

# Creating a network from a table of entities and their attributes

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last modified: 2023-04-03



## Gephi workshops

I organize online workshops and personalized trainings for Gephi, for beginners and experts. To schedule one or to get more information: [analysis@exploreyourdata.com](mailto:analysis@exploreyourdata.com).

## Update



This plugin has been replaced by a new and better function available on the web, developed by the same author. It is free, click and point, without registration at this address: <https://nocodefunctions.com>

# Presentation of the plugin

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

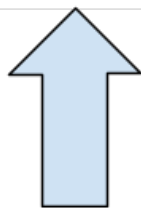
It converts a spreadsheet or a csv file into a network.

This plugin enables you to:

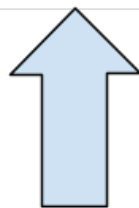
- Start from a data table in Excel or csv format
- In the data table, nodes are the entities listed in column A
- Nodes' attributes must be listed in columns B, C, D, etc.
- Connections will be created between nodes, when they have identical attributes.
- Attributes can have values, stored in columns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

## 1. The input

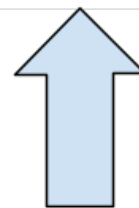
	A	B	C
1	<b>Author</b>	<b>Taste in Ice creams</b>	<b>City preference</b>
2	David	Strawberry	Venice
3	Mary	Strawberry	Venice
4	Jean	Vanilla	Venice
5	Ralf	Vanilla	Paris



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

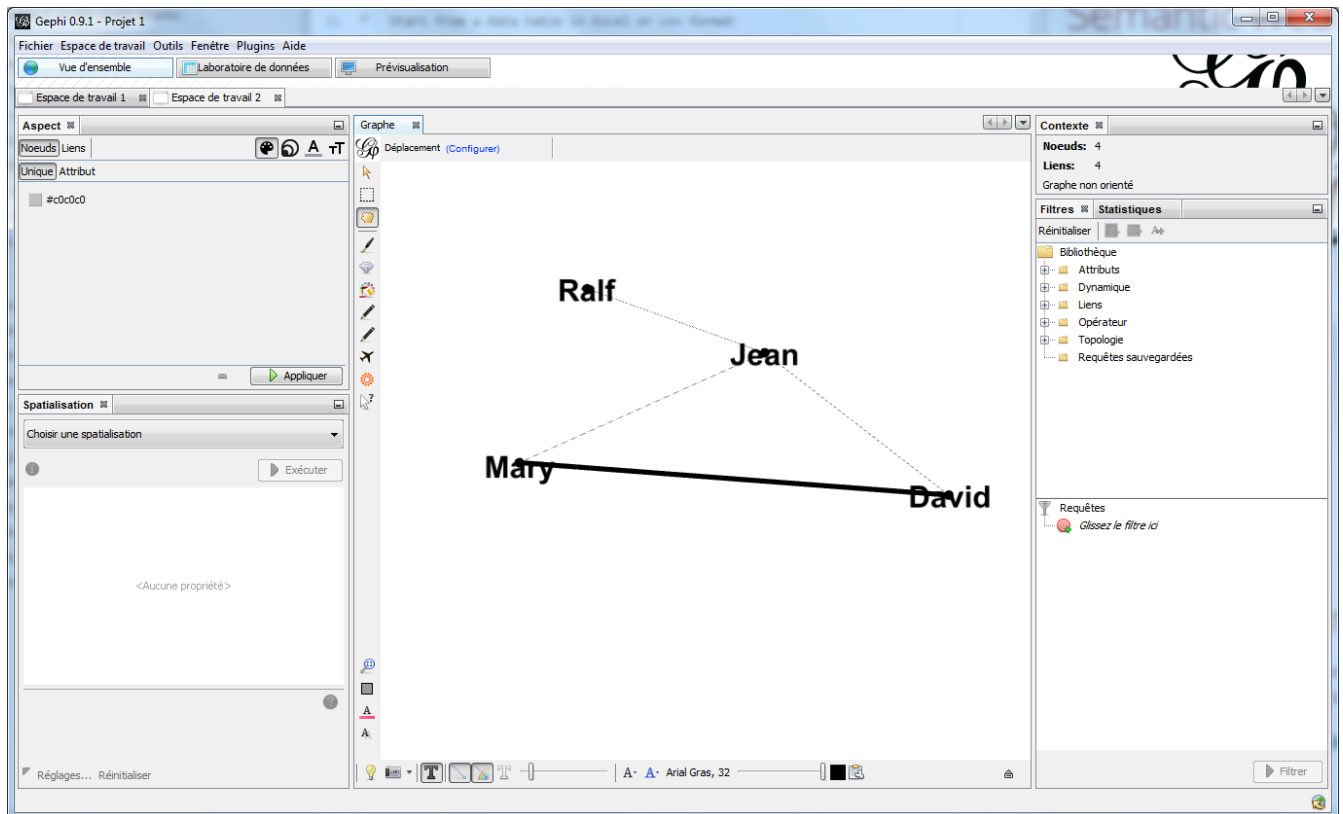


Figure 2. Resulting network

## Installing the plugin

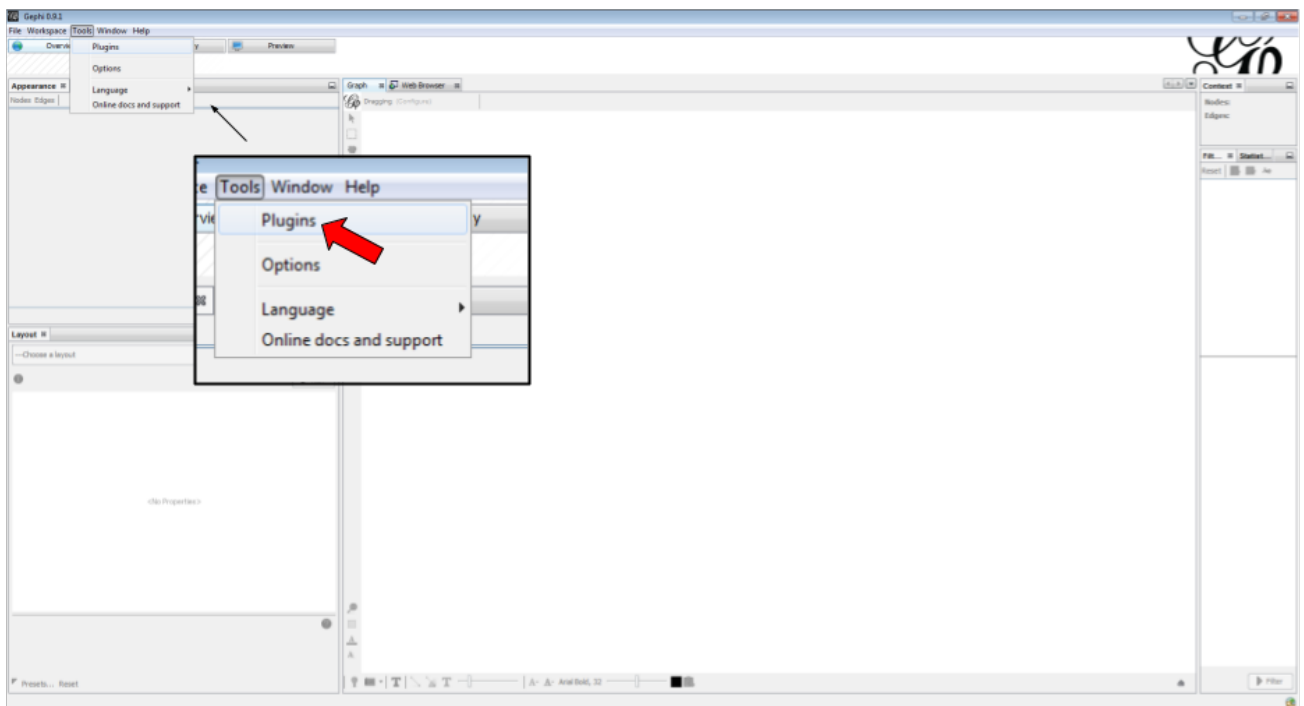


Figure 3. Choose the menu Tools then Plugins

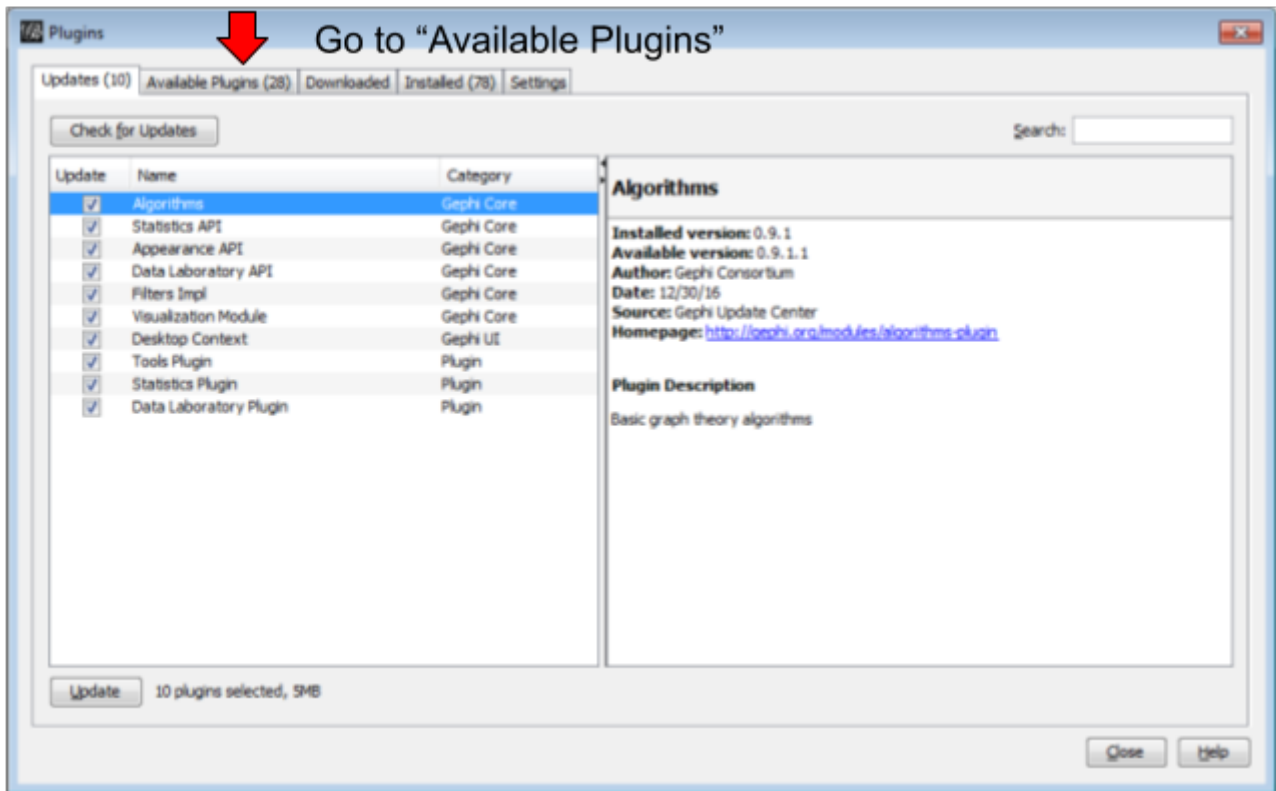


Figure 4. Click on the tab Available Plugins

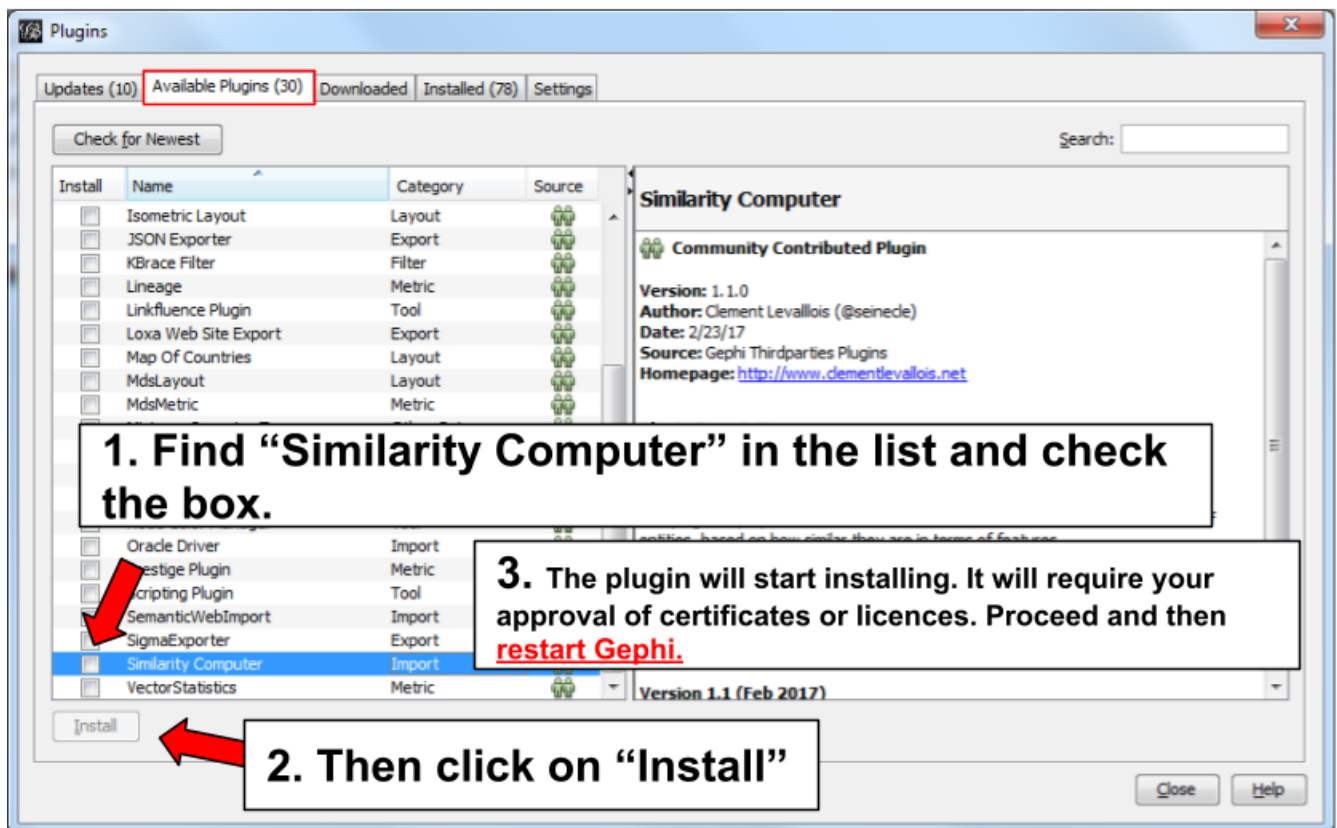


Figure 5. Install the plugin Similarity Computer then restart Gephi

# Opening the plugin

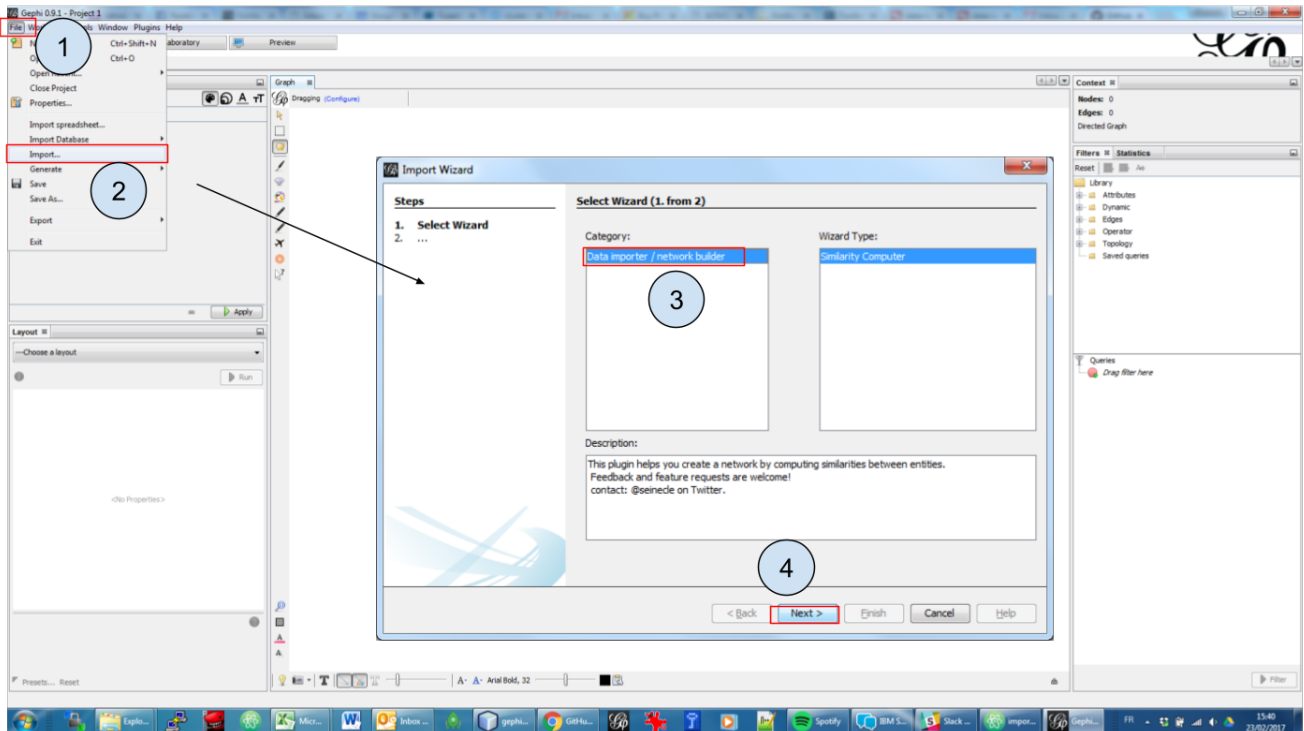


Figure 6. Open the plugin via the menu File - Import

# Using the plugin

## First panel

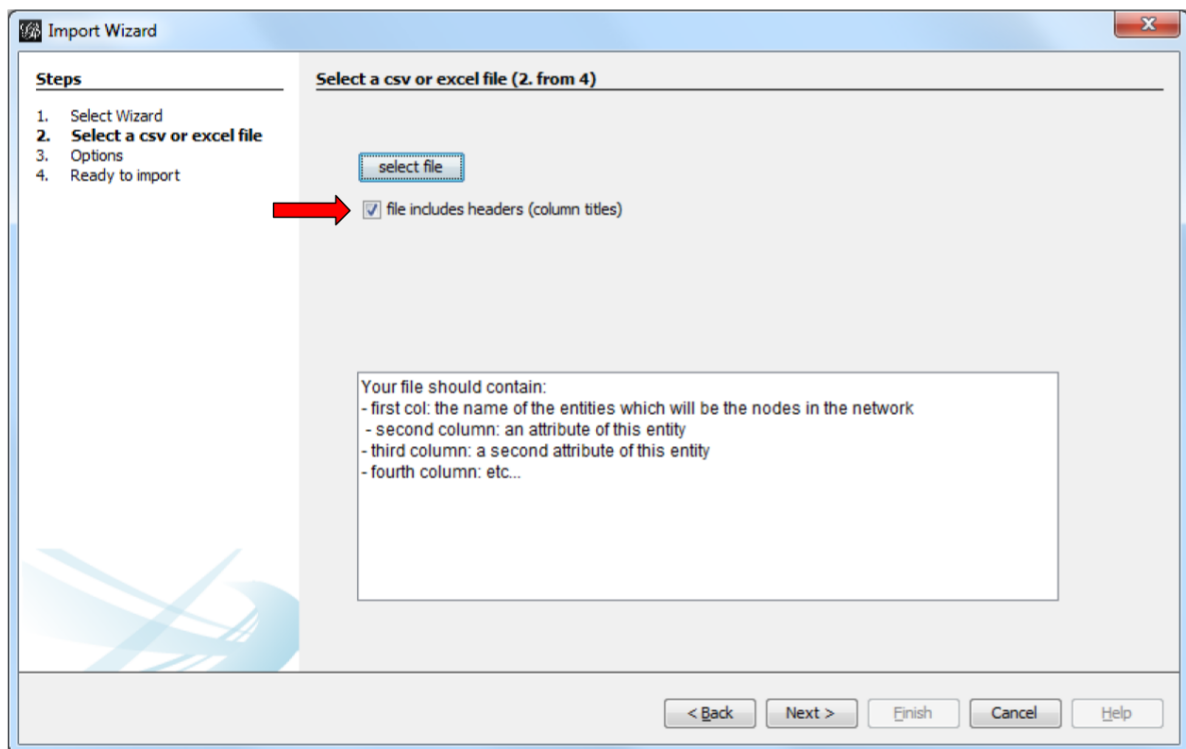


Figure 7. Select a file

	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	<b>Author</b>	<b>Taste in Ice creams</b>	<b>City preference</b>
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



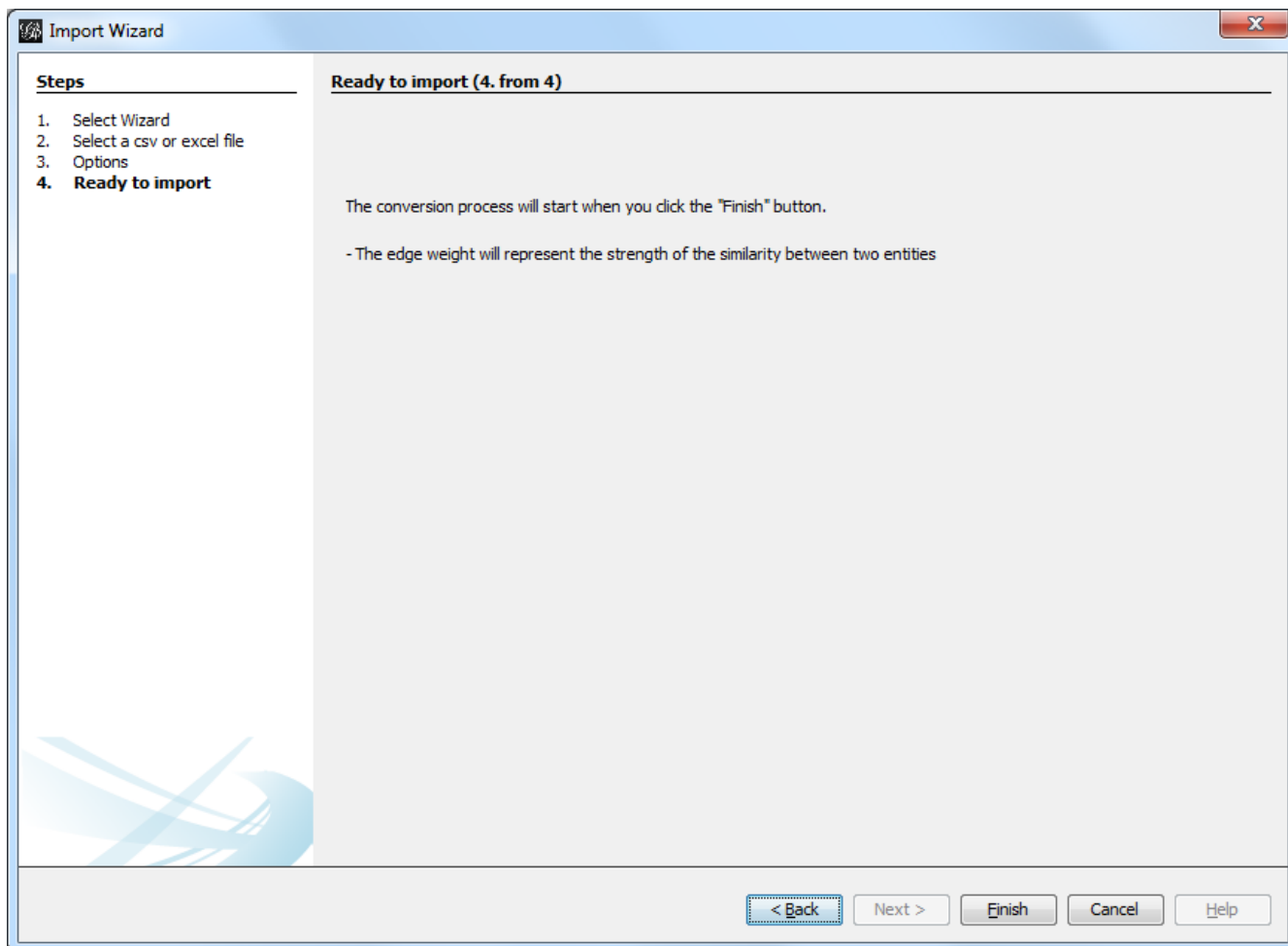


Figure 11. Confirmation panel

## 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.

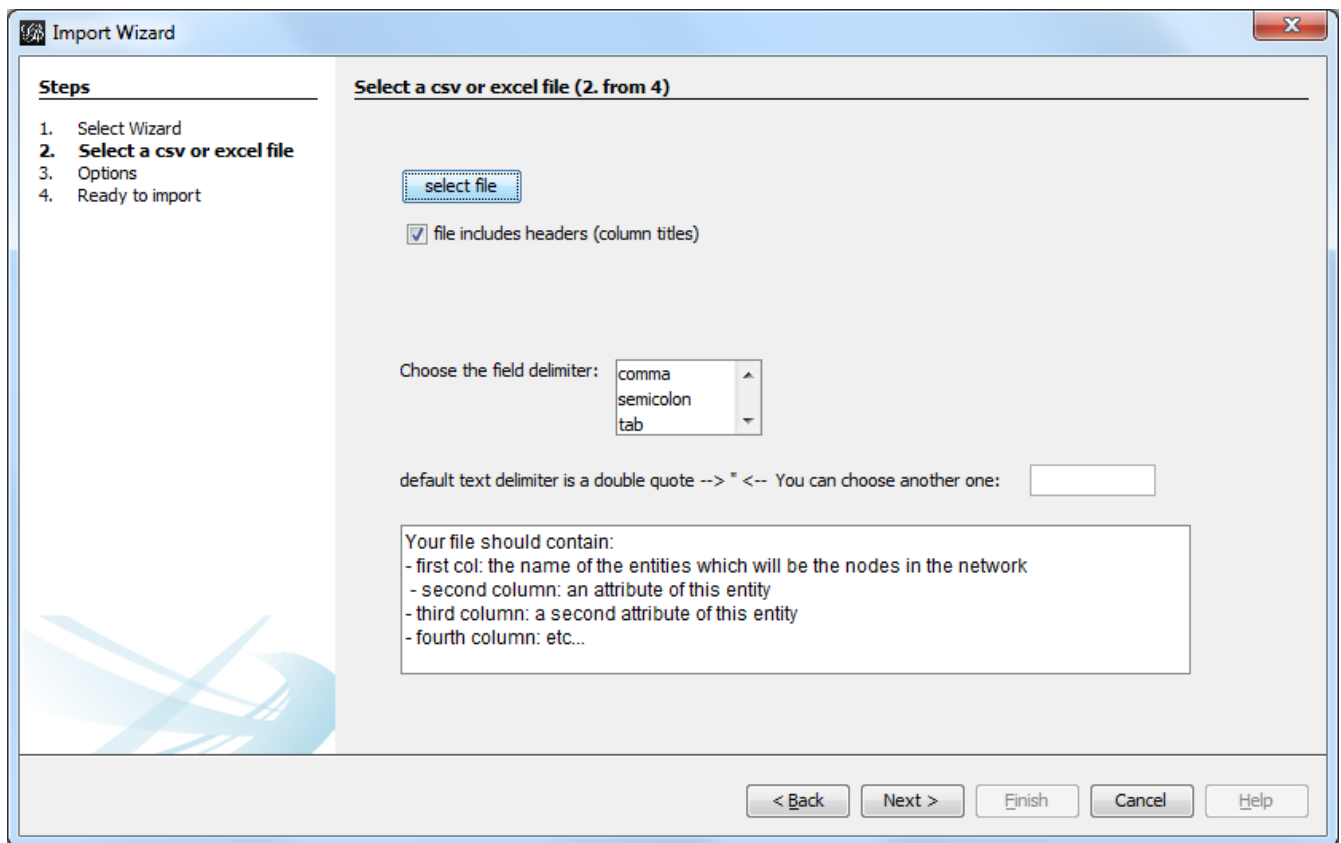


Figure 12. When a csv file is selected

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

	A	B	C	D
1	<b>Author</b>	<b>Taste in Ice creams</b>	<b>City preference</b>	<b>Age</b>
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	<b>Author</b>	<b>Product purchased</b>	<b>Recommender</b>	<b>Age</b>	
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.

## to go further

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

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

Give a try to [nocodefunctions.com](http://nocodefunctions.com), the web application I develop to create networks for Gephi. Click-and-point, free, no registration needed.