

Introduction to Scientific Typesetting

Lesson 9: Using the `hyperref` package

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Using hyperref

- Introduction to hyperref
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in hyperref
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

Using hyperref

Introduction to hyperref

Using hyperref

Introduction to
hyperref

A First Example

The Setup

Configuration Options

General Options

PDF-Specific Options

PDF Display Options

A Sample Preamble

Commands in
hyperref

Revisit Example #1

Cross-referencing (1)

Cross-referencing (2)

Back to Example #1
Again

Practice

With more and more reading taking place electronically, we are very used to having a “clickable” reference right next to (or in the middle of) a sentence. Making HTML files with \LaTeX can be done, but it’s tricky. So, we can take advantage of the interactive nature of hyper-referenced PDF files instead.

An Example: You’re reading a paper and someone includes a citation to the bibliography, like this [\[1\]](#). Wouldn’t it be nice to click on the citation and go directly to the bibliography?

Another Example: Wouldn’t it be nice to click on the section title in the table of contents and go *directly* to that section?

The hyperref package is the way to accomplish all of this.

A First Example

Using `hyperref`

- Introduction to `hyperref`
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in `hyperref`
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

Open the first example file (`.tex`). This file will have an image included, so make sure to grab `circles.png` as well and put these two files in the same folder.

Build this file twice, then view it to see some of how `hyperref` works.

Using hyperref

Introduction to
hyperref

A First Example

The Setup

Configuration Options

General Options

PDF-Specific Options

PDF Display Options

A Sample Preamble

Commands in
hyperref

Revisit Example #1

Cross-referencing (1)

Cross-referencing (2)

Back to Example #1
Again

Practice

You'll need `\usepackage{hyperref}` in your preamble.

`hyperref` needs to be the *last* package you load.

A lot of the functionality of `hyperref` is called in the preamble, so our line in the preamble will look like this.

```
\usepackage[lots of options]{hyperref}
```

Configuration Options

Using `hyperref`

Introduction to
`hyperref`

A First Example

The Setup

Configuration Options

General Options

PDF-Specific Options

PDF Display Options

A Sample Preamble

Commands in
`hyperref`

Revisit Example #1

Cross-referencing (1)

Cross-referencing (2)

Back to Example #1
Again

Practice

If you are using the build LaTeX \Rightarrow PDF, then you should use the `pdftex` option.

```
\usepackage[pdftex]{hyperref}
```

If you are using the build LaTeX \Rightarrow PS \Rightarrow PDF, then you should use the `ps2pdf` option.

```
\usepackage[ps2pdf]{hyperref}
```

The `breaklinks` option allows links to be broken across several lines; in the PDF file, these are converted into separate links pointing to the same place. (This option is only available when using the `pdftex` option.)

```
\usepackage[pdftex,breaklinks]{hyperref}
```

General Options

Using hyperref

- Introduction to hyperref
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in hyperref
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

Here are some common options for the hyperref package.

Option	Default	Function
<code>colorlinks</code>	<i>false</i>	Colors the text of the links and anchors
<code>linkcolor</code>	<i>red</i>	Color for normal internal links
<code>anchorcolor</code>	<i>black</i>	Color for anchor text
<code>citecolor</code>	<i>green</i>	Color for bibliographic citations in text
<code>urlcolor</code>	<i>cyan</i>	Color for linked URLs

PDF-Specific Options

Using hyperref

- Introduction to hyperref
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in hyperref
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

Here are some more options.

Option	Default	Function
bookmarks	<i>true</i>	Writes a set of Acrobat bookmarks
bookmarksopen	<i>false</i>	If bookmarks are requested, starts document with all subtrees expanded
bookmarksnumbered	<i>false</i>	Include section numbers in bookmarks

PDF Display Options

Using `hyperref`

- Introduction to `hyperref`
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in `hyperref`
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

More PDF options.

Option	Function
<code>pdftitle</code>	Sets the document information Title field
<code>pdfauthor</code>	Sets the document information Author field
<code>pdfsubject</code>	Sets the document information Subject field
<code>pdfcreator</code>	Sets the document information Creator field
<code>pdfproducer</code>	Sets the document information Producer field
<code>pdfkeywords</code>	Sets the document information Keywords field
<code>pdfstartpage</code>	Tells Acrobat on which page to open (default=1)
<code>pdfdisplaydoctitle</code>	display document title instead of file name in title bar

A Sample Preamble

Using `hyperref`

Introduction to
`hyperref`

A First Example

The Setup

Configuration Options

General Options

PDF-Specific Options

PDF Display Options

A Sample Preamble

Commands in
`hyperref`

Revisit Example #1

Cross-referencing (1)

Cross-referencing (2)

Back to Example #1
Again

Practice

```
\usepackage[pdftex,breaklinks,colorlinks,  
  citecolor=blue,  
  urlcolor=blue,  
  pdftitle={Lecture 9},  
  pdfauthor={Ryan Higginbottom},  
  pdfsubject={LaTeX}]{hyperref}
```

Commands in hyperref

Using hyperref

Introduction to
hyperref
A First Example
The Setup
Configuration Options
General Options
PDF-Specific Options
PDF Display Options
A Sample Preamble
Commands in
hyperref
Revisit Example #1
Cross-referencing (1)
Cross-referencing (2)
Back to Example #1
Again
Practice

Here are some of the commands you'll need in the body of your document when using hyperref.

- `\href{URL}{text}` — Makes text a link to URL.
- `\hyperref[label]{text}` — Makes text a link to where `\ref{label}` would point.
- `\hypertarget{name}{text}` — Sets an anchor on text with the label name.
- `\hyperlink{name}{text}` — Makes text a link that takes you to the anchor labeled name. Pair with `\hypertarget`.
- `\phantomsection` — Used in conjunction with `\addcontentsline` to make the correct link in the Table of Contents.

Revisit Example #1

Using `hyperref`

- Introduction to `hyperref`
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in `hyperref`
- Revisit Example #1**
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

I have used all of the commands from the previous slide on the first example file. Take a close look at this file using TeXnicCenter.

Cross-referencing (1)

Using hyperref

- Introduction to hyperref
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in hyperref
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

Without specifying differently, a cross-reference to Theorem 2 might be difficult to click on. There is an option in hyperref to make it **Theorem 2** instead.

```
\begin{theorem} \label{T:main}
...
\end{theorem}
...
Look at \autoref{T:main} ...
```

Look at **Theorem 2** ...

Cross-referencing (2)

Using `hyperref`

- Introduction to `hyperref`
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in `hyperref`
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

The other useful command along these same lines is `\autopageref{label}`.

This replaces `\pageref` and adds “page” in front of the page number being referred to.

You may want to use a reference but *not* create a link:

```
\ref*{label}  
\pageref*{label}  
\autoref*{label}  
\autopageref*{label}
```

Back to Example #1 Again

Using hyperref

- Introduction to hyperref
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in hyperref
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice

Add the following text to the previous example file between `\newpage` and `\section{The second section}`

```
I just adore \autoref{T:1}.
It is located on \autopageref{T:1}.
The References are located on \autopageref*{ref}.
```

Build this example twice and view it to see the effect of these new commands.

Using `hyperref`

- Introduction to `hyperref`
- A First Example
- The Setup
- Configuration Options
- General Options
- PDF-Specific Options
- PDF Display Options
- A Sample Preamble
- Commands in `hyperref`
- Revisit Example #1
- Cross-referencing (1)
- Cross-referencing (2)
- Back to Example #1 Again
- Practice**

Let's practice!

Open the second example file (`.pdf`) and reproduce it.