Welcome to the **Introduction to NVivo** module. NVivo is software that allows you to store, organise and analyse qualitative data. It can be used to assist with research projects, literature reviews and other assignments and analyses big and small, and is installed on most computers at Curtin's Australian campuses.

If you would like access on a personal computer, you can request a free download by going to the 'SupportU' self-service portal in OASIS, searching 'Request Home Use Software', selecting the search result and entering the required information. Alternatively, you can download NVivo onto a Curtin device by using 'Install Applications' (Windows) or 'Self-Service' (Mac) on your desktop. Please note that if you are using a Mac, there are differences between the two versions of NVivo.

If you have any questions about this module, please contact Library-UniSkills@curtin.edu.au

## What you will learn
- The set up of the NVivo workspace, including for the provided sample projects (skip to Getting started)
- How to import different types of materials into an NVivo project (including Word, PDF, audio, video and picture files saved on your computer; survey data; web content; emails; and references and PDFs from EndNote) (skip to Setting up a project)
- Options for transcribing audio and video files (skip to Transcribing)
- How to use codes to organise project materials together according to specific themes and topics (skip to Codes & coding)
- How to store information about cases and files in an NVivo project using case and file classifications (skip to Classifications)
- How to use search project materials to find common words or phrases or to identify patterns and make comparisons (skip to Searching)
- How to use mindmaps to visualise the layout of codes (skip to Charts & mind maps)
- How to use NVivo to assist with literature reviews (skip to Literature reviews)

## Getting started
When you launch NVivo for the first time you will be prompted to set up your user profile. To do this, just enter your name or ID and initials and select a language, then press 'OK'.

## NVivo sample projects
NVivo comes complete with a few different sample projects, which are great for exploring and experimenting with before you start on your own project. Links to two of these projects are displayed at the top of the screen when you launch NVivo, and you can also select the link to view more sample projects. For parts of this module we will work with the first sample project (the multi-method project), which is called *Environmental Change Down East*. Select this project to open it now.

Note that upon opening this project, or any project, you will be presented with the opportunity to take a tour of the software. For the time being click on 'Skip tour', but to view it at a later time go to:

File > Help > Help Resources > Tour

## The NVivo workspace

Once the sample project has opened you can explore the NVivo workspace. For example, you may wish to double click on the *Overview of Sample Project* document to open it and read about the sample project. When you do this you will notice there are three different views, as described and shown below:

- The **Navigation View** on the left of screen displays groups and folders. For example, there is a 'Data' group which contains *Files*, *File Classifications* and *Externals* folders (detailed in the next section), and within each of these are sub-folders containing the data for the sample project.
- The **List View** in the middle of the screen lists the contents of the folder selected in the Navigation View. For example, when the *Files* folder is selected the List View shows the *Overview of Sample Project* document (the only document in the parent *Files* folder; others have been organised into sub-folders).
- The **Details View** on the right of screen displays open project items. For example, the *Overview of Sample Project* document opened previously.
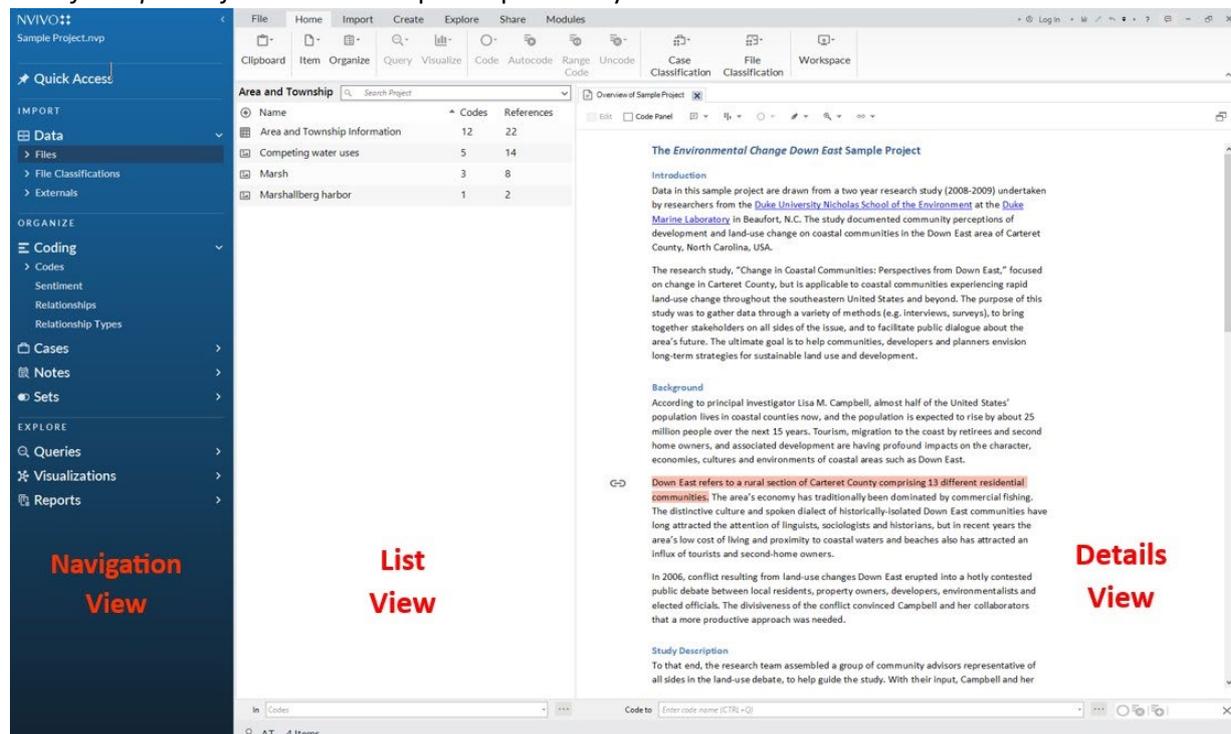


Close the *Overview of Sample Project* document when you are finished with it (note that while you can have multiple windows open in the Details View, to avoid confusion it is generally best to keep these to a minimum).

## Types of data

The 'Data' group in the Navigation View contains three folders where all of the data (i.e. project materials) are stored. These folders are detailed below, and you are encouraged to have a look in each to see what has been included for the sample project:

- *Files* is where you should import or create materials for your project, organising them into sub-folders as desired.

- *File Classifications* is where you can summarise general information about the materials in your project using classifications - either predefined ones or ones you have created or imported (for more on classifications see the Classifications section of this module).
- *Externals* is where you can summarise materials you cannot import into your project (e.g. books).

**Organising data**

When importing materials into NVivo you can create your own folders and sub-folders according to how you wish to organise your data. For the sample project, for example, the folders and sub-folders that have been used to store the project materials in the *Files* folder are:



By exploring these folders (which you can do by clicking the relevant '>' icons) you can see the different types of materials that can be imported into NVivo; from text documents and PDFs to images, audio files, video files, social media content and survey data.

**Setting up a project**

This section details how to set up a project in NVivo, including creating folders and importing different types of project materials from various sources. Some of the examples use materials obtained from the *Environmental Change Down East* sample project. While you can follow these examples using your own materials, if you would like to import the specified materials then you will first need to export them. You can do this by opening the *Environmental Change Down East* sample project (as detailed in NVivo sample projects), then:

For the Importing materials saved on your computer section:

- **To export the required Word documents:** Select the *Interviews* folder under *Files*. Select the *Margaret* and *Maria and Daniel* files together, then right click and choose 'Export' and 'Export Documents…'. Make sure the 'MS Word (*.docx)' file type is selected, choose an appropiate save location and then select 'OK'.

- **To export the required audio file:** Select the *Interviews* folder under *Files*. Select the *Helen* file, then right click and choose 'Export' and 'Export Audio/Transcript…'. Select to export the Media Item (.mp3) only, choose an appropriate save location and then select 'OK'.
- **To export the required PDF:** Select the *Literature folder* under *Files*. Select the *Analyzing Estuarine Shoreline Change~ A Case Study of Cedar Island, North Carolina* file, then right click and choose 'Export' and 'Export PDF…'. Choose an appropriate save location and then select 'OK'.

For the Importing surveys section:
- **To export the required Excel file:** Select the *Survey* folder under *Files*. Select the *Survey Responses* file, then right click and choose 'Export' and 'Export Dataset…'. Choose an appropriate save location and then select 'OK'.

## Creating a new project

To create a new project in NVivo go to File > New, then enter a name and description for your project and browse to choose a location to save it in (it will save as a .nvp file). For example:
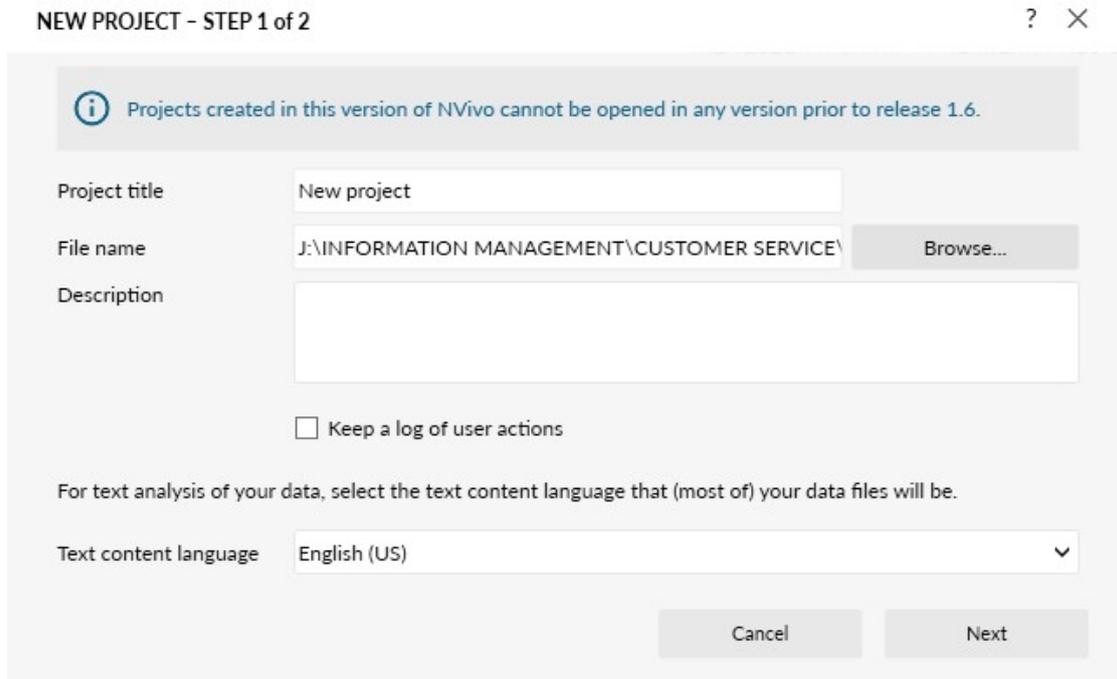


Click 'Next'. You now have the option to choose 'Yes' or 'No' for a reminder to save your project. Click 'Create project', then click 'Skip Tour' and 'Close' for the information given under Files (once read).

## Creating folders

It is generally easiest to create folders to store your project materials before you import them, as you can then import them straight into the appropriate folder. However, note that you can create new folders, move materials from one folder to another (by simply dragging and dropping), and delete folders or materials (by right clicking on them and selecting 'Delete') at any time.

To create a new folder, for example an *Interviews* folder, do the following:

1. Right click on the *Files* folder contained in the 'Data' group (or if you would like the new folder to be a sub-folder of a different folder, right click on that instead)
2. Select 'New Folder…' from the top of the list, and the 'New Folder' dialog box will appear
3. Enter a name for your new folder (e.g. *Interviews*), and a description if required
4. Click 'OK' and then 'Close' for the information given under Files
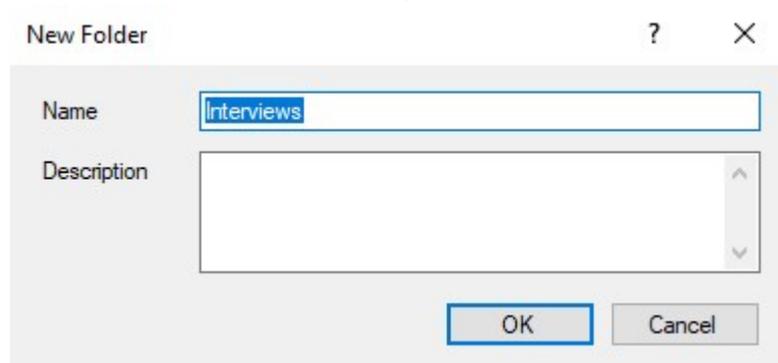


(Alternatively, you can create a new folder by clicking on the *Files* folder, or another parent folder of choice, selecting the 'Create' tab on the ribbon at the top of the screen, and then selecting 'Folder'.)

Repeat this process to create folders titled *Literature*, *Surveys*, *Web Content*, *Email Content*, and *Pictures*, plus a sub-folder of *Literature* called *EndNote*, so that the folders for your project files are as follows:



You can now import files directly into the folders you have created, as explained in the next sections.

**Importing materials saved on your computer**

The simplest materials to import into your project are Microsoft Word, text, PDF, audio, video and/or picture files saved on your computer. To import files of these types, do the following:

1. Select the folder you wish to import the files into (e.g. *Literature*), so that the folder opens in the List View (close the information about Files)
2. Right click in the blank area in the List View
3. Select 'Import Items…'
4. Locate the file/s you wish to import (e.g. *Analyzing Estuarine Shoreline Change*), then import either by:

a. selecting the individual file and clicking 'Open' (as in this case); or
b. selecting multiple documents and clicking 'Open'

5. Click 'Import'
6. When importing an individual file, a 'Properties' box will appear giving you the opportunity to rename the item and to provide a description and colour if desired (note you can still do this for items imported as part of a group by right clicking on the relevant item in the List View, then selecting 'Document Properties…' or 'Video Properties…', etc. as applicable)

(Alternatively, you can import an item into a folder by clicking on the appropriate folder, selecting the 'Import' tab on the ribbon at the top of the screen, and then selecting the 'Files' option.)

Once you have done this, repeat the process for the *Interviews* folder, this time importing the *Margaret* and *Maria and Daniel* files together.

**Importing surveys**

You can create data sets in your project by importing Microsoft Excel spreadsheets, text files with comma or tab separated values and/or results from SurveyMonkey or Qualtrics. When you you do this, note that not only is the survey data set created in the relevant folder (in *Files* in the 'Data' group), but 'codes' are created for the responses to each open-ended question (in *Codes* in the 'Coding' group), and 'cases' and 'case classifications' are created for each survey respondent (in *Cases* and *Case Classifications* respectively in the 'Cases' group). Codes are covered in the Codes & coding section of this module, while cases and case classifications are covered in the Classifications section.

In the meantime, to import an Excel file do the following:
1. Select the folder you wish to import the data set into (e.g. *Surveys*)
2. Right click in the blank area in the List View
3. Select 'Import Survey', and choose where you wish to import from (e.g. 'From Microsoft Excel File…')
4. Locate the file you wish to import (e.g. *Survey Responses.xlsx*) and click 'Open'
5. Navigate through the Survey Import Wizard. While you can keep the default settings if importing the example survey data, note that the wizard gives you the opportunity to:
   - Specify the number of header rows and the format of any dates in the survey data
   - Specify the name of the folder to store the cases in, and select a survey variable to be a unique ID for these
   - Specify a name for the case classification the cases will be grouped together in
   - Identify open and close-ended questions in the survey, and any you don't wish to import
   - Choose whether to autocode themes and sentiment

(Alternatively, you can import survey data into a folder by clicking on the appropriate folder, selecting the 'Import' tab on the ribbon at the top of the screen, and then selecting the appropriate option in the 'Survey' group, e.g. 'Excel'.)

For more information on preparing a Microsoft Excel spreadsheet for importing and on importing other types of data sets, you may like to view the NVivo User Help - Surveys and datasets online help.

**Importing web content**

You can import web content (e.g. articles, blog posts or social media content) into your project using a free web browser extension called NCapture for Google Chrome, which may well have been included with your NVivo download. To check, open Google Chrome and look for the NCapture icon to the right of the address bar:
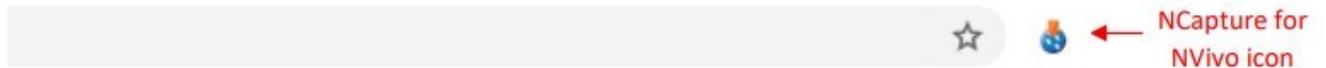


If the icon is not visible try clicking on the 'Extensions' icon (the puzzle piece). If NCapture is listed as an extension, choose to pin it to the toolbar. If it is not listed, you can search for the extension by clicking on the 'Customize and control Google Chrome' icon (the three vertical dots to the right of the address bar), then selecting 'More tools' and 'Extensions'. Search for the 'NCapture' extension and if it is listed, move the switch to the right so that the icon is visible, then pin it to the toolbar.

If you find that NCapture is not installed for Google Chrome, you can download it from the Chrome Web Store.

Alternatively, if you would like more information about NCapture you may like to view the NCapture online help.

Once you have NCapture installed for your chosen web browser, open the browser and locate a web page that you would like to import. For example, in keeping with the sample project you may like to import the web article North Carolina's Fishing Industry Catches Up to a Changing World.

You can import this or another item of web content into NVivo using NCapture by clicking on the NCapture for NVivo icon. The NCapture dialog box will then open as follows:

Note that you can choose to save an article either as a PDF of the web page or as a PDF of just the article, the latter of which should remove any additional, unnecessary content (other types of web content will have different source type options). Once you have made your selection, check that you are happy with the source name (amend if not), add a description if desired and click 'Capture' (you can also code to either new or existing codes if wished).

Once you have captured the web content in this way, you can import it in NVivo as follows:
1. Select the folder you wish to import the web content into (e.g. *Web Content*)
2. Right click in the blank area in the List View
3. Select 'Import from', and choose 'Import from NCapture...'
4. Click 'Browse' to locate the web content you just captured (e.g. in your Downloads folder)
5. Select the item(s) you wish to import
6. Click 'Import'

(Alternatively, you can import web content into a folder by clicking on the appropriate folder, selecting the 'Import' tab on the ribbon at the top of the screen, and then selecting the 'NCapture' option.)

## Importing from EndNote

Importing EndNote references into NVivo is a two-step process, which first requires exporting them from EndNote. Instructions for both steps are provided below, and these make use of a sample EndNote library containing references for three journal articles with attached PDFs, three journal articles without attachments, and a book. If you wish to work through the instructions using the sample library you can download it from the following link (alternatively, you can make use of your own EndNote Library):
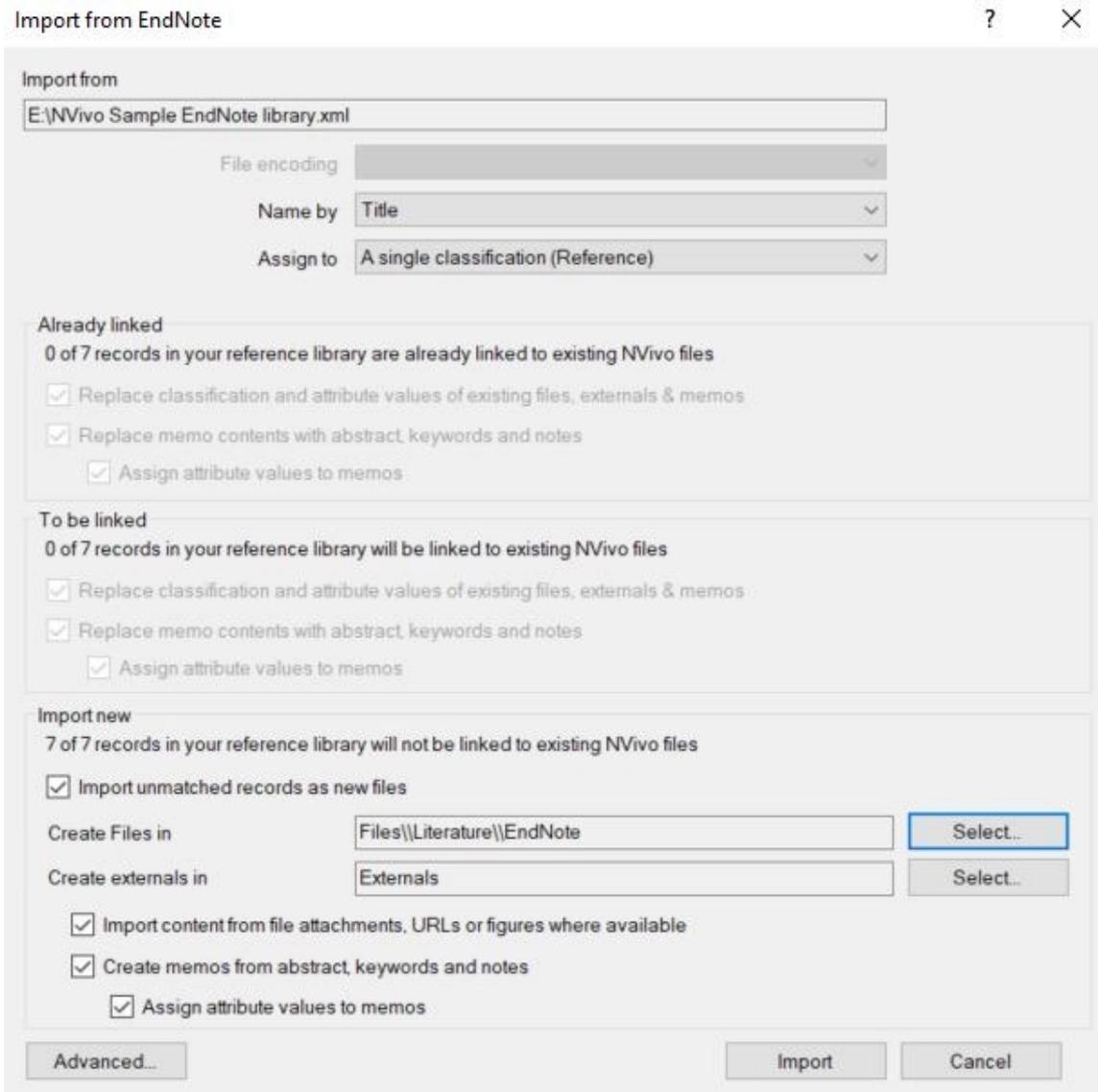
[Sample EndNote library [ENLX, 790kB]](#)

Once you have identified and opened an EndNote library, you can export references from it as follows:
1. Select the references to export into NVivo (for the sample EndNote library provided this will be all seven references; for a large library it can take some time to import into NVivo, so it is recommended that you work with smaller groups of references at a time)
2. Go to File > Export
3. Give an appropriate name for the file (or leave as is) and choose a location that will be easy to find (e.g. your Desktop)
4. Save as a .xml file by using the drop down arrow at 'Save as type:'
5. Click on 'Save'

The second step of the process involves importing the references into an appropriate folder in NVivo, as follows:
1. Select the folder you wish to import the references into (e.g. *EndNote*)
2. Right click in the blank area in the List View
3. Select 'Import from', and choose 'Import from EndNote...'
4. Browse to the .xml file and select 'Open'
5. Choose whether to name the records by 'Title' (the default option) or by 'Author and Year' in the 'Name by' option

6. Choose whether to assign all the records to 'A single classification (Reference)' (the default option; this creates one 'Reference' file classification for all references) or to 'Different classifications based on record type' (which will create different file classifications for each type of reference, e.g. 'Journal Article', 'Book', 'Report', etc.) in the 'Assign to' option

7. Check that the number of records coming into NVivo is correct (the figure below shows 7) and choose the appropriate folder at 'Create Files in' (e.g. Files\Literature\EndNote)

8. Click on 'Import'



Some additional things to note about the import process are as follows:

- NVivo recognizes when records have previously been imported and will not import duplicates.
- Only one file attachment, URL or figure per reference can be imported into NVivo. If a reference contains multiple file attachments then by default the first file attachment is imported. If you want to import a different file, click the 'Advanced…' button (on the import dialog box) and select the file you wish to import for that particular reference using the drop down arrow in the 'Import Content' column.
- Changes you make to your EndNote library or your NVivo project will not automatically make changes in the other.

Furthermore, note that when EndNote references are imported to NVivo the following happens:

- References with attachments (such as word documents, text files and PDFs) will be stored in the specified folder in *Files* (e.g. the references with PDFs in the sample EndNote library have gone into the *EndNote* folder for the example above).
- References without attachments will be stored in the *Externals* folder (e.g. books). By right clicking on an external reference in the List View, choosing 'External Properties…' and selecting the 'External' tab, you can retrieve the reference. The 'General' tab shows the abstract. You can also select the 'Attribute Values' tab to view the reference information (also available as per below).
- Referencing information will be stored in the *File Classifications* folder, either in one 'Reference' clasification or in different file classifications, depending on what was selected in step 6 above. These can be seen in the List view when *File Classifications* is selected in the Navigation View, and new attributes can be added to a reference type as required (see the Classifications section of this module for details).
- Abstracts, keywords and notes for applicable references will be stored in memos. To view these, click on the 'Notes' group in the Navigation view then on *Memos*, and double click on any item you wish to open. Alternatively, open the folder containing the PDF or reference in the List View, then right click and choose 'Memo Link' and 'Open Linked Memo' (if there is one). You can also add additional notes of your own to these memos; for details on this see the Memos section of this module.

## Importing from Microsoft Outlook

If you use the desktop version of Outlook (as opposed to Office 365 on the web) you can import emails into NVivo quickly and easily, either by dragging the email into the appropriate folder in the List View in NVivo or by saving it as a .msg file in Outlook and then importing it. Either way it will be imported as a PDF, and any associated email attachments will also be imported and saved in a folder called *Email Attachments* (except for Excel files, which need to be saved first and then imported, and any unsupported file types). This new folder will be a sub-folder of the folder where you imported the email, however you can then move the attachment(s) to another folder (and delete unnecessary folders) if preferred.

Importing emails in this way will also create a 'file classification' for the email and 'cases' and 'case classifications' for the sender and the recipients (note that classifications are covered in the Classifications section of this module), as well as 'relationships' between the sender and the recipients (in *Recipients* in the 'Coding' group). For more information on how to import emails in this way, the results of the process and how to work with them, you may like to view the NVivo User Help - Email online help.

Alternatively, you can import email attachments without the associated email as follows:
1. Select the folder you wish to import the attachment into in NVivo (e.g. *Email Content*)
2. Open the email with the attachment(s) that you wish to import
3. Drag the attachment(s) into the List View of the appropriate folder

## Opening and editing project materials

To open project materials once you have imported them, open the appropriate folder in the Navigation View (if required) then double click on the file in the List View. It will then open in the

Details View on the right. Note that you can open multiple files at once if you wish, navigating between them by clicking on the tabs at the top of the Details View.

To edit a document (not a PDF) that is open in the Details View, tick the 'Edit' box. Once you have done this you can make any changes you wish to the editable document. Additionally, you can run a spell check on the document by selecting the 'Spelling' option in 'Edit' tab on the ribbon at the top of the screen.

## Creating a picture file from a PDF

To turn a picture found in one of your PDF files into a file of its own, for example the large Figure 3 on page 821 of the *Analyzing Estuarine Shoreline Change* PDF, do the following:

1. Right click anywhere in the document and choose 'Selection Mode', then change it to 'Region'
2. Click on the appropriate picture in the PDF file so that it is selected (surrounded by a dotted line)
3. Right click and select 'Copy'
4. Select the folder where you want to place the new picture file from the list of folders in the Navigation View (e.g. Pictures)
5. Right click in the blank area in the List View for that folder
6. Select 'Paste'
7. Enter a name for the picture, and a description if you wish, and click 'OK'

To comment on a particular area of a picture, simply select it, right click and choose 'Insert Row'. The coordinates of the selected region will then automatically be entered in the 'Region' column, and you can type any comments in the 'Content' column. When the number(s) assigned to a particular row(s) is selected at a later date, that region of the picture will be highlighted.

## Transcribing

There are a few different options for working with audio or video files in NVivo, one of which is to simply listen to and code from the audio or video timeline rather than creating a transcript. However generally it is easiest to work with a transcript, in which case you can choose to either create the transcript yourself in NVivo, have the audio or video file transcribed with NVivo Transcription (a paid service), or have the audio or video file transcribed using other software (free or paid). This section provides some information on these options.

## Transcribing in NVivo

To transcribe an audio or video file yourself in NVivo, first open it in the Details View (for example open the *Helen* file if you have imported this previously) then tick the 'Edit' box. When you do this, you will notice that a new row appears underneath the waveform image of the audio file. The default is for the transcript to only have two columns of information, 'Timespan' and 'Content', but if you wish to add more (for example a 'Notes' column) go to: File > Project Properties (under the 'Project Information' heading). Then in the 'Project Properties' dialog box that opens:

1. Select the 'Audio/Video' tab
2. Select as appropriate either the 'Audio' or 'Video' tab under the 'Custom Transcript Fields' heading
3. Select the 'New' button (note you can also remove a column you have created by selecting it and pressing the 'Remove' button)
4. Type in the name of your new column (e.g. 'Notes')

5. Select 'Apply' to apply the change while keeping the dialog box open, or 'OK' to apply the change and close the dialog box

Once you are happy with the columns for your transcript there are two ways you can transcribe the file. The first, default, option is using the 'Normal' Play Mode. Transcribing in this way requires you to enter the timespans for your transcript manually, and you can begin a new row whenever you like (typically when there is a change of speaker). The second option is using the 'Transcribe' Play Mode. Transcribing in this way means the timespans will be entered for you automatically, with timespans beginning and ending when you press play and stop respectively (note that pausing means you continue with the current timespan). You can switch between 'Normal' and 'Transcribe' modes by selecting the icons in the 'Edit' tab as shown below.

Whichever way you transcribe, note that you can alter the speed of the audio or video file by selecting the 'Play Speed' icon also found in the 'Edit' tab.



## Transcribing with NVivo Transcription
NVivo Transcription is a paid service that you can either pay for as you go, or purchase a subscription for. More information on this service is available at the [Lumivero website](#).

## Transcribing with other software
There are plenty of transcription services available external to NVivo, and if you use one of these you can upload the finished transcript of your audio or video file to your project (there is no problem with having both the audio or video file and the transcript as two separate items in your project). One example of transcription software that provides a limited amount of free transcription is [Otter.ai](#).

Alternatively, you can create a free transcript using the online version of Microsoft Word available in your Office 365 account (if you are not familiar with this, note you can access it as a Curtin student or staff member by logging into your Curtin email and selecting the 'Word' app from the menu on the left). To create a transcript in this way:
1. Create a new blank document
2. Click on the drop-down next to 'Dictate' and change it to 'Transcribe'
3. Select 'Upload audio'
4. Choose an audio file
5. Click 'Add to document'
6. Save the transcript

## Codes & coding
One of the most helpful features of NVivo is that it enables you to readily store related content from different project materials together in the same place, allowing you to more easily synthesise and discover patterns in the data. The process of doing this is called **coding**, and the related material is

stored together in **codes**. The codes you create and the coding method you use will likely vary from project to project, and according to the purpose of your analysis and your personal preference, however generally you will create codes for particular topics, themes or concepts. Depending on the coding structure you use you may find that you will then code the same material to more than one code, and this can in fact be very helpful when it comes to identifying patterns in your data.

If you are unsure where to start when coding, the NVivo sample projects are a good place to get ideas and inspiration. For example, the *Environmental Change Down East* sample project contains a range of different codes in the *Codes* folder of the 'Coding' group, from codes for themes present in the project (e.g. *Economy*, *Infrastructure*, *Natural environment* and related sub-codes), to codes for different attitudes (*Mixed*, *Negative*, *Neutral* and *Positive*) and a *Memorable quotes* code. Note that some of the content in the sample project has been coded to more than one place, and that this can be used to identify patterns in people's attitudes towards different topics, for example (details on using queries to do this are provided in the Searching section of this module).

This section looks at how you can create, manage and code material to codes in NVivo. In order to follow some of the examples, you can either use the project you created in the Setting up a project section, or make use of the *Environmental Change Down East* sample project (as detailed in NVivo sample projects).

## Creating codes and coding material

There are a few different ways you can create new codes, depending on whether you set up all your codes first and then code, or whether you create new codes as you code (you will likely find that you do a combination of both).

### Before you begin

To create a code before you begin coding, for example a *Development* code, do the following:

1. Click *Codes* in the Navigation View (in the 'Coding' group)
2. Right click in the white space in the List View and select 'New Code…'
3. Type in the name of the code (e.g. *Development*), and add a Description and Nickname if you wish. You can also use colour for the code, for example to identify different members of the team.
4. Click 'OK'

(Alternatively, you can do this by selecting the 'Create' tab on the ribbon at the top of the screen, and then selecting the 'Code' option under it).

### While coding

As an example of creating a code while coding, open the *Maria and Daniel* interview file (in the *Interviews* sub-folder of *Files*) and scroll down to the 'Q.4. Community and environmental change' heading, then continue scrolling to Elizabeth's second question (on fisheries) and Daniel's response. To code this response to a new code, for example a *Fishing Industry* code, do the following:

1. Highlight the text
2. Right click and select 'Code Selection'
3. Click in the box under 'Create New:'
4. This will create a 'New Code' button towards the bottom of the dialog box

5. Type in the name of the new code (e.g. *Fishing Industry*)
6. Click on 'Code Selection to 'New Code''

You can then check that the text you selected has been coded to the new code by clicking on *Codes* in the Navigation View (in the 'Coding' group) and double clicking on the *Fishing Industry* code.

### Existing codes

It is also possible to use the method above to code material to existing codes. Alternatively, another way of doing this is by dragging and dropping the text to the required code. For example, you can code text from the *Maria and Daniel* file to the *Development* code by doing the following:

1. Open the file (e.g. the *Maria and Daniel* file)
2. Highlight the part of the text you wish to code (e.g. a portion relating to development)
3. Click *Codes* in the Navigation View (in the 'Coding' group)
4. Hold down the left mouse button and drag the highlighted text to the code you wish to code to (e.g. the *Development* code)

Once you have done this, repeat the process for the *Margaret* file (also in the Interviews sub-folder of Files).

Note that you can also code material from existing codes (as opposed to material from files) to new or existing codes using the methods described above; this is known as 'coding on'.

### Exploring codes

You can view all the material you have coded to codes by opening the various codes in the Details View. For example, if you open the *Development* code you will notice that there are three tabs on the right hand side, which are as follows:

- **Reference** tab: this shows the content that has been coded from each file. It is the default display tab.
- **Summary** tab: this summarises the files that have been coded to the code.
- **Text** tab: this displays content that has been coded to the code from each text file individually.

Note that if there were any other types of files besides text coded to the code, such as picture files, then the content for each such file would be displayed in an appropriate tab (e.g. a **Picture** tab).

### Uncoding material

The easiest way to uncode (remove) material you have previously coded to a code is to highlight the text you wish to uncode (either in the file or in the code), then right click and select one of the following from the dialog box that appears:

- 'Uncode…', to select the code(s) you wish to uncode from.
- 'Uncode from Recent Codes', to select the code(s) you wish to uncode from using the list of recent codes displayed.
- 'Uncode from This Code' (if you are in the code), to uncode from the code you are in.

Alternatively, if you simply wish to make a change to material that has been coded, such as a correction to spelling, make the change in the file itself. The change will then be made automatically in all the codes where the material appears.

**Coding stripes and highlighting**

Coding stripes and highlighting allow you to see how much of a file has been coded (and where it has been coded to, in the case of coding stripes).

Coding stripes are coloured stripes that you can choose to display in the Details View of a file (or a code if you have coded on). To display coding stripes, for example for the *Maria and Daniel* file, do the following:

- Open the file (or code) in the Details View
- In the 'Document' tab that appears, select the 'Coding Stripes' option (if it's a PDF file there will be a 'PDF' tab)
- Select the type of coding stripes you would like, for example 'Recently Coded'
- If you have colour coded your codes, you can display these by clicking on 'Coding Stripes' and then on 'Item Colors'

For this particular example, you should observe that the coding stripes show which sections of the *Maria and Daniel* file have been coded to the *Development*, *Fishing Industry* and other recently used codes. You can also see how often each part of the document has been coded, by looking at the 'Coding Density' stripe (a darker colour indicates that section of the document has been coded more).

Highlighting works in a similar way, in that it allows you to see how much of a file (or code) has been coded (although not where it has been coded to). To highlight a file or code simply select the 'Highlight' option on the ribbon (next to 'Coding Stripes'), and choose whether you would like to highlight all coding or selected items only.

**Sub-codes and moving codes**

If you decide at any time that you want to make changes to your codes, for example moving, merging and/or renaming them, you can do so with relative ease (although if you want to make a lot of changes it might be worth saving a copy of your original project first just in case). The procedures for making these changes are described in this and the following sections.

To create sub-codes of parent codes, simply right hand click on the parent code in the List View and select 'New Code...'. Alternatively, if you want to rearrange your codes and make an existing code a sub-code of another existing code you can do that too. As an example, create a new code *Zoning*. To then move this code to sit as a sub-code under the *Development* code, do the following:

1. Right click on the code you want to make the sub-code (e.g. *Zoning*)
2. Select 'Cut'
3. Right click on the code you want to make the parent code (e.g. *Development*)
4. Select 'Paste'

The Zoning code then becomes a sub-code of the *Development* code:

**Merging codes**

Eventually you might also want to merge two or more codes (with similar themes) that you originally created as separate codes.

As an example, create a new code *Sustainable Fishing*, then open the *Margaret* file and code the portion of text pertaining to sustainable fishing (as part of Margaret's response to Nancy's third question on the future of the fishing industry under the 'Q.2. Connection to Down East natural environment' heading) to it.

To then merge this code with the *Fishing Industry* code, do the following:

1.  Right click on the code you wish to merge (e.g. the *Sustainable Fishing* code)
2.  Select 'Cut'
3.  Right click on the code you wish to merge into (e.g. the *Fishing Industry* code)
4.  Select 'Merge into Selected Code…'
5.  Click 'OK'

The *Sustainable Fishing* code is then merged with the *Fishing Industry* code, which should now have two references coded to it (the original *Fishing Industry* reference along with the *Sustainable Fishing* reference just coded).

**Renaming codes**

To rename a code, for example the *Fishing Industry* code to simply *Fishing*, do the following:

1. Right click on the code you wish to rename (e.g. the *Fishing Industry* code)
2. Select 'Code Properties…'
3. Enter a new name for the code (e.g. *Fishing*)
4. Click 'OK'

Alternatively, you can click once on the code to select it, then click again to make the name editable.

## Classifications

Classifications enable you to store values for key attributes of the cases and files in your project, for the purpose of making comparisons and/or filtering searches according to particular attributes (examples of both are provided in the Searching section of this module). While they are not essential, they can be a helpful addition to your project and many are in fact created automatically.

This section explains the two different types of classifications, case classifications and file classifications, and details when they are created and how you can create your own. In order to follow some of the examples, you can either use the project you created in the Setting up a project section, or make use of the *Environmental Change Down East* sample project (as detailed in NVivo sample projects).

## Case classifications

Case classifications enable you to store demographic information about cases (e.g. people or places) in your project. You can add case classifications to your project in a number of ways, including by importing emails or survey data or importing from SPSS; by using one of NVivo's pre-defined classifications; or by creating your own classification.

### Creating a case classification by importing

Case classifications are automatically created when emails and survey data are imported into an NVivo project, and when you import from SPSS.

When you import an email into NVivo, the 'Person' case classification is created and the attributes are populated for the sender and recipient(s) using information available from the email (for example the name and email address). This pre-defined case classification is described in the next section.

When you import survey data into NVivo, the Survey Import Wizard creates a new classification with attributes created and populated using the closed-ended questions in the survey (the default name for the classification is 'Survey Respondent', but this can be changed). You can see how survey questions correspond with the classification attributes by opening a data set in the Details View in NVivo (e.g. the *Survey Responses* file in the *Surveys* folder, or another data set you have imported), then selecting the *Case Classifications* folder in the Navigation View (in the 'Cases' group) and clicking on the plus sign next to the classification (e.g. 'Survey Respondent') to view the attributes. You should see that these match up with the closed-ended questions (i.e. those in the grey columns) in the survey file (with the exception of the ID column).

You can also import case classifications from SPSS, by right clicking on the *Case Classifications* folder in the Navigation View or by opening the *Case Classifications* folder in the List View and right clicking in the white space. Either way, by selecting 'Import from SPSS…' you can choose an SPSS file and use it to create a new classification, or import it to an existing classification. Doing this will result in the variables in the SPSS file becoming the attributes of the new classification (or being added to the attributes of the existing classification), the cases (or rows of data) in the SPSS file becoming cases in NVivo, and the data in each row of the SPSS file becoming the attribute values for each case.

**Using a pre-defined case classification**
NVivo has two pre-defined case classifications; one for a person (with *Name*, *Sex*, *Age Group*, *Occupation*, *Country of Birth* and *Email address* attributes) and one for an organisation (with *Name*, *Sector*, *Size* and *Industry attributes*). To create a new 'Person' classification, for example, do the following:
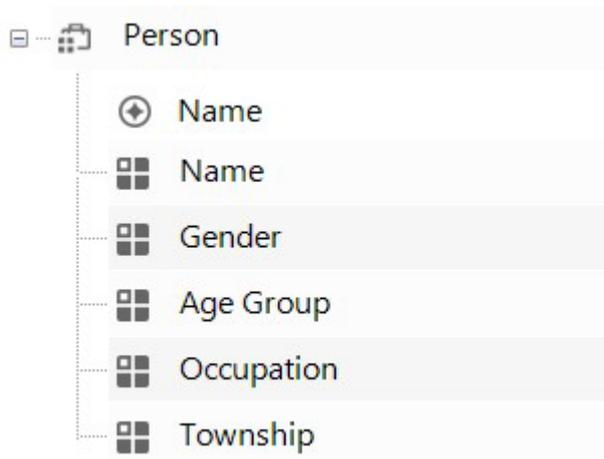
1. Click on the *Case Classifications* folder in the Navigation View (in the 'Cases' group), if it is not already open
2. Right click in the blank area in the List View
3. Select 'New Classification'
4. Select 'Add one or more predefined classifications to the project', and choose 'Person'
5. Click 'OK'

You will see that a new 'Person' case classification has been created, with the attributes as listed above (click on the plus sign to view them).

Note that even though the 'Person' case classification is pre-defined, you can always rename it or edit, delete or add new attributes to it as the need arises. For example, you could delete the *Country of Birth* and *Email address* attributes, change the *Sex* attribute to *Gender*, and add a new *Township* attribute as follows:

1. Click on the *Case Classifications* folder in the Navigation View (in the 'Cases' group), if it is not already open
2. Click on the plus sign next to the 'Person' case classification to display the attributes
3. Select both *Country of Birth* and *Email address*, right click and choose 'Delete'
4. Double click on *Sex*, change the name to *Gender* and select 'OK'
5. Right click on 'Person', choose 'New Attribute', enter the name *Township* and select 'OK'

The attributes should now be as follows:

Next, to create a case from an existing file (e.g. the *Margaret* file) and assign it to this case classification, do the following:

1.  Right click on the file you want to create the case and case classification for in the List View (e.g. *Margaret*, in the *Interviews* folder)
2.  Scroll down to 'Classification'
3.  Select 'Person' (under 'Create as Case and Assign to Case Classification'; note that if you hadn't already created the 'Person' case classification you could do this now as well, by selecting the 'New Case Classification' option instead)
4.  Use the 'General' tab to rename the case and provide a description, nickname and colour if desired
5.  Use the 'Attribute Values' tab to enter values for the attributes (e.g. enter the *Name* 'Margaret', the *Gender* 'Female', the *Age Group* '50 - 59', the *Occupation* 'Museum educator' and the *Township* 'Davis')
6.  Select 'OK', then open the *Case Classifications* folder in the List View and double click on the 'Person' classification to view the new classification in the Details View
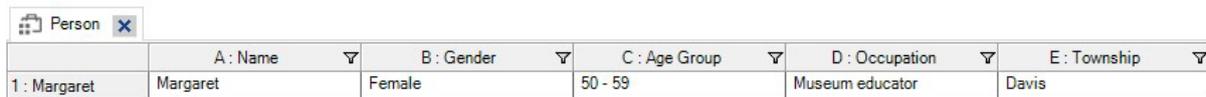
| | A : Name | B : Gender | C : Age Group | D : Occupation | E : Township |
|---|---|---|---|---|---|
| 1 : Margaret | Margaret | Female | 50 - 59 | Museum educator | Davis |

(Alternatively, you could have done things the other way around and created the case first by right clicking on the *Margaret* file and choosing 'Create As' and 'Create as Cases'. Again you are given the option of assigning it to the 'Person' classification at the same time as well, or you can do so at any time later by right clicking on the *Margaret* case, selecting 'Classification' and 'Person'. You can also create a case from scratch and then assign it to the classification, as described in the next section.)

Finally, to remove a case from a particular case classification, click on the name of the classification in the Navigation View (e.g. the 'Person' case classification in the Case Classifications folder), then right click on the particular case you wish to remove in the List View (e.g. *Margaret*), and select 'Classification' and 'No Classification'. You can also delete case classifications at any time by opening the *Case Classifications* folder in the List View, right clicking on the appropriate case classification (e.g. 'Person') and selecting 'Delete', and you can delete cases in the same way (e.g. you could delete the *Margaret* case in the *Cases* folder).

**Creating your own case classification**

Alternatively, you may wish to create your own classification from scratch. To create a 'Place' case classification, for example, do the following:

1.  Open the *Case Classifications* folder in the List View, and right click in the blank area
2.  Select 'New Classification'
3.  Enter a name for the new classification (e.g. 'Place')
4.  Select 'OK'
5.  You can then add attributes to the new case classification as described above, i.e. by right clicking on 'Place' in the List View of the *Case Classifications* folder, then selecting 'New Attribute' (e.g. add *Name*, *Population Size* and *State* attributes, ensuring you change the 'Type' to 'Integer' for *Population Size*)

You can create a case from an existing file and assign it to this classification using the method described previously, or you can create a case from scratch. To create one from scratch, right click on the *Cases* folder in the Navigation View (or in the blank area in the *Cases* folder in the List View)

and select 'New Case'. Enter a name for the case (e.g. *Davis*) and a nickname and colour, if desired, in the 'General' tab. To then assign the case to the new case classification 'Place', select the 'Attribute Values' tab and select 'Place' as the case classification. Finally, enter values for the attributes in the table that will appear below (e.g. enter the *Name* 'Davis', the *Population Size* '422' and the *State* 'North Carolina').

Note that to add data to the *Davis* case, you can code to it as you would to a code (as described in the Codes & coding section of this module). Doing this will allow you to analyse the data stored in the case using the attributes of the case classification.

## File classifications

File classifications are very similar to case classifications, only they are used to store descriptive information about files in your project. You can add file classifications to your project in a number of ways, including by importing emails or importing from EndNote or SPSS; by using one of NVivo's pre-defined classifications; or by creating your own.

### Creating a file classification by importing

File classifications are automatically created when emails are imported into an NVivo project, and when you import from EndNote and SPSS.

When you import an email into NVivo, the pre-defined 'Email Message' file classification is created and the attributes are populated using information available from the email (for example the subject, who it is from and to and the date sent and date received).

When you import from EndNote into NVivo, there is the option to assign to the 'Reference' file classification or to assign to different classifications based on the reference type ('Journal Article, 'Book', 'Report', etc.). All of these are pre-defined file classifications in NVivo, and all will be populated with the relevant reference information. To see the file classifications that have been created for references, either in the sample project or in the project you have created in this module, click on the *File Classifications* folder in the Navigation View (in the 'Data' group). You should see at least one file classification; either 'Reference' (if in the sample project, or if in your own project and you chose to assign all records to a single classification when importing) or 'Journal Article' and 'Book' (if in your own project and you chose to assign records to different classifications based on type). To see the attributes of any of these (or other) classifications, click on the plus sign next to the relevant classification (as with case classifications, to create a new attribute for a classification right click on it and select 'New Attribute…'). To see the files that have been classified as a particular file classification, double click on it so that the classification sheet opens in the Details View.

Importing file classifications from SPSS is done in the same way as for case classifications (as described in the Case classifications section), only using the *File Classifications* rather than *Case Classifications* folder. Doing this will result in the variables in the SPSS file becoming the attributes of the new classification (or being added to the attributes of the existing classification), the cases (or rows of data) in the SPSS file becoming 'External' files in NVivo, and the data in each row of the SPSS file becoming the attribute values for each 'External' file.

### Using a pre-defined file classification

NVivo has many different pre-defined file classifications; from 'Ancient Text' and 'Artwork' to 'Web Page' and 'YouTube', and everything in between. To create a new pre-defined file classification, right click on *File Classifications* in the Navigation View, or in the white space in the *File Classifications* folder in the List View, and select 'New Classification'. Next choose to 'Add one or more predefined classifications to the project' and choose one from the list; experiment by choosing 'Reference' for example. You can view the attributes of this new file classification by clicking on the plus sign next to the 'Reference' file classification in the *File Classifications* folder in the List View, and can always rename, edit, delete or add these in the same way as for a case classification. Finally, to assign any of the files in your project to this new classification, right click on it in the List View and choose 'Classification' and 'Reference'.

**Creating your own file classification**
You can also create your own file classification from scratch, again by right clicking on *File Classifications* in the Navigation View, or in the white space in the *File Classifications* folder in the List View, and selecting 'New Classification'. Give a name to the new classification and a description if wished (e.g. try the name 'Book2'), and select 'OK'. You can then add attributes to the new file classification by right clicking on 'Book2' in the List View of the *File Classifications* folder, and selecting 'New Attribute'.

**Searching**
You can use **queries** in NVivo to search your project materials in a range of different ways and for a variety of purposes, from searching for specific words or phrases or for frequently occuring words in order to inform your coding, to searching material that has been coded to combinations of codes or to codes for particular classification attributes in order to uncover patterns in the data.

This section looks at some examples of different queries, including ones utilising file and case classifications (as detailed in the Classifications section of this module). In order to follow some of the examples, you should make use of the *Environmental Change Down East* sample project (as detailed in NVivo sample projects).
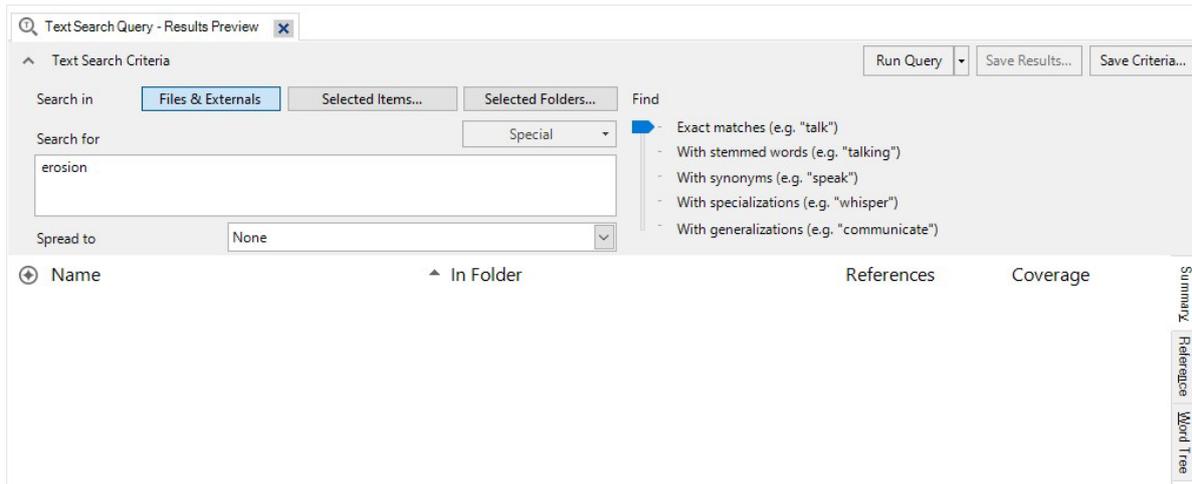
**Text search queries**
A text search query is used to search project items and folders (for example all files, files in a specific folder, material coded to codes, etc.) for specific words and phrases.
To run a simple text search query, for example to search for the word 'erosion', do the following:
1. Select *Query Criteria* in the Navigation View (in the 'Queries' group), then right click in the white space in the List View and select 'New Query' and 'Text Search' (alternatively, select the 'Explore' tab on the ribbon at the top of the screen, then select the 'Text Search' option under it)
2. Choose where you would like to search; the default is 'Files & Externals', but if you would like to search specific items or folders then click on the appropriate button and make your selections in the dialog box that appears
3. Enter the text to search for in the 'Search for' box (e.g. 'erosion'); you can enter multiple words and/or can use special characters and operators to assist with your search using the 'Special' button if required
4. You can alter the 'Spread to' from the default 'None' to a different context if you would prefer to see more, or less, of the context of the word(s) in the resulting query
5. Choose how precise you wish to be with words in your search using the 'Find' slider on the right (e.g. choose to search for Exact matches, With stemmed words, With synonyms, etc.)

6. Select 'Run Query'



The results of the text search query will then be displayed underneath in a series of tabs:

- The **Summary** tab is the default display tab, showing all files that contain the search word(s), and the number of occurrences.
- The **Reference** tab displays a snippet of the context of each instance of the search word, sorted by file (note that to change the context to view more, or less, you can highlight and then RHC on the selected instance(s), then select 'Coding Context' and change it; alternatively, you can always run the query again with a different 'Spread to' option if preferred, and/or you can click on the file location link to see the results highlighted in the original document).
- File-specific tabs (e.g. **PDF**, **Dataset**) do the same, but each file is displayed on a separate page.
- The **Word Tree** tab displays the results of the search in a word tree, with the search term in the middle and the preceding and subsequent text on either side (listed alphabetically). Double clicking on any part of a sentence will open it in the file where it appears. The word tree can be exported, printed or copied by right clicking on it and selecting the required option from the menu.

If you want to keep a copy of your text search query, you can choose to either save the results as a new code (or merged with an existing code) or to save the query criteria (for future use), by selecting the 'Save Results…' or 'Save Criteria…' buttons respectively. For example, to save the query criteria of your most recent search do the following:

1. Select 'Save Criteria…'
2. Give a name to the new query criteria (e.g. *Erosion*), and a description if required
3. Click 'OK'

You can also filter a text search query according to a particular file classification type or types, or according to a particular attribute of a file classification. For example, to run the previous query again but this time only for items classified as a 'Reference' with the *Year* attribute set to 2010, open the saved *Erosion* query criteria (located in the List View of *Query Criteria*) and do the following:

1. For the 'Search in' option, this time choose 'Selected Items…'
2. Select the 'Filter' button (bottom left hand corner)
3. Tick 'Classified items where' (bottom option)
4. Click 'Select…', choose the file classification and then attribute that you want to filter your search by (i.e. 'Reference' and *Year*), then select 'OK'

5. Choose the filter criteria- i.e. 'equals value', 'does not equal value', '> value', etc. (choose 'equals value')
6. Choose the value of the attribute you want to filter your search by (i.e. '2010')
7. Select 'Find Now'
8. When you look through the project items in the 'Select Project Items' dialog box now (by clicking on the names of folders in the list on the left hand side, clicking on the '+' signs to open sub-folders as required), everything except items that adhere to the filter will be greyed out. So you can either select the applicable non-greyed out item(s), or (easier) just tick the 'Files' box and all the non-greyed out files will be automatically ticked (do this now).
9. Select 'OK'
10. Adjust the other search options as required (as detailed previously)
11. Select 'Run Query'

The search results will only include occurrences of the word 'erosion' in files of the type 'Reference' from the 'Year' 2010. You can then save these results as a code (if wished) as follows:
1. Select 'Save Results…'
2. Choose whether to 'Create Results as New Code or Case' or 'Merge Results into Existing Code or Case'
3. Choose a Location; the default is to store the results code in the *Query Results* folder, but you can choose to store it in the *Codes* or *Cases* folder, or a sub-folder of these, instead (keep *Query Results* as the location for this example)
4. Give a name to the new code (e.g. *Erosion 2010*), and a description if required
5. Click 'OK'

**Word frequency queries**

A word frequency query is used to determine the most frequently occurring words in various project items and folders, and to display them in different ways.

To run a word frequency query for project materials in the *Interviews* folder, for example, do the following:
1. Select *Query Criteria* in the Navigation View (in the 'Queries' group), then right click in the white space in the List View and select 'New Query' and 'Word Frequency' (alternatively, select the 'Explore' tab on the ribbon at the top of the screen, then select the 'Word Frequency' option under it)
2. Choose where you would like to search; the default is 'Files & Externals', but if you would like to search specific items or folders then click on the appropriate button and make your selections in the dialog box that appears (e.g. to run the query for the *Interviews* files only, click on the 'Selected Folders…' button and tick the *Interviews* sub-folder in the *Files* folder, then click 'OK'). Note you can also filter the query as detailed for text search queries.
3. Enter the number of words you would like displayed (e.g. 20), and the minimum length (keep as 3)
4. Choose how precise you wish to be with words in your search using the 'Grouping' slider on the right choose to search for Exact matches, With stemmed words, With synonyms, etc.)
5. Select 'Run Query'
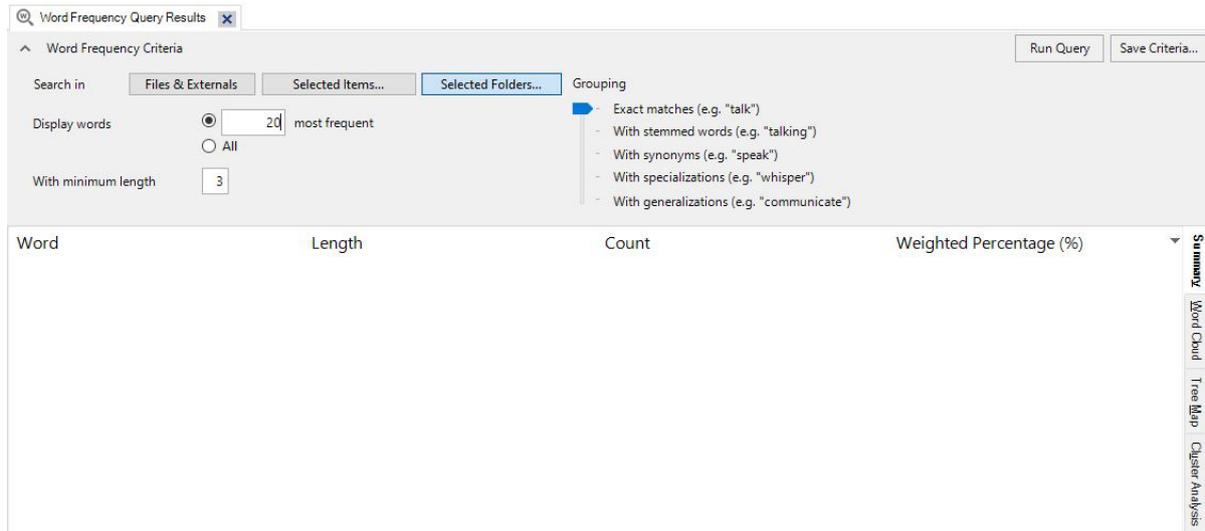
The results of the word frequency query will then be displayed underneath in a series of tabs, two of which are as follows:

- The **Summary** tab (the default display tab): this shows the most frequently used words and the number of occurrences.
- The **Word Cloud** tab: this displays the most frequently occurring words in a word cloud. You can change the look of the word cloud using the menu at the top of the screen, and can export, print or copy it by right clicking on it and selecting the required option from the menu.

Note that you can remove a particular word from the search results, and therefore also from the word cloud, by selecting it in the Summary tab and then either right clicking and selecting 'Add to Stop Words List', or choosing this from the menu at the top of the screen. Either way, press 'OK' and then run the query again to the view the updated results.

If you want to keep a copy of your word frequency query you can choose to save the results in the *Queries Results* folder (in the 'Queries' group) by selecting the 'Save Criteria…' button and naming the query as appropriate.
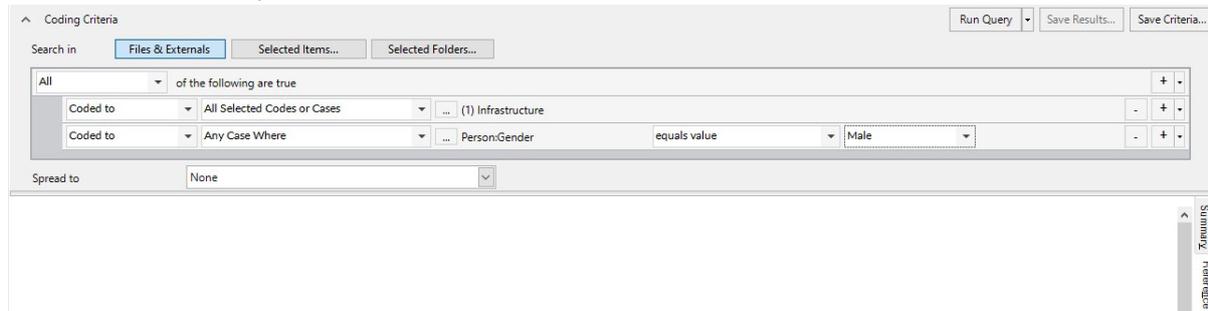
## Coding queries

Coding queries allow you to search content that has been coded, either to code(s) or case(s), according to specific combinations of codes, cases or attribute values. For example, if you are interested in knowing what males think about infrastructure in the sample project you would do the following:

1. Select *Query Criteria* in the Navigation View (in the 'Queries' group), then right click in the white space in the List View and select 'New Query' and 'Coding' (alternatively, select the 'Explore' tab on the ribbon at the top of the screen, then select the 'Queries' drop down menu and choose 'Coding')
2. Choose where you would like to search; the default is 'Files & Externals', but if you would like to search specific items or folders then click on the appropriate button and make your selections in the dialog box that appears. Note you can also filter the query as detailed for text search queries.
3. Choose either 'All' or 'Any' for 'of the following are true', depending on if you want to search for material that meets ALL the conditions you are about to specify, or just ANY (e.g. to search for

material that has been coded to the *Infrastructure* code and has 'Male' as the value for the attribute *Gender*, choose 'All')

4.  Next to 'Coded to' 'All Selected Codes or Cases', click on the button with the ellipsis and tick the applicable code(s) (e.g. *Infrastructure*), then click 'OK'
5.  Click on the '+' sign at the end of that row, to add a new condition
6.  This time, change the value in the second box to 'Any Case Where', click on the button with the ellipsis, click on the '+' sign next to the case classification you are interested in (e.g. 'Person') to display the attributes, choose the appropriate attribute (e.g. *Gender*) and click 'OK'
7.  Now choose which values of this attribute you want to use for the condition (e.g. keep the first new box as 'equals value', and change the second new box to 'Male')
8.  Select 'Run Query'



The results of the coding query will then be displayed underneath in a series of tabs, as per a code. If you want to keep a copy of your coding query you can do so by choosing 'Save Results…' or 'Save Criteria…'. In this case it would be appropriate to choose 'Save Results…' and to change the location to be a sub-code of the *Infrastructure* code (by clicking on 'Select…', clicking on the plus sign next to the *Codes* folder, selecting the *Infrastructure* code and pressing 'OK'), so that the new code sits with the existing codes as a sub-code of the *Infrastucture* code.

**Matrix coding queries**

You can use matrix coding queries to make comparisons and look for patterns in your data. For example, you can look at how much and what content has been coded at intersections of different codes, and at how much and what content has been coded for different cases for different codes. For example, you can compare positive and negative attitudes to four different issues in the sample project by finding which content has been coded at the intersection of different codes, as follows:

1.  Select *Query Criteria* in the Navigation View (in the 'Queries' group), then right click in the white space in the List View and select 'New Query' and 'Matrix Coding Query' (alternatively, select the 'Explore' tab on the ribbon at the top of the screen, then select the 'Matrix Coding Query' under it)
2.  Choose where you would like to search; the default is 'Files & Externals', but if you would like to search specific items or folders then click on the appropriate button and make your selections in the dialog box that appears. Note you can also filter the query as detailed for text search queries.
3.  Choose what you would like displayed in the Rows of the matrix by clicking on the '+' sign underneath the 'Rows' box. For example, click on '+' and choose 'Select Items…', then click on 'Codes' to view the list of available codes and tick *Balance*, *Community change*, *Economy* and *Infrastructure* (for example) and click 'OK'. You will then see a list of codes that will display as rows in the matrix; if there are any you decide you don't want after all then select and click the '-' sign.

4. Now click on the '+' sign underneath the 'Columns' box to choose what you would like in the columns; for example choose 'Select Items…' again, then click on 'Codes' to view the list of available codes, click on the plus sign next to the *Attitude* code, tick *Negative* and *Positive* and click 'OK'. Again you will see a list of codes that will display in the matrix, this time in the columns; if there are any you decide you don't want after all then select and click the '-' sign.
5. When you are happy with the selected options choose 'Run Query'.

Once you have your matrix, to view the codings for each intersection (cell in the matrix) you can double click on it. You can also choose to colour code the matrix according to which intersections have the most and least coding by selecting the appropriate cell shading option from the ribbon, and can save the matrix by choosing 'Save Results…' or 'Save Criteria…'

## Crosstab queries

As with a matrix coding query, you can use a crosstab query to make comparisons and look for patterns in your data. While the two queries are very similar, and indeed can both be used in similar ways, a crosstab query is the best choice when you want to compare codes between different values for an attribute of a classification. For example, you can compare how often people from different townships responded to four different issues in the sample project as follows:

1. Select *Query Criteria* in the Navigation View (in the 'Queries' group), then right click in the white space in the List View and select 'New Query' and 'Crosstab' (alternatively, select the 'Explore' tab on the ribbon at the top of the screen, then select the 'Queries' drop down menu and choose 'Crosstab')
2. Choose where you would like to search; the default is 'Files & Externals', but if you would like to search specific items or folders then click on the appropriate button and make your selections in the dialog box that appears. Note you can also filter the query as detailed for text search queries.
3. Keep 'Crosstab codes against' as 'Attributes' (you would change it to 'Cases' if you want to compare for different cases instead of attributes).
4. Click on the '+' sign underneath the 'Codes' box to choose what you would like in the rows of the table; tick *Balance*, *Community change*, *Economy* and *Infrastructure* (for example) and click 'OK'
5. Keep the 'Classification' as 'Person' and 'Attribute1' as *Township*
6. When you are happy with the selected options choose 'Run Query'

Once you have your table, to view the codings for each intersection (cell in the table) you can double click on it. You can also choose to colour code the table according to which intersections have the most and least coding by selecting the appropriate cell shading option from the ribbon, and can save the table by choosing 'Save Results…' or 'Save Criteria…'

## Charts & mind maps

In addition to the word trees and word clouds discussed in the Searching section of this module, NVivo can also be used to create other visualisatsions in the form of charts, maps, and diagrams. This section provides two such examples; creating a chart and creating a mind map. In order to follow some of the examples, you should make use of the *Environmental Change Down East* sample project (as detailed in NVivo sample projects).

## Creating a chart

NVivo allows you to create charts to visualise various aspects of the codes, files and cases in your project. For example, you could create a chart to show how many of each reference type exist in the sample project, using the *Reference Type* attribute of the' Reference' file classification. You can do this as follows:

1.  Go to the 'Explore' tab and choose 'Chart'
2.  Select 'Charts…' from the drop down menu
3.  Select 'Files' and click 'Next'
4.  Choose 'Files by attribute for an attribute' (to just work with one attribute), then choose 'Next' again
5.  Click on 'Select…' to choose the attribute to display on the x-axis (e.g. choose the *Reference Type* attribute of the 'Reference' file classification), then click 'OK'
6.  Change the 'X-axis attribute' to be 'All attribute values except 'Unassigned', 'Not Applicable'' (to not display these values in the graph if preferred)
7.  Select 'Finish' and your graph will display

Note that you can edit your chart once created using the options available in the 'Chart' tab on the ribbon, and you can export, print or copy the chart by right clicking on it and selecting the required option from the menu.

For more information on charts, you may like to view the you may like to view the NVivo User Help - Charts online help.

## Creating maps

You can create different types of maps to visualise ideas and displays connections and links in your NVivo project. In particular, a mind map can be used to display ideas and relationships and can be used to create codes, while a concept map can be used to define and connect concepts and a project map can be used to visualise items and links in a project. This section provides an example of how to create a mind map, but for more on this or on other types of maps you may like to view the NVivo User Help - Maps online help.

### Creating a mind map

A mind map is a brainstorming tool that starts with a central topic or main idea. Ideas that relate to the central topic are represented by an individual shape and connected with a line to the main idea, either at the same level or in a hierarchy. Additionally, an idea that is not connected to any other ideas can be added as a floating idea in the mind map.

To create a new mind map for the sample project, do the following:

1.  Select *Maps* in the Navigation View (in the 'Visualizations' group), then right click in the white space in the List View and select 'New Mind Map…' (alternatively, select the 'Explore' tab on the ribbon at the top of the screen, then select the 'Maps' drop down menu and choose 'Mind Map')
2.  Enter a name for the map (e.g. 'Sample mind map') and a description if wished, then click 'OK'
3.  The new map should open in the Details View and will also be stored in the *Maps* folder (in the 'Visualizations' group). To add items to the map, for example items that relate to the sample project, do the following:
    *   Enter the name of a key concept or topic in the circle displayed in the mind map (e.g. 'Shoreline Changes')
    *   Right click on this circle and select 'Insert Sibling Idea' or 'Insert Child Idea' and add text to the box that appears (e.g. choose 'Insert Child Idea' and add the text 'Development')

- Right click on the latest idea (e.g. 'Development') and select 'Insert Sibling Idea', then add text to the box that appears (e.g. 'Fishing')
- Right click on the latest idea (e.g. 'Fishing') and select 'Insert Child Idea', then add text to the box that appears (e.g. 'Recreational Fishing')
- Right click on the latest idea (e.g. 'Recreational Fishing') and select 'Insert Sibling Idea', then add text to the box that appears (e.g. 'Commercial Fishing') (alternatively, you could right click on 'Fishing' and select 'Insert Child Idea')
- Right click in the white space and select 'Insert Floating Idea', then add text to the box that appears (e.g. 'Community Views')
- To edit any item labels, either rick click on the item and choose 'Edit Label' from the menu, or double click on the item
- To delete any ideas, right click on the item and choose 'Delete' from the menu

Note that you can use the menu items in the 'Mind Map' tab at the top of the screen to change the Fill, Border Colour and Border Width of various components of the mind map if necessary, and also to change the layout (e.g. to be top down).

To export or print your mind map, right click in the mind map area and select the required option from the menu. To create codes for items in the mind map, click on 'Create as Codes or Cases' in the menu and then click 'OK'. The mind map will be converted into the themed code hierarchy under *Codes* in the List View (or under *Cases* if this option is selected).

## Literature reviews

NVivo can be a helpful tool to assist with literature reviews, as it allows you to organise, summarise and search the literature you have found on your particular topic. When conducting a literature review, if you have already used referencing software (e.g. EndNote) to store your references, then you can import them to NVivo using the instructions provided in the Importing from EndNote section of this module (or similar if using different referencing software). Alternatively, if you have not uploaded them to referencing software then you can import them from a saved location on your computer using the instructions provided in the Importing materials saved on your computer section of this module.

Once you have added your literature to an NVivo project, you can create codes as detailed in the Codes & coding section of this module. In particular, you may wish to consider creating some or all of the following codes (don't forget to use sub codes as necessary; for example, you could create *Qualitative research* and *Mixed method research* codes under a code for *Methodology*):

- History
- Definitions
- Empirical studies
- Methodology
- Data collection
- Limitations
- Statistics
- Good quotes
- Gaps or contradictions

You can also search your project materials in various ways, as detailed in the Searching section of this module. In addition, you may also like to make use of some of NVivo's other functionality to make notes on your materials, and to create a working document, as detailed in the following sections. In order to follow some of the examples provided, you can either use the project you created in the Setting up a project section, or make use of the *Environmental Change Down East* sample project (as detailed in NVivo sample projects).

## Annotations

Annotations can be used for a range of purposes, including to highlight a word or phrase that needs further definition, or to clarify or comment on a particular aspect of an argument.

To add an annotation to the *Analyzing Estuarine Shoreline Change* file, for example, open the PDF and highlight the text you wish to annotate. Then either right click and choose 'New Annotation' from the menu that appears, or click on the down arrow for the 'Annotations' icon above the article (the first icon, which looks like a speech bubble) and choose 'Add Annotation'. Either way, you can then type or your annotation.

To show or hide the list of annotations at any time, select or deselect the 'Annotations' check box on the menu at the top of the screen, or click on the down arrow for the 'Annotations' icon above the article and select or deselect 'View Annotations'. If you wish to delete an annotation, make sure the annotations are displayed and then select the item number for the relevant annotation, right click and choose 'Delete'. Note that you can view the list of documents you have annotated by clicking on *Annotations* in the Navigation View (in the 'Notes' group), and can double click on any of these to view the annotation(s).

## Memos

Memos are documents in your project that you can use to paraphrase what you have read, as well as to store your own personal insights, observations, interpretation and notes. Each memo is generally linked to an item in your project, although you can also create memos which are not linked if wished.

If you have imported from referencing software such as EndNote, the default is for a memo to be created for each reference containing the abstract, keywords and notes. You can check if this is the case for a particular reference by right clicking on it, either in the List View at the middle or in the Details View at the right of screen, and choosing 'Memo Link' (or 'Links' and then 'Memo Link') from the menu. If a memo already exists you will have the option to open or delete the memo; if it doesn't, you will have the option to link to a new or existing memo. Either way, you can add your own content to a memo by opening it and selecting the 'Edit' box above it (once you have finished, click the 'Edit' box again to turn the edit mode off). You can also view a list of memos in your project by selecting *Memos* (or a sub-folder of *Memos*, e.g. *Literature* in the sample project) in the Navigation View (in the 'Notes' group), and can double click to open any of these.

You might find that you prefer to code directly from the references in your project, or that you wish to paraphrase and add observations to memos for the items and to code from these instead (or you could do a combination of both).

## Creating a literature review document

Finally, if you would like to keep everything together in your NVivo project then you may like to create a working document for your topic. To create this in a new folder called *Literature Review*, for example, first create this folder as a sub-folder of the existing *Literature* folder. Open this new folder and right click in the List View, then choose 'New File' and 'New Document…'. Name the document and click 'OK', and a blank document will open in the Details View.

The basic Microsoft Word functions for use in your working document will be available in the menu in the 'Edit' tab at the top of the sreen, and you can turn on or turn off the edit mode by clicking on the 'Edit' box as per memos. You can use this document to keep track of your literature search strategies, the databases you use and so on. You can save this document to your computer at a later date if wished by right clicking on it either in the List View or in the Details View, choosing 'Export' and 'Export Document…' (or just 'Export Document…'), browsing to choose where you would like to save it and then selecting 'OK'.