

Introduction to Nvivo: Qualitative Coding for Literature Reviews

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Group Discussion

When you're reading for research, school, or professional reasons, how do you **annotate** and keep notes about what you are reading and learning?



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
- Sample NVivo project
- What is NVivo?
- Important vocabulary and functions
- NVivo demonstration
- Hands-on activity

Slides & handouts at <https://bit.ly/diti-fall2020-singer>



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

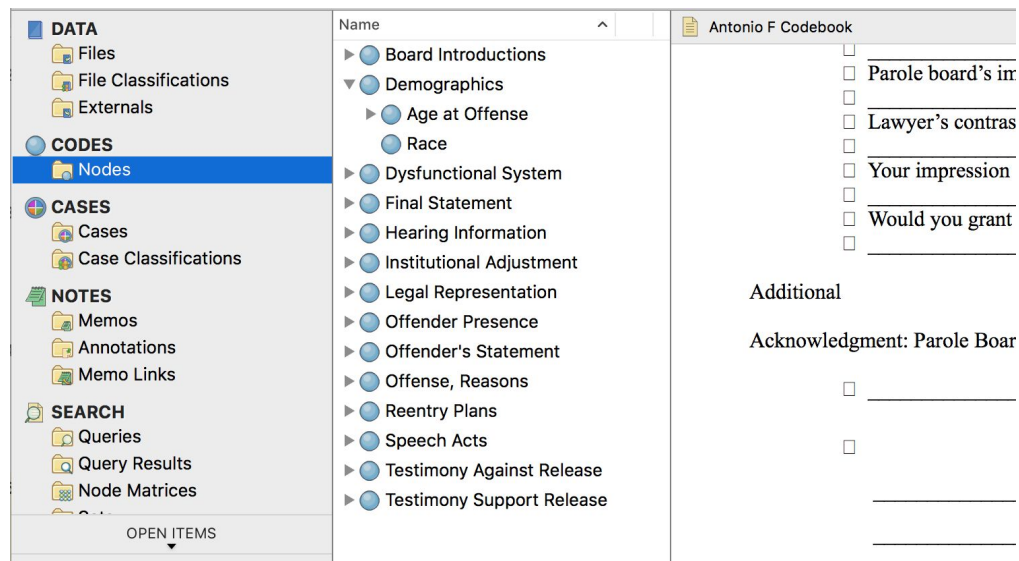
In our beginning activity, we practiced a form of **qualitative coding** together.

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.



Example: Dr. Singer's Project

For Dr. Singer's newest project, he and his research assistants are using NVivo to store and code/annotate important resources, texts, scholarly articles, and ideas. Each NVivo project is a book chapter.



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 interview transcripts, texts, or field notes
- Your own notes about your project (you can even compose in NVivo)



The Ideal Goal of a Lit Review with 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



Differences between NVivo & Citation Management

Citation management software (e.g., Endnote, Mendeley, RefWorks, Zotero, etc.) are great for organizing your sources, tagging sources, collating notes, and producing bibliographies.

NVivo is primarily for coding interviews, surveys, primary sources, and other sources for analysis and comparison. NVivo is more complicated to use, but can produce powerful visualizations and more detailed comparisons of sources.

You can import your data from your citation management software of choice into NVivo.



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

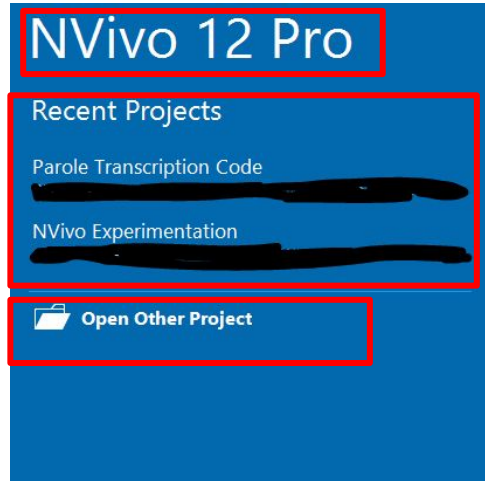


Anatomy of NVivo: Opening on Windows

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)

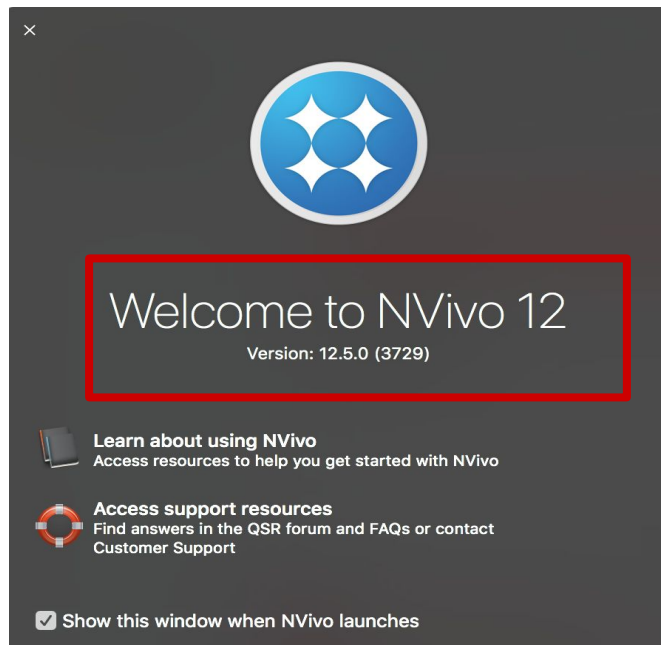


Learn and Connect



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

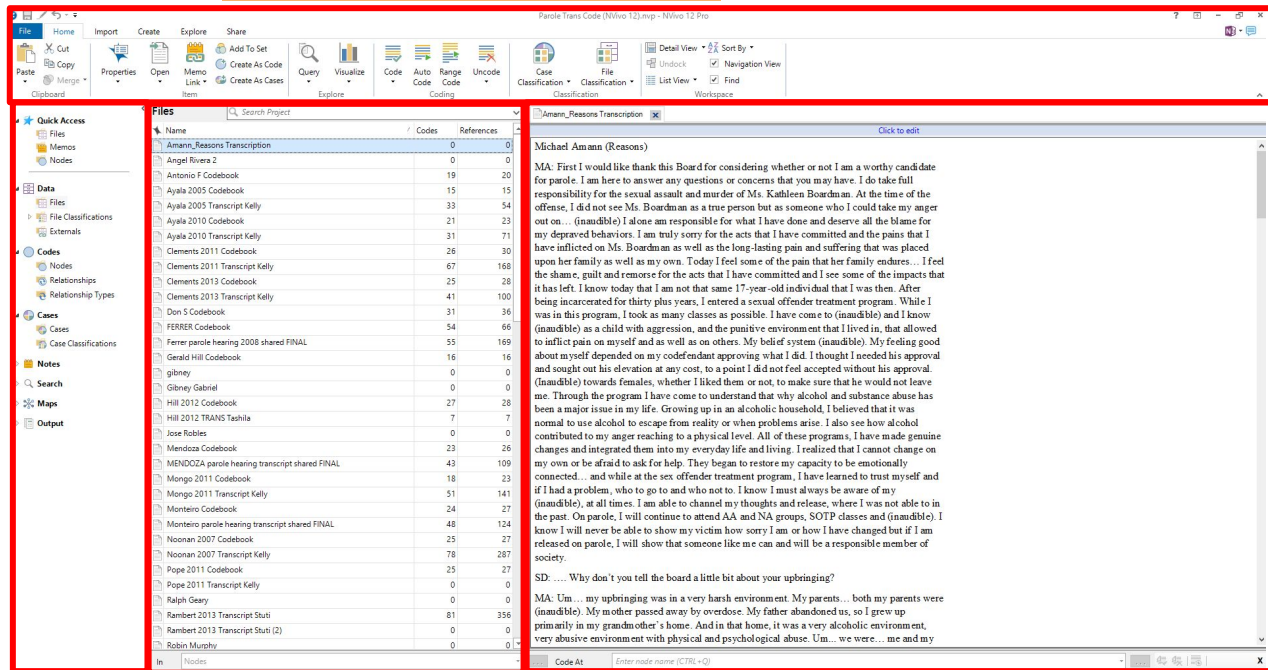


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NULab for Texts, Maps, and Networks

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

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.

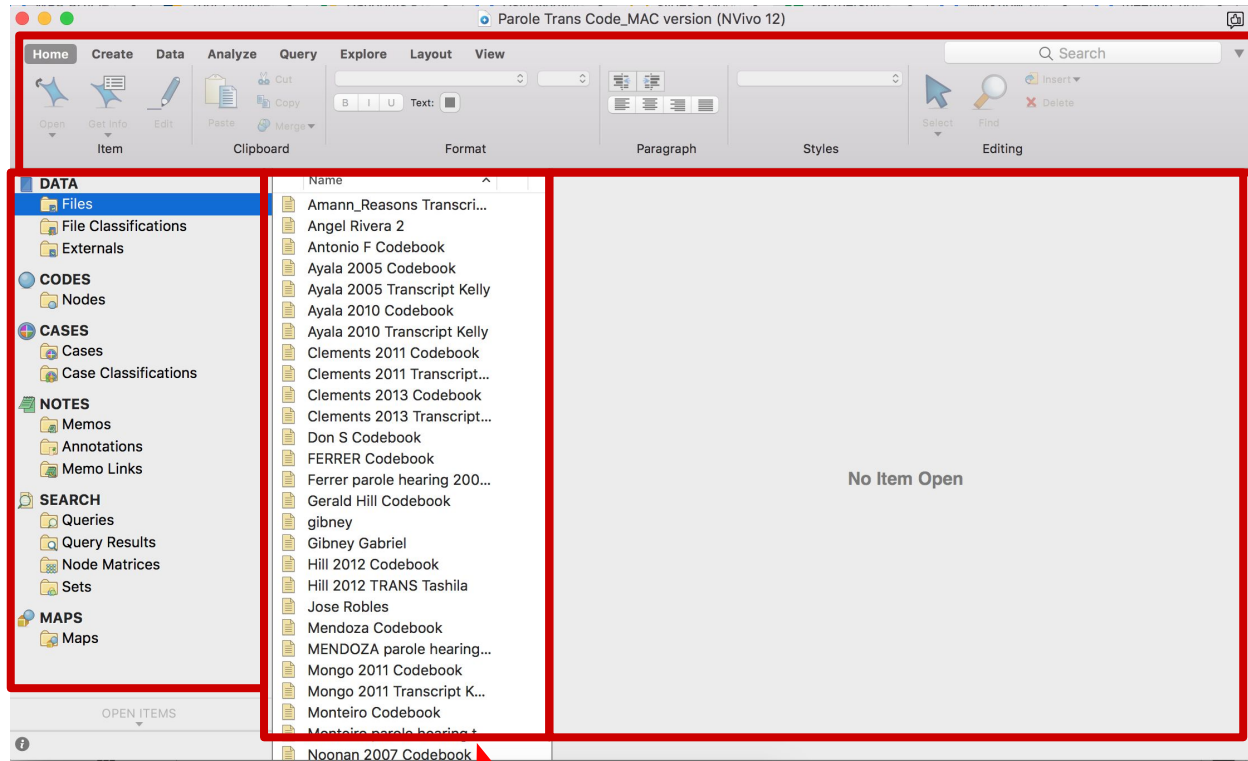
List of nodes, files, etc.



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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

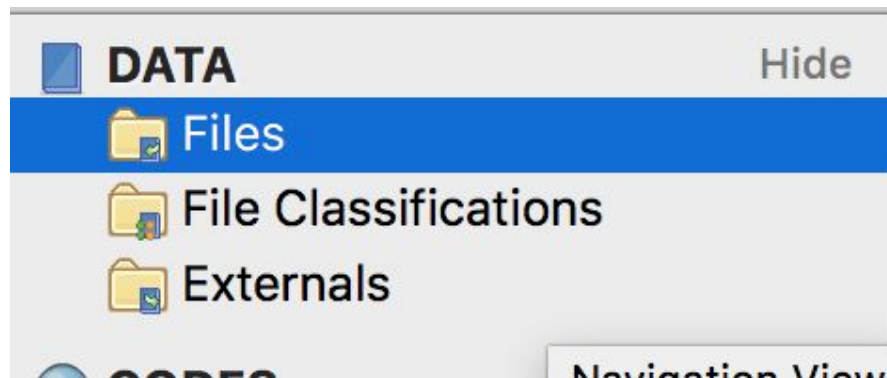


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Data

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

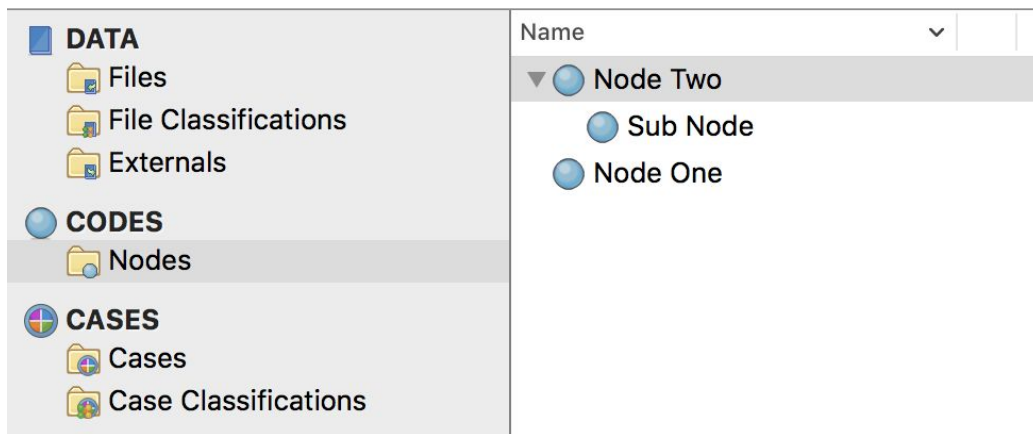
NVivo can import all types of files, including .docx, .pdf, .doc, .csv, .png, .jpeg, .txt, video/audio files, and more.

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.



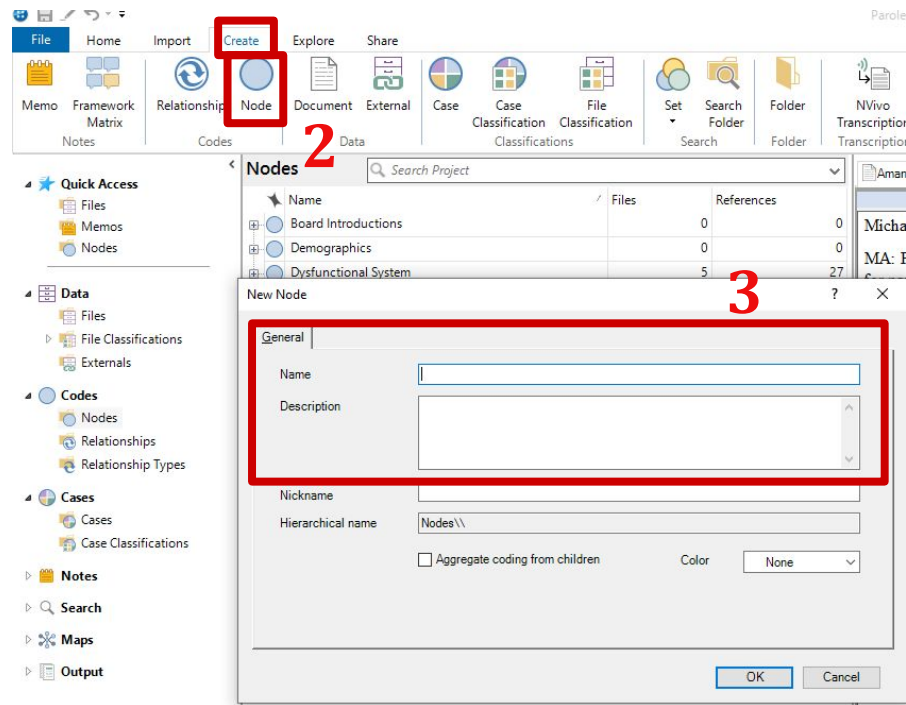
Codes and Nodes

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



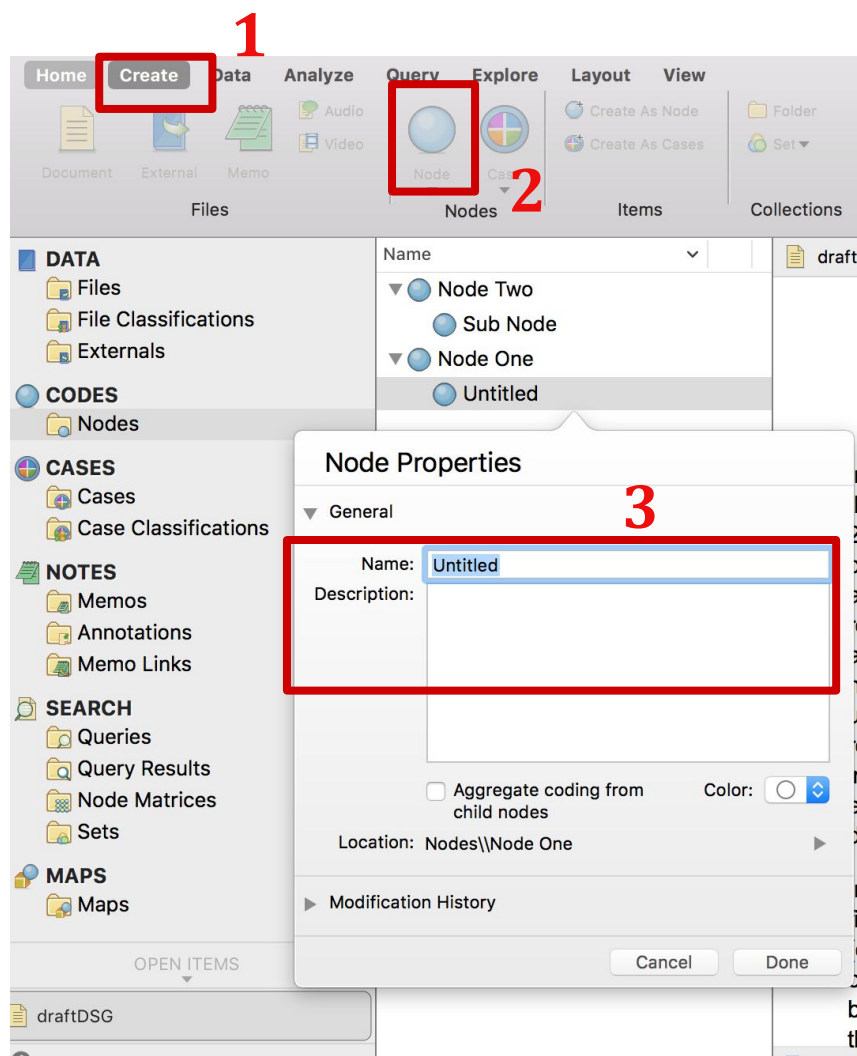
Creating Nodes (Windows) 1

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



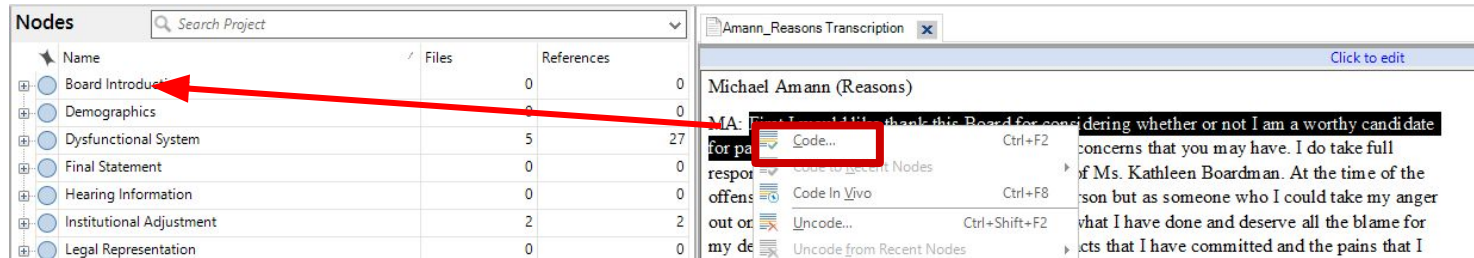
Creating Nodes (Macs)

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



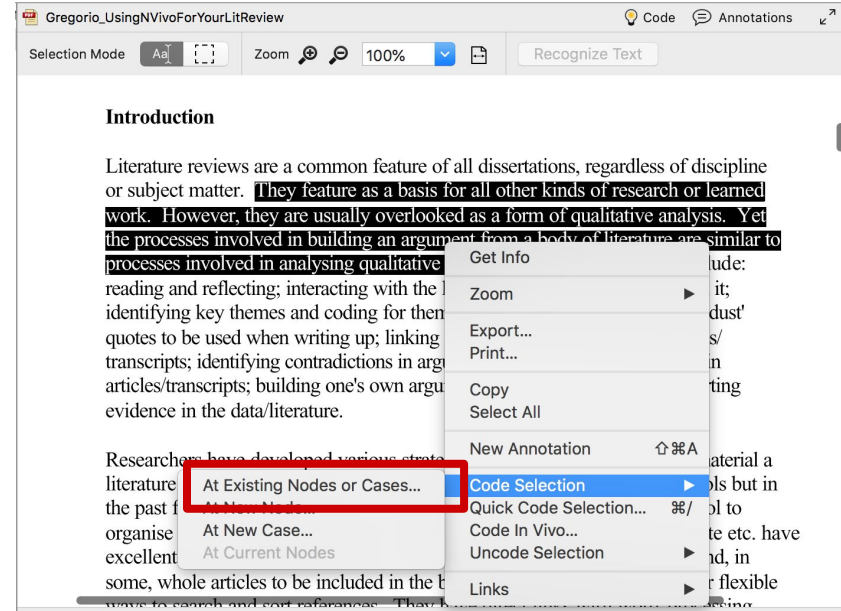
Coding Files/Documents (Windows)

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 12 Pro interface. The 'Document Tools' menu is open, showing 'Highlight' and 'All Coding'. The 'Coding Stripes' pane on the left shows a list of codes and their matches. The document text on the right is highlighted with 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.
- 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

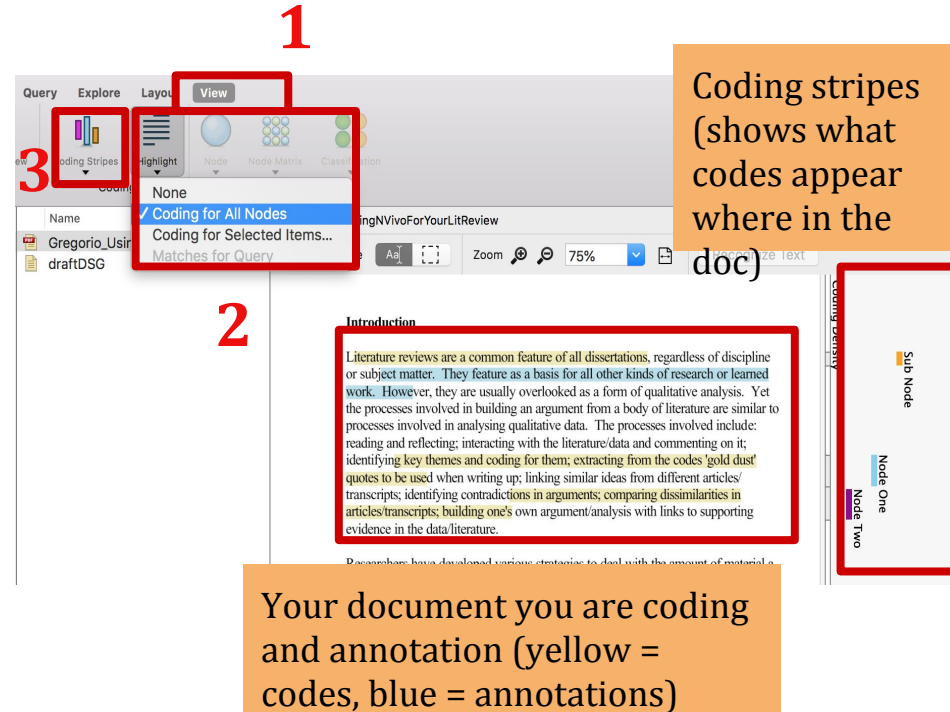


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*Feel free to ask questions at any point
during the presentation!*

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 'Highlight' submenu. 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 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 a software interface with a left sidebar, a central 'Annotations' panel, and a document editor on the right.

- Left Sidebar:** Contains a 'Quick Access' section with 'Files', 'Memos', and 'Nodes'. Below it is a 'Data' section with 'Files', 'File Classifications', and 'Externals'. Then a 'Codes' section with 'Nodes', 'Relationships', and 'Relationship Types'. A 'Cases' section with 'Cases' and 'Case Classifications'. At the bottom is a 'Notes' section with 'Memos', 'Framework Matrices', 'Annotations', and 'See Also Links'. The 'Annotations' item is highlighted with a red box.
- Annotations Panel:** A table with columns 'File Name' and 'Number'. It lists 'Amann_Reasons Transcription' with the number '1'. This panel is highlighted with a red box.
- Document Editor:** Displays the text of 'Amann_Reasons Transcription'. A paragraph is highlighted in orange, and within it, several phrases are annotated with (inaudible) in red. A red box highlights the 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:** A small table at the bottom right of the document editor showing the annotation list. It has columns 'Item' and 'Content'. It lists item '1' with the content 'This is an annotation'. This table is highlighted with a red box.

List of annotations

Where you can find all your annotations listed

Your annotation

The text from the document you highlighted and are annotating

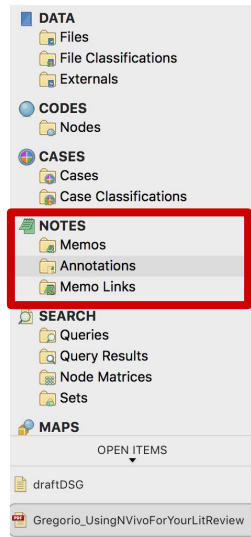
Your annotation



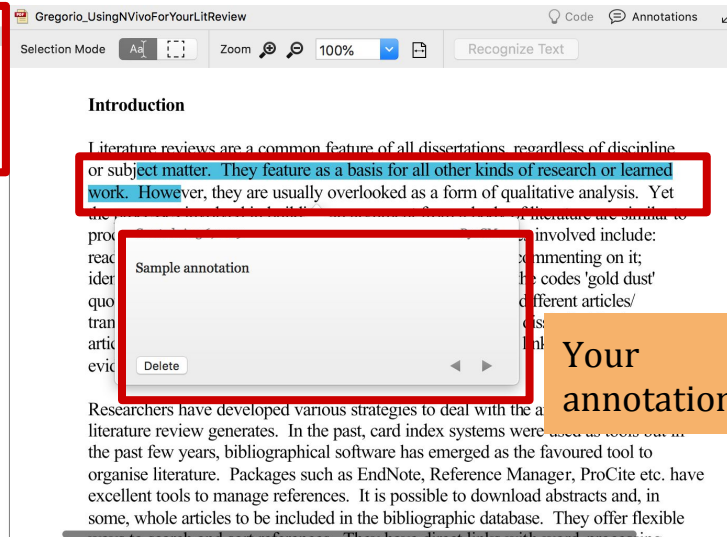
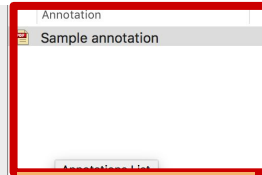
Annotating Files (Macs)

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Where you can find all your annotations listed



List of annotations



The text from the document you highlighted and are annotating

Your annotation

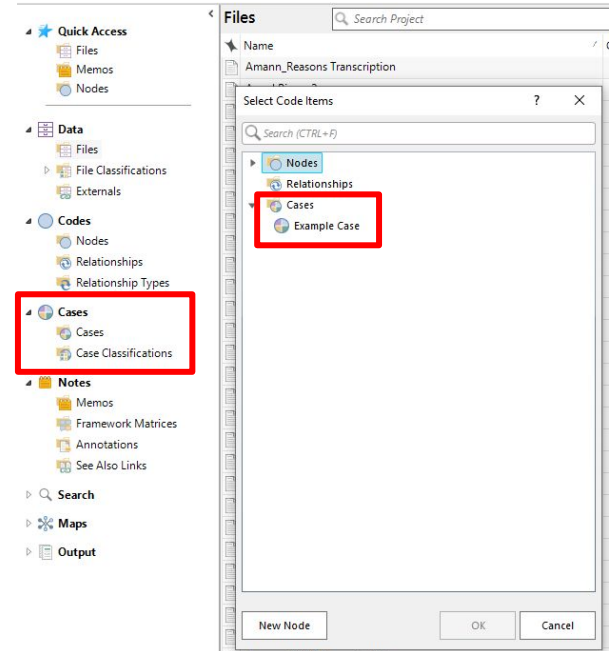


Cases (Windows)

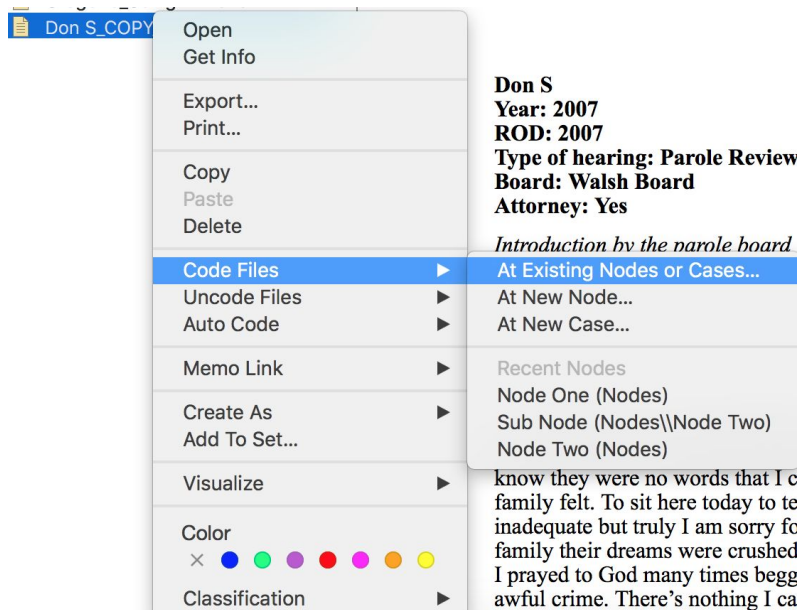
Cases are the types of research texts in your project and can be organized based on the user's choice. **“They might represent people, places, events, organizations or other entities that you want to analyze and compare.”** For example, if you have several transcripts from different trials, but want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

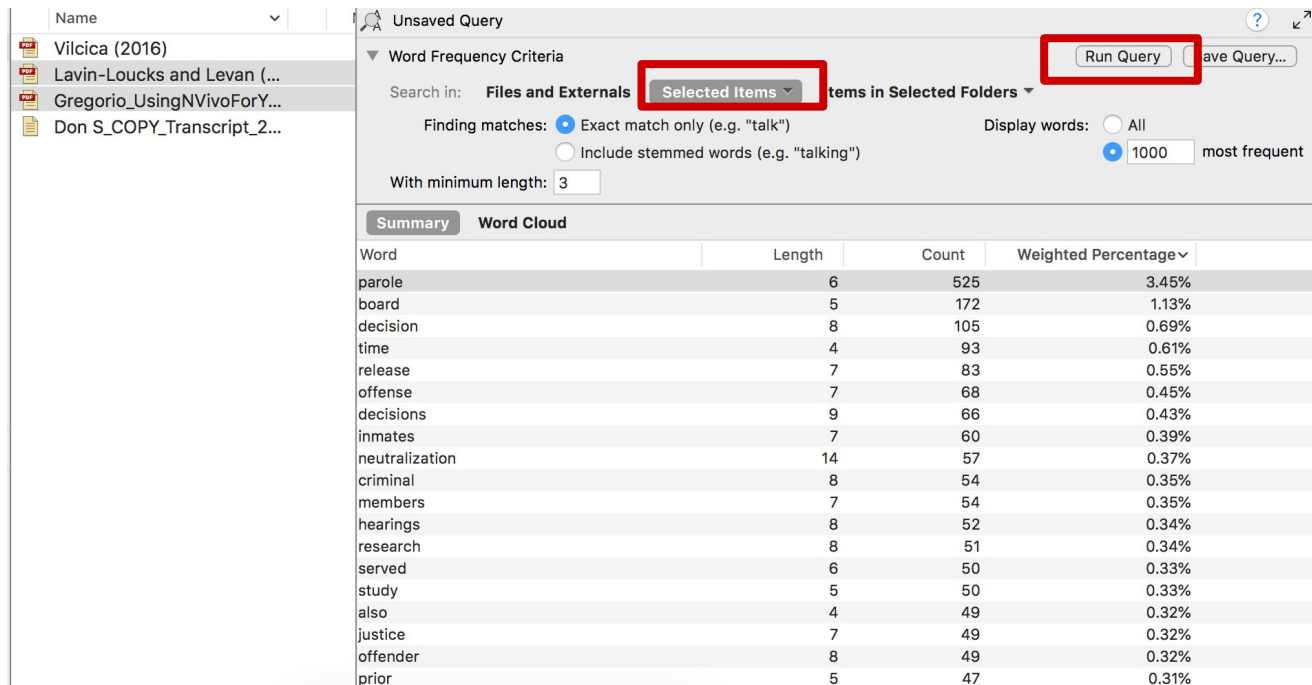
The screenshot displays the NVivo 1.2.10 software interface. The 'Explore' tab is active in the top menu bar. The 'Files' pane on the left shows a list of project files, with 'Query' selected. The 'Word Frequency Query Results' window is open, showing the 'Selected Items...' tab. The 'Run Query' button is highlighted. The results table shows 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)

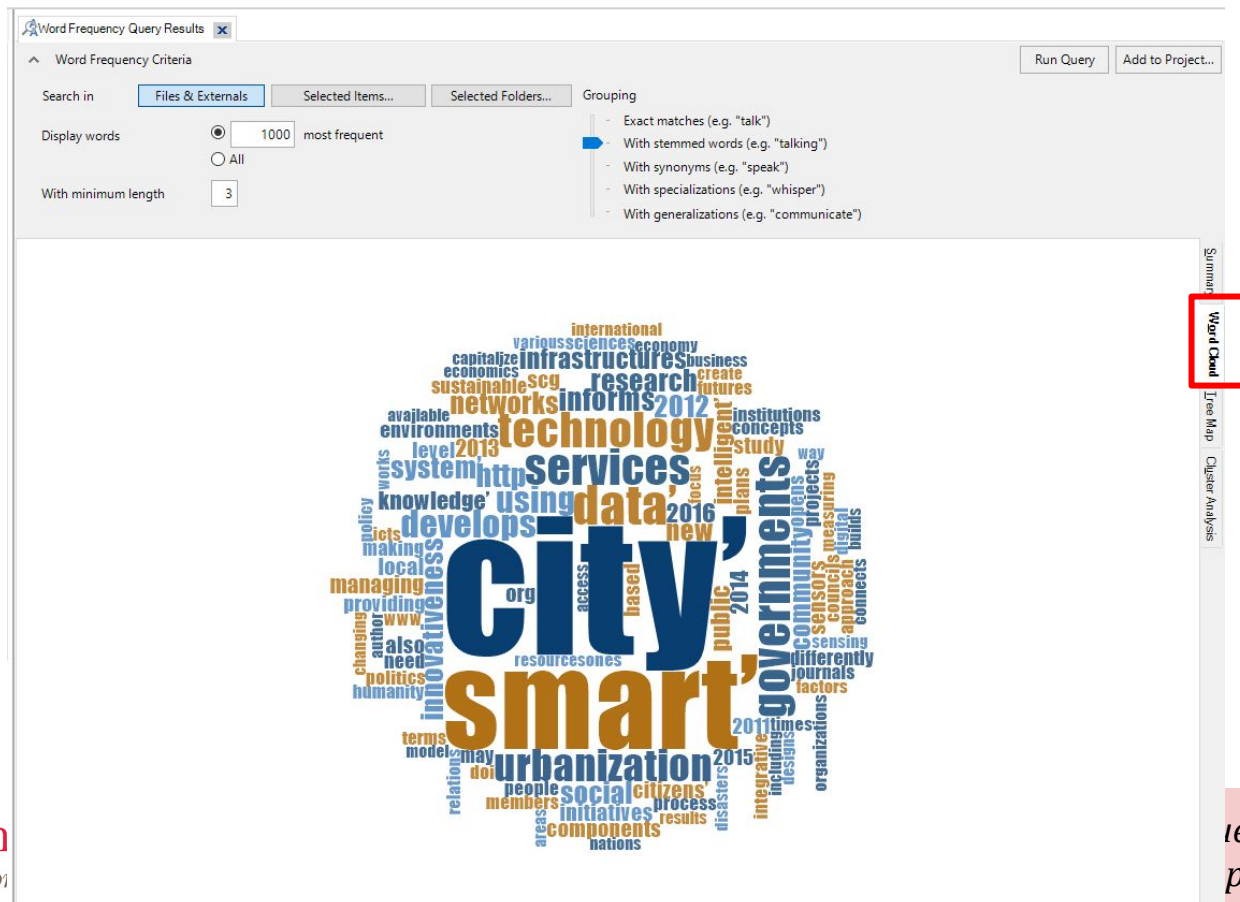
Select the items you would like to query in the “Selected Items” tab and then click “Run Query”



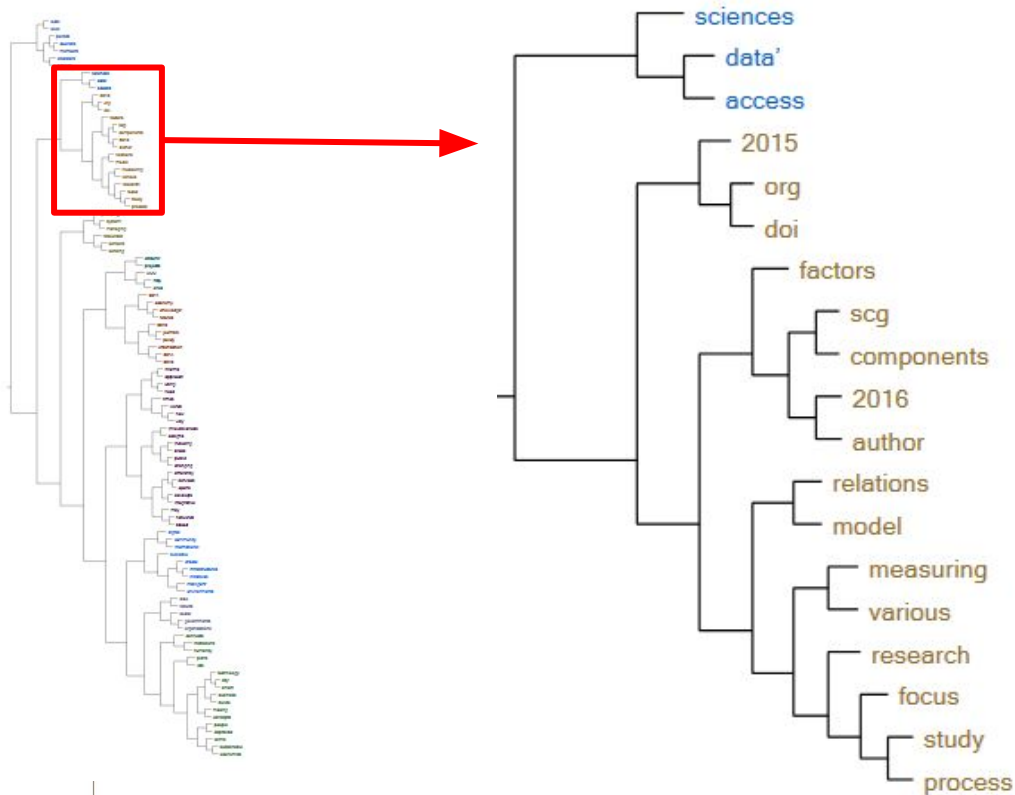
Word	Length	Count	Weighted Percentage
parole	6	525	3.45%
board	5	172	1.13%
decision	8	105	0.69%
time	4	93	0.61%
release	7	83	0.55%
offense	7	68	0.45%
decisions	9	66	0.43%
inmates	7	60	0.39%
neutralization	14	57	0.37%
criminal	8	54	0.35%
members	7	54	0.35%
hearings	8	52	0.34%
research	8	51	0.34%
served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



Other Word Frequencies: Word Clouds



Other Word Frequencies: Clusters



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 web application interface for running a query. At the top, there is a table titled 'Unsaved Query' with the following data:

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

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

Your results

Selected nodes (click the plus sign)

Selected cases (click the plus sign)



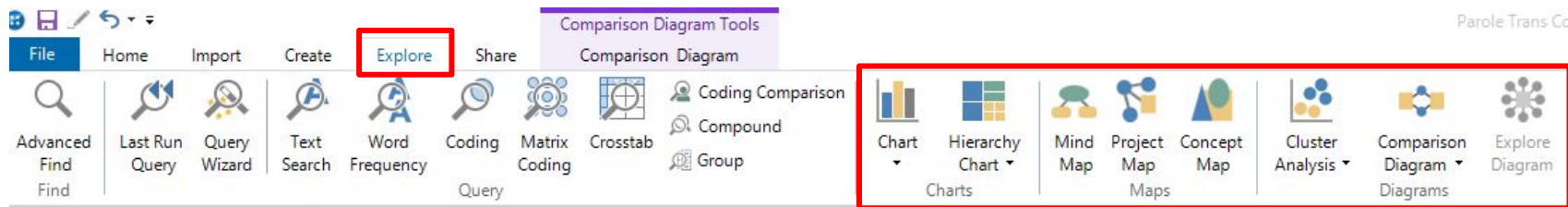
Exploring Codes (Windows)

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

Hierarchy chart: visualizes number of codes used in a file

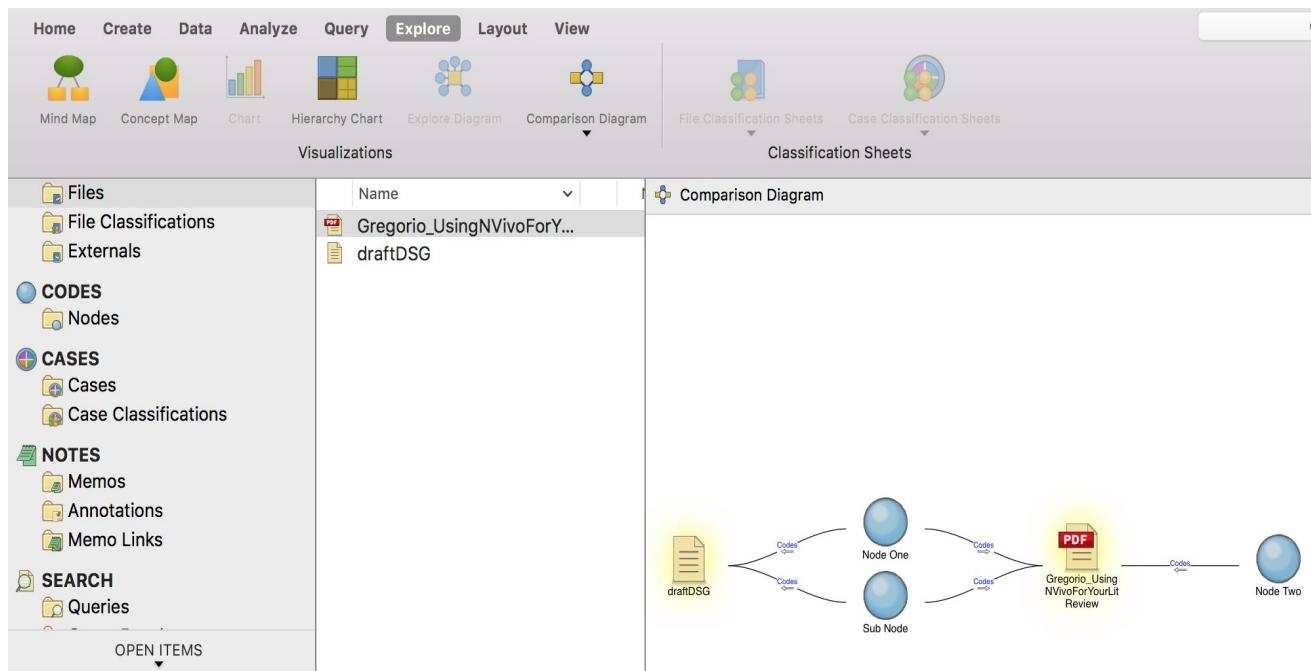
Explore Diagram: explore the codes used in a file

Comparison Diagram: compare the nodes used in multiple files

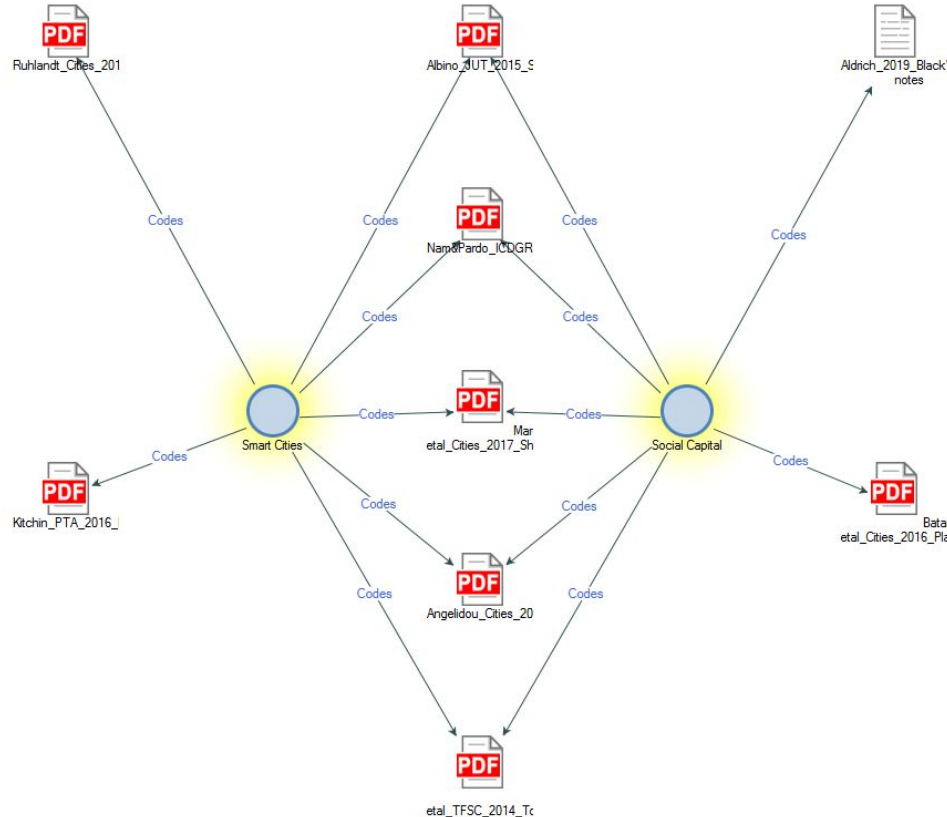


Exploring Codes (Macs)

Comparison
diagram
example



Comparison Diagram Example



Corpus Cluster Analysis Example



REMINDER:

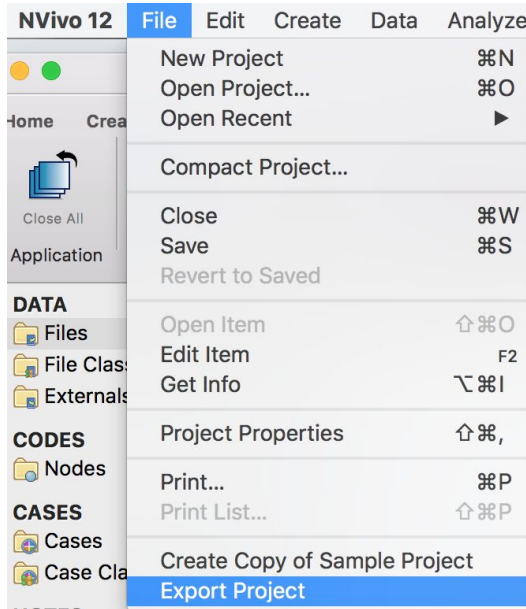
**NVivo is NOT cross-platform friendly.
When sharing your projects, save them
as .QDPX files and send those instead.**



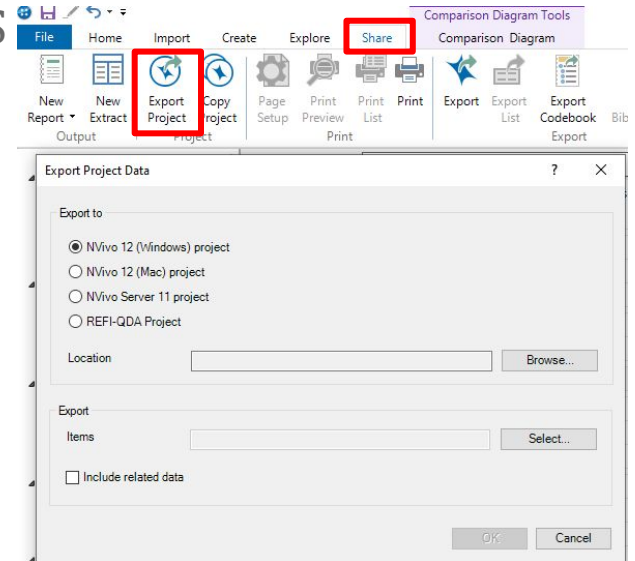
Export Your Projects

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!

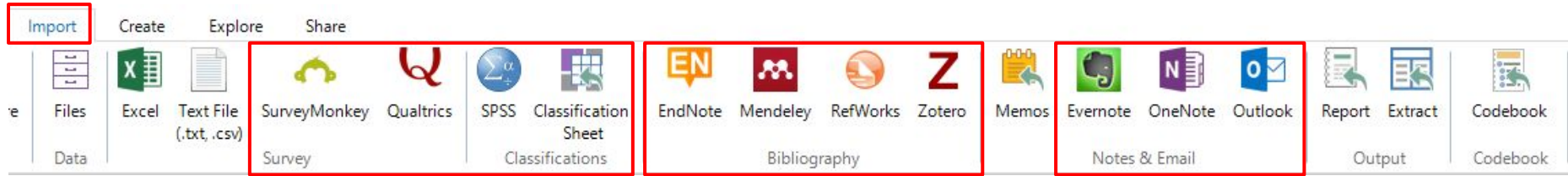
MACS



WINDOWS



Alternative Imports



Use “Import” to import from different statistical software and survey-taking options.

You can easily import from a variety of citation management software

You can also import from other note taking and email services.



Importing From Citation Managers

File types:

- EndNote (.xml)
- Mendeley (.ris, .txt)
- RefWorks (.ris, .txt)
- Zotero (.ris, .txt)

EndNote (file -> export ->
save as type: XML)

File name: Save Cancel

Save as type: Cancel

Output style: Cancel

☐ Export Selected References



Import from

File encoding

Name by

Assign to

Already linked
0 of 3 records in your reference library are already linked to existing NVivo files

☒ Replace classification and attribute values of existing files, externals & memos

☒ Replace memo contents with abstract, keywords and notes

☒ Assign attribute values to memos

To be linked
0 of 3 records in your reference library will be linked to existing NVivo files

☒ Replace classification and attribute values of existing files, externals & memos

☒ Replace memo contents with abstract, keywords and notes

☒ Assign attribute values to memos

Import new
3 of 3 records in your reference library will not be linked to existing NVivo files

☒ Import unmatched records as new files

Create Files in

Create externals in

☒ Import content from file attachments, URLs or figures where available

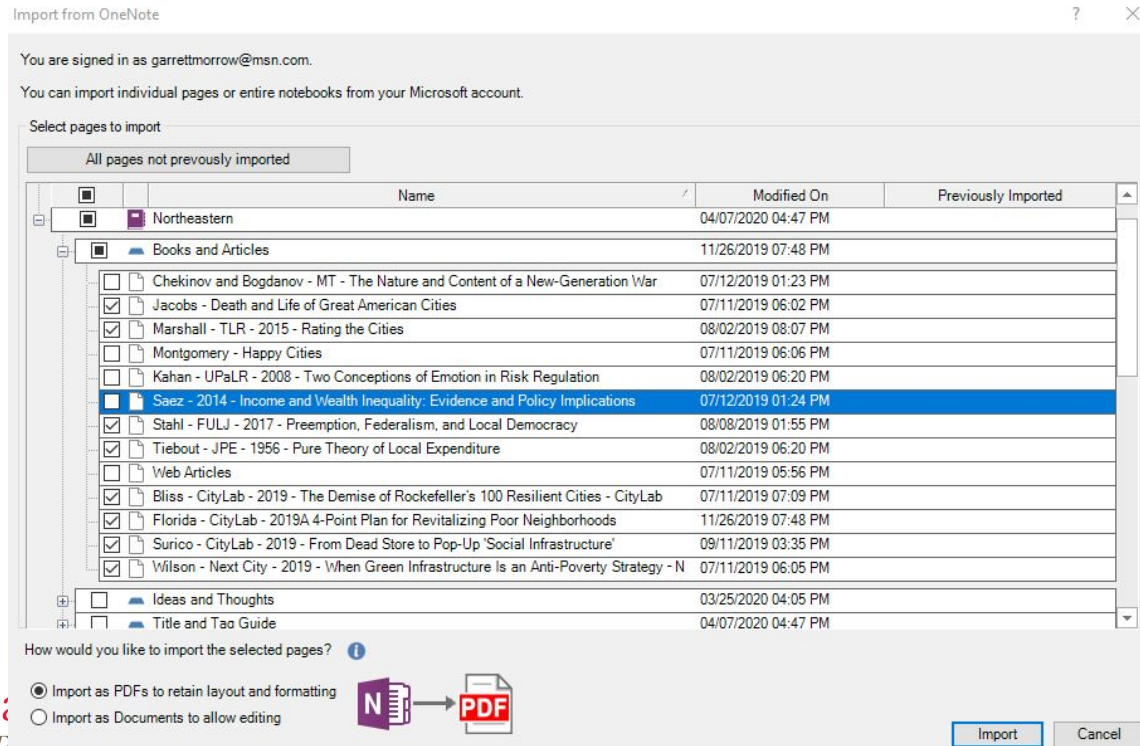
☒ Create memos from abstract, keywords and notes

☒ Assign attribute values to memos



Importing From OneNote

If you use OneNote or Evernote, you can import by logging into your account. With OneNote, you can then select the pages you would like to import. You can import as either a .pdf or an editable text document.



Importing From Outlook

You can also import from Outlook, so if you do interviews via email, you can directly export the email change as a .msg file and then import into EndNote for immediate coding.

Files

Search Project

Name	Codes	Referen
OGrady&OHare_Science_2012_HowSmartIsYourCity	4	4
OGrady&OHare_Science_2012_HowSmartIsYourCity notes	1	1
Origins of Homophily in an Evolving Social Network	0	0
Paradigms and Sand Castles~ Theory Building and Research Design in C	0	0
Places where wildfire potential and social vulnerability coincide in the co	0	0
Planning in the Era of Information and Communication Technologies. Di	0	0
Policy Analysis by Design	0	0
Policy Design for Democracy	0	0
Policy Feedback Theory	0	0
Policy Makes Mass Politics	0	0
Political Cleavages and Changing Exposure to Trade	0	0
Political Science and the Three New Institutionalisms	0	0
Political Trust, Satisfaction and Voter Turnout	0	0
Politics in Time~ History, Institutions, and Social Analysis	0	0
Poor People in Rich Nations~ The United States in Comparative Perspect	0	0
Poortinga_H&P_2011_CommunityResilienceHealthSocialCapital	2	3
Population-Based Survey Experiments	0	0
Probabilistic Topic Models	0	0
Problematising Resilience~ Implications for Planning Theory and Practic	0	0
Process Tracing~ From Metaphor to Analytic Tool	0	0
Public Opinion, Policy Tools, and the Status Quo~ Evidence from a Surve	0	0
Punctuated Equilibrium and the Supreme Court~ Punctuated Equilibriu	0	0
Quantitative Methods in Practice~ Readings from PS	0	0
Quantitative Social Science~ An Introduction	0	0
Re~ Consultation for Fall 2020 DITI Module 4-1-2020 12:52 PM	2	6
Reconstituting the Submerged State~ The Challenges of Social Policy Re	0	0
Regulating by Robot~ Administrative Decision Making in the Machine-L	0	0
Representation in an Era of Political and Economic Inequality~ How and	0	0
Resilient Cities, Resilient Lives~ Learning From the 100RC Network	0	0
Rethinking Social Inquiry~ Diverse Tools, Shared Standards	0	0
Reversing the Null~ Regulation, Deregulation, and the Power of Ideas	0	0
Ruhlandt_Cities_2018_GovernanceSmartCities	8	16
Ruhlandt_Cities_2018_GovernanceSmartCities notes	0	0
School Unispheres & Critical View	0	0

Re~ Consultation for Fall 2020 DITI Module 4-1-2020 12:52 PM

From: Cara Messina

Sent: 4-1-2020 12:52 PM

To: "Singer, Simon" <s.singer@northeastern.edu>

Cc: "Garrett Morrow" <morrow.g@northeastern.edu>

Subject: **Re: Consultation for Fall 2020 DITI Module**

Dear Garrett and Simon,

I will be there! Looking forward to it! Hope you both are safe!

Best,
Cara

On Tue, Mar 31, 2020 at 3:24 PM Singer, Simon <s.singer@northeastern.edu> wrote:

Just schedule us in! See you then, SIS

Simon I. Singer, Professor, Northeastern University
School of Criminology and Criminal Justice, 427 Churchill
Boston, MA 02115
617-373-7446; EMAIL: s.singer@neu.edu

From: Garrett Morrow <morrow.g@northeastern.edu>
Sent: Tuesday, March 31, 2020 1:55 PM
To: Singer, Simon <s.singer@northeastern.edu>; Garrett Morrow <morrow.g@husky.neu.edu>; Cara Messina <messina.c@husky.neu.edu>
Subject: Re: Consultation for Fall 2020 DITI Module

Hello Simon,



Organization of Nodes & Files

- There is no one correct way to create nodes and organize your literature.
- Coding will likely require iteration and refinement over time as you continue to understand what is in your corpus.
 - Cycle: Begin reading → code → continue reading → refine codes
- Consider your research question closely and what codes might lend themselves to answer the question.



How to Open .QDPX files

- When the file is downloaded, right click the file, click Open With and choose “NVivo”
- If NVivo is not an option, open NVivo, click Open Project, and navigate to the .qpdx file
- When you go to open the file, you will be prompted to create a new project. Make sure to title the project a memorable name!



Demonstration of Tool

Using our own data and literature review in-progress, we will quickly show you how to input the documents, code, and visualize your codes.

You will be doing this on your own in a minute, so take this time to watch and ask questions!



Your Turn

Using articles you have collected for your literature review (or the sample articles), practice:

- Inputting the documents
- Creating nodes/cases
- Coding the documents
- Visualizing your codes

Find slides & data at <https://bit.ly/diti-fall2020-singer>



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

Developed by Garrett Morrow
Digital Integration Teaching Initiative
DITI Research Fellow

Taught by Milan Skobic
Digital Integration Teaching Initiative
DITI Research Fellow

Slides, handouts, and data available at <https://bit.ly/diti-fall2020-singer>

Schedule an appointment with us! <https://calendly.com/diti-nu>



Northeastern University
NULab for Texts, Maps, and Networks

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