

Hans Petter Langtangen*

How to write a Book in DocOnce

Jun 22, 2021

Springer

Email: hp1@simula.no. Center for Biomedical Computing, Simula Research Laboratory and Department of Informatics, University of Oslo.

Contents

1	Why DocOnce?	1
2	Hwo do I get started?	3
3	Some real writing	5
	References	7
	Index	9

Chapter 1

Why DocOnce?

Scientific books are very often written in \LaTeX , but \LaTeX is primarily suited for PDF output on paper. Today, your readers will be using different devices like tablet and phones for reading, and to address these media you need to write HTML. DocOnce lets you write in a syntax that is as simple as you use in email, and can then automatically translate that syntax to highly professional \LaTeX or HTML for output (it can produce other formats too). So, the writing itself is easier since you avoid a lot of \LaTeX or HTML tags, and the output is more versatile. We refer to the DocOnce tutorial and the web page for more arguments!

Chapter 2

Hwo do I get started?

1. Read the web page: <https://github.com/doconce/doconce>
2. Read the tutorial to get a glimpse of the basic syntax
 - a. HTML format¹
 - b. PDF for printing²
3. Familiarize yourself with the manual³
4. Install DocOnce and all it needs: try to run the entire Bash script⁴ (just comment out lines that don't work and rerun)
5. Make a GitHub or Bitbucket Git repository for the book project, see quick intro⁵ (or PDF for printing⁶)
6. Take a brief look at the best practice document⁷ which documents the setup of files
7. Download the tarfile⁸ with a dummy file tree to be packed out in the root directory of the book repo (remember commit and push!)
8. Go to `doc/src` and **start writing the first chapter!** (replace `why.do.txt`)
9. **Compile the document to PDF:** `bash make.sh`, see `my-book-4print.pdf` (this is the standard Springer book layout, the `svmono` class adapted to DocOnce)
10. **Compile the document to HTML:** `bash make_html.sh`, see `my-book.html`

¹<http://doconce.github.io/doconce/doc/pub/tutorial/tutorial.html>

²<http://doconce.github.io/doconce/doc/pub/tutorial/tutorial.pdf>

³<http://doconce.github.io/doconce/doc/pub/manual/manual.html>

⁴https://github.com/doconce/doconce/raw/master/doc/src/manual/install_doconce.sh

⁵http://doconce.github.io/teamods/bitgit/Langtangen_bitgit-bootstrap.html

⁶http://doconce.github.io/teamods/bitgit/Langtangen_bitgit_4print.pdf

⁷<http://hplgit.github.com/setup4book-doconce/doc/web/index.html>

⁸https://github.com/doconce/doconce/raw/master/doc/src/book/root/doconce_demo_book.tar

Chapter 3

Some real writing

Let us demonstrate *emphasize text*, **bold text**, inline monospace font, and of course computer code that we can copy from a part of a file using regular expressions:

```
def f(x):  
    return 42*x
```

It is a big advantage to copy computer code directly into the book, but you can also write it as part of the text, this time the FORTRAN equivalent:

```
subroutine f(x)  
    real*8 x  
    f = 42*x  
    return  
end
```

Mathematics is written in plain L^AT_EX inside a begin-end tex environment:

$$f(x) = 42x.$$

Remember to use simple L^AT_EX: just the `equation`, `equation*`, `\[... \]`, `align`, `align*`, `alignat`, or `alignat*` environments! Inline mathematics makes use of dollar signs: $f(x) = 42x$.

As a L^AT_EX writer, remember that white space counts in DocOnce syntax! Be extra careful with indentation of lists.

Also remember that DocOnce avoids backslash in label, ref and cite, e.g. in references like [1].

References

- [1] A. J. Chorin. Numerical solution of the navier-stokes equations. *Math. Comp.*, 22:745–762, 1968.

Index

book project setup, 3

getting started, 3

syntax example, 5