

Citing with LaTeX and Reference Management Programs

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1. Overview

In this guide, you will learn...

- what BibLaTeX is and how you can use it for citations
- what a .bib file is and how reference management software can help you create one
- how to configure your reference management program to use it with your LaTeX editor
- how to use online editors such as Overleaf with reference management programs and how to use the Overleaf TU Berlin campus license

LaTeX comes with its own reference management system; however, we recommend that you use a separate reference management program to save you work and time. Such programs allow you to:

- easily import references from a wide range of catalogs, databases, and websites and collect them in the reference management program



- manage and structure your references clearly
- create a .bib text file in .bib format for LaTeX with a click of your mouse, which you can then use for citations in your LaTeX project

2. Introduction to BibLaTeX

We recommend using the BibLaTeX package to manage your references in LaTeX. It is much more sophisticated and much more flexible than its predecessor, BibTeX.

This guide will go over some examples and basic commands. You can find more detailed information about BibLaTeX in the package documentation, e. g. on CTAN.org (Comprehensive TeX Archive Network n.d.). The German-language handbook “Bibliografien mit LaTeX” by Herbert Voß (Voß 2016), which is available from the TU Berlin University Library, offers a thorough guide to BibLaTeX.

2.1. Integrating BibLaTeX and .bib file: in the preamble

In order to use BibLaTeX, you must include the package itself as well as the .bib file in the preamble of your LaTeX document. The .bib file contains a list of your references. It can usually be generated automatically with a reference management program. You can learn how to do this in the section “Reference management programs and LaTeX” on page 6.

```

...
\usepackage[options]biblatex
\addbibresource{bib_file.bib}
\addbibresource{bib_file2.bib}
\addbibresource{D:/Path/to/bib_file3.bib}
...
\begin{document}
...

```

Your preamble can look like this:

```

...
\usepackage[style=authoryear]{biblatex}
\addbibresource{Bibtex-Beispiel-Datei.bib}

...
\begin{document}
...

```

- **\addbibresource:**
 - **\addbibresource** needs the full file name with file extension “.bib”
 - If you have several .bib files, as in the first example, simply use the **\addbibresource** command several times
 - As is standard with LaTeX, the path can be omitted if the .bib file is in the same directory as your document
 - Important note for path specifications: You must enter the path with forward slashes (/) in Windows; the backslash is a control character in LaTeX

2.2. The .bib file

In a .bib file, your references are saved in a special format, namely the BibTeX format. BibLaTeX uses the .bib file as a source file. As is standard in LaTeX, these are simple “plain” text files.

You can create these files yourself using a simple text editor. However, it is more convenient to have reference management programs create them automatically, especially if you are writing a long paper.

Some of these programs even offer automatic synchronization, meaning that as soon as you change something in the reference management program, a .bib file is automatically created or the existing one is overwritten. As the name of the .bib file always stays the same, you can also use this function during the writing process. The upcoming section on page 6 has a table showing you which programs support this feature and how to use it.

Please note: The file name and path cannot contain any spaces. If they do, you might encounter errors when compiling your document.

This is how a .bib file is structured (here created by Citavi):

```
% This file was created with Citavi 5.5.0.1
...
@book{Voss.2012,
author = {Vo{\ss}, Herbert},
year = {2012},
title = {Einf{\u}hrung in LaTeX},
edition = {1. Aufl.},
publisher = {{Lehmanns Media}},
isbn = {9783865414625},
subtitle = {[unter Ber{\u}cksichtigung von pdfLaTeX, XeLaTeX
und LuaLaTeX]},
language = {ger},
location = {Berlin},
series = {Dante},
abstract = {},
pagetotal = {932}
...
}
```

- First line: document type and the key (= unique identifier)
- Umlauts and other special characters are placed in curly brackets as LaTeX code (configurable)

2.3. Citation and bibliography

Three frequently used citation styles:

- author-year: Author’s surname and year of publication. Mostly used for in-text citations (Harvard style).
- numeric: Numbered referencing style. Each reference is numbered in the order in which it appears, and the bibliography is structured accordingly. Not to be used in the footnote.
- verbose: Full reference on first occurrence, short title on subsequent occurrences. Only recommended for use in footnotes.

Structure of the citation command: `\...cite[prenote][postnote]{key}`

- Prenote is everything that comes **before** the reference (e. g. “cf.” or “see”)

- Postnote is everything that comes **after** it (e. g. “p. 55”)
- Please note: Prenote and postnote are optional. The postnote can stand alone, whereas the prenote needs a pair of empty square brackets after it, otherwise the prenote will be interpreted as a postnote:
→ `\cite[Prenote][]{key}` (Voß 2016, p. 136)
- Key: This is defined in the .bib file and can be any character string. No key can be used twice in a file.

This is how the individual cite commands affect the citation style types author-year, numeric, and verbose (full in-text citation):

Cite command <i>Comment</i>	Types of citation styles		
	author-year	numeric	verbose
<code>\cite</code> <i>In numeric styles always with square brackets</i>	...Müller, 2005...	... [1] ...	<i>only recommended in footnotes, see \footcite</i>
<code>\parencite</code> <i>Output in brackets</i>	...(Müller, 2005)...	... [1]...	
<code>\footcite</code> <i>Like \cite, but in a footnote</i>	<p style="text-align: center;">... 1 ...</p> <p style="text-align: center;">...</p> <hr style="width: 20%; margin: auto;"/> <p style="text-align: center;">1 Müller, 2005</p>	<i>not recommended</i>	<p style="text-align: center;">1</p> <p style="text-align: center;">...</p> <hr style="width: 20%; margin: auto;"/> <p style="text-align: center;">1 Müller, Jan: Die Katze im Sack, Berlin : Ullmann, 2005</p>
<code>\textcite</code> <i>Omits the author. Intended for quoting in the middle of the text: Müller (2005) sagte, dass...</i>	...(2005)...	... [1]...	<i>use footcite instead</i>

- When citing in a footnote, `\footcite` can always be used
- The `\cite` command is sufficient for a numerical citation style
- The other citation commands are only useful when using an author-year citation style

Page references

- No preceding “p.” etc. is necessary for page references, columns, and similar.
- The language of the page reference (e.g. “p.” in English or “S.” in German) depends on the language of the document (→ preamble) and is automatically added by BibLaTeX.
- Alternative page descriptions (columns, verses, sheets, etc.) can be set with the commands *pagination* and *bookpagination*, more details are provided in the package documentation (Comprehensive TeX Archive Network n.d.).

An example (UTF8-encoded):

```

...
\usepackage[style=authoryear]{biblatex}
\addbibresource{Bibtex-Beispiel-Datei.bib}

...
\begin{document}
...
Innerhalb von nur vier Wochen wurde ein Gesetzespaket
beschlossen, das im Frühjahr 2011 die so genannte Energiewende
eingeleitet hat. Dies ist insofern bemerkenswert, als
dass die gleiche Regierung nur wenige Monate zuvor
einen Atomausstieg teilweise rückgängig gemacht hatte,
der bereits im Jahr 2000 von einer Vorgängerregierung
beschlossen worden war \parencite[vgl.][527-530]{Huss.2015}.
\textcite[107-108]{Paschke.2016} weist darauf hin, dass die
Energiewende ihren Namen daher nicht recht verdiene.
...
\printbibliography[heading=bibintoc] % Der Befehl gibt das
Literaturverzeichnis aus
...
\end{document}

```

And this is what the output looks like:

...

Innerhalb von nur vier Wochen wurde ein Gesetzespaket beschlossen, das im Frühjahr 2011 die so genannte Energiewende eingeleitet hat. Dies ist insofern bemerkenswert, als dass die gleiche Regierung nur wenige Monate zuvor einen Atomausstieg teilweise rückgängig gemacht hatte, der bereits im Jahr 2000 von einer Vorgängerregierung beschlossen worden war (vgl. Huß, 2015, S. 527-530). Paschke (2016, S. 107-108) weist darauf hin, dass diese Energiewende ihren Namen daher nicht recht verdiene.

...

Literatur

Huß, Christian (2015). “Durch Fukushima zum neuen Konsens? Die Umweltpolitik von 2009 bis 2013”. In: *Politik im Schatten der Krise. Eine Bilanz der Regierung Merkel 2009-2013*. Hrsg. von Reimut Zohlnhöfer und Thomas Saalfeld. Wiesbaden: Springer VS, S. 521–553. (Besucht am 01.06.2017).

Paschke, M. (2016). “„Energiewende – quo vadis“. Rechtliche Rahmenbestimmungen”. In: *Energiewende - Quo vadis? Beiträge zur Energieversorgung*. Hrsg. von Franz Joos. 1. Auflage. Wiesbaden: Springer Vieweg, S. 107–128. (Besucht am 01.06.2017).

3. Reference management programs and LaTeX

Reference management programs support LaTeX to varying degrees. The following table shows selected reference management programs:

Program	Export to .bib format	Synchronization of the .bib file	Support for inserting citation commands	Direct support for Overleaf	Tested with version
Citavi	Yes	Yes, semi-automatic	Yes (some LaTeX editors)	No	6.14
Zotero	Yes	Yes, with plug-in	No	Yes*	6.0.18
Mendeley	Yes	Yes	No	Yes*	2.84.0

* Support for literature management programs in the premium versions of Overleaf only, such as the campus license. See 4.3 on page 9 for more information.

- Export to .bib format: This is the most important function for LaTeX users. The reference management program creates a .bib file with references for the titles that you have imported. If possible, use the option to export all titles and select the BibLaTeX export filter. More information on the individual programs is provided in chapter 4.

4. Program-specific settings

In addition to collecting your references and helping you to evaluate texts, some reference management programs can also help you cite them in LaTeX. In this chapter, you can read more about LaTeX settings in some common reference managers.

4.1. Citavi

To use Citavi with LaTeX, you must first activate LaTeX support.

- *Tools* → *Options* → *Citation*:
 - Enable the *LaTeX support* checkbox and select your editor as the default text editor.
 - Under *LaTeX Assistant*, enter the citation commands you need.
 - * This enables citing directly from Citavi with the LaTeX Assistant.
 - * The first citation command you enter is set as the default command and can be inserted in your LaTeX editor by double-clicking on the reference.
 - * Citavi currently (version 6.18) supports the following LaTeX editors: LEd, LyX, Texmaker, TeXnicCenter, Texstudio, Texworks, WinEdt, and WinShell.
 - When you click OK, a BibTeX key is automatically created for all existing and future references in Citavi.

4.1.1. Synchronizing the .bib file with Citavi

Are all your reference entries correct in Citavi? You can then export a correctly formatted .bib file with just a few clicks. Here's how:

- In Citavi: Menu *File* → *Export*
- Select all references in your project

- Select Biblatex as the export filter. If you don't see it in the list, add it via *Add export filter* (do NOT choose Bibtex!)
- Via the pencil symbol: Edit the export filter if necessary (e.g. to change the assignment of reference types or to assign additional BibLaTeX fields such as pagination for different page numbering systems to the Citavi free text fields) – a copy of the export filter will be created.
- In the next dialog box:
 - Select a location to save the .bib file to and any other options you require
 - Select *Save to text file* and then click *Browse...*
 - Please note: Folder and file names cannot have spaces, this is a LaTeX requirement!

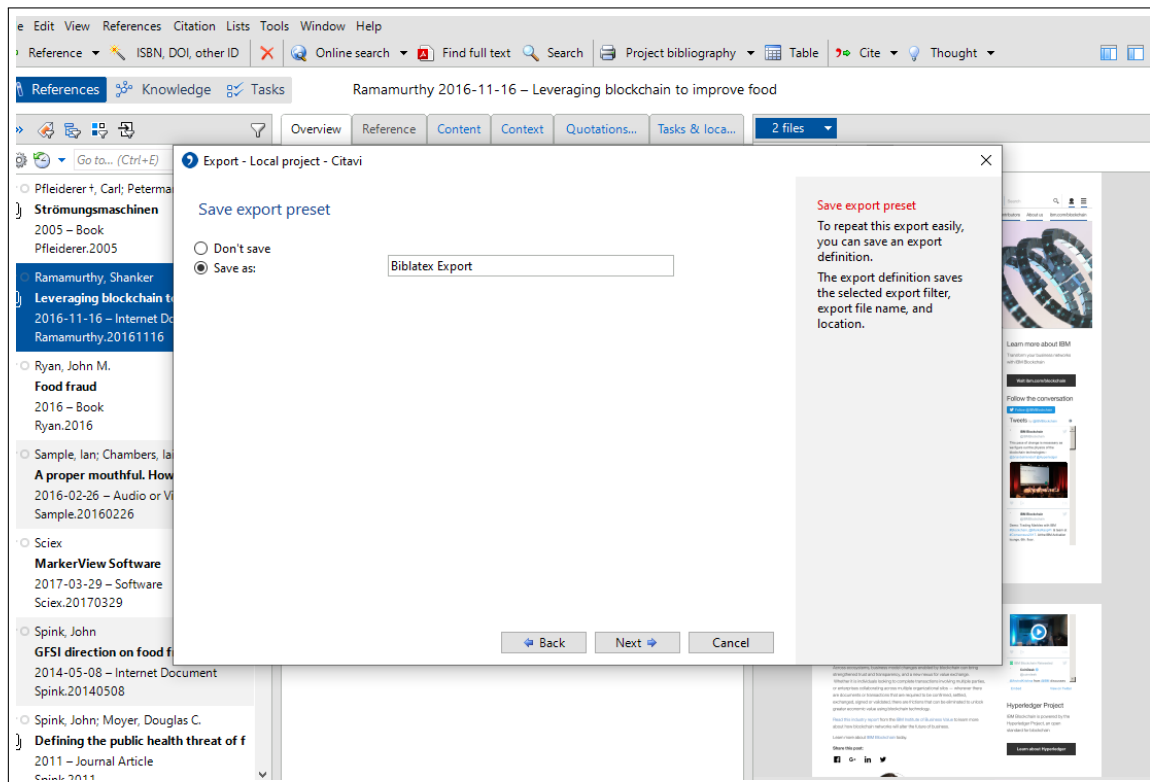


Figure 1: Citavi: Save export preset

- In the next step, you can create an export preset to export with one click in the future. Enter a name and click *Next* (see figure 1). You will then find the preset under *File* → *Export* under the name you gave it.
- Every time you make a change in Citavi, you will need to manually export the .bib file; this is not done automatically.

4.1.2. Citing with Citavi's LaTeX Assistant

Citavi allows you to automatically insert cite commands into your document. To do this, you need to specify your editor in Citavi and define any other citation commands you use (see section "Citavi" on the previous page).

- *Citation* → *LaTeX Assistant* (or F7): The *LaTeX Assistant* window will open (see figure 2 on the following page)
- Double-click a reference: Citavi then inserts the reference into your editor using the standard cite command
- Or: Click the reference once to select it and choose *Insert in...* at the top. You can select your desired cite command there.
- Prenote and postnote (see on page 3) müssen von Hand eingefügt werden

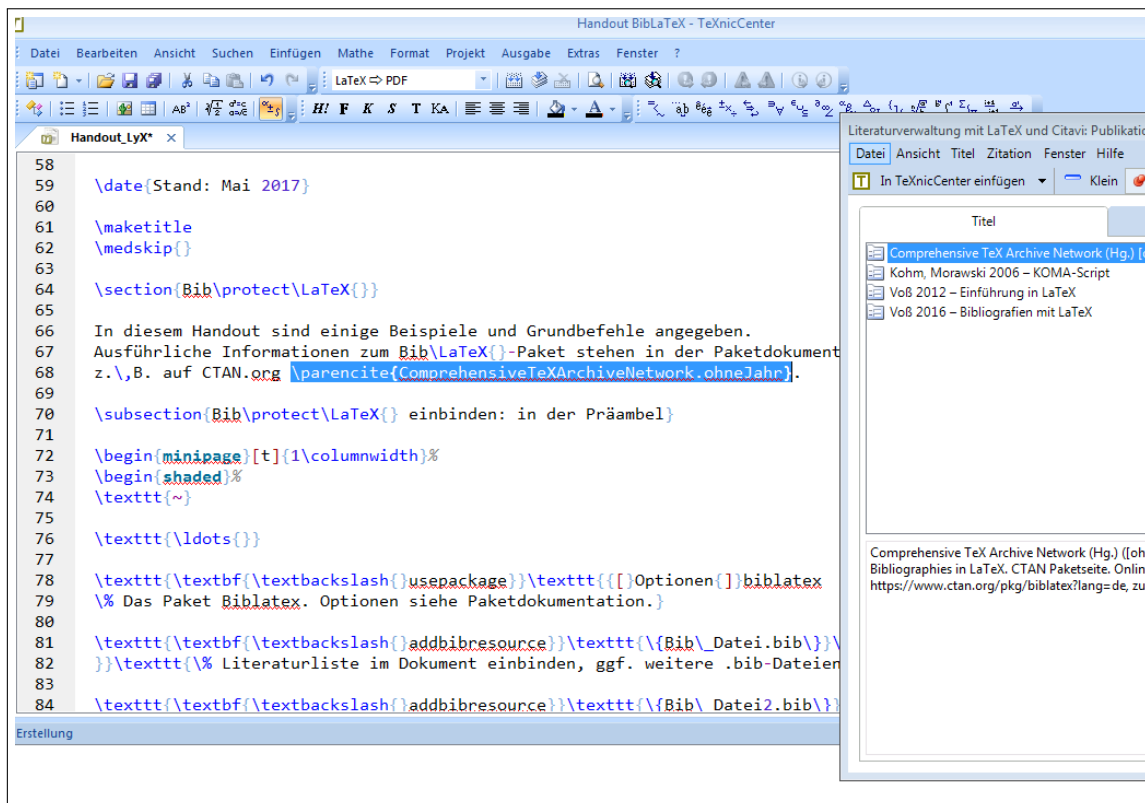


Figure 2: Citavi's LaTeX Assistant with the editor TeXnicCenter

- Auf diese Weise lassen sich auch Wissenslemente wie Zitate einfügen (Reiter Wissen)

Unsupported editors and online editors such as Overleaf can be used with the *LaTeX Assistant* (F7) and copy and paste. Simply right-click on the reference to be cited or a citation and select "Copy."

4.2. Zotero

Unlike Citavi, Zotero does not provide direct citation support. However, you can still have it create a .bib file. We recommend that you use the Better BibTeX plugin to do so.

4.2.1. Better BibTeX

Using Better BibTeX or the Better BibLaTeX export filter, you can:

- export your Zotero library as a .bib file
- create automatic and improved "citekeys" for each reference entry (important for citing in LaTeX and highly recommended!)
- insert user-defined BibLaTeX fields

You can find more information, instructions, and a download link at:
<https://retorque.re/zotero-better-bibtex/>

4.2.2. Exporting the .bib file

- Right-click on the collection that you want to export as a .bib file. Please note that if you select *My Library*, you will save all the references you have imported into Zotero in the .bib file. It is therefore always best to select a yellow folder.

- Click on *Export Collection...*, then select *Better BibLaTeX* from the drop-down menu at the top (NOT *BibLaTeX*, *BibTeX*, or *Better BibTeX!*). You can leave *Background export* selected. Select *Keep updated* to have the .bib file exported automatically each time when you make changes to the respective Zotero collection.

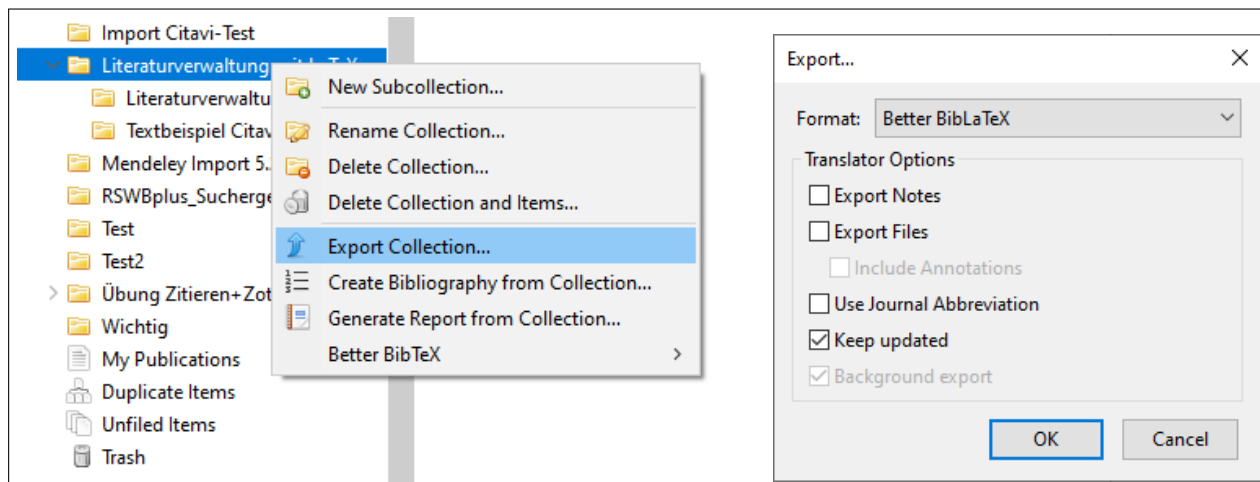


Figure 3: Exporting collections with Better BibLaTeX

- Then select a folder (e.g. where your LaTeX project is) and file name and save the file.
- You can now add the .bib file to your LaTeX project. Simply follow the instructions in section “Integrating BibLaTeX and .bib file: in the preamble” on page 2.

4.3. Using Overleaf with reference management programs

Overleaf can be linked directly to Mendeley and Zotero. However, this is a premium feature that is only available with a paid license. The TU Berlin has purchased a campus license for its members:

<https://de.overleaf.com/edu/tu-berlin>. This allows you to use this feature.

If you use Zotero, you will need to create a free Zotero account. You will also need to activate synchronization with your account. You can find instructions on how to do this here: <https://www.zotero.org/support/sync>

To link Mendeley or Zotero into Overleaf, follow these instructions: https://de.overleaf.com/learn/how-to/How_to_link_your_Overleaf_account_to_Mendeley_and_Zotero

References

Comprehensive TeX Archive Network (n.d.). *BibLaTeX – Sophisticated Bibliographies in LaTeX: CTAN package page*.

URL: <https://www.ctan.org/pkg/biblatex>.

Voß, Herbert (2016). *Bibliografien Mit LaTeX*. 2. Auflage. Berlin: Lehmanns Media. 264 pp. ISBN: 978-3-86541-813-5.

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