



Computer Exercise

1

Getting started (VPNNet)

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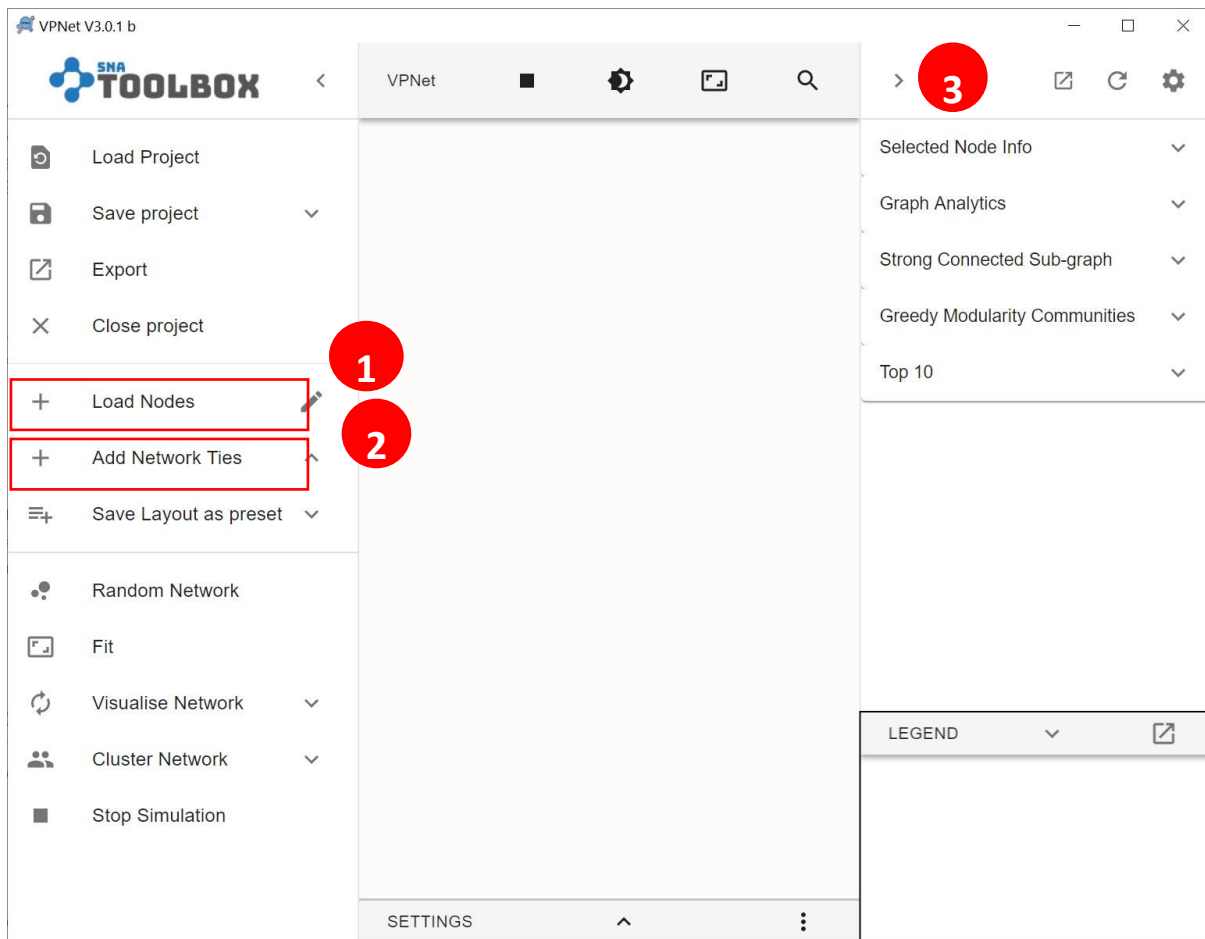
Exercise 1: Getting started (VPNet)

1.1 Using VPNet

VPNet is a software package for network visualisation. Download **VPNet** from the shared workshop folder.

This is the main window that comes up for when you open VPNet.

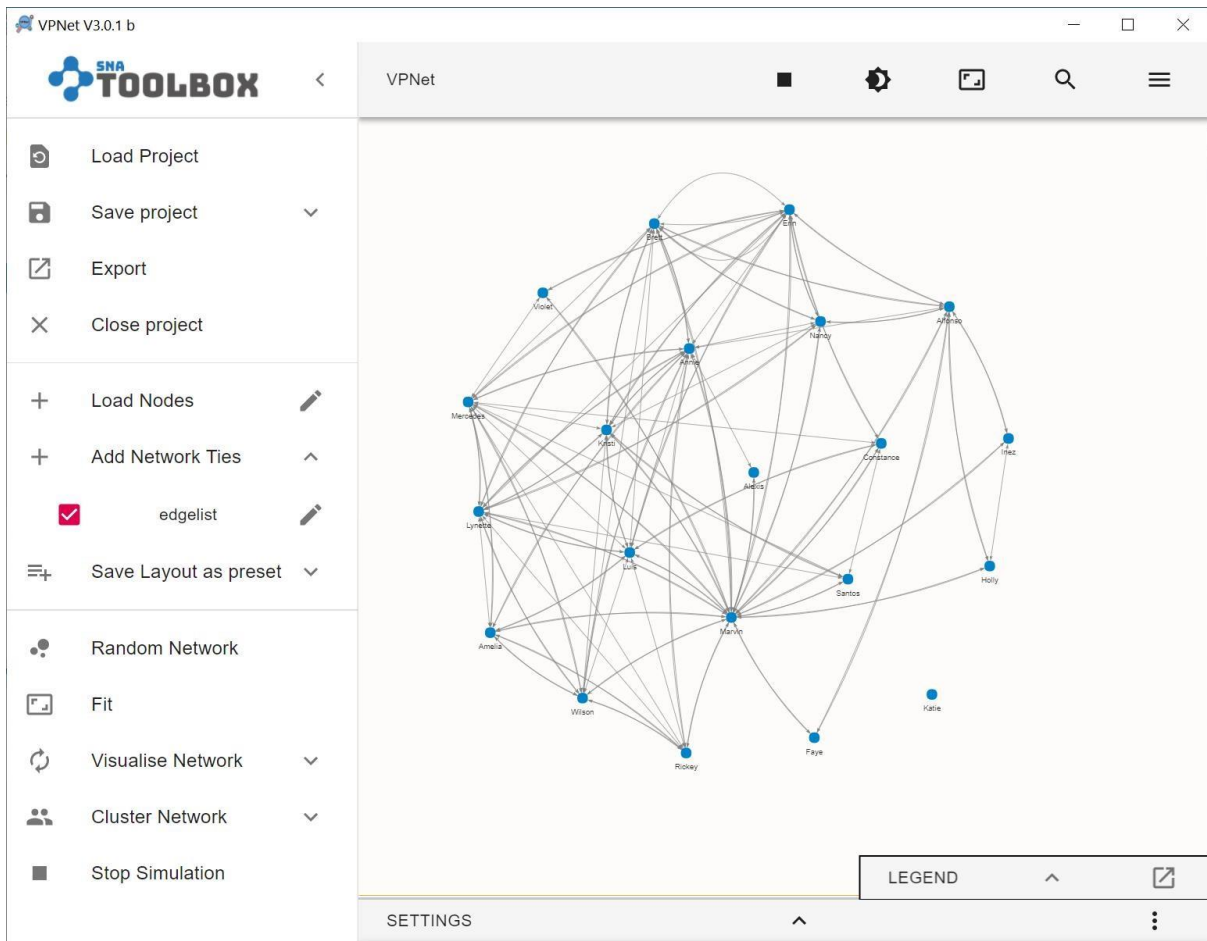
Step 1: Click on 'Load Nodes' and open file: '**EgoNet_Attributes.txt**'



Step 2: Then click on 'Add Network Ties' and open: '**EgoNet_Edges_Network.txt**'

Step 3: Click the '>' to minimise this analytics window.

You should now have something that looks like this:



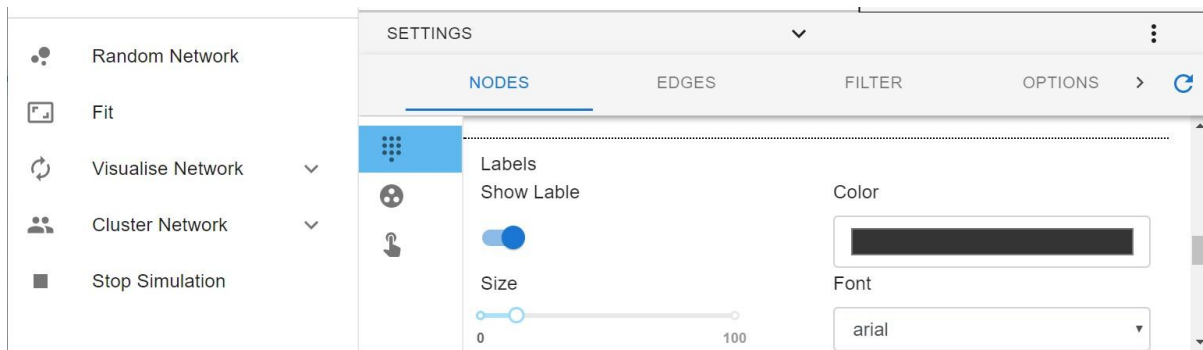
We are now going to play around with graph features to make this visualisation look a little more appealing.

The '**Visualise Network**' option on the left of screen panel is a drop-down list of algorithms that layout your data differently.

- Select the '**BarnesHut**' algorithm from the drop-down list. If the algorithm continues to run, you can hit '**Stop Simulation**' to stop the algorithm from running.
- If you cannot see all of your nodes, click the '**Fit**' to make it resize to fit the window.

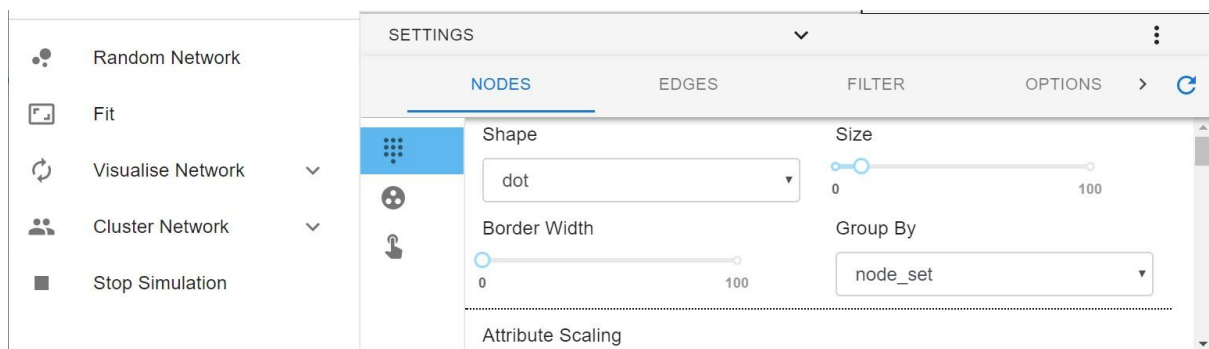
1.2.1 Node labels

By default, the node labels are shown. If you click on '**Settings > Nodes**' at the bottom panel of the screen, and scroll down, you will be given the option of showing the Labels.



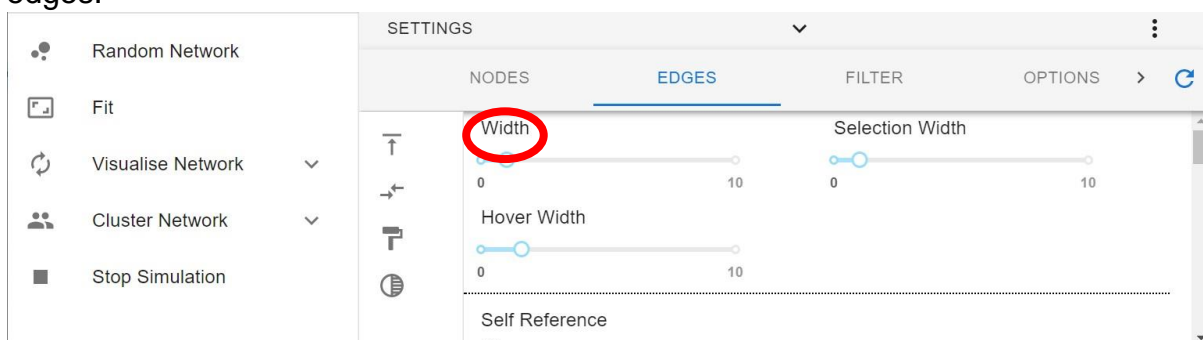
1.2.2 Size and colour of nodes and edges

The **'Settings'** panel at the bottom of the window contains options to allow you to change the size and colour of nodes. Click on **'Settings > Nodes'** and you will get the option of



You can change the **Shape** of the node, and also the **Size**.

You can also use options in the **'Settings > Edges'** panel to change the width of edges:

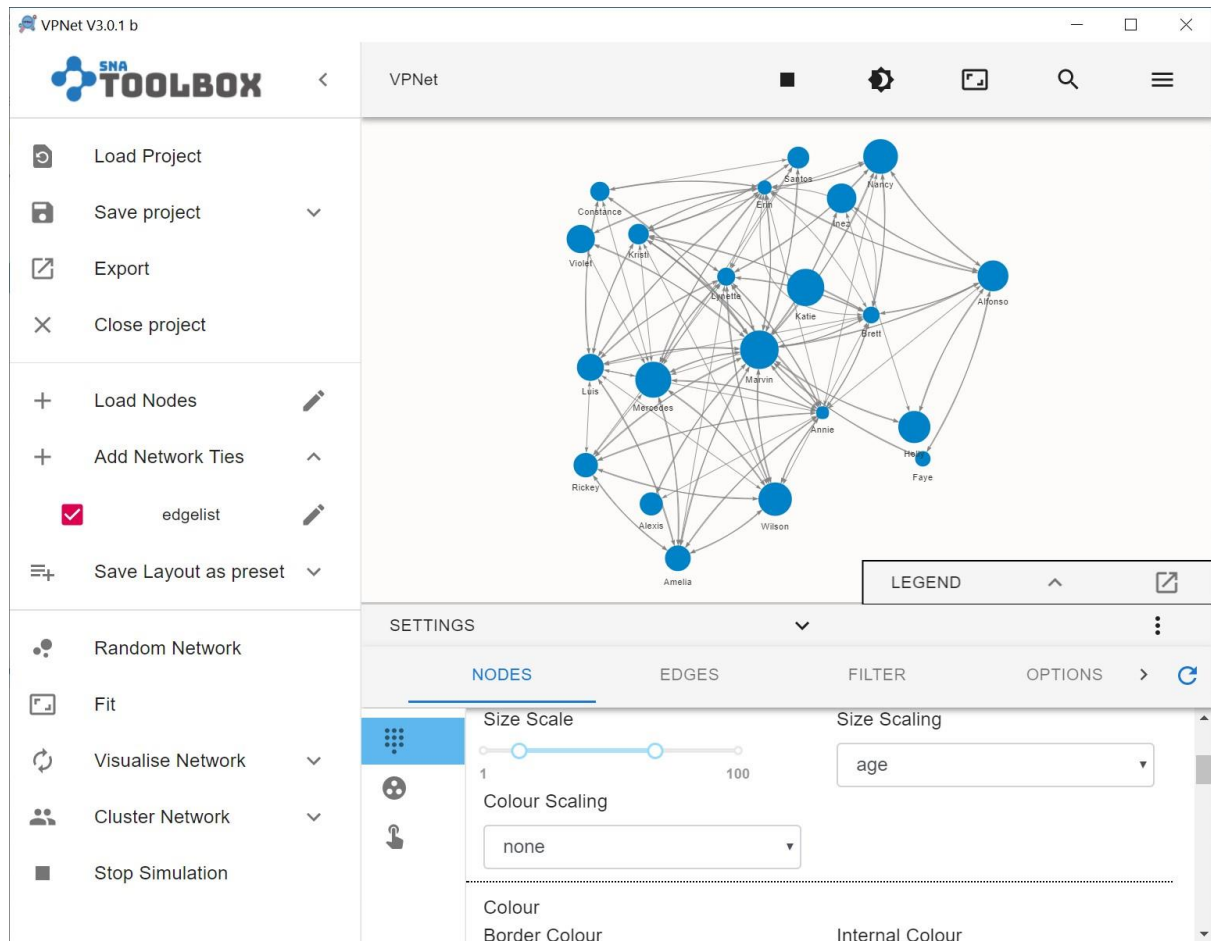


Explore the other options under Edges in the Settings.

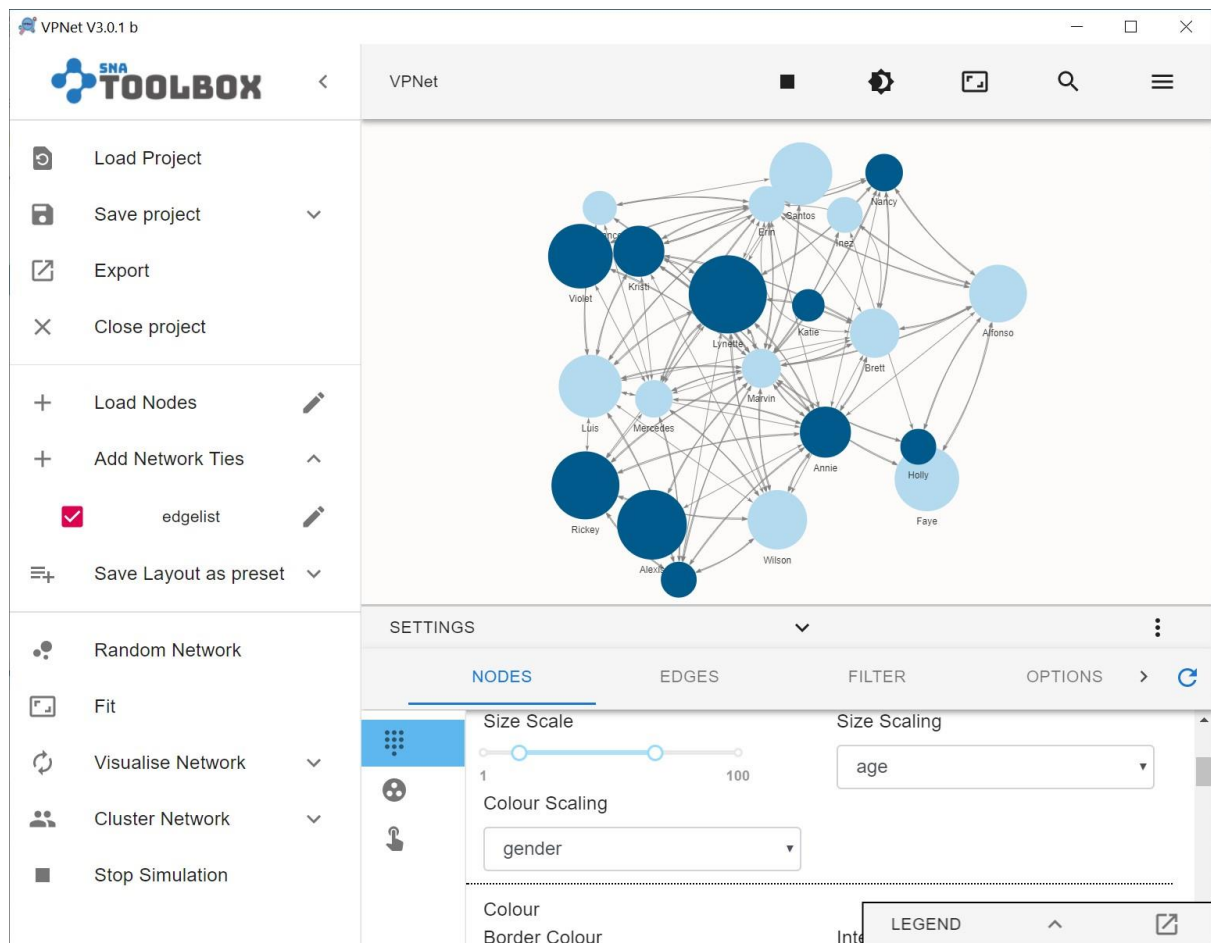
1.2.3 Actor attributes

Let's add the attribute **Age** to our visualisation. On the '**Settings > Nodes**' select the '**Nodes**' tab and for the '**Size Scaling**' button at the bottom of the window, select '**age**' from the list.

Then by adjusting the '**Size Scale**' button above it you can make the nodes bigger or smaller, and create a range of sizes that suits your data.



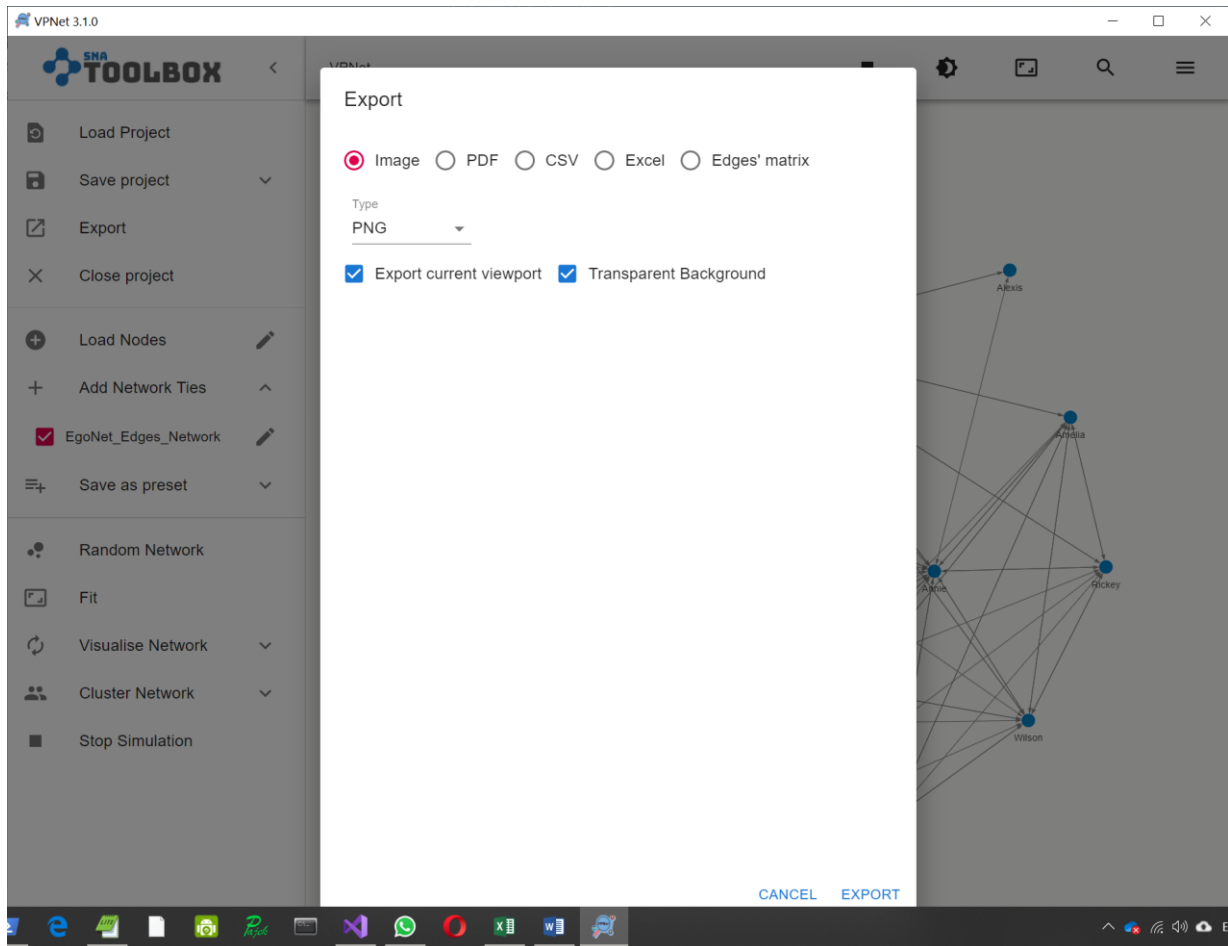
To have colour to represent Gender, click on the '**Colour Scaling**' option and choose '**gender**'.



You can then also change the colours by clicking '**Colour Spectrum**' and selecting the colours you would like. If you have a continuous variable (rather than a binary one, like gender) you can then get a spectrum of colours representing the range of that continuous attribute.

1.2.4 Exporting your graph

To export your graph as a PNG file, go to **'Export'** button on the left hand side panel. There are a range of options. Select those we have listed below:



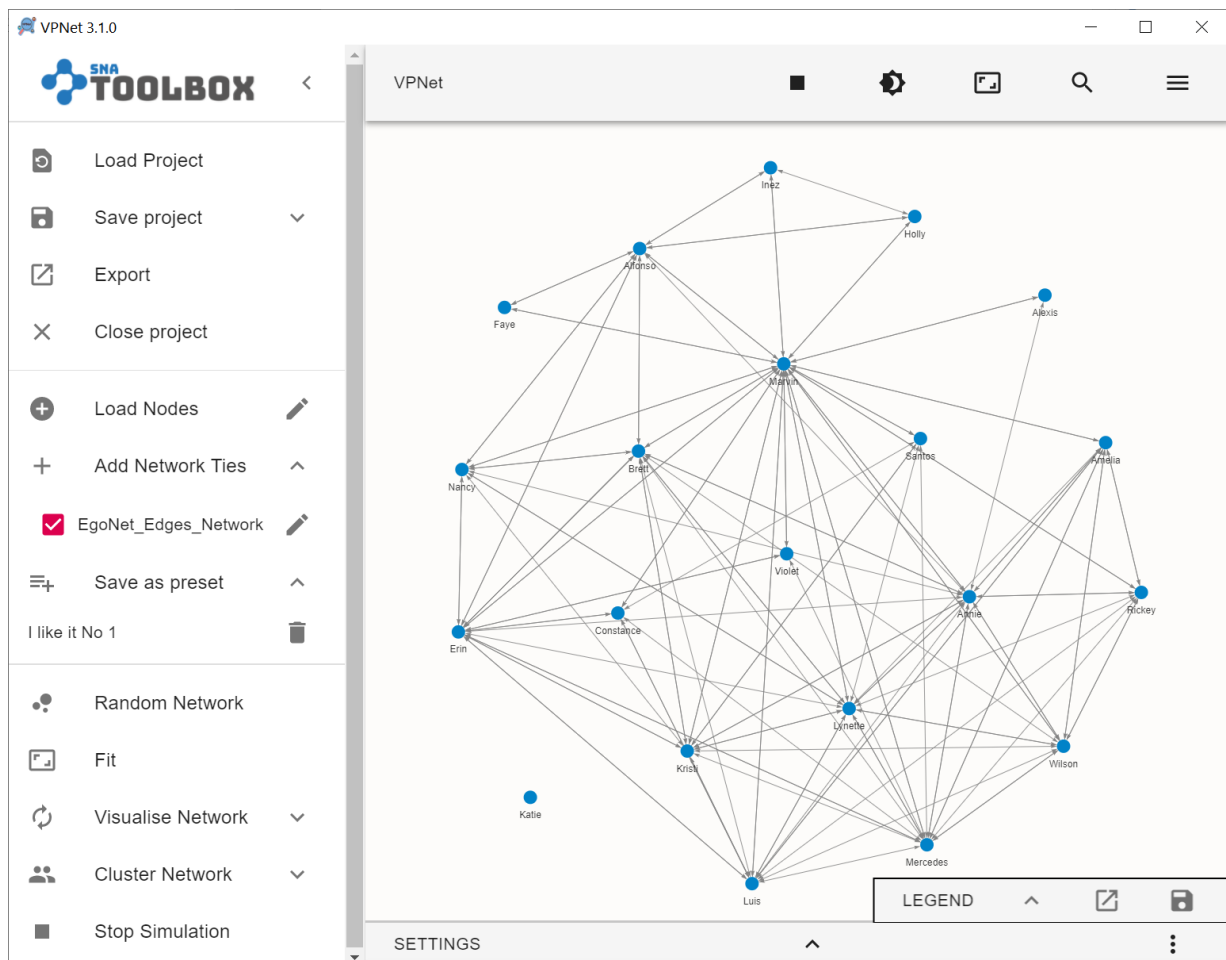
You can then import this visualization into a Word or PowerPoint document. Try out a few options for **'Image'** and see what the differences are.

NB: Using transparent background means that you can import the network into a document and have a coloured or picture background to your network, which is quite nice!

1.2.5 Save Layout as preset

You might create a really nice visualization that you like, but also want to try some other options. For such instances, the **'Save Layout as preset'** is a really good option. You can save multiple different layouts within one VPNet project file.

I have saved my layout as 'I like it No 1'. I am now free to change colours, sizes, and all other things I'd like to do. But I can always come back to the current layout I like best. You can see that it sits under the '**Save Layout as preset**' option.



1.2.6 Save your datafile

Finally, you can now save your file as a *.vpnet file for future use so that you do not need to do all of those steps again!

Click on '**Save Project**' and choose a name for your file. Next time you open VPNet, you can select '**Load Project**' and choose your file and all of your settings are saved.

1.2.7 Troubleshooting

Known issues with loading VPNet files.

- Do not leave any blank lines at the end of your node or network file, as this will cause the program to crash. Make sure that last line of data is the last line of the file, and that you do not have an extra carriage return/paragraph mark underneath.
- It is important that 'Node_Set' and 'Labels' start with a Capital Letter. Otherwise, VPNet will have trouble reading them and will not function.