

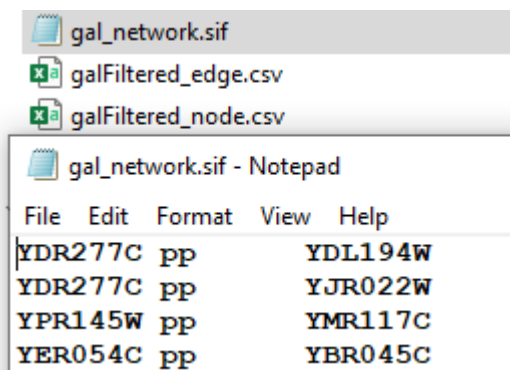
For this demo, we will use Cytoscape (a Java tool) for viewing and calculating topological properties for biological networks

Getting the data and software

1. Cytoscape can be downloaded from <https://cytoscape.org/>. The current version is 3.9.1. Java will be automatically installed if not present on the system
2. Network files used for the demo can be downloaded from https://drive.google.com/file/d/1AagNowwvS6G12TdPCaaCuKkAhma1_dFN/view?usp=sharing and <https://drive.google.com/file/d/1buSOLuN2Mbjw3pnShJUS3pDETenyUwSD/view?usp=sharing>
3. Further tutorials on Cytoscape can be accessed at <https://github.com/cytoscape/cytoscape-tutorials/wiki>

File formats

1. The basic network file format for Cytoscape (.sif) is just a tab-separated text file. The first and third columns contain node names and the middle column contain user-defined interaction name (e.g., pp = protein-protein interaction).



2. Node annotation can be supplied in a text file (e.g., comma-separated table .csv)

	A	B	C	D	E	F	G	H
1	genesymbol	gal1RGexp	gal1RGsig	gal4RGexp	gal4RGsig	gal80Rexp	gal80Rsig	name
2	GCN3	-0.154	9.12E-04	-0.501	3.57E-06	0.292	0.011229	YKR026C
3	NAB2	0.174	8.73E-04	0.02	0.61707	0.187	0.0059966	YGL122C
4	CRM1	-0.018	0.61381	-0.001	0.9794	-0.018	0.80969	YGR218W
5	SRM1	0.16	0.0021913	-0.23	0.0022461	0.008	0.93826	YGL097W

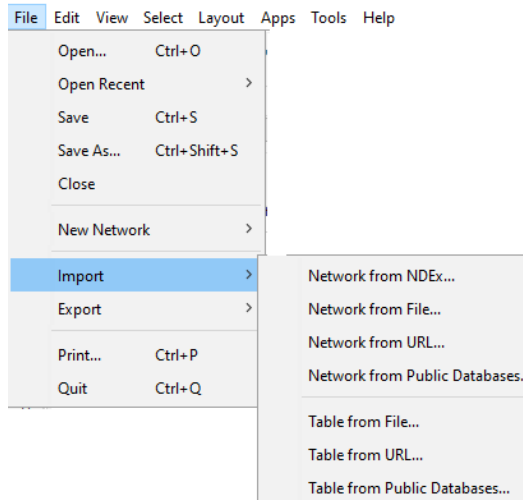
3. Edge annotation can be supplied similarly

	A	B	C
1	interaction strength	interaction	name
2	0.89	pp	YKR026C (pp) YGL122C
3	0.12	pp	YGL122C (pp) YOL123W
4	0.57	pp	YGR218W (pp) YGL097W
5	0.46	pp	YGL097W (pp) YOR204W

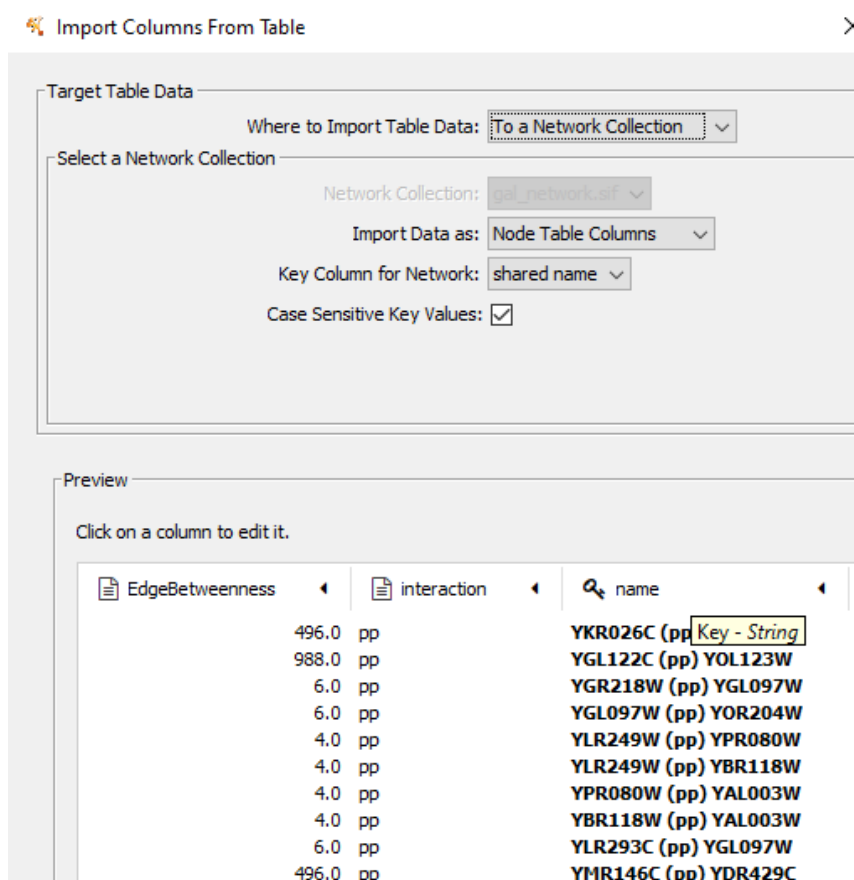
Running the demo

1. These files can be imported into Cytoscape using the File → Import

For network, use [Network from File](#) option. For node and edge annotations, use [Table from File](#) option.



2. You will then be asked to specify whether the data is for Node Table or Edge Table and which column should be used to map the node or edge name ([Key Column for Network](#)). This is also visualized with a [key symbol](#) in the columns below.



3. The rest will be explored in live session