

# Introduction to Nvivo: Qualitative Coding for Text Analysis

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Research Methods

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**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 sample transcript excerpt on your handouts
- come up with three themes you might want to highlight from this text; these themes should be about 1-3 words (ex: expenses, resource access)
- underline the moments in the passage that reflect these themes

We will then have a discussion about what themes you highlighted and why.



# Workshop Agenda

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

Slides & handouts at <http://bit.ly/dti-fall2019-marshall-2>



# Workshop Objectives

- Define qualitative coding and why it can be useful while doing research
- Understand what NVivo is as a research tool and what it can do
- 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 analyze in a primary/secondary source. Then, you review those 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 MyNU. 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 interview transcripts, texts, or field notes
- your own notes about your project (you can even compose in NVivo)



# 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 for Annotating & Coding Research

With NVivo, you can store and organize your **primary** and **secondary** sources together (most file types work, including images). You can also separate your different types of research materials. For this project, your research materials are your interview transcriptions and survey results.

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.





# NVivo is NOT cross-platform 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

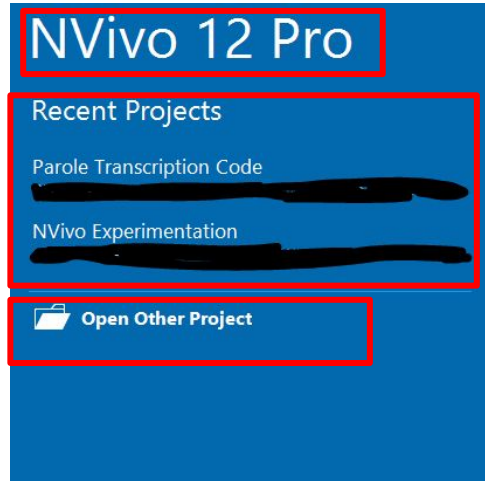


# Anatomy of NVivo: Opening on Windows

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)

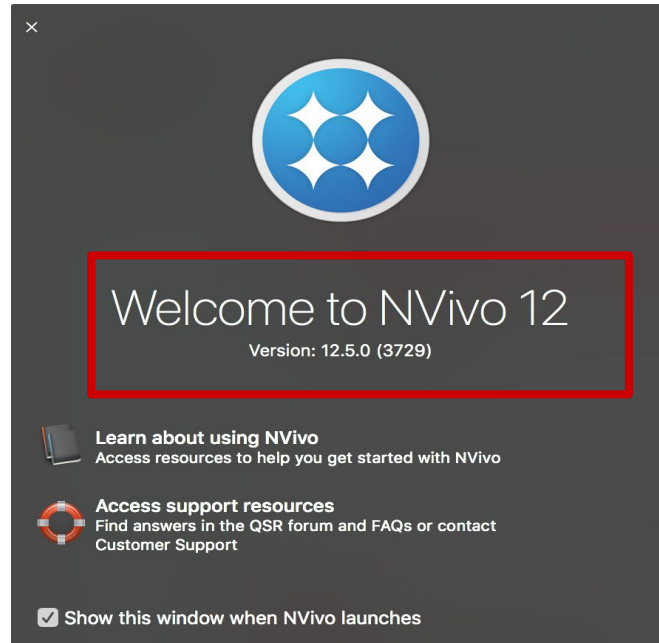


Learn and Connect



# 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

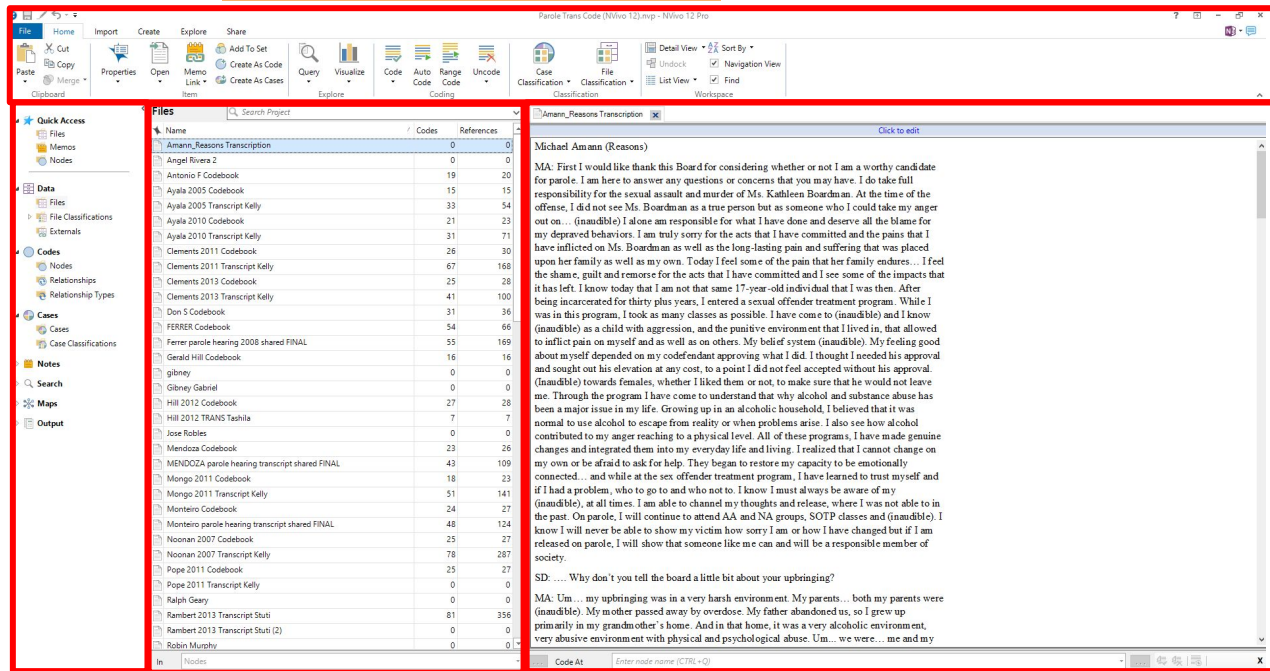


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# Anatomy of NVivo: Projects on Windows

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.

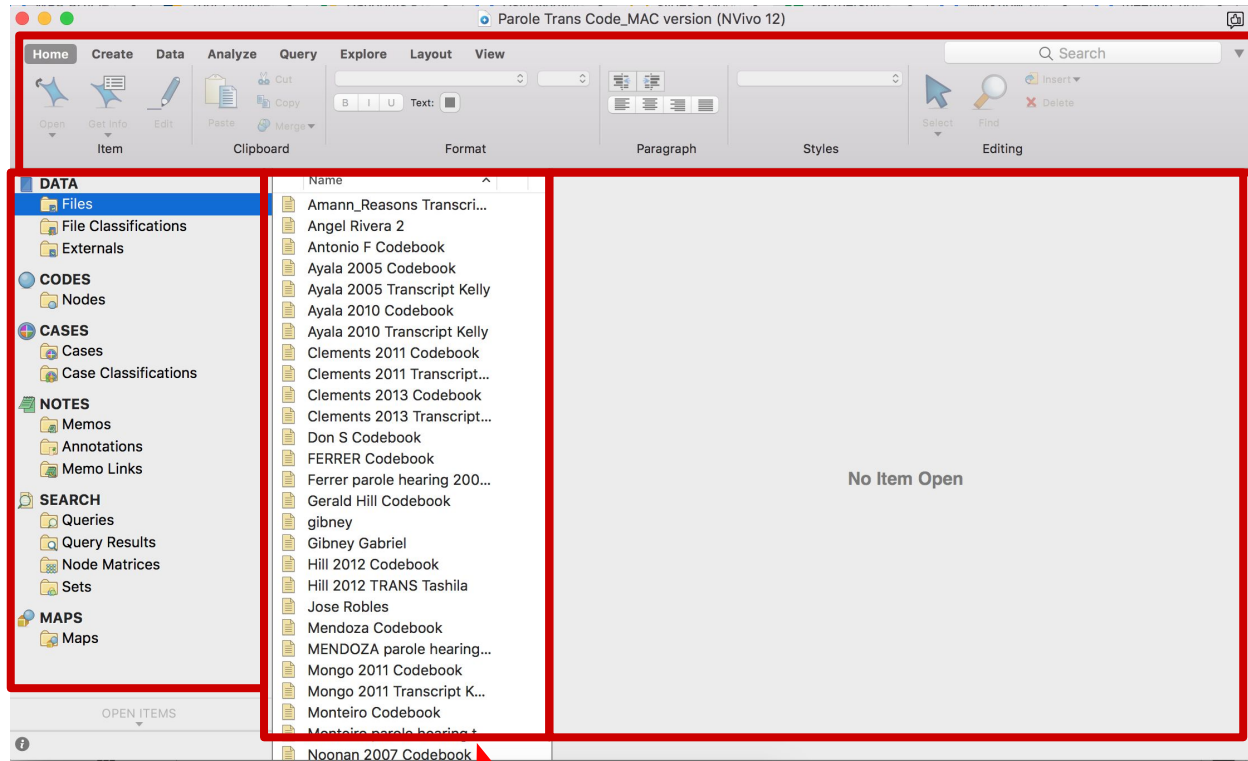
List of nodes, files, etc.



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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 method to annotate the themes/concepts
- **Nodes:** the actual themes/concepts that you create
- **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

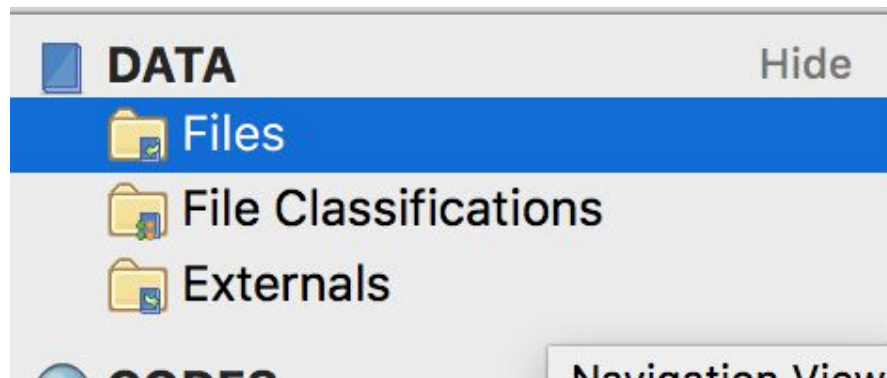
Using the sample transcript from the handout and another sample transcript excerpt, we will quickly show you how to input the documents, code, and visualize your codes!

You don't need to 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

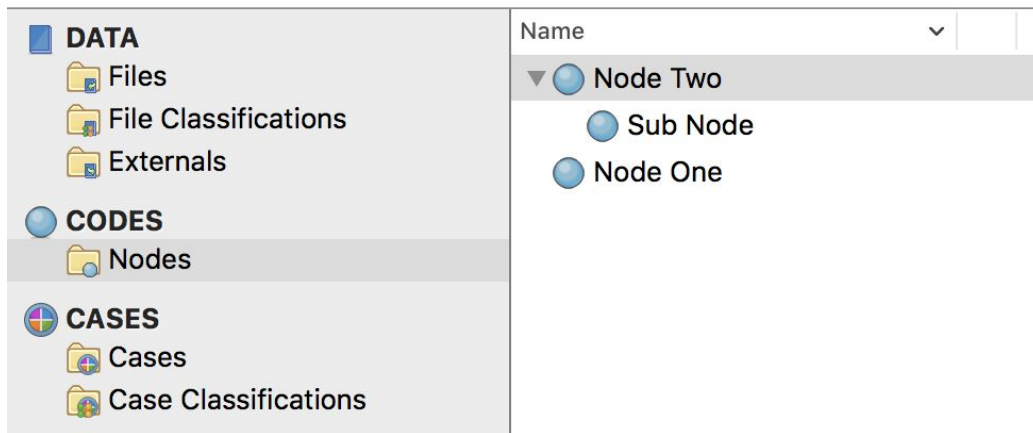
NVivo can import all types of files, including .docx, .pdf, .doc, .csv, .png, .jpeg, .txt, video/audio files, and more.

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 an organization and analysis tool, rather than a storage option.



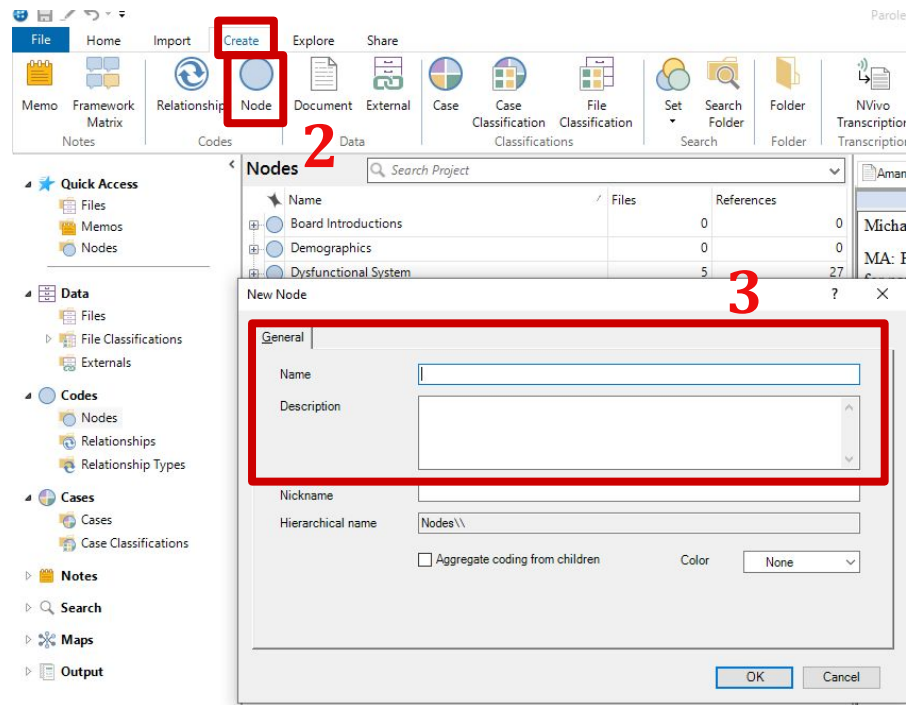
# Codes and Nodes

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



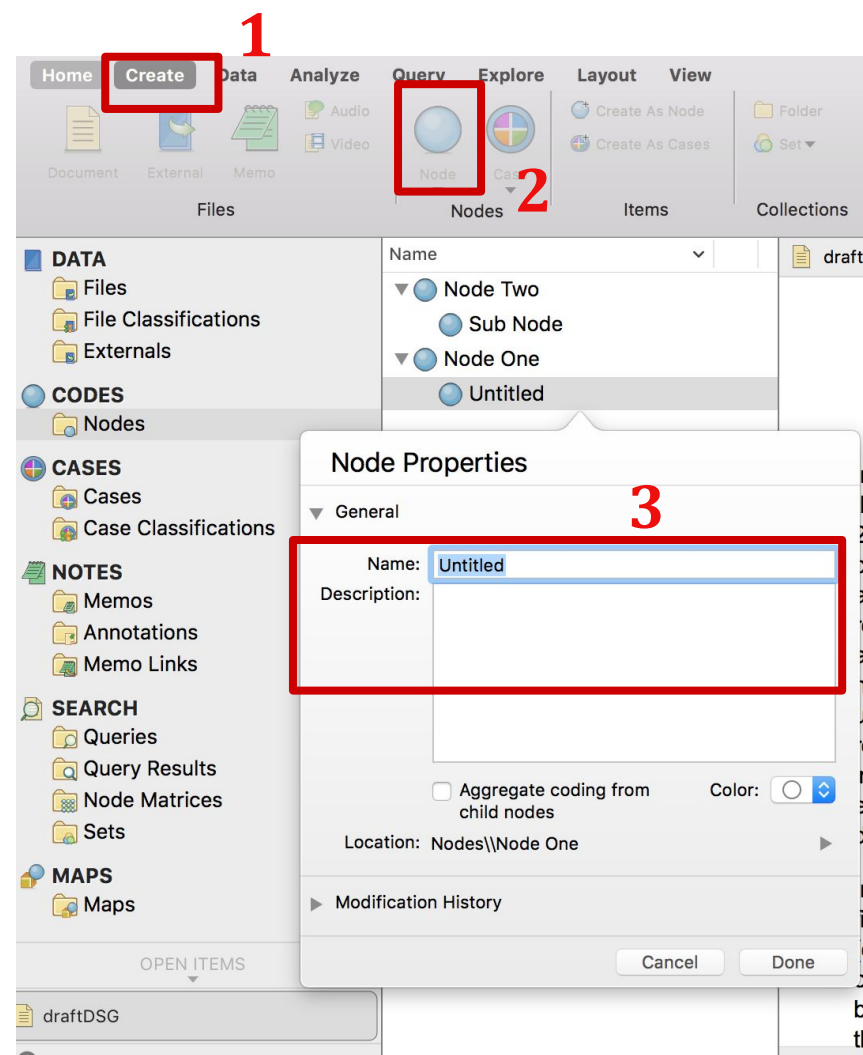
# Creating Nodes (Windows) 1

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



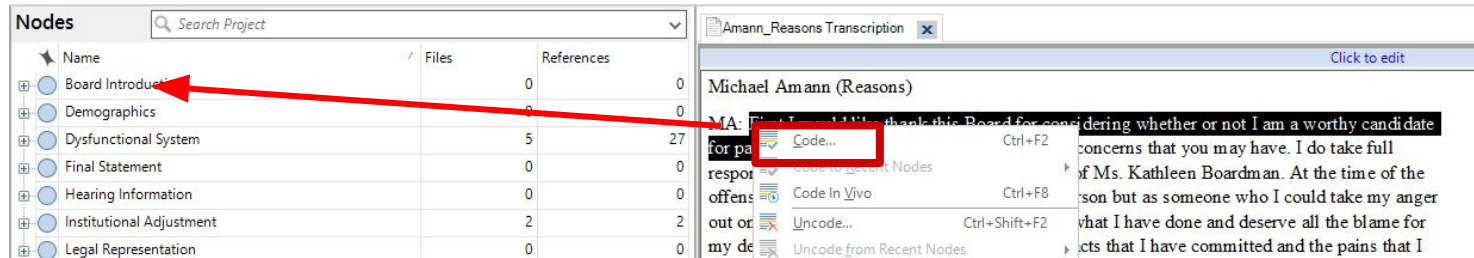
# Creating Nodes (Macs)

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



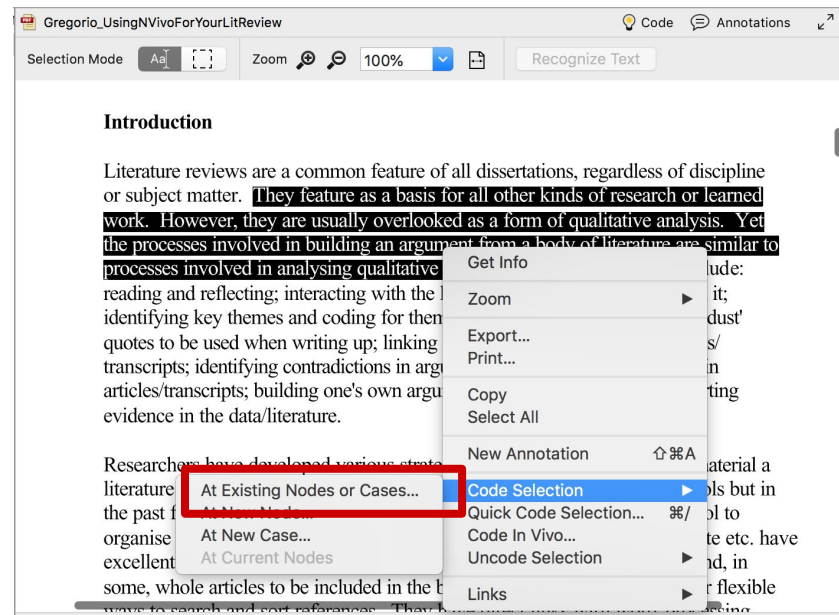
# Coding Files/Documents (Windows)

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 Command/Control+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. Command/Control+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 12 Pro interface. A red box labeled '1' highlights the 'Document Tools' menu. A red box labeled '2' highlights the 'Highlight' button. A red box labeled '3' highlights the 'Coding Stripes' button. The 'Coding Stripes' pane on the left shows a list of codes, with 'All Coding' selected. The main document text is displayed with yellow highlighting around specific phrases, indicating where codes are applied. The 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. A red box labeled '1' highlights the 'View' menu in the top toolbar. Another red box labeled '2' highlights the 'Highlight' option in the 'View' menu. A third red box labeled '3' highlights the 'Coding Stripes' option in the 'View' menu. The main document window shows a text document with yellow highlights and blue annotations. A sidebar on the right shows a list of nodes: 'Sub Node', 'Node One', and 'Node Two'. A text box on the right explains that coding stripes show where codes appear in the document. Another text box at the bottom explains that yellow highlights represent codes and blue highlights represent annotations.

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 click “New Annotation” instead after you highlight and Command/Control 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 categories like Quick Access, Data, Codes, Cases, and Notes. The 'Notes' category is highlighted with a red box, and its sub-items (Memos, Framework Matrices, Annotations, See Also Links) are also highlighted with a red box.
- 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 with a red box.
- Document Text:** A text editor showing a transcription. A red box highlights a specific paragraph of text: "to inflict pain on myself and as well as on others. My belief system (inaudible). My feeling good about myself depended on my codefendant approving what I did. I thought I needed his approval and sought out his elevation at any cost, to a point I did not feel accepted without his approval. (Inaudible) towards females, whether I liked them or not, to make sure that he would not leave me. Through the program I have come to understand that why alcohol and substance abuse has been a major issue in my life. Growing up in an alcoholic household. I believed that it was normal to use alcohol to escape from reality or when problems arise. I also see how alcohol contributed to my anger reaching to a physical level. All of these programs, I have made genuine changes and integrated them into my everyday life and living. I realized that I cannot change on my own or be afraid to ask for help. They began to restore my capacity to be emotionally connected... and while at the sex offender treatment program, I have learned to trust myself and if I had a problem, who to go to and who not to. I know I must always be aware of my (inaudible), at all times. I am able to channel my thoughts and release, where I was not able to in the past. On parole, I will continue to attend AA and NA groups, SOTP classes and (inaudible). I know I will never be able to show my victim how sorry I am or how I have changed but if I am released on parole, I will show that someone like me can and will be a responsible member of society."
- Annotations Table (Bottom):** A small table titled 'Annotations' with columns 'Item' and 'Content'. It shows '1' in the 'Item' column and 'This is an annotation' in the 'Content' column. This table is highlighted with 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

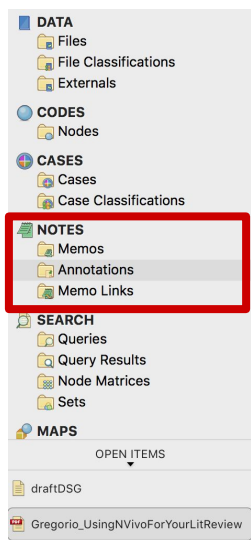
Item	Content
1	This is an annotation



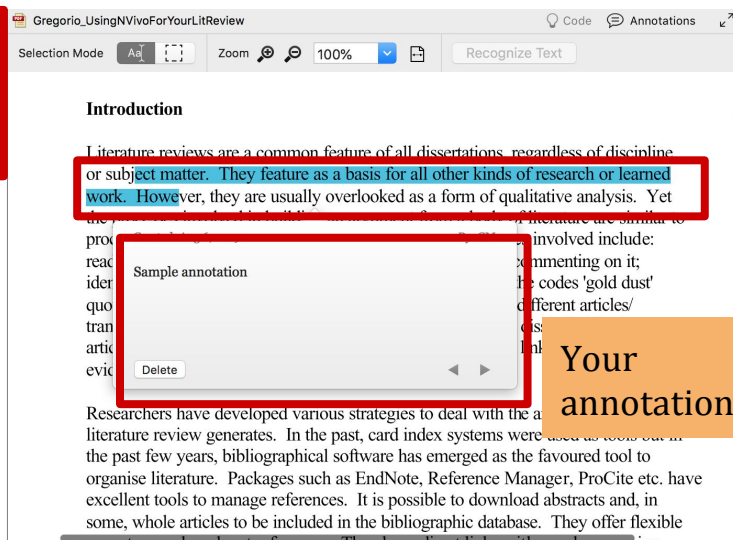
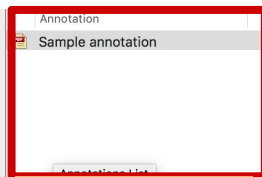
# Annotating Files (Macs)

To annotate (comment), follow the same steps as coding except instead click “New Annotation” after you highlight and Command/Control+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

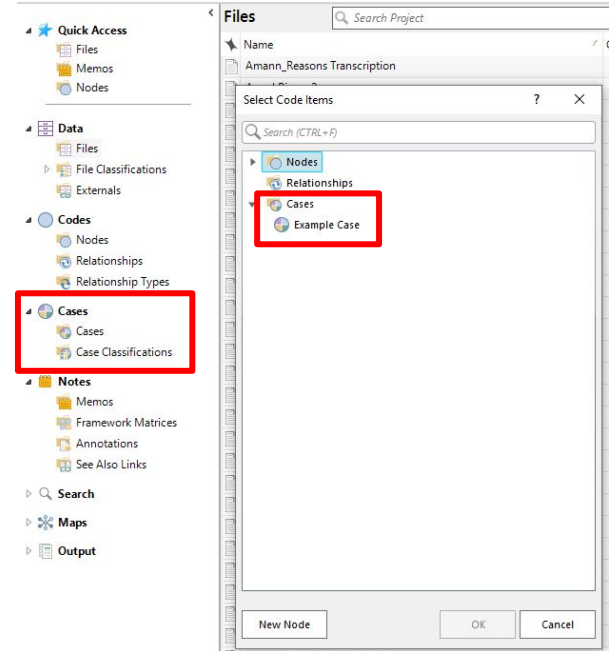


# Cases (Windows)

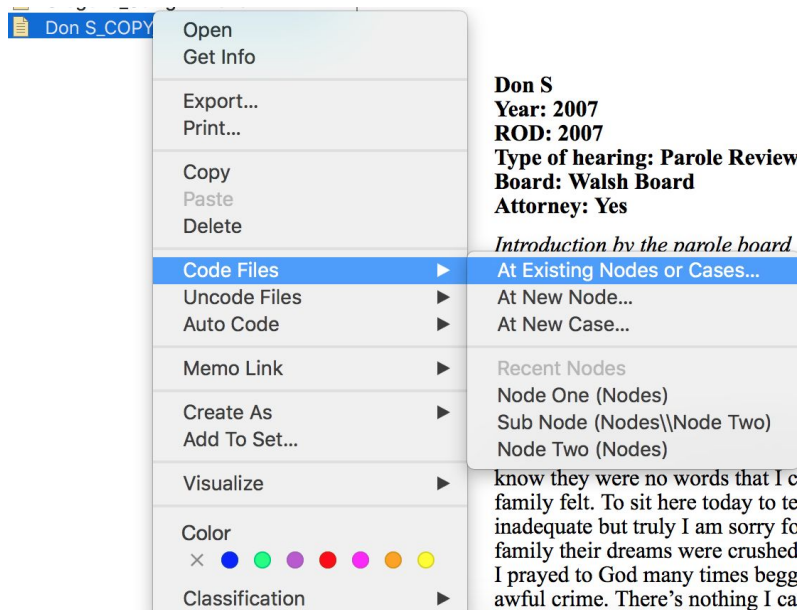
Cases are the types of research texts in your project; they can be organized based on your selections. **“They might represent people, places, events, organizations or other entities that you want to analyze and compare.”** For example, if you have several transcripts from different trials, but want 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)



# Querying

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

- **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-references 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  
Command/Control+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”

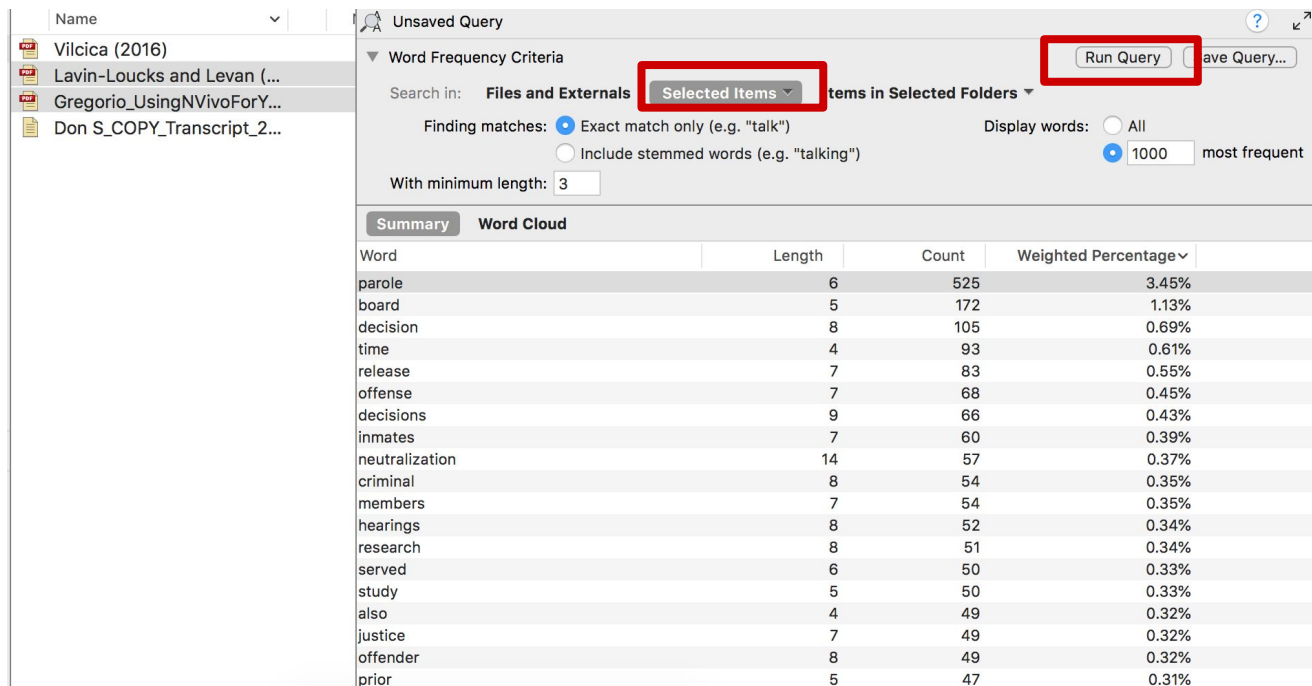
The screenshot shows the NVivo 1.2.10 software interface. The 'Explore' tab is selected in the top menu bar. The 'Files' list on the left contains various documents, with 'Query' highlighted. The 'Word Frequency Query Results' window is open, showing the 'Selected Items...' tab. The 'Run Query' button is highlighted in the top right corner of the results window. 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	1.18
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 the 'Unsaved Query' interface. At the top, there is a table with the following data:

Nodes	Primary Text	Scholarly Article	Total
Sub Node	2	8	10
<b>Total</b>	<b>2</b>	<b>8</b>	<b>10</b>

Below the table, there is a large orange box labeled 'Your results'. To the right of the table, there is a 'Query' tab with a 'Run Query' button. Below the 'Query' tab, there is a 'Results' tab with 'Save Query...' and 'Save Results...' buttons. Below the 'Results' tab, there is a 'Nodes' panel with a list of nodes: 'Sub Node'. Below the 'Nodes' panel, there is a 'Show node against' section with 'Attributes' and 'Cases' tabs. Below the 'Cases' tab, there is a 'Cases' panel with a list of cases: 'Primary Text' and 'Scholarly Article'.

Your results

Selected nodes (click the plus sign)

Selected cases (click the plus sign)





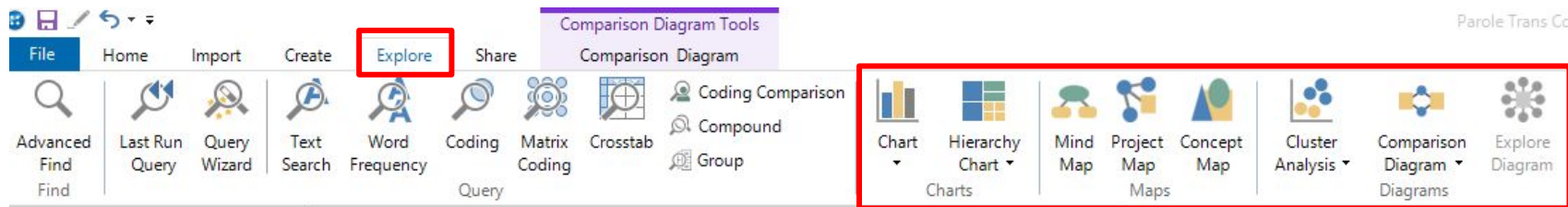
# Exploring Codes (Windows)

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

**Hierarchy chart:** visualizes number of codes used in a file

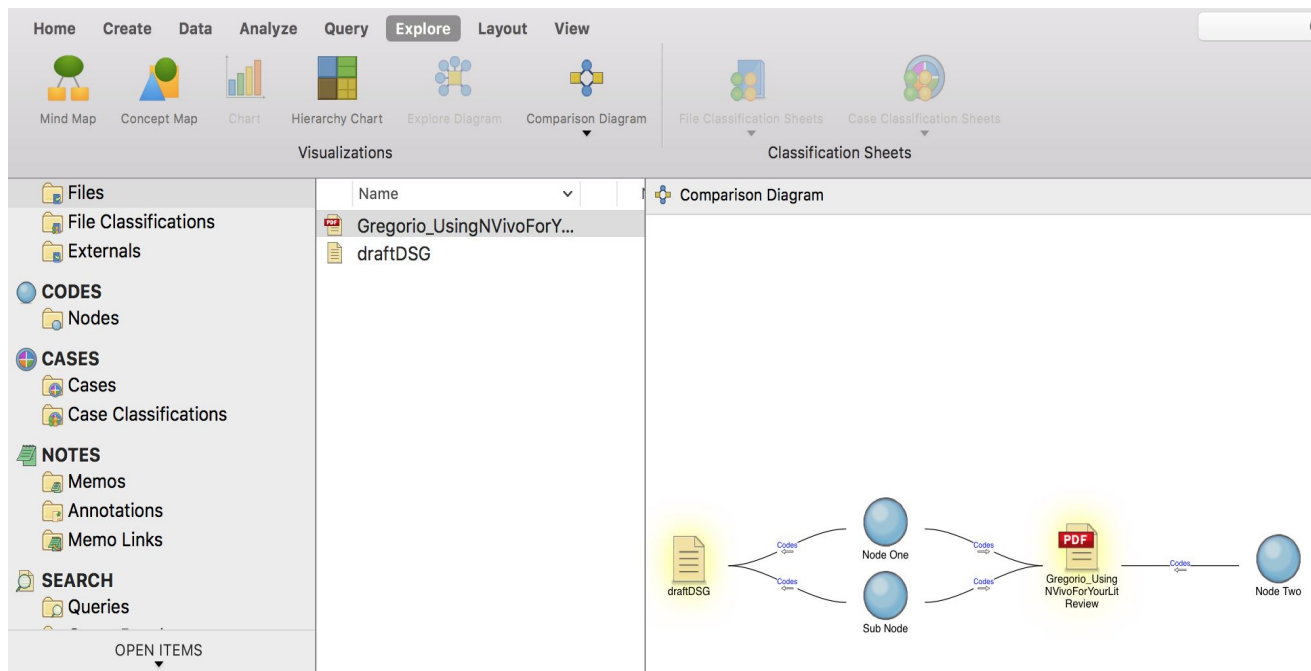
**Explore Diagram:** explore the codes used in a file

**Comparison Diagram:** compare the nodes used in multiple files



# Exploring Codes (Macs)

Comparison  
diagram  
example



# Qualitative Coding is about *Interpretation and Arguments*

The nodes you create are **arguments** themselves; you are choosing what information you value and want to extract from the transcripts



# Showing and Interpreting your work

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

Use these results to emphasize your argument.

For example, if you're interested in understanding food access at Northeastern, you might look at how often did your interviewee mention food. How is food mentioned? What are the connections between food and first year experiences?



# Your Turn

Using your interview transcripts, practice:

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

Find these slides at <http://bit.ly/dti-fall2019-marshall-2>



# 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 us at:

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Slides, handouts, and data available at <http://bit.ly/dti-fall2019-marshall-2>

Office hours for help with NVivo: **Tuesdays, 1–3PM in 401 Nightingale Hall**



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