

Zotero: a free, open-source reference management program

Rosemary Rodd

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If you have previously set up a Zotero account and registered your details online skip the sections on installing the program so that you don't overwrite your existing information.

1. *Installing Zotero*

The current version of Zotero uses add-ons to connect it to Word or Libre Office (in order to add citations to your documents) and to a web browser (in order to collect citations).

To install Zotero on your own machine:

1. Start a web browser (Chrome is easiest) and go to <https://www.zotero.org/>
2. Click the **Download** button and install Zotero
3. Return to the download page and install the browser connector

Note: You can only have ONE personal Zotero library (although there are options for collaborating academics to create multiple shared group libraries). You can sub-divide your personal library into "collections" covering different topics, but don't attempt to create multiple libraries by setting up several alternative Zotero directories as you are very likely to end up accidentally over-writing them.

Zotero's *Quick Start Guide* can be found at:

https://www.zotero.org/support/quick_start_guide

2. *Set up synchronisation: "syncing" [omit if you already use Zotero]*

1. In Zotero, select **Edit > Preferences**. [Zotero > Preferences on a Mac]
2. Click the **Sync** icon then **Create Account** and register your details to set up an online account.
3. You don't need to check your email before entering your account username and password in Zotero's Sync preferences.
4. Notice the check boxes which control Zotero's sync options. You can choose to have Zotero synchronise files automatically or only when you click the sync button in the menu bar. You can also control whether Zotero synchronises just your references and annotations, or whether it also copies files, such as full-text article PDFs, which you've attached to the references.
If you choose to include full-text file syncing, you will probably exceed your free storage allowance on Zotero's servers. If this happens, you can either pay for increased space, or make alternative arrangements.

Please read the important notes about the difference between syncing and backing up at the end of this document.

3. *Set Zotero's preferences*

1. Click the "General" tab (in Preferences).
2. Make sure the box beside "automatically attach associated PDFs..." is checked. This setting will cause Zotero to download and attach associated PDFs, and other full-text sources belonging to an online reference, if it can. This can save you time compared with manual location, but will make your database rather large and you may want to turn it off again if you prefer to save only a selected number of full text papers.

This works better with some online sources than others and sometimes you will need to do a manual search to find the full text. Be aware that some journals have Terms and Conditions which forbid automatic bulk download of search results: for example the American Physical Society doesn't even permit automatic download of journal abstracts and may block you if Zotero tries to download files.

Problems are unlikely to arise when you are downloading from resources which search multiple journal databases (such as Web of Science or Scopus) but it's advisable to check the Terms and Conditions if you are running a search on a journal's own website.

3. Uncheck "Automatically take snapshots when creating items from web pages."
You can turn this on again if you work off-line a lot and want saved web pages to be available, or if you want to keep a record of the current state of a page in case it alters. However, if you save a lot of web pages with small graphics this can eat up lots of space on your hard drive and clutter your folders.
4. Click the "Advanced" tab, then General (in the tabs below the top buttons)
5. Pull down the menu under "OpenURL"
6. Select **Europe > UKOLN's Open Resolver**
7. Click the "Update Now" button beside "Automatically check for updated translators" to get the latest version of the interpreters which identify references on the web.
8. Close the preferences.

4. Search for some references online

1. In the Chrome browser, go to scholar.google.co.uk and do a search (you may be asked to complete a "Captcha" to prove you're not a robot).
2. Enter something in the search box and click the search icon.
3. A small folder icon will appear at the top right of the menu bar. Click it once.
4. Another window will open, listing all the search results on the current page with a check-box beside each one.
5. Click "Select all", then "OK" to download all of that page's results into Zotero.
6. Now look at Zotero again. You should see that the selections have been downloaded into the library of references. The reference should appear first and then any full text that Zotero has been able to find (click the arrow beside the reference to view this).

Note that automatic download by clicking the menu bar icon depends on Zotero being able to interpret reference data found on the page. You will almost certainly find at some point that upgrades to databases that you use mean they are no longer able to be understood by Zotero. When this happens, the solution is to post a request for help to the Zotero online forum for troubleshooting <http://forums.zotero.org/categories/> and select troubleshooting.

5. Create a "Collection" to sub-divide your library

1. Click the icon on the far left of the Zotero menu bar (looks like a small folder with a green plus)
2. When a dialogue box asks you to name the new collection enter "Shakespeare"
3. You'll see an empty folder has been created and selected.

It's possible for a single reference to be a member of several different collections - think of them as "views" rather than containers.

6. Download some references into this new collection

1. Go to www.jstor.org (in the main browser window) and do a search for Shakespeare.
2. Click on one of the **Download PDF** buttons and accept the Terms and Conditions, then return to your search results.
3. Download a few of the article PDFs
4. Return to the Zotero window and click the Shakespeare folder
5. Drag and drop your saved PDF files into the central pane of Zotero.

6. Zotero will first add the PDF to the collection, then attempt to retrieve the metadata describing the papers. Have a look through the references that have been created. You're likely to find that some have a lot of information missing and would need to be edited manually if you were intending to use them for real research work. Notice that Zotero automatically renames the PDF files to give them reasonably meaningful names.

Collections are simply sub-sets of your Zotero library: click "My Library" to view all your references.

7. Retrieve some references from the UL's Catalogue

1. In your browser, go to <http://www.lib.cam.ac.uk/>
2. Now do a search using iDiscover.
3. You should see the small folder icon appear at the top right of the browser address bar.
4. Select some or all of the references to download and click OK to save them into your library.

This is where Zotero shines in comparison with the other common reference management packages which struggle to recognise iDiscover's search results.

8. Locating the full text of a reference manually

1. Zotero will sometimes download the full text automatically but not always.
2. Zotero can help you to find the full text of any reference in your library. To try this, select a reference without a PDF (must be a journal article, not a book) and click the "locate" button (small straight arrow icon just above the **Info** tab) and choose "**Library lookup**". If the journal is available online, you'll see the main browser window go to the library and offer a clickable link to take you to the full text.
3. Try opening the full text of a journal article and downloading it in PDF format.
4. Save the pdf file to your computer in **Documents**.

9. Attach a downloaded file to a reference in your library

1. Select the article in the Zotero library by clicking on it once.
2. Look at the menu bar at the top of the Zotero pane. Roughly at the centre, you'll see a paperclip icon.
3. Click the paper clip to pop down its menu and select "**attach stored copy of file**".
4. Browse to your documents folder and select the PDF that you just saved. Click **Open**.
5. Now, if you click the little plus sign or arrow beside the reference in Zotero, you will see that there is a pdf icon attached to the reference data.

Your downloaded PDF has been copied to the Zotero directory which you set up. You can take a look at the contents of this directory, but the individual sub-directories are given rather unhelpful names, and it's usually best just to back up the whole of it and access the individual stored files via Zotero itself.

10. Add a free-text note to your references

1. Click the **Notes** tab on the right-hand side of the reference, then the Add button to open a new sub-window where you can type in your own notes.
2. Click the **Edit in a separate window** button to open the Notes window as a full-sized editing area. You can compose as much text as you want, using the toolbar to format it as you would in an ordinary word-processing package.

Notes can be copied and pasted into your final document and text styles, such as bold and italic will be preserved.

WARNING: Unless you have set up Zotero to sync online, your data is stored in the Zotero folder on your local machine. If this is not backed up and the machine crashes or is stolen you could lose the lot! I recommend that you periodically make a copy of your Zotero directory in a safe location.

11. Tag your references with keywords of your choice

1. Click the **Tags** tab on the right pane of Zotero.
2. Click the **add** button to insert some keywords. Tags can be made up of more than one word, but each one should be on a separate line (get a new line by clicking the **add** button a second time or simply hitting the *Return* key).

As you tag references the new terms are added to the clickable list of tags in the left hand pane (you may need to make this visible by clicking the dot at the centre of the bottom of this column if it has been closed).

If your downloaded references included keywords these may already have been added to the tags field if Zotero was able to identify them.

12. Mark related references in your library

1. Click the **Related** tab on the right of the reference, then the **add** button.
2. A list of references in your library will be displayed
3. Type one of your keywords into the search box and click **OK**
4. If any of the other references have the word anywhere in their entry they will be displayed. If none of them is left, try another keyword until you find something that works.
5. Select the displayed references and click **OK** to associate them all with your original reference.
6. Click one of the references that you've just associated with the original one and notice that the association is reciprocal: the first reference is now listed as related to the second.
7. If you want to, you can associate references without searching for particular words: just click **Related > add** and select them from the complete list.

The **Notes** can have tags and related references associated with them independently of the reference itself. This can be useful if you want to make a distinction between keywords relating to your own thoughts about the paper and the author's keywords.

13. Create a reference item manually

The easiest way to collect references is to import them from online sources. For older material this may not be possible. In these cases you can create new references and type the information in manually.

Zotero can only format your new item correctly if you pick the right type of document (for example book, book section [chapter], or journal article) as different kinds of document have to be set out differently in your bibliography. In this example we'll create a reference for the *Handbook of Medieval Exchange*, written by Peter Spufford and published in London by the Offices of the Royal Historical Society in 1986 as number 13 in their series, Royal Historical Society Guides and Handbooks.

1. Click the green plus icon near the centre of the Zotero menu bar to drop down a list of possible types of reference. The handbook is a **Book**, so select that.
2. You'll see a new item appear in the right-most section of the Zotero pane, and a corresponding blank item in the library listing.
3. Click the title field and type in "Handbook of Medieval Exchange" (without the quotes). Press tab to skip to the next field.
4. Enter the Author's name (tab to get from the **lastname** slot to **firstname**).
5. Continue filling in the slots for which you have information. Don't worry if some have to be left blank: Zotero provides fields for most eventualities and not every reference will use them all.

14. Using Zotero in conjunction with a word-processing system

Zotero can be used as a citation manager with MS Word, Open Office and LaTeX.

In this practical you'll only use the plug-in for MS Word, but the basic principle is the same for Open Office.

(If you need to use LaTeX, the system for inserting citations is rather different and is described in exercise 21.)

15. Adding a formatted bibliography to any document

If all you need is a formatted list of the references contained in your library, this can very easily be achieved by drag and drop.

1. From the Zotero menu select **Preferences**
2. Click the **Export** button.
3. Select a style by pulling down the default output menu.
4. By default, you cannot copy more than 50 references to a document by drag and drop. If you wish to copy more than this, edit the figure in the box labelled "Disable Quick Copy when dragging more than [50] items.
5. Close Preferences.
6. Open a blank document (any word processor), and switch to the tiled view so that you can see multiple windows at the same time.
7. Select all the references in your main library window and drag them across to the open document. (You may need to adjust the size of the two windows so that both are visible simultaneously).
This will not work if any of the references have their attachments displayed by clicking on the arrow icon.
8. The references will appear in the document sorted into alphabetical order by author and laid out according to your chosen style. You may find that some still need some manual adjustment — for example where older reference titles are in all caps.

If you entered the Medieval Exchange reference correctly in the previous exercise you should find that it has been laid out with correct punctuation and italicisation etc.

Chicago:

Peter Spufford, *Handbook of Medieval Exchange*, Royal Historical Society Guides & Handbooks 13 (London: Offices of the Royal Historical Society, 1986).

Nature:

1. Spufford, P. *Handbook of Medieval Exchange*. (Offices of the Royal Historical Society: London, 1986).

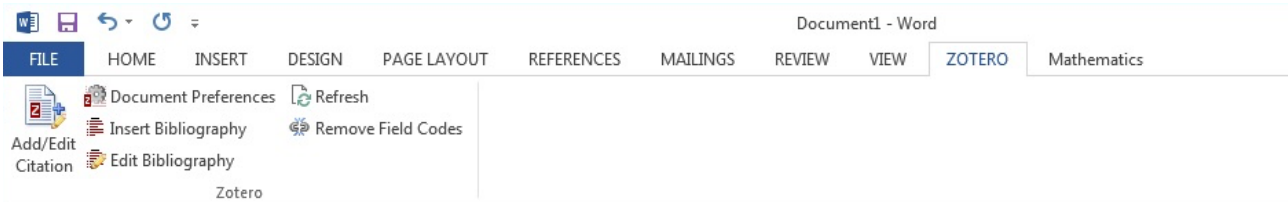
You can also export your bibliography as an RTF (Rich Text Format) file, which can be opened by Word or Open Office.

1. Select the references you want to export and control/click [Mac] or right-click [Windows] on the selected items.
2. Choose **Create Bibliography from Selected Items...** from the pop up menu which appears.
3. Select the output style you require and check **Save as RTF**.
4. Give the exported file a suitable name and save it. Make sure you click the Documents link on the left to ensure that you save into your Documents folder and not into the Zotero Library folder.

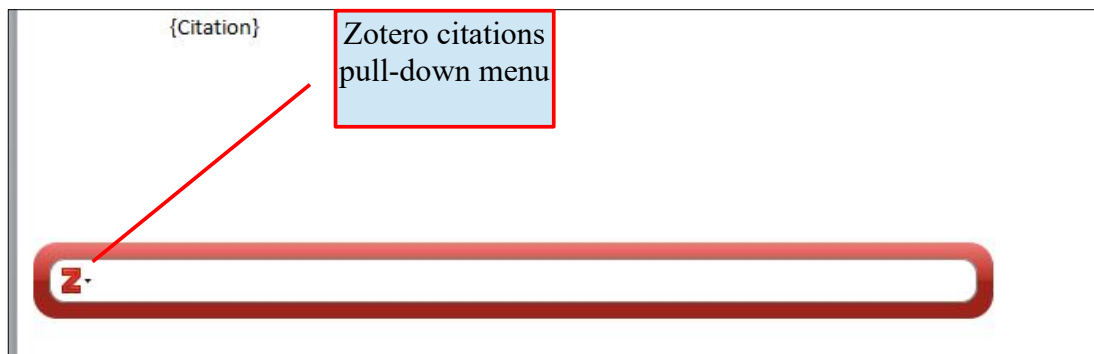
16. Creating a bibliography by inserting citations in a document

1. Go to open **Microsoft Word** and create a new blank document.
2. (If you see a warning message (yellow bar) that macros have been disabled, click **Enable Content**, to permit the Zotero add-in to work.)

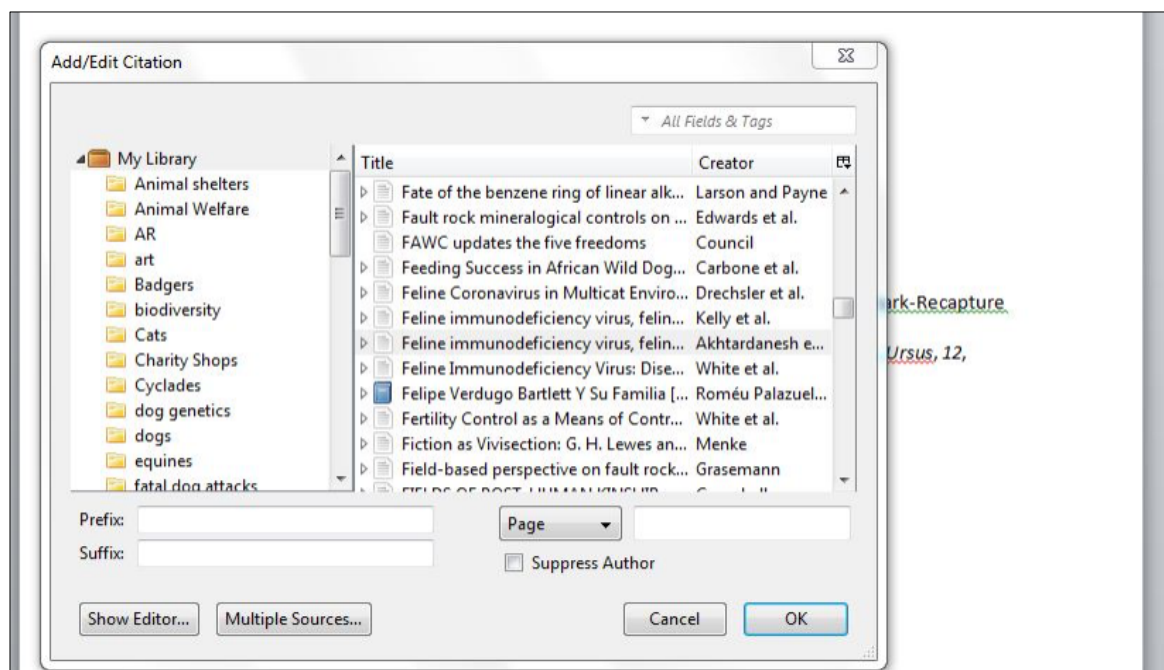
3. Click the **Zotero** tab.



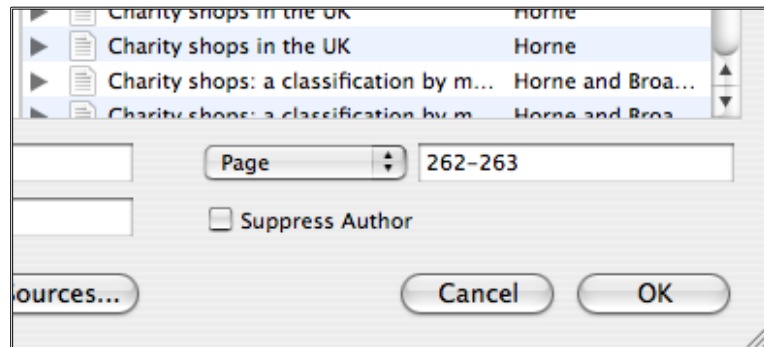
1. To insert a new citation in your document, position your cursor at the point where you want it, then click **Add/Edit citation**.
2. A dialogue box opens asking you to select a citation style for the document. Choose the style you prefer and click OK. This opens the Zotero reference search “bubble”



3. You can search for a reference by typing in the Zotero “bubble
4. Choose a citation from the list of found items and hit return to insert it.
5. You can search again before hitting return if you want to insert multiple citations at that point. Simply build up the group of references in the “bubble” then hit return to insert them.
6. If you prefer to browse your whole library, pull down “classic view” from the tiny menu beside the Z.



7. Wait for your Zotero library to open in a new window. If you need to insert more than one reference, click the button “Multiple Sources” [for something like (Jones, 1956; Smith, 2009)].
8. Select a reference from the window. At this stage you can reference particular pages or add a prefix or suffix (such as “see ...”).



9. Click OK.
10. Zotero will either insert a citation in the body of the text or create a footnote and insert the citation there (depending on the style you chose). Notice how the sample citation below specifies the two specific pages of the nine-page article which were typed in when the reference was selected.

1 E. Parsons, 'Charity shop managers in the UK: becoming more professional?', *Journal of Retailing and Consumer Services*, 11 (2004), 259-268 (pp. 262-263).

11. You can make changes to the citation, such as adding prefix/suffix and references to pages after you have added it to your document. Simply put the cursor on the citation and click **Add/Edit citation**. This will return you to the add/edit dialogue box. Click the citation in the “bubble” to make changes using the contextual menu that pops up (e.g. add a page number), then hit return to commit them.
12. Once you have some citations in your document, you can tell Zotero to create a bibliography of the inserted references. Type in a suitable heading (such as “References” and position the cursor after it. Then click **Add/edit Bibliography** to create your bibliography. Once inserted, it will update as you add more citations to the document.
13. If you decide you want to apply a different reference style to the document, you can select another style by clicking the **Document Preferences** icon. Zotero will instantly reformat your references.
14. Zotero is the only one of the “Big Three” referencing programs which is able to switch your citations between in-text and footnotes.

Caution – if you install multiple citation programs (e.g. Zotero, Mendeley and EndNote) this will cause problems with citations in Word documents because all three programs will potentially attempt to edit them. If you RIGHT-CLICK on a Zotero citation an EndNote edit menu may open but will not actually be able to modify the citation and a fatal error may occur. Similarly you may need to disable the Zotero and Mendeley add-ons in Word if you want to use EndNote.

17. Modifying Zotero Styles

Zotero styles are written in an XML based language called Citation Style Language (CSL). At present there is no GUI interface to edit them, so if you cannot find a suitable style in the standard formats or in the Zotero Style Repository (<http://www.zotero.org/styles>), you will need to get to grips with writing CSL direct. This is not for the faint-hearted or non-technically-minded and is beyond the scope of this course. If you want to get some idea of what is involved, there are some online tutorials at:

https://www.zotero.org/support/dev/citation_styles

<http://docs.citationstyles.org/en/stable/primer.html>

18. Using Zotero with LaTeX (can be ignored if you don't use LaTeX)

BibTeX is a specialised bibliographic markup system to enable advanced reference processing with the LaTeX wordprocessing system. If you are required to produce your thesis in LaTeX then Zotero is a good system to use to manage your references.

If you don't need LaTeX, you can ignore the rest of this section.

1. Click **File > Export Library**. Choose BibTeX as the output format and save the file with a suitable one-word name.
2. By default Zotero creates a file with the utf8 encoding, which some LaTeX installations don't handle well. To preserve the special characters such as “–” it's best to open the file in your text editor and use global search and replace to change — to --- and so on. Use the Save As command to change the encoding to Latin 1.
3. The exported file contains your references laid out in BibTeX format as shown below. It's in plain text, but has the extension .bib

```
@article{johnson_jr._calculation_1958,  
  title = {Calculation of nuclear magnetic resonance spectra of aromatic  
  hydrocarbons},  
  volume = {29},  
  journal = {The Journal of Chemical Physics},  
  author = {C. E. {Johnson, Jr.} and F. A. Bovey},  
  year = {1958},  
  pages = {1012}  
},
```

To insert a citation in your main document you need to complete the following steps:

1. Copy the reference key generated by Zotero from the item's author, title and year. In the example above this is **johnson_jr._calculation_1958**
2. Paste the key into your document at the point where you want the citation to appear and enclose it in curly brackets.
3. Immediately before the citation type `\cite`
4. You need to end the file with commands to set a bibliography style and insert a bibliography using a named BibTeX file as follows:

```
\bibliographystyle{newapa}  
\bibliography{chem}  
\end{document}
```

The calculation citation above will print as “(Johnson & Bovey, 1958)” if it is formatted with the apa bibliography style, which is a form of author-date. If you get unexpected error messages, check carefully that you have no spelling errors in the commands. It is very easy to make slight mistakes in copying and pasting long commands like “bibliographystyle”.

If you want to print all the items in your BibTeX file without citing them in the body text, you need to put the `\nocite{*}` command immediately before the bibliography style command.

A dummy file such as :

```
\documentclass{amsart}  
\begin{document}  
\nocite{*}  
\bibliographystyle{amsplain}
```

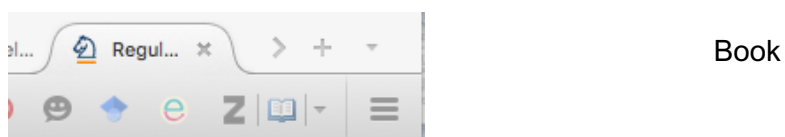
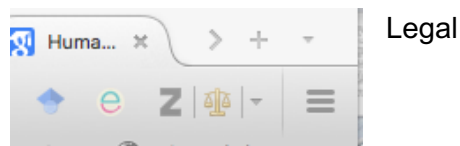
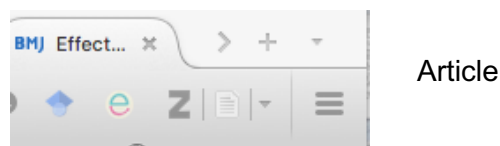
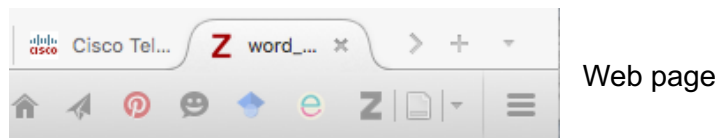
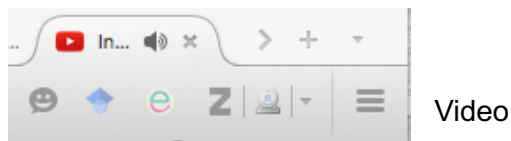


```
\bibliography{mybibliography}  
\end{document}
```

can be used to print out the whole BibTeX file with no preceding text.

19. *Downloading single references*

1. In your browser, go to www.scopus.com and do a search.
2. The small folder icon will appear, but selecting references to download will often not succeed.
3. Click through one of the links to go to the source reference.
4. The folder icon will be replaced by an icon which indicates what type of document you've reached; there are different icons for various possible types and you will also see them displayed in your library (for example you should see icons representing books and articles).
5. Click the icon to download its reference into your library.



20. *Setting up Zotero and the plugins on your own machine*

1. Go to www.zotero.org site in your browser and download the program from there.
2. Open Zotero.
3. Go to **Preferences** and click the **Cite** button. Then click the **word processors** tab to install the correct plug-in for your preferred word processor program.
4. To install the browser connector go to: <https://www.zotero.org/download/> Zotero will attempt to offer you the correct connector for the browser you are currently using (there are connectors for Chrome, Safari, Firefox and Opera but not for Edge or IE).

21. *The distinction between syncing and backing up*

You need to be clear that syncing is **NOT A SUBSTITUTE FOR KEEPING BACKUPS!**

The sync option can be very useful, but you need to be absolutely clear that it is simply a way of storing what you are *currently* doing in two places (the local computer and Zotero's servers) so that you can move to a different machine, sync again, and carry on working.

If you accidentally delete something you didn't mean to, or corrupt your data in some way, the problematic changes will overwrite the remote copy.

It's possible for Zotero to become confused about which is the most up-to-date copy of your data and over-write a newer version with an older one, and it's also possible to confuse the program if you accidentally register yourself with two different usernames, or if you and another person use a shared computer without separate user accounts.

Zotero will normally attempt to warn you if the local and remote data appears likely to belong to two different accounts, but this then means you will have to identify which should be the master copy and for peace of mind it is very desirable to have a completely separate copy in case of accidents.

I would strongly advise you to keep manual backups on media such as memory sticks, or CDs in addition to using syncing, or arrange a system to back up your entire hard disk automatically.

Make a backup after each day's work, and keep at least the current and previous day's backups so that you can revert to a known good copy if something goes wrong. Keep the backup media separate from your laptop so that you will have them if the laptop itself is stolen.

This is very easy to do by dragging and dropping or copy/pasting the entire Zotero data directory to the backup media — and is another reason why you should make sure it is in a location that you can easily find.

It is advisable to read the advice on troubleshooting syncing:
http://www.zotero.org/support/kb/sync_reset_options

Make sure you understand which way your files will be copied so that there is no danger of over-writing your latest version.

You also need to bear in mind that the online data may be stored on a machine outside the EU, so if any of it could be classed as "personal" you might be in breach of the Data Protection Act.

This is unlikely to be a problem if your library simply consists of published references but it might be an issue if you have any personal communications, particularly if these are not of a purely academic nature. For example, reference to a public lecture which has never been published would be a personal communication but the lecturer is unlikely to object to being given credit for the ideas in it. However, reference to a private interview about someone's experiences of receiving hospital treatment would be sensitive personal data.

There's more advice about backing up and restoring Zotero data at:

http://www.zotero.org/support/zotero_data#backing_up_your_zotero_library

If you look inside the Zotero folder you'll see that there is a folder called "Storage" and a file called zotero.sqlite (as well as some other files and folders).

If you choose to sync your database but not the attachments it is the sqlite file which will be copied up. It contains just the citation data, not the full text files. When zotero is working, the sqlite database is being constantly updated and this is the reason why it is dangerous to try putting your Zotero folder in Dropbox (or Google Drive or any similar "cloud" external storage). If something goes wrong and Zotero and Dropbox try to modify the file simultaneously it can corrupt the file so it doesn't work at all!

Zotero's own sync mechanism is safe because sync is being initiated by the Zotero program itself (so is guaranteed not to happen when the program is trying to write back a file) while DropBox relies on detecting when a file has changed.

There's some information about trying to get round this issue at

<http://zotpad.uservice.com/knowledgebase/articles/103395-what-is-a-symbolic-link-and-why-should-i-use-one-w>

If you don't understand it then take the safe options and either pay for extra Zotero server space or make periodic manual backups that you can revert to if your local machine crashes.

22. Further help

If you want more individual help, email: [**servicedesk@uis.cam.ac.uk**](mailto:servicedesk@uis.cam.ac.uk)

If you are unsure which electronic reference databases are most relevant to your work, the UL's web pages are the best place to start: <http://www.lib.cam.ac.uk/eresources>

For help with deciding the correct information to include in references it's worth taking a look at the *Cite Them Right* website <http://www.citethemrightonline.com/Home>

23. Legal References

Legal referencing rules are more complex than those for any other subject, and you may well find that no software program is capable of doing what is required without some degree of final manual editing.

There's a helpful interactive tutorial for OSCOLA (Oxford Standard for Citation of Legal Authorities) at https://xerte.cardiff.ac.uk/play_6716

You may like to investigate Juris-M, which is a variant of Zotero designed for better handling of legal references. You can download the program from <https://juris-m.github.io/>

There are several issues to consider if you need to use legal referencing:

- Legal sources are frequently not “clean” in terms of punctuation and/or tagging in the way that scientific ones generally are. This may mean that there is no way to download and import from some legal databases or that references can be imported but have extraneous punctuation that you need to correct manually.
- Juris-M is the work of one enthusiast so there is no guarantee it would continue to be available if something happened to him. However Juris-M and Zotero are very compatible so it should be possible to convert your Juris-M library back to Zotero if this did happen.
- Juris-M was originally designed to solve the particularly difficult problems of legal scholars in the US and UK legal referencing is not quite as complex.