NVivo Basics Workbook

&

Using NVivo and EndNote

For Literature Reviews

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Objectives

Upon completion of this NVivo introductory workshop students will know

- Basic functions and limitations of NVivo software
- How to create, backup and copy an NVivo project
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- How to import text-based files into NVivo
- How to use NCapture for web-based data collection
- How to code text-based files in NVivo
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Introduction

What is NVivo software?

NVivo is a qualitative data analysis (QDA) software package that allows users to import, sort and analyse rich text and plain text documents, audio files, spread sheets, databases, digital photos, documents, PDFs, bibliographical data, web pages and social media data.

Whilst developed initially for qualitative social research the power and possibilities of NVivo has expanded enormously in recent years. NVivo now has the capacity to interchange data with many other software applications for seamless collection of multiple sources of relevant data and information. NVivo can accommodate information from processing applications such as Microsoft Word and Excel, data bases such as IBM SPSS Statistics, bibliographic programs including EndNote, Zotero and RefWorks, web browsers such as Internet Explorer and Google Chrome as well as social media such as Facebook, Twitter, OneNote, EverNote and QSR's own package NCapture.

The NVivo suite of software

NVivo now has 3 primary software packages; 2 levels of NVivo for Windows: Pro and Plus; and NVivo for Mac. Most university licenses will give you access to NVivo Pro for Windows and/or NVivo for Mac. NVivo Plus will require an additional license. Projects can be used interchangeably between NVivo Pro and Plus and NVivo for Mac.

NVivo for Windows looks like a Microsoft product – but it is not. QSR International, the company who own and develop NVivo products are Microsoft Gold Partners and access aspects of Microsoft software to improve familiarity and usability of NVivo. Therefore, NVivo uses the Microsoft SQL server as a platform which makes it look like Microsoft Outlook. So, if you are a Microsoft user – many basic functions will be familiar to you. All original versions of NVivo have been developed on a Windows PC platform; however, a native Mac version was released in 2014. The Mac version still has some limited functions compared to the Windows versions. All of which are being addressed over time. Both versions of the software are fully integrated and cross compatible.

Just a note of warning, QSR International aim to release a new version of the software every 2 years, so connect to their mailing list and keep informed of new developments and don't be surprised when the next version of NVivo is released!

Why would you use NVivo?

Traditionally NVivo is the main resource for researchers using qualitative research methods and approaches included in-depth interviews, focus groups, content analysis, ethnography, phenomenology and grounded theory whereby the most basic form of analysis involves the interrogation of unstructured data. The more recent version of NVivo enables researchers to incorporate seamlessly open-ended survey responses, literature reviews, audio recordings, pictures and web pages to their projects.

One very important point to make is that qualitative research software such as NVivo helps people to manage, shape and make sense of unstructured information. It does not do the intellectual thinking for you; it provides a workspace and tools to enable you to easily work through your information. I like to think of NVivo as a tool box – akin to that of a

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carpenter – it is wise to know when and why you would use all of the tools – but no one project is likely to demand you use them all!

So even if you are planning to undertake a predominantly quantitative research study, NVivo is a useful resource for collection, collating and interpreting data for literature reviews and progressive analytical thinking and writing. For qualitative research the possibilities are enormous!

Accessing and installing NVivo

The latest version of NVivo is always available from the QSR website for a 14-day free trial; see www.qsrinternational.com. It is a fully functioning version of the software and a great place to start. If you decide NVivo is a valuable tool for your research, then I suggest you source a time-limited or perpetual license. The details of how to do this are available from https://www.qsrinternational.com/nvivo/products?pm=Standard. The price varies depending on your employment or student status.

Most Universities now have a central site licence agreement with QSR International. Consequently, the cost of the software is often covered by the central university budget and no longer the end user. The licence agreement allows for university, as well as at home use of the software. Please contact your local ICT service for details of the local licensing agreement and access to the up to date software.

If you install the 14-day free trial – all you need to do is enter the new university activation key to continue using the software beyond the trial period. The local computing support staff can assist with installation of the product on a workplace computer. If you have difficulties with installing the software – contact QSR International's Help Desk on (03) 9840 1100 or email support@qsrinternational.com.au.

Navigating around the software

The first time you go to use NVivo it will ask for your name and initials to create a user profile. The initials you provide will then be evident in the lower right-hand corner of the status bar. This is particularly important and useful if doing team research, but less so if doing independent research such as for a higher degree. This can be changed through the File/Options dialogue.

The initial interface you will come to is known as the **Launch Pad**. NVivo is the computer program – but you can have multiple NVivo projects at any one time. The most recent five projects will be shown in the left-hand column of the Launch Pad. If you have one you want to open just select it from the list and move on. If not, you will need to create a new project.

NVivo for Windows has a colour code, the launch pad and bars in Pro they are Blue, and in Plus they are purple. This is to enable you to easily identify the level of the software that you are using on any given project. For ease throughout this workbook, the NVivo Pro level will be used, as it will be the highest level available on a standard university license.

Recent projects list

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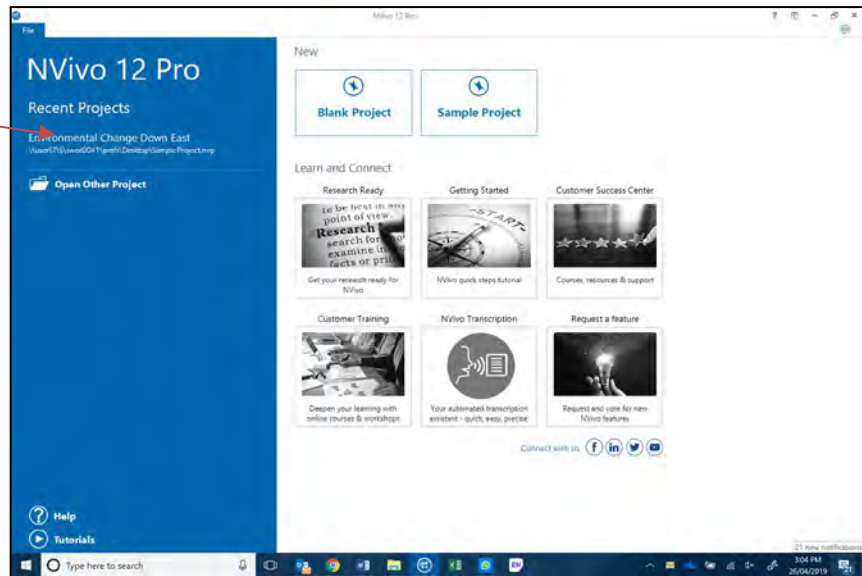
Chapter 1: Commencing a Project
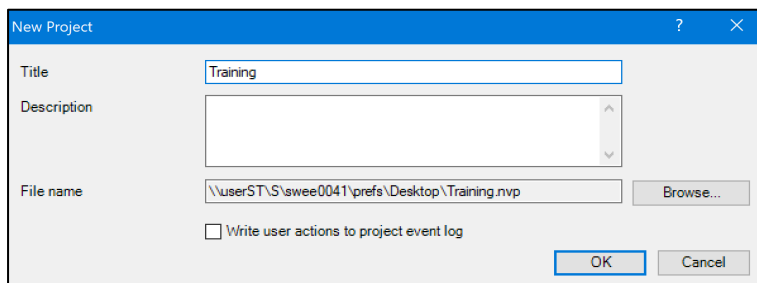
Creating projects

As with most software there are many ways to initiate an action – including the menu lists, ribbons, right mouse clicking and keyboard function keys.

So, to create a new Project

- Either select File/New or use the Blank Project button at the top right-hand side of the Launch pad.
- Enter a name for your new project.

Any individual item within your project has a description box. These are useful spaces to write your own notes about the project and/or project item – but are not searchable. Enter a brief description of your project if you wish. Descriptions can be done any time through accessing the properties dialogue box, and are fully editable.

New Project	? ✕
Title	Training
Description	
File name	\\userST\S\swee0041\prefs\Desktop\Training.nvp Browse...
	☐ Write user actions to project event log
	OK Cancel

Task 1: Open NVivo, and commence a new project titled "Training"

All NVivo projects default to be saved on your local C drive in your Documents folder. You can select anywhere for your project to be located and stored by using the browse button. Just know where you have saved it! It can be moved later though.

Project structure and layout

All NVivo projects have a basic pre-set structure which cannot be modified. You can however add whatever you need to it – create folders and storage systems within the database.

NVivo uses the ribbon structure to organise all of the function commands available. These have been grouped into their related functions or activities within the software. The primary tabs are **File**; **Home**; **Import, Create**; **Explore**; and **Share**. These will be visible at all times. There are additional tabs that become activated when you open particular file types which relate to the function you may wish to use.

The ribbons can be minimised to create a larger work area on your screen by clicking on the upward pointing arrow ^ in the top right-hand lower corner of the ribbon. To restore the full ribbon to be in full view select the downward pointing arrow in the same place.

HANDY HINT: NVivo project files are like any other computer file – they can be copied, deleted or moved. If you have NVivo projects on your computer but do not remember where or they do not show in your Launch Pad – the easiest way to locate them is to search for file types with **.nvp** file extension. This is the unique code for NVivo Windows projects. It is **.nvpx** for NVivo for Mac

Project Layout

The NVivo work space is made of three main areas known as the **Navigation View**, the **List View** and the **Detail View.** Navigation view is where we move around the database and access all of the project items you create.
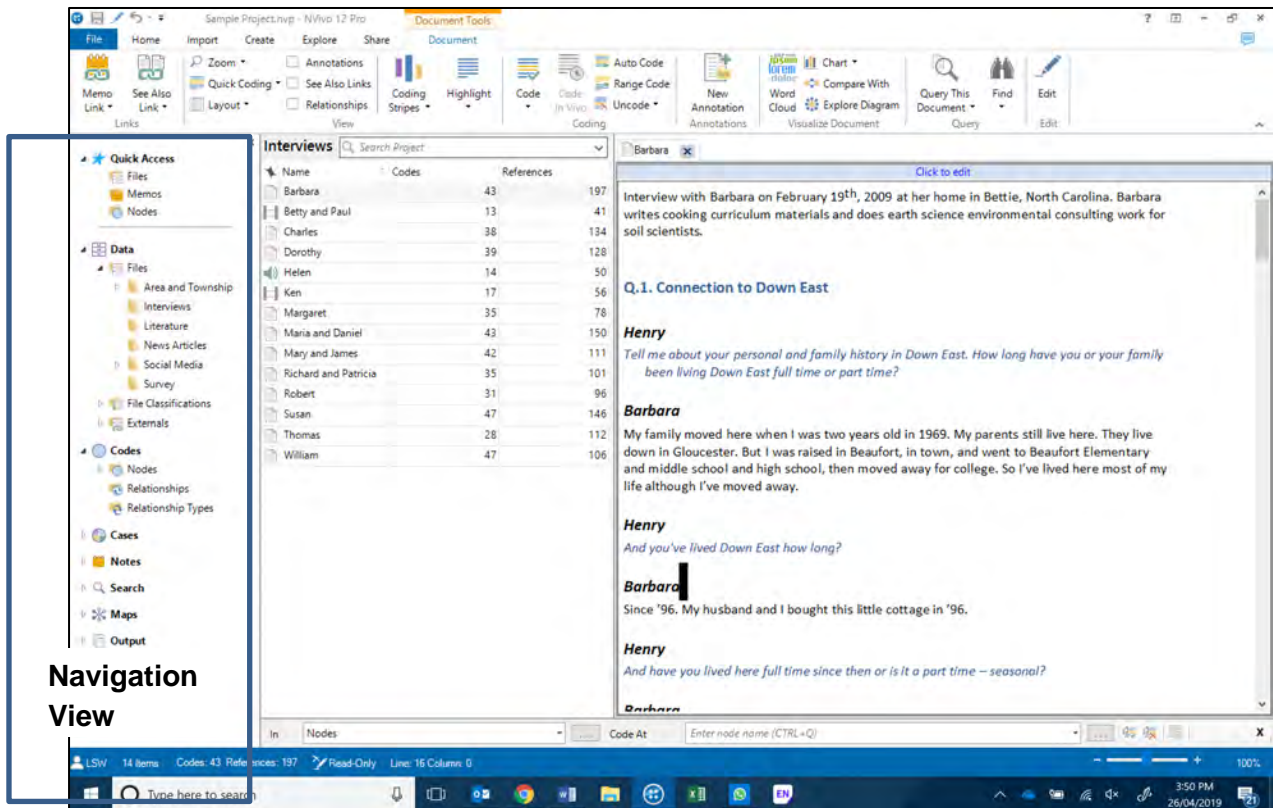
Once the project item type you want has been selected in the **Navigation View** – then the list view is populated with its content.

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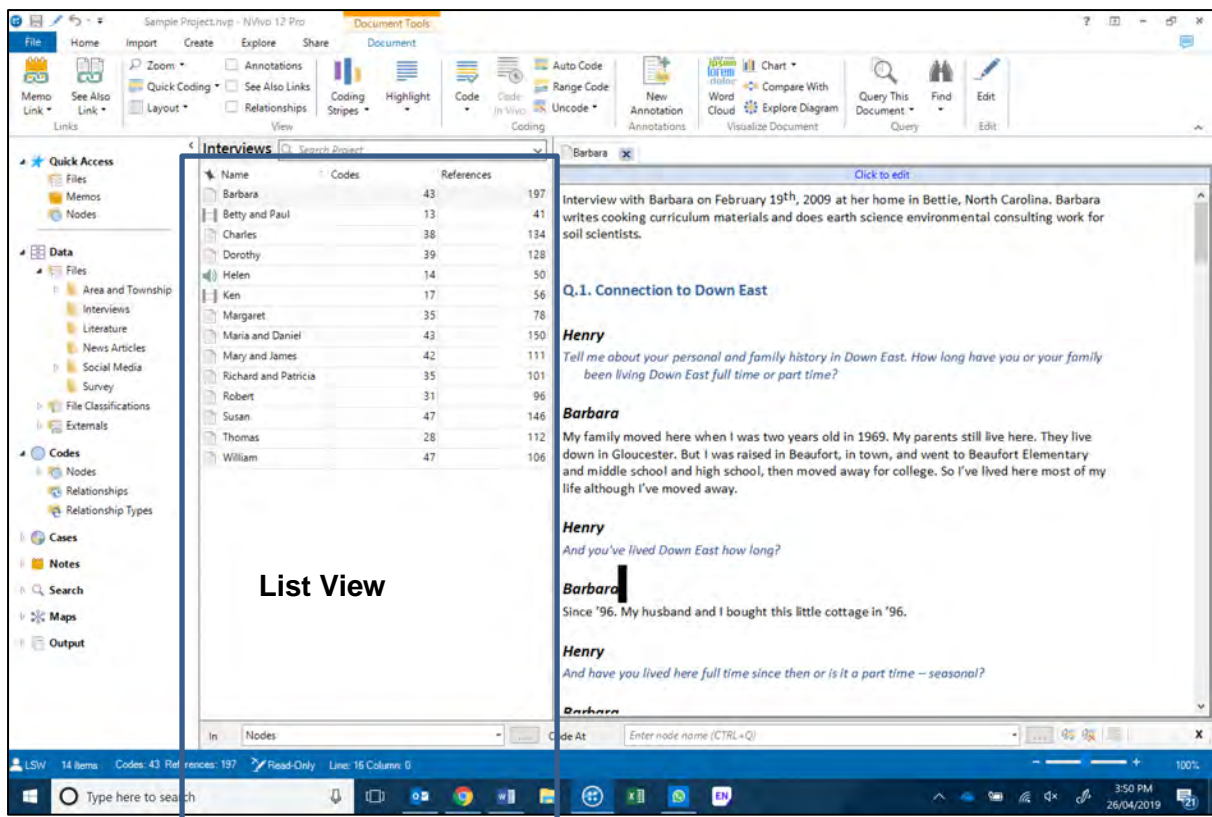
Once the individual project item you want has been selected in the **List View** – it will open in detail view. You can have multiple items open in detail view at any time and tab between them from the top of the detail view screen.

Multiple items open at once
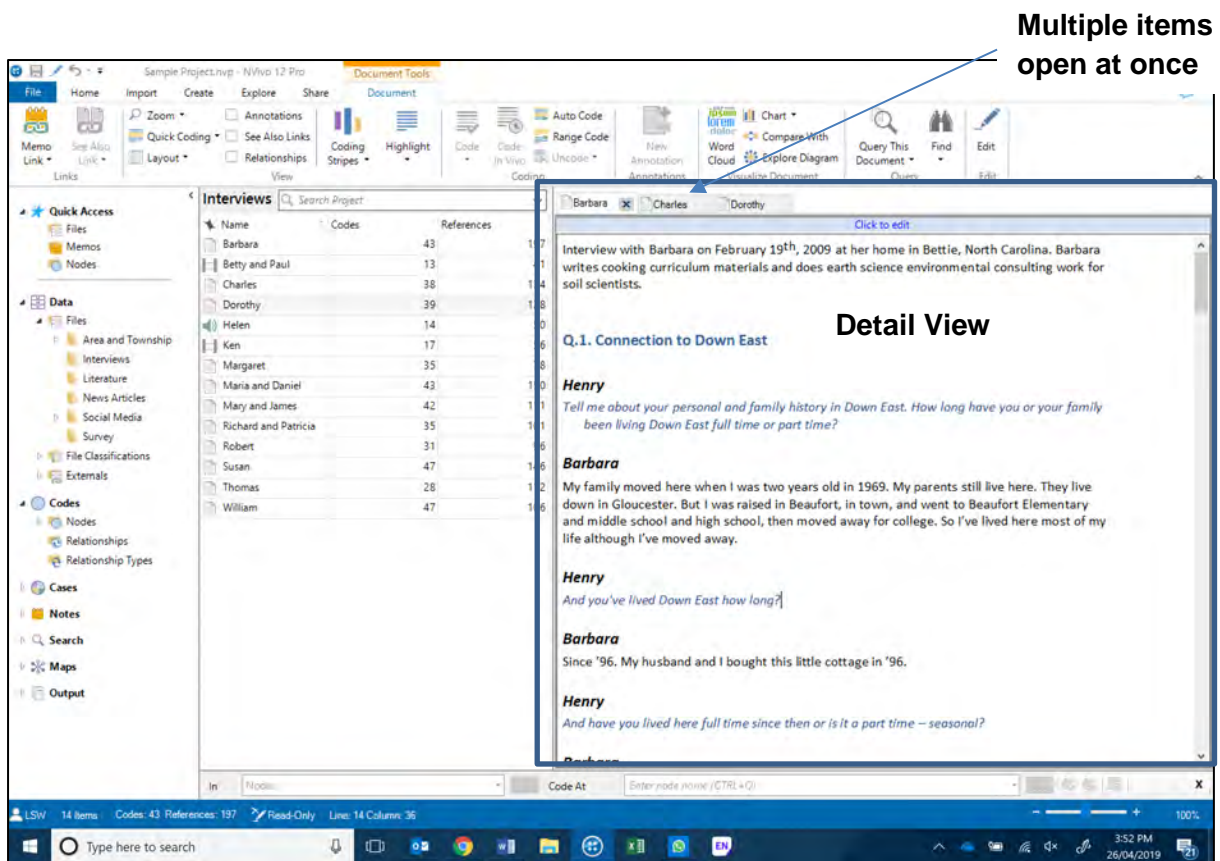
Basic (but vital to know) functions

Undo past actions

NVivo has the capacity to **UNDO** up to the past <u>five</u> actions. If there are actions that you can UNDO, the right directional undo arrow will be blue in colour. Once the project is saved the clipboard for the UNDO function is cleared and the arrow becomes grey in colour, indicating there is nothing that can be undone.

Saving your project

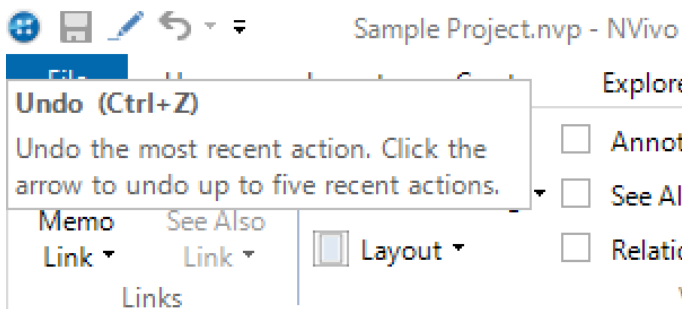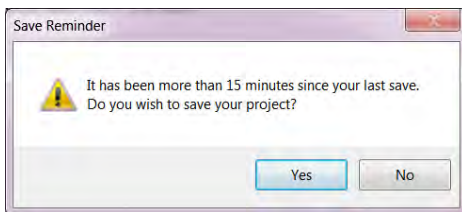NVivo **DOES NOT** save after every action you do. It has an automatic save reminder which by default will activate following 15minute of actual active work. It is recommended that you save regularly to avert losing any work.

A manual save can be done at ANY time:

- Either select **File** then **Save** from the File ribbon or use the **SAVE button** at the top of the ribbons on the quick access bar or select the **Ctrl** and **S** buttons simultaneously.
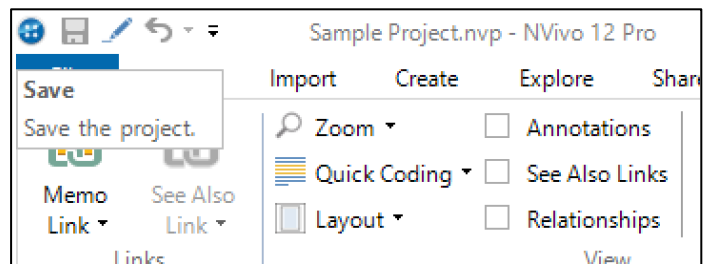
BUT beware

Once you activate a save function you will lose the ability to undo the past actions.

Backing Up your project

Backing up your NVivo projects is very simple and an invaluable process in case of computer malfunction or loss. As with any files stored on a computer – if they are important it is always worthwhile having a back up on an external storage device such as USB, external hard drive or network drive.

To make a backup at ANY time:

- Select **File** then **Copy Project**.
- Using the browse button locate the place you want to make a backup copy too – such as an E or F drive.
- Select a name – I recommend you include the date or version number with the project name so you can keep up with which is the most recent back up copy.
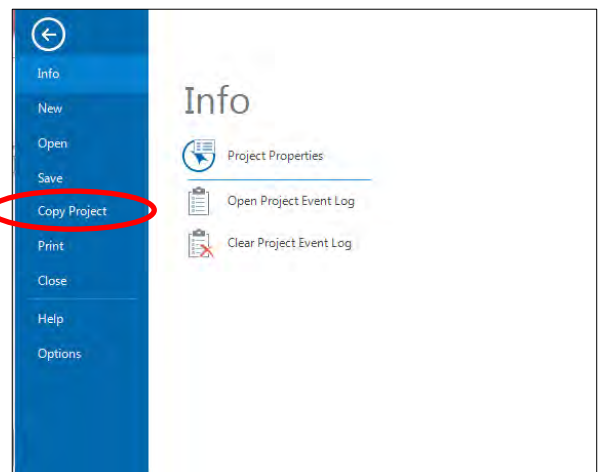
<u>Closing a project and Closing the software</u>
As with other software packages you have the option to close the open project/file or to close down the software package. If you want to close one project and move to another NVivo project use the File then Close options which will return you to the Launch Pad.

If you want to close the whole program including the current project use the File then Exit options or the Red Cross button in the top right of the screen.

NVivo will automatically save the current project on closing.

Chapter 2 Working with research materials

NVivo provides a storage area for all the project items that form your research materials. In the navigation pane this is called **Data**. Within Data there are three subfolders: **Internals; Files; File Classifications; and Externals**. You can create additional storage subfolders within these to sort and store your project items. Lower down the navigation pane is **Notes**. Within Notes there are three subfolders: **Memos; Framework Matrices; Annotations; See Also Links.**

In the basics workshop will we work with the **Data** and **Notes** folders. Data is the place we recommend you store your compatible files that are your data. Notes are the place we recommend you store your observations and insights about the material you are analysing, your personal ideas. Whilst we recommend this, it is not mandatory and both documents and memos are fully functioning items with NVivo. The different folders have a different icon which is a different colour, as a visual prompt, reminding you that they are different project item types.

Task 2: Save a backup copy of your project to the desk top or USB

NVivo is a powerful program that can manage many different file types. NVivo has the capacity to create new or make a carbon copy of files and store them inside your project using the following file types:

Documents: Microsoft word document (doc, docx); Rich text file (rtf); and plain text (txt)

PDFs: Portable Document Format (pdf)

Spreadsheets: Microsoft Excel spreadsheets (xls, xlsx); Access or SQL server file saved as xls; or Comma or Tab-delimited text file (txt)

Digital images: Windows bitmap (bmp); Graphic Interchange Format (gif); Joint Photographics Expert Group formats (jpg, jpeg, png); Tagged Image File Format (tif, tiff)

Audio files: MPEG-1 format (mp3); MPEG-4 format (m4a); windows media formats (wma, wav)

Video files: MPEG formats (mpg, mpeg, mpe, mp4); Windows Media formats (avi, wmv); QuickTime formats (mov, qt); 3G Mobile Phone format (3gp); AVCHD High Def Video formats (mts, m2ts)

In this basics workshop we will work with text based information in the form of documents as this is the primary format of research data. Multimedia file types and datasets will be covered in the Intermediate workshop.

Creating subfolders in Files

To create a subfolder in the **Files** folder –

- First select **Data** in navigation view to expand the selection so you can see **Files**.
- Right mouse click over the **Files** folder and select **New Folder** OR
- From the **Create ribbon** – with Files highlighted, select **Folder**
- Name the subfolder when the dialogue box opens and select OK.
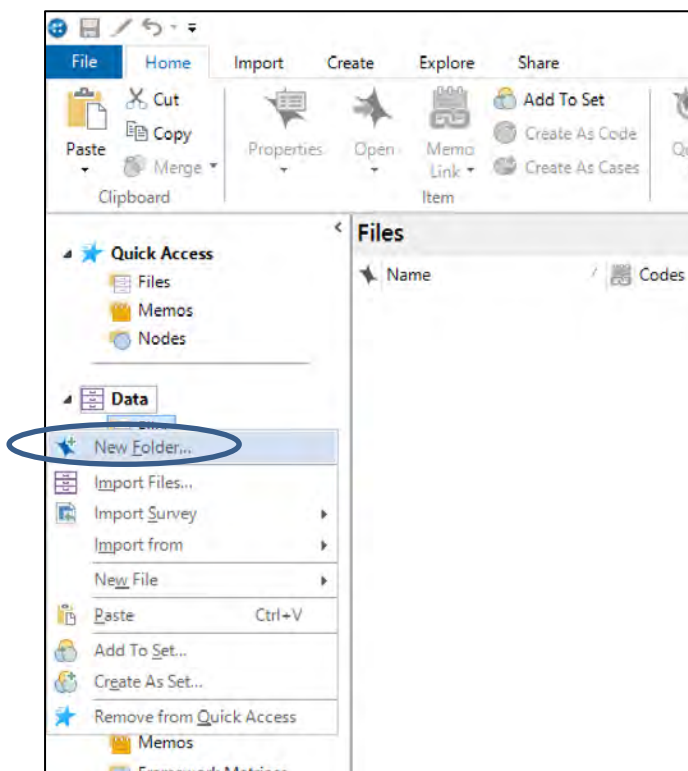
Task 3: Create subfolders for "Administration", "Literature" and "Interviews" in the Data folder

Collecting text-based source files

Create a text-based source document

- First select **Data** in the navigation view, then highlight **Files** so it is shown in list view.
- Right mouse click in the white space of the Files list view, select **New File** then **New Document** OR
- From the **Create ribbon** select **Document**
- Name the document when the dialogue box opens and select OK.
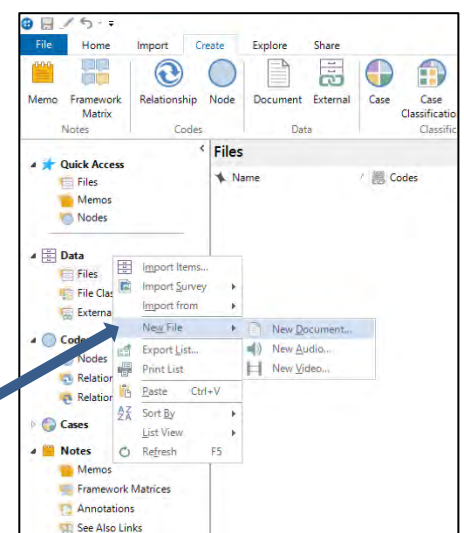
The new blank document will open in detail view. From here you can type into the document, using all the basic editing functions available in the **Document Edit** ribbon. There is even a spell check – but this needs to be activated once typing is done – and it will check the

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document. It does not check as you type like Microsoft Word does. NVivo offers all the functions to format documents including heading styles, fonts and colours.

NVivo is able to distinguish text by heading styles but not able to search and distinguish by font or colour. This is an important issue if wanting to use functions such as auto coding in structured documents.
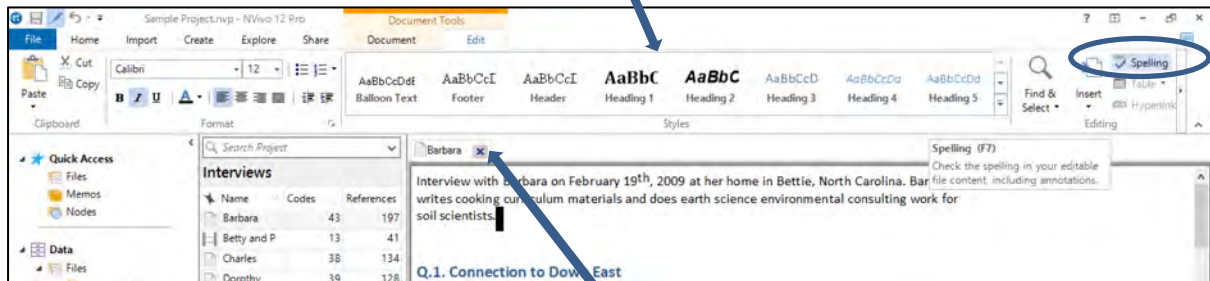
To close an open file from detail view, click the X to the right of the file name in the tab.

Task 4: Create a document called "Research Journal" in the Files folder

Import a word document or PDF

- First select **Data** in navigation view, then highlight **Files** in the top section of Navigation View so the files are shown in list view
- Right mouse click in the white space of the Files list view select **Import Items...** OR
- From the **Import ribbon** – select **Files** (if wanting a different file type – select the appropriate choice)
- Locate the file(s) you want to import – note only compatible document file types will be shown.
- Rename the file when the dialogue box opens if you would like and select OK.

Task 5: Import the document called "Literature Reviews" into the Internals folder
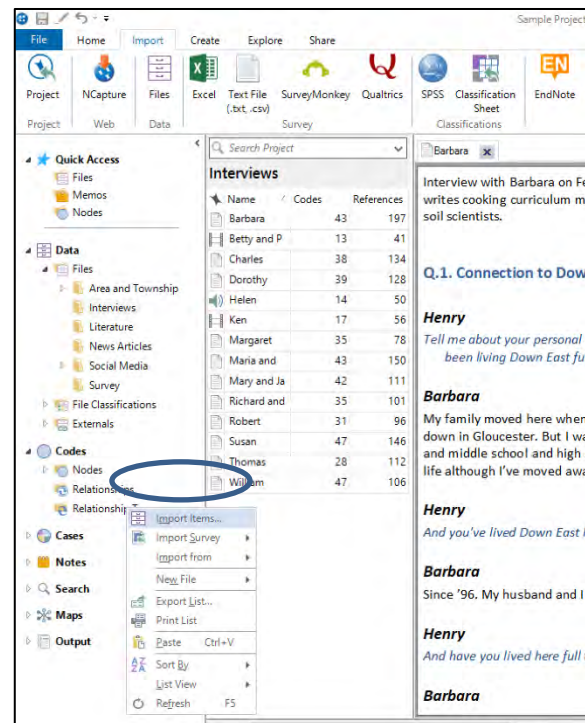
You can import many files at once by selecting multiple items with the shift or control key. When doing this you will lose the chance to rename them on the import process, however you can rename any file anytime from the list view or item properties box.

A PDF is a portable document format file. These can be made in a multiple of ways, and the way in which they are created will impact on their functionality on NVivo. In readable PDFs NVivo can decipher individual text characters during its search and query functions. Basically, there are two primary types of PDFs frequently used in research.

Method 1: The first is where the PDF is created digitally, and each character is unique and independently readable by the computer. An example is a word document that is converted into a PDF such as research reports, journal articles, government releases and policy documents. Such files often still have graphics embedded in them – however the graphics converts to a picture within the PDF – with the characters separate from this. This affects the way we handle it in NVivo.

Method 2: The alternative way a PDF is created is by scanning documents/images/books through a flatbed scanner or photocopier and saving as a PDF file. With this method each page, regardless of whether text or image or both, is saved as a single image and the computer is unable to read individual text characters. Therefore, if you import the PDF into NVivo, you will find that there is no text in the page to select, code or query. You can select and code regions of the page, however you are coding an image selection and therefore you cannot use Text Search or Word Frequency queries to explore the text. If you prefer to work with text (rather than images of text), then you should consider using optical character recognition (OCR) or Text Recognition software to convert the scanned image to text (before you import the PDF files into NVivo). This can be done in Adobe Acrobat Pro via: Tools\Enhance Scans\Recognise Text.

HANDY HINT: Open a document and a PDF in NVivo and have a look at it. What features do you notice are different with the PDF to the Document item type?

- Documents are editable
- PDFs are not editable
- Documents have no pagination
- PDFs are fully formatted and fully paginated

Working with images is covered in the Advanced workshop. To see the difference clearly, do tasks 6 and 7, open both PDFs and compare their differences.

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Memos

As mentioned in the introduction to this chapter, Memos are the place we recommend you store your observations and insights about the material you are analysing; your personal ideas. However, they are still fully functional text documents which can be created within NVivo and are fully editable and searchable. Therefore, the main difference between a document and a memo is the primary folder/place in which they are stored and the different icon they are represented by.

Note: Whilst the number of memo you can create is unlimited, every individual item in NVivo can have only one linked memo.

Create a memo
- First select **Notes** in the bottom of navigation view, then **Memos** so the Memos is shown in list view
- Right mouse click in the white space of the memos list view and select **New Memo** OR
- From the **Create ribbon** – select **Memo**
- Name the memo when the dialogue box opens and select OK.
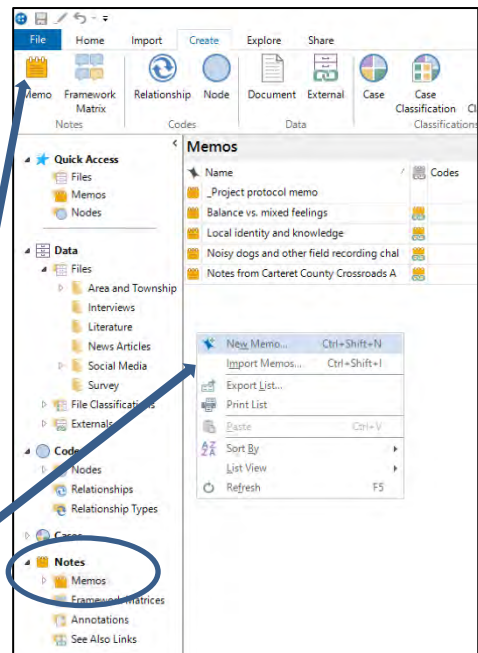
> *Task 8: Create a memo called "Initial ideas" in the Memos folder; write yourself some notes about NVivo.*

The new blank document will open in detail view. From here you can type into the document, using all the basic editing functions available in the **Edit** ribbon, just as you can with a document.

Memos can also be imported – but only text (txt), Microsoft Word documents (doc, docx) are compatible file types to be memos.

Memo Links

When you want to comment on the issues that arise from a source or node, you can create direct links to a memo—for example, while inspecting the content gathered at a node you can create and link to a memo that describes the patterns or ideas that are emerging.

Each source or node can have only one memo linked to it and that memo cannot be linked to any other item. You can however have memos that are not linked to any source or node—these can be useful for tracking the overall progress of your project.

Create a memo link

- First select an item from list view or whilst the item is open in detail view right click and select **Links**, then **Memo link,** then either to **new memo** or **existing memo** depending in whether you have created one yet.
- If new memo, label it and commence writing
- If from existing memo – those mems not yet linked to an item will be available to choose from – select the one you want to link
  OR
- Select **Memo Link** from the **Document** ribbon if the document is open
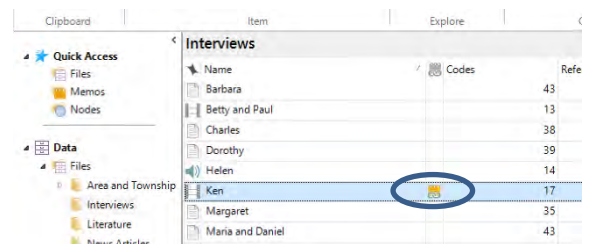 OR
- Select **Memo Link** from the **Node** ribbon if a node is open
  OR
- Select **Memo Link** from the **Home** ribbon if selecting an item from the list view.
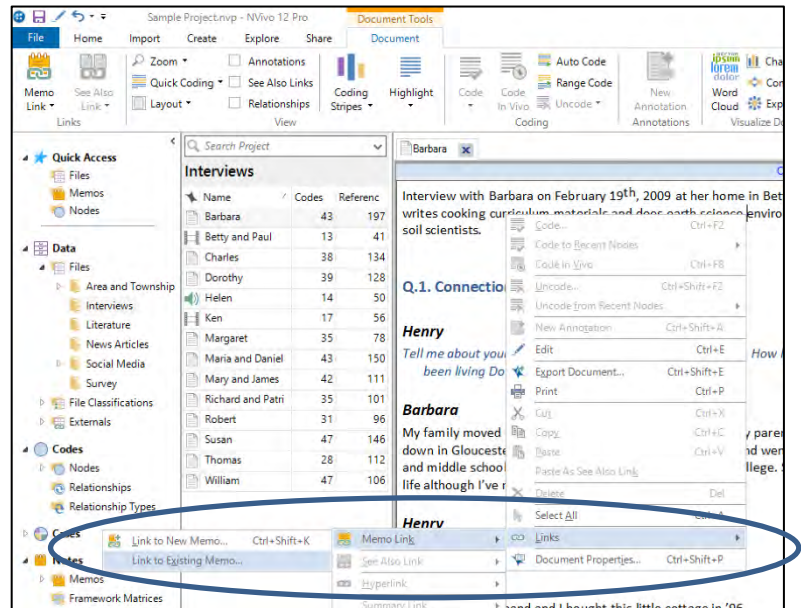
The standard list view will show a memo icon when a memo link exists. You can open the item and the link memo from this by using a right mouse click.

> *Task 9: Create a memo link for a new memo to a text file*

Using NCapture

NCapture is an additional software package which installs on installation of NVivo. It allows you to capture web-based information for import into NVivo. NCapture can produce PDFs of webpages as well as Datasets of social media such as Twitter and Facebook. NCapture is installed for use with Internet Explorer (IE) and Google Chrome only.

Create a PDF of a web page using NCapture
First make sure you can locate the NCapture icon on the Command bar in IE or Chrome. Otherwise locate it via the drop-down menu: Tools/NCapture for NVivo.

Internet Explorer:

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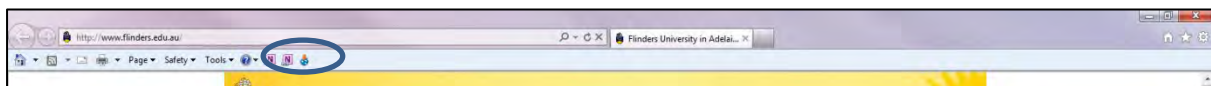
Google Chrome:

- Navigate to the web page you want to copy then select the NCapture icon
- Selection the type of output you desire
- Modify the name, add a description, write a brief memo or even add some node names if desired.
- The select capture and save in a place easy to remember. A .nvcx file is created.
- Return to NVivo
- From the **Import** ribbon, select **NCapture**
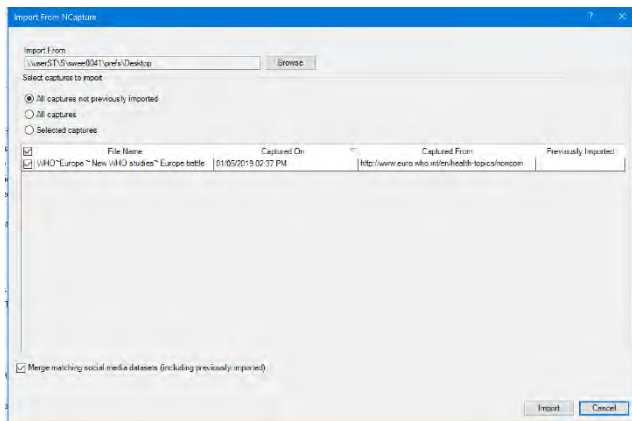
- Browse to the location you stored the files and the options you have to choose from will be listed.
- Select the article(s) you created and select import
- Once in NVivo they will be displayed as a PDF. You can export this now as a PDF file by right clicking over the item in list view.

> *Task 10: Capture and import a web page into NVivo.*

Managing text-based files

Editing sources

When you create a new document or memo, it opens in edit mode. You can type content directly into the document or use copy and paste to add content. You can also insert images into your documents or memos. You will be able to code both the text and images in your documents and memos. Once you save it for the first time it operates as an existing document or memo.

If you open an existing document or memo, it opens as a read-only file and you must switch to edit mode before you can edit the content. This is a safety mechanism for when you code your text.

The detail view will looks like this, and it can be made editable through the edit button in the **Document** ribbon or from the hyperlink at the top of the file, or by using Ctrl+E keys.
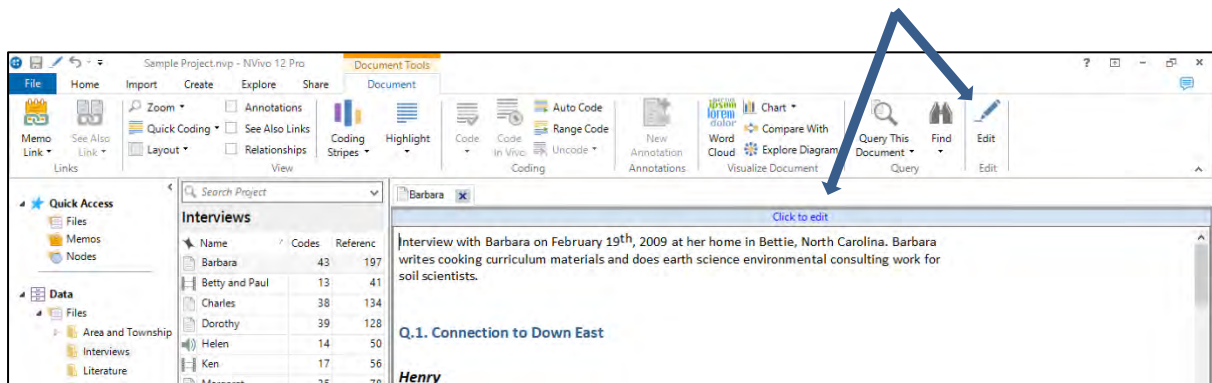
Once you have completed editing the document or memo it is strongly encouraged that you turn editing off by deselecting the Edit or by closing and reopening the item. As mentioned earlier PDFs are NOT editable.

Filing and storing items

When importing files – you are able to select multiple files at once, which is much more time efficient if you have a collection of articles and research documents/transcripts.

NVivo recognises project items by the type of item they are created as. You are able to drag and drop items from one folder to another – provided they are being moved within the same folder type. So if you have created a data file (for example our project diary) and it is being stored in the primary files folder, and you decide to create Project Admin folder and want to move it, you can. To do this – create the new folder and then cut/paste or drag and drop the file into the new folder. If you try to move a document file into memos you will be asked if you which to paste as a memo.

> *Task 11: Create a new folder for Project administration, and then move the project diary file into this new folder.*

Annotations

Like scribbled notes in the margin, annotations let you record comments, reminders or observations about specific content in a file or node. Annotated content is highlighted in blue and the text of the annotation is displayed in the Annotations tab at the bottom of detail view.

To annotate a selection of text:
- First open the file or node you want to annotate in detail view.
- Highlight the text you want to annotate – it may be a word, a sentence or a whole paragraph
- Right mouse click in the highlighted text, select **New Annotation** OR
- From the **tools main** ribbon select **New Annotation** OR
- Select **Ctrl+Shift+A** keys

- Once the annotation box opens in the base of detail view type the notes you wish to make in the **content** column
- Return your cursor to the text and you will note the selected and now annotated text will have a BLUE highlight.
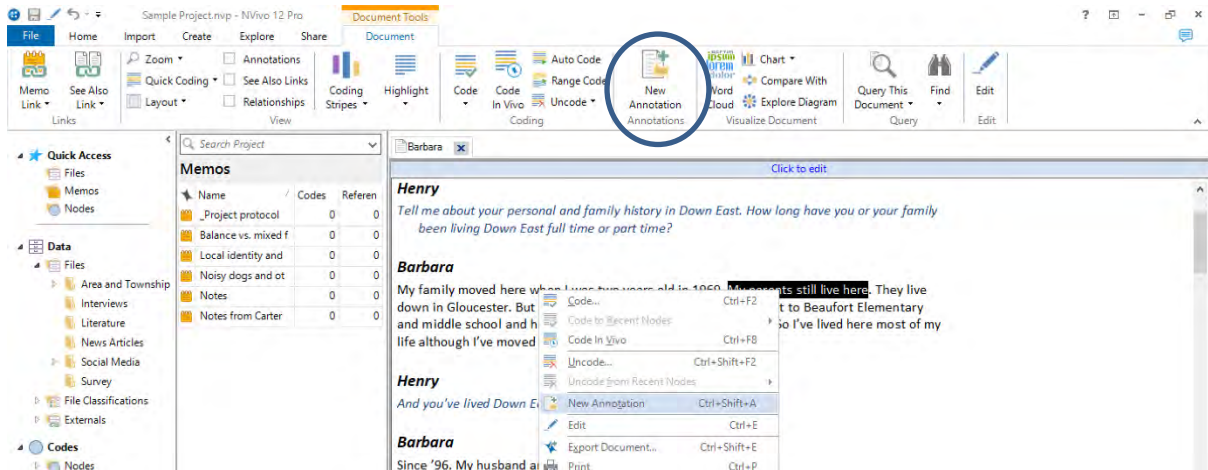
To annotate a selection of image:

If wanting to select the regions of an image – like a picture within a PDF, you first need to change your curser type

- To switch between text and region selection—on the **PDF ribbon**, in the PDF Selection section, click Text or Region.
- Use the region pointer to select a region of the file and follow the same process as above.

Show or hide annotation content

On the tools ribbon you can select or clear the Annotations check box to alter the view. The portion of the file annotated will always have blue highlight.

> *Task 12: Create an annotation in a text file and*
>
> *in a PDF*

Now that you have text-based source files in your project it is time to move on to coding and analysis.

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Chapter 3: Coding with nodes

What is the difference between a node and a code?

Coding is a fundamental task in most qualitative projects—it involves gathering all the material about a particular theme, concept or case together for further exploration. A code is the label you apply to a set of material; a word or short phrase to represent the selected data. Coding is the process of examining the data and sorting it to be interpreted. Coding is an interpretive process which enables us to then analyse the data.

Nodes in NVivo are the places where we store our coding. Put simply Nodes = Codes. Nodes are containers for your themes, people, places, organizations or other areas of interest to enable you to answer your research questions. There are four pre-set subgroups of nodes in the Navigation View: **Nodes, Cases, Relationships,** and **Node Matrices**. You can organize nodes within all of these in folders and in hierarchies—moving from general topics at the top (the parent node) to more specific topics (child nodes). If there is no logical connection between your nodes (or perhaps these connections are not yet apparent) you can just add nodes at the top level of the hierarchy (as a free node). The basics workshop will focus on using the **Nodes** folder only.

While this NVivo workshop outlines how to create nodes and undertake basic coding processes, there is no one approach to qualitative research coding; there are in fact many. The approach you take to coding your own data will depend on your research methodology and analytical frameworks. These are based on the ontology and epistemology of your research and beyond the scope of this workshop. However, some helpful resources are included at the end of this workbook.

Nodes

Create a Node
- First select **Codes** in the navigation view, then highlight **Nodes** so the Nodes is shown in list view
- Right mouse click in the white space of the Nodes list view, select **New Node** OR
- From the **Create ribbon** – select **Node** OR
- **Ctrl+Shift+N** keys
- Name the node when the dialogue box opens and select OK.

Created 2013; Last updated April 2019
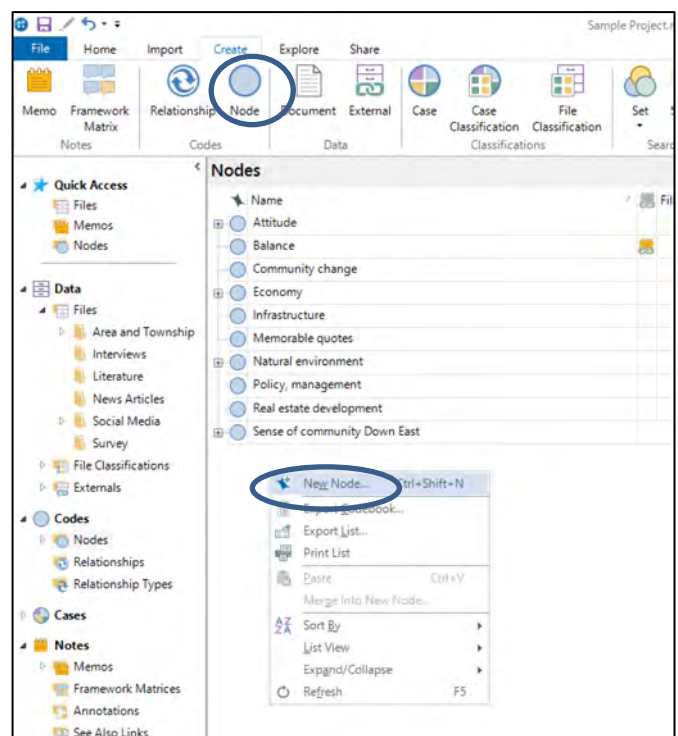
Create a Child Node

- First select **Codes** in navigation view, then highlight **Nodes** so the Nodes is shown in list view
- Right mouse click over the desired parent Node and select **New Node** OR
- From the **Create ribbon** – with the parent node highlighted in the list view select **Node**
- Name the node when the dialogue box opens and select OK.
- This new node will now be in a hierarchical structure below selected the parent node.
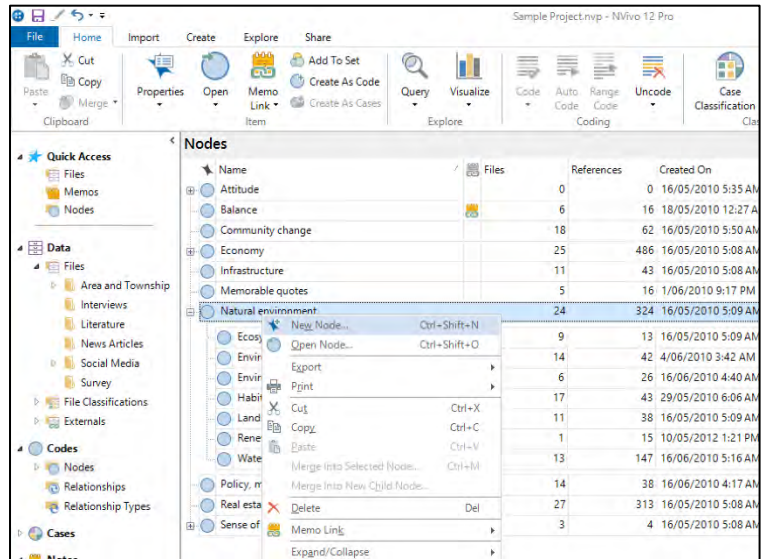
Task 13: Create a node called "Methodology" and then some child nodes with types of research methodologies you are likely to find in your literature review.

Creating subfolders in Nodes

Just like sources, you can organize nodes in folders to suit the way you work. However, the program will always default to the top-level folder called Nodes unless you direct it elsewhere. So, while folders are possible in nodes, they are less useful for basic projects and novice users.

To create a subfolder in the Nodes –

- First select **Codes** in the navigation view and/or highlight the **Nodes** folder.
- Right mouse click over the highlighted Nodes folder and select **New Folder** OR
- From the **Create ribbon** – select **Folder**
- Name the subfolder when the dialogue box opens and select OK.

HANDY HINT: Beware of complex folder structures in nodes, because the program likes to default to the top-level folder during the coding process.

However, folders are good for sorting and coding can be freely moved around at any time.

Node hierarchies are an effective way to sort and store nodes.

Created 2013; Last updated April 2019

Coding

As previously discussed, coding is the process of examining the data and sorting it to be interpreted. In most approaches to qualitative analysis this is a human intellectual process of interpretation and deciphering data, although with computerised data some automated functions are possible.

HANDY HINT: You do not need to have the nodes created first in order to code. You may choose to code at a new node and create it in the coding process.

In NVivo, there are three main coding choices:

- **Code** will place the selected data into the node(s) selected. This may be a whole file from list view. or from a few characters to a whole paragraph within the file or a region from an image.
- **Code In-Vivo** will place the entire highlighted/selected text into a node and apply the selected content as the Node name. Beware of using this for sentences and paragraphs as it will not be what you want for analysis as the node name will be too long and not meaningful.
- **Auto Code** will automatically separate the text based on style, structure or key words.

As with most computer processes there are also different ways in which you can perform the functions for coding. You can choose the Code button on the **tools ribbon,** using **right mouse clicks**, **drag and drop** or using the **Quick Coding toolbar**.

Code source

To code an **entire file** to a node:

- In **Data** select the items' folder in navigation view, so the file is showing in list view
- Right mouse click in the required source file in list view and select **Code** OR select **Code** from the ribbon OR **Ctrl+F2** keys
- Select the required node or create a new node when the dialogue box opens and select OK.
- This process will place the entire file content into the selected node. This is most useful when creating cases for each participant or entity.
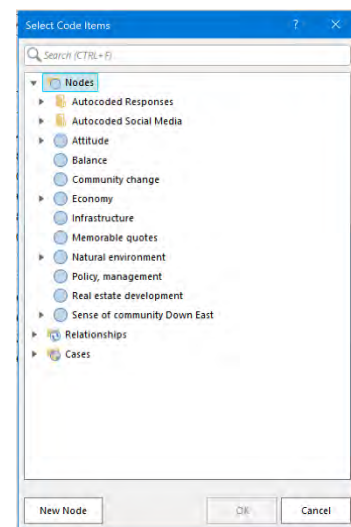
Task 14: Code a source to a node based on the methodology it uses

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Code Selection: This is the most used process of coding

To code a **portion of a file** to a node:

- First open the file you want to code. This will open in detail view.
- Highlight the text you want to code.
- Right mouse click in the highlighted text, select **Code** OR select **Code** from the ribbon OR **Ctrl+F2** keys
- Select the required node or select new node when the dialogue box opens and select OK.
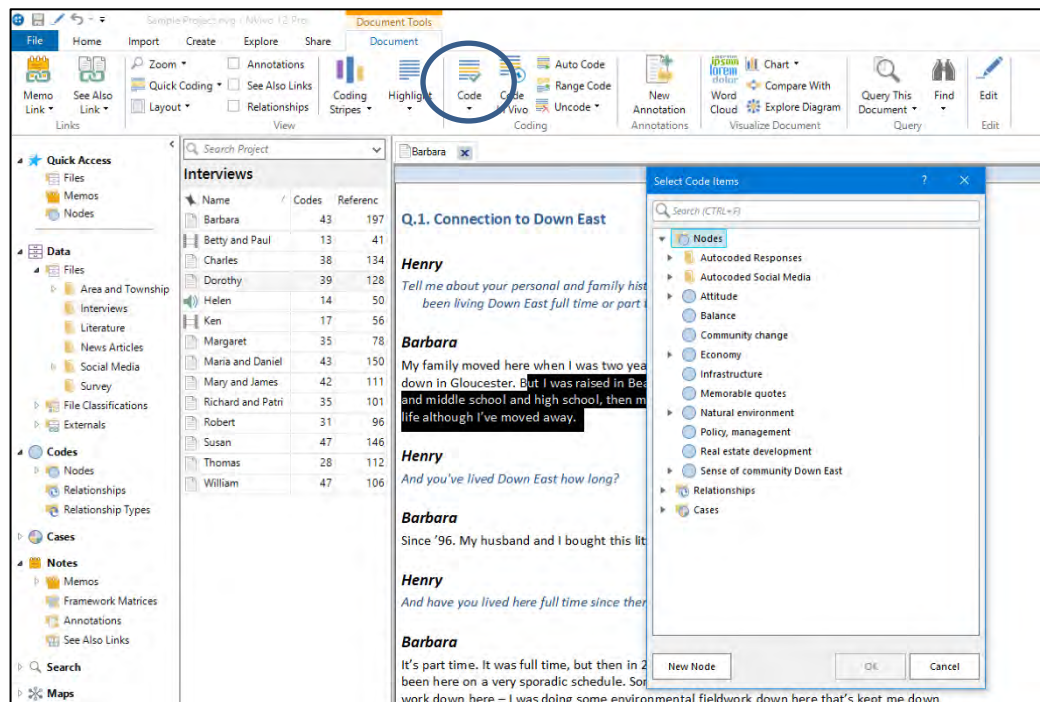
If you are wanting to select a region of an image for coding – like a picture within a PDF, you first need to change your curser type

- To switch between text and region selection—on the PDF ribbon, in PDF Selection section, click Text or Region.

Drag and drop coding

You can drag and drop to code selected content into a node:

- Display your nodes in List View.
- Open a file or node in Detail View.
- Select the content you want to code.
- Drag the selected content to the node desired
- If you wish to create a new node in this process, drag the content into the white space below list of current nodes. The New Node box pops up – insert label and select OK

NOTE To indicate that coding is successful, a confirmation message is briefly displayed in the NVivo status bar or you can turn on the coding stripes.
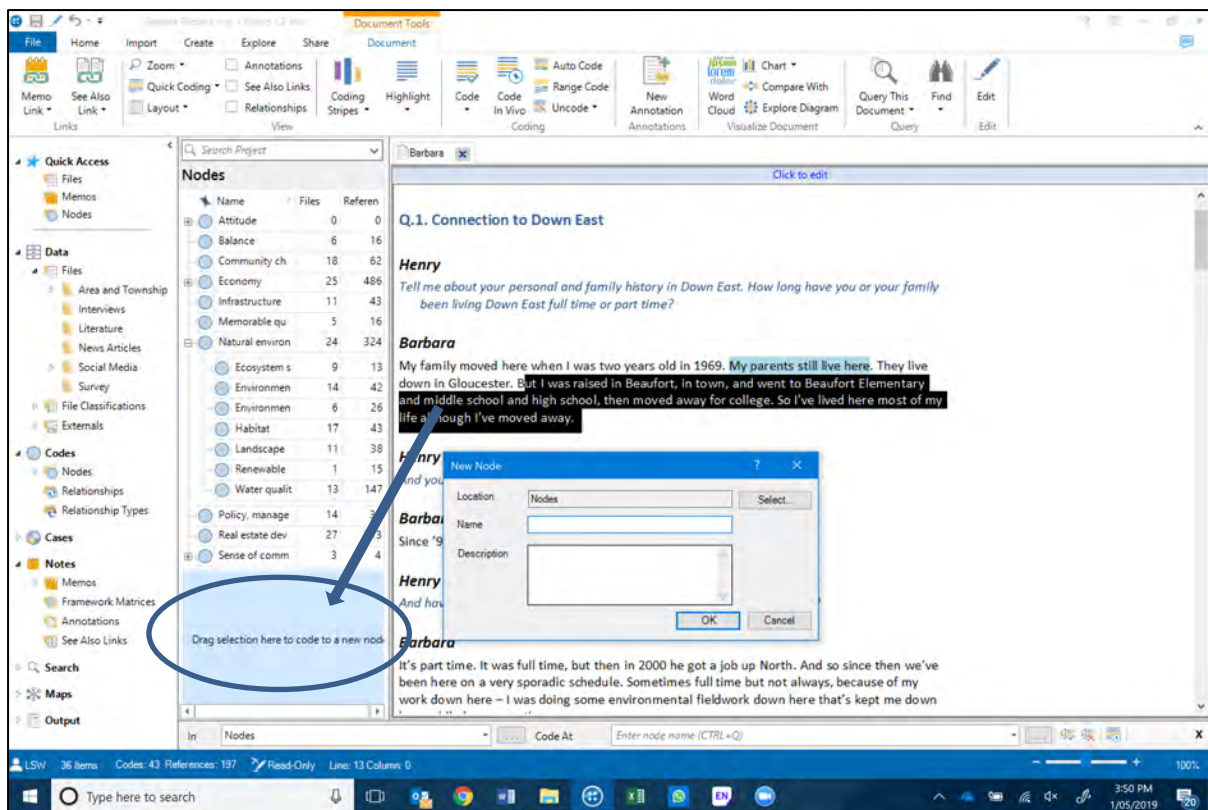
Code In Vivo

To code a **portion of a source file** to a node using the selected characters as the node name (this will always create a new node):

- First open the file you want to code in detail view.
- Highlight the text you want to code.
- Right mouse click in the highlighted text, select **Code In Vivo** OR from the ribbon select **Code In Vivo** OR Select the **In Vivo** Button on the quick coding tool bar or **Ctrl+F8** keys
- This will create a new node named whatever it is that you highlighted**.**
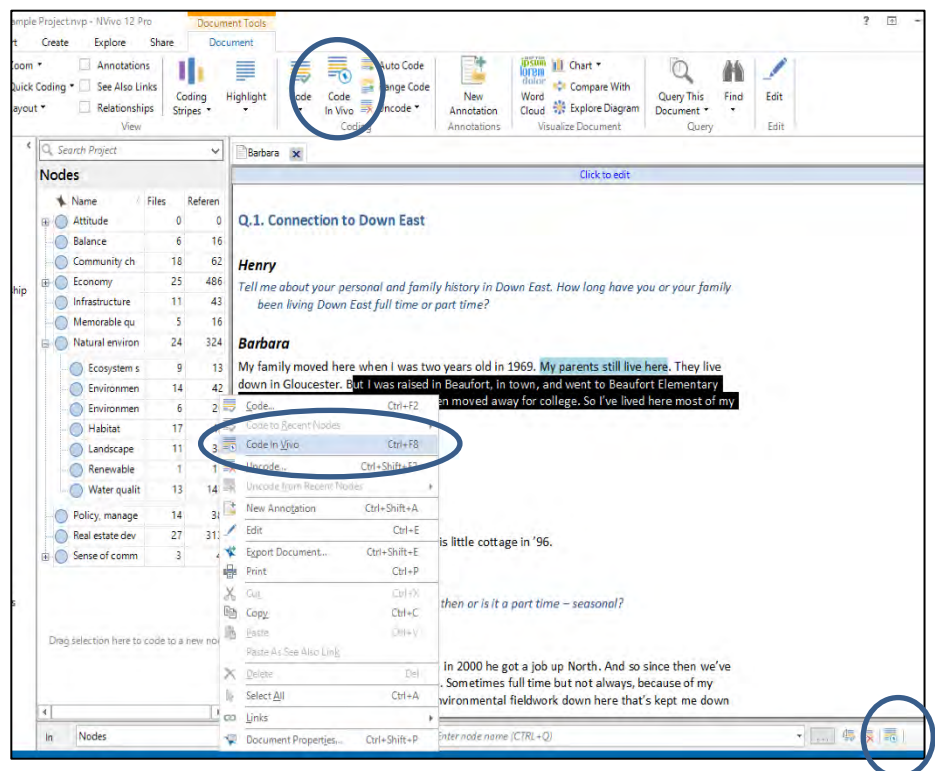
Quick coding tool bar

All of the above coding functions can be done by using the quick coding tool bar. It is located at the base of detail view and becomes active only when a codable document is opened and something is highlighted for coding.
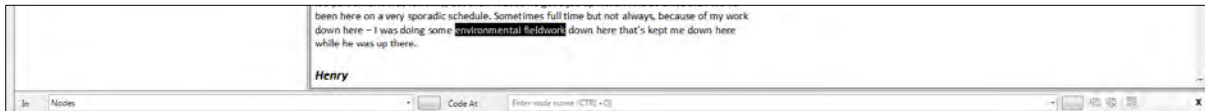
The Quick Coding bar provides a fast way to **code** or **uncode**. With the Quick Coding bar, you can:
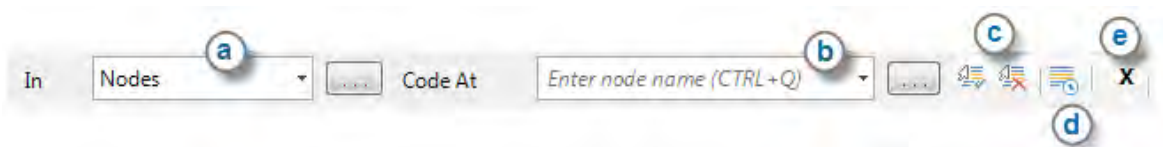
a Select the location for the node (a folder or parent node).

b Enter or select a node. As you type, NVivo will suggest existing nodes in the hierarchy, at (or below) the selected location, that you can choose from. You can also create a new node in the selected location by entering a unique name.

c Code or uncode at the selected node. You can also press ENTER to code at the current node.

d Make a node from selected text (code In Vivo)

e Hide the Quick Coding bar.

HANDY HINT:

The currently selected (or last used) node displays on the Quick Coding bar.

The Code At list includes nodes and descendant (child) nodes in the current location, as well as nodes you have recently coded at.

Coding Stripes

Coding stripes are coloured bars displayed alongside file or node content that allow you to see how the content is coded. You can modify the display of coding stripes to see the content that meets your defined criteria.

To show coding stripes for all nodes:

- Open the file or node.
- On the **tools ribbon**, in the view section, select **Coding Stripes** button and select your preferred approach to coding stripes.
- The default number of stripes is 7, however you can change this number to whatever you think is necessary once you turn them on
- The more coding stripes in view the more memory the computer will require.

HANDY HINT: I prefer to turn on stripes for Nodes Recently Coded during the coding process and raise the number of stripes to at least 40. Other options are useful when exploring your coding and data.

Task 15: Turn coding stripes on for recent coded nodes

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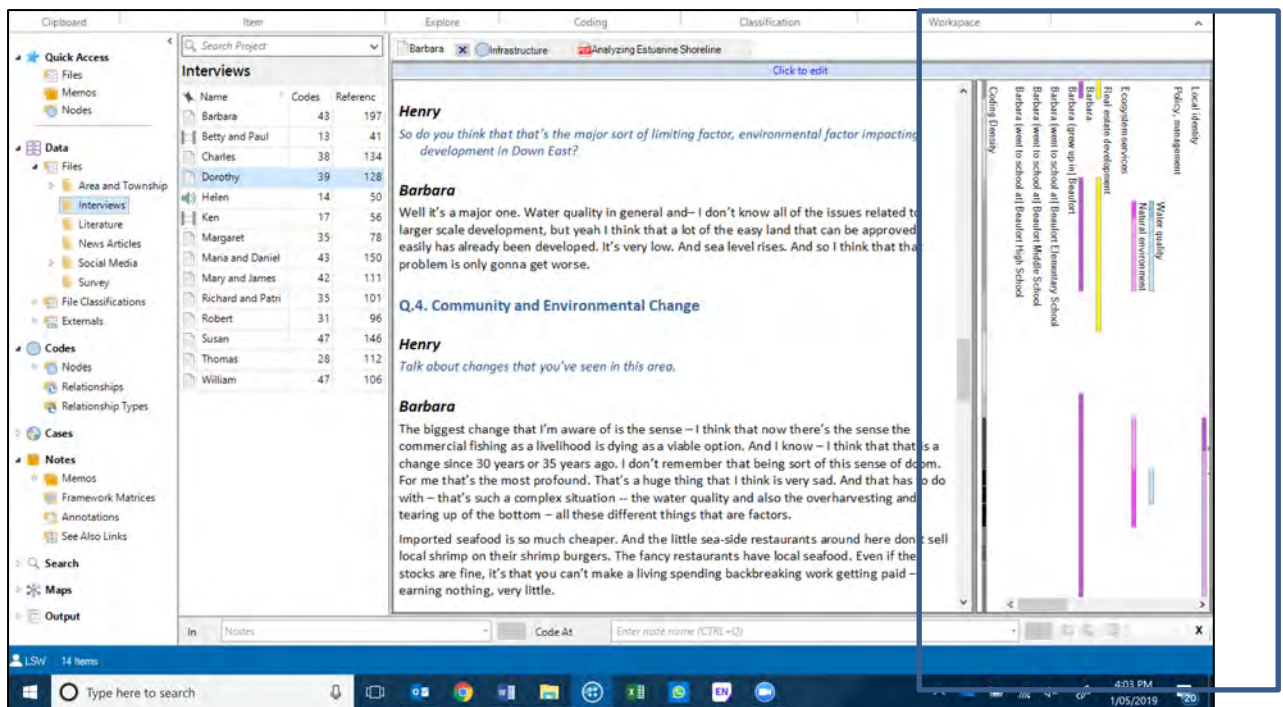
To learn more about the many functions of coding stripes –explore the help pages

Node hierarchies that work and those that don't.

After exploring and coding a file or number of files, take some time to reflect on what you have discovered. Coding is rarely a one-stage process. As you review the coded data at a node, you will often see ways to improve your coding—for example, you may want to:

- Include more of the context around coded content—for example; expand coding to include the whole sentence or paragraph.
- Remove some of the coded content by 'uncoding' it (especially useful if you used a Text Search query to do some broad-brush coding).
- Develop ideas by coding content to other nodes. This process is termed 'coding-on'.
- Create or reorganize nodes as you respond to what you are seeing in the coded data.

Take time out from coding to reflect on your nodes and organize the themes that are emerging. Reasons for keeping your nodes organized include:

HANDY HINT: To help decide if nodes should be placed into a hierarchy – ask yourself "is the child node **a sort of** the potential parent node?" For example, if you are considering whether to put a node called 'Economics' into a hierarchy (parent node) called 'Industry types' – it would not fit the criteria of **a sort of** industry type. However, if you had nodes relating to 'fish farming', 'car building' and 'hairdressing' then they would be **a sort of** industry type.

- Being able to find your nodes easily saves time during the coding process.
- If you have trouble finding a node, you are less likely to use it consistently.
- You are more likely to lose or confuse ideas in an unwieldy node structure.

Here are some strategies for building an efficient node structure:

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- Keep node names short and pertinent.
- Make sure a node only appears once in the whole hierarchy, to avoid having a "Node Virus".
  - Try not to combine concepts in a node. For example, instead of coding some text at "rigour in qualitative research", code it at both of a node for "Rigour" and a node for "Qualitative research".
- Remember that you will be able to use queries to gather your coded content in all sorts of combinations—for example, find all content coded at the node Rigour AND at the node Qualitative research.
- Try not to force nodes into a hierarchy—if a node is not related to any other concept then leave it at the top level.
- Try not to nest more than 3 levels deep within a hierarchy if you can help it.
- Make a node to gather 'great quotes'.
- **Prune your nodes regularly. Merge, reorganize, rename**.

Moving and merging Nodes

Nodes are fully editable and do not need to be static – you can **code** or **uncode** content within nodes, delete nodes, move nodes and merge nodes.

Move nodes to a new parent or folder
- In List View, select the required node.
- Right mouse click over the highlighted **Node** and select **Cut** OR
- From the **Home ribbon** – select **Cut**
- Select a destination node folder or parent node.
- Right mouse click over the highlighted **Node** and select **Paste** OR highlighted the required **Node** and from the **Home ribbon** – select **Paste** OR **Ctrl+V** keys

NOTE: You can also drag and drop nodes to move them between folders and within hierarchies.

When you move a node, it retains it classification, coding, annotations, links and relationships.

Merge one or more nodes into an existing node
You can merge one or more nodes into another existing node. This can be useful when two nodes have a similar meaning or content. For example, you could merge the nodes farming and cultivation into the node agriculture.

Task 16: Rename, sort and merge some nodes

To merge one or more nodes into a 'target' node:

- In List View, select the required node(s).
- Right mouse click over the highlighted **Node** and select **Cut** OR from the **Home ribbon** – select **Cut** OR **Ctrl+X** keys
- Select a destination node.
- Right mouse click over the highlighted **Node** and select **Merge** OR from the **Home ribbon** – select **Merge** OR **Ctrl+M** keys

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Chapter 4: Basic search functions

Queries provide a flexible way to gather and explore subsets of your data. In NVivo, you can create queries to find and analyse the words or phrases in your files, notes, and nodes. You can find specific words or those that occur most frequently. You can undertake more advanced functions to ask questions and find patterns based on your coding and check for coding consistency among team members. In this basics workshop we will cover the search techniques of **Text search** and **Word Frequency**.

How do I set up a query?

NVivo queries offer a flexible approach to exploring your data, you can create quick and simple queries to get a sense of what is happening in the data or you can build detailed queries for a more focused perspective. Queries are essentially NVivo's name for criteria questions. The query questions you ask can be developed, reviewed, refined, and saved for running again another time. The query results can be previewed or saved.

The best way to become familiar is to run some simple queries and preview the results. As you grow in confidence you can look at building more complex criteria and storing your results in nodes and sets. When you create any type of query the query properties dialogue box comes up. Each of these varies in complexity but most have a similar structure, where by you need to define which project items you want the search to look in, what it is you want to search for (i.e. words, coding or attributes), and what you want NVivo to do with the output of the query (preview or save).

Text search

The computerisation of text information allows us to find all occurrences of a word, phrase, or concept. This is a computerised search function and therefore is character specific although we do have some Boolean search and wildcard functions available. You can choose to search only the primary content of your files, only in your annotations or both. You can select the content you want to search by selecting files, nodes, sets, folders or search folders.

To run a search for a specific **word**:

- From the **Explore** ribbon select **Text Search** OR From search, select Queries to show the list of saved queries in the list view. Right mouse click in the white space of the queries list view, select **New Query** then **Text Search**
- The query dialogue box will open in the top of detail view
- Add your search terms
- Select the degree of similarity you require for your terms (see Help for more detail on this)
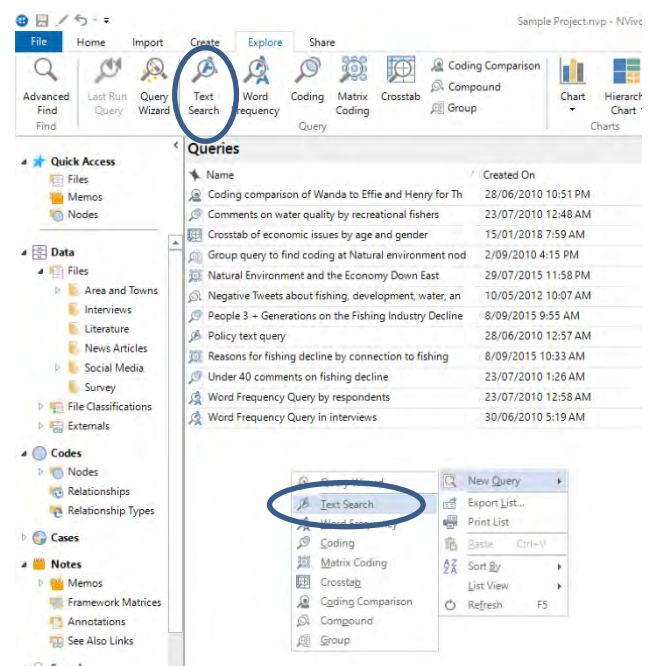
- Choose whether you want Text, Annotations or both
- Select from which files, folders or sets you want to search
- Select Run Query

Note: If you like the results you get, you can select all and save them as a node.

<div style="border: 2px solid maroon; padding: 10px;">
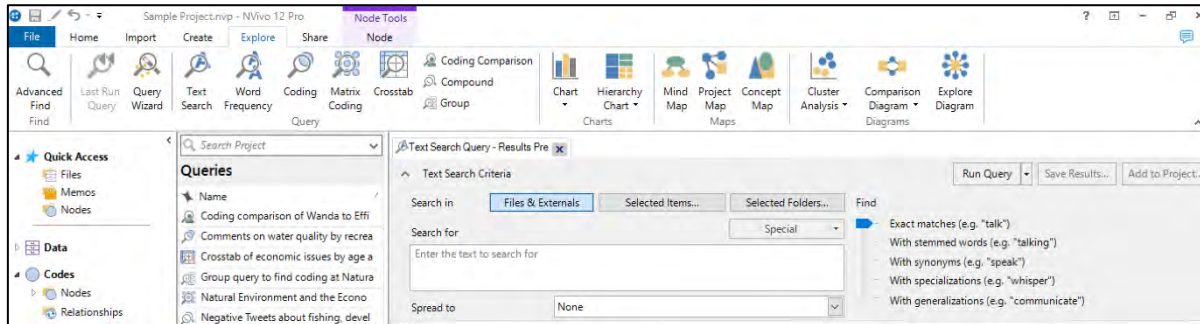
Task 17: Conduct a text

search for a word

</div>

HANDY HINT: If you use preview only for a query and decide to save the query question or results, or want to refine and rerun the query, use the Last Run Query button in the query ribbon.

Word frequency

Just as we can search for a specific word, the word frequency function allows us to find the most frequently occurring words or phrases. Depending on your research methodology, this may not seem directly relevant to your analysis; however, it is a fabulous way to commence exploring your data.

To run a **word frequency**:

- Select Queries in Navigation view to show the list of saved queries in the list view.
- Right mouse click in the white space of list view, select **New Query** then **Word Frequency** OR from the **Explore** ribbon select **Word frequency.**
- The query dialogue box will open in the top of detail view
- Select the degree of similarity you require for your terms (see Help for more detail on this)
- Choose whether you want Text, Annotations or both
- Select from which files, folders or sets you want to search
- Reduce the number of words to display and raise the minimum length.
- Select RUN

<div style="border: 2px solid maroon; padding: 10px;">

Task 18: Conduct a word

frequency for journal articles

</div>

- The results will display in an excel table format – you can select the column headers to adjust the sort method
- If you double click on any of the words in the table it will open to show you them in context.

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- You can also view the results using Tag Cloud, Tree Map and Cluster analysis visualisations from the right hand side tabs.
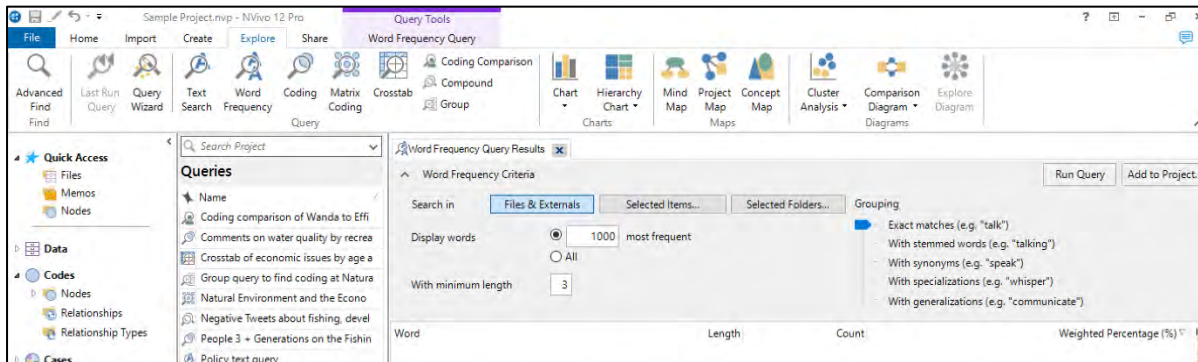
Stop Words

NVivo provides a set of default stop words for most language contents. The default stop words are unlikely to be significant words, like conjunctions or prepositions that may not be meaningful to your analysis. You can view the stop words associated with each language, and you can customize the stop words by adding or removing words from the stop word list.

To review the stop words list for a project:

- Select **File** then **Project Properties**
- **On the general tab** select the **Stop Words** button.
- Add or remove words as appropriate to your own project, ensuring they are separated by a space.

HANDY HINT: If you search for 1000 words with minimum length of 1 you will retrieve a count of all I, at, is, in etc words (unless these are in the in stop word list) which are unlikely to be of use. I suggest a maximum of 100 words and minimum length of 4. But it is dependent on the results you are trying to achieve.

Task 19: Locate stop words and remove the word "ourselves"

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Chapter 5: NVivo and Endnote for Literature reviews

Traditionally NVivo is the main resource for researchers using qualitative research methods and approaches included in-depth interviews, focus groups, content analysis, ethnography, phenomenology and grounded theory, whereby the most basic form of analysis involves the interrogation of unstructured data. The more recent versions of NVivo enable researchers to incorporate seamlessly open-ended survey responses, literature reviews, audio recordings, pictures and web pages to their qualitative projects. Whatever data you have, NVivo is an excellent means of managing large amounts of it. When conducting literature reviews, NVivo offers:

- *Better quality for less effort*
- *Reduce reliance on memory and misplacing of important data*
- *Allows you to include more sources because you have a framework that can handle more*
- *Have the means to go back easily and quickly so you can review, rewrite and resubmit with ease*
- *Avoid plagiarism and protect your academic reputation*
- *Find links between references that you may not have found before*

Working with your literature

NVivo provides a storage area for all the project items that form your research materials, including your literature review material. You can import source files such as journal articles one at a time. However, this is not the most judicious use of the functions of NVivo and EndNote.

Internal and external source files

Internal source files are the file types that NVivo can directly import and use within the project. Examples include word documents, text files and PDFs. Externals are used to represent source materials that you cannot import into your project (such as a hardback book). You can summarize or describe the source materials within the external file – as it creates a document file as a proxy. Externals function similarly to documents, except they are stored in their own folder.

HANDY HINT: Remember PDFs and documents function differently within NVivo

- Documents are editable
- PDFs are not editable
- Documents have no pagination
- PDFs are fully formatted and fully paginated

When you Import from EndNote, the bibliographic information (classification and attributes) is being imported and this need to be 'attached' to a file. If the actual reference file exists it will import that file and attach the citation information to it, however if the file attachment is not in your EndNote library on import NVivo will create an External source file for each reference being imported without an existing file.

Memos

Memos are the place we recommend you store your notes and insights about the material you are analysing your personal ideas. Memos of any notes or abstracts from an Endnote

file will be automatically generated during importation. You can however, still create your own within NVivo, as described in section 2.

## *Preparing your literature review sources*

The majority of your literature for the review will be in the form of PDFs. These can be made in a multiple of ways, and the way in which they are created will impact on their functionality on NVivo. NVivo is able to decipher individual text characters during its search and query functions. Basically, there are two primary types of PDFs frequently used in research.

Method 1: The first is where the PDF is created digitally, and each character is unique and independently readable by the computer. An example is a word document that is converted into a PDF such as research reports, journal articles, government releases and policy documents. Such files often still have graphics embedded in them – however the graphics converts to a picture within the PDF – with the characters separate from this. This affects the way it is handled in NVivo.

Method 2: The alternative way a PDF is created is by scanning documents/images/books through a flatbed scanner or photocopier and saving as a PDF file. With this method each page regardless of whether text or image, or both, is saved as a single image and the computer is unable to read individual text characters. Therefore, if you import the PDF into NVivo, you will find that there is no text in the page to select, code or query. You can select and code regions of the page, however you are coding an image selection and therefore you cannot use Text Search or Word Frequency queries to explore the text. If you prefer to work with text (rather than images of text), then you should consider using optical character recognition (OCR) or Text Recognition software to convert the scanned images to text (before you import the PDF files into NVivo).

Text Recognition: This can be done in Adobe Acrobat Pro via: Tools/Enhance Scans/Text Recognition, or via online freeware tools. This is a really important step to do before importing your literature into NVivo for your review.

In the following article it is evident that the computer cannot read the text characters as I am unable to place my cursor in the text row; when I try it just wants to select a region and therefore the article is behaving as a scanned image. This will greatly reduce its functional capacity in NVivo.
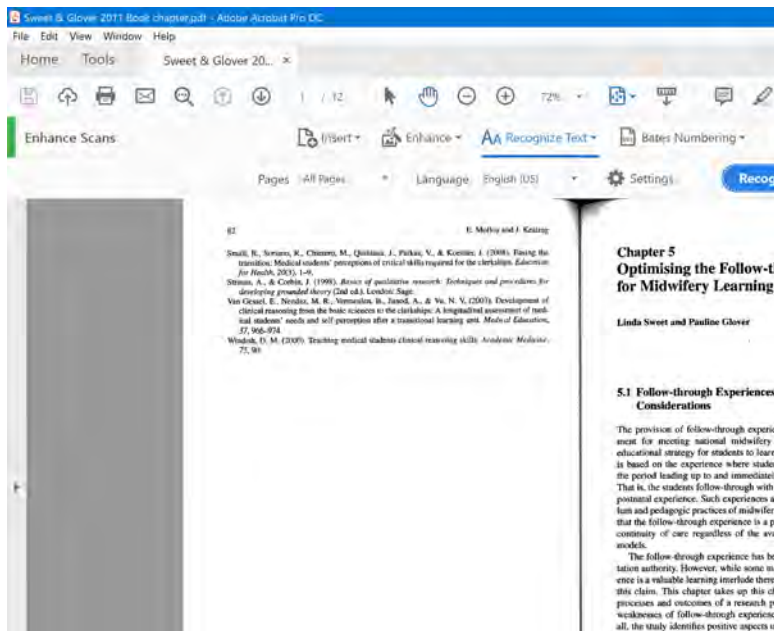
Run text recognition using Adobe Pro

- Open the PDF in **Adobe Pro** (this function is not available in Adobe Reader)
- Select **Tools/Enhance Scans/Text Recognition**
- Select **In this File** from the right hand side menu
- Select the recognise text button.
- There have been a few occasions where this process has not worked. If this happens try another text recognition software such as converting to word.

Importing literature review sources with EndNote

Importing your journal articles via EndNote allows you to import all of the bibliographic details of your sources as well as the source itself in the one process. Therefore, it is important that you have your EndNote library set up correctly and ideally with the PDFs of each article as a file attachment for each reference.
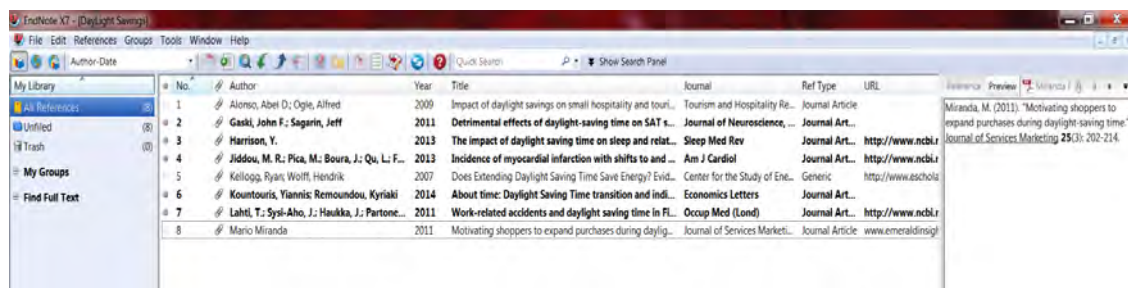

If you like to write notes in EndNote about the articles you have in your library, and/or store the abstract within the EndNote references, don't worry – all of this information will be brought across to NVivo on import and stored as a linked memo.

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EndNote and NVivo do not "talk" to each other in real time. You need to choose the items you want from your EndNote library and save them on your computer and import them into NVivo. You can do this many times as your literature search develops. This means if you make changes to your EndNote library or your NVivo Project it will not make changes automatically to the other.

Importing EndNote data to NVivo

- Open your **EndNote library** in the **EndNote** program
- Select the EndNote references you wish to import into NVivo.
- With your selected references highlighted click **File – Export**
- The export dialogue box will open. This process creates a copy of the references selected – it does not remove them from EndNote.
- Choose a location that will be easy to find to store the temporary files – I usually use my desktop.
- The vital step now is to store the **export file as an XML** using the "save as type" drop down menu.
- You must store the XML file on the same computer disk as your NVivo for the background temporary links to work between EndNote and NVivo. This means **do not store** it to a USB and take it to another computer for importing to NVivo – as the background file paths will be lost.
- Once you have created the XML file, close EndNote and go to your NVivo project.
- From the **Import** ribbon select **EndNote**

<div style="border:2px solid maroon; padding:10px;">
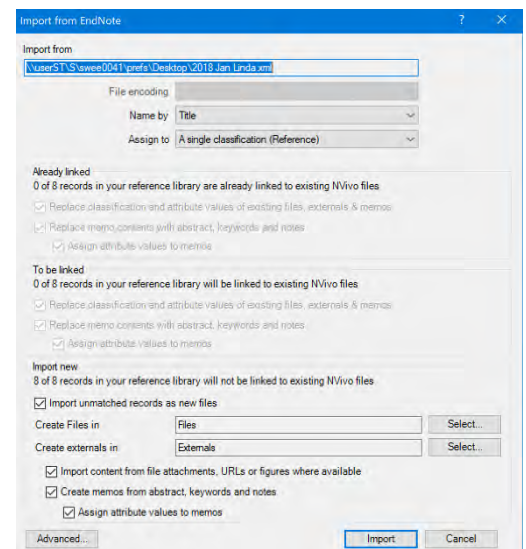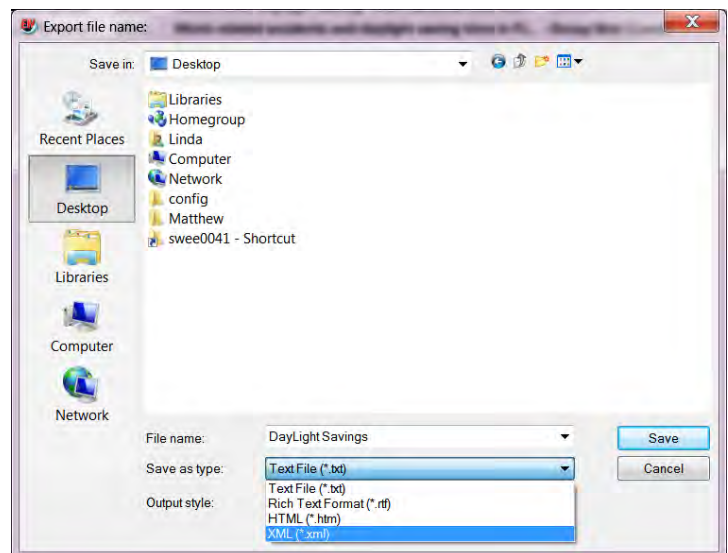
Task 21: Export your selected Endnote references as XML file then import into NVivo

</div>

- Navigate to and select the **XML file** you just created
- The **Import From EndNote** dialogue box will then appear.
- This is where you can modify any of the import settings, and it also shows the number of new references you are importing and whether any already exist in NVivo.
- You can see the default setting is to import the file attachment, automatically create memos and assign the source classification and attributes
- Select import to complete the process

For the references that had notes, abstracts or keywords you will see a Memo has automatically been created and linked to the source file.

Created 2013; Last updated April 2019

Chapter 6: Framework matrix

NVivo does not prescribe an analytical approach but provides tools to let you work the way that suits you best. Framework matrices provide a way to summarize your literature review materials in a grid that has rows for case nodes (for example, each journal article) and columns for theme nodes (for example, method, sample size, results). At the intersection of each row and column, you can enter a free text summary. You can apply formatting (for example, colours, bold and italics) to text in the summaries; but cannot code the summary content.

Summarizing source content allows you to condense large volumes of literature into more manageable quantities and can help you to gain insight and familiarity with your findings. Working with condensed source materials in the framework matrix can make it easier to:

- See everything about a theme by looking down a column
- See how different themes relate to each other for a particular individual by looking across a case row
- Compare the findings of different research articles by comparing one row to another

Once you have condensed your source materials in a framework matrix, you can easily share your data with others by printing the matrix or exporting the matrix to an excel spread sheet.
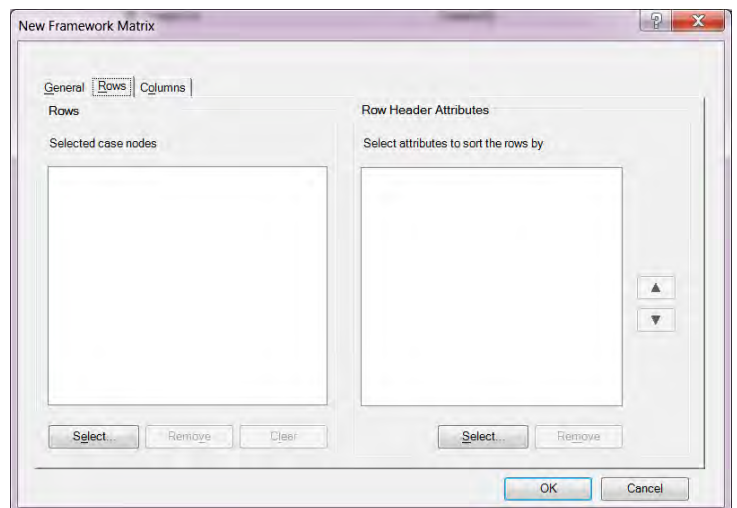
Create a framework matrix
- A Framework Matrix requires "case nodes" and "theme nodes" to be first created.
- So first create a sub-folder especially in the Cases section of navigation pane. Right click on **Cases** and select **New Folder**
- You need to then create a case node for each journal article.
- The quickest way to do this is select all of the journal articles in list view, right mouse click and select **Creates as Cases**
- Create these in the case nodes folder you just created
- Next create the "theme nodes" that you wish to have in your matrix. For a literature review this may be sample size, methods, results. Ideally this means anything you wish to compare across the individual items in the review. I suggest you create a subfolder in Nodes for the Literature review.

- You can choose to code content from each article in the review to these theme nodes or just have empty nodes.
- To create an actual Framework Matrix, select **Framework Matrices** in the **Notes** section of Navigation pane
- Either right mouse click in the white section of **List View** or from the **Create** ribbon select **Framework Matrix**
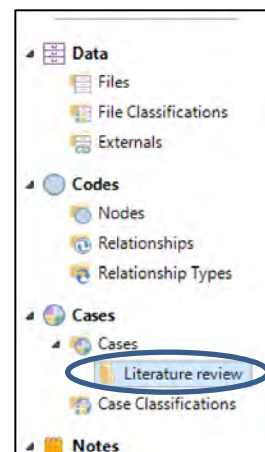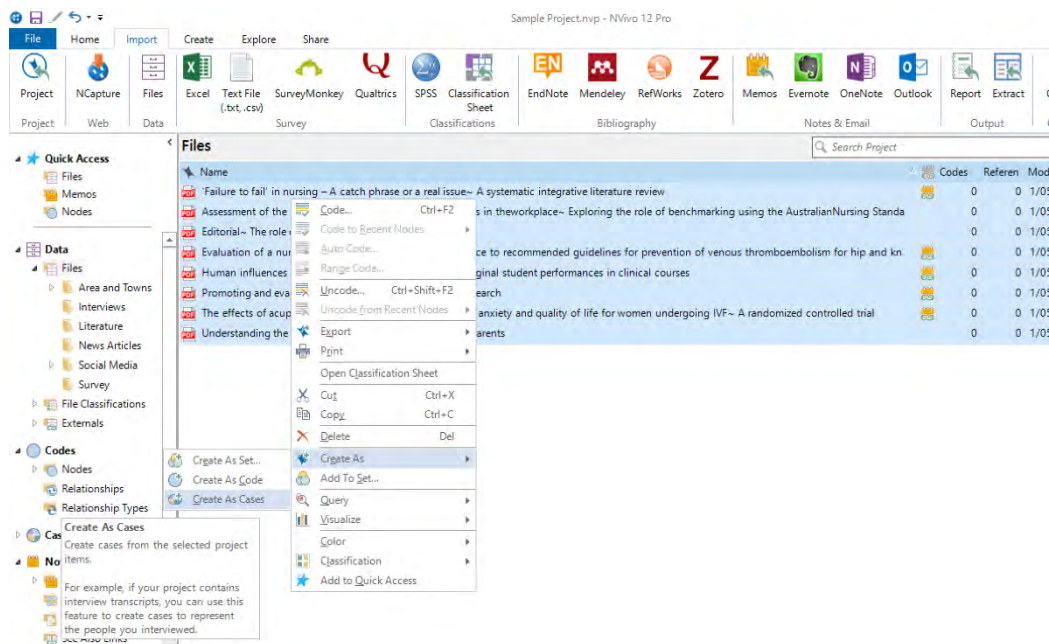
- The **New framework Matrix** dialogue box opens and you first need to label your matrix
- Next you need to define the rows and columns of the matrix.
- Select the case nodes for the rows and select the theme nodes that you want to summarise into the columns of the matrix

Working with framework matrices

- In each cell you can now add summary content about the articles content for each theme node/content of interest.
- Alternatively if you have coded these concepts properly you can use the **Tools ribbon** and select **Auto Summarize Framework Matrix**. This will populate the cells with the prior coded data for further visualisation and analysis. You can still add free text summaries in the cells following auto summarize.
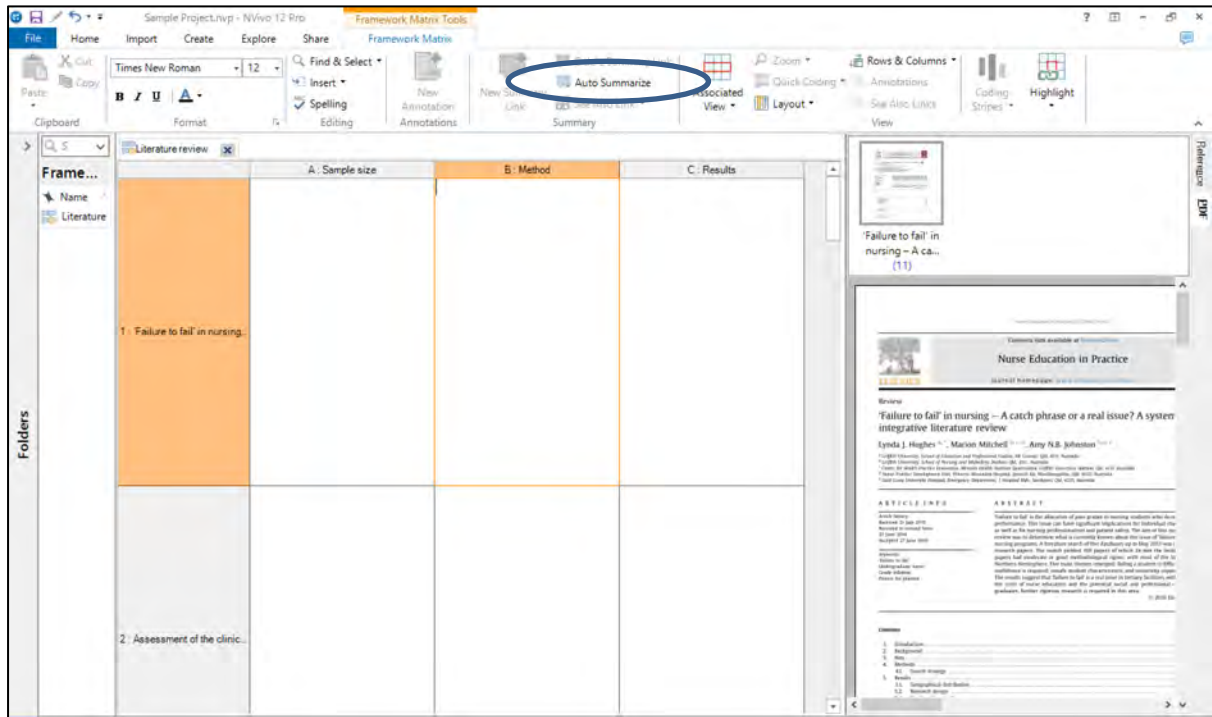
- On the right hand side you get a display of the case node under review – which for literature review means the original journal article. Use the PDF tab to see it in normal PDF formatting.

Chapter 7: Moving on with NVivo

Where to get help?

There are a number of ways in which you can seek help for using NVivo. There is built in Help files which cover every aspect of using NVivo. NVivo will automatically install these Help files on your computer (offline Help) but defaults to try to access online Help (via the web if you have an Internet connection). If you are not connected to the Internet, NVivo opens the installed offline Help. Online help is to ensure you are getting the most up to date and accurate information at all times.

To open the Help, do any of the following:

- Press F1
- Click the File tab, then point to Help, and then click NVivo Help.
- Click the Help icon ❓ in the upper right of the NVivo ribbon or any dialog box—when you open the Help from a dialog box, the relevant topic is displayed.
- On the NVivo Welcome screen, click the Help button at the bottom of the window

Alternatively, you can access the NVivo Community through **Facebook, Twitter, LinkedIn, QSR Forum** as well as view many tutorials on the **QSR You Tube channel**. Don't be concerned about using an NVivo 10 or 11 resource as the core capacities and processes are the same.

The direct live links to all of these resources are located on the front opening page of the Help files.

QSR YouTube videos of value:

- [Tutorial: Getting started guide for NVivo 12](#)
- [Importing with NVivo 12 (Windows)](#)
- [Coding in NVivo 12 (Windows)](#)
- [Manage nodes with NVivo 12 (Windows)](#)
- [Analysis in NVivo 12 (Windows)](#)
- [Understand nodes and cases in NVivo for Windows](#)

What to expect in an NVivo Advanced workshop.

The advanced workshop will build on the skills covered in this basics workshop. It is really important that you consolidate the basic skills before moving into the advanced workshop.

1) Working with Multimedia sources – pictures, audio and video
2) Working with and analysing datasets
3) Creating classifications and attributes
4) Working with Collections and search folders
5) Using the find and advanced find tool bar
6) Creating advanced queries

Some useful resources:

Saldana, Johnny. 2013. The coding manual for qualitative researchers (2nd Edition); Sage Publications Ltd. London

Richards, Lyn. 2009. Handling Qualitative Data: A Practical Guide (2nd edition); Sage Publications Ltd. London

Bazeley, Pat. 2013. Qualitative Data Analysis: practical strategies; Sage Publications Ltd. London

Ezzy, Douglas. 2002. Qualitative analysis: practice and innovation. Crows Nest, N.S.W: Allen & Unwin.

Miles, M., Huberman, A.M, and Saldana, J. 2013. Qualitative Data Analysis: a methods sourcebook (3rd Edition); Sage Publications Ltd. London

Revision tasks

- Locate where the project file has been saved.
- Make a backup copy of your project to a USB.
- Create a project journal file.
- Import your journal articles
- Create a subfolder in memos for literature abstracts.
- What is the difference between text and region pointer and how do I change this?
- Which of your nodes has the most coding?
- Insert an annotation in a file
- Turn annotation view on or off
- Capture a web page and import it to your project
- Change the screen to be detail view right or bottom
- Turn on coding stripes
- Run a text frequency for one journal article
- Save some Endnote references for importation
- Import Endnote XML file and create case nodes
- Create a framework matrix with rows of your endnote papers and columns of method, sample size, and findings.
- Any questions/queries you have bring with you to the next workshop! ☺