Simple Project from A to Z

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Description of the project

This project is for complete beginners to Gephi. It supposes you have Gephi installed and running on your computer. That is all.

When finishing this tutorial, you should be able to:

- download a network file for this exercise
- description of the file / the network
- open a network file
- read the report after opening a file
- layout the network
- show labels
- visualize attributes of the network
- compute the centrality of the nodes in the network
- visualize attributes created by Gephi
- export a visualization as a picture or pdf

download a network file

download this zip file and unzip it on your computer.

You should find the file `miserables.gexf` in it.

Save it in a folder you will remember (or create a folder specially for this small project).

description of the file / the network

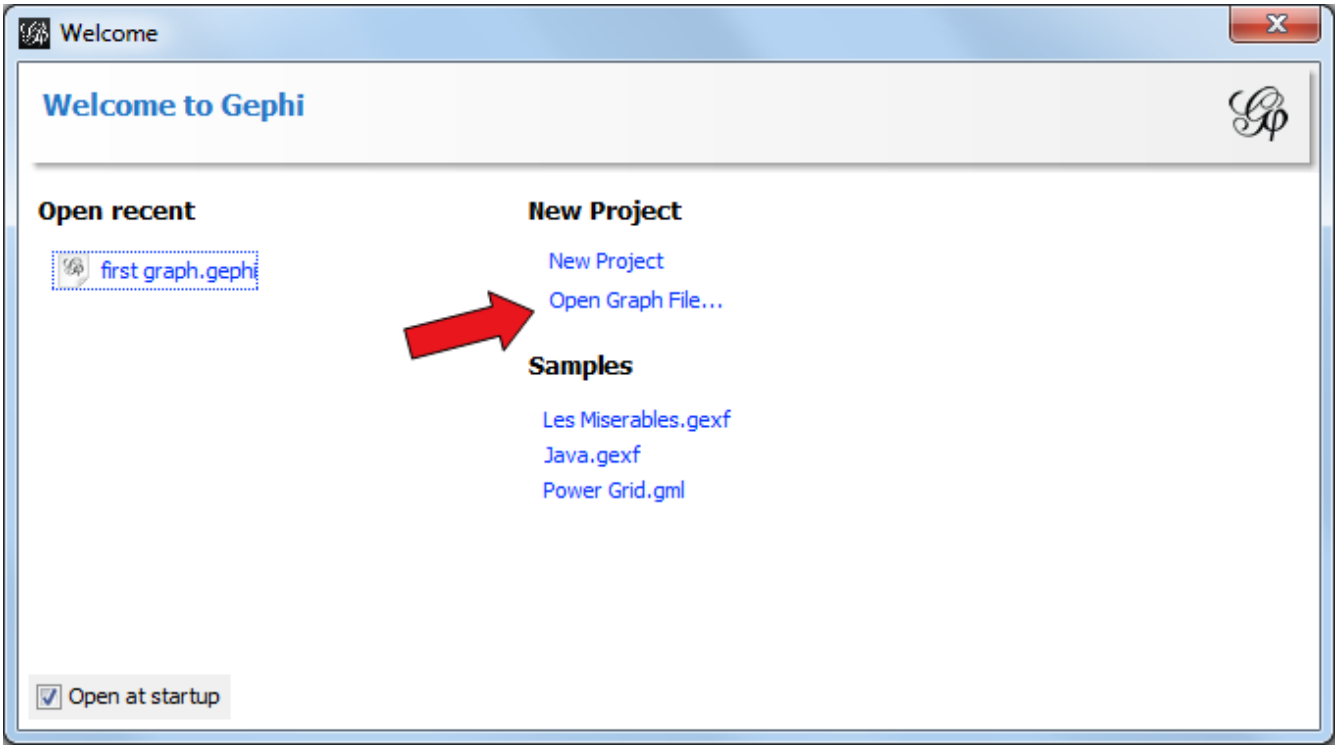
This file contains a network representing "who appears next to whom" in the 19th century novel *Les Misérables* by Victor Hugo [1: D. E. Knuth, The Stanford GraphBase: A Platform for Combinatorial Computing, Addison-Wesley, Reading, MA (1993)].

A link between characters A and B means they appeared on the same page or paragraph in the novel.

The file name ends with ".gexf", which just means this is a text file where the network information is stored (name of the characters, their relations, etc.), following some conventions.

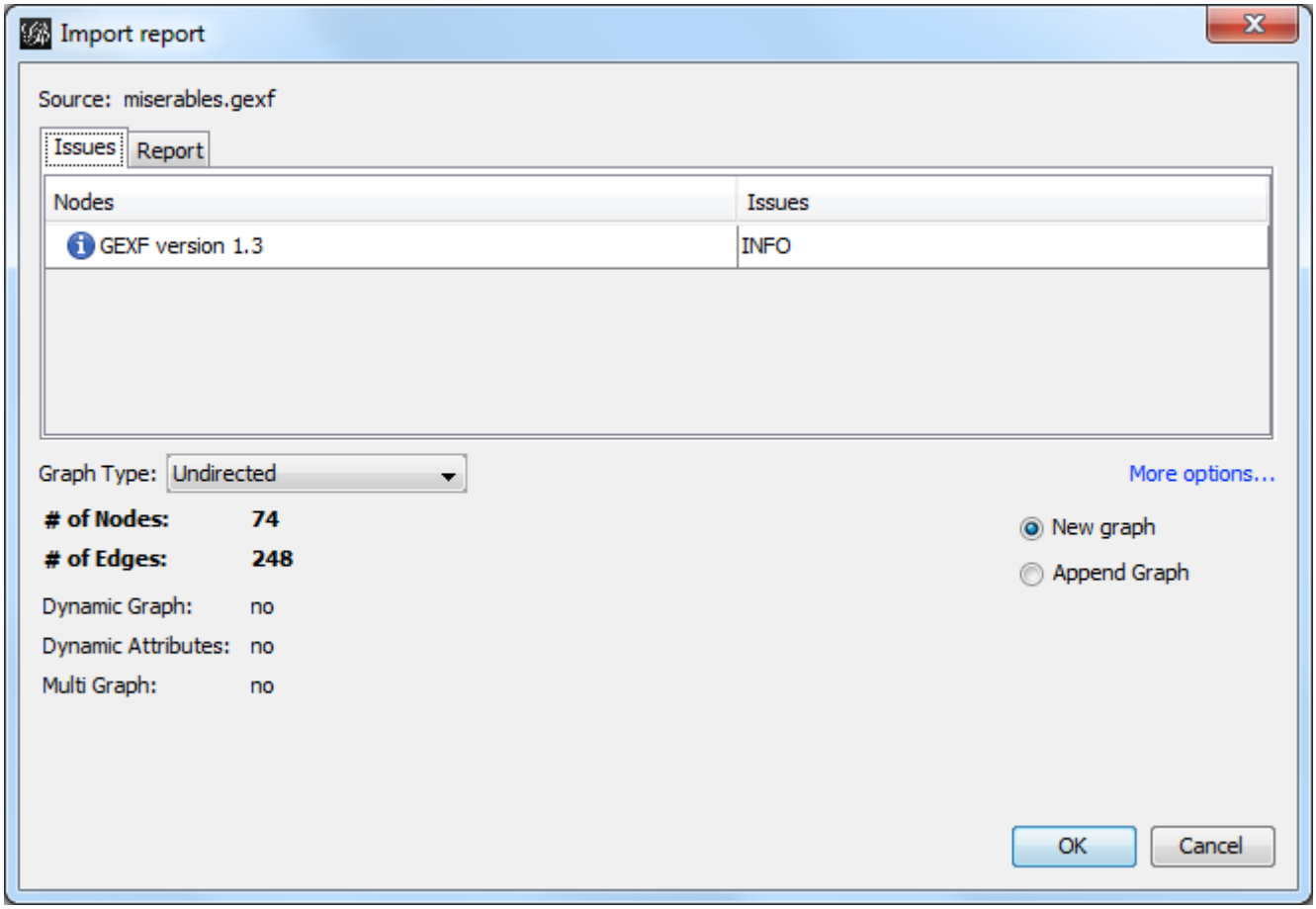
open the network

- open Gephi. On the Welcome screen that appears, click on `Open Graph File`
- find `miserables.gexf` on your computer and open it



read the report after opening a file

A report window will open, giving you basic info on the network you opened:



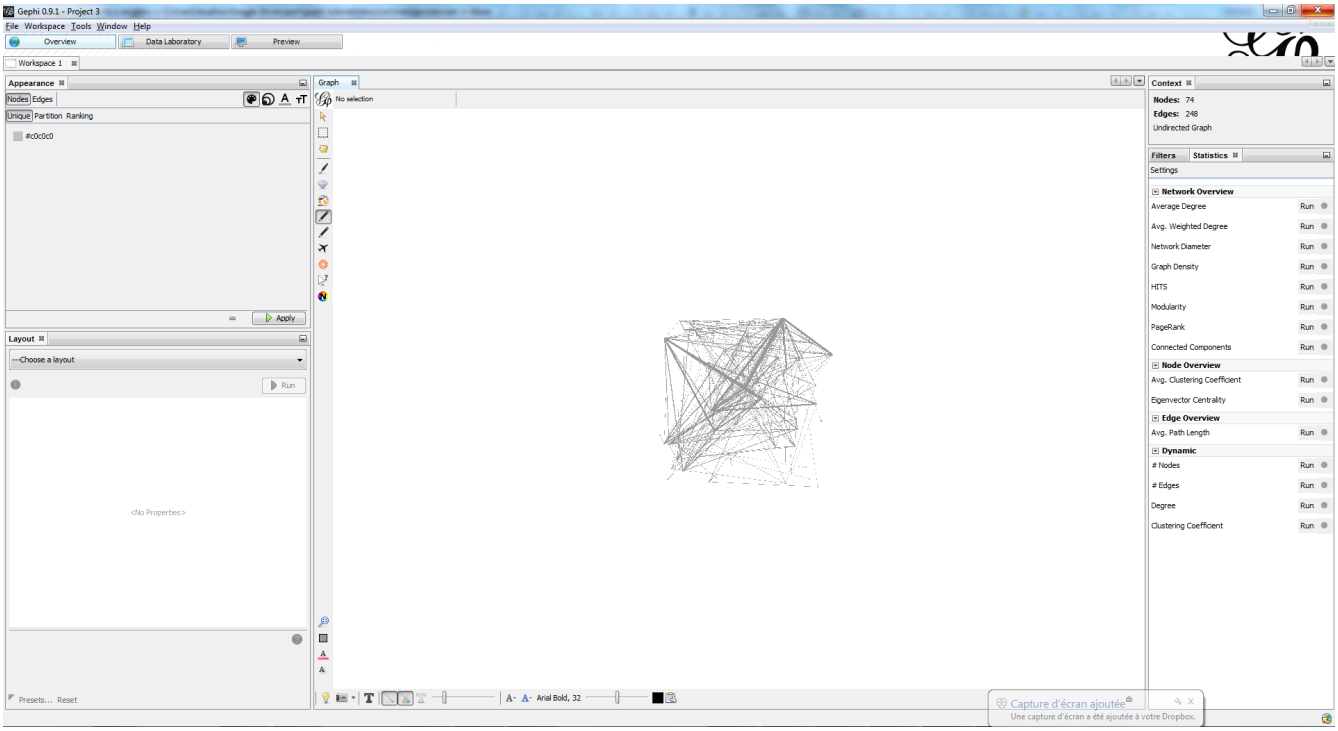
This tells you that the network comprises 74 characters, connected by 248 links.

Links are undirected, meaning that if A is connected to B, then it is the same as B connected to A.

The report also tells us the graph is not dynamic: it means there is no evolution or chronology, it won't "move in time".

Click on `OK` to see the graph in Gephi.

initial view



This is how the network appears in Gephi. Not very useful! Let’s examine what we have here.

basic view of Gephi’s interface

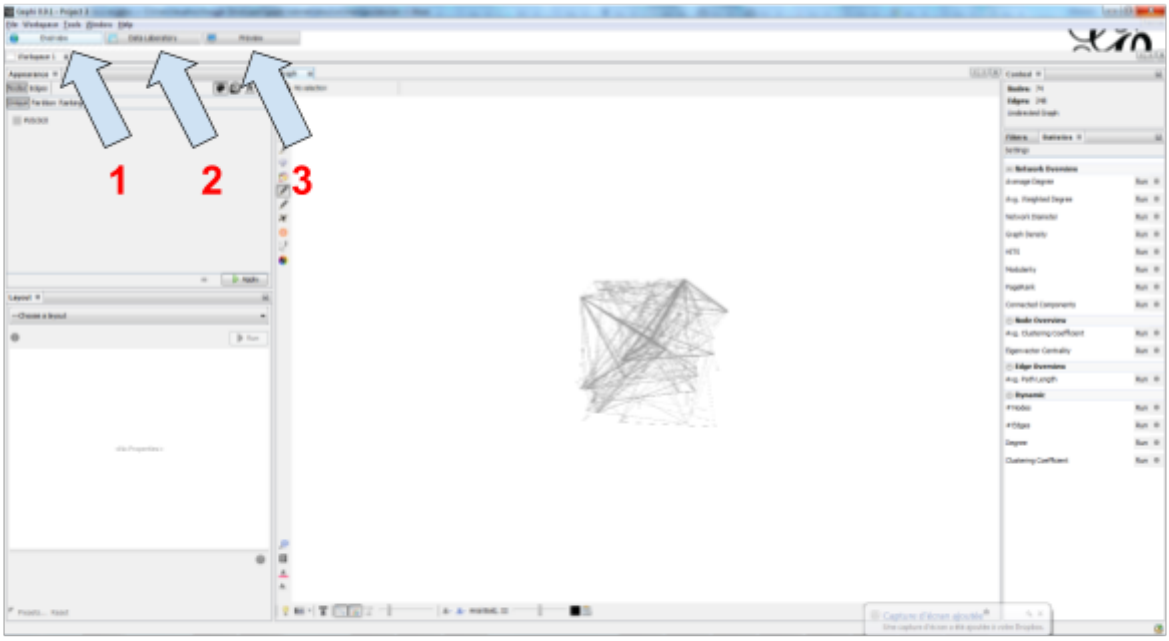


Figure 1. project-initial-view-1-3-en

Gephi has 3 main screens: 1. Overview, 2. Data Laboratory 3. and Preview. What we see here is the Overview. This is where we can explore the graph visually.

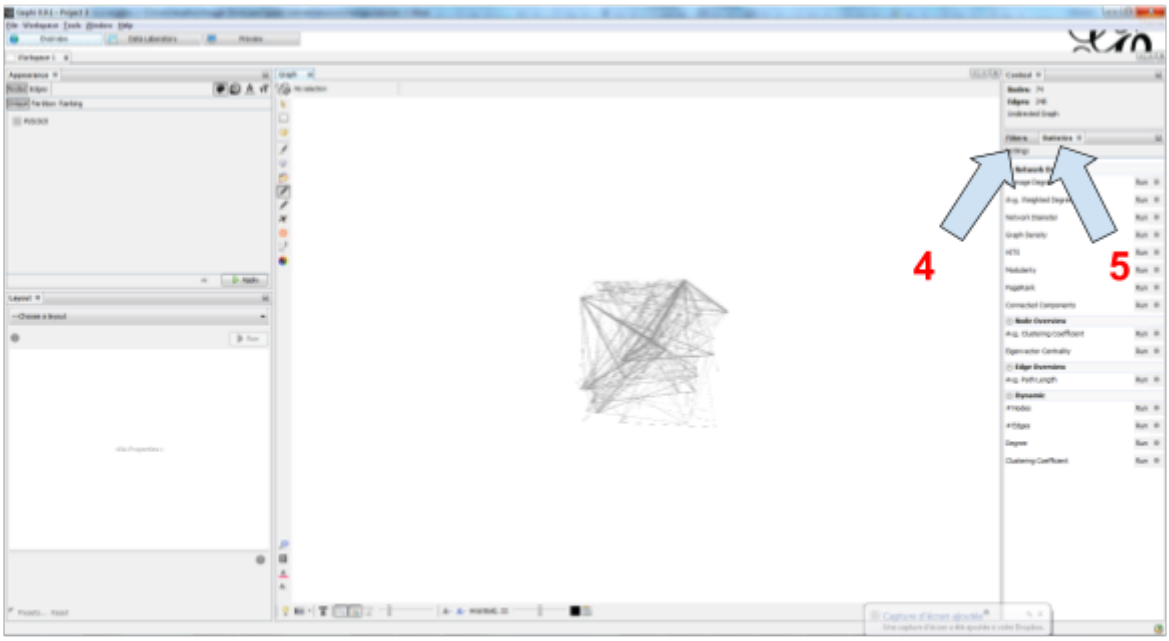


Figure 2. project-initial-view-4-5-en

In the Overview, the graph is shown at the center. Around it, several panels help us fine tune the visualization.

4. "Statistics", where we can compute metrics on the network
5. "Filters", where we can hide different parts of the network under a variety of conditions

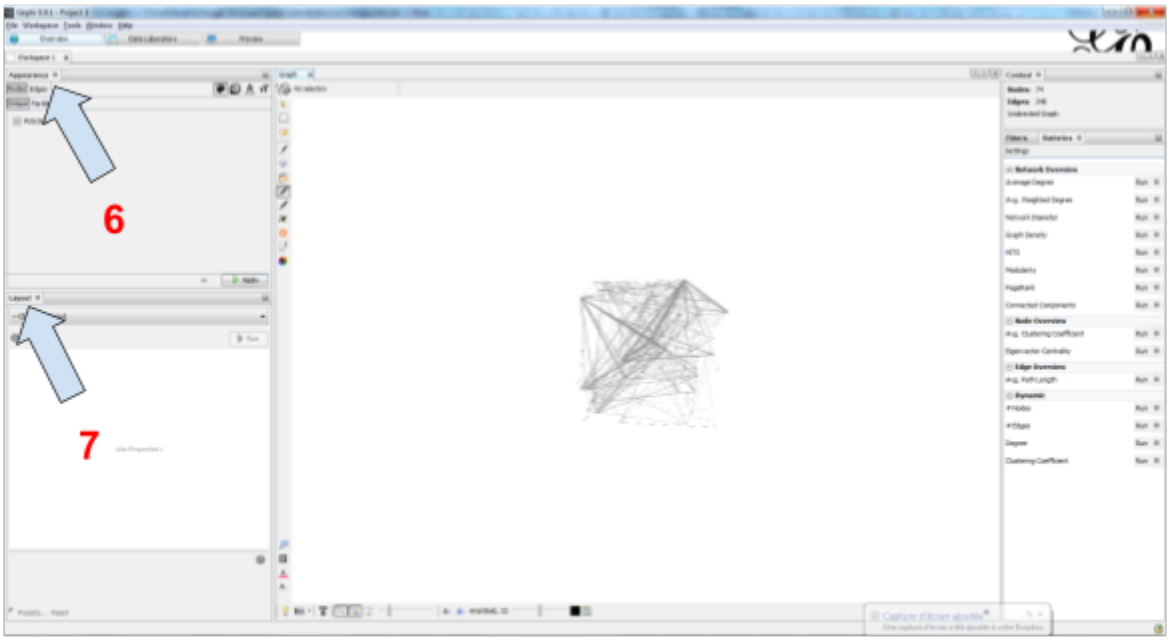


Figure 3. project-initial-view-6-7-en

6. "Appearance", where we can change colors and sizes in interesting ways
7. "Layouts", where we can apply automated procedures to change the position of the network

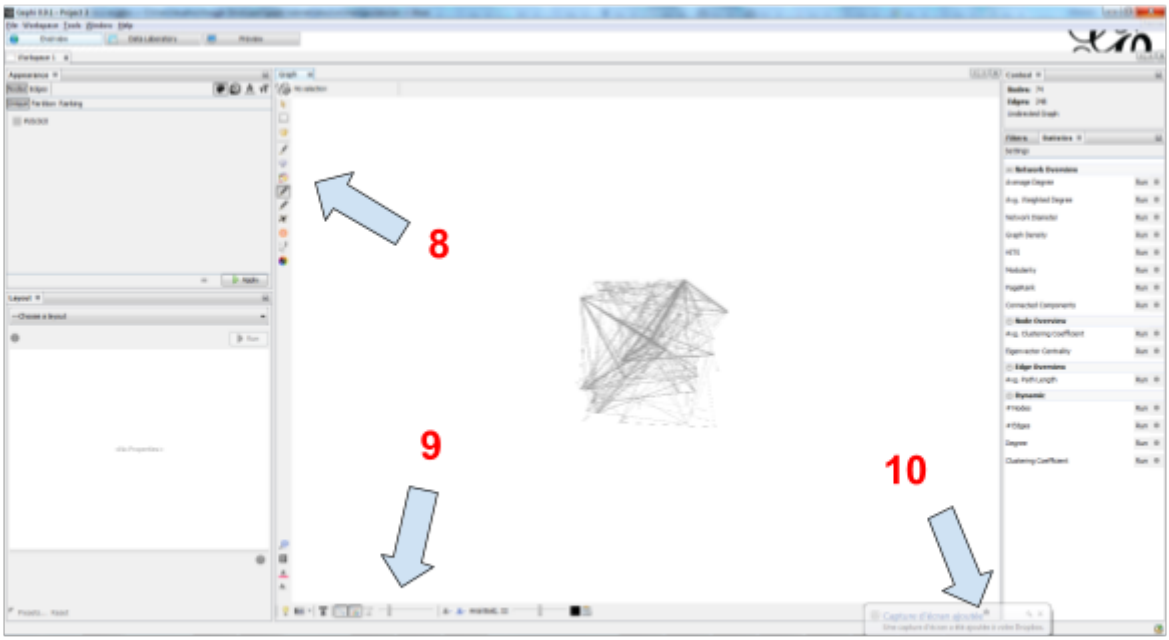


Figure 4. project-initial-view-8-10-en

8. A series of icons to add / colorize nodes and links manually, by cliking on them
9. Options and sliders to change the size of all nodes, links, or labels
10. More options become visible if we click on this **little arrow head pointing up**.

questions and exercises

1. Open the file `miserables.gexf` with a text editor (here is how to do it on a Mac, and on Windows). See how the nodes and the links are written in the file. Can you find the character Javert?

2. Our network of Les Miserables characters was undirected. Can you think of networks which are directed? Imagine how undirected and directed networks differ when computing centrality, for example.