

# Introduction to Nvivo: Qualitative Coding for Text Analysis

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Developed for Ineke Marshall  
Fall 2021



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

<https://bit.ly/diti-fall2021-marshall-nvivo>



# 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.



# Coding in practice

key, at that point.

M: Sure sure, so I did not understand, what was the comparison with other five, with other locals, did they have more issues or less, or did they also have that similar experiences like you, across all those different locals [26]

R1: They had, you know, similar experiences that I did. Very strong, present, you know, walking. I didn't see hear, early on, anyways for the initial, when we pulled them that day, the Thursday, that anyone was saying "i'm not going". Didn't hear that from anybody. Didn't hear it from my local, didn't hear it, you know because all the locals have facebook pages too. You know, they have, social pages, so you can also keep in touch that way, and, you know, between reading and [unclear], you know talking to [unclear] and stuff like that, we were hearing nothing but positive feedback, on on, people walking. People were ready. They were angry, with the contract that was being presented, and they were ready, they were ready to take it, to go to the sidewalk [27] so to speak. And then, and to state their point, yep.

M: Can I maybe ask you yes, related to that anger, like, how did people, hm how to say, how did they precisely rationalize their anger, or, how did they justify their anger. What did they say, who, or how did they understand, why that injustice was being done to them. How did they understand why the managers at all decided to offer them such a bad contract, how did they think about that anger?

R1: Sure. So, with that, when we, when we, with the organizer, we met earlier, weeks earlier to, so, we met up in [unclear], the organizer brought as many - you know, every, its open invitation, to any local member of the store, to come to this, rather large gathering of people [28] where he broke down the contract. So, not only if you couldn't make, these contract breakdowns came back to the store, and were handed out to, individuals to read, and were posted on the union board. So, the people had time to see, what the contract, you know, here



# 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.

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

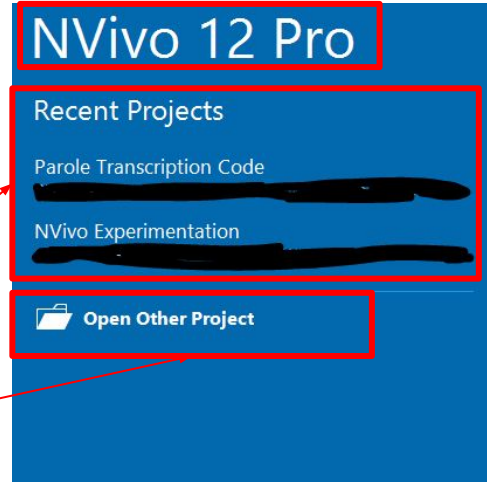


# Anatomy of NVivo: Opening on Windows

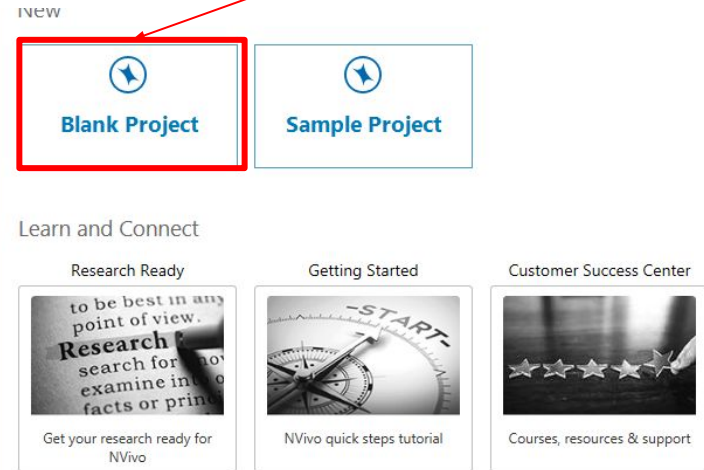
Your version number (you should have version **11** or **12**)

The recent projects you opened

Open another project that is not recent

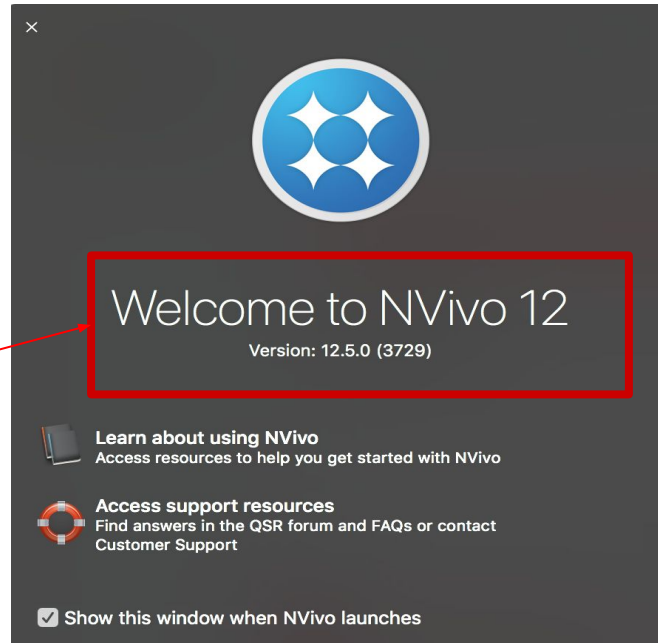


Create a new **project** (stores all your documents, codes, etc)



# 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).npx  
~/Downloads

TEST.npx  
~/Documents

Untitled.npx  
~/Documents

Sample Project.npx.npx  
~/Downloads

The recent projects you opened

Open Another Project...

Open

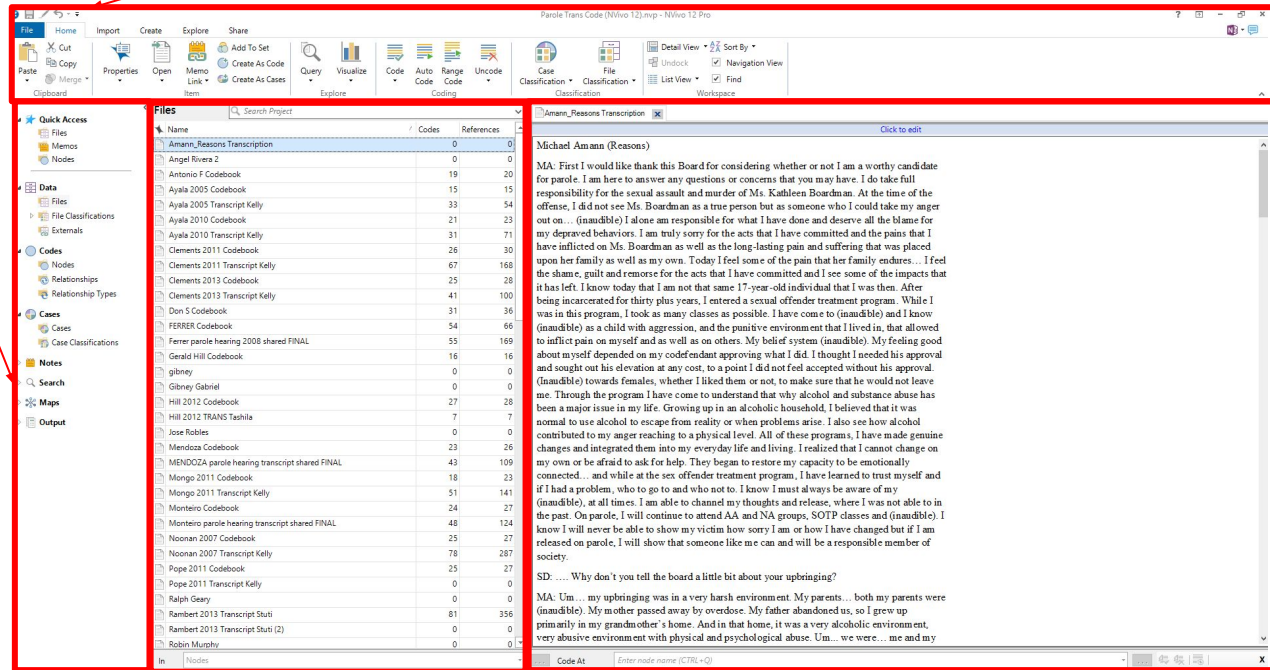
Open another project that is not recent



# 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.

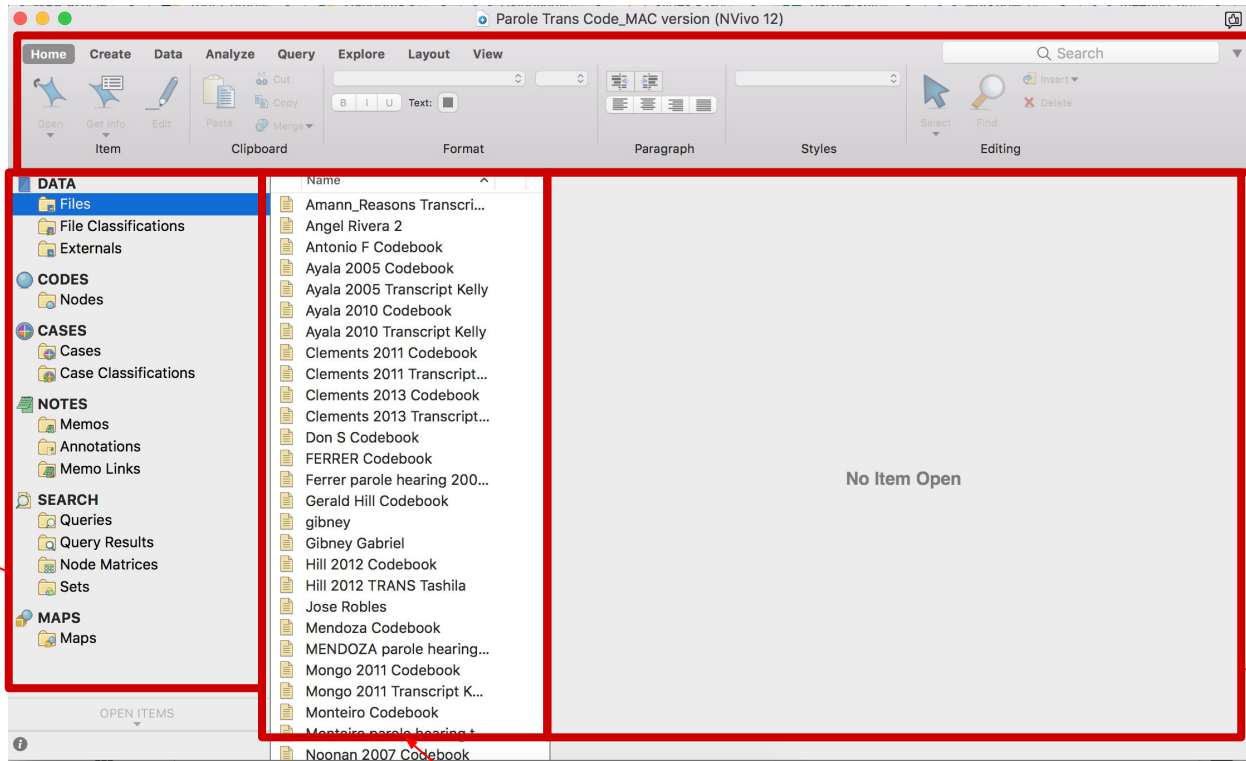
List of nodes, files, etc.



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

# Anatomy of NVivo: Projects on Macs



Toolbar to access functions

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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

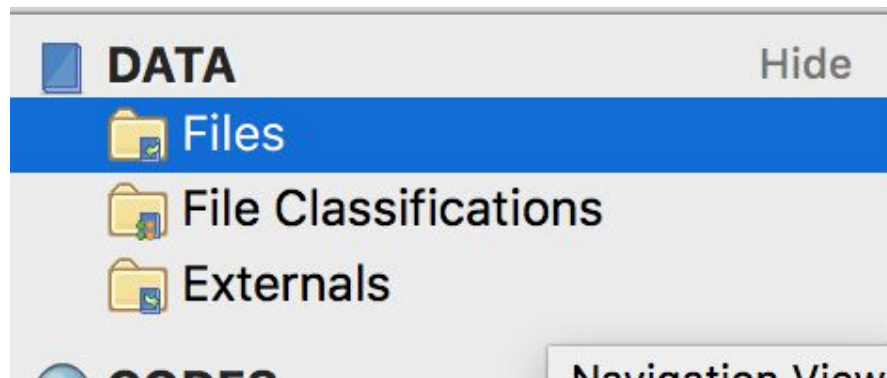
Full definitions available on the handout

- **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 items
- **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



# 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

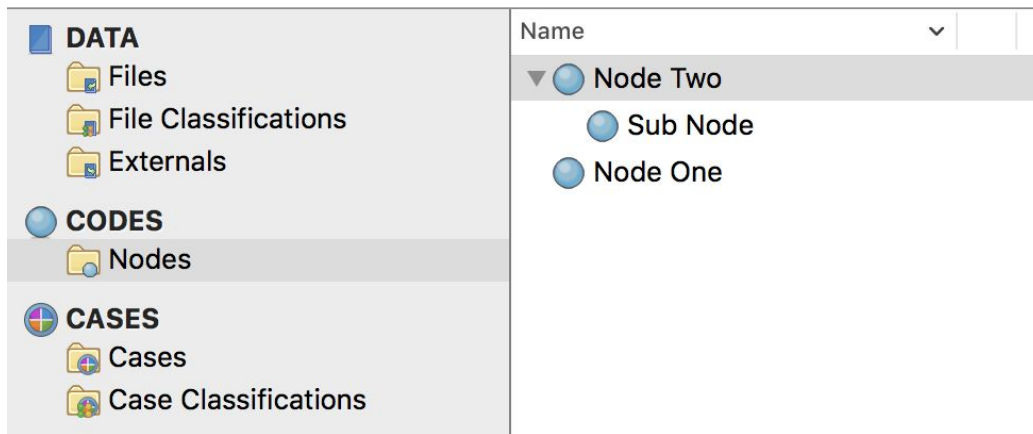
NVivo can import all types of files, including .docx, .pdf, .doc, .csv, .png, .jpeg, .txt, video/audio files, and more.

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.



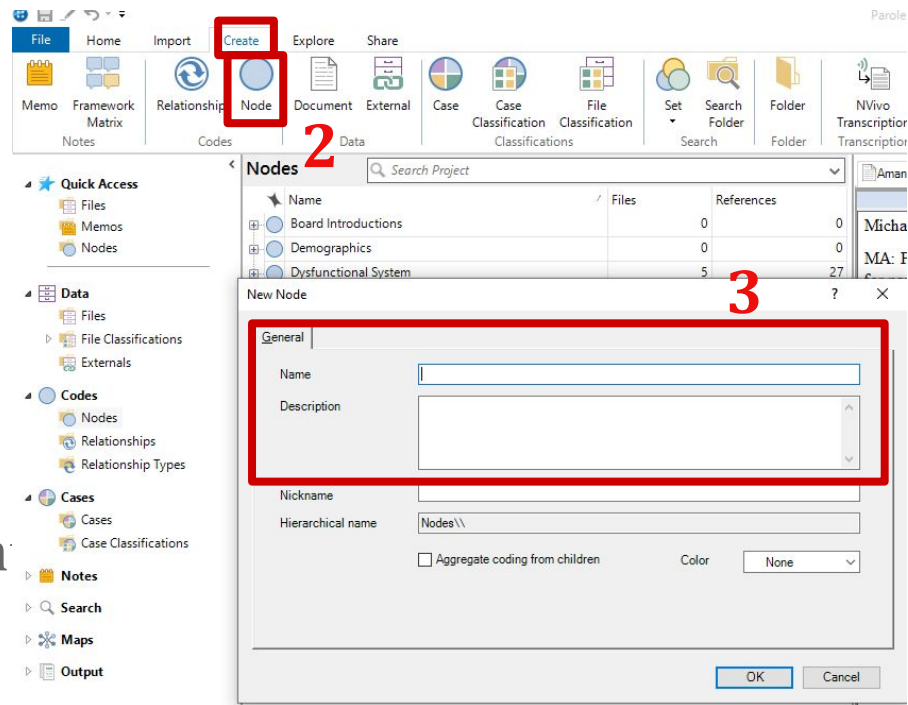
# Codes and Nodes

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



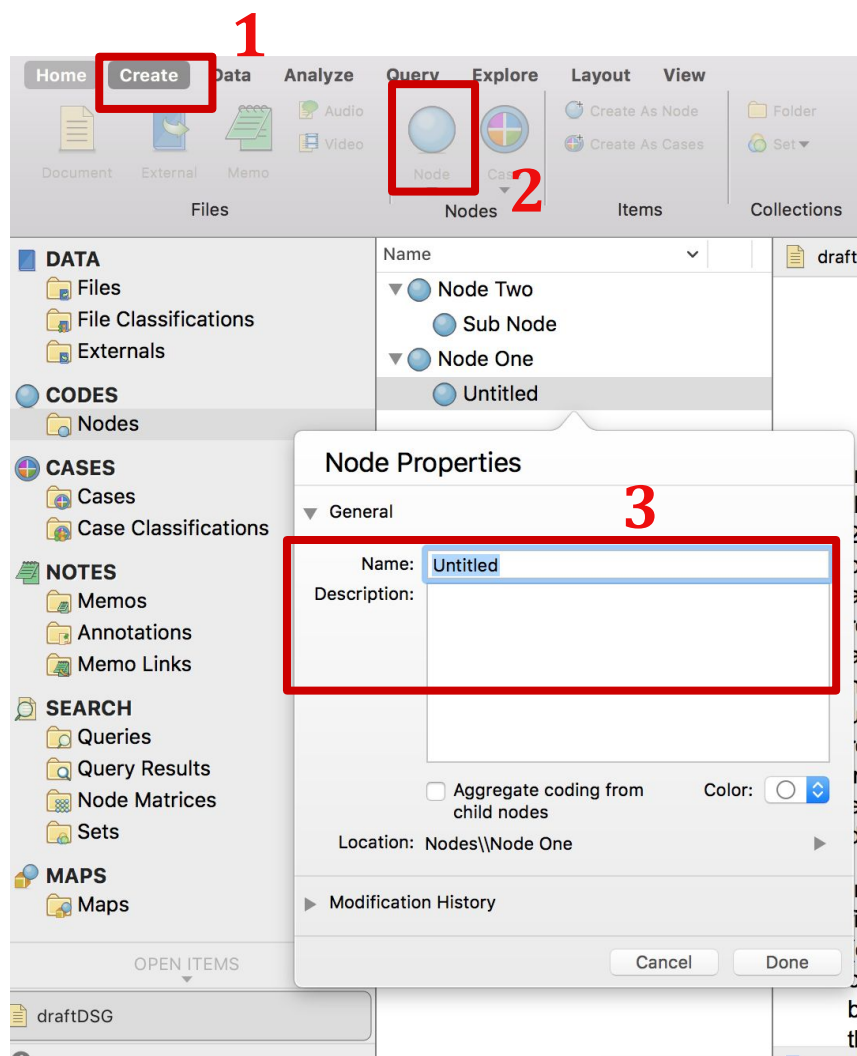
# Creating Nodes (Windows) 1

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”
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  - 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

The screenshot shows the 'Nodes' panel on the left with a list of nodes. A red arrow points from the 'Board Introduction' node to the 'Code...' button in the context menu of the 'Amann\_Reasons Transcription' node.

Name	Files	References
Board Introduction	0	0
Demographics	0	0
Dysfunctional System	5	27
Final Statement	0	0
Hearing Information	0	0
Institutional Adjustment	2	2
Legal Representation	0	0

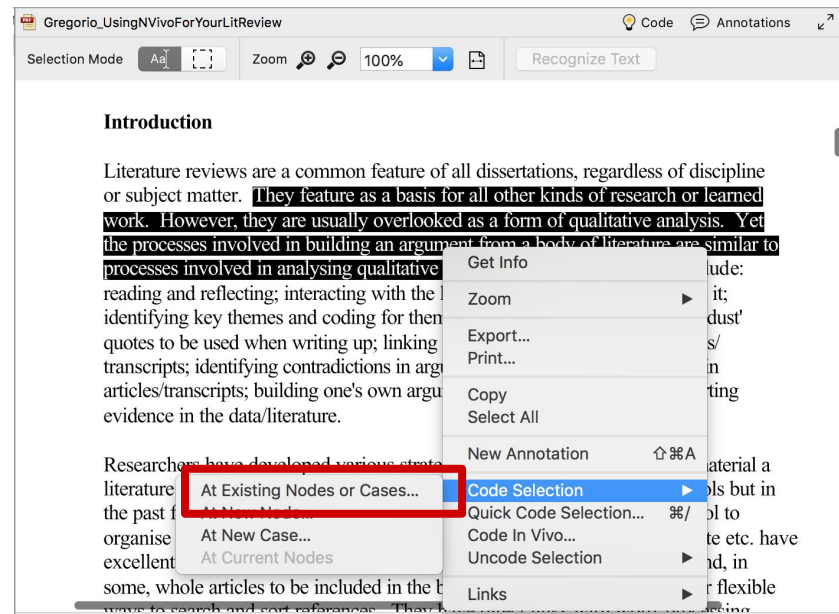
The context menu for 'Amann\_Reasons Transcription' includes the following options:

- Code... (Ctrl+F2)
- Code to Segment Nodes
- Code In Vivo (Ctrl+F8)
- Unicode... (Ctrl+Shift+F2)
- Unicode from Recent Nodes



# 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. The 'Document Tools' menu is open, showing 'Highlight' and 'All Coding'. The 'Coding Stripes' window is open, showing a list of codes and their matches in the document. The document text is displayed with yellow highlighting around specific phrases. The 'Coding Stripes' window is also open, showing a list of codes and their matches in the document.

Document Tools

Highlight

All Coding

Coding Stripes

Matches for All Coding

Highlight coding at all codes.

Modify Selected Items...

Previous Shift+F3

Next F3

Ayala 2010 Transcript Kelly

Click to edit

A- Yes

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.

A- I have not taken the sex offender treatment program. I've asked to go over to the treatment

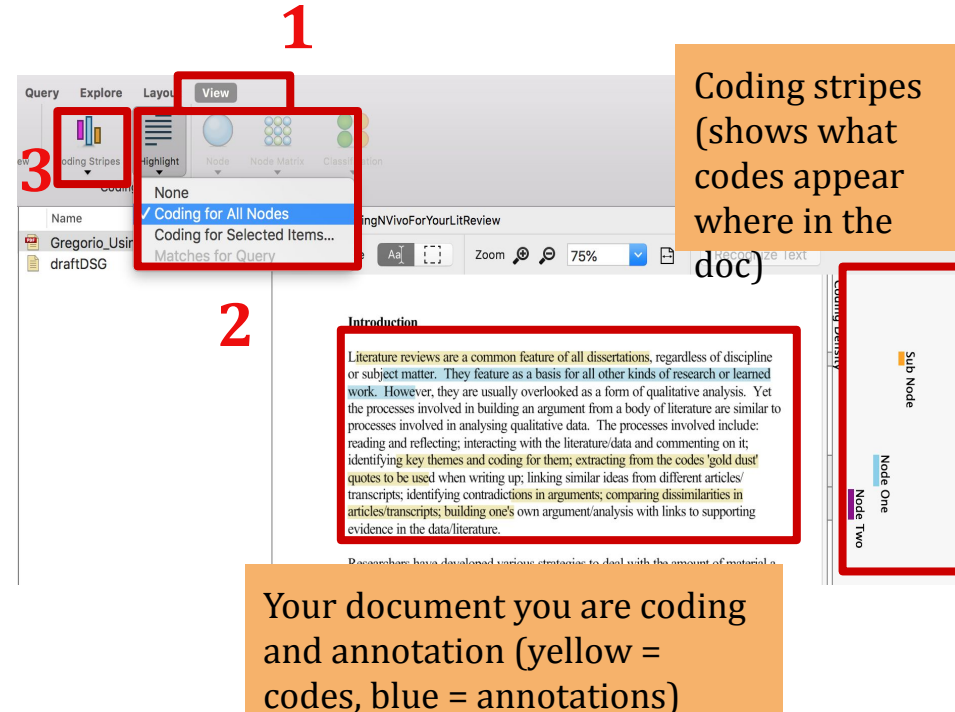
Coding stripes  
(shows what codes  
appear where in  
the doc)

The document you are coding and annotations



# 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, with 'Highlight' selected. The 'Coding Stripes' submenu is also open, showing 'All Nodes Coding' selected. The document text is displayed with yellow highlights (codes) and blue highlights (annotations). The document title is 'Introduction'. The document content includes the text: 'Literature reviews are a common feature of all dissertations, regardless of discipline or subject matter. They feature as a basis for all other kinds of research or learned work. However, they are usually overlooked as a form of qualitative analysis. Yet the processes involved in building an argument from a body of literature are similar to processes involved in analysing qualitative data. The processes involved include: reading and reflecting; interacting with the literature/data and commenting on it; identifying key themes and coding for them; extracting from the codes 'gold dust' quotes to be used when writing up; linking similar ideas from different articles/transcripts; identifying contradictions in arguments; comparing dissimilarities in articles/transcripts; building one's own argument/analysis with links to supporting evidence in the data/literature.'

1

2

3

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

Sub Node

Node One

Node Two

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 illustrates the workflow for annotating files. On the left, the 'Notes' section in the sidebar is highlighted, indicating where all annotations are stored. The central 'Annotations' panel shows a list of annotations, with one selected. On the right, a document titled 'Amann\_Reasons Transcription' is open, showing a paragraph of text with a specific sentence highlighted. Below the text, an 'Annotations' table is visible, showing the annotation item and its content.

Item	Content
1	This is an annotation

**List of annotations**

**Where you can find all your annotations listed**

**Your annotation**

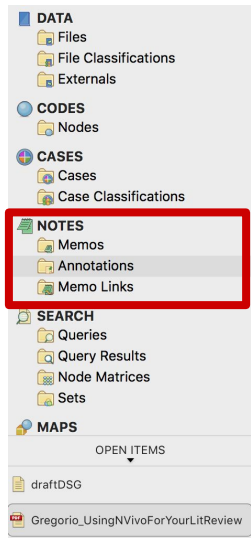
**The text from the document you highlighted and are annotating**



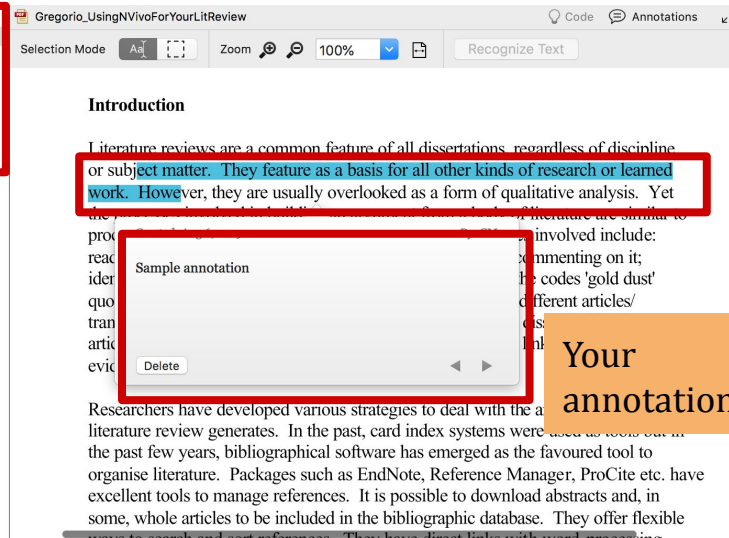
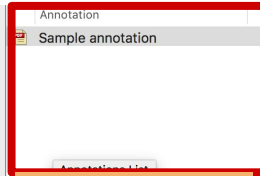
# Annotating Files (Macs)

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



# Memos (Windows)

- Memos are more extended write-ups of your analytical insights
- They can stand alone, but also be linked
- “Memo link” - linking memo to a particular file, case, or node

The screenshot displays the NVivo software interface. On the left, the 'Notes' section in the 'Quick Access' pane is highlighted with a red box. In the center, a context menu is open for a selected node, with the 'Memo Link' option highlighted by a red box and an arrow. On the right, an orange callout box contains the text 'Option to link the memo to a node' with an arrow pointing to the 'Memo Link' option. Another orange callout box at the bottom center contains the text 'Menu where memos are located' with an arrow pointing to the 'Notes' section in the left pane. The background shows a list of nodes and a table with columns for Name, Files, and References.

Option to link the memo to a node

Menu where memos are located



# Memo links (Windows)

Showing the link between the file and the memo

Accessing the memo from the file



# Memos and memo links (Mac)

This screenshot shows the 'Create' menu in the software interface. The 'Memo' option is highlighted with a red box. An orange callout box points to the 'Memo Link' option in the 'Create' menu, with the text 'Option to link the memo to a node'. Another orange callout box points to the 'Memos' option in the 'NOTES' section, with the text 'Menu where memos are located'. The interface also shows a list of nodes and a sidebar with 'DATA', 'NOTES', 'SEARCH', and 'MAPS' sections.

Navigating memo creation

Menu where memos are located

Option to link the memo to a node

This screenshot shows the 'Memo Link' option in the 'Create' menu. An orange callout box points to the 'Memo Link' option, with the text 'Showing the link between the file and the memo'. Another orange callout box points to the 'Open Linked Memo' option in the 'Memo Link' submenu, with the text 'Accessing the memo from the file'. The interface also shows a list of nodes and a sidebar with 'DATA', 'NOTES', 'SEARCH', and 'MAPS' sections.

Showing the link between the file and the memo

Accessing the memo from the file

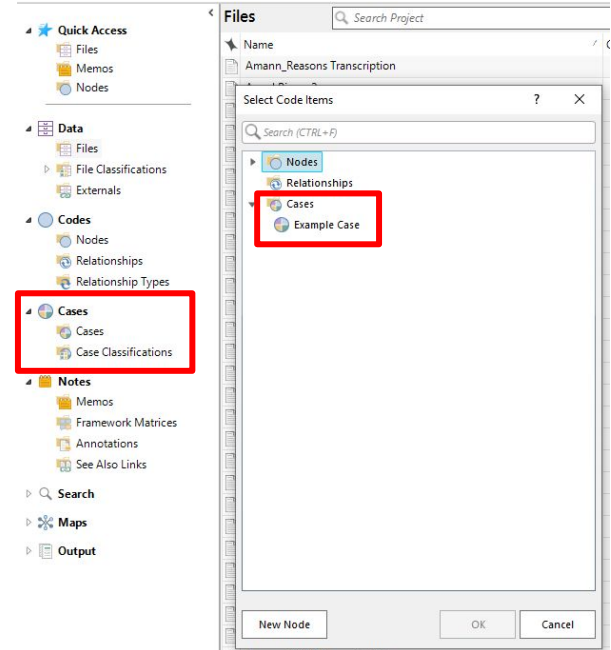


# Cases (Windows)

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.

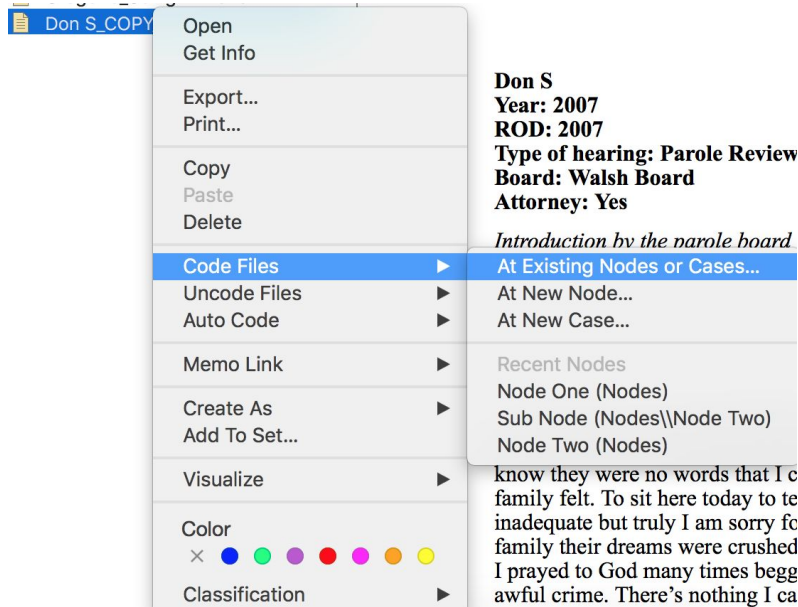
-“About Cases”, [NVivo](#)

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”

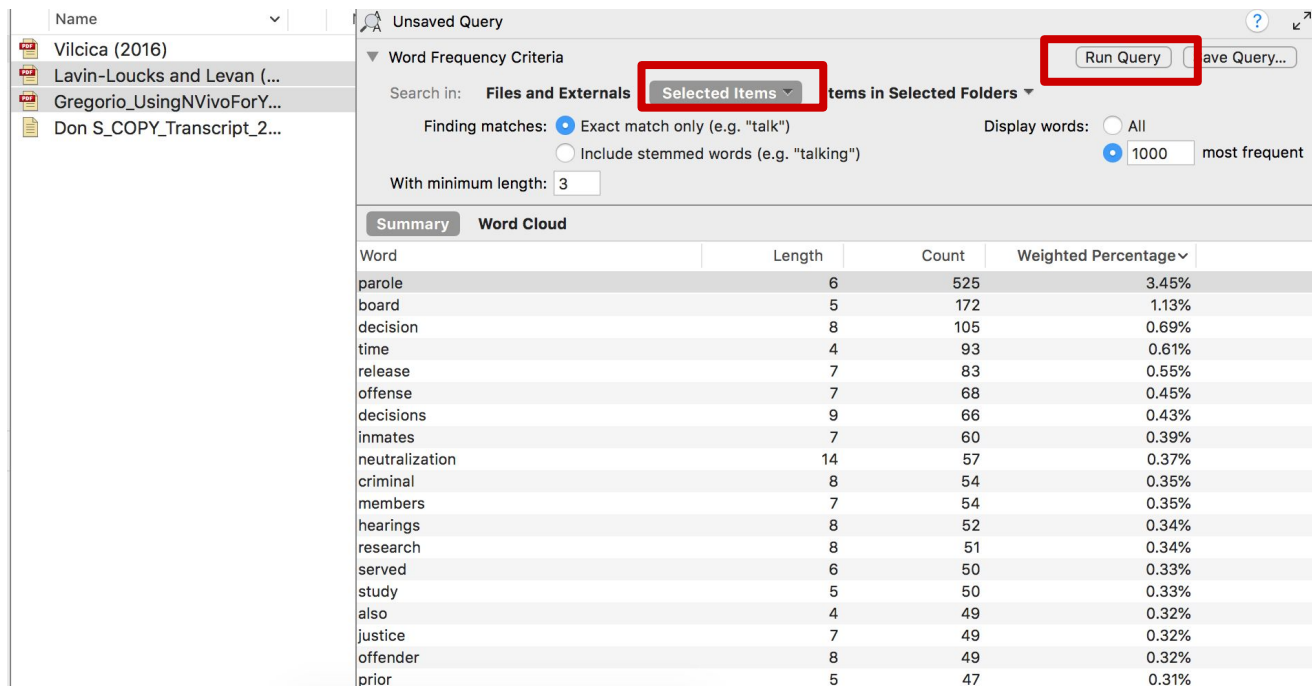
The screenshot displays the NVivo 12 Pro interface. The 'Explore' tab is active, and the 'Query' button is highlighted in the top toolbar. The 'Files' list on the left shows a selection of documents, with the 'Query' option highlighted in the context menu. The 'Word Frequency Query Results' window is open, showing the 'Selected Items...' tab. The 'Run Query' button is highlighted in the top right corner of the results window. The results table below shows 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%



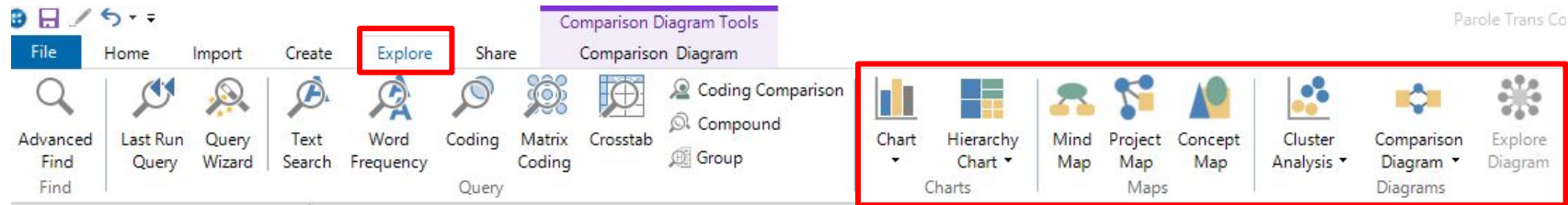
# Exploring Codes (Windows)

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

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

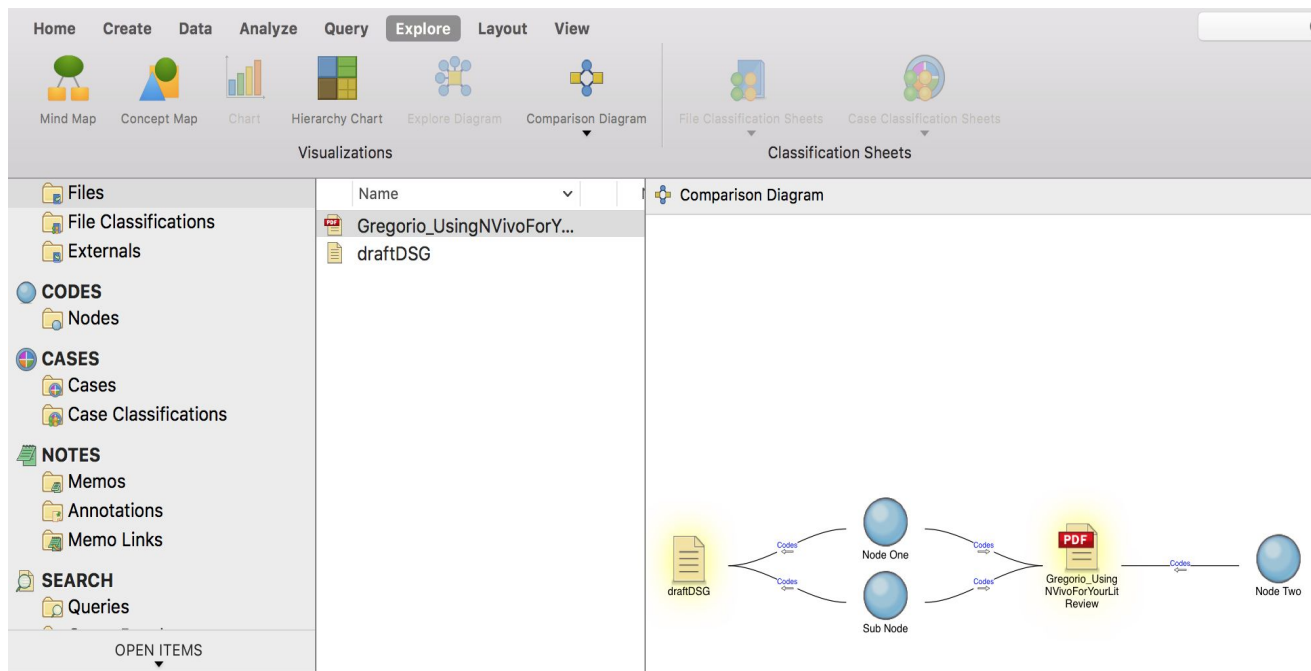
**Explore Diagram:** explore the codes used in a file

**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

<https://bit.ly/diti-fall2021-marshall-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 us at:

DITI/NULab team  
[nulab.info@gmail.com](mailto:nulab.info@gmail.com)

Slides, handouts, and data available at  
<https://bit.ly/diti-fall2021-marshall-nvivo>

Office hours for help with NVivo: [bit.ly/diti-office-hours](https://bit.ly/diti-office-hours)



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