

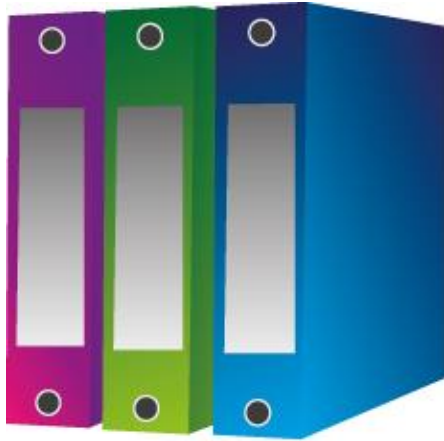
Documenting Your Code With Sphinx

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Overview



- **Docstrings and standards**
- **Sphinx**
 - Generating HTML docs from source documentation
- **reStructuredText**

PEP 257

- **Semantics and conventions associated with Python docstrings**
 - If you violate these conventions, the worst you'll get is some dirty looks
- **Docstring**
 - String as first statement of a module, function, class, or method
 - Becomes the `__doc__` special attribute of that object
- **Main conventions**
 - Always use `"""triple double quotes"""`
 - A phrase ending in a period
 - For methods: specify the return value

Docstrings

```
def function(a, b):  
    """Do X and return a list."""
```

```
def complex(real=0.0, imag=0.0):  
    """Form a complex number.  
  
    Keyword arguments:  
    real -- the real part (default 0.0)  
    imag -- the imaginary part (default 0.0)  
    """
```

Sphinx

**Python Documentation
Generator**

**Output:
HTML, PDF,
ePub, man pages,
Texinfo, etc.**

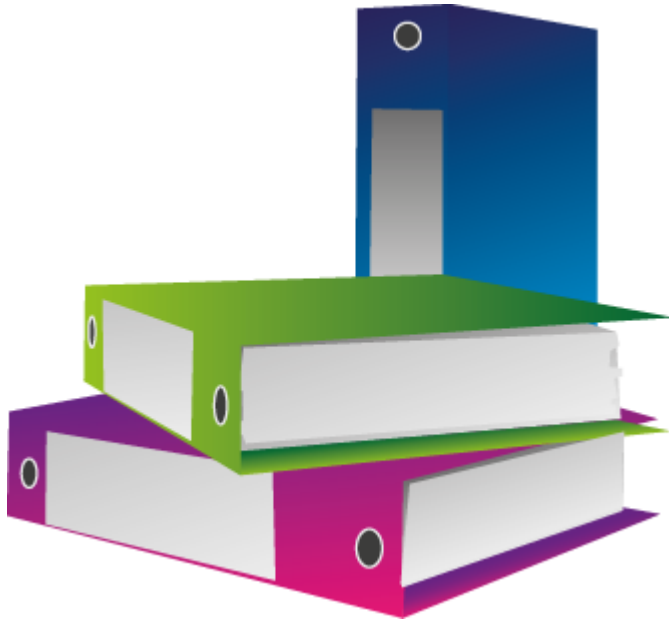
**Used to generate
official Python docs**

**Input:
reStructuredText**

De-facto standard

**Many features
and extensions**

Running Sphinx



- **sphinx-quickstart**
 - In docs/ folder
 - Don't forget to enable autodocs
- **make html**
- **Configuration**
 - In `conf.py`

reStructuredText

- Plain-text based markup
- Paragraphs separated by a single line
 - Indentation matters
- Emphasis: use stars
 - **italic**
 - ****bold****
 - ``code``
- Links:
 - `Link text <http://example.com/>`_
 - A plain URL (http://..) will be recognized as well

reStructuredText

=====
A chapter
=====

A section

A subsection
~~~~~

- \* Bulleted list item one
- \* Bulleted list item two



# References

- **`.. _target:`**
  - A plain link target
  - Mark a section
- **`:ref:`target``**
  - Will use the section's title as link's description
- **``target`_`**
  - Will simply use "target" as description

# Documenting Your Code

- **Literal code blocks:**
  - End a paragraph with ::
  - Following block will be layed out as code
  - Must be indented and surrounded by blank lines
- **Documenting Python structures**
  - Adds them to index as well

| Structure | Target                          | References                  |
|-----------|---------------------------------|-----------------------------|
| function  | <code>.. function:: name</code> | <code>:func:`name`</code>   |
| method    | <code>.. method:: name</code>   | <code>:meth:`name`</code>   |
| class     | <code>.. class:: name</code>    | <code>:class:`name`</code>  |
| module    | <code>.. module:: name</code>   | <code>:module:`name`</code> |

# Autodoc

- **`.. autofunction:: name`**
- **`.. automethod:: name`**
- **`.. autoclass:: Name`**
  - **`:members:`** (all public members with docstrings)
  - **`:members:`** width, height
- **`.. automodule:: name`**
  - Also has **`:members:`** option
- **Make sure to activate the extension!**
  - And fix the path in `conf.py`

# Resources

- **Sphinx Documentation** (<http://goo.gl/kCWi57>)
  - <http://sphinx-doc.org/>
- **reStructuredText Homepage** (<http://goo.gl/3VN0KA>)
  - <http://docutils.sourceforge.net/rst.html>
- **reStructuredText Primer** (<http://goo.gl/LhYd0J>)
  - <http://sphinx-doc.org/rest.html#rst-primer>
- **Autodoc Extension** (<http://goo.gl/stAl9X>)
  - <http://sphinx-doc.org/ext/autodoc.html>



# Summary

- **Docstrings and PEP257**
- **Sphinx**
  - Generating HTML docs from source documentation
  - Autodoc
- **reStructuredText**