHub repository this documentation corresponds to.
- **github\_url** (`apeye.requests_url.RequestsURL`) – The complete URL of the repository on GitHub.
- **github\_source\_url** (`RequestsURL`) – The base URL for the source code on GitHub.
- **github\_issues\_url** (`RequestsURL`) – The base URL for the issues on GitHub.
- **github\_pull\_url** (`RequestsURL`) – The base URL for the pull requests on GitHub.

If the user has not provided either `github_username` or `github_repository` a *MissingOptionError* will be raised.

### Classes:

<code>GitHubDomain(env)</code>	Sphinx domain for <a href="#">GitHub.com</a> .
--------------------------------	--

### Functions:

<code>validate_config(app, config)</code>	Validate the provided configuration values.
<code>setup(app)</code>	Setup <code>sphinx_toolbox.github</code> .

```
class GitHubDomain(env)
```

Bases: `Domain`

Sphinx domain for [GitHub.com](#).

**validate\_config** (*app*, *config*)

Validate the provided configuration values.

See *ToolboxConfig* for a list of the configuration values.**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **config** (*Config*)

**setup** (*app*)Setup *sphinx\_toolbox.github*.

New in version 1.0.0.

**Parameters** **app** (*Sphinx*) – The Sphinx application.**Return type** *SphinxExtMetadata*

## 12.5 github.issues submodule

Roles and nodes for GitHub issues and Pull Requests.

**Classes:**

<i>IssueNode</i> ( <i>issue_number</i> , <i>refuri</i> , <i>**kwargs</i> )	Docutils Node to represent a link to a GitHub <i>Issue</i> or <i>Pull Request</i> .
<i>IssueNodeWithName</i> ( <i>repo_name</i> , <i>issue_number</i> , <i>...</i> )	Docutils Node to represent a link to a GitHub <i>Issue</i> or <i>Pull Request</i> , with the repository name shown.

**Functions:**

<i>issue_role</i> ( <i>name</i> , <i>rawtext</i> , <i>text</i> , <i>lineno</i> , <i>inliner</i> )	Adds a link to the given issue on GitHub.
<i>pull_role</i> ( <i>name</i> , <i>rawtext</i> , <i>text</i> , <i>lineno</i> , <i>inliner</i> )	Adds a link to the given pull request on GitHub.
<i>visit_issue_node</i> ( <i>translator</i> , <i>node</i> )	Visit an <i>IssueNode</i> .
<i>depart_issue_node</i> ( <i>translator</i> , <i>node</i> )	Depart an <i>IssueNode</i> .
<i>get_issue_title</i> ( <i>issue_url</i> )	Returns the title of the issue with the given url, or <i>None</i> if the issue isn't found.

**class IssueNode** (*issue\_number*, *refuri*, *\*\*kwargs*)Bases: *reference*Docutils Node to represent a link to a GitHub *Issue* or *Pull Request*.**Parameters**

- **issue\_number** (*Union[str, int]*) – The number of the issue or pull request.
- **refuri** (*Union[str, URL]*) – The URL of the issue / pull request on GitHub.

**class IssueNodeWithName** (*repo\_name*, *issue\_number*, *refuri*, *\*\*kwargs*)Bases: *IssueNode*Docutils Node to represent a link to a GitHub *Issue* or *Pull Request*, with the repository name shown.

New in version 2.4.0.



**Parameters**

- **repo\_name** (`str`) – The full name of the repository, in the form `owner/name`.
- **issue\_number** (`Union[str, int]`) – The number of the issue or pull request.
- **refuri** (`Union[str, URL]`) – The URL of the issue / pull request on GitHub.

**issue\_role** (*name*, *rawtext*, *text*, *lineno*, *inliner*, *options*={}, *content*=[])

Adds a link to the given issue on GitHub.

**Parameters**

- **name** (*str*) – The local name of the interpreted role, the role name actually used in the document.
- **rawtext** (*str*) – A string containing the entire interpreted text input, including the role and markup.
- **text** (*str*) – The interpreted text content.
- **lineno** (*int*) – The line number where the interpreted text begins.
- **inliner** (*Inliner*) – The `docutils.parsers.rst.states.Inliner` object that called `issue_role()`. It contains the several attributes useful for error reporting and document tree access.
- **options** (*Dict[str, Any]*) – A dictionary of directive options for customization (from the `role` directive), to be interpreted by the function. Used for additional attributes for the generated elements and other functionality. Default `{}`.
- **content** (*List[str]*) – A list of strings, the directive content for customization (from the `role` directive). To be interpreted by the function. Default `[]`.

**Return type** `Tuple[List[IssueNode], List[system_message]]`

**Returns** A list containing the created node, and a list containing any messages generated during the function.

**pull\_role** (*name*, *rawtext*, *text*, *lineno*, *inliner*, *options*={}, *content*=[])

Adds a link to the given pull request on GitHub.

**Parameters**

- **name** (*str*) – The local name of the interpreted role, the role name actually used in the document.
- **rawtext** (*str*) – A string containing the entire interpreted text input, including the role and markup.
- **text** (*str*) – The interpreted text content.
- **lineno** (*int*) – The line number where the interpreted text begins.
- **inliner** (*Inliner*) – The `docutils.parsers.rst.states.Inliner` object that called `pull_role()`. It contains the several attributes useful for error reporting and document tree access.
- **options** (*Dict[str, Any]*) – A dictionary of directive options for customization (from the `role` directive), to be interpreted by the function. Used for additional attributes for the generated elements and other functionality. Default `{}`.
- **content** (*List[str]*) – A list of strings, the directive content for customization (from the `role` directive). To be interpreted by the function. Default `[]`.

**Return type** `Tuple[List[IssueNode], List[system_message]]`

**Returns** A list containing the created node, and a list containing any messages generated during the function.

**visit\_issue\_node** (*translator, node*)

Visit an *IssueNode*.

If the node points to a valid issue / pull request, add a tooltip giving the title of the issue / pull request and a hyperlink to the page on GitHub.

**Parameters**

- **translator** (*HTMLTranslator*)
- **node** (*IssueNode*) – The node being visited.

**depart\_issue\_node** (*translator, node*)

Depart an *IssueNode*.

**Parameters**

- **translator** (*HTMLTranslator*)
- **node** (*IssueNode*) – The node being visited.

**get\_issue\_title** (*issue\_url*)

Returns the title of the issue with the given url, or *None* if the issue isn't found.

**Parameters** *issue\_url* (*str*)

**Return type** *Optional[str]*

## 12.6 github.repos\_and\_users submodule

Roles and nodes for referencing GitHub repositories and organizations.

**Classes:**

<i>GitHubObjectLinkNode</i> (name, refuri, **kwargs)	Docutils Node to represent a link to a GitHub repository.
--	---

**Functions:**

<i>repository_role</i> (name, rawtext, text, lineno, ...)	Adds a link to the given repository on GitHub.
<i>user_role</i> (name, rawtext, text, lineno, inliner)	Adds a link to the given user / organization on GitHub.
<i>visit_github_object_link_node</i> (translator, node)	Visit a <i>GitHubObjectLinkNode</i> .
<i>depart_github_object_link_node</i> (translator, node)	Depart an <i>GitHubObjectLinkNode</i> .

**class GitHubObjectLinkNode** (*name, refuri, \*\*kwargs*)

Bases: *reference*

Docutils Node to represent a link to a GitHub repository.

**Parameters**

- **repo\_name** – The full name of the repository, in the form owner/name.
- **refuri** (*Union[str, URL]*) – The URL of the issue / pull request on GitHub.

**repository\_role** (*name*, *rawtext*, *text*, *lineno*, *inliner*, *options*={}, *content*=[])

Adds a link to the given repository on GitHub.

**Parameters**

- **name** (*str*) – The local name of the interpreted role, the role name actually used in the document.
- **rawtext** (*str*) – A string containing the entire interpreted text input, including the role and markup.
- **text** (*str*) – The interpreted text content.
- **lineno** (*int*) – The line number where the interpreted text begins.
- **inliner** (*Inliner*) – The `docutils.parsers.rst.states.Inliner` object that called `repository_role()`. It contains the several attributes useful for error reporting and document tree access.
- **options** (*Dict[str, Any]*) – A dictionary of directive options for customization (from the `role` directive), to be interpreted by the function. Used for additional attributes for the generated elements and other functionality. Default `{}`.
- **content** (*List[str]*) – A list of strings, the directive content for customization (from the `role` directive). To be interpreted by the function. Default `[]`.

**Return type** `Tuple[List[reference], List[system_message]]`

**Returns** A list containing the created node, and a list containing any messages generated during the function.

**user\_role** (*name*, *rawtext*, *text*, *lineno*, *inliner*, *options*={}, *content*=[])

Adds a link to the given user / organization on GitHub.

**Parameters**

- **name** (*str*) – The local name of the interpreted role, the role name actually used in the document.
- **rawtext** (*str*) – A string containing the entire interpreted text input, including the role and markup.
- **text** (*str*) – The interpreted text content.
- **lineno** (*int*) – The line number where the interpreted text begins.
- **inliner** (*Inliner*) – The `docutils.parsers.rst.states.Inliner` object that called `user_role()`. It contains the several attributes useful for error reporting and document tree access.
- **options** (*Dict[str, Any]*) – A dictionary of directive options for customization (from the `role` directive), to be interpreted by the function. Used for additional attributes for the generated elements and other functionality. Default `{}`.
- **content** (*List[str]*) – A list of strings, the directive content for customization (from the `role` directive). To be interpreted by the function. Default `[]`.

**Return type** `Tuple[List[reference], List[system_message]]`

**Returns** A list containing the created node, and a list containing any messages generated during the function.

**visit\_github\_object\_link\_node** (*translator, node*)

Visit a *GitHubObjectLinkNode*.

**Parameters**

- **translator** (*HTMLTranslator*)
- **node** (*GitHubObjectLinkNode*) – The node being visited.

**depart\_github\_object\_link\_node** (*translator, node*)

Depart an *GitHubObjectLinkNode*.

**Parameters**

- **translator** (*HTMLTranslator*)
- **node** (*GitHubObjectLinkNode*) – The node being visited.



## installation

Enable `sphinx_toolbox.installation` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.installation',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 13.1 Configuration

#### `conda_channels`

**Type:** `List[str]`

**Required:** `False`

**Default:** `[]`

The conda channels required to install the library from Anaconda.

An alternative to setting it within the `installation` directive.

### 13.2 Usage

**.. installation::** `name`

Adds a series of tabs providing installation instructions for the project from a number of sources.

The directive takes a single required argument – the name of the project. If the project uses a different name on PyPI and/or Anaconda, the `:pypi-name:` and `:conda-name:` options can be used to set the name for those repositories.

**:pypi:** `(flag)`

Flag to indicate the project can be installed from PyPI.

**:pypi-name:** `name (string)`

The name of the project on PyPI.

**:conda:** `(flag)`

Flag to indicate the project can be installed with Conda.

**:conda-name:** `name (string)`

The name of the project on Conda.

**:conda-channels:** **channels** (comma separated strings)

Comma-separated list of required Conda channels.

This can also be set via the `conda_channels` option.

**:github:** **(flag)**

Flag to indicate the project can be installed from GitHub.

To use this option add the following to your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.github',  
]  
  
github_username = '<your username>  
github_repository = '<your repository>'
```

See `sphinx_toolbox.github` for more information.

### Example

```
.. installation:: sphinx-toolbox  
:pypi:  
:anaconda:  
:conda-channels: domdfcoding,conda-forge  
:github:
```

## 13.2.2 from PyPI

```
$ python3 -m pip install sphinx-toolbox --user
```

## 13.2.3 from Anaconda

First add the required channels

```
$ conda config --add channels https://conda.anaconda.org/domdfcoding  
$ conda config --add channels https://conda.anaconda.org/conda-forge
```

Then install

```
$ conda install sphinx-toolbox
```

## 13.2.4 from GitHub

```
$ python3 -m pip install git+https://github.com/sphinx-toolbox/sphinx-toolbox@master --user
```



**.. extensions::**

Shows instructions on how to enable a Sphinx extension.

The directive takes a single argument – the name of the extension.

**:import-name: (string)**

The name used to import the extension, if different from the name of the extension.

**:no-preamble: (flag)**

Disables the preamble text.

**:no-postamble: (flag)**

Disables the postamble text.

**:first: (flag)**

Puts the entry for extension before its dependencies. By default is placed at the end.

New in version 0.4.0.

**Example**

```
.. extensions:: sphinx-toolbox
   :import-name: sphinx_toolbox

   sphinx.ext.viewcode
   sphinx_tabs.tabs
   sphinx-prompt
```

Enable sphinx-toolbox by adding the following to the extensions variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx.ext.viewcode',
    'sphinx_tabs.tabs',
    'sphinx-prompt',
    'sphinx_toolbox',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 13.3 API Reference

### Classes:

<i>ExtensionsDirective</i> (name, arguments, ...)	Directive to show instructions for enabling the extension.
<i>InstallationDirective</i> (name, arguments, ...)	Directive to show installation instructions.
<i>Sources</i> (*args, **kwargs)	Class to store functions that provide installation instructions for different sources.

### Functions:

<i>conda_installation</i> (options, env)	Source to provide instructions for installing from Anaconda.
<i>copy_asset_files</i> (app[, exception])	Copy additional stylesheets into the HTML build directory.
<i>github_installation</i> (options, env)	Source to provide instructions for installing from GitHub.
<i>make_installation_instructions</i> (options, env)	Make the content of an installation node.
<i>pypi_installation</i> (options, env)	Source to provide instructions for installing from PyPI.
<i>setup</i> (app)	Setup <i>sphinx_toolbox.installation</i> .

### Data:

<i>sources</i>	Instance of <i>Sources</i> .
----------------	------------------------------

**class ExtensionsDirective** (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: *SphinxDirective*

Directive to show instructions for enabling the extension.

#### Methods:

<i>run</i> ()	Create the extensions node.
---------------	-----------------------------

**run** ()

Create the extensions node.

**Return type** *List*[Node]

**class InstallationDirective** (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: *SphinxDirective*

Directive to show installation instructions.

#### Attributes:

<i>options</i>	Mapping of option names to values.
----------------	------------------------------------

**Methods:**

<code>run()</code>	Create the installation node.
<code>run_generic()</code>	Generate generic reStructuredText output.
<code>run_html()</code>	Generate output for HTML builders.

**options****Type:** `Dict[str, Any]`

Mapping of option names to values.

The options are as follows:

- **pypi**: Flag to indicate the project can be installed from PyPI.
- **pypi-name**: The name of the project on PyPI.
- **conda**: Flag to indicate the project can be installed with Conda.
- **conda-name**: The name of the project on Conda.
- **conda-channels**: Comma-separated list of required Conda channels.
- **github**: Flag to indicate the project can be installed from GitHub.

The GitHub username and repository are configured in `conf.py` and are available in `env.config`.**run()**

Create the installation node.

**Return type** `List[Node]`**run\_generic()**

Generate generic reStructuredText output.

**Return type** `List[Node]`**run\_html()**

Generate output for HTML builders.

**Return type** `List[Node]`**class Sources(\*args, \*\*kwargs)**Bases: `List[Tuple[str, str, Callable, Callable, Optional[Dict[str, Callable]]]]`

Class to store functions that provide installation instructions for different sources.

The syntax of each entry is:

```
(option_name, source_name, getter_function, validator_function, extra_options)
```

- `option_name` – a string to use in the directive to specify the source to use,
- `source_name` – a string to use in the tabs to indicate the installation source,
- `getter_function` – the function that returns the installation instructions,
- `validator_function` – a function to validate the option value provided by the user,
- `extra_options` – a mapping of additional options for the directive that are used by the `getter_function`.

**Methods:**

---

<code>register(option_name, source_name[, ...])</code>	Decorator to register a function.
--	-----------------------------------

---

**register** (*option\_name*, *source\_name*, *validator*=<function 'unchanged'>, *extra\_options*=None)

Decorator to register a function.

The function must have the following signature:

```
def function(  
    options: Dict[str, Any], # Mapping of option names to values.  
    env: sphinx.environment.BuildEnvironment, # The Sphinx build environment.  
    ) -> List[str]: ...
```

**Parameters**

- **option\_name** (*str*) – A string to use in the directive to specify the source to use.
- **source\_name** (*str*) – A string to use in tabbed installation instructions to represent this source.
- **validator** (*Callable*) – A function to validate the option value provided by the user. Default `docutils.parsers.rst.directives.unchanged()`.
- **extra\_options** (*Optional[Dict[str, Callable]]*) – An optional mapping of extra option names to validator functions. Default `{}`.

**Return type** *Callable*

**Returns** The registered function.

**Raises** *SyntaxError* if the decorated function does not take the correct arguments.

**conda\_installation** (*options*, *env*)

Source to provide instructions for installing from Anaconda.

**Parameters**

- **options** (*Dict[str, Any]*) – Mapping of option names to values.
- **env** (*BuildEnvironment*) – The Sphinx build environment.

**Return type** *List[str]*

**copy\_asset\_files** (*app*, *exception*=None)

Copy additional stylesheets into the HTML build directory.

New in version 1.2.0.

**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **exception** (*Optional[Exception]*) – Any exception which occurred and caused Sphinx to abort. Default *None*.

**github\_installation** (*options*, *env*)

Source to provide instructions for installing from GitHub.

**Parameters**

- **options** (`Dict[str, Any]`) – Mapping of option names to values.
- **env** (`BuildEnvironment`) – The Sphinx build environment.

**Return type** `List[str]`

**make\_installation\_instructions** (*options*, *env*)

Make the content of an installation node.

**Parameters**

- **options** (`Dict[str, Any]`)
- **env** (`BuildEnvironment`) – The Sphinx build environment.

**Return type** `List[str]`

**pypi\_installation** (*options*, *env*)

Source to provide instructions for installing from PyPI.

**Parameters**

- **options** (`Dict[str, Any]`) – Mapping of option names to values.
- **env** (`BuildEnvironment`) – The Sphinx build environment.

**Return type** `List[str]`

**setup** (*app*)

Setup `sphinx_toolbox.installation`.

New in version 0.7.0.

**Parameters** **app** (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

**sources**

**Type:** `Sources`

Instance of `Sources`.



## issues

Add links to GitHub issues and Pull Requests.

Enable `sphinx_toolbox.issues` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.issues',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 14.1 Usage

#### **:issue:**

Role which shows a link to the given issue on GitHub.

If the issue exists, the link has a tooltip that shows the title of the issue.

##### **Example**

```
:issue:`1`
```

#1

You can also reference an issue in a different repository by adding the repository name inside `<>`.

```
:issue:`7680 <pytest-dev/pytest>`
```

pytest-dev/pytest#7680

#### **:pull:**

Role which shows a link to the given pull request on GitHub.

If the pull requests exists, the link has a tooltip that shows the title of the pull requests.

##### **Example**

```
:pull:`2`
```

#2

You can also reference a pull request in a different repository by adding the repository name inside `<>`.

```
:pull:`7671 <pytest-dev/pytest>`
```

pytest-dev/pytest#7671

Changed in version 2.4.0: *issue* and *pull* now show the repository name when the name differs from that configured in `conf.py`.

Changed in version 2.4.0: These directives are also available in the *github* domain.

The only difference between the *issue* and *pull* roles is in the URL. GitHub uses the same numbering scheme for issues and pull requests, and automatically redirects to the pull request if the user tries to navigate to an issue with that same number.

## 14.2 Caching

HTTP requests to obtain issue/pull request titles are cached for four hours.

To clear the cache manually, run:

```
$ python3 -m sphinx_toolbox
```

## 14.3 API Reference

Changed in version 2.4.0: The following moved to *sphinx\_toolbox.github.issues*:

- *IssueNode*
- *IssueNodeWithName*
- *issue\_role()*
- *pull\_role()*
- *visit\_issue\_node()*
- *depart\_issue\_node()*
- *get\_issue\_title()*

### Functions:

---

<i>setup</i> (app)	Setup <i>sphinx_toolbox.issues</i> .
--------------------	--------------------------------------

---

**setup** (app)

Setup *sphinx\_toolbox.issues*.

New in version 1.0.0.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*



Sphinx utilities for LaTeX builders.

New in version 2.8.0.

In addition to the developer API (see below), `sphinx_toolbox.latex` configures Sphinx and LaTeX to correctly handle symbol footnotes.

Changed in version 2.12.0: Sphinx is also configured to respect `.. only:: html` etc. directives surrounding toctree directives when determining the overall toctree depth.

Enable `sphinx_toolbox.latex` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.latex',  
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 15.1 Example Footnotes

Hello<sup>1</sup>

Goodbye<sup>2</sup>

Symbol\*

Another Symbol<sup>†</sup>

Number Again<sup>3</sup>

Symbol 3<sup>‡</sup>

Symbol 4<sup>§</sup>

Symbol 5<sup>¶</sup>

Symbol 6<sup>||</sup>

Symbol 7<sup>\*\*</sup>

Symbol 8<sup>††</sup>

---

<sup>1</sup> One

<sup>2</sup> Two

\* Buckle my shoe

<sup>†</sup> The second symbol

<sup>3</sup> The number after the symbol

<sup>‡</sup> Symbol 3

<sup>§</sup> Symbol 4

<sup>¶</sup> Symbol 5

<sup>||</sup> Symbol 6

<sup>\*\*</sup> Symbol 7

<sup>††</sup> Symbol 8

Symbol 9<sup>‡‡</sup>

## 15.2 Usage

**`.. latex:samepage::`**

**`.. samepage::`**

Configures LaTeX to make all content within this directive appear on the same page.

This can be useful to avoid awkward page breaks.

This directive has no effect with non-LaTeX builders.

New in version 2.9.0.

**`.. latex:clearpage::`**

**`.. clearpage::`**

Configures LaTeX to start a new page.

This directive has no effect with non-LaTeX builders.

New in version 2.10.0.

**See also:** *latex:cleardoublepage*

**`.. latex:cleardoublepage::`**

**`.. cleardoublepage::`**

Configures LaTeX to start a new page.

In a two-sided printing it also makes the next page a right-hand (odd-numbered) page, inserting a blank page if necessary.

This directive has no effect with non-LaTeX builders.

New in version 2.10.0.

**See also:** *latex:clearpage*

**`.. latex:vspace:: space`**

Configures LaTeX to add or remove vertical space.

The value for *space* is passed verbatim to the `\vspace{}` command. Ensure you pass a valid value.

This directive has no effect with non-LaTeX builders.

New in version 2.11.0.

## 15.3 API Reference

### Functions:

<i>use_package</i> (package, config, *args, **kwargs)	Configure LaTeX to use the given package.
<i>visit_footnote</i> (translator, node)	Visit a <code>docutils.nodes.footnote</code> node with the LaTeX translator.
<i>depart_footnote</i> (translator, node)	Depart a <code>docutils.nodes.footnote</code> node with the LaTeX translator.
<i>replace_unknown_unicode</i> (app[, exception])	Replaces certain unknown unicode characters in the Sphinx LaTeX output with the best equivalents.
<i>better_header_layout</i> (config[, space_before, ...])	Makes LaTeX chapter names lowercase, and adjusts the spacing above and below the chapter name.
<i>configure</i> (app, config)	Configure <i>sphinx_toolbox.latex</i> .
<i>setup</i> (app)	Setup <i>sphinx_toolbox.latex</i> .

### Classes:

---

<sup>‡‡</sup> Symbol 9

<code>SamepageDirective(name, arguments, options, ...)</code>	Directive which configures LaTeX to make all content within this directive appear on the same page.
<code>ClearPageDirective(name, arguments, options, ...)</code>	Directive which configures LaTeX to start a new page.
<code>ClearDoublePageDirective(name, arguments, ...)</code>	Directive which configures LaTeX to start a new page.
<code>VSpaceDirective(name, arguments, options, ...)</code>	Directive which configures LaTeX to add or remove vertical space.
<code>LaTeXDomain(env)</code>	Domain containing various LaTeX-specific directives.

**use\_package** (*package*, *config*, \**args*, \*\**kwargs*)

Configure LaTeX to use the given package.

The `\usepackage` entry is added to the `sphinx.config.Config.latex_elements["preamble"]` attribute.

#### Parameters

- **package** (`str`)
- **config** (`Config`)
- **\*args**
- **\*\*kwargs**

**visit\_footnote** (*translator*, *node*)

Visit a `docutils.nodes.footnote` node with the LaTeX translator.

Unlike the default `visit_footnote` function, this one handles footnotes using symbols.

New in version 2.8.0.

#### Parameters

- **translator** (`LaTeXTranslator`)
- **node** (`footnote`)

**depart\_footnote** (*translator*, *node*)

Depart a `docutils.nodes.footnote` node with the LaTeX translator.

New in version 2.8.0.

#### Parameters

- **translator** (`LaTeXTranslator`)
- **node** (`footnote`)

**class SamepageDirective** (*name*, *arguments*, *options*, *content*, *lineno*, *content\_offset*, *block\_text*, *state*, *state\_machine*)

Bases: `SphinxDirective`

Directive which configures LaTeX to make all content within this directive appear on the same page.

This can be useful to avoid awkward page breaks.

This directive has no effect with non-LaTeX builders.

New in version 2.9.0.

**class ClearPageDirective** (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

Directive which configures LaTeX to start a new page.

This directive has no effect with non-LaTeX builders.

New in version 2.10.0.

**See also:** `ClearDoublePageDirective`

**class ClearDoublePageDirective** (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

Directive which configures LaTeX to start a new page.

In a two-sided printing it also makes the next page a right-hand (odd-numbered) page, inserting a blank page if necessary.

This directive has no effect with non-LaTeX builders.

New in version 2.10.0.

**See also:** `ClearPageDirective`

**class VSpaceDirective** (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

Directive which configures LaTeX to add or remove vertical space.

This directive has no effect with non-LaTeX builders.

New in version 2.11.0.

**class LaTeXDomain** (*env*)

Bases: `Domain`

Domain containing various LaTeX-specific directives.

New in version 2.11.0.

**replace\_unknown\_unicode** (*app, exception=None*)

Replaces certain unknown unicode characters in the Sphinx LaTeX output with the best equivalents.

This function can be hooked into the `build-finished` event as follows:

```
app.connect("build-finished", replace_unknown_unicode)
```

New in version 2.9.0.

#### Parameters

- **app** (`Sphinx`) – The Sphinx application.
- **exception** (`Optional[Exception]`) – Any exception which occurred and caused Sphinx to abort. Default `None`.

**better\_header\_layout** (*config*, *space\_before=10*, *space\_after=20*)

Makes LaTeX chapter names lowercase, and adjusts the spacing above and below the chapter name.

New in version 2.10.0.

**Parameters**

- **config** (*Config*) – The Sphinx configuration object.
- **space\_before** (*int*) – The space, in pixels, before the chapter name. Default 10.
- **space\_after** (*int*) – The space, in pixels, after the chapter name. Default 20.

**configure** (*app*, *config*)

Configure *sphinx\_toolbox.latex*.

**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **config** (*Config*)

**setup** (*app*)

Setup *sphinx\_toolbox.latex*.

New in version 2.8.0.

**Parameters** **app** (*Sphinx*) – The Sphinx application.



## pre\_commit

Sphinx extension to show examples of `.pre-commit-config.yaml` configuration.

New in version 1.6.0.

Enable `sphinx_toolbox.pre_commit` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.pre_commit',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 16.1 Usage

**.. pre-commit::**

Directive which shows an example snippet of `.pre-commit-config.yaml`.

**:rev: (string)**

The revision or tag to clone at.

**:hooks: (comma separated list)**

A list of hooks IDs to document.

If not given the hooks will be parsed from `.pre-commit-hooks.yaml`.

**:args: (comma separated list)**

A list arguments that should or can be provided to the first hook ID.

New in version 1.7.2.

### Example

```
.. pre-commit::
    :rev: v0.0.4
    :hooks: some-hook, some-other-hook
```

```
- repo: https://github.com/sphinx-toolbox/sphinx-toolbox
  rev: v0.0.4
  hooks:
  - id: some-hook
  - id: some-other-hook
```

.. **pre-commit:flake8::** version

Directive which shows an example snippet of `.pre-commit-config.yaml` for a flake8 plugin.

The directive takes a single argument – the version of the flake8 plugin to install from PyPI.

**:flake8-version:** (string)

The version of flake8 to use. Default 3.8.4.

**:plugin-name:** (string)

The name of the plugin to install from PyPI. Defaults to the repository name.

#### Example

```
.. pre-commit:flake8:: 0.0.4
```

```
- repo: https://github.com/pycqa/flake8
  rev: 3.8.4
  hooks:
  - id: flake8
    additional_dependencies:
    - sphinx-toolbox==0.0.4
```

Changed in version 2.8.0: The repository URL now points to GitHub.

## 16.2 API Reference

### Classes:

<code>Flake8PreCommitDirective(name, arguments, ...)</code>	A Sphinx directive for documenting flake8 plugins' pre-commit hooks.
<code>PreCommitDirective(name, arguments, options, ...)</code>	A Sphinx directive for documenting pre-commit hooks.

### Functions:

<code>parse_hooks(hooks)</code>	Parses the comma, semicolon and/or space delimited list of hook IDs.
<code>setup(app)</code>	Setup <code>sphinx_toolbox.pre_commit</code> .

**class** **Flake8PreCommitDirective** (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

A Sphinx directive for documenting flake8 plugins' pre-commit hooks.

**class** **PreCommitDirective** (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

A Sphinx directive for documenting pre-commit hooks.



**parse\_hooks** (*hooks*)

Parses the comma, semicolon and/or space delimited list of hook IDs.

**Parameters** **hooks** (*str*)

**Return type** *List[str]*

**setup** (*app*)

Setup *sphinx\_toolbox.pre\_commit*.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*



## rest\_example

Directive to show example reStructuredText and the rendered output.

Enable `sphinx_toolbox.rest_example` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.rest_example',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 17.1 Usage

**.. rest-example::**

Directive to show example reStructuredText and the rendered output.

**:force: (flag)**

If given, minor errors on highlighting are ignored.

**:emphasize-lines: line numbers (comma separated numbers)**

Emphasize particular lines of the code block:

**:tab-width: number (number)**

Sets the size of the indentation in spaces.

**:dedent: number (number)**

Strip indentation characters from the code block,

### Example

```
.. rest-example::
```

```
    :source:`sphinx_toolbox/config.py`
```

```
    Here is the :source:`source code <sphinx_toolbox/config.py>`
```

```
:source:`sphinx_toolbox/config.py`
```

```
Here is the :source:`source code <sphinx_toolbox/config.py>`
```

`sphinx_toolbox/config.py`

Here is the `source code`

## 17.2 API Reference

### Classes:

---

<code>reSTExampleDirective(name, arguments, ...)</code>	Directive to show some reStructuredText source, and the rendered output.
---	--

---

### Functions:

---

<code>make_rest_example(options, env, content)</code>	Make the content of a reST Example node.
<code>setup(app)</code>	Setup <code>sphinx_toolbox.rest_example</code> .

---

### Data:

---

<code>rest_example_purger</code>	Purger to track rest-example nodes, and remove redundant ones.
----------------------------------	--

---

**class** `reSTExampleDirective` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

Directive to show some reStructuredText source, and the rendered output.

### Methods:

---

<code>run()</code>	Create the <code>rest_example</code> node.
--------------------	--

---

**run ()**  
Create the `rest_example` node.

**Return type** `List[Node]`

**make\_rest\_example** (*options, env, content*)  
Make the content of a reST Example node.

### Parameters

- **options** (`Dict[str, Any]`)
- **content** (`Sequence[str]`) – The user-provided content of the directive.

**Return type** `List[str]`

**rest\_example\_purger** = `Purger('all_rest_example_nodes')`  
**Type:** `Purger`

Purger to track rest-example nodes, and remove redundant ones.

**setup** (*app*)  
Setup `sphinx_toolbox.rest_example`.

New in version 0.7.0.

**Parameters** **app** (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## shields

Directives for shield/badge images.

Enable `sphinx_toolbox.shields` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.shields',  
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 18.1 Usage

Several shield/badge directives are available, like this one:

They function similarly to the `.. image::` directives, although not all options are available. As with the `image` directive, shields can be used as part of substitutions, e.g.

```
This repository uses pre-commit |pre-commit|  
  
.. |pre-commit| pre-commit::
```

All shields have the following options:

- :alt:**  
Alternative text for the shield, used when the image cannot be displayed or the user uses a screen reader.
- :height:**
- :width:**
- :scale:**  
The height/width/scale of the shield.
- :name:**
- :class: (string)**  
Additional CSS class for the shield. All shields have the `sphinx_toolbox_shield` class by default.

### 18.1.1 Shields

```
.. rtd-shield::
    Shield to show the ReadTheDocs documentation build status.

    :project:
        The name of the project on ReadTheDocs.

    :version:
        The documentation version. Default latest.

    :target:
        The hyperlink target of the shield. Useful if the documentation uses a custom domain.
        New in version 1.8.0.

.. pypi-shield::
    Shield to show information about the project on PyPI.

    :project:
        The name of the project on PyPI.

    Only one of the following options is permitted:

    :version:
        Show the package version.

    :py-versions:
        Show the supported python versions.

    :implementations:
        Show the supported python implementations.

    :wheel:
        Show whether the package has a wheel.

    :license:
        Show the license listed on PyPI.

    :downloads:
        Show the downloads for the given period (day / week / month)
        Changed in version 2.5.0: Shields created with this option now link to pypistats.

.. maintained-shield::
    Shield to indicate whether the project is maintained.

    Takes a single argument: the current year.

.. github-shield::
    Shield to show information about a GitHub repository.

    :username:
        The GitHub username. Defaults to github_username.

    :repository:
        The GitHub repository. Defaults to github_repository.
```

**:branch:**  
 The branch to show information about. Default `master`.  
 Required for `commits-since` and `last-commit`.

Only one of the following options is permitted:

**:contributors: (flag)**  
 Show the number of contributors.

**:commits-since: tag (string)**  
 Show the number of commits since the given tag.

**:last-commit: (flag)**  
 Show the date of the last commit.

**:top-language: (flag)**  
 Show the top language and percentage.

**:license: (flag)**  
 Show the license detected by GitHub.

**.. actions-shield::**  
 Shield to show the *GitHub Actions* build status.

**:username:**  
 The GitHub username. Defaults to `github_username`.

**:repository:**  
 The GitHub repository. Defaults to `github_repository`.

**:workflow:**  
 The workflow to show the status for.

**.. requires-io-shield::**  
 Shield to show the *Requires.io* status.

**:username:**  
 The GitHub username. Defaults to `github_username`.

**:repository:**  
 The GitHub repository. Defaults to `github_repository`.

**:branch:**  
 The branch to show the build status for. Default `master`.

**.. coveralls-shield::**  
 Shield to show the code coverage from *Coveralls.io*.

**:username:**  
 The GitHub username. Defaults to `github_username`.

**:repository:**  
 The GitHub repository. Defaults to `github_repository`.

**:branch:**  
 The branch to show the build status for. Default `master`.

**.. codefactor-shield::**

Shield to show the code quality score from [Codefactor](#).

**:username:**

The GitHub username. Defaults to *github\_username*.

**:repository:**

The GitHub repository. Defaults to *github\_repository*.

**.. pre-commit-shield::**

Shield to indicate that the project uses [pre-commit](#).

**.. pre-commit-ci-shield::**

New in version 1.7.0.

Shield to show the [pre-commit.ci](#) status.

**:username:**

The GitHub username. Defaults to *github\_username*.

**:repository:**

The GitHub repository. Defaults to *github\_repository*.

**:branch:**

The branch to show the status for. Default *master*.

**Data:**

<i>SHIELDS_IO</i>	Base URL for shields.io
<i>shield_default_option_spec</i>	Options common to all shields.

**Classes:**

<i>Shield</i> (name, arguments, options, content, ...)	Directive for <a href="#">shields.io</a> shields/badges.
<i>RTFDSShield</i> (name, arguments, options, ...)	Shield to show the <a href="#">ReadTheDocs</a> documentation build status.
<i>PyPIShield</i> (name, arguments, options, ...)	Shield to show information about the project on <a href="#">PyPI</a> .
<i>MaintainedShield</i> (name, arguments, options, ...)	Shield to indicate whether the project is maintained.
<i>GitHubBackedShield</i> (name, arguments, options, ...)	Base class for badges that are based around GitHub.
<i>GitHubShield</i> (name, arguments, options, ...)	Shield to show information about a GitHub repository.
<i>GitHubActionsShield</i> (name, arguments, ...)	Shield to show the <i>GitHub Actions</i> build status.
<i>RequiresIOShield</i> (name, arguments, options, ...)	Shield to show the <a href="#">Requires.io</a> status.
<i>CoverallsShield</i> (name, arguments, options, ...)	Shield to show the code coverage from <a href="#">Coveralls.io</a> .
<i>CodefactorShield</i> (name, arguments, options, ...)	Shield to show the code quality score from <a href="#">Codefactor</a> .
<i>PreCommitShield</i> (name, arguments, options, ...)	Shield to indicate that the project uses <a href="#">pre-commit</a> .
<i>PreCommitCIShield</i> (name, arguments, options, ...)	Shield to show the <a href="#">pre-commit.ci</a> status.

**Functions:**



---

<code>copy_asset_files(app[, exception])</code>	Copy additional stylesheets into the HTML build directory.
<code>setup(app)</code>	Setup <code>sphinx_toolbox.shields</code> .

---

## 18.2 API Reference

**SHIELDS\_IO** = `URL('https://img.shields.io')`

Type: `URL`

Base URL for shields.io

**shield\_default\_option\_spec**

Type: `Mapping[str, Callable[[str], Any]]`

Options common to all shields.

**class Shield**(*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

Directive for `shields.io` shields/badges.

**class RTFDShield**(*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `Shield`

Shield to show the `ReadTheDocs` documentation build status.

Changed in version 1.8.0: Added the `:target:` option, to allow a custom target to be specified. Useful if the documentation uses a custom domain.

**class PyPiShield**(*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `Shield`

Shield to show information about the project on `PyPI`.

**class MaintainedShield**(*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `Shield`

Shield to indicate whether the project is maintained.

**class GitHubBackedShield**(*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `Shield`

Base class for badges that are based around GitHub.

**get\_repo\_details()**

Returns the username and repository name, either parsed from the directive's options or from `conf.py`.

**class GitHubShield**(*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `GitHubBackedShield`

Shield to show information about a GitHub repository.

**class** `GitHubActionsShield` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `GitHubBackedShield`

Shield to show the *GitHub Actions* build status.

**class** `RequiresIOShield` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `GitHubBackedShield`

Shield to show the [Requires.io](#) status.

**class** `CoverallsShield` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `GitHubBackedShield`

Shield to show the code coverage from [Coveralls.io](#).

**class** `CodefactorShield` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `GitHubBackedShield`

Shield to show the code quality score from [Codefactor](#).

**class** `PreCommitShield` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `Shield`

Shield to indicate that the project uses [pre-commit](#).

**class** `PreCommitCIShield` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `GitHubBackedShield`

Shield to show the [pre-commit.ci](#) status.

New in version 1.7.0.

**copy\_asset\_files** (*app, exception=None*)

Copy additional stylesheets into the HTML build directory.

New in version 2.3.1.

#### Parameters

- **app** (`Sphinx`) – The Sphinx application.
- **exception** (`Optional[Exception]`) – Any exception which occurred and caused Sphinx to abort. Default `None`.

**setup** (*app*)

Setup `sphinx_toolbox.shields`.

**Parameters** **app** (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## sidebar\_links

Directive which adds a toctree to the sidebar containing links to the GitHub repository, PyPI project page etc.

New in version 2.9.0.

Enable `sphinx_toolbox.sidebar_links` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.sidebar_links',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 19.1 Usage

### .. sidebar-links::

Adds a toctree to the sidebar containing links to the GitHub repository, PyPI project page etc. The toctree is only shown in the sidebar and is hidden with non-HTML builders.

---

**Note:** This directive can only be used on the root document (i.e. `index.rst`).

---

#### :github: (flag)

Flag to add a link to the project's GitHub repository.

To use this option add the following to your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.github',
]

github_username = '<your username>'
github_repository = '<your repository>'
```

See `sphinx_toolbox.github` for more information.

#### :pypi: (string)

Flag to add a link to the project page on PyPI.

The name of the project on PyPI must be passed as the option's value.

#### :caption: (string)

The caption of the toctree. Defaults to `Links`

Additional toctree entries may be added as the content of the directive, in the same manner as normal toctrees.

## 19.2 API Reference

### Classes:

---

<code>SidebarLinksDirective(name, arguments, ...)</code>	Directive which adds a toctree to the sidebar containing links to the GitHub repository, PyPI project page etc.
--	---

---

### Functions:

---

<code>setup(app)</code>	Setup <code>sphinx_toolbox.sidebar_links</code> .
-------------------------	---

---

**class** `SidebarLinksDirective` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `SphinxDirective`

Directive which adds a toctree to the sidebar containing links to the GitHub repository, PyPI project page etc.

### Methods:

---

<code>process_github_option()</code>	Process the <code>:github:</code> flag.
<code>run()</code>	Create the installation node.

---

**process\_github\_option()**  
Process the `:github:` flag.

**Return type** `str`

**run()**  
Create the installation node.

**Return type** `List[Node]`

**setup** (*app*)  
Setup `sphinx_toolbox.sidebar_links`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## source

Add hyperlinks to source files, either on GitHub or in the documentation itself.

Enable `sphinx_toolbox.source` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.source',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

If you're looking for a `[source]` button to go at the end of your class and function signatures, checkout `sphinx.ext.linkcode` and `sphinx.ext.viewcode`.

## 20.1 Usage

### `source_link_target`

**Type:** `str`

**Required:** `False`

**Default:** `'Sphinx'`

The target of the source link, either `'GitHub'` or `'Sphinx'`. Case insensitive.

### `:source:`

Role which shows a link to the given source file, either on GitHub or within the Sphinx documentation.

By default, the link points to the code within the documentation, but can be configured to point to GitHub by setting `source_link_target` to `'GitHub'`.

### Example

```
:source:`sphinx_toolbox/config.py`
```

Here is the `:source:`source code <sphinx_toolbox/config.py>``

`sphinx_toolbox/config.py`

Here is the source code

## 20.2 API Reference

### Functions:

<code>source_role(name, rawtext, text, lineno, inliner)</code>	Adds a link to the given Python source file in the documentation or on GitHub.
<code>setup(app)</code>	Setup <code>sphinx_toolbox.source</code> .

**source\_role** (*name*, *rawtext*, *text*, *lineno*, *inliner*, *options*={}, *content*=[])

Adds a link to the given Python source file in the documentation or on GitHub.

#### Parameters

- **name** (*str*) – The local name of the interpreted role, the role name actually used in the document.
- **rawtext** (*str*) – A string containing the entire interpreted text input, including the role and markup.
- **text** (*str*) – The interpreted text content.
- **lineno** (*int*) – The line number where the interpreted text begins.
- **inliner** (*Inliner*) – The `docutils.parsers.rst.states.Inliner` object that called `source_role()`. It contains the several attributes useful for error reporting and document tree access.
- **options** (*Dict*) – A dictionary of directive options for customization (from the `role` directive), to be interpreted by the function. Used for additional attributes for the generated elements and other functionality. Default {}.
- **content** (*List[str]*) – A list of strings, the directive content for customization (from the `role` directive). To be interpreted by the function. Default [].

**Return type** `Tuple[Sequence[Node], List[system_message]]`

**Returns** A list containing the created node, and a list containing any messages generated during the function.

Changed in version 2.8.0: Now returns a sequence of `nodes.reference` and `addnodes.pending_xref` as the first tuple element, rather than `nodes.reference` and `addnodes.pending_xref` as in previous versions.

**setup** (*app*)

Setup `sphinx_toolbox.source`.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## wikipedia

Sphinx extension to create links to Wikipedia articles.

New in version 0.2.0.

Enable `sphinx_toolbox.wikipedia` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.wikipedia',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

## 21.1 Configuration

### **wikipedia\_lang**

**Type:** `str`

**Required:** `False`

**Default:** `'en'`

The Wikipedia language to use for *wikipedia* roles.

New in version 0.2.0.

## 21.2 Usage

### **:wikipedia:**

Role which shows a link to the given article on Wikipedia.

The title and language can be customised.

#### **Example**

```
:wikipedia:`Sphinx`

:wikipedia:`mythical creature <Sphinx>`

:wikipedia:`Answer to the Ultimate Question of Life, the Universe, and Everything
↪<:de:42 (Antwort)>`
```

Sphinx

mythical creature

## 21.3 API Reference

### Functions:

---

<code>make_wikipedia_link(name, rawtext, text, ...)</code>	Adds a link to the given article on <a href="#">Wikipedia</a> .
<code>setup(app)</code>	Setup <a href="#">sphinx_toolbox.wikipedia</a> .

---

**make\_wikipedia\_link** (*name*, *rawtext*, *text*, *lineno*, *inliner*, *options*={}, *content*=[])

Adds a link to the given article on [Wikipedia](#).

#### Parameters

- **name** (*str*) – The local name of the interpreted role, the role name actually used in the document.
- **rawtext** (*str*) – A string containing the entire interpreted text input, including the role and markup.
- **text** (*str*) – The interpreted text content.
- **lineno** (*int*) – The line number where the interpreted text begins.
- **inliner** (*Inliner*) – The `docutils.parsers.rst.states.Inliner` object that called `source_role()`. It contains the several attributes useful for error reporting and document tree access.
- **options** (*Dict*) – A dictionary of directive options for customization (from the `role` directive), to be interpreted by the function. Used for additional attributes for the generated elements and other functionality. Default {}.
- **content** (*List[str]*) – A list of strings, the directive content for customization (from the `role` directive). To be interpreted by the function. Default [].

**Return type** `Tuple[List[reference], List[system_message]]`

**Returns** A list containing the created node, and a list containing any messages generated during the function.

**setup** (*app*)

Setup [sphinx\\_toolbox.wikipedia](#).

New in version 1.0.0.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** [SphinxExtMetadata](#)



## 22.1 more\_autodoc.augment\_defaults

Sphinx's autodoc module allows for default options to be set, and allows for those defaults to be disabled for an `:auto*` directive and different values given instead.

However, it does not appear to be possible to augment the defaults, such as to globally exclude certain members and then exclude additional members of a single class. This module monkeypatches in that behaviour.

Enable `sphinx_toolbox.more_autodoc.augment_defaults` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.augment_defaults',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

Changed in version 0.6.0: Moved from `sphinx_toolbox.autodoc.augment_defaults`.

### Functions:

<code>process_documenter_options</code> (documenter, ...)	Recognize options of Documenter from user input.
<code>setup</code> (app)	Setup <code>sphinx_toolbox.more_autodoc.augment_defaults</code> .

**process\_documenter\_options** (*documenter*, *config*, *options*)

Recognize options of Documenter from user input.

#### Parameters

- **documenter** (`Type[Documenter]`)
- **config** (`Config`)
- **options** (`Dict`)

**Return type** `Options`

**setup** (*app*)

Setup `sphinx_toolbox.more_autodoc.augment_defaults`.

**Parameters** **app** (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 22.2 more\_autodoc.autonamedtuple

A Sphinx directive for documenting `NamedTuples` in Python.

New in version 0.8.0.

Enable `sphinx_toolbox.more_autodoc.autonamedtuple` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.autonamedtuple',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

Changed in version 1.5.0: `__new__` methods are documented regardless of other exclusion settings if the annotations differ from the `namedtuple` itself.

### 22.2.1 Usage

#### **.. autonamedtuple::**

Directive to automatically document a `typing.NamedTuple` or `collections.namedtuple()`.

The output is based on the `autoclass` directive. The list of parameters and the attributes are replaced by a list of Fields, combining the types and docstrings from the class docstring individual attributes. These will always be shown regardless of the state of the `:members:` option.

Otherwise the directive behaves the same as `autoclass`, and takes all of its arguments. See <https://www.sphinx-doc.org/en/master/usage/extensions/autodoc.html> for further information.

New in version 0.8.0.

#### **:namedtuple:**

Role which provides a cross-reference to the documentation generated by `autonamedtuple`.

**See also:** <https://www.sphinx-doc.org/en/master/usage/extensions/autodoc.html>

#### **Examples**

```
1  # Examples from
2  # https://docs.python.org/3/library/typing.html#typing.NamedTuple
3  # https://www.python.org/dev/peps/pep-0589/#totality
4  # https://github.com/python/typing/pull/700
5
6  # stdlib
7  import collections
8  from typing import NamedTuple
9
10 __all__ = ["Animal", "Employee", "Movie"]
11
12
13 class Animal(NamedTuple):
14     """
15     An animal.
```

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```

16
17     :param name: The name of the animal.
18     :param voice: The animal's voice.
19     """
20
21     name: str
22     voice: str
23
24
25 class Employee(NamedTuple):
26     """
27     Represents an employee.
28
29     :param id: The employee's ID number
30     """
31
32     #: The employee's name
33     name: str
34
35     id: int = 3
36
37     def __repr__(self) -> str:
38         return f'<Employee {self.name}, id={self.id}>'
39
40     def is_executive(self) -> bool:
41         """
42         Returns whether the employee is an executive.
43
44         Executives have ID numbers < 10.
45         """
46
47
48 class Movie(NamedTuple):
49     """
50     Represents a movie.
51     """
52
53     #: The name of the movie.
54     name: str
55
56     #: The movie's release year.
57     year: int
58
59     based_on: str

```

```

.. automodule:: autonamedtuple_demo
   :no-autosummary:
   :exclude-members: Movie

.. autonamedtuple:: autonamedtuple_demo.Movie

```

This function takes a single argument, the `:namedtuple:~.Movie`` to watch.

**namedtuple** **Animal** (*name*, *voice*)

Bases: `NamedTuple`

An animal.

**Fields**

0) **name** (`str`) – The name of the animal.

1) **voice** (`str`) – The animal’s voice.

`__repr__` ()

Return a nicely formatted representation string

**namedtuple** **Employee** (*name*, *id=3*)

Bases: `NamedTuple`

Represents an employee.

**Fields**

0) **name** (`str`) – The employee’s name

1) **id** (`int`) – The employee’s ID number

`__repr__` ()

Return repr(self).

**Return type** `str`

**is\_executive** ()

Returns whether the employee is an executive.

Executives have ID numbers < 10.

**Return type** `bool`

**namedtuple** **Movie** (*name*, *year*, *based\_on*)

Bases: `NamedTuple`

Represents a movie.

**Fields**

0) **name** (`str`) – The name of the movie.

1) **year** (`int`) – The movie’s release year.

2) **based\_on** (`str`) – Alias for field number 2

`__repr__()`

Return a nicely formatted representation string

This function takes a single argument, the *Movie* to watch.

## 22.2.2 API Reference

### Classes:

<code>NamedTupleDocumenter</code> (directive, name[, indent])	Sphinx autodoc Documenter for documenting <code>typing.NamedTuples</code> .
---	---

### Functions:

<code>setup</code> (app)	Setup <code>sphinx_toolbox.more_autodoc.autonamedtuple</code> .
--------------------------	---

**class** `NamedTupleDocumenter` (*directive, name, indent=""*)

Bases: `ClassDocumenter`

Sphinx autodoc Documenter for documenting `typing.NamedTuples`.

New in version 0.8.0.

Changed in version 0.1.0: Will no longer attempt to find attribute docstrings from other namedtuple classes.

### Methods:

<code>add_content</code> (more_content[, no_docstring])	Add extra content (from docstrings, attribute docs etc.), but not the <code>typing.NamedTuple</code> 's docstring.
<code>add_directive_header</code> (sig)	Add the directive's header, and the inheritance information if the <code>:show-inheritance:</code> flag set.
<code>can_document_member</code> (member, member-name, ...)	Called to see if a member can be documented by this documenter.
<code>filter_members</code> (members, want_all)	Filter the list of members to always include <code>__new__</code> if it has a different signature to the tuple.
<code>sort_members</code> (documenters, order)	Sort the <code>typing.NamedTuple</code> 's members.

**add\_content** (*more\_content, no\_docstring=True*)

Add extra content (from docstrings, attribute docs etc.), but not the `typing.NamedTuple`'s docstring.

#### Parameters

- **more\_content** (*Any*)
- **no\_docstring** (*bool*) – Default `True`.

**add\_directive\_header** (*sig*)

Add the directive's header, and the inheritance information if the `:show-inheritance:` flag set.

**Parameters** **sig** (*str*) – The `NamedTuple`'s signature.

**classmethod** `can_document_member` (*member, membername, isattr, parent*)

Called to see if a member can be documented by this documenter.

**Parameters**

- **member** (*Any*) – The member being checked.
- **membername** (*str*) – The name of the member.
- **isattr** (*bool*)
- **parent** (*Any*) – The parent of the member.

**Return type** *bool*

**filter\_members** (*members, want\_all*)

Filter the list of members to always include `__new__` if it has a different signature to the tuple.

**Parameters**

- **members** (*List[Tuple[str, Any]]*)
- **want\_all** (*bool*)

**Return type** *List[Tuple[str, Any, bool]]*

**sort\_members** (*documenters, order*)

Sort the `typing.NamedTuple`'s members.

**Parameters**

- **documenters** (*List[Tuple[Documenter, bool]]*)
- **order** (*str*)

**Return type** *List[Tuple[Documenter, bool]]*

**setup** (*app*)

Setup `sphinx_toolbox.more_autodoc.autonamedtuple`.

New in version 0.8.0.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*

## 22.3 `more_autodoc.autoprotocol`

A Sphinx directive for documenting `Protocols` in Python.

New in version 0.2.0.

Enable `sphinx_toolbox.more_autodoc.autoprotocol` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.autoprotocol',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

Changed in version 0.6.0: Moved from `sphinx_toolbox.autoprotocol`.

Changed in version 2.13.0: Added support for generic bases, such as class `SupportsAbs(Protocol[T_co])`: ....

## 22.3.1 Usage

**.. autoprotocol::**

Directive to automatically document a `typing.Protocol`.

The output is based on the `autoclass` directive, but with a few differences:

- Private members are always excluded.
- Special members (dunder methods) are always included.
- Undocumented members are always included.

The following options from `autoclass` are available:

**:noindex: (flag)**

Do not generate index entries for the documented object (and all autodocumented members).

**:member-order: (string)**

Override the global value of `autodoc_member_order` for one directive.

**:show-inheritance: (flag)**

Inserts a list of base classes just below the protocol's signature.

See <https://www.sphinx-doc.org/en/master/usage/extensions/autodoc.html> for further information.

**:protocol:**

Role which provides a cross-reference to the documentation generated by `autoprotocol`.

**See also:** <https://www.sphinx-doc.org/en/master/usage/extensions/autodoc.html>

**Examples:**

```
1  # stdlib
2  from abc import abstractmethod
3  from typing import Any, TypeVar
4
5  # 3rd party
6  from domdf_python_tools.doctools import prettify_docstrings
7  from typing_extensions import Protocol, runtime_checkable
8
9  __all__ = ["HasLessThan", "HasGreaterThan", "Frobnicator"]
10
11
12  @prettify_docstrings
13  class HasLessThan(Protocol):
14      """
15      :class:`typing.Protocol` for classes that support the ``<`` operator.
16      """
17
18      def __lt__(self, other) -> bool: ...
19
20
21  @prettify_docstrings
22  class HasGreaterThan(Protocol):
23
24      def __gt__(self, other) -> bool: ...
25
26
27  @runtime_checkable
28  class Frobnicator(Protocol):
29
30      def frobnicate(self, something) -> Any: ...
31
```

```
.. automodule:: autoprotocol_demo
   :members:
   :no-autosummary:
   :exclude-members: HasGreaterThan
.. autoprotocol:: autoprotocol_demo.HasGreaterThan
```

The objects being sorted must implement the `:protocol:`~.HasGreaterThan`` protocol.

**protocol Frobnicator**

Bases: `Protocol`

This protocol is `runtime checkable`.

Classes that implement this protocol must have the following methods / attributes:

**frobnicate** (*something*)

Return type `Any`



**protocol HasLessThan**Bases: `Protocol``typing.Protocol` for classes that support the `<` operator.

Classes that implement this protocol must have the following methods / attributes:

`__lt__(other)`Return `self < other`.**Return type** `bool`**protocol HasGreaterThan**Bases: `Protocol`

Classes that implement this protocol must have the following methods / attributes:

`__gt__(other)`Return `self > other`.**Return type** `bool`The objects being sorted must implement the `HasGreaterThan` protocol.

## 22.3.2 API Reference

**Classes:**

<code>ProtocolDocumenter(directive, name[, indent])</code>	Sphinx autodoc Documenter for documenting <code>typing.Protocols</code> .
--	---

**Functions:**

<code>setup(app)</code>	Setup <code>sphinx_toolbox.more_autodoc.autoprotocol</code> .
-------------------------	---

**class ProtocolDocumenter** (*directive, name, indent=""*)Bases: `ClassDocumenter`Sphinx autodoc Documenter for documenting `typing.Protocols`.**Methods:**

<code>add_content(more_content[, no_docstring])</code>	Add the autodocumenter content.
<code>add_directive_header(sig)</code>	Add the directive header.
<code>can_document_member(member, member-name, ...)</code>	Called to see if a member can be documented by this documenter.
<code>document_members([all_members])</code>	Generate reST for member documentation.
<code>filter_members(members, want_all)</code>	Filter the given member list.
<code>format_signature(**kwargs)</code>	Protocols do not have a signature.

**add\_content** (*more\_content*, *no\_docstring=False*)

Add the autodocenter content.

**Parameters**

- **more\_content** (*Any*)
- **no\_docstring** (*bool*) – Default `False`.

**add\_directive\_header** (*sig*)

Add the directive header.

**Parameters** **sig** (*str*)

**classmethod can\_document\_member** (*member*, *membername*, *isattr*, *parent*)

Called to see if a member can be documented by this documenter.

**Parameters**

- **member** (*Any*) – The member being checked.
- **membername** (*str*) – The name of the member.
- **isattr** (*bool*)
- **parent** (*Any*) – The parent of the member.

**Return type** *bool*

**document\_members** (*all\_members=False*)

Generate reST for member documentation.

All members are always documented.

**filter\_members** (*members*, *want\_all*)

Filter the given member list.

**Parameters**

- **members** (*List[Tuple[str, Any]]*)
- **want\_all** (*bool*)

**Return type** *List[Tuple[str, Any, bool]]*

**format\_signature** (*\*\*kwargs*)

Protocols do not have a signature.

**Return type** *str*

**setup** (*app*)  
 Setup `sphinx_toolbox.more_autodoc.autoprotocol`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 22.4 more\_autodoc.autotypeddict

A Sphinx directive for documenting `TypedDicts` in Python.

Only supports `typing_extensions`'s `TypedDict` until [python/typing#700](https://github.com/python/typing/pull/700) is implemented in CPython.

New in version 0.5.0.

Enable `sphinx_toolbox.more_autodoc.autotypeddict` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.autotypeddict',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

Changed in version 0.6.0: Moved from `sphinx_toolbox.autotypeddict`.

### 22.4.1 Usage

**.. autotypeddict::**

Directive to automatically document a `typing.TypedDict`.

The output is based on the `autoclass` directive, but with a few differences:

- Private and Special members are always excluded.
- Undocumented members are always included.
- The default sort order is `bysource`.

The following options are available:

**:noindex: (flag)**

Do not generate index entries for the documented object (and all autodocumented members).

**:alphabetical: (flag)**

Sort the keys alphabetically. By default the keys are listed in the order they were defined.

**:show-inheritance: (flag)**

Inserts a list of base classes just below the `TypedDict`'s signature.

See <https://www.sphinx-doc.org/en/master/usage/extensions/autodoc.html> for further information.

**:typeddict:**

Role which provides a cross-reference to the documentation generated by `autotypeddict`.

**Examples:**

```
1  # Examples from
2  # https://www.python.org/dev/peps/pep-0589/#totality
3  # https://github.com/python/typing/pull/700
4  """
5  Demo of ``.. autotypeddict::``
6  """
7
8  # 3rd party
9  from typing_extensions import TypedDict
10
11  __all__ = ["Movie", "Animal", "OldStyleAnimal", "Cat", "Bird", "AquaticBird"]
12
13
14  class Movie(TypedDict):
15      """
16      Represents a movie.
17      """
18
19      #: The name of the movie.
20      name: str
21
22      #: The movie's release year.
23      year: int
24
25      based_on: str
26
27
28  class _Animal(TypedDict):
29      """
30      Keys required by all animals.
31      """
32
33      #: The name of the animal
34      name: str
35
36
37  class Animal(_Animal, total=False):
38      """
39      Optional keys common to all animals.
40      """
41
42      #: The animal's voice.
43      voice: str
44
45
46  #: Old style TypedDict for Python 2 and where keys aren't valid Python identifiers.
47  OldStyleAnimal = TypedDict(
48      "OldStyleAnimal", {
49          "animal-name": str,
50          "animal-voice": str,
51      }, total=False
52  )
53
54
55  class Cat(Animal):
56      """
```

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```

57     A cat.
58     """
59
60     #: The colour of the cat's fur.
61     fur_color: str
62
63
64 class Bird(Animal):
65     """
66     A bird.
67     """
68
69     #: The size of the bird's egg, in mm.
70     egg_size: float
71
72
73 class AquaticBird(Bird):
74
75     #: The bird's habitat (e.g. lake, sea)
76     habitat: float

```

```

.. automodule:: autotypeddict_demo
   :no-autosummary:
   :exclude-members: Movie, AquaticBird, OldStyleAnimal

.. autotypeddict:: autotypeddict_demo.Movie

```

This function takes a single argument, the `:typeddict:`~.Movie`` to watch.

Demo of `.. autotypeddict::`

#### **typeddict Animal**

Bases: `dict`

Optional keys common to all animals.

##### **Required Keys**

- **name** (`str`) – The name of the animal

##### **Optional Keys**

- **voice** (`str`) – The animal's voice.

#### **typeddict Bird**

Bases: `dict`

A bird.

##### **Required Keys**

- **egg\_size** (`float`) – The size of the bird's egg, in mm.
- **name** (`str`) – The name of the animal

##### **Optional Keys**

- **voice** (`str`) – The animal's voice.

**typeddict Cat**Bases: `dict`

A cat.

**Required Keys**

- **fur\_color** (`str`) – The colour of the cat’s fur.
- **name** (`str`) – The name of the animal

**Optional Keys**

- **voice** (`str`) – The animal’s voice.

**typeddict Movie**Bases: `dict`

Represents a movie.

**Required Keys**

- **name** (`str`) – The name of the animal
- **year** (`int`) – The movie’s release year.
- **based\_on** (`str`)

This function takes a single argument, the *Movie* to watch.

## 22.4.2 API Reference

**Classes:**

---

<code>TypedDictDocumenter(*args)</code>	Sphinx autodoc Documenter for documenting <code>typing.TypedDicts</code> .
---	--

---

**Functions:**

---

<code>setup(app)</code>	Setup <code>sphinx_toolbox.more_autodoc.autotypeddict</code> .
-------------------------	--

---

**class TypedDictDocumenter (\*args)**Bases: `ClassDocumenter`Sphinx autodoc Documenter for documenting `typing.TypedDicts`.**Methods:**

---

<code>add_content(more_content[, no_docstring])</code>	Add the autodocumenter content.
<code>can_document_member(member, member-name, ...)</code>	Called to see if a member can be documented by this documenter.
<code>document_keys(keys, types, docstrings)</code>	Document keys in a <code>typing.TypedDict</code> .
<code>document_members([all_members])</code>	Generate reST for member documentation.
<code>filter_members(members, want_all)</code>	Filter the given member list.
<code>format_signature(**kwargs)</code>	Typed Dicts do not have a signature.
<code>sort_members(documenters, order)</code>	Sort the TypedDict’s members.

---

**add\_content** (*more\_content*, *no\_docstring=False*)

Add the autodocenter content.

**Parameters**

- **more\_content** (*Any*)
- **no\_docstring** (*bool*) – Default `False`.

**classmethod can\_document\_member** (*member*, *membername*, *isattr*, *parent*)

Called to see if a member can be documented by this documenter.

**Parameters**

- **member** (*Any*) – The member being checked.
- **membername** (*str*) – The name of the member.
- **isattr** (*bool*)
- **parent** (*Any*) – The parent of the member.

**Return type** `bool`

**document\_keys** (*keys*, *types*, *docstrings*)

Document keys in a `typing.TypedDict`.

**Parameters**

- **keys** (`List[str]`) – List of key names to document.
- **types** (`Dict[str, Type]`) – Mapping of key names to types.
- **docstrings** (`Dict[str, List[str]]`) – Mapping of key names to docstrings.

**document\_members** (*all\_members=False*)

Generate reST for member documentation. All members are always documented.

**filter\_members** (*members*, *want\_all*)

Filter the given member list.

**Parameters**

- **members** (`List[Tuple[str, Any]]`)
- **want\_all** (*bool*)

**Return type** `List[Tuple[str, Any, bool]]`

**format\_signature** (*\*\*kwargs*)

Typed Dicts do not have a signature.

**Return type** `str`

**sort\_members** (*documenters*, *order*)

Sort the TypedDict's members.

**Parameters**

- **documenters** (`List[Tuple[Documenter, bool]]`)
- **order** (*str*)

**Return type** `List[Tuple[Documenter, bool]]`

**setup** (*app*)  
Setup `sphinx_toolbox.more_autodoc.autotypeddict`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 22.5 `more_autodoc.generic_bases`

Modifies `sphinx.ext.autodoc.ClassDocumenter`'s `:show-inheritance:` option to show generic base classes.

This requires a relatively new version of the `typing` module that implements `__orig_bases__`.

New in version 1.5.0.

Enable `sphinx_toolbox.more_autodoc.generic_bases` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.more_autodoc.generic_bases',  
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 22.5.1 Configuration

#### **`generic_bases_fully_qualified`**

**Type:** `bool`

**Required:** `False`

**Default:** `False`

Determines whether the fully qualified name should be shown for bases.

If `False` (the default):

```
class Foo  
    Bases: List[str]
```

If `True`:

```
class Foo  
    Bases: typing.List[str]
```

Corresponds to the `fully_qualified` argument to `sphinx_toolbox.more_autodoc.typehints.format_annotation()`.

New in version 2.13.0.



## 22.5.2 Example

```
class Example (iterable=())
    Bases: List[Tuple[str, float, List[str]]]
    An example of sphinx_toolbox.more_autodoc.generic_bases.
```

## 22.5.3 API Reference

```
class GenericBasesClassDocumenter (*args)
    Bases: PatchedAutoSummClassDocumenter
    Class documenter that adds inheritance info, with support for generics.

    add_directive_header (sig)
        Add the directive header.

        Parameters sig (str)

setup (app)
    Setup sphinx_toolbox.more_autodoc.generic_bases.
    New in version 1.5.0.

    Parameters app (Sphinx) – The Sphinx application.

    Return type SphinxExtMetadata
```

## 22.6 more\_autodoc.genericalias

Documenter for alias, which usually manifest as *type aliases*.

New in version 0.6.0.

Enable `sphinx_toolbox.more_autodoc.genericalias` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.genericalias',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

---

**Note:** `sphinx_toolbox.more_autodoc.genericalias` is only supported on Python 3.7 and above.

---

```
class PrettyGenericAliasDocumenter (directive, name, indent="")
    Bases: DataDocumenter
    Specialized Documenter subclass for GenericAliases, with prettier output than Sphinx's one.
```

**add\_content** (*more\_content*, *no\_docstring=False*)

Add the autodocenter content.

**Parameters**

- **more\_content** (*Any*)
- **no\_docstring** (*bool*) – Default `False`.

**add\_directive\_header** (*sig*)

Add the directive header and options to the generated content.

**classmethod can\_document\_member** (*member*, *membername*, *isattr*, *parent*)

Called to see if a member can be documented by this documenter.

**Return type** `bool`

**setup** (*app*)

Setup `sphinx_toolbox.more_autodoc.genericalias`.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 22.7 more\_autodoc.no\_docstring

Adds the `:no-docstring:` option to automodule directives to exclude the docstring from the output.

New in version 1.0.0.

Enable `sphinx_toolbox.more_autodoc.no_docstring` by adding the following to the extensions variable in your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.more_autodoc.no_docstring',  
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

**Functions:**

<code>automodule_add_nodocstring(app)</code>	Add the <code>:no-docstring:</code> option to automodule directives to exclude the docstring from the output.
<code>no_docstring_process_docstring(app, what, ...)</code>	Process the docstring of a module, and remove its docstring of the <code>:no-docstring:</code> flag was set..
<code>setup(app)</code>	Setup <code>sphinx_toolbox.more_autodoc.no_docstring</code> .

**automodule\_add\_nodocstring** (*app*)

Add the `:no-docstring:` option to automodule directives to exclude the docstring from the output.

**Parameters** **app** – The Sphinx application.

Changed in version 1.0.0: Moved from `sphinx_toolbox.more_autodoc.__init__.py`

**no\_docstring\_process\_docstring** (*app, what, name, obj, options, lines*)

Process the docstring of a module, and remove its docstring of the `:no-docstring:` flag was set..

#### Parameters

- **app** (*Sphinx*) – The Sphinx application.
- **what**
- **name** (*str*) – The name of the object being documented.
- **obj** – The object being documented.
- **options** – Mapping of autodoc options to values.
- **lines** (*List[str]*) – List of strings representing the current contents of the docstring.

Changed in version 1.0.0: Moved from `sphinx_toolbox.more_autodoc.__init__.py`

**setup** (*app*)

Setup `sphinx_toolbox.more_autodoc.no_docstring`.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*

## 22.8 more\_autodoc.overloads

Documenters for functions and methods which display overloads differently.

New in version 1.4.0.

Enable `sphinx_toolbox.more_autodoc.overloads` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.overloads',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 22.8.1 Configuration

#### **overloads\_location**

**Type:** *str*

**Default:** 'signature'

The location to display overloads at:

- 'signature' – Display overloads above the function signature.
- 'top' – Display overloads at the top of the docstring, immediately below the signature.
- 'bottom' – Display overloads at the bottom of the docstring, or immediately below the return type.

## 22.8.2 API Reference

### Classes:

<i>FunctionDocumenter</i> (directive, name[, indent])	Custom sphinx.ext.autodoc. FunctionDocumenter which renders overloads differently.
<i>MethodDocumenter</i> (directive, name[, indent])	Custom sphinx.ext.autodoc. MethodDocumenter which renders overloads differently.
<i>OverloadMixin</i> ()	Mixin class for function and class documenters that changes the appearance of overloaded functions.

**Functions:**

<code>setup(app)</code>	Setup <i>sphinx_toolbox.more_autodoc.overloads</i> .
-------------------------	--

**class OverloadMixin**Bases: `object`

Mixin class for function and class documenters that changes the appearance of overloaded functions.

New in version 1.4.0.

**Methods:**

<code>create_body_overloads()</code>	Create the overloaded implementations for insertion into to the body of the documenter's output.
<code>process_overload_signature(overload)</code>	Processes the signature of the given overloaded implementation.
<code>add_content(more_content[, no_docstring])</code>	Add content from docstrings, attribute documentation and the user.

**create\_body\_overloads()**

Create the overloaded implementations for insertion into to the body of the documenter's output.

**Return type** `StringList`**process\_overload\_signature(overload)**

Processes the signature of the given overloaded implementation.

**Parameters** `overload` (`Signature`)**Return type** `Signature`**add\_content(more\_content, no\_docstring=False)**

Add content from docstrings, attribute documentation and the user.

**Parameters**

- `more_content` (`Any`)
- `no_docstring` (`bool`) – Default `False`.

**class FunctionDocumenter** (*directive, name, indent=""*)Bases: `OverloadMixin`, `FunctionDocumenter`Custom `sphinx.ext.autodoc.FunctionDocumenter` which renders overloads differently.

New in version 1.4.0.

**Methods:**

<code>format_signature(**kwargs)</code>	Format the function's signature, including those for any overloaded implementations.
<code>add_directive_header(sig)</code>	Add the directive's header.
<code>process_overload_signature(overload)</code>	Processes the signature of the given overloaded implementation.

**format\_signature** (*\*\*kwargs*)

Format the function's signature, including those for any overloaded implementations.

**Return type** `str`

**Returns** The signature(s), as a multi-line string.

**add\_directive\_header** (*sig*)

Add the directive's header.

**Parameters** **sig** (`str`)

**process\_overload\_signature** (*overload*)

Processes the signature of the given overloaded implementation.

**Parameters** **overload** (`Signature`)

**Return type** `Signature`

**class MethodDocumenter** (*directive, name, indent=""*)

Bases: `OverloadMixin`, `MethodDocumenter`

Custom `sphinx.ext.autodoc.MethodDocumenter` which renders overloads differently.

New in version 1.4.0.

**Methods:**

<code>format_signature(**kwargs)</code>	Format the method's signature, including those for any overloaded implementations.
<code>add_directive_header(sig)</code>	Add the directive's header.
<code>process_overload_signature(overload)</code>	Processes the signature of the given overloaded implementation.

**format\_signature** (*\*\*kwargs*)

Format the method's signature, including those for any overloaded implementations.

**Parameters** **kwargs** (*Any*)

**Return type** `str`

**Returns** The signature(s), as a multi-line string.

**add\_directive\_header** (*sig*)

Add the directive's header.

**Parameters** **sig** (`str`)

**process\_overload\_signature** (*overload*)

Processes the signature of the given overloaded implementation.

**Parameters** **overload** (`Signature`)

**Return type** `Signature`

**setup** (*app*)  
 Setup `sphinx_toolbox.more_autodoc.overloads`.  
 New in version 1.4.0.  
**Parameters** `app` (*Sphinx*) – The Sphinx application.  
**Return type** `SphinxExtMetadata`

## 22.9 more\_autodoc.regex

Specialized Documenter for regular expression variables, similar to `autodata`.

New in version 1.2.0.

Enable `sphinx_toolbox.more_autodoc.regex` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.regex',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 22.9.1 Usage

**.. autoregex::**

Directive to automatically document a regular expression variable.

The output is based on the `autodata` directive, and takes all of its options except `:annotation:`.

**:no-value:**

Don't show the value of the variable.

**:value: value (string)**

Show this instead of the value taken from the Python source code.

**:no-type:**

Don't show the type of the variable.

**:no-flags:**

Don't show the flags of the `Pattern` object.

**:flags: flags (string)**

Show this instead of the flags taken from the `Pattern` object. This should be correctly formatted for insertion into `reStructuredText`, such as `:py:data:`re.ASCII``.

Changed in version 2.7.0: The flags `re.DEBUG` and `re.VERBOSE` are now hidden as they don't affect the regex itself.

**:regex:**

Formats a regular expression with coloured output.

```
:regex:`^Hello\s+[Ww]orld[.,](Lovely|Horrible) weather, isn't it (.*)?`
```

```
^Hello\s+[Ww]orld[.,](Lovely|Horrible) weather, isn't it (.*)?
```

Changed in version 2.11.0: Now generates coloured output with the LaTeX builder.

## 22.9.2 API Reference

**Classes:**

<code>RegexDocumenter(directive, name[, indent])</code>	Specialized Documenter subclass for regex patterns.
<code>RegexParser()</code>	Parser for regular expressions that outputs coloured output.
<code>TerminalRegexParser()</code>	<code>RegexParser</code> that outputs ANSI coloured output for the terminal.
<code>HTMLRegexParser()</code>	<code>RegexParser</code> that outputs styled HTML.
<code>LaTeXRegexParser()</code>	<code>RegexParser</code> that outputs styled LaTeX.

**Functions:**

<code>parse_regex_flags(flags)</code>	Convert regex flags into “bitwise-or’d” Sphinx xrefs.
<code>no_formatting(value)</code>	No-op that returns the value as a string.
<code>span(css_class)</code>	Returns a function that wraps a value in a span tag with the given class.
<code>latex_textcolor(colour_name)</code>	Returns a function that wraps a value in a LaTeX <code>textcolor</code> command for the given colour.
<code>copy_asset_files(app[, exception])</code>	Copy additional stylesheets into the HTML build directory.
<code>setup(app)</code>	Setup <code>sphinx_toolbox.more_autodoc.regex</code> .

**class** `RegexDocumenter` (*directive, name, indent=""*)

Bases: `VariableDocumenter`

Specialized Documenter subclass for regex patterns.

**Methods:**

<code>add_content(more_content[, no_docstring])</code>	Add content from docstrings, attribute documentation and the user.
<code>add_directive_header(sig)</code>	Add the directive’s header.
<code>can_document_member(member, member-name, ...)</code>	Called to see if a member can be documented by this documenter.

**add\_content** (*more\_content, no\_docstring=False*)

Add content from docstrings, attribute documentation and the user.

**Parameters**

- **more\_content** (*Any*)



- **no\_docstring** (*bool*) – Default `False`.

**add\_directive\_header** (*sig*)

Add the directive’s header.

**Parameters** **sig** (*str*)

**classmethod can\_document\_member** (*member, membername, isattr, parent*)

Called to see if a member can be documented by this documenter.

**Parameters**

- **member** (*Any*) – The member being checked.
- **membername** (*str*) – The name of the member.
- **isattr** (*bool*)
- **parent** (*Any*) – The parent of the member.

**Return type** *bool*

**class RegexpParser**

Bases: *object*

Parser for regular expressions that outputs coloured output.

The formatting is controlled by the following variables:

- **AT\_COLOUR** – Used for e.g. `^\A\b\B\Z$`
- **SUBPATTERN\_COLOUR** – Used for the parentheses around subpatterns, e.g. `(Hello) World`
- **IN\_COLOUR** – Used for the square brackets around character sets, e.g. `[Hh]ello`
- **REPEAT\_COLOUR** – Used for repeats, e.g. `A?B+C*D{2,4}E{5}`
- **REPEAT\_BRACE\_COLOUR** – Used for the braces around numerical repeats.
- **CATEGORY\_COLOUR** – Used for categories, e.g. `\d\D\s\D\w\W`
- **BRANCH\_COLOUR** – Used for branches, e.g. `(Lovely|Horrible) Weather`
- **LITERAL\_COLOUR** – Used for literal characters.
- **ANY\_COLOUR** – Used for the “any” dot.

These are all `Callable[[Any], str]`.

By default no formatting is performed.

**Methods:**

<code>parse_pattern(regex)</code>	Parse the given regular expression and return the formatted pattern.
-----------------------------------	--

**parse\_pattern** (*regex*)

Parse the given regular expression and return the formatted pattern.

**Parameters** **regex** (*Pattern*)

**Return type** *str*

**class TerminalRegexParser**Bases: *RegexParser**RegexParser* that outputs ANSI coloured output for the terminal.

The formatting is controlled by the following functions, which are instances of `consolekit.terminal_colours.Colour`:

- `AT_COLOUR` -> `YELLOW` – Used for e.g. `^\A\b\B\Z$`
- `SUBPATTERN_COLOUR` -> `LIGHTYELLOW_EX` – Used for the parentheses around subpatterns, e.g. `(Hello) World`
- `IN_COLOUR` -> `LIGHTRED_EX` – Used for the square brackets around character sets, e.g. `[Hh]ello`
- `REPEAT_COLOUR` -> `LIGHTBLUE_EX` – Used for repeats, e.g. `A?B+C*D{2,4}E{5}`
- `REPEAT_BRACE_COLOUR` -> `YELLOW` – Used for the braces around numerical repeats.
- `CATEGORY_COLOUR` -> `LIGHTYELLOW_EX` – Used for categories, e.g. `\d\D\s\D\w\W`
- `BRANCH_COLOUR` -> `YELLOW` – Used for branches, e.g. `(Lovely|Horrible) Weather`
- `LITERAL_COLOUR` -> `GREEN` – Used for literal characters.
- `ANY_COLOUR` -> `YELLOW` – Used for the “any” dot.

**class HTMLRegexParser**Bases: *RegexParser**RegexParser* that outputs styled HTML.

The formatting is controlled by the following functions, which wrap the character in a span tag with an appropriate CSS class:

- `AT_COLOUR` -> `regex_at` – Used for e.g. `^\A\b\B\Z$`
- `SUBPATTERN_COLOUR` -> `regex_subpattern` – Used for the parentheses around subpatterns, e.g. `(Hello) World`
- `IN_COLOUR` -> `regex_in` – Used for the square brackets around character sets, e.g. `[Hh]ello`
- `REPEAT_COLOUR` -> `regex_repeat` – Used for repeats, e.g. `A?B+C*D{2,4}E{5}`
- `REPEAT_BRACE_COLOUR` -> `regex_repeat_brace` – Used for the braces around numerical repeats.
- `CATEGORY_COLOUR` -> `regex_category` – Used for categories, e.g. `\d\D\s\D\w\W`
- `BRANCH_COLOUR` -> `regex_branch` – Used for branches, e.g. `(Lovely|Horrible) Weather`
- `LITERAL_COLOUR` -> `regex_literal` – Used for literal characters.
- `ANY_COLOUR` -> `regex_any` – Used for the “any” dot.

Additionally, all span tags the regex class, and the surrounding code tag has the following classes: `docutils literal notranslate regex`.

**class LaTeXRegexParser**Bases: *RegexParser**RegexParser* that outputs styled LaTeX.

The formatting is controlled by the following functions, which wrap the character in a LaTeX `textcolor` command for an appropriate colour:

- `AT_COLOUR` -> `regex_at` – Used for e.g. `^\A\b\B\Z$`

- `SUBPATTERN_COLOUR` -> `regex_subpattern` – Used for the parentheses around subpatterns, e.g. `(Hello) World`
- `IN_COLOUR` -> `regex_in` – Used for the square brackets around character sets, e.g. `[Hh]ello`
- `REPEAT_COLOUR` -> `regex_repeat` – Used for repeats, e.g. `A?B+C*D{2,4}E{5}`
- `REPEAT_BRACE_COLOUR` -> `regex_repeat_brace` – Used for the braces around numerical repeats.
- `CATEGORY_COLOUR` -> `regex_category` – Used for categories, e.g. `\d\D\s\D\w\W`
- `BRANCH_COLOUR` -> `regex_branch` – Used for branches, e.g. `(Lovely|Horrible) Weather`
- `LITERAL_COLOUR` -> `regex_literal` – Used for literal characters.
- `ANY_COLOUR` -> `regex_any` – Used for the “any” dot.

New in version 2.11.0.

#### **parse\_regex\_flags** (*flags*)

Convert regex flags into “bitwise-or’d” Sphinx xrefs.

**Parameters** `flags` (*int*)

**Return type** `str`

#### **no\_formatting** (*value*)

No-op that returns the value as a string.

Used for unformatted output.

**Return type** `str`

#### **span** (*css\_class*)

Returns a function that wraps a value in a span tag with the given class.

**Parameters** `css_class` (*str*)

**Return type** `Callable[[Any], str]`

#### **latex\_textcolor** (*colour\_name*)

Returns a function that wraps a value in a LaTeX `textcolor` command for the given colour.

New in version 2.11.0.

**Parameters** `colour_name` (*str*)

**Return type** `Callable[[Any], str]`

#### **copy\_asset\_files** (*app*, *exception=None*)

Copy additional stylesheets into the HTML build directory.

**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **exception** (*Optional[Exception]*) – Any exception which occurred and caused Sphinx to abort. Default `None`.

**setup** (*app*)  
Setup `sphinx_toolbox.more_autodoc.regex`.  
  
**Parameters** `app` (`Sphinx`) – The Sphinx application.  
  
**Return type** `SphinxExtMetadata`

## 22.10 more\_autodoc.sourcelink

**Source code:** `sphinx_toolbox/more_autodoc/sourcelink.py`

---

Show a link to the corresponding source code at the top of `automodule` output.

New in version 0.6.0.

Enable `sphinx_toolbox.more_autodoc.sourcelink` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.more_autodoc.sourcelink',  
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 22.10.1 Configuration

`sphinx_toolbox.more_autodoc.sourcelink` can be configured using the `autodoc_default_options` option in `conf.py`, or with the `:sourcelink:` option flag to `automodule`.

#### **autodoc\_show\_sourcelink**

**Type:** `bool`

**Default:** `False`

If `True`, shows a link to the corresponding source code at the top of each `automodule` directive.

#### **:sourcelink:**

When passed as an option flag to an `automodule` directive, show a link to the corresponding source code at the top of the output *for that module only*.

Changed in version 1.1.0: Added support for the `:sourcelink:` option flag to `automodule`.

### 22.10.2 API Reference

#### **Functions:**

---

<code>sourcelinks_process_docstring</code> ( <code>app</code> , <code>what</code> , ...)	Process the docstring of a module and add a link to the source code if given in the configuration.
<code>setup</code> ( <code>app</code> )	Setup <code>sphinx_toolbox.more_autodoc.sourcelink</code> .

---

**sourcelinks\_process\_docstring** (*app, what, name, obj, options, lines*)

Process the docstring of a module and add a link to the source code if given in the configuration.

**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **what**
- **name** (*str*) – The name of the object being documented.
- **obj** – The object being documented.
- **options** (*Mapping[str, Any]*) – Mapping of autodoc options to values.
- **lines** (*List[str]*) – List of strings representing the current contents of the docstring.

**setup** (*app*)

Setup *sphinx\_toolbox.more\_autodoc.sourcelink*.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*

## 22.11 more\_autodoc.typehints

Enhanced version of *sphinx-autodoc-typehints*.

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The changes are:

- *None* is formatted as *None* and not *None*. If *intersphinx* is used this will now be a link to the Python documentation.

Since [agronholm/sphinx-autodoc-typehints#154](#) this feature is now available upstream.

- If the signature of the object cannot be read, the signature provided by Sphinx will be used rather than raising an error.

This usually occurs for methods of builtin types.

- *typing.TypeVars* are linked to if they have been included in the documentation.
- If a function/method argument has a *module*, *class* or *function* object as its default value a better representation will be shown in the signature.

For example:

**serialise** (*obj, library=<module 'json'>*)

Serialise an object into a JSON string.

**Parameters**

- **obj** (*Any*) – The object to serialise.
- **library** – The JSON library to use.

**Return type** *str*

**Returns** The JSON string.

Previously this would have shown the full path to the source file. Now it displays *<module 'json'>*.

- The ability to hook into the `process_docstring()` function to edit the object's properties before the annotations are added to the docstring.

This is used by `attr-utils` to add annotations based on converter functions in `attrs` classes.

To use this, in your extension's `setup` function:

```
def setup(app: Sphinx) -> Dict[str, Any]:
    from sphinx_toolbox.more_autodoc.typehints import docstring_hooks
    docstring_hooks.append((my_hook, 75))
    return {}
```

`my_hook` is a function that takes the object being documented as its only argument and returns that object after modification. The 75 is the priority of the hook:

- < 20 runs before `fget` functions are extracted from properties
- < 90 runs before `__new__` functions are extracted from `NamedTuples`.
- < 100 runs before `__init__` functions are extracted from classes.

- Unresolved forward references are handled better.
- Many of the built in types from the `types` module are now formatted and linked to correctly.

---

New in version 0.4.0.

Changed in version 0.6.0: Moved from `sphinx_toolbox.autodoc_typehints`.

Changed in version 0.8.0: Added support for `collections.namedtuple()`.

---

Enable `sphinx_toolbox.more_autodoc.typehints` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.typehints',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

For configuration information see <https://github.com/agronholm/sphinx-autodoc-typehints>

In addition, the following configuration value is added by this extension:

#### **`hide_none_rtype`**

**Type:** `bool`

**Default:** `False`

Hides return types of `None`.

## 22.11.2 API Reference

### Classes:

<i>ObjectAlias</i> (name)	Used to represent a module, class, function etc in a Sphinx function/class signature.
<i>Module</i> (name)	Used to represent a module in a Sphinx function/class signature.
<i>Function</i> (name)	Used to represent a function in a Sphinx function/class signature.
<i>Class</i> (name)	Used to represent a class in a Sphinx function/class signature.

### Functions:

<i>process_signature</i> (app, what, name, obj, ...)	Process the signature for a function/method.
<i>process_docstring</i> (app, what, name, obj, ...)	Process the docstring of a class, function, method etc.
<i>format_annotation</i> (annotation[, fully_qualified])	Format a type annotation.
<i>get_all_type_hints</i> (obj, name, original_obj)	Returns the resolved type hints for the given objects.
<i>setup</i> (app)	Setup <i>sphinx_toolbox.more_autodoc.typehints</i> .

### Data:

<i>docstring_hooks</i>	List of additional hooks to run in <i>process_docstring()</i> .
<i>default_preprocessors</i>	A list of 2-element tuples, comprising a function to check the default value against and a preprocessor to pass the function to if True.
<i>Preprocessor</i>	Type hint for default preprocessor functions.

#### **class** *ObjectAlias* (name)

Bases: *object*

Used to represent a module, class, function etc in a Sphinx function/class signature.

New in version 0.9.0.

**Parameters** *name* (*str*) – The name of the object being aliased.

**\_\_repr\_\_** ()

Returns a string representation of the *ObjectAlias*.

**Return type** *str*

#### **class** *Module* (name)

Bases: *ObjectAlias*

Used to represent a module in a Sphinx function/class signature.

**Parameters** *name* (*str*) – The name of the module.

**class Function** (*name*)

Bases: *ObjectAlias*

Used to represent a function in a Sphinx function/class signature.

New in version 0.9.0.

**Parameters** *name* (*str*) – The name of the function.

**class Class** (*name*)

Bases: *ObjectAlias*

Used to represent a class in a Sphinx function/class signature.

New in version 0.9.0.

**Parameters** *name* (*str*) – The name of the class.

**process\_signature** (*app, what, name, obj, options, signature, return\_annotation*)

Process the signature for a function/method.

**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **what** (*str*)
- **name** (*str*) – The name of the object being documented.
- **obj** – The object being documented.
- **options** – Mapping of autodoc options to values.
- **signature**
- **return\_annotation** (*Any*)

**Return type** *Optional[Tuple[str, None]]*

Changed in version 0.8.0: Added support for factory function default values in attrs classes.

**process\_docstring** (*app, what, name, obj, options, lines*)

Process the docstring of a class, function, method etc.

**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **what** (*str*)
- **name** (*str*) – The name of the object being documented.
- **obj** (*Any*) – The object being documented.
- **options** (*Dict[str, Any]*) – Mapping of autodoc options to values.
- **lines** (*List[str]*) – List of strings representing the current contents of the docstring.

Changed in version 1.1.0: An empty `:rtype:` flag can be used to control the position of the return type annotation in the docstring.



**format\_annotation** (*annotation*, *fully\_qualified=False*)

Format a type annotation.

**Parameters**

- **annotation**
- **fully\_qualified** (*bool*) – Whether the fully qualified name should be shown (e.g. `typing.List`) or only the object name (e.g. `List`). Default `False`.

**Return type** `str`

Changed in version 2.13.0: Added support for `True` and `False`

**get\_all\_type\_hints** (*obj*, *name*, *original\_obj*)

Returns the resolved type hints for the given objects.

**Parameters**

- **obj**
- **name**
- **original\_obj** – The original object, before the class if `obj` is its `__init__` method.

**Preprocessor**

Type hint for default preprocessor functions.

Alias of `Callable[[Type], Any]`

**docstring\_hooks**

**Type:** `List[Tuple[Callable[[Any], Callable], int]]`

List of additional hooks to run in `process_docstring()`.

Each entry in the list consists of:

- a function that takes the object being documented as its only argument and returns that object after modification.
- a number giving the priority of the hook, in ascending order.
  - `< 20` runs before `fget` functions are extracted from properties
  - `< 90` runs before `__new__` functions are extracted from `NamedTuples`.
  - `< 100` runs before `__init__` functions are extracted from classes.

**default\_preprocessors**

**Type:** `List[Tuple[Callable[[Type], bool], Callable[[Type], Any]]]`

A list of 2-element tuples, comprising a function to check the default value against and a preprocessor to pass the function to if `True`.

**setup** (*app*)

Setup `sphinx_toolbox.more_autodoc.typehints`.

**Parameters** **app** (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 22.12 `more_autodoc.typevars`

Documenter for module level `typing.TypeVar`'s, similar to Sphinx's `autotypevar` but with a different appearance.

New in version 1.3.0.

Enable `sphinx_toolbox.more_autodoc.typevars` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.typevars',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### 22.12.1 Configuration

#### `all_typevars`

**Type:** `bool`

**Default:** `False`

Document all `typing.TypeVars`, even if they have no docstring.

#### `no_unbound_typevars`

**Type:** `bool`

**Default:** `True`

Only document `typing.TypeVars` that have a constraint or are bound.

This option has no effect if `all_typevars` is `False`.

### 22.12.2 Usage

#### `.. autotypevar::`

Directive to automatically document a `typing.TypeVar`.

The output is based on the `autodata` directive, and takes all of its options plus these additional ones:

##### `:no-value:`

Don't show the value of the variable.

##### `:value: value (string)`

Show this instead of the value taken from the Python source code.

##### `:no-type:`

Don't show the type of the variable.

## 22.12.3 API Reference

### Classes:

<code>TypeVarDocumenter(directive, name[, indent])</code>	Alternative version of <code>sphinx.ext.autodoc.TypeVarDocumenter</code> with better type hint rendering.
---	---

### Functions:

<code>unskip_typevars(app, what, name, obj, skip, ...)</code>	Unskip undocumented <code>typing.TypeVars</code> if <code>all_typevars</code> is <code>True</code> .
<code>setup(app)</code>	Setup <code>sphinx_toolbox.more_autodoc.typevars</code> .

**class** `TypeVarDocumenter` (*directive, name, indent=""*)

Bases: `VariableDocumenter`

Alternative version of `sphinx.ext.autodoc.TypeVarDocumenter` with better type hint rendering.

Specialized Documenter subclass for `typing.TypeVars`.

### Methods:

<code>can_document_member(member, member-name, ...)</code>	Called to see if a member can be documented by this documenter.
<code>resolve_type(forward_ref)</code>	Resolve a <code>typing.ForwardRef</code> using the module the <code>TypeVar</code> belongs to.
<code>add_content(more_content[, no_docstring])</code>	Add content from docstrings, attribute documentation and user.
<code>add_directive_header(sig)</code>	Add the directive's header.
<code>get_doc([encoding, ignore])</code>	Decode and return lines of the docstring(s) for the object.

**classmethod** `can_document_member` (*member, membername, isattr, parent*)

Called to see if a member can be documented by this documenter.

### Parameters

- **member** (*Any*) – The member being checked.
- **membername** (*str*) – The name of the member.
- **isattr** (*bool*)
- **parent** (*Any*) – The parent of the member.

**Return type** `bool`

**resolve\_type** (*forward\_ref*)

Resolve a `typing.ForwardRef` using the module the `TypeVar` belongs to.

**Parameters** **forward\_ref** (*ForwardRef*)

**Return type** `Type`

**add\_content** (*more\_content*, *no\_docstring=False*)

Add content from docstrings, attribute documentation and user.

**Parameters**

- **more\_content** (*Any*)
- **no\_docstring** (*bool*) – Default `False`.

**add\_directive\_header** (*sig*)

Add the directive's header.

**Parameters** **sig** (*str*)

**get\_doc** (*encoding=None*, *ignore=None*)

Decode and return lines of the docstring(s) for the object.

**Parameters**

- **encoding** (*Optional[str]*) – Default `None`.
- **ignore** (*Optional[int]*) – Default `None`.

**Return type** `List[List[str]]`

**unskip\_typevars** (*app*, *what*, *name*, *obj*, *skip*, *options*)

Unskip undocumented `typing.TypeVars` if `all_typevars` is `True`.

**Parameters**

- **app** (*Sphinx*) – The Sphinx application.
- **what** (*str*) – The type of the object which the docstring belongs to (one of 'module', 'class', 'exception', 'function', 'method', 'attribute').
- **name** (*str*) – The fully qualified name of the object.
- **obj** (*Any*) – The object itself.
- **skip** (*bool*) – A boolean indicating if autodoc will skip this member if the user handler does not override the decision.
- **options** (*Dict[str, Any]*) – The options given to the directive: an object with attributes `inherited_members`, `undoc_members`, `show_inheritance` and `noindex` that are true if the flag option of same name was given to the auto directive.

**Return type** `Optional[bool]`

**setup** (*app*)  
 Setup `sphinx_toolbox.more_autodoc.typevars`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 22.13 more\_autodoc.variables

Documenter for module level variables, similar to `autodata` but with a different appearance and more customisation options.

New in version 0.6.0.

Enable `sphinx_toolbox.more_autodoc.variables` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.more_autodoc.variables',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

Changed in version 0.7.0: Added `*AttributeDocumenters`

Changed in version 1.1.0: Added `SlotsAttributeDocumenter`

### 22.13.1 Usage

**.. autovalue::**

Directive to automatically document a variable.

The output is based on the `autodata` directive, and takes all of its options, plus these additional ones:

**:no-value:**

Don't show the value of the variable.

**:value: value (string)**

Show this instead of the value taken from the Python source code.

**:no-type:**

Don't show the type of the variable.

**:type: type (string)**

Show this instead of the type taken from the Python source code.

An example of the output can be seen below for `type_template`.

## 22.13.2 API Reference

### Classes:

<code>VariableDocumenter</code> (directive, name[, indent])	Specialized Documenter subclass for data items.
<code>TypedAttributeDocumenter</code> (directive, name[, ...])	Alternative version of <code>sphinx.ext.autodoc.AttributeDocumenter</code> with better type hint rendering.
<code>InstanceAttributeDocumenter</code> (directive, name)	Alternative version of <code>sphinx.ext.autodoc.InstanceAttributeDocumenter</code> with better type hint rendering.
<code>SlotsAttributeDocumenter</code> (directive, name[, ...])	Alternative version of <code>sphinx.ext.autodoc.InstanceAttributeDocumenter</code> with better type hint rendering.

### Data:

<code>type_template</code>	Template for rendering type annotations in <code>VariableDocumenter</code> , <code>TypedAttributeDocumenter</code> and <code>InstanceAttributeDocumenter</code> .
----------------------------	---

### Functions:

<code>get_variable_type</code> (documenter)	Returns the formatted type annotation for a variable.
<code>setup</code> (app)	Setup <code>sphinx_toolbox.more_autodoc.variables</code> .

**class** `VariableDocumenter` (directive, name, indent="")

Bases: `DataDocumenter`

Specialized Documenter subclass for data items.

#### Methods:

<code>add_directive_header</code> (sig)	Add the directive's header.
---	-----------------------------

**add\_directive\_header** (sig)

Add the directive's header.

**Parameters** sig (str)

**class** `TypedAttributeDocumenter` (directive, name, indent="")

Bases: `DocstringStripSignatureMixin`, `ClassLevelDocumenter`

Alternative version of `sphinx.ext.autodoc.AttributeDocumenter` with better type hint rendering.

Specialized Documenter subclass for attributes.

New in version 0.7.0.

Changed in version 1.0.0: Now uses the type of the variable if it is not explicitly annotated.

#### Methods:

<code>can_document_member(member, member-name, ...)</code>	Called to see if a member can be documented by this documenter.
<code>add_directive_header(sig)</code>	Add the directive's header.
<code>get_doc([encoding, ignore])</code>	Decode and return lines of the docstring(s) for the object.
<code>add_content(more_content[, no_docstring])</code>	Add content from docstrings, attribute documentation and user.

**classmethod** `can_document_member` (*member, membername, isattr, parent*)

Called to see if a member can be documented by this documenter.

**Return type** `bool`

**add\_directive\_header** (*sig*)

Add the directive's header.

**Parameters** `sig` (`str`)

**get\_doc** (*encoding=None, ignore=None*)

Decode and return lines of the docstring(s) for the object.

**Parameters**

- **encoding** (`Optional[str]`) – Default `None`.
- **ignore** (`Optional[int]`) – Default `None`.

**Return type** `List[List[str]]`

**add\_content** (*more\_content, no\_docstring=False*)

Add content from docstrings, attribute documentation and user.

**class** `InstanceAttributeDocumenter` (*directive, name, indent=""*)

Bases: `TypedAttributeDocumenter`

Alternative version of `sphinx.ext.autodoc.InstanceAttributeDocumenter` with better type hint rendering.

Specialized Documenter subclass for attributes that cannot be imported because they are instance attributes (e.g. assigned in `__init__`).

New in version 0.7.0.

Changed in version 1.0.0: Now uses the type of the variable if it is not explicitly annotated.

**Methods:**

<code>can_document_member(member, member-name, ...)</code>	Called to see if a member can be documented by this documenter.
<code>import_parent()</code>	Import and return the attribute's parent.
<code>add_content(more_content[, no_docstring])</code>	Never try to get a docstring from the object.

**classmethod** `can_document_member` (*member, membername, isattr, parent*)

Called to see if a member can be documented by this documenter.

This documenter only documents `INSTANCEATTR` members.

**Parameters**

- **member** (*Any*) – The member being checked.
- **membername** (*str*) – The name of the member.
- **isattr** (*bool*)
- **parent** (*Any*) – The parent of the member.

**Return type** *bool*

**import\_parent** ()

Import and return the attribute's parent.

**Return type** *Any*

**add\_content** (*more\_content*, *no\_docstring=False*)

Never try to get a docstring from the object.

**class SlotsAttributeDocumenter** (*directive*, *name*, *indent=""*)

Bases: *TypedAttributeDocumenter*

Alternative version of `sphinx.ext.autodoc.InstanceAttributeDocumenter` with better type hint rendering.

Specialized Documenter subclass for attributes that cannot be imported because they are attributes in `__slots__`.

New in version 1.1.0.

#### Methods:

<i>can_document_member</i> (member, member-name, ...)	Called to see if a member can be documented by this documenter.
<i>get_doc</i> ([encoding, ignore])	Decode and return lines of the docstring(s) for the object.

**classmethod can\_document\_member** (*member*, *membername*, *isattr*, *parent*)

Called to see if a member can be documented by this documenter.

This documenter only documents SLOTSATTR members.

#### Parameters

- **member** (*Any*) – The member being checked.
- **membername** (*str*) – The name of the member.
- **isattr** (*bool*)
- **parent** (*Any*) – The parent of the member.

**Return type** *bool*

**get\_doc** (*encoding=None*, *ignore=None*)

Decode and return lines of the docstring(s) for the object.

#### Parameters

- **encoding** (*Optional[str]*) – Default *None*.
- **ignore** (*Optional[int]*) – Default *None*.

**Return type** *List[List[str]]*



**type\_template** = ' \*\*Type:\*\* |nbsp| |nbsp| |nbsp| |nbsp| %s '

**Type:** `str`

Template for rendering type annotations in *VariableDocumenter*, *TypedAttributeDocumenter* and *InstanceAttributeDocumenter*.

Renders like:

**Type:** `str`

**get\_variable\_type** (*documenter*)

Returns the formatted type annotation for a variable.

**Parameters** **documenter** (*Documenter*)

**Return type** `str`

**setup** (*app*)

Setup *sphinx\_toolbox.more\_autodoc.variables*.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*

---



## more\_autosummary

Extensions to `sphinx.ext.autosummary`.

Provides an enhanced version of <https://autodocsumm.readthedocs.io/> which respects the `autodoc member-order` option. This can be given for an individual directive, in the `autodoc_member_order` configuration value, or via `autodocsumm_member_order`.

Also patches `sphinx.ext.autosummary.Autosummary` to fix an issue where the module name is sometimes duplicated. I.e. `foo.bar.baz()` became `foo.bar.foo.bar.baz()`, which of course doesn't exist and created a broken link.

New in version 0.7.0.

Changed in version 1.3.0: Autosummary now selects the appropriate documenter for attributes rather than falling back to `DataDocumenter`.

Changed in version 2.13.0: Also patches `sphinx.ext.autodoc.ModuleDocumenter` to fix an issue where `__all__` is not respected for autosummary tables.

## 23.1 Configuration

### `autodocsumm_member_order`

**Type:** `str`

**Default:** `'alphabetical'`

Determines the sort order of members in `autodocsumm` summary tables. Valid values are `'alphabetical'` and `'bysource'`.

Note that for `'bysource'` the module must be a Python module with the source code available.

The member order can also be set on a per-directive basis using the `:member-order: [order]` option. This applies not only to `automodule` etc. directives, but also to `automodulesumm` etc. directives.

### `autosummary_col_type`

**Type:** `str`

**Default:** `'\X'`

The LaTeX column type to use for autosummary tables.

Custom columns can be defined in the LaTeX preamble for use with this option.

For example:

```
latex_elements["preamble"] = r'''
    \makeatletter
    \newcolumntype{\Xx}[2]{>\raggedright\arraybackslashp{\dimexpr
        (\linewidth-\arrayrulewidth)*#1/#2-\tw@ \tabcolsep-\arrayrulewidth\relax}}
    \makeatother
```

(continues on next page)

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```
'''
autosummary_col_type = "\\Xx"
```

New in version 2.13.0.

## 23.2 API Reference

### Classes:

<code>PatchedAutoSummClassDocumenter(*args)</code>	Patched version of <code>autodocsumm.AutoSummClassDocumenter</code> which doesn't show summary tables for aliased objects.
<code>PatchedAutoSummModuleDocumenter(*args)</code>	Patched version of <code>autodocsumm.AutoSummClassDocumenter</code> which works around a bug in Sphinx 3.4 and above where <code>__all__</code> is not respected.
<code>PatchedAutosummary(name, arguments, options, ...)</code>	Pretty table containing short signatures and summaries of functions etc.

### Functions:

<code>get_documenter(app, obj, parent)</code>	Returns an <code>autodoc.Documenter</code> class suitable for documenting the given object.
<code>setup(app)</code>	Setup <code>sphinx_toolbox.more_autosummary</code> .

**class** `PatchedAutoSummClassDocumenter` (*\*args*)

Bases: `AutoSummClassDocumenter`

Patched version of `autodocsumm.AutoSummClassDocumenter` which doesn't show summary tables for aliased objects.

New in version 0.9.0.

#### Methods:

<code>add_content(*args, **kwargs)</code>	Add content from docstrings, attribute documentation and user.
---	--

**add\_content** (*\*args, \*\*kwargs*)

Add content from docstrings, attribute documentation and user.

**class** `PatchedAutoSummModuleDocumenter` (*\*args*)

Bases: `AutoSummModuleDocumenter`

Patched version of `autodocsumm.AutoSummClassDocumenter` which works around a bug in Sphinx 3.4 and above where `__all__` is not respected.

New in version 2.13.0.

**class** `PatchedAutosummary` (*name, arguments, options, content, lineno, content\_offset, block\_text, state, state\_machine*)

Bases: `Autosummary`

Pretty table containing short signatures and summaries of functions etc.

Patched version of `sphinx.ext.autosummary.Autosummary` to fix an issue where the module name is sometimes duplicated.

I.e. `foo.bar.baz()` became `foo.bar.foo.bar.baz()`, which of course doesn't exist and created a broken link.

New in version 0.5.1.

Changed in version 0.7.0: Moved from `sphinx_toolbox.patched_autosummary`.

Changed in version 2.13.0: Added support for customising the column type with the `autosummary_col_type` option.

#### Methods:

<code>create_documenter(app, obj, parent, full_name)</code>	Get an <code>autodoc.Documenter</code> class suitable for documenting the given object.
<code>get_table(items)</code>	Generate a list of table nodes for the <code>autosummary</code> directive.
<code>import_by_name(name, prefixes)</code>	Import the object with the give name.

**create\_documenter** (*app, obj, parent, full\_name*)

Get an `autodoc.Documenter` class suitable for documenting the given object.

#### Parameters

- **app** (`Sphinx`) – The Sphinx application.
- **obj** (`Any`) – The object being documented.
- **parent** (`Any`) – The parent of the object (e.g. a module or a class).
- **full\_name** (`str`) – The full name of the object.

Changed in version 1.3.0: Now selects the appropriate documenter for attributes rather than falling back to `DataDocumenter`.

**Return type** `Documenter`

**get\_table** (*items*)

Generate a list of table nodes for the `autosummary` directive.

**Parameters** *items* (`List[Tuple[str, str, str, str]]`) – A list produced by `self.get_items`.

**Return type** `List[Node]`

**import\_by\_name** (*name*, *prefixes*)

Import the object with the give name.

**Parameters**

- **name** (`str`)
- **prefixes** (`List[str]`)

**Return type** `Tuple[str, Any, Any, str]`

**Returns** The real name of the object, the object, the parent of the object, and the name of the module.

**get\_documenter** (*app*, *obj*, *parent*)

Returns an `autodoc.Documenter` class suitable for documenting the given object.

New in version 1.3.0.

**Parameters**

- **app** (`Sphinx`) – The Sphinx application.
- **obj** (`Any`) – The object being documented.
- **parent** (`Any`) – The parent of the object (e.g. a module or a class).

**Return type** `Type[Documenter]`

**setup** (*app*)

Setup `sphinx_toolbox.more_autosummary`.

**Parameters** *app* (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`





The following tweaks are available:

## 24.1 `tweaks.footnote_symbols`

Tweak which monkeypatches docutils to use the following symbols for footnotes:

- † – dagger
- ‡ – double dagger
- § – section mark
- ¶ – paragraph mark (pilcrow)
- # – number sign
- ♠ – spade suit
- ♥ – heart suit
- ♦ – diamond suit
- ♣ – club suit

With some themes the superscript asterisk becomes very hard to see.

New in version 2.7.0.

Enable `sphinx_toolbox.tweaks.footnote_symbols` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.tweaks.footnote_symbols',  
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

---

**setup** (*app*)  
Setup `sphinx_toolbox.tweaks.footnote_symbols`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 24.2 `tweaks.latex_layout`

Makes minor adjustments to the LaTeX layout.

- Increases the whitespace above function signatures by 5px, to prevent the function visually merging with the previous one.
- Remove unnecessary indentation and allow “raggedright” for the fields in the body of functions, which prevents ugly whitespace and line breaks.
- Disables justification for function signatures. This is a backport of changes from Sphinx 4 added in [sphinx-doc/sphinx#8997](#).

New in version 2.12.0.

- With Sphinx 3.5, doesn’t add `\sphinxAtStartPar` before every paragraph. The change in [sphinx-doc/sphinx#8781](#) was to solve an issue with *tables*, but it isn’t clear why it then gets added for *every* paragraph so this extension removes it.

New in version 2.13.0.

- Configures hyperref to apply correct page numbering to the frontmatter.

New in version 2.14.0.

New in version 2.10.0.

Enable `sphinx_toolbox.tweaks.latex_layout` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.tweaks.latex_layout',  
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

---

**setup** (*app*)

Setup `sphinx_toolbox.tweaks.latex_layout`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 24.3 `tweaks.latex_toc`

Adjusts the default LaTeX output as follows:

- The captions from `toctree` directives are converted into document parts.
- The PDF outline has the correct hierarchy, including having the indices as top-level elements.

New in version 2.1.0.

Enable `sphinx_toolbox.tweaks.latex_toc` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [  
    ...  
    'sphinx_toolbox.tweaks.latex_toc',  
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

---

**Functions:**

<code>configure(app, config)</code>	Configure <code>sphinx_toolbox.tweaks.latex_toc</code> .
<code>setup(app)</code>	Setup <code>sphinx_toolbox.tweaks.latex_toc</code> .

**configure** (*app*, *config*)  
Configure `sphinx_toolbox.tweaks.latex_toc`.

**Parameters**

- **app** (`Sphinx`) – The Sphinx application.
- **config** (`Config`)

**setup** (*app*)  
Setup `sphinx_toolbox.tweaks.latex_toc`.

**Parameters** **app** (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 24.4 `tweaks.param_dash`

Monkeypatches `sphinx.util.docfields.TypedField` to only output the endash (–) separating the parameter name from its description if a description was given.

New in version 0.9.0.

**Example**

```
.. class:: MyClass(foo, bar)

   This is my class.

   :param foo: An argument
   :param bar:
```

**class** `MyClass` (*foo*, *bar*)  
This is my class.

**Parameters**

- **foo** – An argument
- **bar**

Enable `sphinx_toolbox.tweaks.param_dash` by adding the following to the `extensions` variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.tweaks.param_dash',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

**setup** (*app*)

Setup *sphinx\_toolbox.tweaks.param\_dash*.

**Parameters** *app* (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*

## 24.5 tweaks.sphinx\_panels\_tabs

Tweak to `executablebooks/sphinx-tabs` to fix a CSS conflict with `executablebooks/sphinx-panels`.

Fix for `executablebooks/sphinx-panels#51`.

New in version 1.9.0.

Enable `sphinx_toolbox.tweaks.sphinx_panels_tabs` by adding the following to the extensions variable in your `conf.py`:

```
extensions = [
    ...
    'sphinx_toolbox.tweaks.sphinx_panels_tabs',
]
```

For more information see <https://www.sphinx-doc.org/en/master/usage/extensions#third-party-extensions>.

### Functions:

<code>copy_asset_files(app[, exception])</code>	Copy asset files to the output.
<code>setup(app)</code>	Setup <i>sphinx_toolbox.tweaks.sphinx_panels_tabs</i> .

**copy\_asset\_files** (*app*, *exception=None*)

Copy asset files to the output.

#### Parameters

- **app** (*Sphinx*) – The Sphinx application.
- **exception** (*Optional[Exception]*) – Any exception which occurred and caused Sphinx to abort. Default *None*.

Changed in version 2.7.0: Renamed from `copy_assets`. The old name is deprecated and will be removed in 3.0.0

**setup** (*app*)

Setup `sphinx_toolbox.tweaks.sphinx_panels_tabs`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`

## 24.6 `tweaks.tabsize`

Hack to get the docutils tab size, as there doesn't appear to be any other way.

New in version 1.0.0.

You probably don't need to use this extension directly, but if you're developing an extension of your own you can enable it like so:

```
def setup(app: Sphinx) -> Dict[str, Any]:
    app.setup_extension('sphinx_toolbox.github')
    return {}
```

This will guarantee that the following value will be available via `app.config`:

- **`docutils_tab_width`** (`int`) – The number of spaces that correspond to a tab when Docutils parses source files.

**setup** (*app*)

Setup `sphinx_toolbox.tweaks.tabsize`.

**Parameters** `app` (`Sphinx`) – The Sphinx application.

**Return type** `SphinxExtMetadata`





## Changelog

### 25.1 2.15.1

#### 25.1.1 Bugs Fixed

- `sphinx_toolbox.github` – fix crash when getting GitHub issue titles if there's no internet.

### 25.2 2.15.0

#### 25.2.1 Features

- Added support for Sphinx 4.1 and 4.2
- Added support for autodocsumm > 0.2.2
- Improved support for Python 3.10.0 rc.2

#### 25.2.2 Bugs Fixed

- `RegexDocumenter` – No longer outputs a `csv-table` directive when there is no pattern and no flags. This prevents docutils emitting a warning.
- Correctly uses UTF-8 when reading files in HTML regression tests.

### 25.3 2.14.0

#### 25.3.1 Features

- `sphinx_toolbox.testing.HTMLRegressionFixture` – Added support for rendering the reference file as a jinja2 template, which can be used to account for differences between Python and Sphinx versions.
- Added support for Sphinx 4.0 and sphinx-tabs versions up to 3.2.0
- Improved support for Python 3.10.0 rc.1
- `sphinx_toolbox.tweaks.latex_layout` – Now configures `hyperref` to use correct page numbering for the frontmatter.

## 25.3.2 Bugs Fixed

- URLs pointing to `https://pypistats.org/` now use lowercased project names.
- The `cls` and `return` attributes are ignored from `__annotations__` when deciding whether to include the `__new__` method for a `NamedTuple` with `NamedTupleDocumenter`.

## 25.4 2.13.0

### 25.4.1 Features

- Added support for Sphinx 3.4.x and 3.5.x.
- `sphinx_toolbox.more_autodoc.autoprotocol` – Added support for generic bases, such as `class SupportsAbs(Protocol[T_co]): ...`
- `sphinx_toolbox.more_autosummary` – Added the `autosummary_col_type` configuration option.
- `sphinx_toolbox.latex.replace_unknown_unicode()` – Add support for converting `≥` and `≤`.
- `sphinx_toolbox.more_autodoc.typehints.format_annotation()` – Added support for `True` and `False`

### 25.4.2 Bugs Fixed

- `sphinx_toolbox.more_autosummary` – Ensure `__all__` is respected for autosummary tables.

---

**Note:** The changelog prior to 2.13.0 has not been compiled yet.

---

# **Part II**

## **Developer API**



## sphinx\_toolbox

sphinx\_toolbox also provides some utility functions for building Sphinx extensions.

**setup** (*app*)

Setup *sphinx\_toolbox*.

**Parameters** **app** (*Sphinx*) – The Sphinx application.

**Return type** *SphinxExtMetadata*



## **sphinx\_toolbox.config**

Internal configuration for sphinx-toolbox.

### **Exceptions:**

<i>InvalidOptionError</i>	Subclass of <code>ValueError</code> to indicate an invalid value for a configuration value.
<i>MissingOptionError</i>	Subclass of <code>ValueError</code> to indicate a missing configuration option.

### **Classes:**

<i>ToolboxConfig</i> ([config, overrides])	Subclass of <code>sphinx.config.Config</code> with type annotations for the configuration values added by sphinx-toolbox.
--	---

### **Functions:**

<i>validate_config</i> (app, config)	Validate the provided configuration values.
--------------------------------------	---

#### **exception InvalidOptionError**

Bases: `ValueError`

Subclass of `ValueError` to indicate an invalid value for a configuration value.

#### **exception MissingOptionError**

Bases: `ValueError`

Subclass of `ValueError` to indicate a missing configuration option.

#### **class ToolboxConfig** (config={}, overrides={})

Bases: `Config`

Subclass of `sphinx.config.Config` with type annotations for the configuration values added by sphinx-toolbox.

Depending on the extensions enabled not all of these configuration values will be present.

Functionally compatible with `sphinx.config.Config`.

#### **Attributes:**

<i>all_typevars</i>	Document all <code>typing.TypeVars</code> , even if they have no docstring.
<i>assets_dir</i>	The directory in which to find assets for the <i>asset</i> role.

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<code>conda_channels</code>	List of required Conda channels.
<code>docutils_tab_width</code>	The tab size used by docutils.
<code>github_issues_url</code>	The base URL for the issues on GitHub.
<code>github_pull_url</code>	The base URL for the pull requests on GitHub.
<code>github_repository</code>	The GitHub repository this documentation corresponds to.
<code>github_source_url</code>	The base URL for the source code on GitHub.
<code>github_url</code>	The complete URL of the repository on GitHub.
<code>github_username</code>	The username of the GitHub account that owns the repository this documentation corresponds to.
<code>no_unbound_typevars</code>	Only document <code>typing.TypeVars</code> that have a constraint of are bound.
<code>rst_prolog</code>	A string of reStructuredText that will be included at the beginning of every source file that is read.
<code>source_link_target</code>	The target of the source link, either 'github' or 'sphinx'.
<code>wikipedia_lang</code>	The Wikipedia language to use for <i>wikipedia</i> roles.

**all\_typevars****Type:** `bool`Document all `typing.TypeVars`, even if they have no docstring.**assets\_dir****Type:** `str`The directory in which to find assets for the *asset* role.**conda\_channels****Type:** `List[str]`

List of required Conda channels.

**docutils\_tab\_width****Type:** `int`The tab size used by docutils. This is usually 8 spaces, but can be configured in the `docutils.conf` file.**github\_issues\_url****Type:** `RequestsURL`

The base URL for the issues on GitHub.

**github\_pull\_url****Type:** `RequestsURL`

The base URL for the pull requests on GitHub.

**github\_repository****Type:** `str`

The GitHub repository this documentation corresponds to.



**github\_source\_url****Type:** `RequestsURL`

The base URL for the source code on GitHub.

**github\_url****Type:** `RequestsURL`

The complete URL of the repository on GitHub.

**github\_username****Type:** `str`

The username of the GitHub account that owns the repository this documentation corresponds to.

**no\_unbound\_typevars****Type:** `bool`

Only document `typing.TypeVars` that have a constraint of are bound.

This option has no effect if `all_typevars` is False.

**rst\_prolog****Type:** `str`

A string of reStructuredText that will be included at the beginning of every source file that is read.

**source\_link\_target****Type:** `str`

The target of the source link, either 'github' or 'sphinx'. Will be lowercase after `validate_config()` has run.

**wikipedia\_lang****Type:** `str`

The Wikipedia language to use for `wikipedia` roles.

**validate\_config** (*app*, *config*)

Validate the provided configuration values.

See `ToolboxConfig` for a list of the configuration values.

**Parameters**

- **app** (`Sphinx`) – The Sphinx application.
- **config** (`Config`)



## **sphinx\_toolbox.testing**

Functions for testing Sphinx extensions.

**Attention:** This module has the following additional requirements:

```
coincidence>=0.4.3
pygments>=2.7.4
```

These can be installed as follows:

```
$ python -m pip install sphinx-toolbox[testing]
```

**See also:** Sphinx’s own testing library: <https://github.com/sphinx-doc/sphinx/tree/3.x/sphinx/testing>

### **Classes:**

<code>Sphinx()</code>	A class that pretends to be <code>sphinx.application.Sphinx</code> but that is stripped back to allow the internals to be inspected.
<code>RunSetupOutput(setup_ret, directives, roles, ...)</code>	<code>NamedTuple</code> representing the output from <code>run_setup()</code> .
<code>HTMLRegressionFixture(datadir, ...)</code>	Subclass of <code>pytest_regressions.file_regression.FileRegressionFixture</code> for checking HTML files.

### **Functions:**

<code>run_setup(setup_func)</code>	Function for running an extension’s <code>setup()</code> function for testing.
<code>remove_html_footer(page)</code>	Remove the Sphinx footer from HTML pages.
<code>check_html_regression(page, file_regression)</code>	Check an HTML page generated by Sphinx for regressions, using <code>pytest-regressions</code> .
<code>remove_html_link_tags(page)</code>	Remove link tags from HTML pages.
<code>check_asset_copy(func, *asset_files, ...)</code>	Helper to test functions which respond to Sphinx build-finished events and copy asset files.
<code>html_regression(datadir, original_datadir, ...)</code>	Returns an <code>HTMLRegressionFixture</code> scoped to the test function.

**class Sphinx**Bases: `object`

A class that pretends to be `sphinx.application.Sphinx` but that is stripped back to allow the internals to be inspected. This can be used in tests to ensure the nodes, roles etc. being registered in an extension's `setup()` function are actually being registered.

**Attributes:**

<code>registry</code>	Instance of <code>sphinx.registry.SphinxComponentRegistry</code>
<code>config</code>	Instance of <code>sphinx.config.Config</code>
<code>events</code>	Instance of <code>sphinx.events.EventManager</code>
<code>html_themes</code>	Mapping of HTML theme names to filesystem paths.

**Methods:**

<code>add_builder(builder[, override])</code>	Register a new builder.
<code>add_config_value(name, default, rebuild[, types])</code>	Register a configuration value.
<code>add_event(name)</code>	Register an event called <code>name</code> .
<code>set_translator(name, translator_class[, ...])</code>	Register or override a Docutils translator class.
<code>add_node(node[, override])</code>	Register a Docutils node class.
<code>add_enumerable_node(node, figtype[, ...])</code>	Register a Docutils node class as a numfig target.
<code>add_directive(name, cls[, override])</code>	Register a Docutils directive.
<code>add_role(name, role[, override])</code>	Register a Docutils role.
<code>add_generic_role(name, nodeclass[, override])</code>	Register a generic Docutils role.
<code>add_domain(domain[, override])</code>	Register a domain.
<code>add_directive_to_domain(domain, name, cls[, ...])</code>	Register a Docutils directive in a domain.
<code>add_role_to_domain(domain, name, role[, ...])</code>	Register a Docutils role in a domain.
<code>add_index_to_domain(domain, index[, override])</code>	Register a custom index for a domain.
<code>add_object_type(directivename, rolename[, ...])</code>	Register a new object type.
<code>add_crossref_type(directivename, rolename[, ...])</code>	Register a new crossref object type.
<code>add_transform(transform)</code>	Register a Docutils transform to be applied after parsing.
<code>add_post_transform(transform)</code>	Register a Docutils transform to be applied before writing.
<code>add_js_file(filename, **kwargs)</code>	Register a JavaScript file to include in the HTML output.
<code>add_css_file(filename, **kwargs)</code>	Register a stylesheet to include in the HTML output.
<code>add_latex_package(packagename[, options, ...])</code>	Register a package to include in the LaTeX source code.
<code>add_lexer(alias, lexer)</code>	Register a new lexer for source code.
<code>add_autodocumenter(cls[, override])</code>	Register a new documenter class for the autodoc extension.

continues on next page

Table 4 – continued from previous page

<code>add_autodoc_attrgetter</code> (typ, getter)	Register a new <code>getattr</code> -like function for the autodoc extension.
<code>add_source_suffix</code> (suffix, filetype[, override])	Register a suffix of source files.
<code>add_source_parser</code> (*args, **kwargs)	Register a parser class.
<code>add_env_collector</code> (collector)	No-op for now.
<code>add_html_theme</code> (name, theme_path)	Register an HTML Theme.
<code>add_html_math_renderer</code> (name[, ...])	Register a math renderer for HTML.
<code>setup_extension</code> (extname)	Import and setup a Sphinx extension module.
<code>require_sphinx</code> (version)	Check the Sphinx version if requested.
<code>connect</code> (event, callback[, priority])	Register <i>callback</i> to be called when <i>event</i> is emitted.

**registry****Type:** `SphinxComponentRegistry`Instance of `sphinx.registry.SphinxComponentRegistry`**config****Type:** `Config`Instance of `sphinx.config.Config`**events****Type:** `EventManager`Instance of `sphinx.events.EventManager`**html\_themes****Type:** `Dict[str, str]`

Mapping of HTML theme names to filesystem paths.

**add\_builder** (*builder*, *override=False*)

Register a new builder.

The registered values are stored in the `app.registry.builders` dictionary (`typing.Dict[str, typing.Type[sphinx.builders.Builder]]`).**add\_config\_value** (*name*, *default*, *rebuild*, *types=()*)

Register a configuration value.

The registered values are stored in the `app.config.values` dictionary (`typing.Dict[str, typing.Tuple]`).**add\_event** (*name*)Register an event called *name*.The registered values are stored in the `app.events.events` dictionary (`typing.Dict[str, str]`).**set\_translator** (*name*, *translator\_class*, *override=False*)

Register or override a Docutils translator class.

The registered values are stored in the `app.registry.translators` dictionary. (`typing.Dict[str, typing.Type[docutils.nodes.NodeVisitor]]`).

**add\_node** (*node*, *override=False*, *\*\*kwargs*)

Register a Docutils node class.

The registered values are stored in the `additional_nodes` set returned by `run_setup()` (`typing.Set[typing.Type[docutils.nodes.Node]]`).

**add\_enumerable\_node** (*node*, *figtype*, *title\_getter=None*, *override=False*, *\*\*kwargs*)

Register a Docutils node class as a numfig target.

**add\_directive** (*name*, *cls*, *override=False*)

Register a Docutils directive.

**add\_role** (*name*, *role*, *override=False*)

Register a Docutils role.

The registered values are stored in the `roles` dictionary returned by `run_setup()`. (`typing.Dict[str, typing.Callable]`).

**add\_generic\_role** (*name*, *nodeclass*, *override=False*)

Register a generic Docutils role.

**add\_domain** (*domain*, *override=False*)

Register a domain.

**add\_directive\_to\_domain** (*domain*, *name*, *cls*, *override=False*)

Register a Docutils directive in a domain.

**add\_role\_to\_domain** (*domain*, *name*, *role*, *override=False*)

Register a Docutils role in a domain.

**add\_index\_to\_domain** (*domain*, *index*, *override=False*)

Register a custom index for a domain.

**add\_object\_type** (*directivename*, *rolename*, *indextemplate=""*, *parse\_node=None*,  
*ref\_nodeclass=None*, *objname=""*, *doc\_field\_types=[]*, *override=False*)

Register a new object type.

**add\_crossref\_type** (*directivename*, *rolename*, *indextemplate=""*, *ref\_nodeclass=None*, *objname=""*,  
*override=False*)

Register a new crossref object type.

**add\_transform** (*transform*)

Register a Docutils transform to be applied after parsing.

**add\_post\_transform** (*transform*)

Register a Docutils transform to be applied before writing.

**add\_js\_file** (*filename*, *\*\*kwargs*)

Register a JavaScript file to include in the HTML output.

New in version 2.8.0.

**add\_css\_file** (*filename*, *\*\*kwargs*)

Register a stylesheet to include in the HTML output.

New in version 2.7.0.

**add\_latex\_package** (*packagename, options=None, after\_hyperref=False*)

Register a package to include in the LaTeX source code.

**add\_lexer** (*alias, lexer*)

Register a new lexer for source code.

**add\_autodocumenter** (*cls, override=False*)

Register a new documenter class for the autodoc extension.

**add\_autodoc\_attrgetter** (*typ, getter*)

Register a new `getattr`-like function for the autodoc extension.

**add\_source\_suffix** (*suffix, filetype, override=False*)

Register a suffix of source files.

**add\_source\_parser** (*\*args, \*\*kwargs*)

Register a parser class.

**add\_env\_collector** (*collector*)

No-op for now.

**add\_html\_theme** (*name, theme\_path*)

Register an HTML Theme.

**add\_html\_math\_renderer** (*name, inline\_renderers=None, block\_renderers=None*)

Register a math renderer for HTML.

**setup\_extension** (*extname*)

Import and setup a Sphinx extension module.

**require\_sphinx** (*version*)

Check the Sphinx version if requested.

No-op when testing

**connect** (*event, callback, priority=500*)

Register *callback* to be called when *event* is emitted.

**Return type** `int`

**run\_setup** (*setup\_func*)

Function for running an extension's `setup()` function for testing.

**Parameters** **setup\_func** (`Union[Callable[[Sphinx], Optional[Dict[str, Any]]], Callable[[Sphinx], Optional[SphinxExtMetadata]], Callable[[Sphinx], Optional[Dict[str, Any]]], Callable[[Sphinx], Optional[SphinxExtMetadata]]]`) – The `setup()` function under test.

**Return type** `RunSetupOutput`

**Returns** 5-element namedtuple

**namedtuple** `RunSetupOutput` (*setup\_ret, directives, roles, additional\_nodes, app*)

Bases: `NamedTuple`

`NamedTuple` representing the output from `run_setup()`.

#### Fields

- 0) **setup\_ret** (`Union[None, Dict[str, Any], SphinxExtMetadata]`) – The output from the `setup()` function.
- 1) **directives** (`Dict[str, Callable]`) – Mapping of directive names to directive functions.
- 2) **roles** (`Dict[str, Callable]`) – Mapping of role names to role functions.
- 3) **additional\_nodes** (`Set[Type[Any]]`) – Set of custom docutils nodes registered in `setup()`.
- 4) **app** (`Sphinx`) – Instance of `sphinx_toolbox.testing.Sphinx`.

`__repr__()`

Return a string representation of the `RunSetupOutput`.

**Return type** `str`

**remove\_html\_footer** (*page*)

Remove the Sphinx footer from HTML pages.

The footer contains the Sphinx and theme versions and therefore changes between versions. This can cause unwanted, false positive test failures.

**Parameters** **page** (`BeautifulSoup`) – The page to remove the footer from.

**Return type** `BeautifulSoup`

**Returns** The page without the footer.

**check\_html\_regression** (*page, file\_regression*)

Check an HTML page generated by Sphinx for regressions, using `pytest-regressions`.

#### Parameters

- **page** (`BeautifulSoup`) – The page to test.
- **file\_regression** (`FileRegressionFixture`) – The file regression fixture.

#### Example usage

```
@pytest.mark.parametrize("page", ["index.html"], indirect=True)
def test_page(page: BeautifulSoup, file_regression: FileRegressionFixture):
    check_html_regression(page, file_regression)
```

**remove\_html\_link\_tags** (*page*)

Remove link tags from HTML pages.

These may vary between different versions of Sphinx and its extensions. This can cause unwanted, false positive test failures.

**Parameters** **page** (`BeautifulSoup`) – The page to remove the link tags from.

**Return type** `BeautifulSoup`

**Returns** The page without the link tags.



**check\_asset\_copy** (*func, \*asset\_files, file\_regression*)

Helper to test functions which respond to Sphinx build-finished events and copy asset files.

New in version 2.0.0.

#### Parameters

- **func** (`Callable[[Sphinx, Exception], Any]`) – The function to test.
- **\*asset\_files** – The paths of asset files copied by the function, relative to the Sphinx output directory.
- **file\_regression** (`FileRegressionFixture`)

**class HTMLRegressionFixture** (*datadir, original\_datadir, request*)

Bases: `FileRegressionFixture`

Subclass of `pytest_regressions.file_regression.FileRegressionFixture` for checking HTML files.

New in version 2.0.0.

#### Methods:

<code>check</code> (page, *, extension, jinja2)	Check an HTML page generated by Sphinx for regressions, using <code>pytest-regressions</code> .
---	---

**check** (*page, \*, extension='html', jinja2=False, \*\*kwargs*)

Check an HTML page generated by Sphinx for regressions, using `pytest-regressions`.

#### Parameters

- **page** (`BeautifulSoup`) – The page to test.
- **jinja2** (`bool`) – Whether to render the reference file as a jinja2 template. Default `False`.
- **\*\*kwargs** – Additional keyword arguments passed to `pytest_regressions.file_regression.FileRegressionFixture.check()`.

Changed in version 2.14.0: Added the `jinja2` keyword argument.

When `jinja2` is `True`, the reference file will be rendered as a jinja2 template. The template is passed the following variables:

- `sphinx_version` – the Sphinx version number, as a tuple of integers.
- `python_version` – the Python version number, in the form returned by `sys.version_info`.

#### Example usage

```
@pytest.mark.parametrize("page", ["index.html"], indirect=True)
def test_page(page: BeautifulSoup, html_regression: HTMLRegressionFixture):
    html_regression.check(page, file_regression)
```

**fixture html\_regression**

**Scope:** function

Returns an `HTMLRegressionFixture` scoped to the test function.

New in version 2.0.0.

**Return type** `HTMLRegressionFixture`



## sphinx\_toolbox.utils

General utility functions.

### Functions:

<code>add_nbsp_substitution(config)</code>	Adds the <code> nbsp </code> substitution directive to the reStructuredText prolog.
<code>allow_subclass_add(app, *documenters)</code>	Add the given autodocumenters, but only if a subclass of it is not already registered.
<code>baseclass_is_private(obj)</code>	Returns <code>True</code> if the first and only base class starts with a double underscore.
<code>begin_generate(documenter[, real_modname, ...])</code>	Boilerplate for the top of generate in sphinx.ext.autodoc.Documenter subclasses.
<code>code_repr(obj)</code>	Returns the repr of the given object as reStructuredText inline code.
<code>escape_trailing__(string)</code>	Returns the given string with trailing underscores escaped to prevent Sphinx treating them as references.
<code>filter_members_warning(member, exception)</code>	Log a warning when filtering members.
<code>flag(argument)</code>	Check for a valid flag option (no argument) and return <code>True</code> .
<code>get_first_matching(condition, iterable[, ...])</code>	Returns the first value in iterable that meets condition, or default if none match.
<code>is_namedtuple(obj)</code>	Returns whether the given object is a <code>collections.namedtuple()</code> class.
<code>make_github_url(username, repository)</code>	Construct a URL to a GitHub repository from a username and repository name.
<code>parse_parameters(lines[, tab_size])</code>	Parse parameters from the docstring of a class/function.
<code>unknown_module_warning(documenter)</code>	Log a warning that the module to import the object from is unknown.

### Data:

<code>GITHUB_COM</code>	Instance of <code>apeye.requests_url.RequestsURL</code> that points to the GitHub website.
<code>OptionSpec</code>	Type hint for the <code>option_spec</code> variable of Docutils directives.
<code>SetupFunc</code>	Type annotation for Sphinx extensions' setup functions.
<code>typed_flag_regex</code>	Regex to match <code>:type &lt;name&gt;: &lt;type&gt; flags</code> .
<code>typed_param_regex</code>	Regex to match <code>:param &lt;type&gt; &lt;name&gt;: &lt;docstring&gt; flags</code> .
<code>untyped_param_regex</code>	Regex to match <code>:param &lt;name&gt;: &lt;docstring&gt; flags</code> .

**Exceptions:**

<code>NoMatchError</code>	Raised when no matching values were found in <code>get_first_matching()</code> .
---------------------------	--

**Classes:**

<code>Param</code>	<code>TypedDict</code> to represent a parameter parsed from a class or function's docstring.
<code>Purger(attr_name)</code>	Class to purge redundant nodes.
<code>SphinxExtMetadata</code>	<code>typing.TypedDict</code> representing the metadata dictionary returned by Sphinx extensions' <code>setup</code> functions.

**add\_nbsp\_substitution** (*config*)

Adds the `|nbsp|` substitution directive to the reStructuredText prolog.

New in version 2.1.0.

**Parameters** `config` (`Config`)

**allow\_subclass\_add** (*app*, \**documenters*)

Add the given autodocumenters, but only if a subclass of it is not already registered.

This allows other libraries to extend the autodocumenters.

New in version 0.8.0.

**Parameters**

- **app** (`Sphinx`) – The Sphinx application.
- **documenters** (`Type[Documenter]`)

**baseclass\_is\_private** (*obj*)

Returns `True` if the first and only base class starts with a double underscore.

**Parameters** `obj` (`Type`)

**Return type** `bool`

**begin\_generate** (*documenter*, *real\_modname=None*, *check\_module=False*)

Boilerplate for the top of `generate` in `sphinx.ext.autodoc.Documenter` subclasses.

New in version 0.2.0.

**Parameters**

- **documenter** (`Documenter`)
- **real\_modname** (`Optional[str]`) – Default `None`.
- **check\_module** (`bool`) – Default `False`.

**Return type** `Optional[str]`

**Returns** The `sourcename`, or `None` if certain conditions are met, to indicate that the `Documenter` class should exit early.

**code\_repr** (*obj*)

Returns the repr of the given object as reStructuredText inline code.

New in version 0.9.0.

**Parameters** *obj* (*Any*)

**Return type** *str*

**escape\_trailing\_\_** (*string*)

Returns the given string with trailing underscores escaped to prevent Sphinx treating them as references.

New in version 0.8.0.

**Parameters** *string* (*str*)

**Return type** *str*

**filter\_members\_warning** (*member*, *exception*)

Log a warning when filtering members.

New in version 0.2.0.

**Parameters**

- **member**
- **exception** (*Exception*)

**flag** (*argument*)

Check for a valid flag option (no argument) and return *True*.

Used in the *option\_spec* of directives.

**See also:** *docutils.parsers.rst.directives.flag*, which returns *None* instead of *True*.

**Raises** *ValueError* if an argument is given.

**Return type** *bool*

**get\_first\_matching** (*condition*, *iterable*, *default=no\_default*)

Returns the first value in *iterable* that meets *condition*, or *default* if none match.

New in version 0.7.0.

**Parameters**

- **condition** (*Callable*[[*Any*], *bool*]) – The condition to evaluate.
- **iterable** (*Iterable*[*~T*])
- **default** (*~T*) – The default value to return if no values in *iterable* match. Default *no\_default*.

**Return type** *~T*

**GITHUB\_COM** = *RequestsURL*('https://github.com')

**Type:** *RequestsURL*

Instance of *apeye.requests\_url.RequestsURL* that points to the GitHub website.

**is\_namedtuple** (*obj*)

Returns whether the given object is a `collections.namedtuple()` class.

New in version 0.8.0.

**Parameters** *obj* (*Any*)

**Return type** `bool`

**make\_github\_url** (*username*, *repository*)

Construct a URL to a GitHub repository from a username and repository name.

**Parameters**

- **username** (*str*) – The username of the GitHub account that owns the repository.
- **repository** (*str*) – The name of the repository.

**Return type** `RequestsURL`

**exception NoMatchError**

Bases: `ValueError`

Raised when no matching values were found in `get_first_matching()`.

New in version 0.7.0.

**OptionSpec**

Type hint for the `option_spec` variable of Docutils directives.

Alias of `Mapping[str, Callable[[str], Any]]`

**typeddict Param**

Bases: `dict`

`TypedDict` to represent a parameter parsed from a class or function's docstring.

New in version 0.8.0.

**Required Keys**

- **doc** (`List[str]`) – The docstring of the parameter.
- **type** (*str*) – The type of the parameter.

**parse\_parameters** (*lines*, *tab\_size=8*)

Parse parameters from the docstring of a class/function.

New in version 0.8.0.

**Parameters**

- **lines** (`List[str]`) – The lines of the docstring
- **tab\_size** (*int*) – Default 8.

**Return type** `Tuple[Dict[str, Param], List[str], List[str]]`

**Returns** A mapping of parameter names to their docstrings and types, a list of docstring lines that appeared before the parameters, and the list of docstring lines that appear after the parameters.

**class Purger** (*attr\_name*)

Bases: `object`

Class to purge redundant nodes.

**Parameters** *attr\_name* (`str`) – The name of the build environment’s attribute that stores the list of nodes, e.g. `all_installation_nodes`.

**Methods:**

<code>purge_nodes(app, env, docname)</code>	Remove all redundant nodes.
<code>get_outdated_docnames(app, env, added, ...)</code>	Returns a list of all docnames containing one or more nodes this <i>Purger</i> is aware of.
<code>add_node(env, node, targetnode, lineno)</code>	Add a node.

**purge\_nodes** (*app, env, docname*)

Remove all redundant nodes.

This function can be configured for the `env-purge-doc` event:

```
my_node_purger = Purger("all_my_node_nodes")

def setup(app: Sphinx):
    app.connect("env-purge-doc", my_node_purger.purge_nodes)
```

**Parameters**

- **app** (`Sphinx`) – The Sphinx application.
- **env** (`BuildEnvironment`) – The Sphinx build environment.
- **docname** (`str`) – The name of the document to remove nodes for.

**get\_outdated\_docnames** (*app, env, added, changed, removed*)

Returns a list of all docnames containing one or more nodes this *Purger* is aware of.

This function can be configured for the `env-get-outdated` event:

```
my_node_purger = Purger("all_my_node_nodes")

def setup(app: Sphinx):
    app.connect("env-get-outdated", my_node_purger.get_outdated_docnames)
```

New in version 2.7.0.

**Parameters**

- **app** (`Sphinx`) – The Sphinx application.
- **env** (`BuildEnvironment`) – The Sphinx build environment.
- **added** (`Set[str]`) – A set of newly added documents.
- **changed** (`Set[str]`) – A set of document names whose content has changed.
- **removed** (`Set[str]`) – A set of document names which have been removed.

**Return type** `List[str]`

**add\_node** (*env*, *node*, *targetnode*, *lineno*)

Add a node.

**Parameters**

- **env** (`BuildEnvironment`) – The Sphinx build environment.
- **node** (`Node`)
- **targetnode** (`Node`)
- **lineno** (`int`)

**SetupFunc**

Type annotation for Sphinx extensions' setup functions.

New in version 1.9.0.

Alias of `Callable[[Sphinx], Optional[SphinxExtMetadata]]`

**typeddict SphinxExtMetadata**

Bases: `dict`

`typing.TypedDict` representing the metadata dictionary returned by Sphinx extensions' setup functions.

This is treated by Sphinx as metadata of the extension.

**Optional Keys**

- **version** (`str`) – A string that identifies the extension version. It is used for extension version requirement checking and informational purposes. If not given, 'unknown version' is substituted.
- **env\_version** (`int`) – An integer that identifies the version of env data structure if the extension stores any data to environment. It is used to detect the data structure has been changed from last build. Extensions have to increment the version when data structure has changed. If not given, Sphinx considers the extension does not stores any data to environment.
- **parallel\_read\_safe** (`bool`) – A boolean that specifies if parallel reading of source files can be used when the extension is loaded. It defaults to `False`, i.e. you have to explicitly specify your extension to be parallel-read-safe after checking that it is.
- **parallel\_write\_safe** (`bool`) – A boolean that specifies if parallel writing of output files can be used when the extension is loaded. Since extensions usually don't negatively influence the process, this defaults to `True`.

**typed\_flag\_regex**

Type: `Pattern[str]`

Regex to match `:type <name>: <type> flags`.

New in version 0.8.0.

<b>Pattern</b>	<code>^:(paramtype type)\s*([A-Za-z_]\w*\s*):\s*(.*)</code>
<b>Flags</b>	<code>re.ASCII</code>



**typed\_param\_regex****Type:** `Pattern[str]`Regex to match `:param <type> <name>: <docstring> flags`.

New in version 0.8.0.

<b>Pat-tern</b>	<code>^: (param parameter arg argument) \s* ([A-Za-z_] \w* \s+) ([A-Za-z_] \w* \s*) : \s* (.*)</code>
<b>Flags</b>	<code>re.ASCII</code>

**unknown\_module\_warning** (*documenter*)

Log a warning that the module to import the object from is unknown.

New in version 0.2.0.

**Parameters** **documenter** (*Documenter*)**untyped\_param\_regex****Type:** `Pattern[str]`Regex to match `:param <name>: <docstring> flags`.

New in version 0.8.0.

<b>Pattern</b>	<code>^: (param parameter arg argument) \s* ([A-Za-z_] \w* \s*) : \s* (.*)</code>
<b>Flags</b>	<code>re.ASCII</code>



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