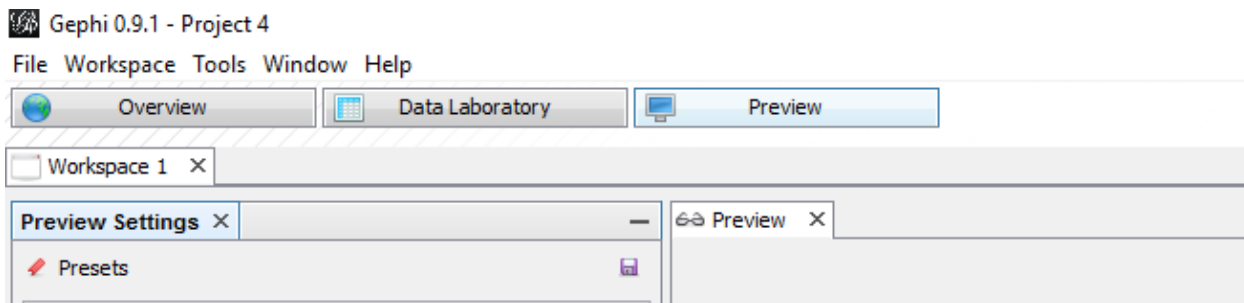
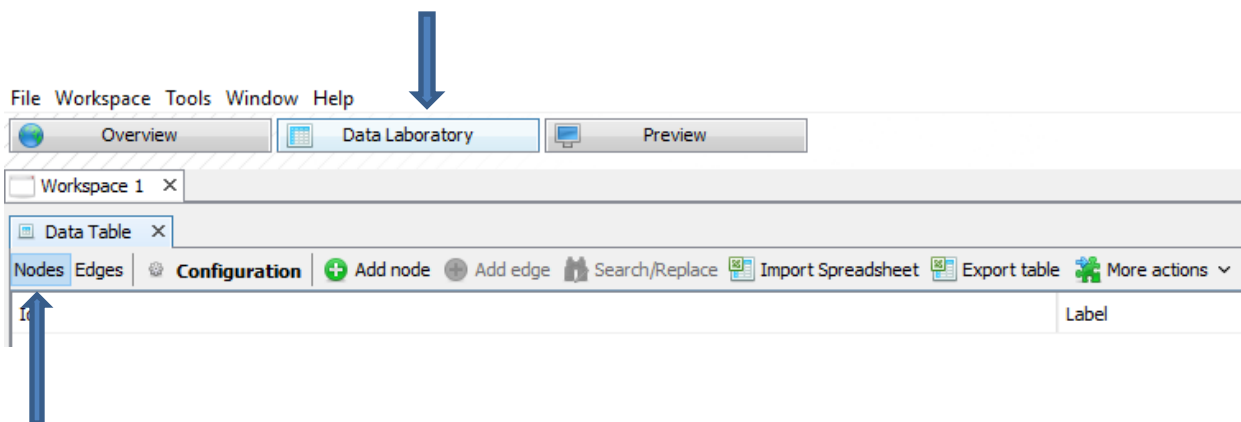


Gephi

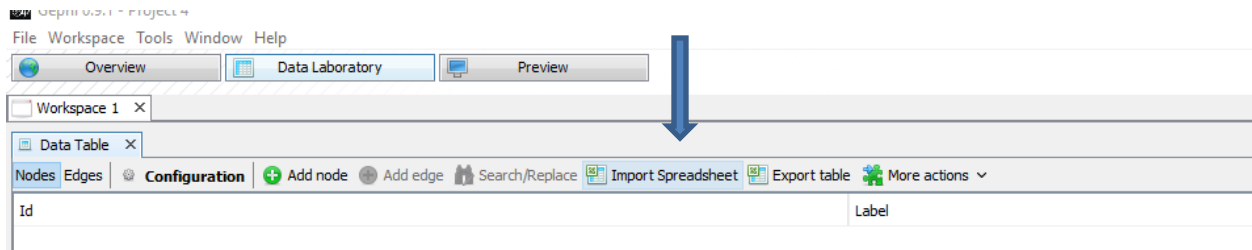
1. Open Gephi and select **New Project**
2. You should see three tabs across the top:



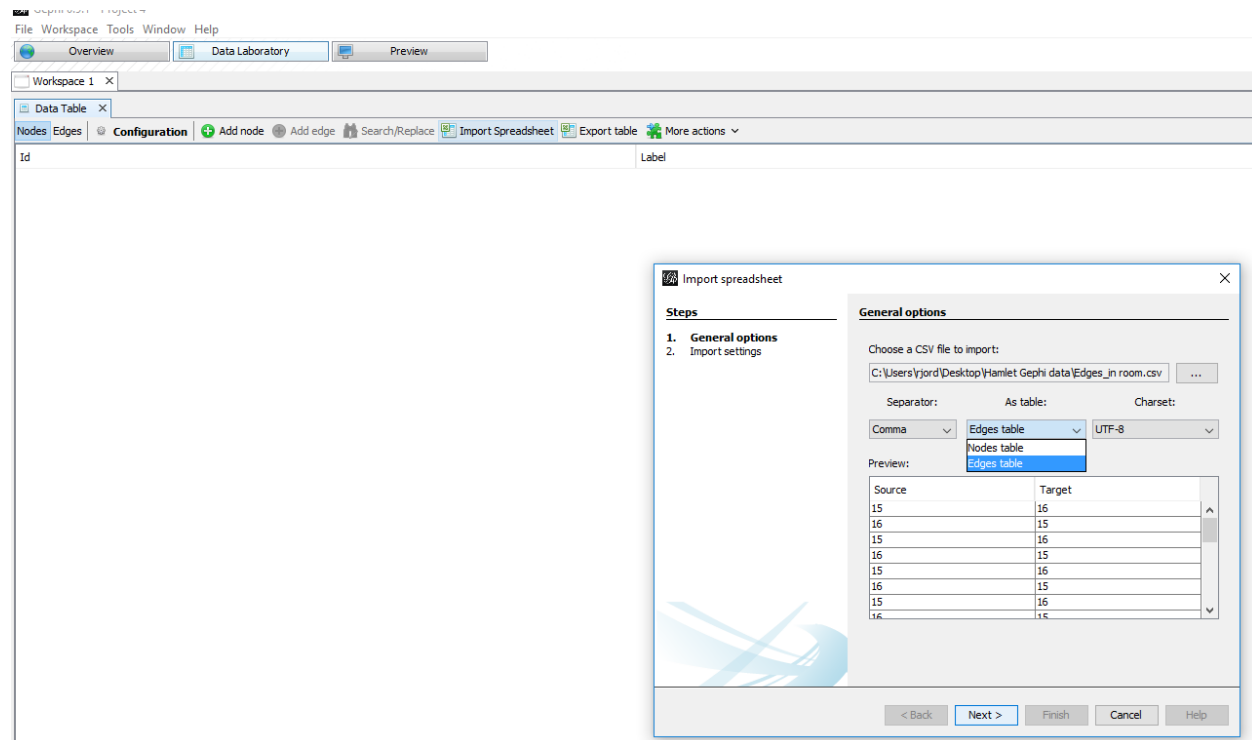
- a. **Overview**: allows you to adjust your nodes
 - b. **Data Laboratory**: allows you to import/format data (.csv)
 - c. **Preview**: lets you see what your visualization will look like
3. Select the **Data Laboratory** tab
 - a. Click on the **Nodes** tab



b. Click on **Import Spreadsheet**

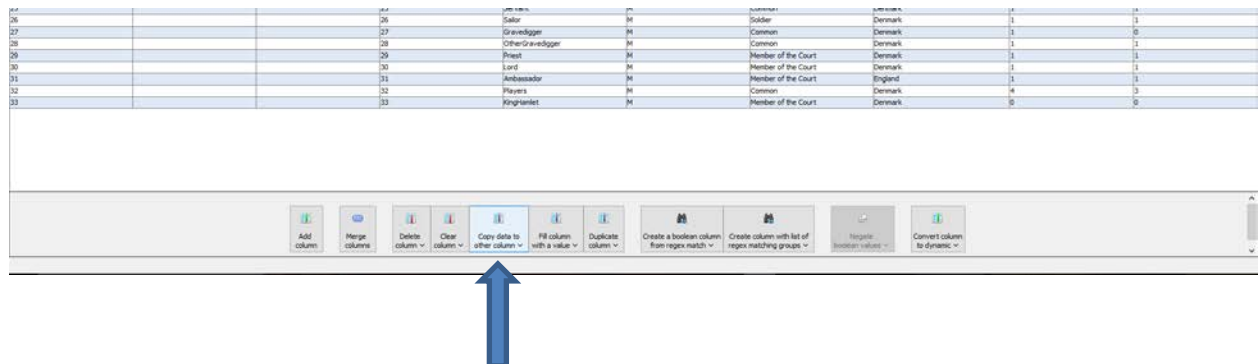


c. Upload your file and select **Nodes Table** from the **As Table** drop-down menu.



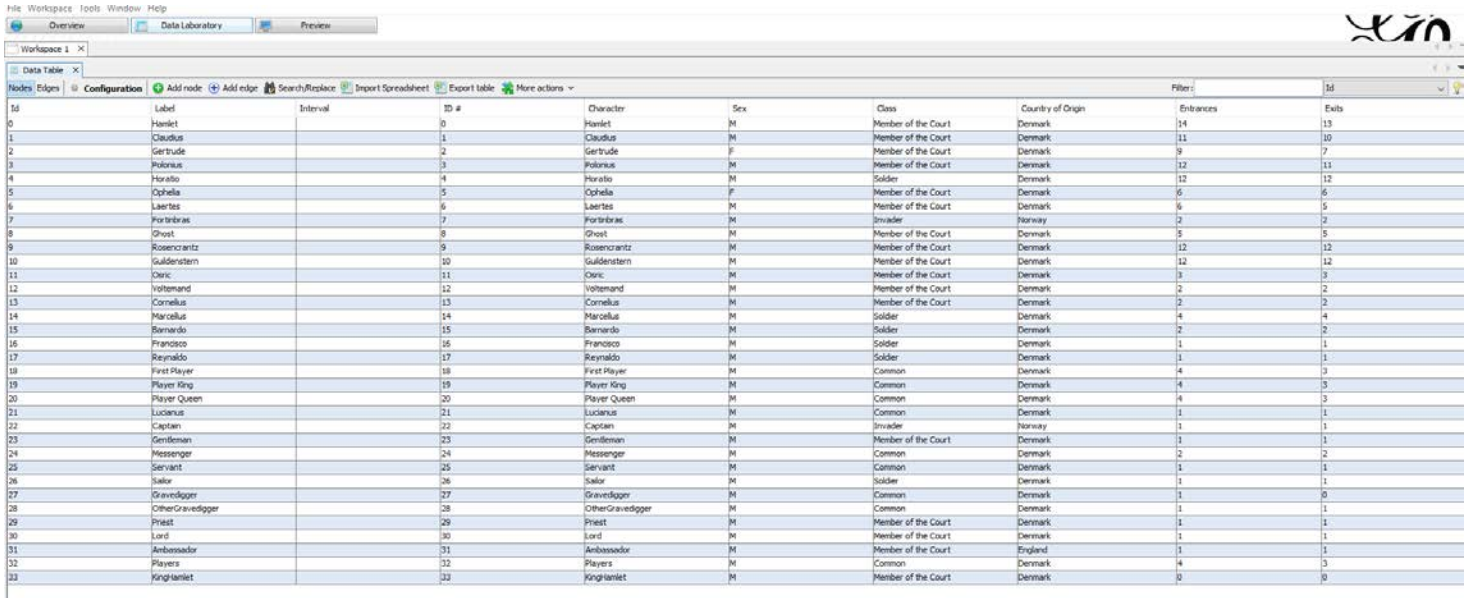
d. Click on **Next** and **Finish**.

e. At the bottom of the page, select **Copy data to other column** and select **Character**.



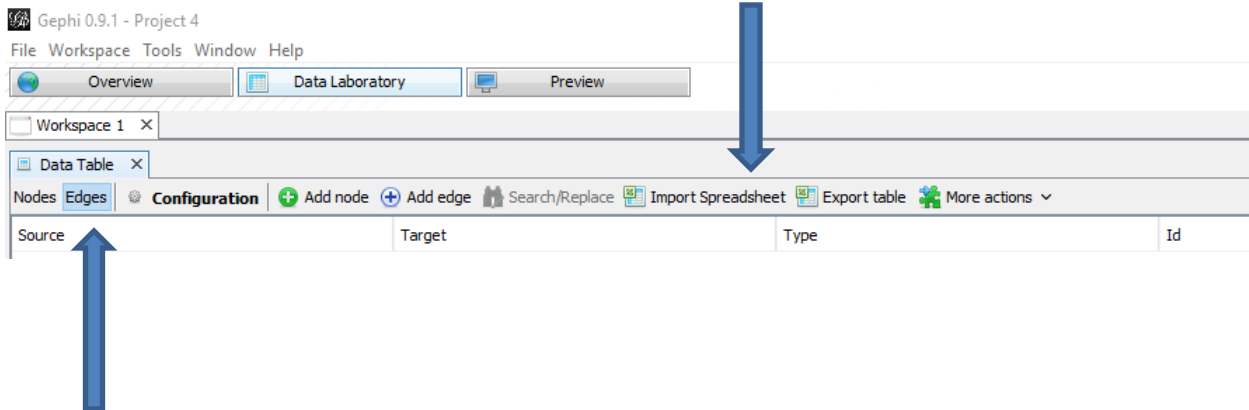
Gephi will automatically assume that you want to copy the character column to the **Label** column. Select **Ok** to copy the label.

f. Now your Nodes file should look like this:



ID	Label	Interval	ID #	Character	Sex	Class	Country of Origin	Entrances	Exits
0	Hamlet		0	Hamlet	M	Member of the Court	Denmark	14	13
1	Claudius		1	Claudius	M	Member of the Court	Denmark	11	10
2	Gertrude		2	Gertrude	F	Member of the Court	Denmark	9	7
3	Polonius		3	Polonius	M	Member of the Court	Denmark	12	11
4	Horatio		4	Horatio	M	Soldier	Denmark	12	12
5	Ophelia		5	Ophelia	F	Member of the Court	Denmark	6	6
6	Laertes		6	Laertes	M	Member of the Court	Denmark	6	5
7	Fortinbras		7	Fortinbras	M	Invader	Norway	2	2
8	Ghost		8	Ghost	M	Member of the Court	Denmark	5	5
9	Rosencrantz		9	Rosencrantz	M	Member of the Court	Denmark	12	12
10	Guildenstern		10	Guildenstern	M	Member of the Court	Denmark	12	12
11	Clown		11	Clown	M	Member of the Court	Denmark	3	3
12	Voltemand		12	Voltemand	M	Member of the Court	Denmark	2	2
13	Cornelius		13	Cornelius	M	Member of the Court	Denmark	2	2
14	Marcellus		14	Marcellus	M	Soldier	Denmark	4	4
15	Barnardo		15	Barnardo	M	Soldier	Denmark	2	2
16	Francisco		16	Francisco	M	Soldier	Denmark	1	1
17	Reynaldo		17	Reynaldo	M	Soldier	Denmark	1	1
18	First Player		18	First Player	M	Common	Denmark	4	3
19	Player King		19	Player King	M	Common	Denmark	4	3
20	Player Queen		20	Player Queen	M	Common	Denmark	4	3
21	Lucianus		21	Lucianus	M	Common	Denmark	1	1
22	Captain		22	Captain	M	Invader	Norway	1	1
23	Gentleman		23	Gentleman	M	Member of the Court	Denmark	1	1
24	Messenger		24	Messenger	M	Common	Denmark	2	2
25	Servant		25	Servant	M	Common	Denmark	1	1
26	Walker		26	Walker	M	Soldier	Denmark	1	1
27	Gravedigger		27	Gravedigger	M	Common	Denmark	1	0
28	OtherGravedigger		28	OtherGravedigger	M	Common	Denmark	1	1
29	Priest		29	Priest	M	Member of the Court	Denmark	1	1
30	Lord		30	Lord	M	Member of the Court	Denmark	1	1
31	Ambassador		31	Ambassador	M	Member of the Court	England	1	1
32	Players		32	Players	M	Common	Denmark	4	3
33	Kinganlet		33	Kinganlet	M	Member of the Court	Denmark	0	0

g. Now click on the **Edges** tab



Gephi 0.9.1 - Project 4

File Workspace Tools Window Help

Overview Data Laboratory Preview

Workspace 1

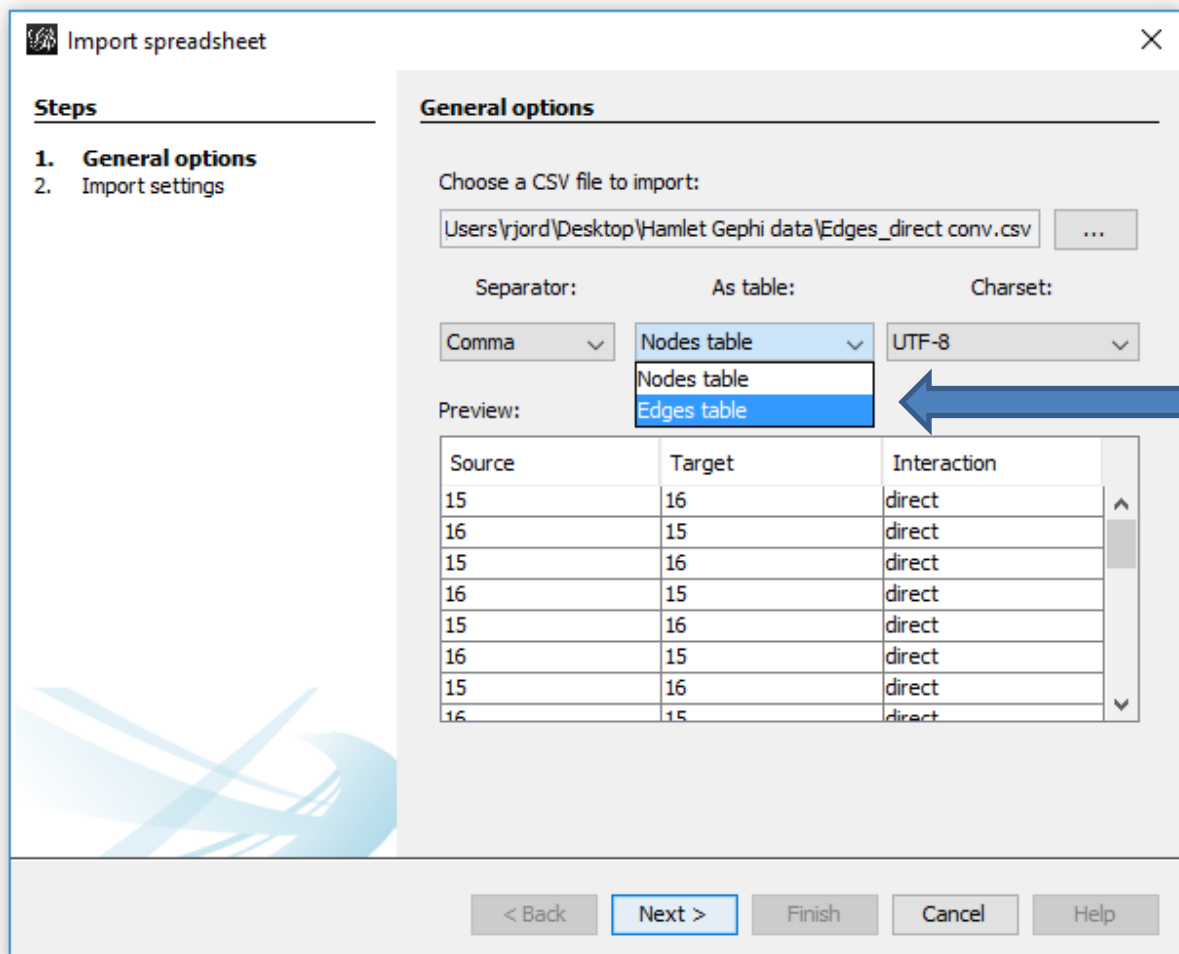
Data Table

Nodes Edges Configuration Add node Add edge Search/Replace Import Spreadsheet Export table More actions

Source Target Type Id

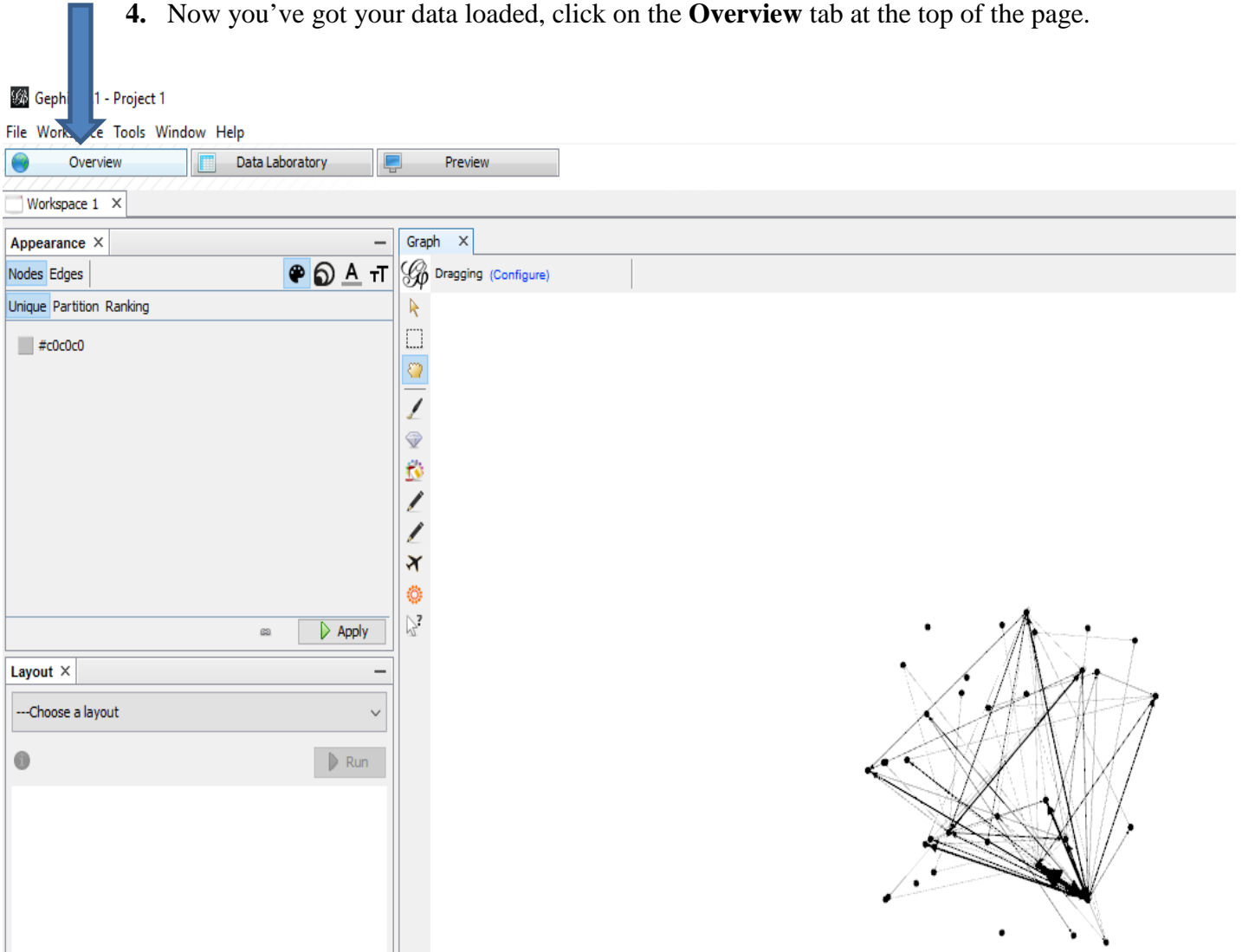
i. Click on **Import Spreadsheet**

- ii. Upload your file and select **Edges Table** from the **As Table** drop-down menu.



- iii. Click **Next** and **Finish**.

4. Now you've got your data loaded, click on the **Overview** tab at the top of the page.



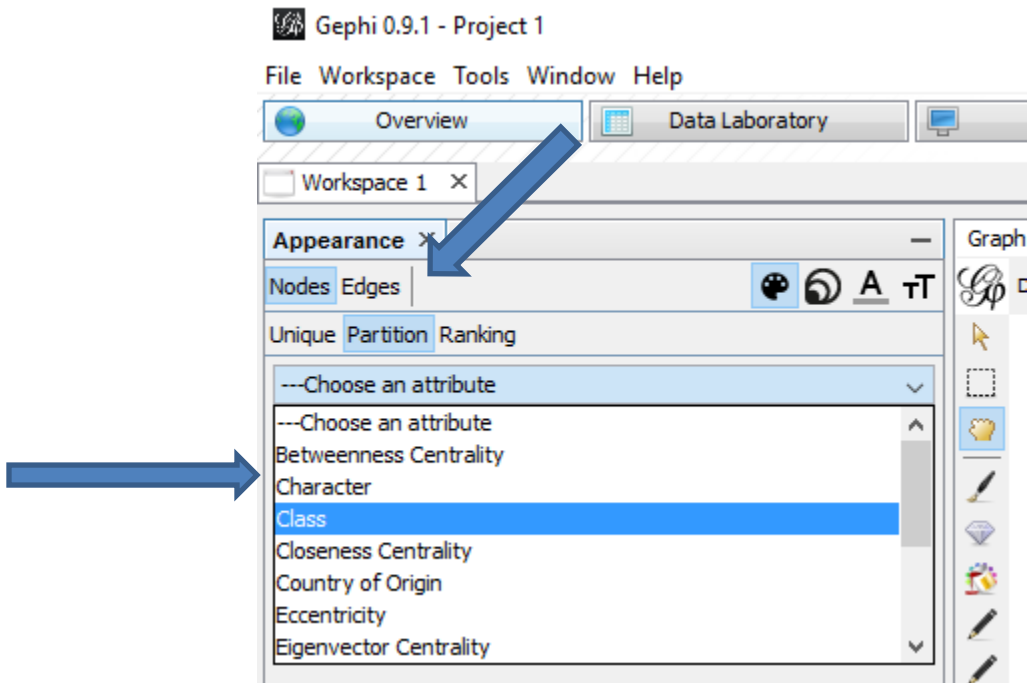
- a. On the right side of the page, under the **Statistics** tab, select the following:
- Modularity** → **Run** → **Ok** → **Close**
 - Community detection algorithm
 - Eigenvector Centrality** → **Run** → **Ok** → **Close**
 - Avg. Path Length** → **Run** → **Ok** → **Close**

The screenshot shows the Gephi Statistics panel. At the top, it displays graph statistics: Nodes: 36, Edges: 125, and Directed Graph. Below this is the 'Statistics' tab, which is divided into 'Filters' and 'Statistics'. The 'Statistics' section is further divided into 'Network Overview', 'Node Overview', 'Edge Overview', and 'Dynamic'.

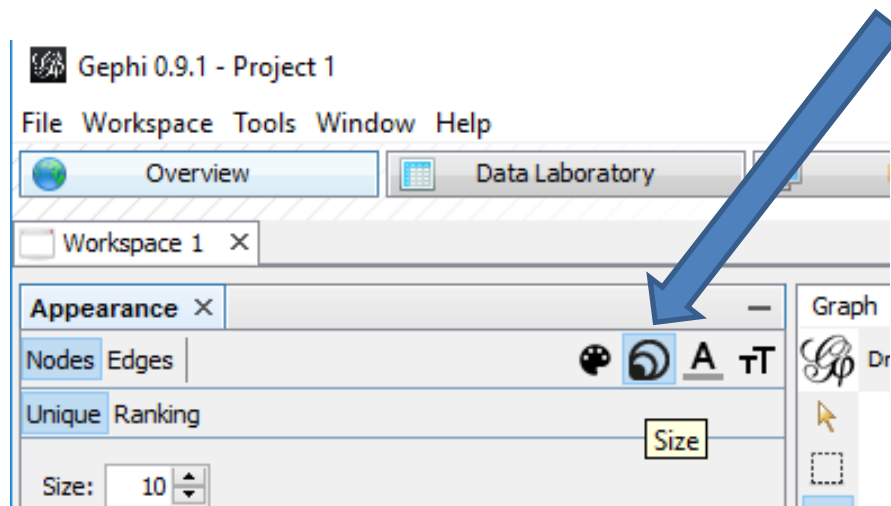
Category	Metric	Action
Network Overview	Average Degree	Run
	Avg. Weighted Degree	Run
	Network Diameter	Run
	Graph Density	Run
	HITS	Run
	Modularity	Run
	PageRank	Run
	Connected Components	Run
Node Overview	Avg. Clustering Coefficient	Run
	Eigenvector Centrality	Run
Edge Overview	Avg. Path Length	Run
Dynamic	# Nodes	Run
	# Edges	Run
	Degree	Run
	Clustering Coefficient	Run

In the image, the 'Modularity' metric in the Network Overview section, the 'Eigenvector Centrality' metric in the Node Overview section, and the 'Avg. Path Length' metric in the Edge Overview section are circled in orange.

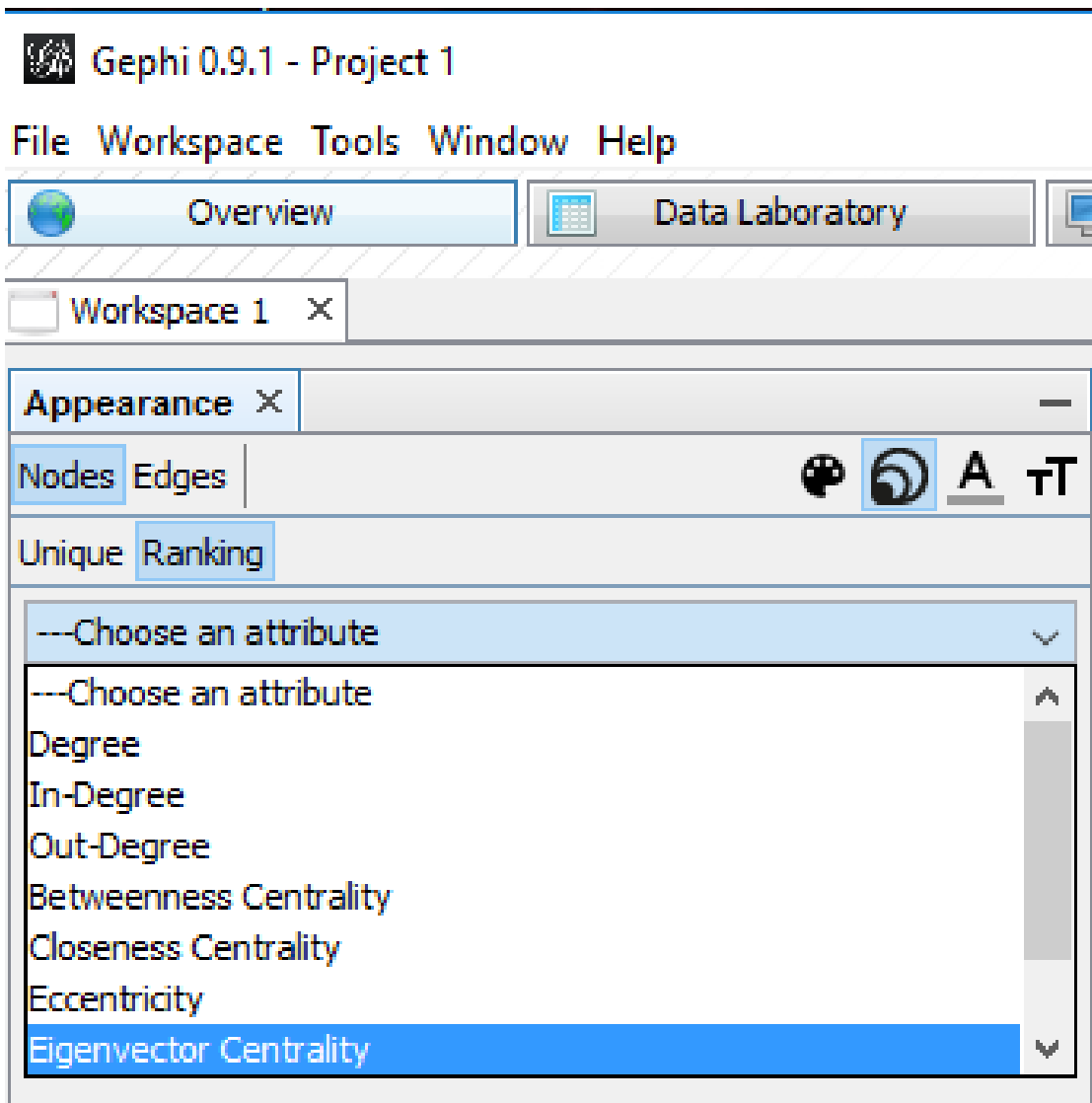
- b. On the left side of the page, under the **Nodes** tab, select **Partition**.
 - i. From the **Choose an attribute** drop-down menu, select which attribute (modularity class – to identify clusters, class, gender, entrances/exits) you want to color code.



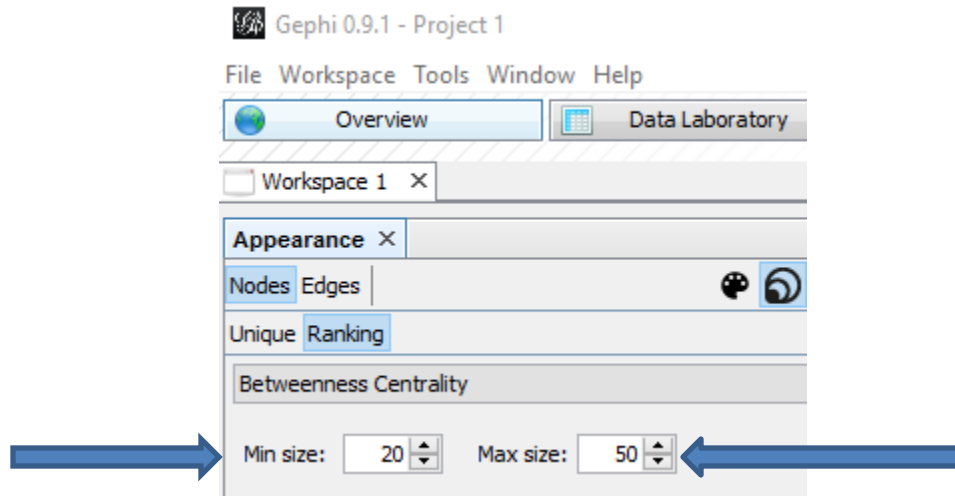
- c. Still under the **Nodes** tab, select **Size**.



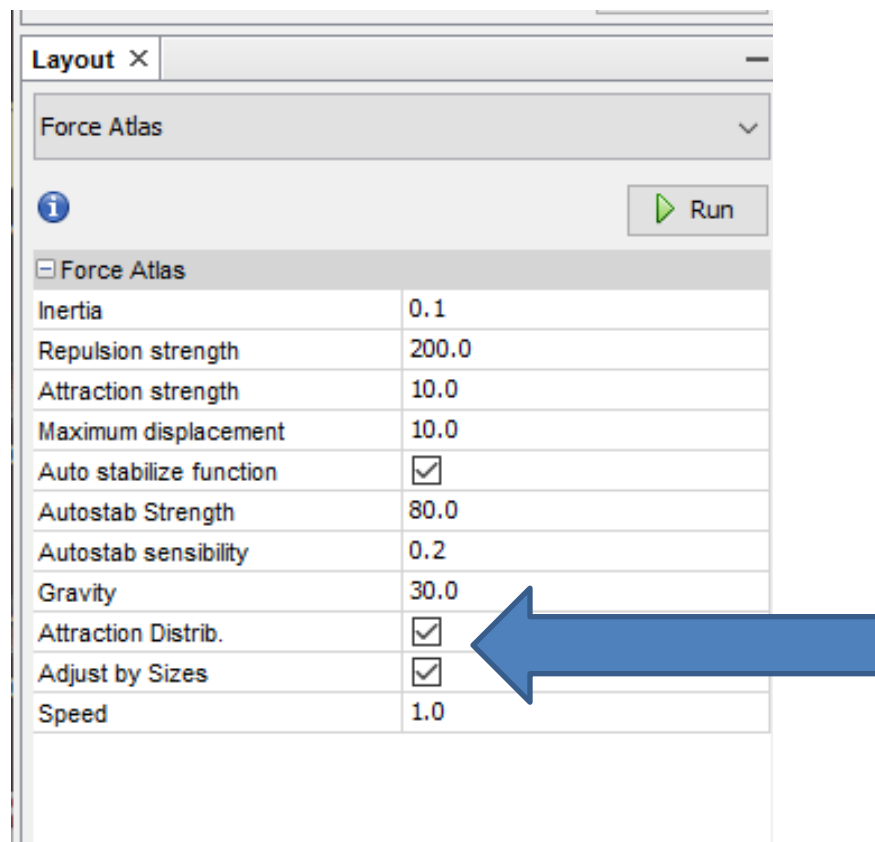
- d. Select **Ranking**, and from the **Choose an attribute** drop-down menu select how you want to rank your nodes
 - i. **Eigenvector centrality**: a measure of node importance in a network based on a node's connections.
 - ii. **Betweenness centrality**: measures how often a node appears on shortest paths between nodes in the network
 - iii. **Closeness centrality**: the average distance from a given starting node to all other nodes in the network
 - iv. **Eccentricity**: the distance from a given starting node to the farthest node from it in the network



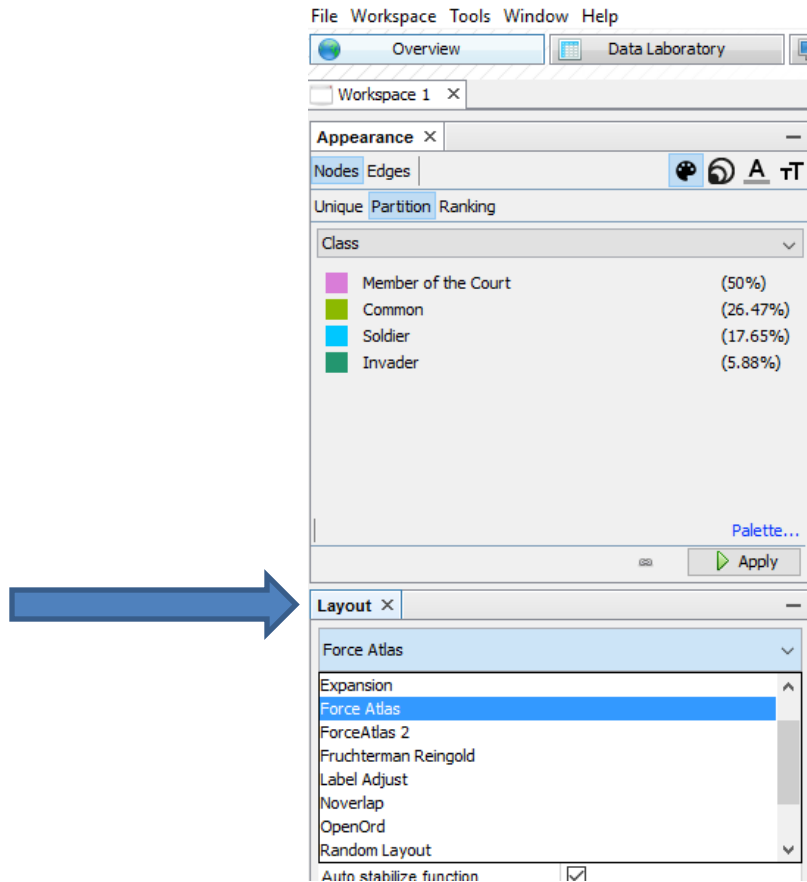
- e. Once you select the ranking, set your **min** and **max** size to 20 and 50, and click **apply**.



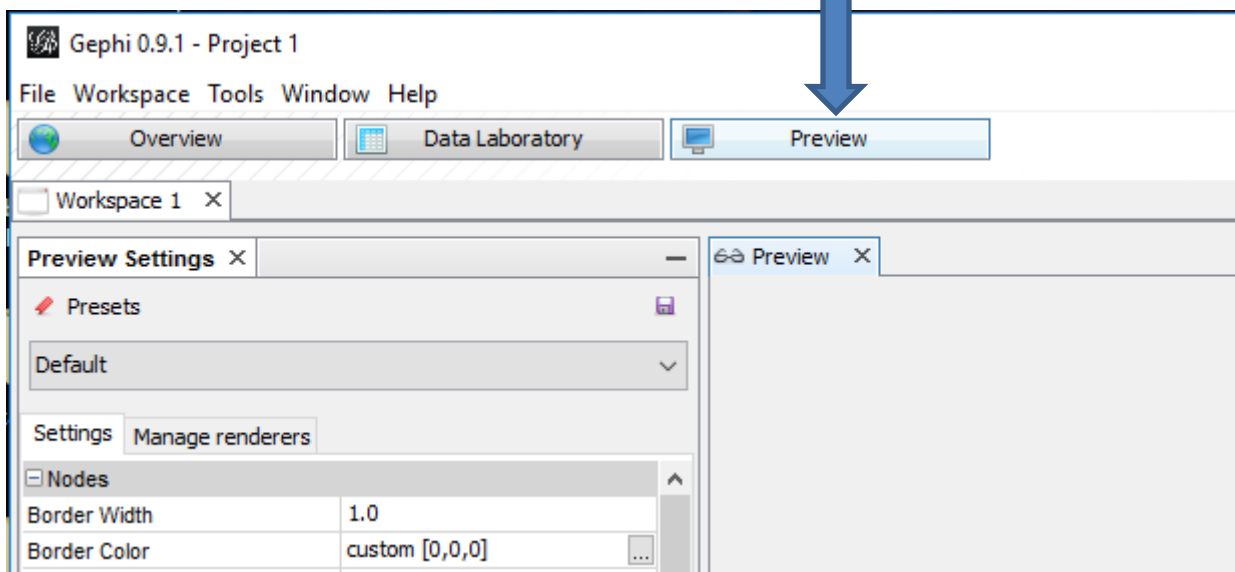
- f. On the left side of the page, under the **Layout** tab, click on the **Choose a layout** drop-down menu. Select one of the following layouts, and click **Run**.
- i. **Force Atlas**: made to spacialize small-world netowrks. It is focused on quality to allow a rigorous interpretation of the graph with the fewest biases possible, and a good readability.
 1. ** if you choose Force Atlas, be sure to select the **Attraction Distrib.** and **Adjust by Sizes** boxes.



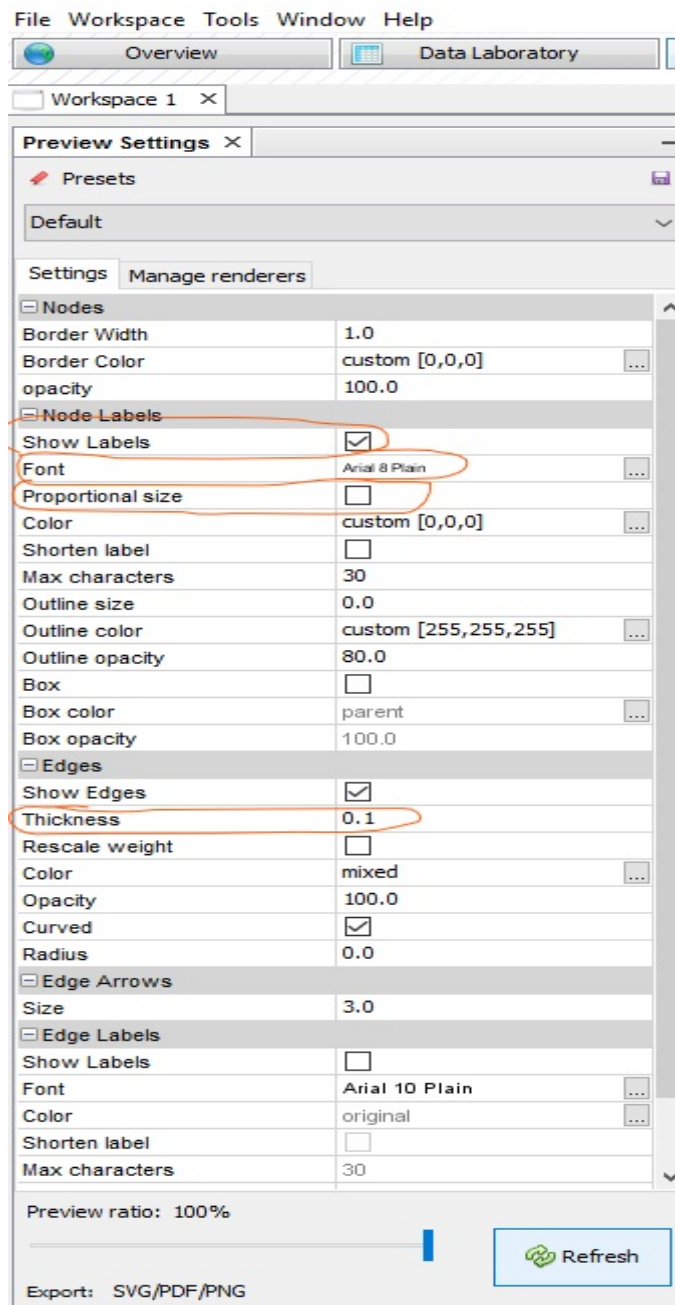
- ii. **Fruchterman Reingold**: simulates the graph as a system of mass particles.
- iii. **OpenOrd**: expects undirected weighted graphs and aims to better distinguish clusters. Long edges are cut to allow clusters to separate.



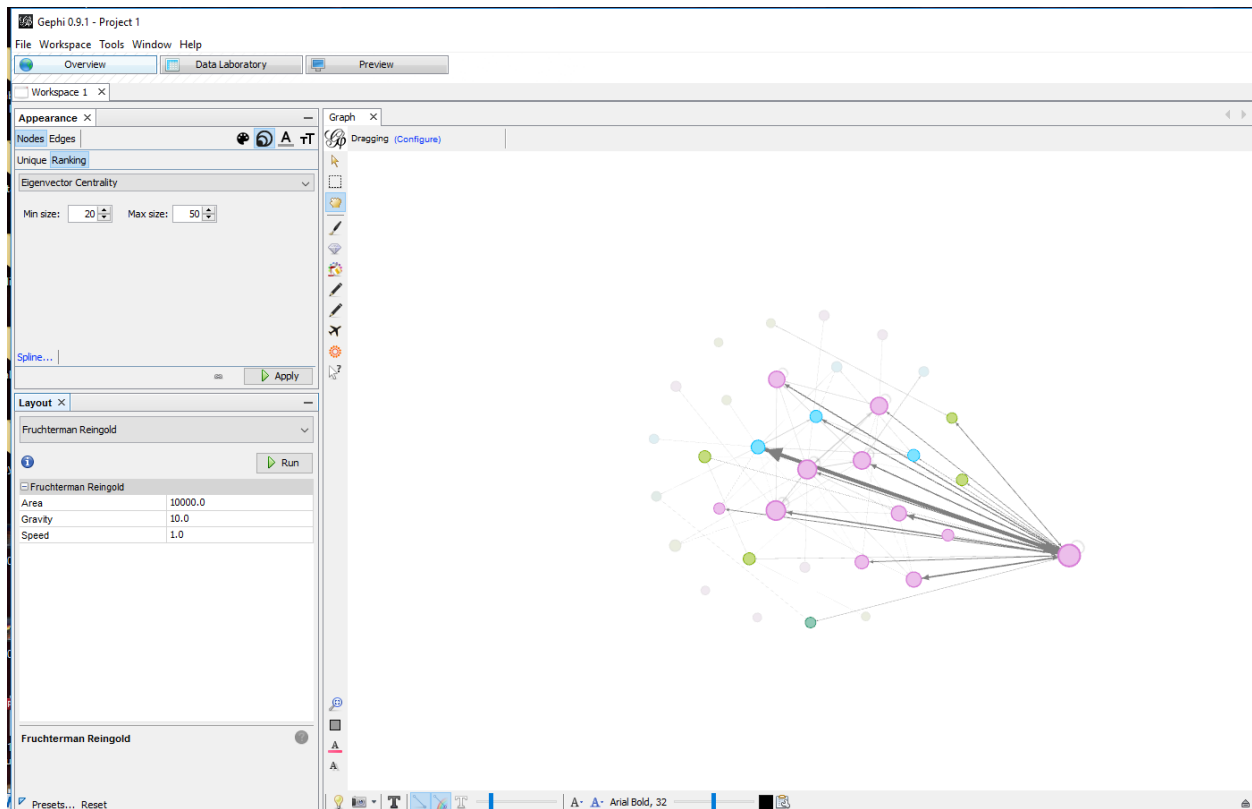
5. Now select the **Preview Tab** at the top of the page.



- a. Under **Node Labels**, change the following:
 - i. Select **Show Labels**
 - ii. Unselect **Proportional Size**
 - iii. Change the **Font** to 8 point
- b. Under **Edges**, change the thickness to **.1**.
- c. Hit **Refresh**. You can now see your network graph.



6. If you want to tweak your graph (change the ranking or attribute), go back to the **Overview** menu. You can manipulate the nodes by holding and dragging a node with the right-click button on your mouse.



7. To export your network graph, click on **File → Export**.
 - a. If you want to save a static image, select **SVG/PDF/PNG file...**
 - b. If you want to save an interactive image, go to **Tools → Plugins → Available Plugins**
 - i. Select SigmaExporter and install
 - ii. When you're ready to export your file, go to **File → Export → Sigma.js template**
 - iii. **Sigma.JS template**
 - iv. Fill out the legend and save.