Jupyter Book

interactive, open books from your notebooks

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Thanks to the Jupyter Community

The Executable Book Project

`executablebooks.org`

IAB
readiab.org/

QuantEcon
quantecon.org/

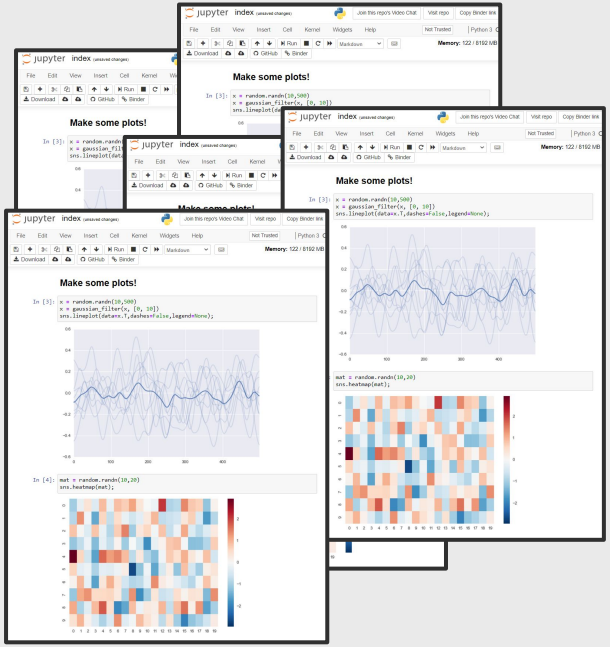
ipypublish
ipypublish.readthedocs.io/

What is Jupyter Book?

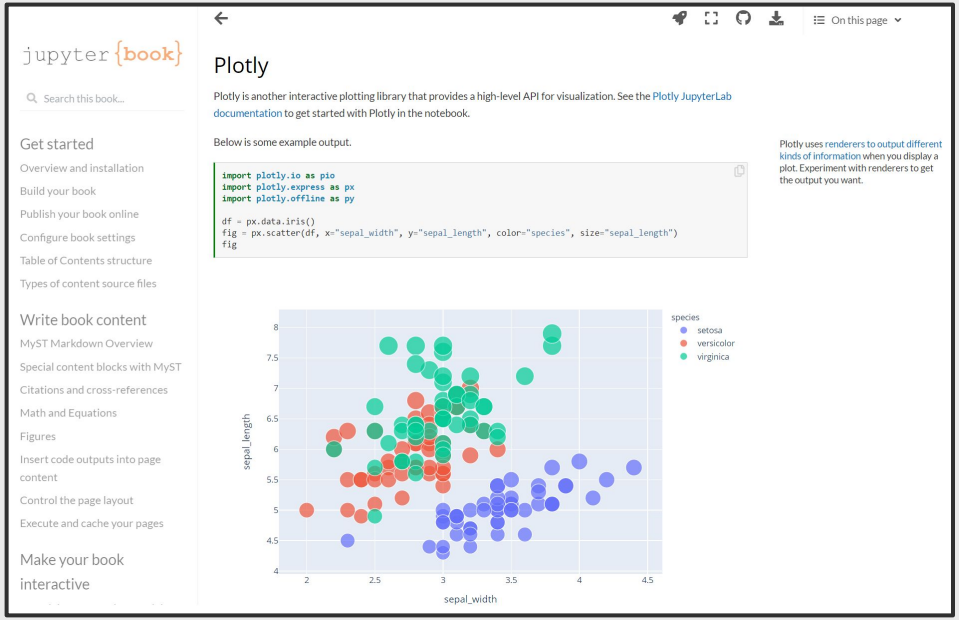
Build an online book with
Jupyter Notebooks and Markdown

jupyterbook.org

A collection of notebooks & markdown files



An enriched, explorable book

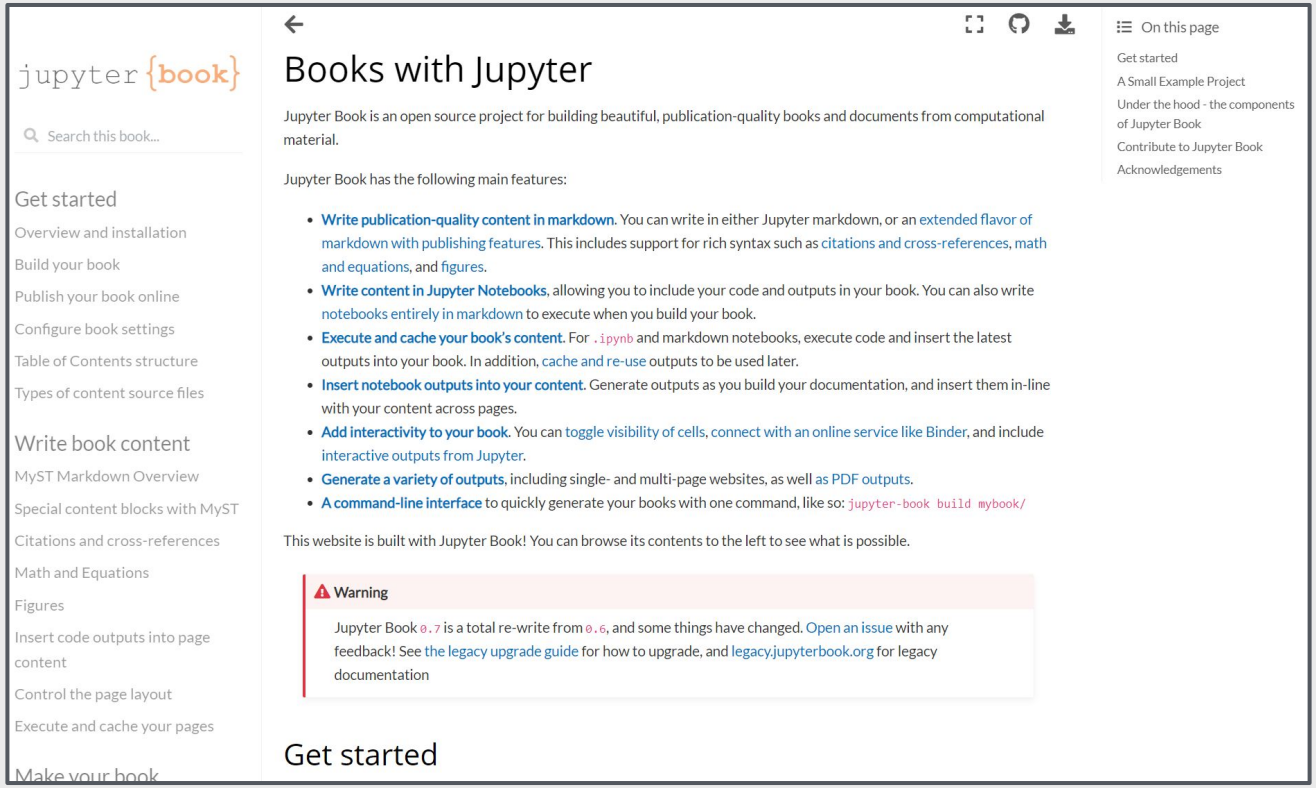


Some of Jupyter Book's goals

- Display notebook content in a more familiar, beautiful, and accessible form.
- Focus features on authoring and reading.
- Support most publishing workflows and needs.
- Connect content with interactive computation.
- Easy to deploy and share with others.
- Deploy on any infrastructure.

Example + Documentation

jupyterbook.org



Raw content files
(.ipynb, .md)

Notebooks
with outputs

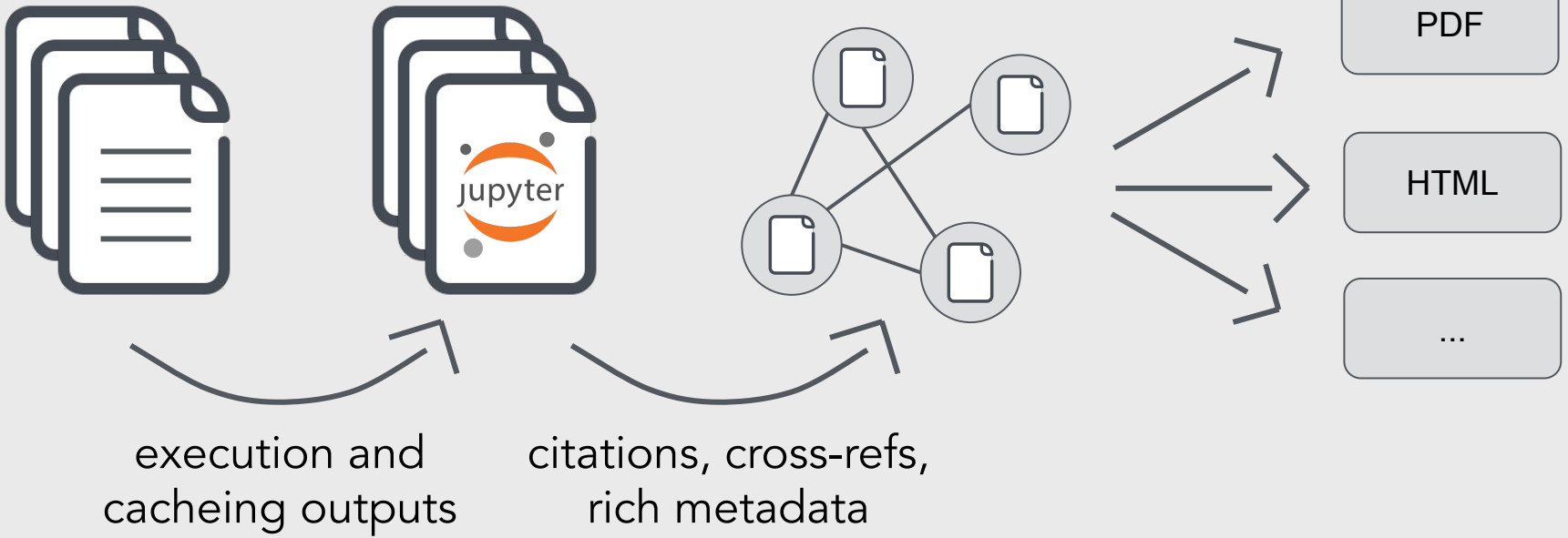
execution and
cacheing outputs

Enriched
document model

execution and
cacheing outputs

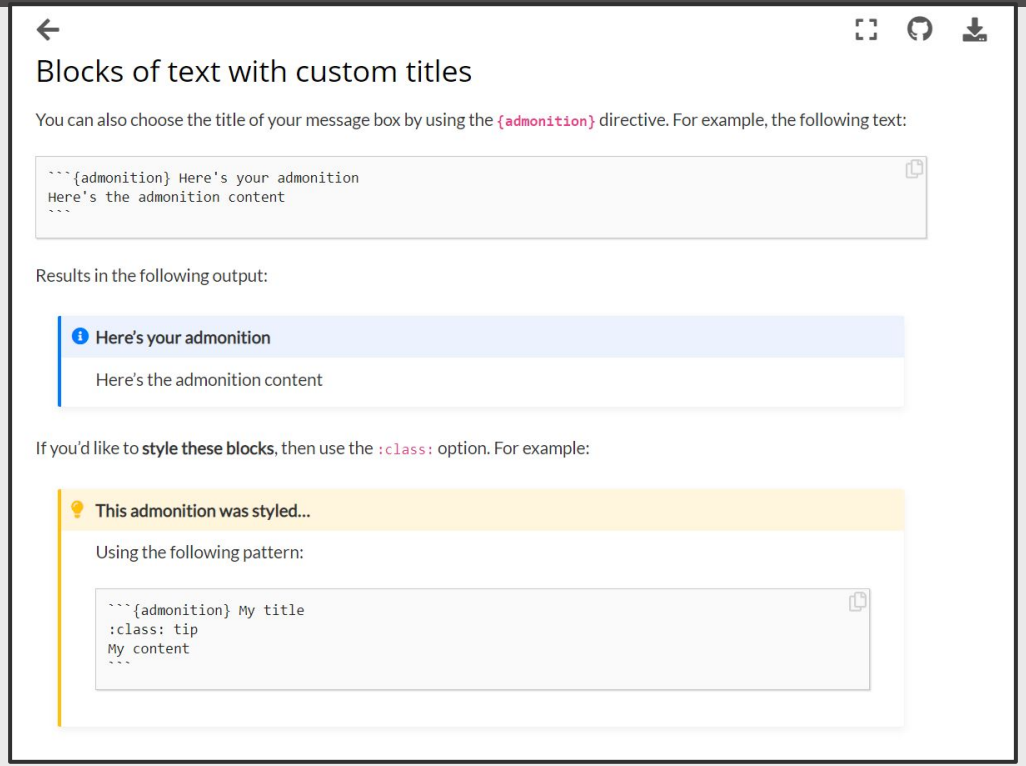
citations, cross-refs,
rich metadata

Multiple kinds of outputs



Some features

Semantic content blocks



Blocks of text with custom titles

You can also choose the title of your message box by using the `{admonition}` directive. For example, the following text:

```
```{admonition} Here's your admonition
Here's the admonition content
```
```

Results in the following output:

Here's your admonition

Here's the admonition content

If you'd like to **style these blocks**, then use the `:class:` option. For example:

This admonition was styled...

Using the following pattern:

```
```{admonition} My title
:class: tip
My content
```
```

jupyterbook.org/content/content-blocks.html

Citations and cross-references

3. **Add a citation**. In your content, add the following text to include a citation

```
{cite}`mybibtexcitation`
```

For example, this text

```
{cite}`perez2011python`
```

generates this citation: [PGH11]

Bibliography

[CKS+10]
J Gregory Caporaso, Justin Kuczynski, Jesse Stombaugh, Kyle Bittinger, Frederic D Bushman, Elizabeth K Costello, Noah Fierer, Antonio Gonzalez Pena, Julia K Goodrich, Jeffrey I Gordon, and others. Qiime allows analysis of high-throughput community sequencing data. *Nature methods*, 7(5):335–336, 2010.

[HdHP+16]
Christopher Ramsay Holdgraf, Wendy de Heer, Brian N. Pasley, Jochem W. Rieger, Nathan Crone, Jack J. Lin, Robert T. Knight, and Frédéric E. Theunissen. Rapid tuning shifts in human auditory cortex enhance speech intelligibility. *Nature Communications*, 7(May):13654, 2016. URL: http://www.nature.com/doifinder/10.1038/ncomms13654, doi:10.1038/ncomms13654.

[PGH11](1,2)
Fernando Perez, Brian E Granger, and John D Hunter. Python: an ecosystem for scientific computing. *Computing in Science \& Engineering*, 13(2):13–21, 2011.

[SK14]
John Stachurski and Takashi Kamihigashi. Stochastic stability in monotone economies. *Theoretical Economics*, 2014.

jupyterbook.org/content/citations.html

Figures and captions

Figures

MyST Markdown also lets you include **figures** in your page. Figures are like images, except that they are easier to reference elsewhere in your book, and they include things like captions. To include a figure, use this pattern:

```
```{figure} ../images/C-3PO_droid.png
---
height: 150px
name: my-figure
---
Here is my figure caption!
```
```

Fig. 1 Here is my figure caption!

Note

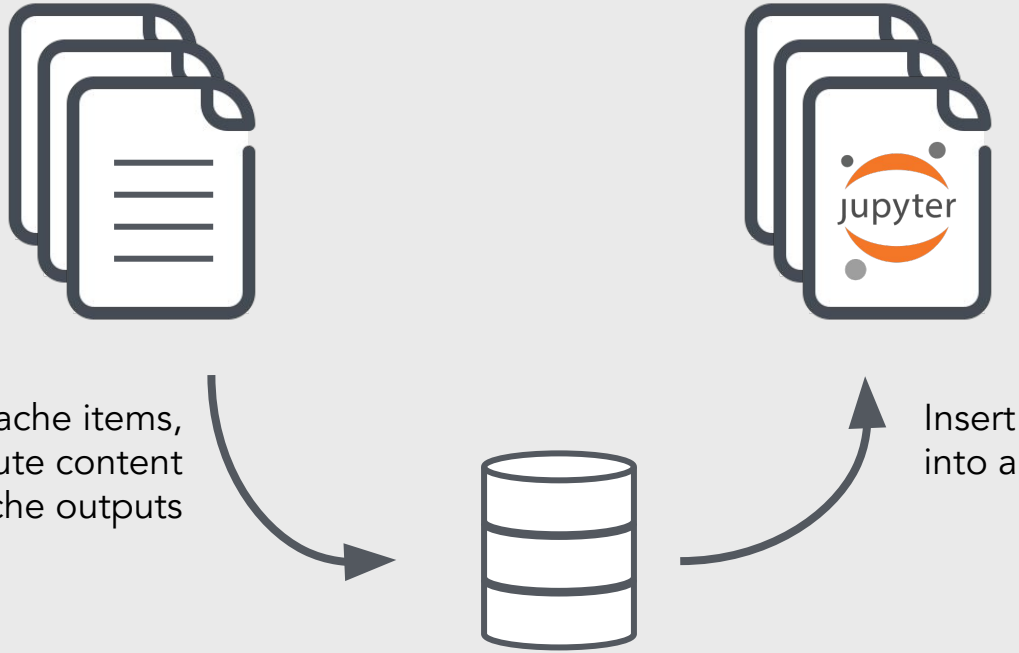
You can also include figures that were generated from your code in notebooks. To do so, see Insert code outputs into page content.

jupyterbook.org/content/figures.html

Execute/cache your notebook outputs

raw content files
(maybe edited since last build)

enriched content files



Insert outputs of code into your text

The `glue` role/directive

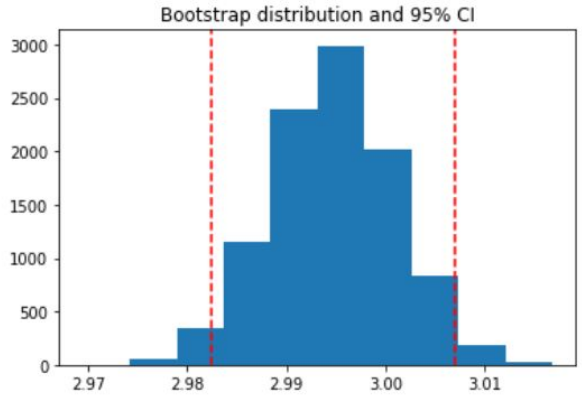
The simplest role and directive are `glue:any`, which paste the glued output inline or as a block respectively, with no additional formatting. Simply add this:

```
```{glue:} your-key
```
```

For example, we'll paste the plot we generated above with the following text:

```
```{glue:} boot_fig
```
```

Here's how it looks:



Or we can paste inline objects like so:

```
Inline text; {glue:}`boot_mean`, and figure; {glue:}`boot_fig`.
```

Inline text; `2.994746985591105`, and figure;  .

jupyterbook.org/content/glue.html

Markdown notebooks with -jupy +text

```
---
jupytext:
  formats: ipynb,md:myst
  text_representation:
    extension: .md
    format_name: myst
    format_version: '0.7'
    jupytext_version: 1.4.1
kernelspec:
  display_name: Python 3
  language: python
  name: python3
---

# A demo notebook

This will be converted to MyST-markdown using Jupytext!

## Some python code

```{code-cell} ipython3
import numpy as np
data = np.random.randn(3, 100)
data[0, :10]
```

A little plot

```{code-cell} ipython3
import matplotlib.pyplot as plt
plt.scatter(data[0], data[1], c=data[2], s=100*np.abs(data[2]))
```
```

A demo notebook

This will be converted to MyST-markdown using Jupytext!

Some python code

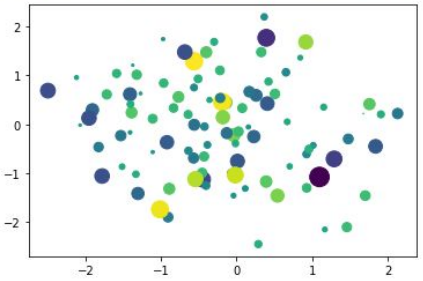
```
[4]: import numpy as np
     data = np.random.randn(3, 100)
     data[0, :10]
```

```
[4]: array([-0.5637771 ,  1.16804072,  0.07430825,  0.92728153,  0.39095119,
            0.39252918, -0.97280272,  0.32585906, -0.14544016, -0.44772765])
```

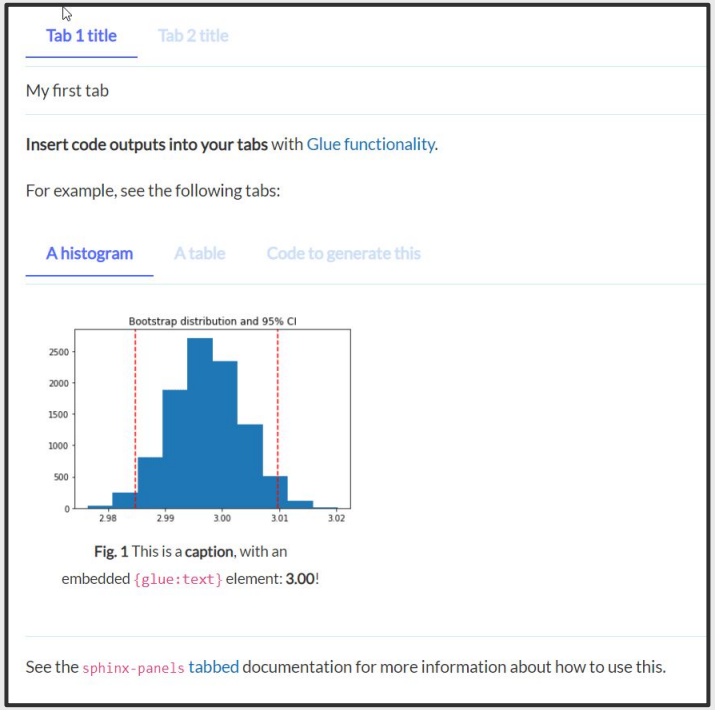
A little plot

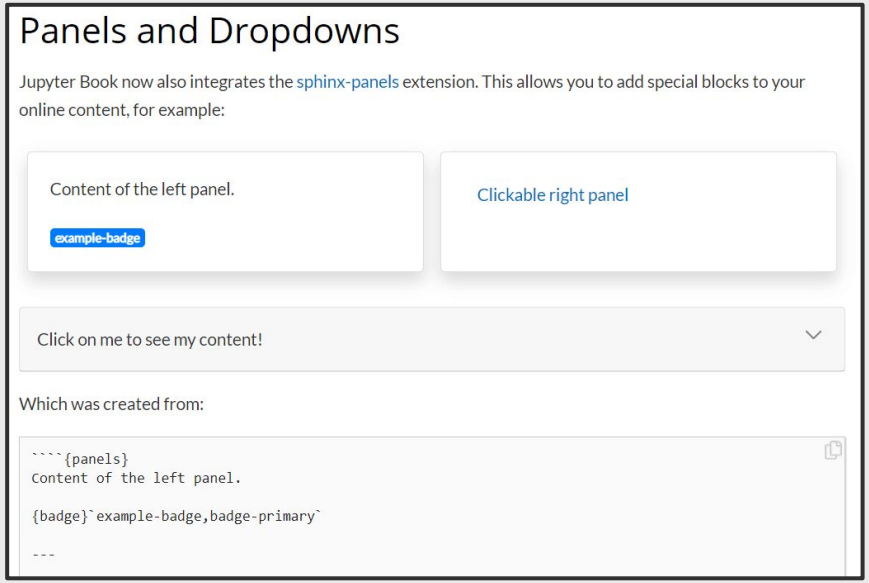
```
[7]: import matplotlib.pyplot as plt
     plt.scatter(data[0], data[1], c=data[2], s=100*np.abs(data[2]))
```

```
[7]: <matplotlib.collections.PathCollection at 0x7f0ff17aeef0>
```



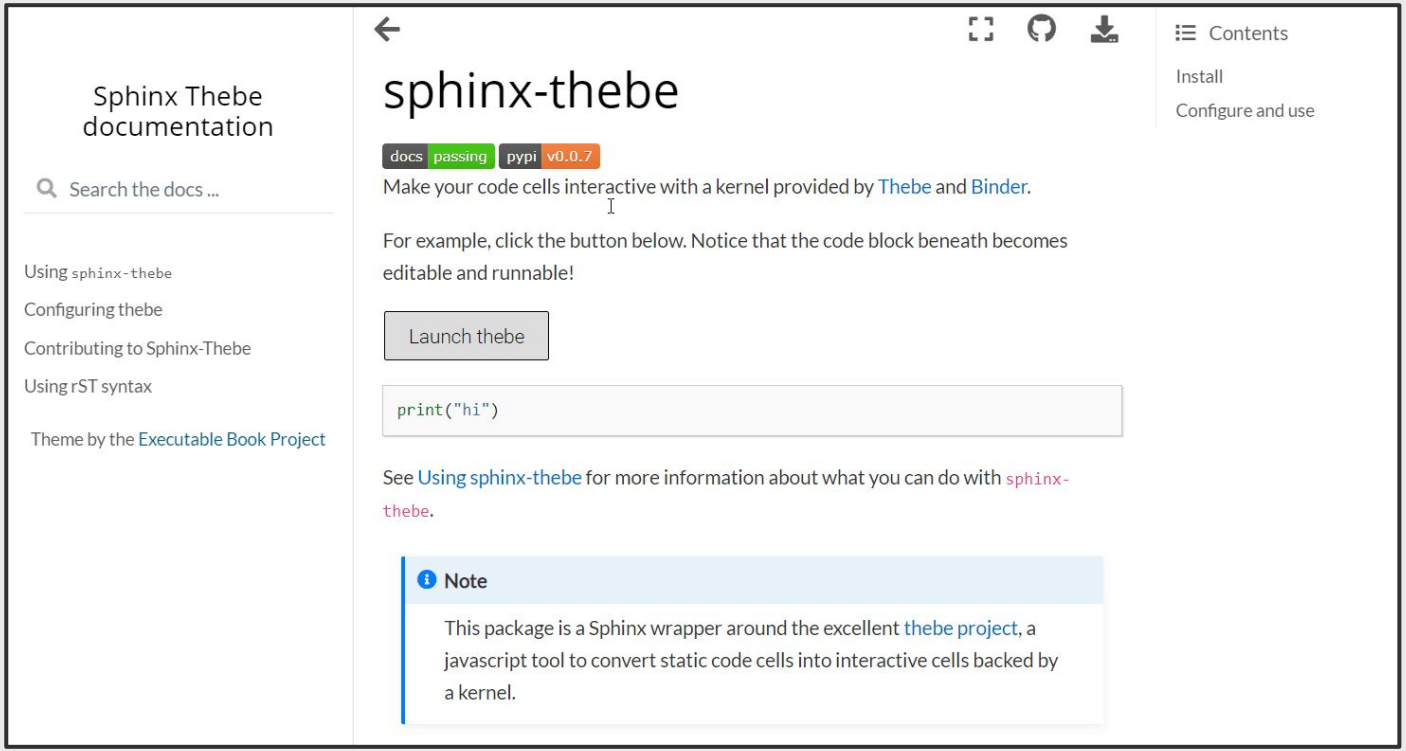
Collapsible content blocks





jupyterbook.org/interactive/hiding.html

Integration with sphinx-thebe



jupyterbook.org/interactive/launchbuttons.html

Last feature: Community driven ❤️

- Jupyter Book (and the Jupyter Project) are supported by a broad and diverse community, made up of people just like you
- If you're interested in being involved, you are welcome to join
- Reach out if you're interested in using these tools, or in helping out. There are many ways to join the community!

Try Jupyter Book
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github.com/executablebooks

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