Welcome

Summary

- Cytoscape v3.8.0 is now available for immediate download.
- Addresses 146 issues relative to v3.7.2 (see Section 10)
- Significant upgrades to core functionality
 - Java 11 Support for application and core apps
 - Rendering engine optimization for improved large network interactivity
 - New panel interface for better screen space management.
 - O User-editable tool bar for UI customization.
- Numerous app updates and releases since 3.7.2 release
- What to do next ...

Release notes: https://cytoscape.org/releasenotes.html

Dear Cytoscape User

We are proud and pleased to release Cytoscape v3.8.0. This new release contains both new features and improvements to functionality and documentation as described in Sections 7 and 10.

As of the v3.5 release, we officially withdrew support for Cytoscape 2.x versions, though installable code and documentation will remain available on the Cytoscape web site.

V3.8.0 was not tested on Java 8 or 32-bit Java Virtual Machines, as official support for these JVM distributions will be discontinued. Certain features of Cytoscape may not function with these JVMs. For users with Java 8 or older, it is highly recommended to upgrade to a newer Java, but Cytoscape versions 3.7.2 and older can be used. Check the relevant release notes for compatibility.

For Windows and Mac systems, v3.8.0 installs its own JVM 11 and can operate on systems having Java 8 and later. Linux systems must have JVM 11 on the path or referenced by the JAVA_HOME environment variable.

This release marks successful tests with the system configurations most common among our user base, including 8 different combinations of operating systems and Java Virtual Machines across Windows, Linux, and Mac OS platforms. Check out your system's configuration here: https://tinyurl.com/sgmwcnp.

To browse the Apps that were updated during the 3.8.0 development cycle, visit the app store (http://apps.cytoscape.org). There are 358 apps available for download.

We expect a v3.9 release in Q4 2020. As our plans firm up, we'll publish them to the Cytoscape community (http://www.cytoscape.org/roadmap.html). For more on our roadmap, see Section 9.

If you are a <u>new</u> or <u>casual</u> Cytoscape user, **welcome aboard!** Feel free to either read on or jump ahead to What to Do Next for a quick start.

What to Do Next

We hope to help you use Cytoscape in the most productive way. Your next steps depend on how experienced you are with Cytoscape and what you would like to do. In the table below, please find the category that best describes you, and proceed accordingly.

Type of Cytoscape User	Where to Read Next		
New	For New Users (Section 1)		
Casual	For Casual Users (Section 2)		
Power	For Power Users (Section 3)		
App Developers	For App Developers (Section 4)		
General Interest	Try getting oriented by reading:		
	General Background (Section 5)		
	Cytoscape App Store (Section 6)		
	Then try browsing:		
	New Features (Section 7)		
	Support Offering (Section 8)		
	Future Plans (Section 9)		
	To get your feet wet, try:		
	For New Users (Section 1)		

1. For New Cytoscape Users

What is Cytoscape?

Cytoscape is software that can help you visualize complex networks (as *graphs*) representing relationships between genes, proteins, or other entities. Cytoscape tracks and displays these entities (as graph *nodes*) and relationships between them (as graph *edges*). Cytoscape, per se, does not assign meaning to either nodes or edges – you can assign your own meanings to them, and you can add your own node or edge attributes (e.g., name, measurements, states, etc.) that customize your graph to represent semantics important to you. While Cytoscape provides simple analytics and visualizations, others are available as apps from the Cytoscape App store (see Section 6).

What Do I Need Before I Can Use Cytoscape?

At the very least, you must provide Cytoscape with a list of nodes. You can also provide a list of edges and attributes. You can enter your graph manually or import it from your own files – Cytoscape supports a wide variety of file formats, including text and Excel. Cytoscape can also load pre-configured networks (e.g., from BioGRID) so you can leverage them without having to enter them yourself.

Can Cytoscape Help Me Get Started?

Yes! The Cytoscape team has provided many resources tailored for all kinds of users (see Section 8). To start, there is an Installation Guide and numerous tutorials. Once you load your graph, you may find additional useful analytics and visualizations at the App Store (see Section 6).

Which Cytoscape Version Should I Use?

Generally, you should use v3.8.0 (the newest version). v2.x has been in the field for several years and is now out of support. Cytoscape v3.8.0 has many improvements over previous Cytoscape v3.x releases.

Note that if you have already installed a previous Cytoscape version, you can install v3.8.0 without uninstalling your previous version.

How to Download and Install Cytoscape

- Surf to https://cytoscape.org, click on the Download 3.8.x button, and follow the prompts
- Be sure to consult with the Release Notes (viewable via the Release Notes button) for issues and solutions pertaining to your installation
- Surf to http://manual.cytoscape.org and follow the instructions in the Launching Cytoscape section.

How to Troubleshoot Cytoscape Installation?

Normally, the main requirement for installing Cytoscape is a Java Virtual Machine (JVM) appropriate for your workstation. For Windows and Mac users, Cytoscape 3.8.0 provides a suitable JVM if your system doesn't already have one (v11.0.6 or later). For Linux users, be sure to have a JVM (v11.0.6 or later) available on your PATH or named via the JAVA_HOME environment variable.

Regardless of your workstation operating system, you can learn whether your environment is sufficient to execute Cytoscape by following the Troubleshooting instructions at http://cytoscape.org/troubleshooting.html.

2. For Casual Cytoscape Users

If you're confident of your Cytoscape skills, please read the Power Users information (Section 3).

 ${\it If you're\ Cytoscape\ skills\ are\ rusty,\ please\ continue\ with\ the\ New\ Users\ information\ (Section\ 1).}$

3. For Cytoscape Power Users

Is v3.x for Me?

The answer is most likely yes! Cytoscape 2.x is out of support.

Most modern v2.x plugins have been converted to v3.x apps, and new v3.x apps are more plentiful than v2.x plugins (-- app is the v3.x name for the installable features known as a plugin in v2.x). To take stock, you can browse the App Store directly (Section 6).

Note that v2.x plugins are not compatible with v3.x apps. If you rely on v2.x plugins that are not yet available for v3.x, you may need to remain with v2.x instead of upgrading to v3.x, though v2.x is no longer supported.

Can I use v2.x and v3.x at the Same Time?

You can experiment with v3.x by installing it on your workstation – you can use both v2.x and v3.x on the same workstation.

How to Prepare for Cytoscape

- 1. If you have already installed a v3.8.0 RC version, *please uninstall it before proceeding*. Previous Cytoscape versions can coexist with v3.8.0, and do not need to be uninstalled.
- 2. Consult the App Store (Section 6) to verify that the apps you need are available. Some apps have become part of the Cytoscape core, and you won't need to download them. Other apps are available in the Cytoscape App store.
- 3. Browse the Future Plans table (Section 9) and Support Offering table (Section 8) to see where the Cytoscape community is going.

How to Download and Install Cytoscape

- Surf to https://cytoscape.org, click on the Download 3.8.x button, and follow the prompts
- Be sure to consult with the Release Notes (viewable via the Release Notes button) for issues and solutions pertaining to your installation
- Surf to http://manual.cytoscape.org and follow the instructions in the Launching Cytoscape section.

How to Troubleshoot Cytoscape Installation?

Normally, the main requirement for installing Cytoscape is a Java Virtual Machine (JVM) appropriate for your workstation. For Windows and Mac users, Cytoscape 3.8.0 provides a suitable JVM if your system doesn't already have one (v11.0.6 or later). For Linux users, be sure to have a JVM (v11.0.6 or later) available on your PATH or named via the JAVA_HOME environment variable.

Regardless of your workstation operating system, you can learn whether your environment is sufficient to execute Cytoscape by following the Troubleshooting instructions at http://www.cytoscape.org/troubleshooting.html.

4. For Cytoscape App Developers

Cytoscape manages graph storage and display, and contains a number of common analytic and visualization functions. App Developers may write *apps* (formerly known as *plugins*) to perform problem-specific analytics, graph layouts, or other visualizations.

Before starting app development, you should be familiar with overall Cytoscape usage and functionality – see the Power Users section (Section 3) to start working with Cytoscape if you have not already done so.

Should I Convert My v2.x Plugin to a v3.x App?

Yes! Cytoscape v2.x is now out of support.

How Do I Get Started With App Development?

To get started with app development:

https://github.com/cytoscape/cytoscape/wiki/Cytoscape-App-Ladder

For a broader view of the Cytoscape system (including the Core), refer to:

http://wikiold.cytoscape.org/Cytoscape 3/CoreDevelopment

Are there App Samples?

Yes! Sample code appears in the App Cookbook:

http://wikiold.cytoscape.org/Cytoscape_3/AppDeveloper/Cytoscape_3_App_Cookbook

5. General Background

The overall mission of Cytoscape is to be a freely available worldwide asset supporting network analysis and visualization for systems biology science.

The major focus of v3.x is the modularization and rationalization of code to solve stability issues in v2.x encountered as multiple developers pursued multiple agendas. Under v2.x, internal programmatic interfaces evolved from one release to the next, leading to the failure of working plugins over time and negative interactions between otherwise working plugins. Ultimately, this resulted in loss of programmer and user productivity, and undermined community confidence in Cytoscape.

v3.x addresses these issues by adopting modular coding practices promoted by the OSGi architectural framework¹. This enables both the Cytoscape core and externally developed apps (formerly called *plugins*) to evolve independently without compromising unrelated functionality. At the logical level, Cytoscape leverages OSGi precepts to produce v3.x APIs having cleaner and clearer demarcations between functional areas. At the deployment level, OSGi enables on-the-fly substitution of one processing element for another (e.g., apps) in order to tailor Cytoscape to meet user requirements at runtime without reinstalling or reconfiguring Cytoscape.

Creating v3.x occupied an international team of engineers for over a year, and represents a strong investment toward reducing future development and support costs, and increasing reliability and evolvability. With the completion of v3.x, we expected to leverage v3.x as a platform to satisfy the evolving needs of multiple stakeholder groups, and as a platform enabling research on leading edge analysis and visualization techniques. v3.x is the successor to v2.x, with 2.x now out of support.

During the creation of v3.x, a number of features were added, as listed in the New Feature Table below.

¹ www.osgi.org – also used as the basic framework for Eclipse and numerous commercial products

6. The Cytoscape App Store

The Cytoscape App Store targets broad demographics through specific features:

Cytoscape User	Benefit
New or Casual	Find Cytoscape functionality easy via familiar paradigms of search and tag navigation
Power or Frequent	Find and install apps easy and provide crowdsourced rating and reviews
App Developers	Have a dedicated presence for their work, including a direct line to their users and critical statistics to justify their development on the Cytoscape platform.

Furthermore, the App Store supports contests and social incentives that encourage critical technical and community development, including porting, analytics, rating/reviewing, and so on.

Note that the App Store supports only Cytoscape v3.x and no longer accepts plugins compatible with earlier Cytoscape versions. Likewise, plugins that work with earlier versions are not compatible with v3.x – the App Store (http://apps.cytoscape.org) contains a list of apps available for v3.x.

To access the App Store from Cytoscape, access Cytoscape's new Apps menu and choose the App Manager menu item.

7. New Feature Table

Feature	Beneficiary	Manual Section
Network Renderer	All Users	4.5 Network View Tools
Panel Interface	All Users	21. Panels
Tool Bar	All Users	4.2 Basic Features
Label Selection	All Users	11.2 Other Mouse Behaviors
Network Analyzer	Power Users	18.1 Network Analysis
CyBrowser	Power Users	16. Cytoscape Web Browser
NDEx Integration	All Users	23. Export Your Data

8. Support Offering Table

Feature	Purpose	Beneficiary	URL
Cytoscape Helpdesk Group	Community response on best effort basis	All users	https://groups.google.com/forum/? hl=en_US/#!forum/cytoscape- helpdesk
User Manual	Comprehensive manual	All users	http://manual.cytoscape.org
Installation Guide	Cytoscape installation	New/Casual users	Section 2 of http://manual.cytoscape.org
Tutorials	Streamlined productivity	All users	http://tutorials.cytoscape.org
YouTube Channel	Enable casual learning	All users	https://www.youtube.com/channel/ UCv6auk9FK4NgXiXiqrDLccw
Presentation Slides on Web Site	Enable casual learning	All users	https://speakerdeck.com/cytoscape
Cytoscape App Dev Group	Community response on best effort basis	App Developers	https://groups.google.com/forum/# %21forum/cytoscape-app-dev
Code Snippets	Commonly used App development code	App Developers	http://wikiold.cytoscape.org/ Cytoscape_3/AppDeveloper/ Cytoscape_3_App_Cookbook

9. Future Plans Table

Feature	Purpose	Beneficiary	Timeframe
Cytoscape Ecosystem	Integrate existing online web-apps and services into an ecosystem that includes Cytoscape.	All users	Ongoing
Additional Visualizations			Ongoing
Additional Analytics			Ongoing
Wallpaper Collection	Publicize good results associated with Cytoscape	All users, potential users, general public	TBD
Cytoscape Clinics New/Casual User Power User App Developer	Chat rooms give instant response based on community availability	All users	Ongoing

10. Issues Addressed

The following issues were addressed in v3.8. Details for each issue can be found at Cytoscape's Jira issue repository:

https://cytoscape.atlassian.net/projects/CYTOSCAPE/issues/

Improvement

```
[CYTOSCAPE-12468] - Support transparent background for PNG export
[CYTOSCAPE-12502] - Add RESET button for tunables in Layout Settings dialog
[CYTOSCAPE-12503] - Missing GET /styles/currentStyle
[CYTOSCAPE-12505] - Adding more toolbar icons (hidden by default)
[CYTOSCAPE-12506] - Rename problematic files in sampleData
[CYTOSCAPE-12511] - Full expansion of the table panel
[CYTOSCAPE-12512] - Copy filters
[CYTOSCAPE-12535] - Table Browser is terrible for large strings
[CYTOSCAPE-12584] - "Show Columns" dialog no longer shows columns in alphabetical order
[CYTOSCAPE-12587] - Change helpdesk link
New Feature
[CYTOSCAPE-9834] - Optimize Model/ViewModel/Presentation using modern concurrent package
[CYTOSCAPE-10387] - Provide exit shortcut keycode popup on fullscreen
[CYTOSCAPE-11066] - Hide labels option
[CYTOSCAPE-11323] - Export as graphics option should be saved to properties
[CYTOSCAPE-11351] - Provide status bar/Update Manager notification for updates to Cytoscape
[CYTOSCAPE-11365] - Default attribute for edge-weighted layouts.
[CYTOSCAPE-12058] - NDEx modal forces itself to stay on top
[CYTOSCAPE-12065] - CloneNetworkTask cloneNetwork method is private
[CYTOSCAPE-12133] - Installer can create desktop shortcut
[CYTOSCAPE-12220] - "Show Default" option in Properties selection interface in Style panel
[CYTOSCAPE-12324] - Filters should have an "action" that would support other types of actions (in
addition to select)
[CYTOSCAPE-12478] - Overhaul of Merge Tools -- consolidated issue
```

```
[CYTOSCAPE-12479] - Overhaul of Network Analyzer Tool -- consolidated issue
[CYTOSCAPE-12488] - CLONE - Feature request: Unassigned table without key
[CYTOSCAPE-12489] - Update Documentation in manual for PSI-MI format support
[CYTOSCAPE-12499] - Editing of attributes for multiple selection of annotations would be convenient
[CYTOSCAPE-12518] - Improve Desktop and CytoPanel UI (Docking Framework)
[CYTOSCAPE-12532] - Manage labels automatically or in bulk
[CYTOSCAPE-12540] - Add table import icon to table panel
[CYTOSCAPE-12551] - Additions to Select Menu
Task
[CYTOSCAPE-12480] - Test automation use case against dockerized Cytoscape 3
[CYTOSCAPE-12557] - Test Core App in Java 11: biopax
[CYTOSCAPE-12558] - Test Core App in Java 11: json
[CYTOSCAPE-12559] - Test Core App in Java 11: idmapper
[CYTOSCAPE-12560] - Test Core App in Java 11: network-analyser
[CYTOSCAPE-12561] - Test Core App in Java 11: network-merge
[CYTOSCAPE-12562] - Test Core App in Java 11: psi-mi
[CYTOSCAPE-12564] - Test Core App in Java 11: webservice-biomart-client
[CYTOSCAPE-12565] - Test Core App in Java 11: webservice-psicquic-client
[CYTOSCAPE-12566] - Test Core App in Java 11: cy-rest
[CYTOSCAPE-12567] - Test Core App in Java 11: opencl-cycl
[CYTOSCAPE-12568] - Test Core App in Java 11: opencl-layout
[CYTOSCAPE-12569] - Test Core App in Java 11: welcome
[CYTOSCAPE-12570] - Test Core App in Java 11: diffusion
[CYTOSCAPE-12571] - Test Core App in Java 11: copycatLayout
[CYTOSCAPE-12572] - Test Core App in Java 11: cyBrowser
[CYTOSCAPE-12573] - Test Core App in Java 11: cx-support
[CYTOSCAPE-12574] - Test Core App in Java 11: cy-ndex-2
CYTOSCAPE-12575[] - Review web-links
[CYTOSCAPE-12604] - Cytoscape Mac install breaks due to two JavaFX versions
[CYTOSCAPE-12607] - Cytoscape 3.8.0 Test Script Update
```

```
[CYTOSCAPE-12612] - Update manual for 3.8 - Merge
[CYTOSCAPE-12616] - Update manual for 3.8 - Automation
[CYTOSCAPE-12617] - Update manual for 3.8 - NetworkAnalyzer
[CYTOSCAPE-12618] - Update manual for 3.8 - Annotations
[CYTOSCAPE-12619] - Update manual for 3.8 - Import / Export networks
[CYTOSCAPE-12620] - Update manual for 3.8 - Panels
[CYTOSCAPE-12621] - Update manual for 3.8 - Styles
[CYTOSCAPE-12622] - Update manual for 3.8 - Miscellaneous screenshots
[CYTOSCAPE-12633] - Test Core App in Java 11: analyser
[CYTOSCAPE-12634] - Test Core App in Java 11: analyser
[CYTOSCAPE-12644] - Update manual for 3.8 - Cytoscape Web Browser
[CYTOSCAPE-12645] - ReadTheDocs Manual: Find out why "alt text" from image markdown shows up in
the manual
[CYTOSCAPE-12649] - Update manual for 3.8 - cyCharts
[CYTOSCAPE-12671] - Update manual for 3.8 - Describe new Graphics Detail and Label Selection buttons
[CYTOSCAPE-12677] - Update manual for 3.8 - Rendering Engine
[CYTOSCAPE-12678] - Manual update - Please review Cytoscape and OpenCL for potential updates
needed
Bug
[CYTOSCAPE-10109] - #ASKMIKE
[CYTOSCAPE-10463] - "If" function produces a result that can't be used by anything else in the equations
system
[CYTOSCAPE-11492] - Edge visualizations can overlap nodes if node transparency less than 255
[CYTOSCAPE-11493] - Edge-line and edge-arrow overlap results in dark areas if edge transparency is less
than 255
[CYTOSCAPE-11946] - Escaping does not work in Lucene query
[CYTOSCAPE-12163] - CX export/import error in Discrete mapping
[CYTOSCAPE-12231] - Level of Detail is hard to comprehend
[CYTOSCAPE-12298] - Cytoscape has wrong order of app versions
[CYTOSCAPE-12383] - Check for updates for all dependencies
[CYTOSCAPE-12388] - Annotation and Node selection not working together
[CYTOSCAPE-12397] - Shift dragging requires continuous hold of Shift key
```

```
[CYTOSCAPE-12426] - GraphML import not following standard
[CYTOSCAPE-12430] - Drag behaves differently for nodes and annotations
[CYTOSCAPE-12433] - IllegalState (and IndexOutOfBounds) Exception in Continuous Mapping Editor
[CYTOSCAPE-12439] - Node Border Width is inconsistent with line width
[CYTOSCAPE-12452] - TextBox Annotation changes size on zoom/edit
[CYTOSCAPE-12457] - Cytoscape batch on Windows doesn't support spaces
[CYTOSCAPE-12462] - Install4J for Cytoscape 3.8+ should no longer use Java 8 only
[CYTOSCAPE-12463] - CyBrowser fails in Ubuntu 18.04 with Java 11
[CYTOSCAPE-12473] - Annotation Problems
[CYTOSCAPE-12483] - Exported SIFs with unconnected nodes can lead to files that can't be read properly
[CYTOSCAPE-12484] - Edge Table does not update properly after manually editing cell in the "selected"
column
[CYTOSCAPE-12485] - Performance: ViewUtil.getHiddenEdgeCount() is slow
[CYTOSCAPE-12493] - Cytoscape 3.8 startup commonly gets startup errors
[CYTOSCAPE-12496] - CX Support Bugs and tests
[CYTOSCAPE-12498] - Diamond, Parallelogram and V are shapes supported for nodes, but not
annotations.
[CYTOSCAPE-12504] - On Windows 10, JavaFX components cause major resolution rescaling
[CYTOSCAPE-12507] - Task History button does not show error/warn icons
[CYTOSCAPE-12516] - SLF4J errors on startup
[CYTOSCAPE-12520] - Duplicate separators after hiding toolbar buttons
[CYTOSCAPE-12521] - Nodes are immovable in Ubuntu
[CYTOSCAPE-12523] - IllegalArgumentException clicking on edge bends
[CYTOSCAPE-12529] - Restore JavaDoc build
[CYTOSCAPE-12537] - The result of an equation should be automatically converted to the column type
[CYTOSCAPE-12538] - Import table from file fails with file cytoscape table export
[CYTOSCAPE-12539] - Let user know in tooltip that certain columns cannot be deleted
[CYTOSCAPE-12544] - Edge Bend Editor doesn't match actual rendering when mappings are used
[CYTOSCAPE-12545] - Multiple edges behave oddly in 3.8.
[CYTOSCAPE-12552] - BoundedInteger GUI label is wrong
[CYTOSCAPE-12586] - Broken link to javadocs
```

```
[CYTOSCAPE-12591] - Arrow annotations are not working in 3.8
[CYTOSCAPE-12592] - Annotation shape selection blocked move to background
[CYTOSCAPE-12595] - LinearGradientPaint in legend shows as solid color
[CYTOSCAPE-12597] - Turning on Fill in Shape Annotation Editor doesn't listen for the change
[CYTOSCAPE-12598] - Group Annotations don't drag the same amount as atomic annoations
[CYTOSCAPE-12599] - Edge bend editor shows wrong bend
[CYTOSCAPE-12600] - Stack seen opening Swagger
[CYTOSCAPE-12601] - Installation from App Store not working
[CYTOSCAPE-12603] - double edges drawn in merged network
[CYTOSCAPE-12605] - Quitting Cytoscape triggers OS warning message
[CYTOSCAPE-12606] - Equations loaded from session show errors for valid equations
[CYTOSCAPE-12608] - Continuous mapping strange results when min and max are the same value.
[CYTOSCAPE-12609] - Lucene (search) doesn't seem to handle column names with spaces
[CYTOSCAPE-12610] - Exception in console when editing table
[CYTOSCAPE-12611] - Analyze network breaks the node table for networks with less than 4 nodes
[CYTOSCAPE-12613] - Manually setting zoom level under style tab/menu has no effect
[CYTOSCAPE-12614] - Bug reporter doesn't seem to work in 3.8
[CYTOSCAPE-12615] - Lucene (search) doesn't seem to handle column names with spaces
[CYTOSCAPE-12625] - Unable to Export Legend in Cytoscape 3.8.0 snapshot
[CYTOSCAPE-12628] - Annotations from 3.7.2 sessions are rescaled
[CYTOSCAPE-12629] - Annotation Selection Oddity
[CYTOSCAPE-12630] - Copycat layout tunable shows Object name rather than network name
[CYTOSCAPE-12637] - Keybinding for Show Graphics Details is not working
[CYTOSCAPE-12638] - Defaults for PNG export
[CYTOSCAPE-12640] - View.isSet() returns wrong result for
BasicVisualLexicon.NETWORK CENTER X LOCATION
[CYTOSCAPE-12641] - Minimized, small window will be displayed after installing 3.8.0 (on Mac)
[CYTOSCAPE-12646] - Diffusion fails in 3.8 - service unavailable error
[CYTOSCAPE-12648] - "Remove duplicated edges" and "Remove Self-loops" is missing from Edit menu
[CYTOSCAPE-12651] - linux.sh troubleshooting script not working on centos 8.1 when testing cytoscape
3.8.0 RC 1
```

[CYTOSCAPE-12653] - v3.8 opens help from 3.7

[CYTOSCAPE-12655] - Import Columns from Table has wrong default "where"

[CYTOSCAPE-12658] - Network merge and network import pick the last style used without informing the user

[CYTOSCAPE-12659] - Importing an XGMML file exported from Cytoscape seems to disable node selection

[CYTOSCAPE-12666] - Export Annotations as Image

[CYTOSCAPE-12674] - Unable to import columns with scientific notation

[CYTOSCAPE-12675] - Network merge duplicates edges in graph but not in data table

[CYTOSCAPE-12676] - Merge app doesn't accept values based on order in dialog

Decision

[CYTOSCAPE-9381] - Icon for column selection should match 'select all' and 'deselect all' icons

[CYTOSCAPE-12458] - Larger, more modern sample network sessions