

Introduction to NVivo: Qualitative Coding for Text Analysis

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ENGL 4710 Capstone Seminar
Fall 2022
Prof. Mya Poe



Northeastern University
NULab for Texts, Maps, and Networks

*Feel free to ask questions at any point
during the presentation!*

Activity: Highlighting Themes

With a partner:

- Read the excerpt from Martin Luther King Jr.'s "Letter from Birmingham Jail"
- Come up with three themes you might want to highlight from this text; these themes should be about 1-3 words (ex: "police brutality")
- Underline the moments in the passage that reflect these themes.



Workshop Agenda

- Workshop objectives
- Qualitative Coding: annotating and highlighting sources
- What is NVivo?
- Important vocabulary and functions
- NVivo demonstration

Slides & handouts at: <https://bit.ly/fa22-poe-engl4710-nvivo>



Workshop Objectives

- Understand what qualitative coding is and why it can be useful while doing research
- Understand what NVivo is as a research tool and what it can do
- Learn the differences between NVivo file types and why knowing this is important
- Learn important NVivo-specific vocabulary to aid independent research



Qualitative Coding

In our beginning activity, we practiced a form of **qualitative coding** together.

Qualitative coding is when you create a list of themes, or a **schema**, that you want to highlight in a primary/secondary source. Then, you go through all your sources and highlight particular moments from the text according to those themes.



What is NVivo?

NVivo is a **text analysis** and **research organization** software that is available through MyNEU. NVivo provides methods for you to annotate and code documents using user-created tags (nodes/codes), summarize and visualize these codes, and organize research materials.

NVivo is particularly helpful for organizing and annotating research materials such as:

- secondary sources: scholarly articles you read for the literature review, newspaper articles, book chapters.
- primary sources: any primary sources you may be analyzing such as a letter, field notes, or a document from an archive
- your own notes about your project (you can even compose in NVivo)



Nvivo for Annotating & Coding Sources

With NVivo, you can store and organize your **primary** and **secondary** sources together (most file types work, including images).

NVivo also allows you to **annotate** texts and use **qualitative coding** methods to highlight specific texts/images/pieces under themes.

Then you can **summarize** and **visualize** these annotations and codes.



What can NVivo do?

NVivo is designed for qualitative coding research materials, such as survey results, interviews, audio recording, text documents, articles, and other data formats. It also has other functions:

- create projects that store, organize, and code documents/files
- provide a method for you to code your documents with a user-created coding schema (nodes)
- query, summarize, organize, and visualize information about your coding
- conduct forms of computational text analysis, like word counts, on the documents, themselves



NVivo is NOT crossplatform friendly

The Mac and PC versions of Nvivo—as well as the version numbers—are different and have different file types.

- Mac NVivo projects end in .npvx and can only open that file project type
- Windows NVivo projects end in .npv, but can open both .npv *and* .npvx
- Version numbers (10, 11, 12) also impact which projects can be opened on which platform

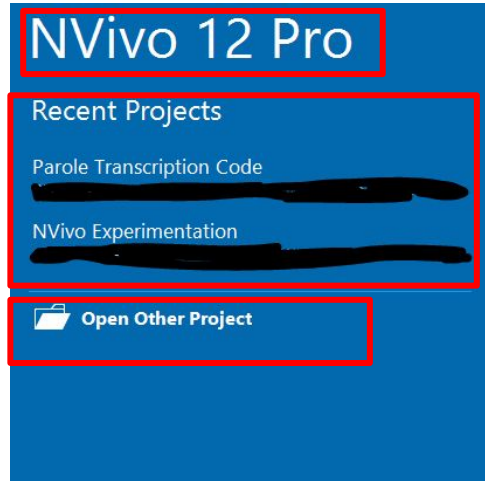


Anatomy of NVivo: Opening on Windows

Your version number (you should have version **11** or **12**)

The recent projects you opened

Open another project that is not recent



Create a new **project** (stores all your documents, codes, etc)

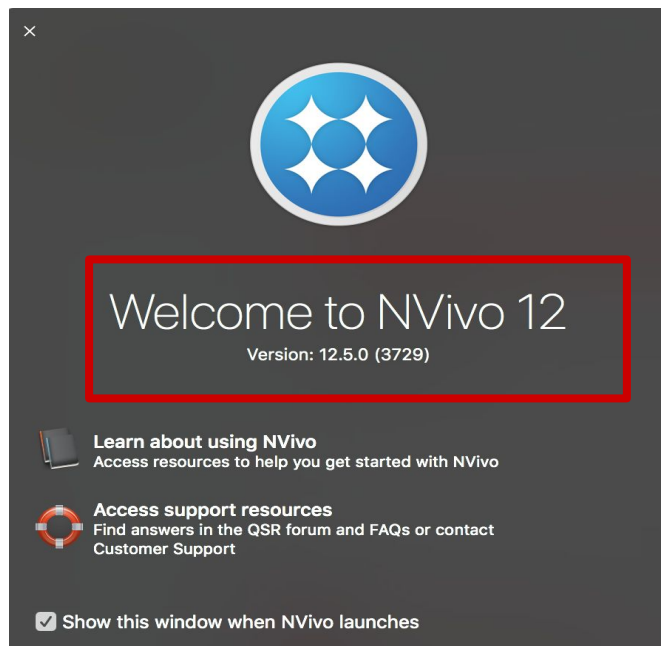


Learn and Connect



Anatomy of NVivo: Opening on Macs

Your version number (you should have version **11** or **12**)



Create new project
Create a new project

Create a copy of the sample project
Explore and experiment with NVivo using the sample project

Create a new **project** (stores all your documents, codes, etc)

Parole Trans Code_...sion (NVivo 12).nvp
~/Downloads

TEST.nvp
~/Documents

Untitled.nvp
~/Documents

Sample Project.nvp.nvp
~/Downloads

The recent projects you opened

Open Another Project...

Open

Open another project that is not recent

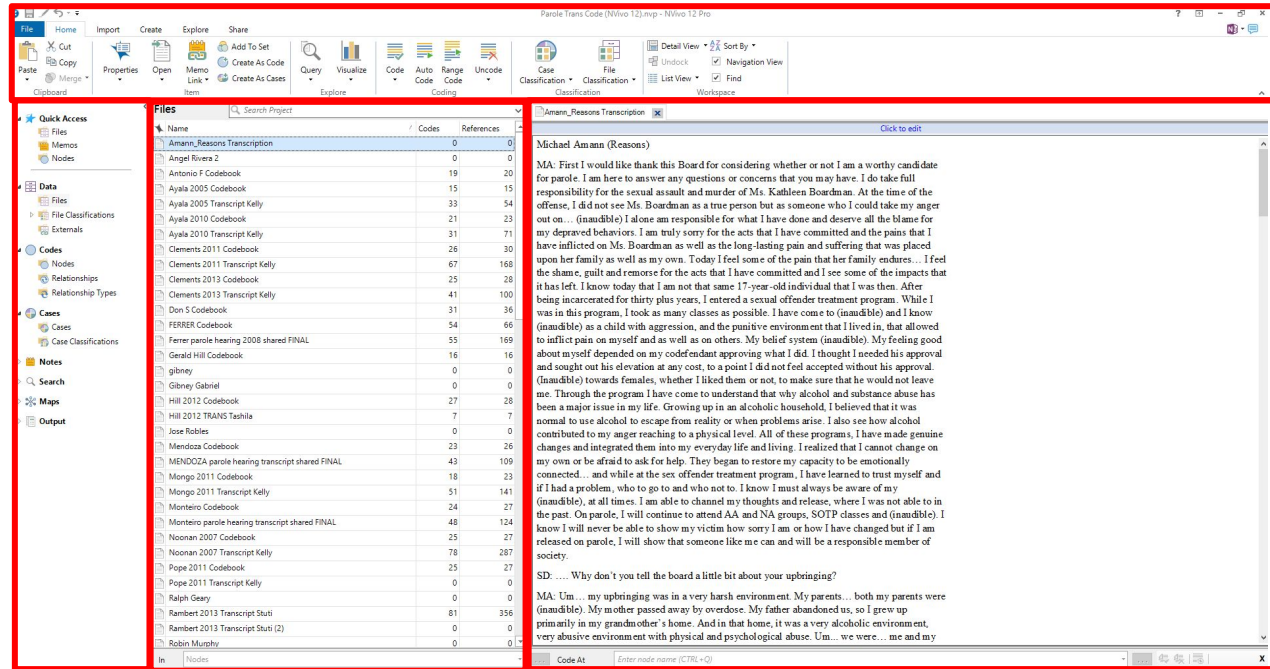


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Anatomy of NVivo: Projects on Windows

Toolbar to access functions



Menu to access files, nodes, cases, notes, etc.

The window that will open the files, queries, etc. You can annotate documents here.

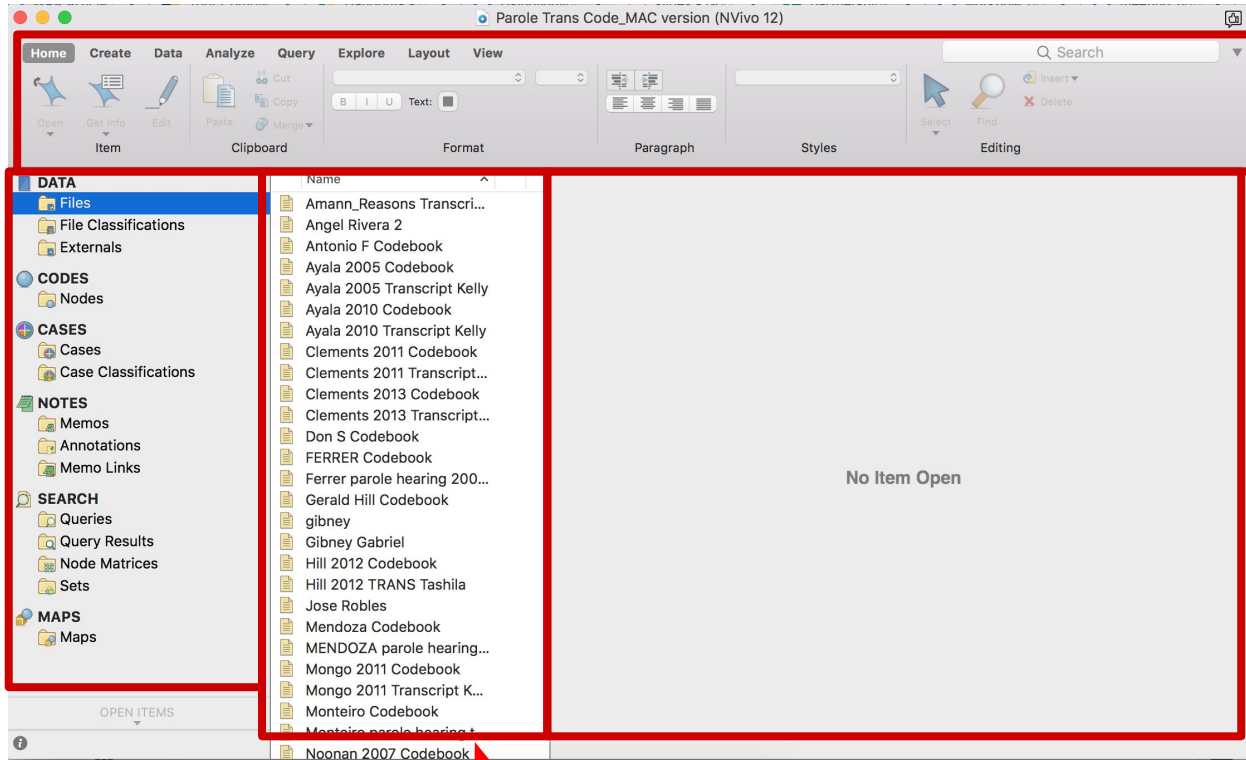
List of nodes, files, etc.



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Anatomy of NVivo: Projects on Macs



Toolbar to access functions

Menu to access files, nodes, cases, notes, etc.

The window that will open the files, queries, etc. You can annotate documents here.

List of nodes, files, etc.

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NVivo Vocabulary

Full definitions available on the handout

- **Data:** your research documents & files
- **Codes:** the ways to annotate the themes/concepts in your research.
- **Nodes:** the themes/concepts that are user-created
- **Relationships:** coding connections between two data
- **Cases:** units of analysis for your research.
- **Maps:** visualization tool to see connections between the cases and nodes
- **Query:** a flexible way to explore and analyze your files, cases, and nodes

items



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Demonstration of Tool

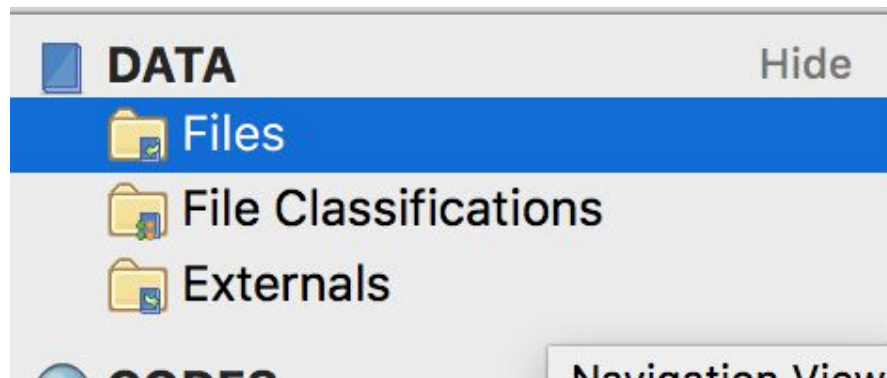
Using the sources we sent (the letter and the article), we will quickly show you how to input the documents, code, and visualize your codes!

Don't follow along at this moment—you will have a chance to explore NVivo later.



Data

The “Data” in NVivo are all the research materials you are using (scholarly articles, transcriptions, newspapers, research notes, etc.).



“Files” will be where you can access all the research materials you have imported into this project.



Important Reminders

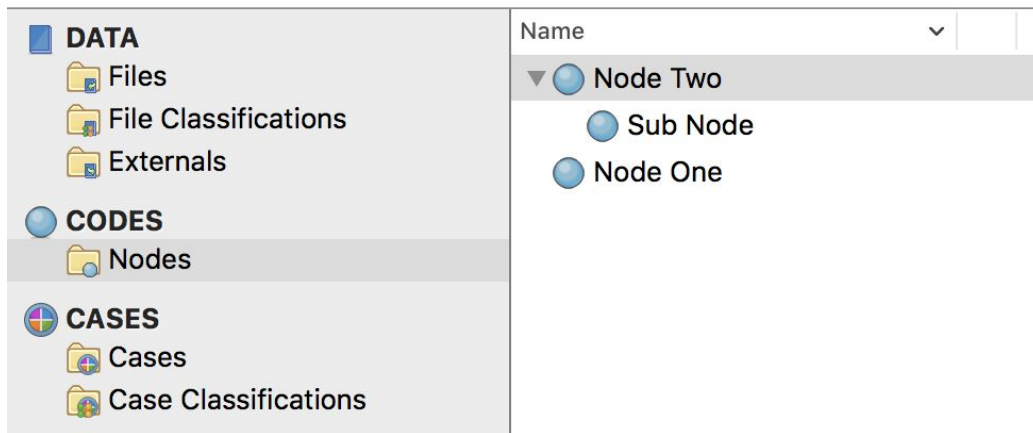
NVivo can import all types of files, including .docx, .pdf, .doc, .csv, .png, .jpeg, .txt, video/audio files, and more.

You should always **save** your original documents on your local computer or in cloud storage, even if these documents are imported into NVivo. NVivo can store documents, but it is more of a useful organization and analysis tool, rather than a storage option.



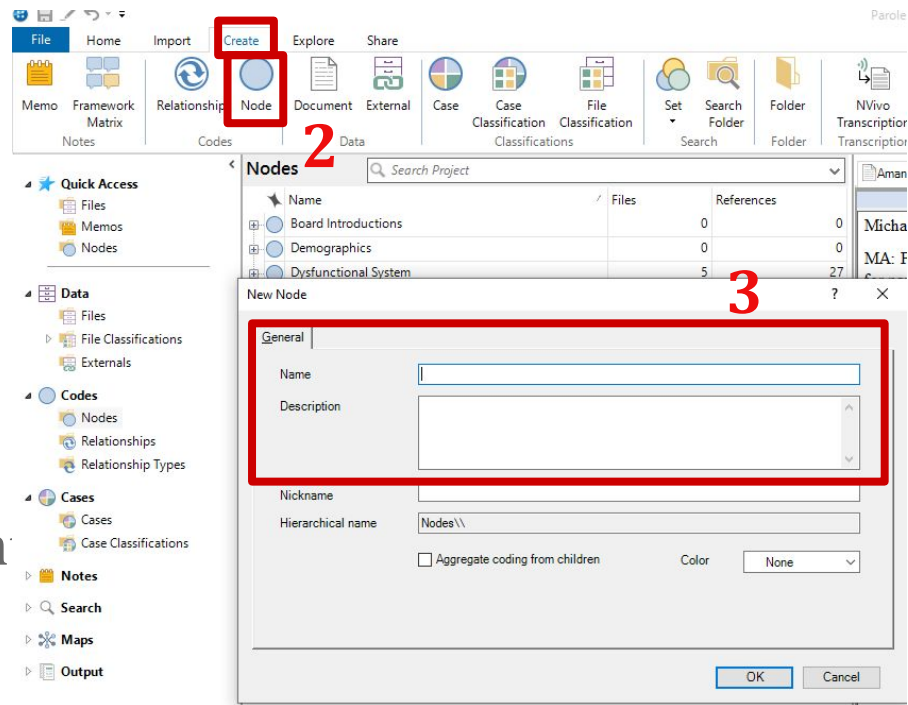
Codes and Nodes

The list of nodes you will use to code your files. The “nodes” folder will be empty until you add your own! You can add nodes and sub-nodes



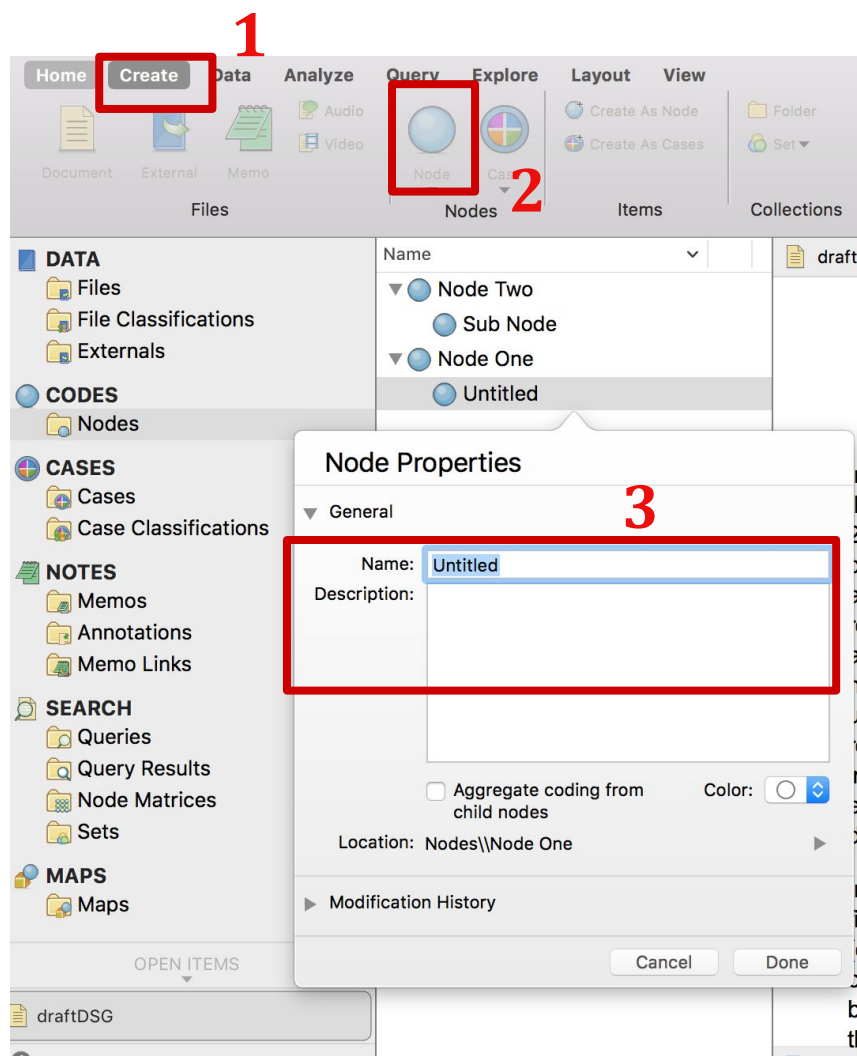
Creating Nodes (Windows) 1

1. Go to “Create” in the toolbar
2. Click “Node”
3. Your new node will pop up and ask for a name and description
 - a. To add a *subnode*, follow the same steps, but click on the original node where you want to add the subnode



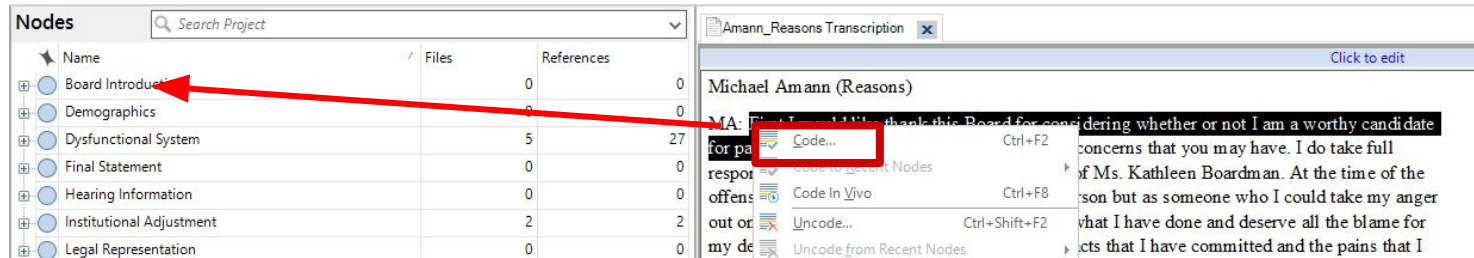
Creating Nodes (Macs)

1. Go to “Create” in the toolbar
2. Click “Node”
3. Your new node will pop up and ask for a name and description
 - a. To add a *subnode*, follow the same steps, but click on the original node where you want to add the subnode



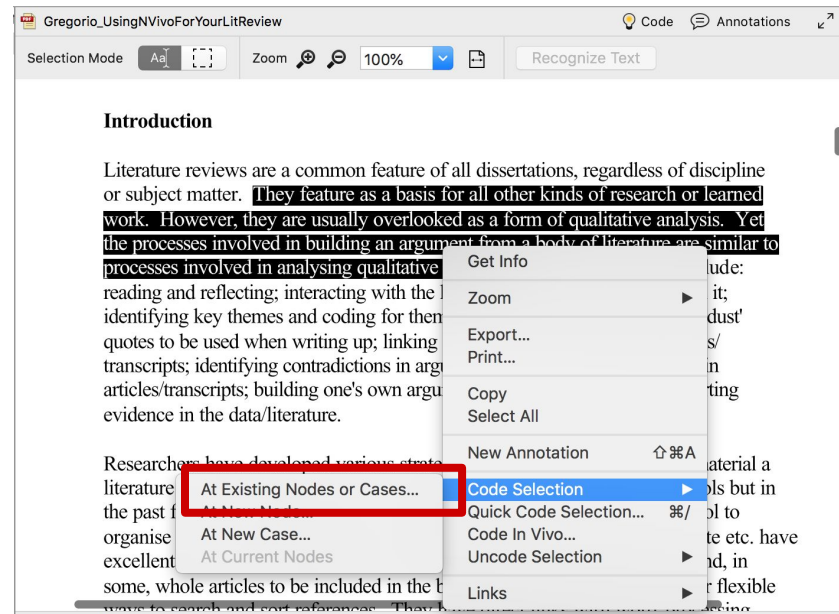
Coding Files/Documents (Windows)

1. Open the file you would like to annotate
2. Highlight the text you want to code
3. Drag and drop the selection onto a node.
4. Alternatively, you can right-click and select “Code”
5. You can also add new nodes/cases as you annotate.



Coding Files/Documents (Macs)

1. Open the file you would like to annotate
2. Highlight the text you want to code
3. Right click and go to “Code Selection”
4. Click “At Existing Nodes or Cases”
 - a. Once you use nodes, the nodes will show up when you click “Code Selection”
 - b. You can also add new nodes/cases as you annotate



View Your Codes (Windows)

1. Go to “Document” in the toolbar
2. Click “Highlight” then “All Coding”
3. Click “Coding Stripes” and “All Coding” to see the code names and where they appear in the document.
 - a. If you have tagged an entire file as a “case,” everything will be highlighted. Simply choose “Coding for Selected Items”

The screenshot shows the NVivo software interface. The 'Document Tools' menu is open, showing 'Highlight' and 'All Coding'. The 'Coding Stripes' panel is visible on the left, showing a list of codes and their matches. The main document text is displayed on the right, with several lines highlighted in yellow, indicating the presence of coding stripes. The highlighted text includes: 'C- 20 years have gone by. So I know, when I look at your record, I should see some significant changes in a 15-year-old boy that did that crime. That has painted that particular area, and those individuals in that area, in the Boston, Dorchester, and Roxbury community. I know that you've done significant programming since then, right? You've changed your life.', 'A- Yes', 'C- What have you done?', 'A- Um, Violence, Violence Reductions, um, Cognitive Thinking.', 'C- I don't see any sex offender treatment.', and 'A- I have not taken the sex offender treatment program. I've asked to go over to the treatment'.

Coding stripes
(shows what codes
appear where in
the doc)

The document you are coding and annotations

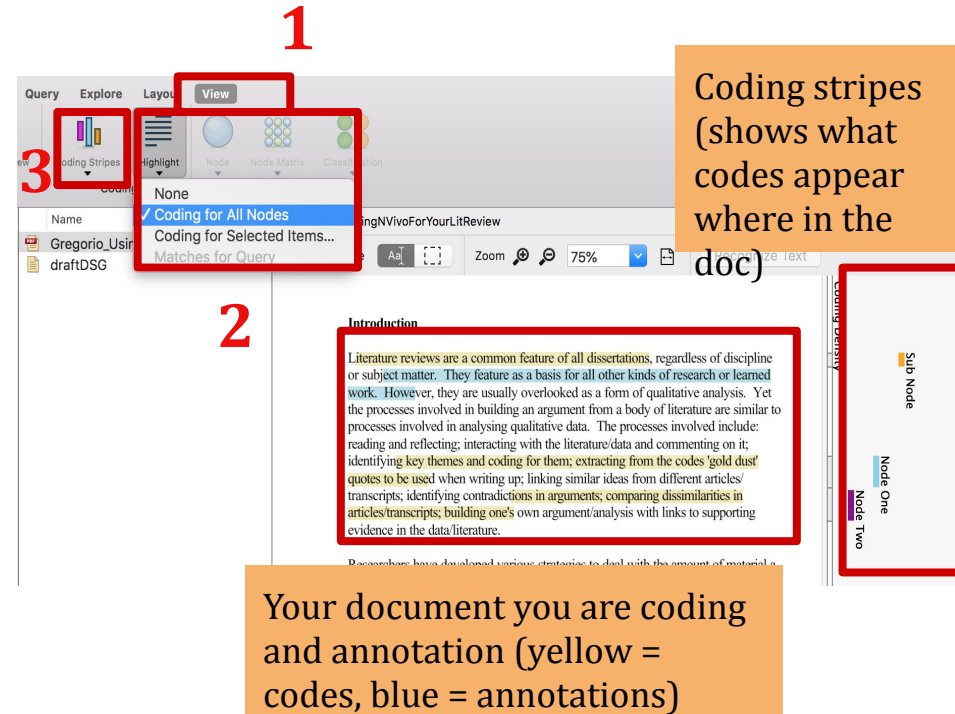


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View Your Codes (Macs)

1. Go to “View” in the toolbar
2. Click “Highlight” then “Coding for All Nodes”
3. Click “Coding Stripes” and “All Nodes Coding” to see the code names and where they appear in the document.
 - a. If you have tagged an entire file as a “case,” everything will be highlighted. Simply choose “Coding for Selected Items”



The screenshot shows the NVivo software interface. The 'View' menu is open, and the 'Coding Stripes' option is selected. The 'Coding Stripes' submenu is also open, showing 'Coding for All Nodes' and 'Coding for Selected Items...'. The document 'Introduction' is displayed, showing text with yellow highlights (codes) and blue highlights (annotations). The 'Coding Stripes' panel on the right shows the document structure with 'Node One' and 'Node Two' highlighted.

1

2

3

Coding stripes (shows what codes appear where in the doc)

Your document you are coding and annotation (yellow = codes, blue = annotations)



Annotating Files (Windows)

To annotate (comment), follow the same steps as coding except instead click “New Annotation” after you highlight and right click. Find all your annotations in the “Notes/Annotations” section in the left menu

The screenshot shows the software interface with the following components:

- Left Menu:** A sidebar with a 'Notes' section highlighted by a red box. It contains sub-items: 'Memos', 'Framework Matrices', 'Annotations', and 'See Also Links'.
- Annotations List:** A table titled 'Annotations' with columns 'File Name' and 'Number'. It lists 'Amann_Reasons Transcription' with the number '1'. This table is highlighted by a red box.
- Document View:** A text document titled 'Amann_Reasons Transcription' is open. A paragraph of text is highlighted in orange. Within this highlighted text, a specific sentence is also highlighted in red. Below the document, there is an 'Annotations' table with one row: '1' in the 'Item' column and 'This is an annotation' in the 'Content' column. This table is highlighted by a red box.

Annotations

File Name	Number
Amann_Reasons Transcription	1

List of annotations

Where you can find all your annotations listed

The text from the document you highlighted and are annotating

Your annotation

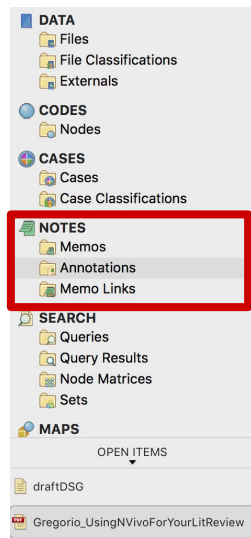
Item	Content
1	This is an annotation



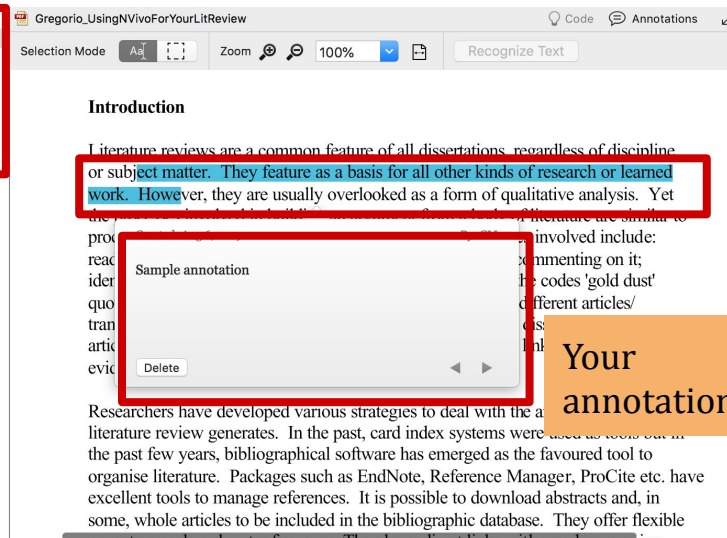
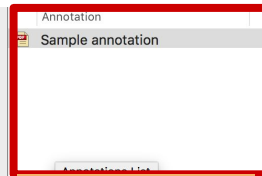
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To annotate (comment), follow the same steps as coding except instead click “New Annotation” after you highlight and right click. Find all your annotations in the “Notes/Annotations” section in the left menu

Where you can find all your annotations listed



List of annotations



The text from the document you highlighted and are annotating

Your annotation

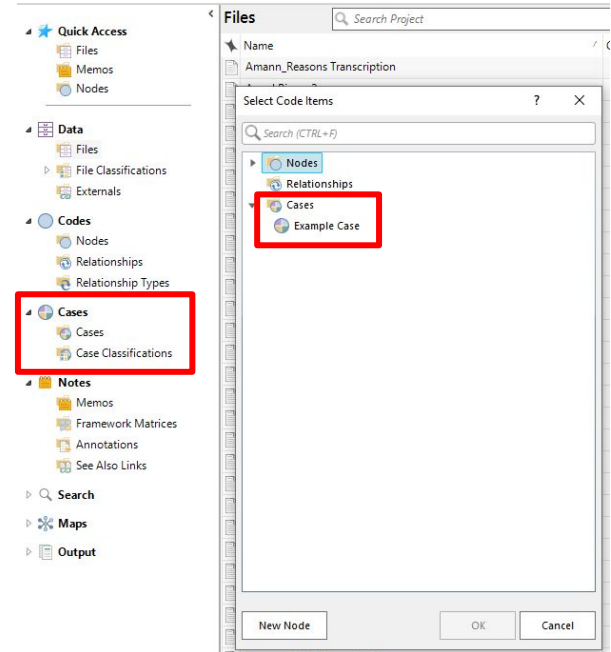


Cases (Windows)

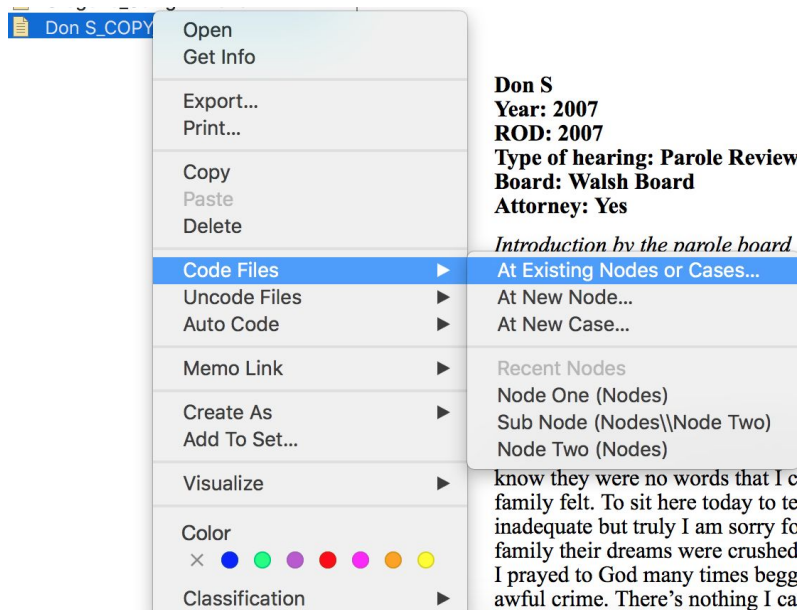
Cases are the types of research texts in your project and can be organized based on the user's choice. **“They might represent people, places, events, organizations or other entities that you want to analyze and compare.”** For example, if you have several transcripts from different trials, but want to categorize the type of trial for each text, you would use cases to do so.

-“About Cases”, [NVivo](#)

To add a “case” to a file, it’s the same method as adding a node, except you choose the “Cases” folder and the proper case.



To add a “case” to a file, it’s the same method as adding a node, except you choose the “Cases” folder and the proper case.



Cases (Macs)



Query

Querying, or asking something from your data, in NVivo provides multiple ways to explore both your codes and your text.

- **Word Frequency:** Counts the number of times words (with stopwords removed) appear in one or more files
- **Coding:** Shows the number of codes, the text that was coded, and the files
- **Crosstab:** cross reference nodes and case classifications. For example, you might want to know how often a particular node appears in both scholarly articles and your primary texts.



Word Frequency Example (Windows)

“Query” can be found in the “Explore” Tab

Alternatively, you can right click on a file and select Query

To query multiple items, select the items you would like to query in the “Selected Items” tab and then click “Run Query”

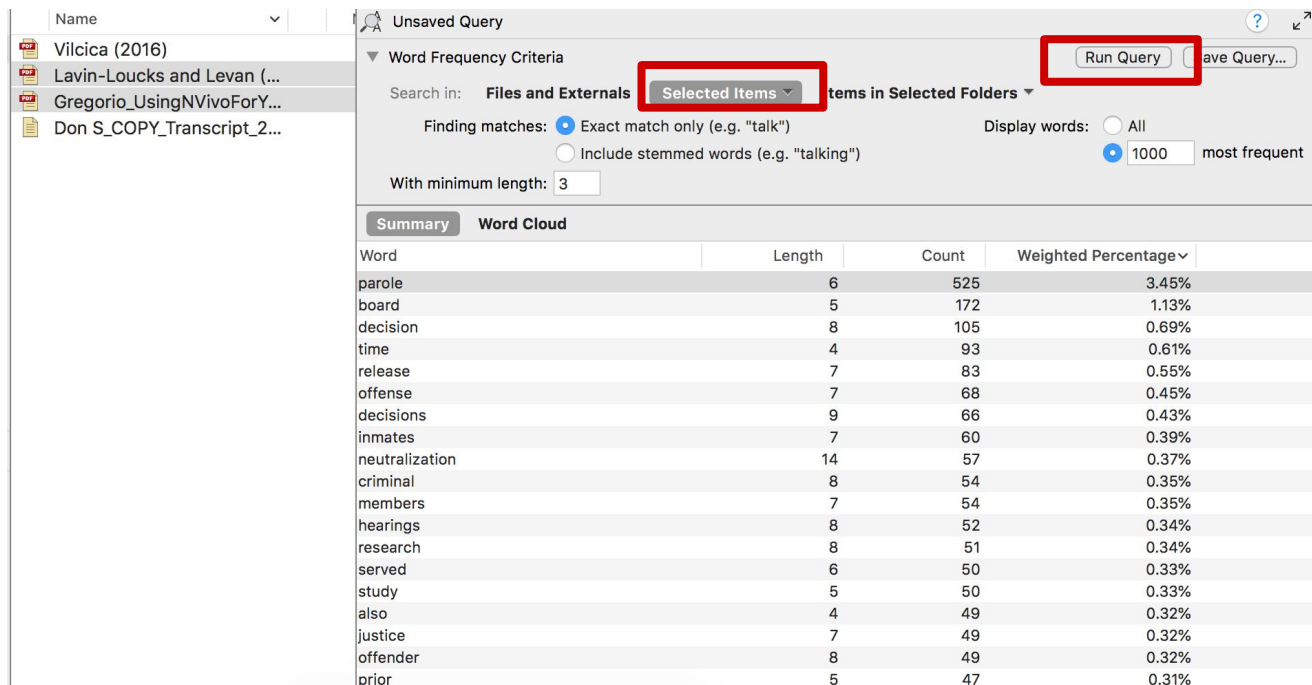
The screenshot shows the NVivo 1.2.1 software interface. The 'Explore' tab is selected in the top menu. The 'Files' list on the left contains various documents. The 'Word Frequency Query Results' window is open, showing the 'Selected Items' tab. The 'Run Query' button is highlighted. The results table displays the following data:

Word	Length	Count	Weighted Percentage (%)
time	4	13	1.40
inaudible	9	12	1.29
know	4	11	0.86
mean	4	10	1.08
assault	7	8	0.86
feel	4	8	0.86
care	4	6	0.65
codependant	11	6	0.65
around	5	6	0.65
around	4	6	0.65
around	6	6	0.65
around	5	6	0.65
around	4	6	0.65
around	6	5	0.54
around	8	5	0.54



Word Frequency Example (Mac)

Select the items you would like to query in the “Selected Items” tab and then click “Run Query”



Word	Length	Count	Weighted Percentage
parole	6	525	3.45%
board	5	172	1.13%
decision	8	105	0.69%
time	4	93	0.61%
release	7	83	0.55%
offense	7	68	0.45%
decisions	9	66	0.43%
inmates	7	60	0.39%
neutralization	14	57	0.37%
criminal	8	54	0.35%
members	7	54	0.35%
hearings	8	52	0.34%
research	8	51	0.34%
served	6	50	0.33%
study	5	50	0.33%
also	4	49	0.32%
justice	7	49	0.32%
offender	8	49	0.32%
prior	5	47	0.31%



Cross Tab Example

Select the nodes you would like to cross reference with the cases or attributes, then click “Run Query.”

The screenshot shows a software interface for running a query. At the top, a table titled 'Unsaved Query' displays the following data:

Nodes	Primary Text	Scholarly Article	Total
Sub Node	2	8	10
Total	2	8	10

Below the table is a large empty area labeled 'Your results'. To the right of the table, there is a 'Query' tab with a 'Run Query' button. Below the 'Query' tab, there are two selection panels. The 'Nodes' panel shows 'Sub Node' selected. The 'Cases' panel shows 'Primary Text' and 'Scholarly Article' selected. The 'Show node against' section has tabs for 'Attributes' and 'Cases'.

Selected nodes (click the plus sign)

Selected cases (click the plus sign)



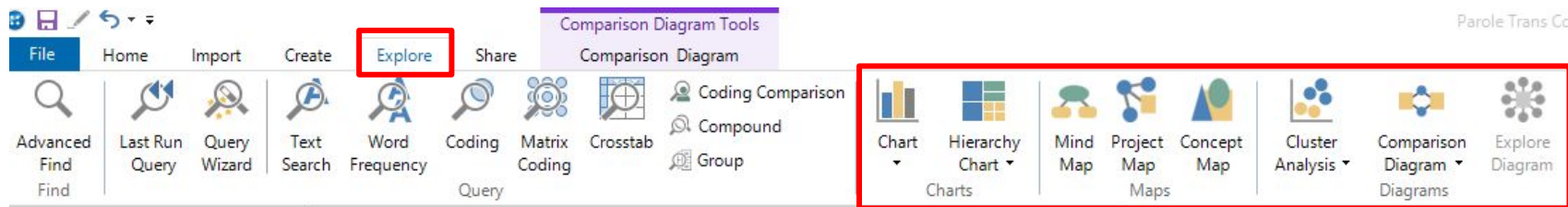
Exploring Codes (Windows)

Chart: bar chart of the number of times codes were used in a file

Hierarchy chart: visualizes number of codes used in a file

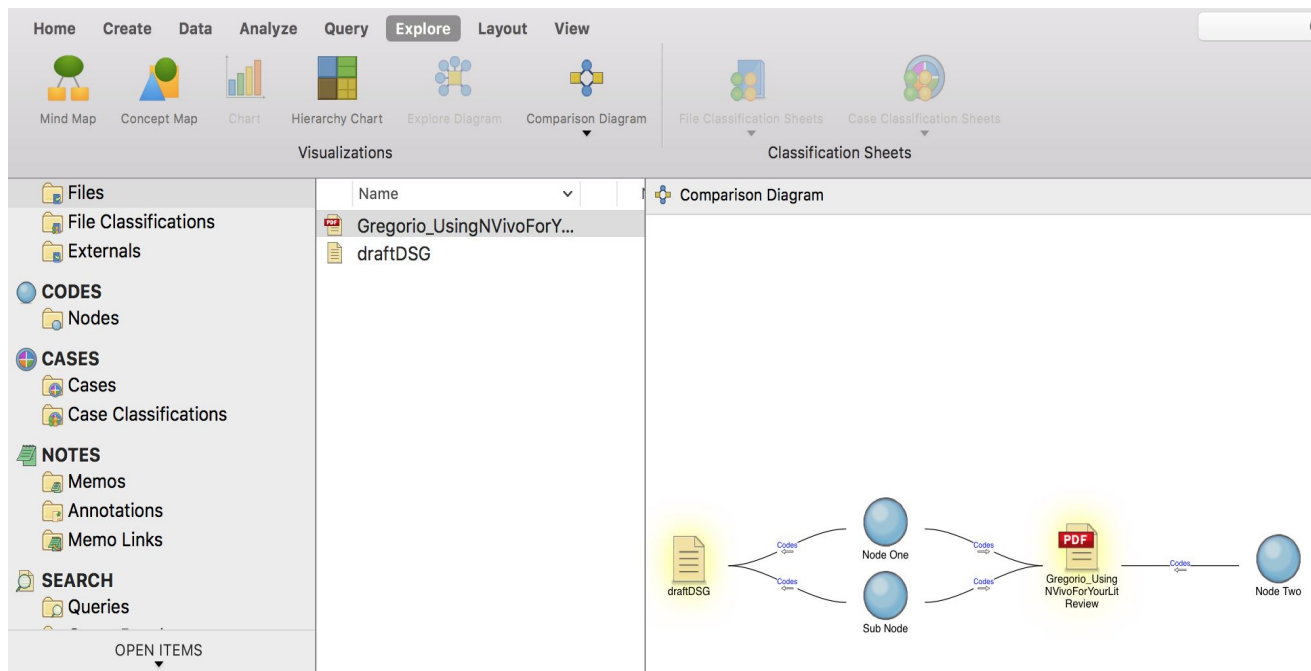
Explore Diagram: explore the codes used in a file

Comparison Diagram: compare the nodes used in multiple files



Exploring Codes (Macs)

Comparison
diagram
example



Showing your work:

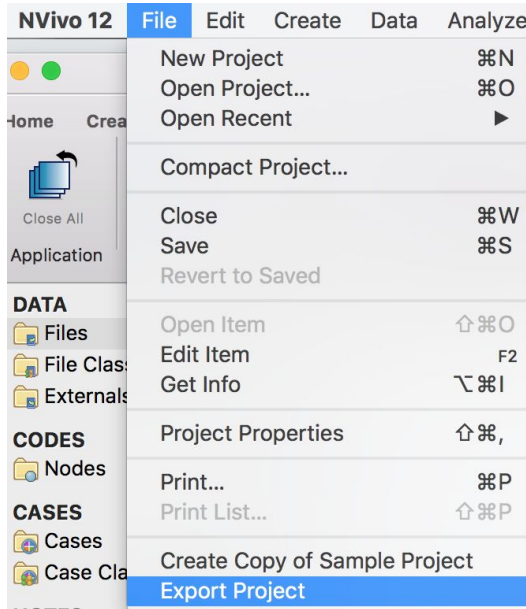
You can take screenshots or save images to show your work as you're researching, organizing, annotating, and coding your sources.



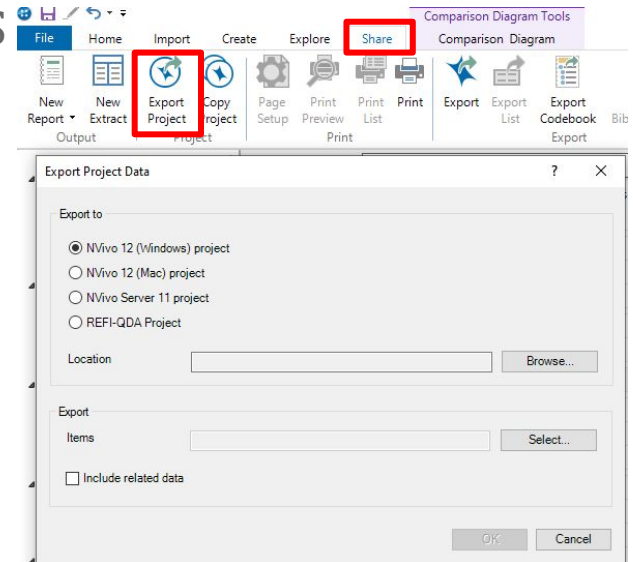
Export Your Projects

Since there is a cross-platform problem, **export your projects as .qdpX files** when submitting assignments so they can be opened on both Macs and Windows!

MACS



WINDOWS



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*Feel free to ask questions at any point
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Your Turn

Using the sources emailed to you, practice:

- inputting the documents
- creating nodes/cases
- coding the documents
- visualizing your codes

Find these slides at <https://bit.ly/fa22-poe-engl4710-nvivo>



Group Discussion

- What did you find surprising or interesting in your exploration of the tool?
- What are some challenges you faced? How might you work with these as you move forward?
- How else might you use NVivo in your future studies/career?



Thank you!

If you have any questions, contact DITI at nulab.info@gmail.com

Sign up for DITI office hours! <https://calendly.com/diti-nu>

Developed by: Garrett Morrow, Cara Marta Messina, Yana Mommadova, Tieanna Graphenreed, Dipa Desai, and Emre Tapan

Slides, handouts, and data available at:
<https://bit.ly/fa22-poe-engl4710-nvivo>

We'd love your feedback! Please fill out a short survey here:
<https://bit.ly/diti-feedback>

