 Search help library....

Hyperlinks

L^AT_EX is a great tool for printable professional-looking documents, but can be also used to generate PDF files with excellent navigation tools. This article describes how to create hyperlinks in your document, and how to set up L^AT_EX documents to be viewed with a PDF-reader.

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Introduction

Let's start with a minimal working example, by simply importing the **hyperref** package all cross-referenced elements (/learn/Cross_referencing_sections_and_equations) become hyperlinked.

```

\documentclass{book}
\usepackage[utf8]{inputenc}
\usepackage[english]{babel}

\usepackage{hyperref}

\begin{document}

\frontmatter

\tableofcontents

...
\end{document}

```

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(/learn/File:HyperrefEx1.png)

The lines in the table of contents become links to the corresponding pages in the document by simply adding in the preamble of the document the line

```
\usepackage{hyperref}
```

One must be careful when importing **hyperref**. Usually, it has to be the last package to be imported, but there might be some exceptions to this rule.

➡ Open an example of the hyperref package in Overleaf

([https://www.sharelatex.com/project/new/template?](https://www.sharelatex.com/project/new/template?zipUrl=/project/534bfd9945356b0c4b4f24a0/download/zip&templateName=Hyperref%20Example%201&compiler=pdflatex)

[zipUrl=/project/534bfd9945356b0c4b4f24a0/download/zip&templateName=Hyperref%20Example%201&compiler=pdflatex](https://www.sharelatex.com/project/new/template?zipUrl=/project/534bfd9945356b0c4b4f24a0/download/zip&templateName=Hyperref%20Example%201&compiler=pdflatex))

Styles and colours

The default formatting for links can be changed so the information in your documents is more clearly presented. Below you can see an example:

```
\documentclass{book}
\usepackage[utf8]{inputenc}
\usepackage[english]{babel}
```

```
\usepackage{hyperref}
\hypersetup{
    colorlinks=true,
    linkcolor=blue,
    filecolor=magenta,
    urlcolor=cyan,
}
```

```
\urlstyle{same}
```

```
\begin{document}
```

```
\tableofcontents
```

```
\chapter{First Chapter}
```

This will be an empty chapter and I will put some text here

```
\begin{equation}
\label{eq:1}
\sum_{i=0}^{\infty} a_i x^i
\end{equation}
```

The equation `\ref{eq:1}` shows a sum that is divergent. This formula will later be used in the page `\pageref{second}`.

For further references see `\href{http://www.sharelatex.com}{Something Linky}` or go to the next url: `\url{http://www.sharelatex.com}` or open the next file `\href{run:./file.txt}{File.txt}`

It's also possible to link directly any word or

```
\hyperlink{thesentence}{any sentence} in your document.

\end{document}
```

First Chapter

This will be an empty chapter and I will put some text here

$$\sum_{i=0}^{\infty} a_i x^i \quad (1.1)$$

The equation 1.1 shows a sum that is divergent. This formula will be latter used in the page 5.

For further references see [Something Linky](#) or go to the next url: <http://www.sharelatex.com> or open the next file [File.txt](#)

It's also possible to link directly any word or [any sentence](#) in your document.

(/learn/File:HyperrefEx2edit.png)

This is a complete example, it will be fully explained in the rest of the article. Below is a description of the commands related to the colour and styling of the links.

\hypersetup{ ... }

This will set the options to configure the behaviour of the links within the document. Every parameter must be comma-separated and the syntax must be in the format *parameter=value*.

\colorlinks=true

Links will be coloured, the default colour is red.

\linkcolor=blue

Internal links, those generated by cross-referenced elements, are displayed in blue.

\filecolor=magenta

Links to local files will be shown in magenta colour (see linking local files).

\urlcolor=cyan

Links to web sites are set to cyan colour (see linking web addresses).

\urlstyle{same}

Default settings print links in mono-style spaced fonts, this command changes that and displays the links in the same style as the rest of the text.

➡ Open an example of the hyperref package in Overleaf

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[zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex](https://www.sharelatex.com/project/new/template?zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex))

Linking web addresses

Links to a web address or email can be added to a $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ file using the `\url` command to display the actual link or `\href` to use a hidden link and show a word/sentence instead.

For further references see `\href{http://www.sharelatex.com}{Something Linky}`
or go to the next url: `\url{http://www.sharelatex.com}`

For further references see [Something Linky](http://www.sharelatex.com) or go to the next url: <http://www.sharelatex.com>

(/learn/File:HyperrefEx3.png)

There are two commands in the example that generate a link in the final document:

`\href{http://www.sharelatex.com}{Something Linky}`

There are two parameters passed to this command, the first one is the url to the link, *http://www.sharelatex.com* in this case, and the second one is the clickable text to be shown, *Something Linky*.

`\url{http://www.sharelatex.com}`

This command will show the url passed as parameter and make it into a link, useful if you will print the document.

➡ Open an example of the hyperref package in Overleaf

([https://www.sharelatex.com/project/new/template?](https://www.sharelatex.com/project/new/template?zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex)

[zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex](https://www.sharelatex.com/project/new/template?zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex))

Linking local files

The commands `\href` and `\url` presented in the previous section can be used to open local files

For further references see `\href{http://www.sharelatex.com}{Something Linky}`
 or go to the next url: `\url{http://www.sharelatex.com}` or open
 the next
 file `\href{run:./file.txt}{File.txt}`

For further references see [Something Linky](http://www.sharelatex.com) or go to the next url: <http://www.sharelatex.com> or open the next file [File.txt](#)
 (/learn/File:HyperrefEx4.png)

The command `\href{run:./file.txt}{File.txt}` prints the text "File.txt" that links to a local file called "file.txt" located in the current working directory. Notice the text "run:" before the path to the file.

The file path follows the conventions of UNIX systems, using `.` to refer the current directory and `..` for the previous directory.

The command `\url{}` can also be used, with the same syntax described for the path, but it's reported to have some problems.

➡ Open an example of the hyperref package in Overleaf

([https://www.sharelatex.com/project/new/template?](https://www.sharelatex.com/project/new/template?zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex)

[zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex](https://www.sharelatex.com/project/new/template?zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex))

Inserting links manually

It was mentioned before that all cross-referenced elements become links once **hyperref** is imported, thus we can use `\label` anywhere in the document and refer later those labels to create links. This is not the only manner to insert hyperlinks manually.

It's also possible to link directly any word or `\hyperlink{thesentence}{any sentence}` in you document.

If you read this text, you will get no information. Really?
Is there no information?

For instance `\hypertarget{thesentence}{this sentence}`.

It's also possible to link directly any word or [any sentence](#) in you document.
If you read this text, you will get no information. Really? Is there no information?
For instance this sentence.

(/learn/File:HyperrefEx5.png)

There are two commands to create user-defined links.

`\hypertarget{thesentence}{this sentence}`

The first parameter passed inside braces to this command is a unique identifier for this sentence. The second parameter is the text "this sentence", and will be printed normally (depending on the value of *anchorcolor*, see the reference guide), but when a link pointing to the identifier "thesentence" is clicked the PDF file will scroll to this point.

`\hyperlink{thesentence}{any sentence}`

This command prints the text "any sentence" as a clickable element that redirects to the point whose identifier is "thesentence".

➡ Open an example of the hyperref package in Overleaf

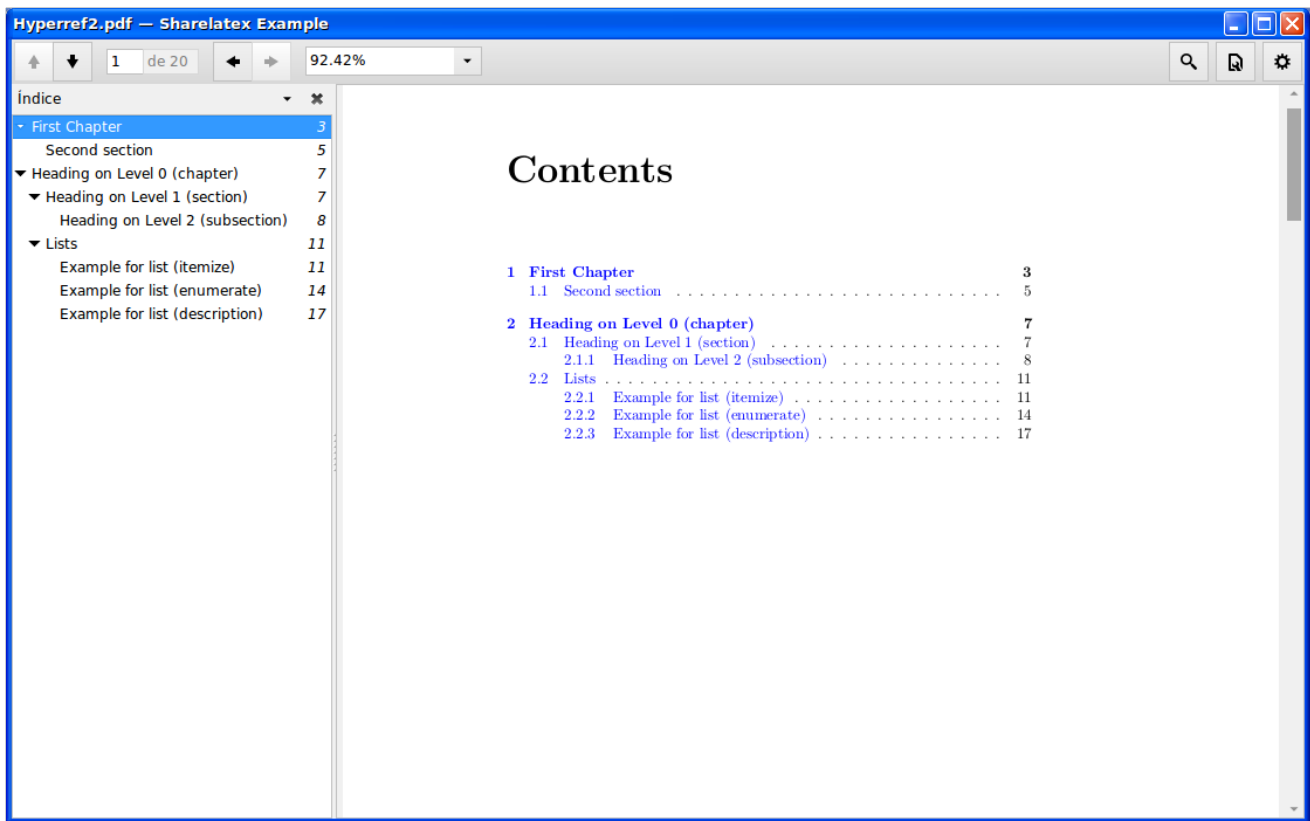
([https://www.sharelatex.com/project/new/template?](https://www.sharelatex.com/project/new/template?zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex)

[zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex](https://www.sharelatex.com/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex))

PDF-specific options

Links in a document are created having in mind a document that will be read in PDF format. The PDF file can be further personalized to add additional information and change the way the PDF viewer displays it. Below an example:


```
\hypersetup{
  colorlinks=true,
  linkcolor=blue,
  filecolor=magenta,
  urlcolor=cyan,
  pdftitle={Sharelatex Example},
  bookmarks=true,
  pdfpagemode=FullScreen,
}
```



(/learn/File:HyperrefEx6.png)

Using the command `\hypersetup`, described in the section styles and colours, accepts extra parameters to set up the final PDF file.

`pdftitle={Sharelatex Example}`

Is the title of the PDF output file, to be displayed in the title bar of the window. In the example is "Sharelatex Example".

`bookmarks=true`

Adds a navigation menu usually shown in a left panel of the reader.

pdfpagemode=FullScreen

The document will be opened in full screen mode by the PDF reader.

See the reference guide for a full list of options that can be passed to `\hypersetup`.

➡ Open an example of the hyperref package in Overleaf

([https://www.sharelatex.com/project/new/template?](https://www.sharelatex.com/project/new/template?zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex)

[zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex](https://www.sharelatex.com/project/new/template?zipUrl=/project/534c03d445356b0c4b4f252e/download/zip&templateName=Hyperref%20Example%20&compiler=pdflatex))

Reference guide

Linking style options

Option	Default value	Description
<code>hyperindex</code>	true	Makes the page numbers of index entries into hyperlinks
<code>linktocpage</code>	false	Makes the page numbers instead of the text to be link in the Table of contents.
<code>breaklinks</code>	false	Allows links to be broken into multiple lines.
<code>colorlinks</code>	false	Colours the text for links and anchors, these colours will appear in the printed version
<code>linkcolor</code>	red	Colour for normal internal links
<code>anchorcolor</code>	black	Colour for anchor (target) text
<code>citecolor</code>	green	Colour for bibliographical citations
<code>filecolor</code>	cyan	Colour for links that open local files

<code>urlcolor</code>	magenta	Colour for linked URLs
<code>frenchlinks</code>	false	Use small caps instead of colours for links
PDF-specific options		
Option	Default value	Description
<code>bookmarks</code>	true	Acrobat bookmarks are written, similar to the table of contents.
<code>bookmarksopen</code>	false	Bookmarks are shown with all sub-trees expanded.
<code>citebordercolor</code>	0 1 0	Colour of the box around citations in RGB format.
<code>filebordercolor</code>	0 .5 .5	Colour of the box around links to files in RGB format.
<code>linkbordercolor</code>	1 0 0	Colour of the box around normal links in RGB format.
<code>menubordercolor</code>	1 0 0	Colour of the box around menu links in RGB format.
<code>urlbordercolor</code>	0 1 1	Colour of the box around links to URLs in RGB format.
<code>pdfpage mode</code>	empty	Determines how the file is opened. Possibilities are UseThumbs (Thumbnails), UseOutlines (Bookmarks) and FullScreen.
<code>pdftitle</code>		Sets the document title.

pdfauth or		Sets the document Author.
pdfstar tpage	1	Determines on which page the PDF file is opened.

Further reading

For more information see

- Table of contents (/learn/Table_of_contents)
- Sections and chapters (/learn/Sections_and_chapters)
- Cross referencing sections and equations (/learn/Cross_referencing_sections_and_equations)
- Using colours in LaTeX (/learn/Using_colours_in_LaTeX)
- Management in a large project (/learn/Management_in_a_large_project)
- Hyperref manual (<http://repositorios.cpai.unb.br/ctan/macros/latex/contrib/hyperref/doc/manual.pdf>)
- Hyperlinks article on wikibooks (<http://en.wikibooks.org/wiki/LaTeX/Hyperlinks>)

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