

Creating a network from a table of entities and their attributes

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Presentation of the plugin

This plugin is created by [Clement Levallois](#).

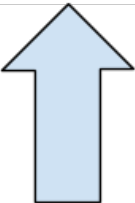
It converts a spreadsheet or a csv file into a network.

This plugin enables you to:

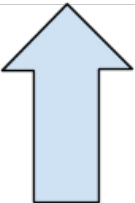
- Start from a data table in Excel or csv format
- In the data table, nodes are the entities listed in column A
- Nodes' attributes must be listed in columns B, C, D, etc.
- Connections will be created between nodes, when they have identical attributes.
- Attributes can have values, stored in columns right next to the attribute.

1. The input

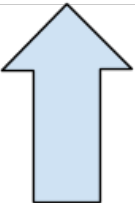
	A	B	C
1	Author	Taste in Ice creams	City preference
2	David	Strawberry	Venice
3	Mary	Strawberry	Venice
4	Jean	Vanilla	Venice
5	Ralf	Vanilla	Paris



This column represents the nodes of your network.



This column represents an attribute of your nodes



This column represents another attribute of your nodes

Figure 1. An Excel file

2. The output

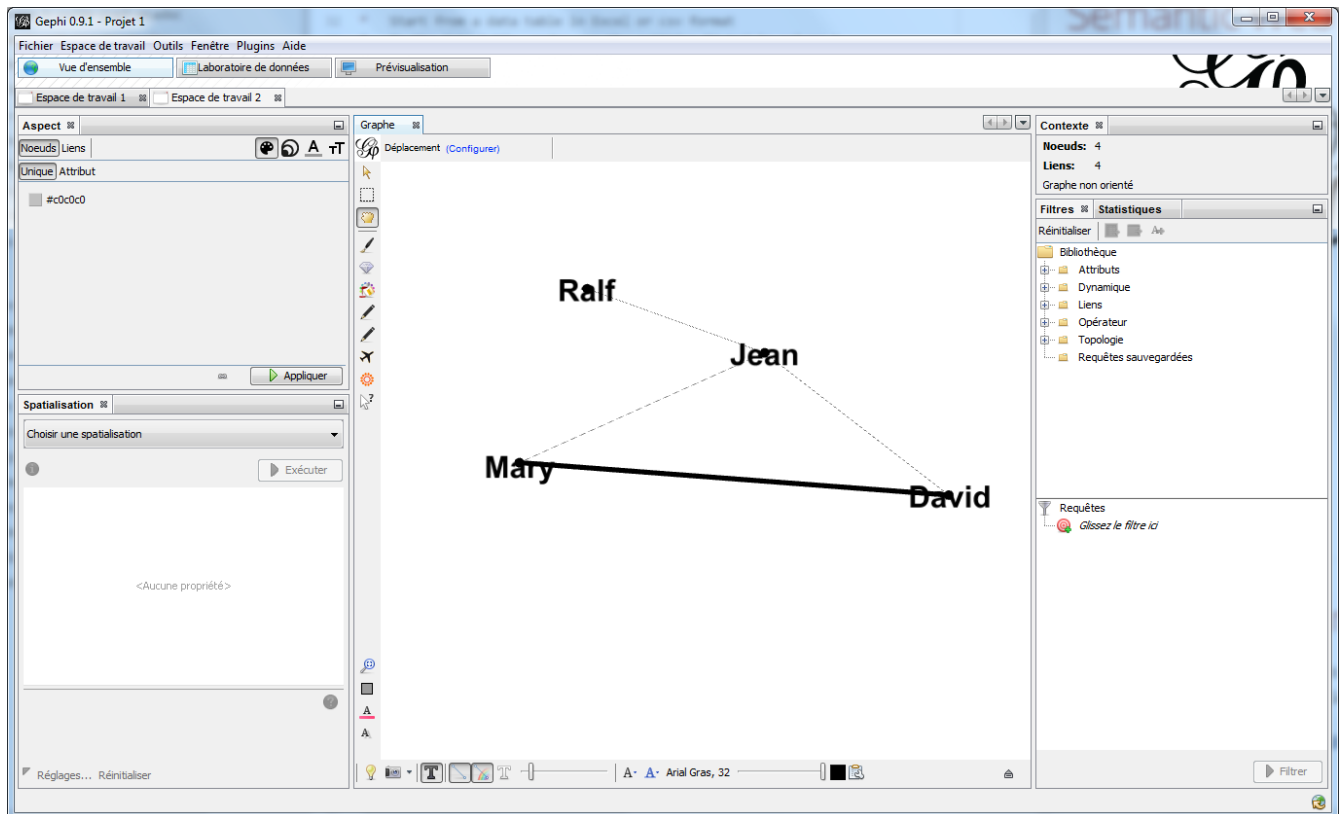


Figure 2. Resulting network

Installing the plugin

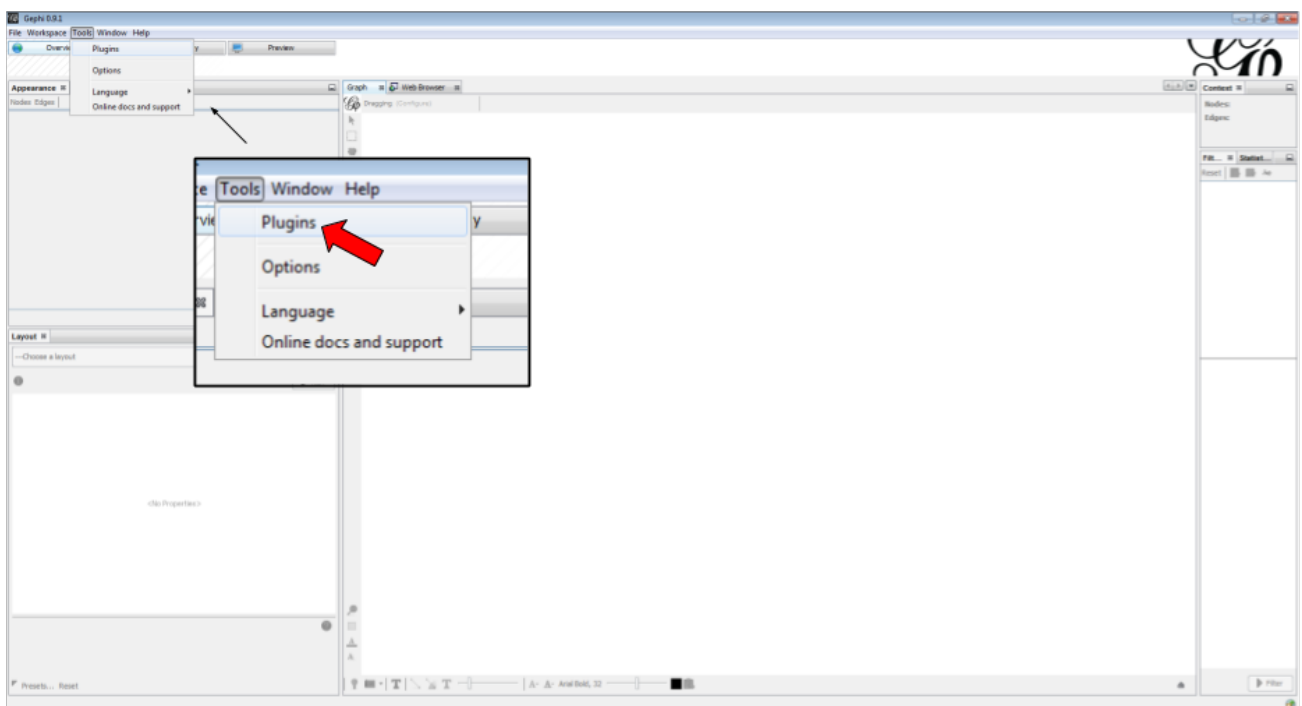


Figure 3. Choose the menu Tools then Plugins

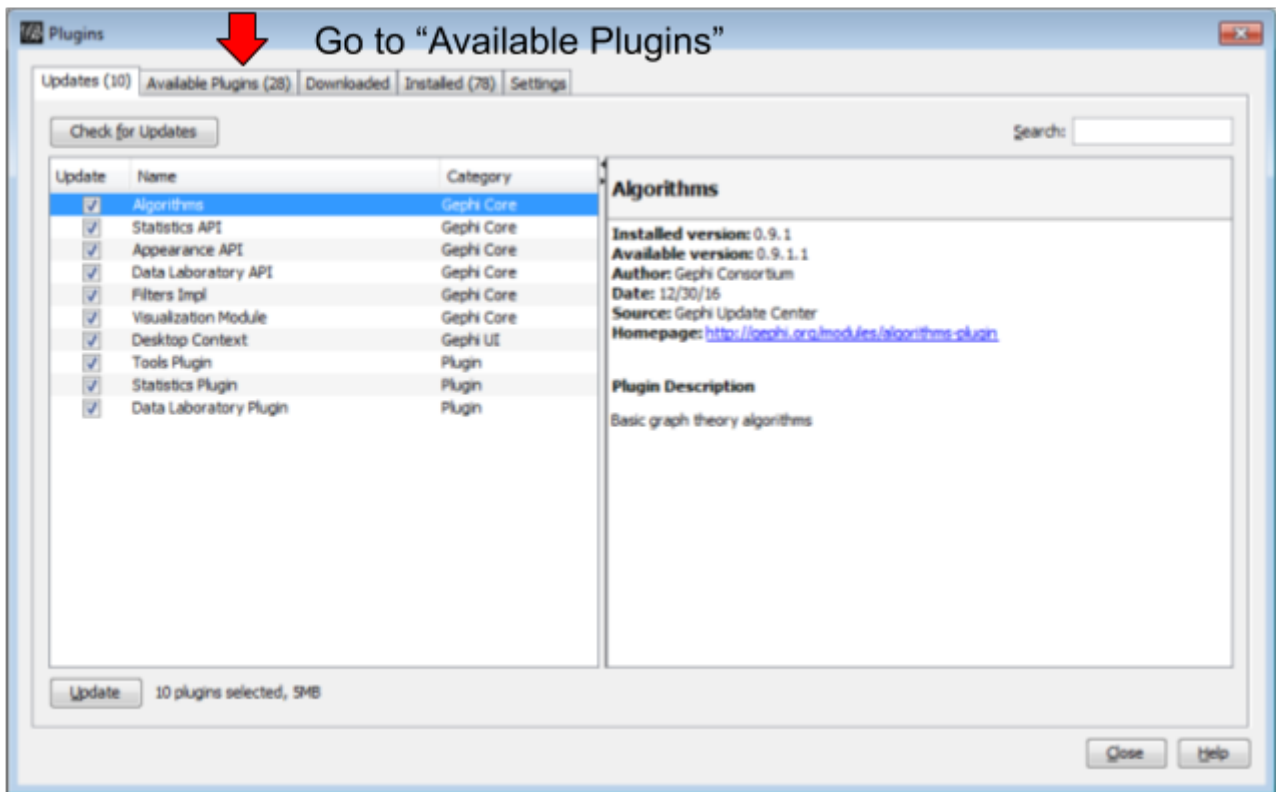


Figure 4. Click on the tab Available Plugins

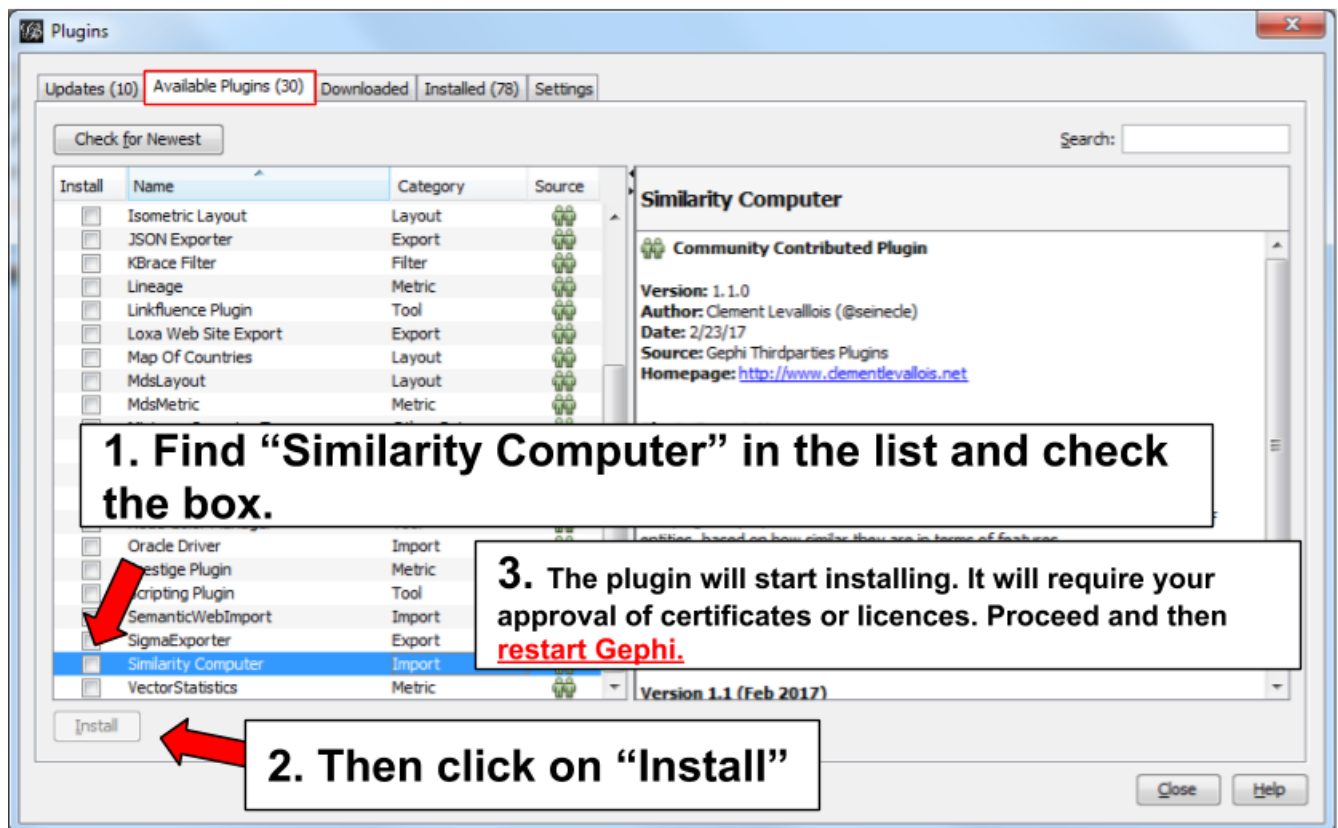


Figure 5. Install the plugin Similarity Computer then restart Gephi

Opening the plugin

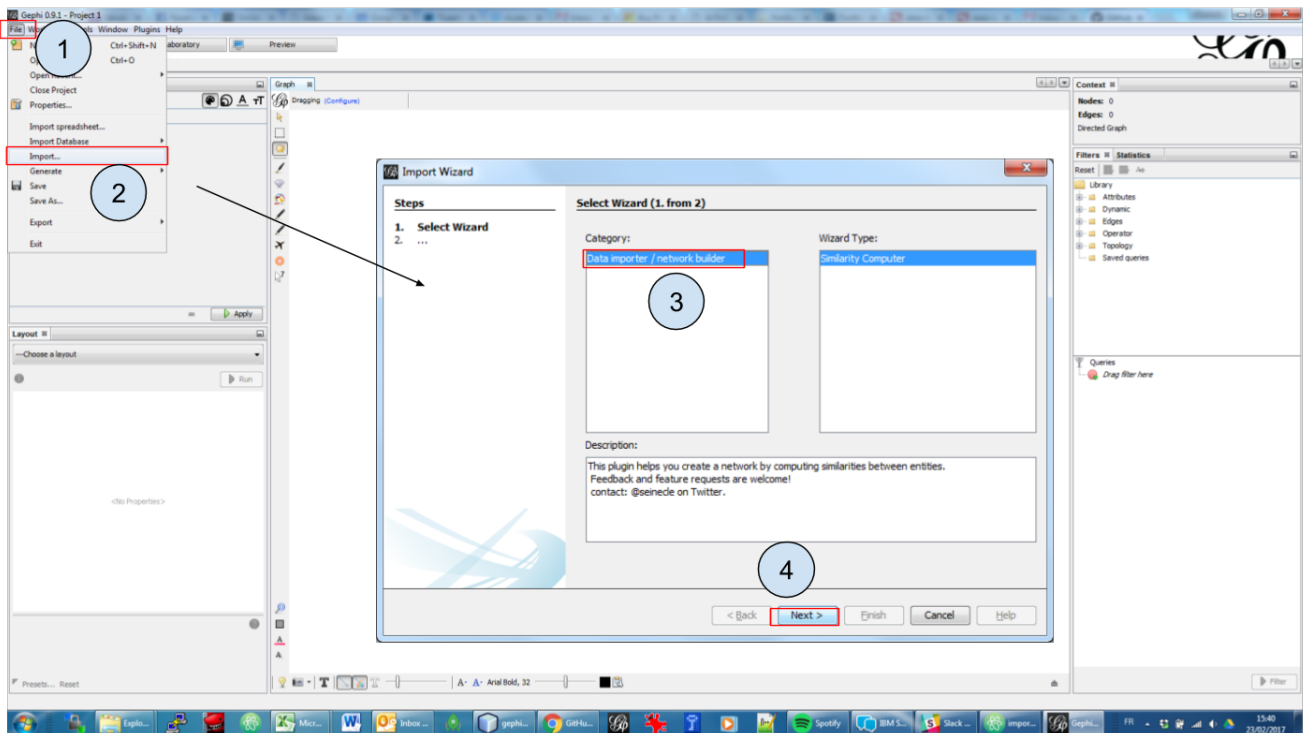


Figure 6. Open the plugin via the menu File - Import

Using the plugin

First panel

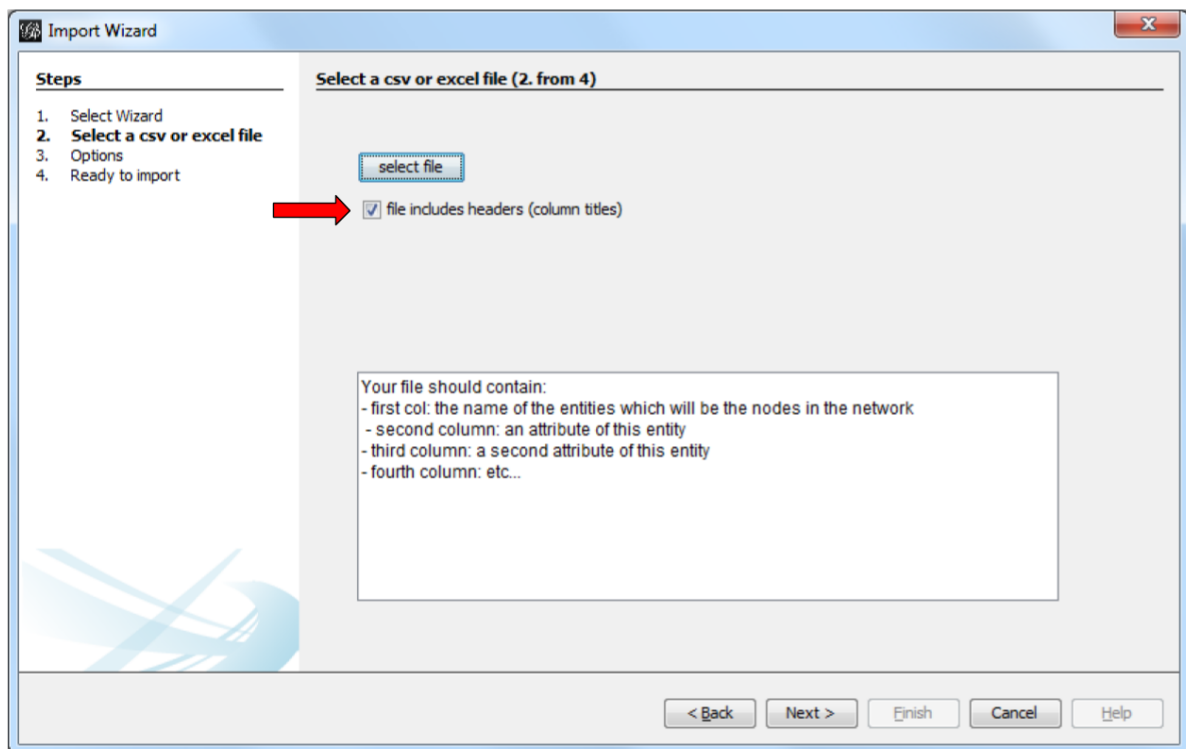


Figure 7. Select a file

	A	B	C
1	David	Strawberry	Venice
2	Mary	Strawberry	Venice
3	Jean	Vanilla	Venice
4	Ralf	Vanilla	Paris

Figure 8. A file without headers

	A	B	C
1	Author	Taste in Ice creams	City preference
2	David	Strawberry	Venice
3	Mary	Strawberry	Venice
4	Jean	Vanilla	Venice
5	Ralf	Vanilla	Paris

Figure 9. A file with headers

Second panel

Import Wizard

Steps

1. Select Wizard
2. Select a csv or excel file
3. **Options**
4. Ready to import

Options (3. from 4)

☒ Is there a value attached to each feature, to indicate its strength or intensity?

	A	B	C	D	E
1	Author	Taste in Ice creams	Intensity of the Taste	City preference	Intensity of the preference
2	David	Strawberry	3	Venice	1
3	Mary	Strawberry	4	Venice	1
4	Jean	Vanilla	3	Venice	1
5	Ralf	Vanilla	3	Paris	1
6					

Each attribute should be followed by a column with a round number indicating the strength or intensity of the attribute

< Back Next > Finish Cancel Help

Figure 10. Parameter for weight

Third panel

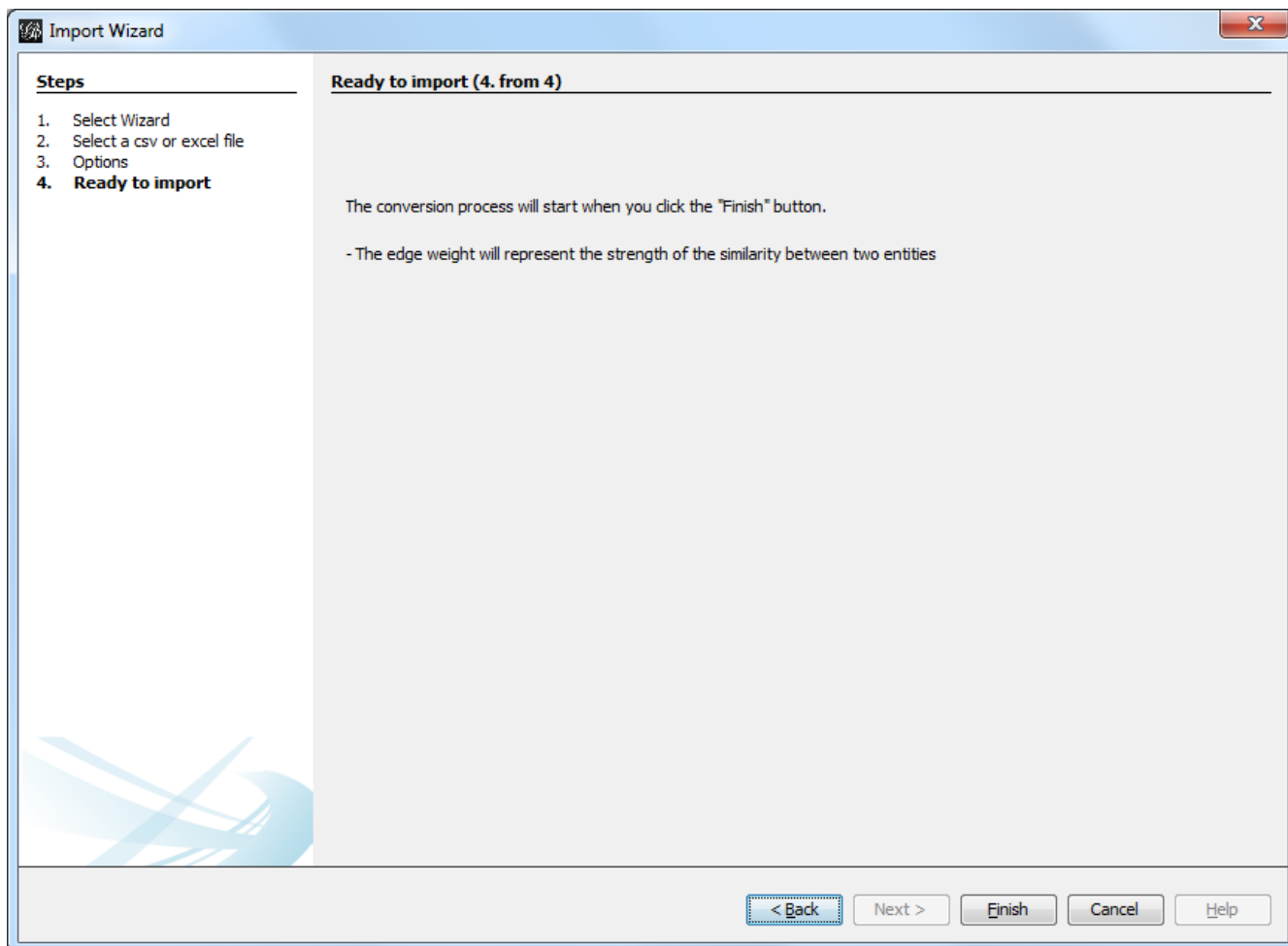


Figure 11. Confirmation panel

How is the similarity computed, exactly?

We use the cosine similarity. Sounds complicated, but it is not. [Check here](#).

The source code for the cosine calculation is in this [file](#), at [this place](#).

FAQ / special notes on the plugin

1. Excel files should be .xlsx, not .xls

Because they represent two slightly different files formats, and the plugin supports only .xlsx

2. csv files are ok.

If you select a [csv file](#), you will be asked to indicate the field delimiter and optionally the text delimiter.

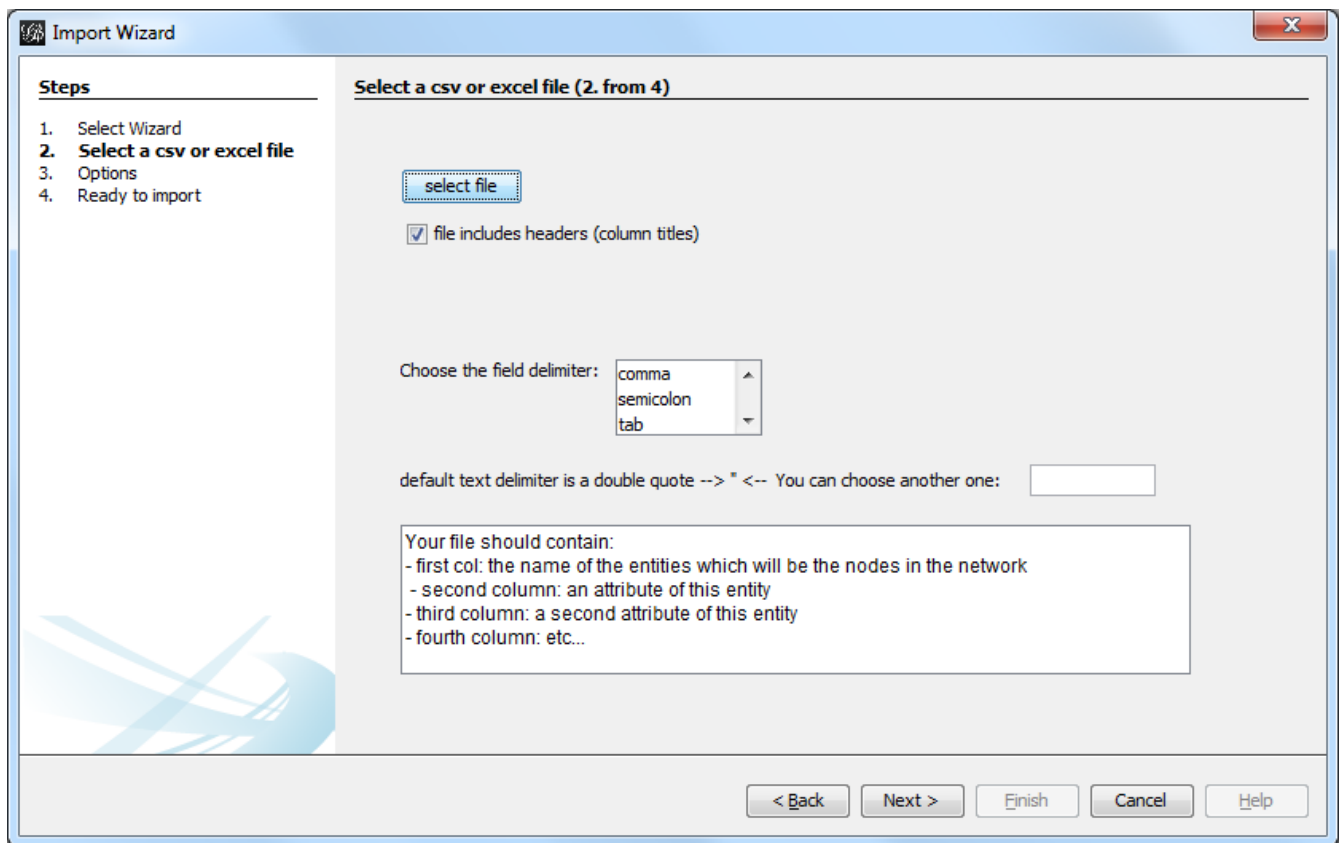


Figure 12. When a csv file is selected

3. You can't use numerical values in the attributes

	A	B	C	D
1	Author	Taste in Ice creams	City preference	Age
2	David	Strawberry	Venice	28
3	Mary	Strawberry	Venice	27
4	Jean	Vanilla	Venice	55
5	Ralf	Vanilla	Paris	54

Figure 13. Age is a numerical attribute

This is too bad. If there is enough demand for it I'll add this feature, which is not trivial.

4. Each entity should appear only on one line

	A	B	C	D	
1	Author	Product purchased	Recommender	Age	
2	David	sofa	Janet	28	
3	Mary	motorbike	Vince	27	
4	Jean	shoes	Ron	55	
5	David	wallet	Fred	28	
6	Ralf	diner table	Lou	54	
7					
8					

Figure 14. An entity appearing twice

David appears on lines 2 and 5 (because he made two purchases). Only the latest line where David appears (line 5) will be taken into account.

The end

Visit [the Gephi group on Facebook](#) to get help,

or visit [the website for more tutorials](#)