



Creating a Twitter Application for Extracting Data

Go to dev.twitter.com

The screenshot shows a web browser window with the URL <https://dev.twitter.com/>. The page features a large banner image of three smiling men standing in front of a wall with various hashtags like #SHIPIT, #BREAKFAST, #TERRITO, #INNOVTHRU, and #PRESSED. Overlaid on the banner is the text "Announcing Twitter Developer Communities" in large white letters. Below this, a blue button says "Connect locally". To the right of the banner, there's a sidebar with several blue buttons: "Welcome to the Twitter Platform", "Twitter Developer Communities", "#HelloWorld 2016", "Mobile app playbook", and "Customer service". At the bottom of the page, a call-to-action button says "Explore our products". The browser's address bar shows other tabs like "Bash console 5326518 : jjussi" and "trump_tweets.json : /home/jju".



Create a Twitter App

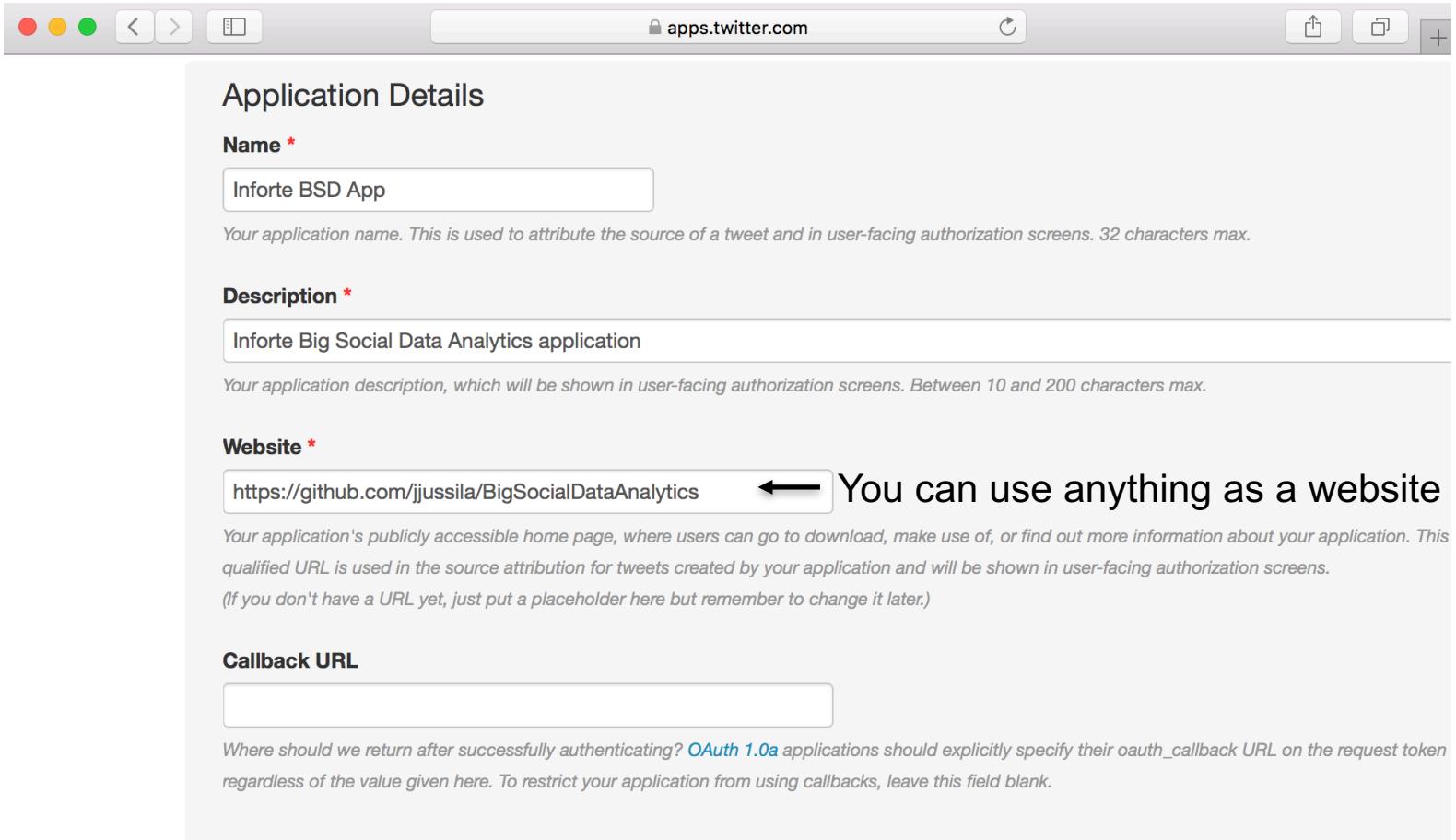
The screenshot shows a web browser window for 'apps.twitter.com'. The title bar says 'apps.twitter.com'. The main content area is titled 'Twitter Apps'. It lists two applications:

- TAGS v5.0 Prizztech**
Prizztech Twitter hashtag collector
- OhsibaTwitterApp**
App for reading Twitter data

A blue 'Create New App' button is located on the right side of the 'Twitter Apps' section. At the bottom of the page, there is a 'Tweet' button and links for 'About', 'Terms', 'Privacy', and 'Cookies'. The copyright notice '© 2017 Twitter, Inc.' is also present.



Creating a New Application



The screenshot shows a web browser window titled "apps.twitter.com" displaying the "Application Details" form. The browser has a standard OS X-style interface with red, yellow, and green window control buttons. The address bar shows the URL. The main content area is titled "Application Details". It contains several input fields with placeholder text and descriptive labels.

Name *
Inforte BSD App
Your application name. This is used to attribute the source of a tweet and in user-facing authorization screens. 32 characters max.

Description *
Inforte Big Social Data Analytics application
Your application description, which will be shown in user-facing authorization screens. Between 10 and 200 characters max.

Website *
https://github.com/jjussila/BigSocialDataAnalytics ← You can use anything as a website
Your application's publicly accessible home page, where users can go to download, make use of, or find out more information about your application. This qualified URL is used in the source attribution for tweets created by your application and will be shown in user-facing authorization screens.
(If you don't have a URL yet, just put a placeholder here but remember to change it later.)

Callback URL

Where should we return after successfully authenticating? OAuth 1.0a applications should explicitly specify their oauth_callback URL on the request token regardless of the value given here. To restrict your application from using callbacks, leave this field blank.



Congratulations for Creating A New Twitter Application

The screenshot shows a web browser window for 'apps.twitter.com' with the title 'Application Management'. A green message box says 'Your application has been created. Please take a moment to review and adjust your application's settings.' Below it, the application name 'Inforte BSD App' is displayed with a 'Test OAuth' button. The 'Settings' tab is selected in the navigation bar. The application details show a blue Twitter icon inside a gear, the name 'Inforte Big Social Data Analytics application', and the URL 'https://github.com/jjussila/BigSocialDataAnalytics'. The 'Organization' section is present but empty. The 'Application Settings' section at the bottom includes a note about consumer keys and secrets.

Your application has been created. Please take a moment to review and adjust your application's settings.

Inforte BSD App

Test OAuth

Details **Settings** Keys and Access Tokens Permissions

Inforte Big Social Data Analytics application
https://github.com/jjussila/BigSocialDataAnalytics

Organization

Information about the organization or company associated with your application. This information is optional.

Organization	None
Organization website	None

Application Settings

Your application's Consumer Key and Secret are used to [authenticate](#) requests to the Twitter Platform.



Create the Access Tokens



Your Access Token

You haven't authorized this application for your own account yet.

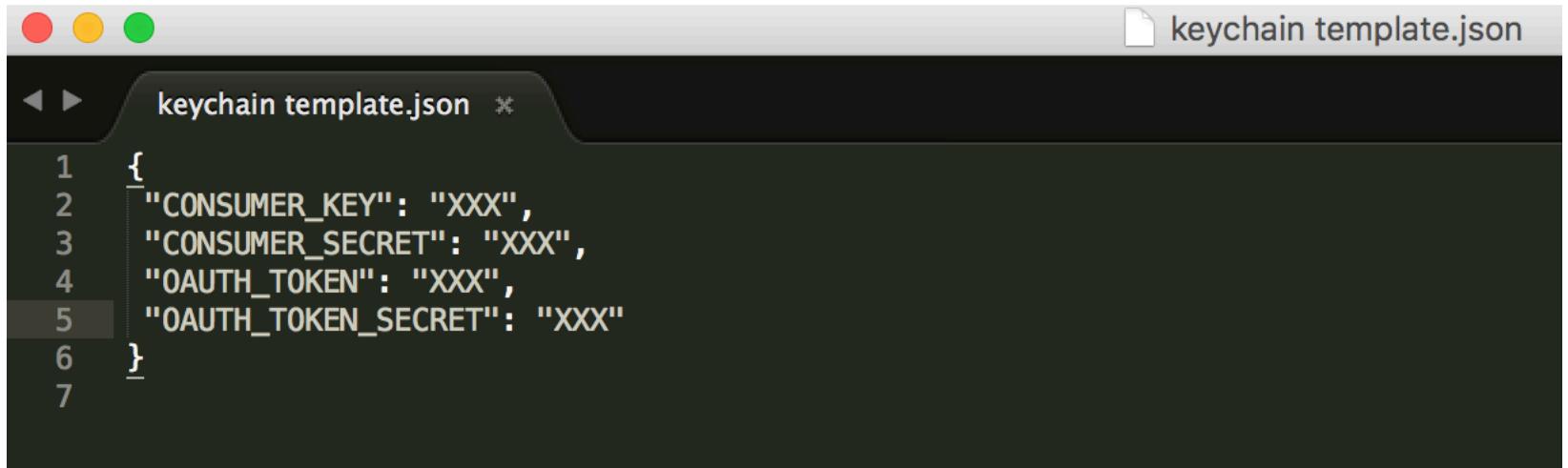
By creating your access token here, you will have everything you need to make API calls right away. The access token generated will be assigned your application's current permission level.

Token Actions

[Create my access token](#)



Create keychain.json using template file



A screenshot of a Mac OS X TextEdit window. The window title is "keychain template.json". The content of the file is a JSON object with the following structure:

```
1 {
2   "CONSUMER_KEY": "XXX",
3   "CONSUMER_SECRET": "XXX",
4   "OAUTH_TOKEN": "XXX",
5   "OAUTH_TOKEN_SECRET": "XXX"
6 }
7
```

Copy-paste from Twitter App the necessary keys and tokens and save the file as keychain.json





PythonAnywhere

Files – Upload a file (search_trump.py & keychain.json)

pythonanywhere

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Consoles Files Web Schedule Databases

/ home / jjussila

Directories

Enter new directory name New directory

.ipython/ .local/ .virtualenvs/ web2py/

Files

Enter new file name, eg hello.py New file

File	Last modified	Size
.bash_history	2017-05-19 13:06	33 bytes
.bashrc	2017-05-18 19:09	559 bytes
.gitconfig	2017-05-18 19:09	266 bytes
.profile	2017-05-18 19:09	79 bytes
.pythonstartup.py	2017-05-18 19:09	77 bytes
.vimrc	2017-05-18 19:09	4.6 KB
README.txt	2017-05-18 19:09	235 bytes
keychain.json	2017-05-18 20:26	265 bytes
network.gexf	2017-05-22 11:59	1.9 KB
sample.json	2017-05-19 10:15	305 bytes
search_trump.py	2017-05-22 12:01	1.9 KB
search_twitter.py	2017-05-18 20:11	1.8 KB
search_twitter_script.py	2017-05-19 11:24	1.9 KB
trump_tweets.json	2017-05-22 11:59	11.5 KB
tweet_text.json	2017-05-19 11:24	382.0 KB

Upload a file



Consoles – Executing Python scripts



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[Consoles](#) [Files](#) [Web](#) [Schedule](#) [Databases](#)

CPU Usage 3% used: 3.37s of 100s
Resets in 7 hours, 6 minutes ([more info](#))

Start a new console:

Python: [3.6](#) / [3.5](#) / [3.4](#) / [3.3](#) / [2.7](#) IPython: [3.6](#) / [3.5](#) / [3.4](#) / [3.3](#) / [2.7](#) PyPy: [2.7](#)

Other: [Bash](#) | [MySQL](#)

Custom:

Your consoles:

You have no consoles. Click a link above to start one.

Start a **console** using the links above. If you're not sure which one you want, we recommend IPython 3.5. These are real consoles running on PythonAnywhere servers, with lots of [batteries included](#). Bash shells give access to a full GNU/Linux environment including vim and emacs. Consoles can be shared with other users, have Internet access (filtered for free users, full access for [paying customers](#)) and do not lose state if you close your browser window.

The **Files** tab provides basic file management, scripts can be run and text files can be edited.

Inside the **Web** tab you can configure web apps, which will be served at <http://jjussila.pythonanywhere.com/> — or, if you have a paid plan, at any other domain you own. Try using one of the built in web frameworks like Django, Flask, or web2py to get started quickly. If you're more adventurous, you can use any web framework that supports the WSGI protocol.



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Bash console



Bash console 5326417

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Share with others

```
11:52 ~ $ python search_trump.py
```



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Download the files created by the script (`trump_network.gexf`, `trump_tweets.json`)

pythonanywhere

Send feedback Forums Help Blog Dashboard Account Log out

Consoles Files Web Schedule Databases

/ home / jjussila [Open Bash console here](#) 5% full (23.2 MB of your 512.0 MB quota)

Directories

Enter new directory name New directory

.ipython/
.local/
.virtualenvs/
web2py/ 

Files

Enter new file name, eg hello.py New file

 .bash_history	  	2017-05-19 13:06	33 bytes
 .bashrc	  	2017-05-18 19:09	559 bytes
 .gitconfig	  	2017-05-18 19:09	266 bytes
 .profile	  	2017-05-18 19:09	79 bytes
 .pythonstartup.py	  	2017-05-18 19:09	77 bytes
 .vimrc	  	2017-05-18 19:09	4.6 KB
 README.txt	  	2017-05-18 19:09	235 bytes
 keychain.json	  	2017-05-18 20:26	265 bytes
 network.gexf	  	2017-05-22 12:05	16.5 KB
 sample.json	  	2017-05-19 10:15	305 bytes
 search_trump.py	  	2017-05-22 12:08	1.9 KB
 search_twitter.py	  	2017-05-18 20:11	1.8 KB
 search_twitter_script.py	  	2017-05-19 11:24	1.9 KB
 trump_network.gexf	  	2017-05-22 12:09	15.4 KB
 trump_tweets.json	  	2017-05-22 12:09	698.1 KB
 tweet_text.json	  	2017-05-19 11:24	382.0 KB

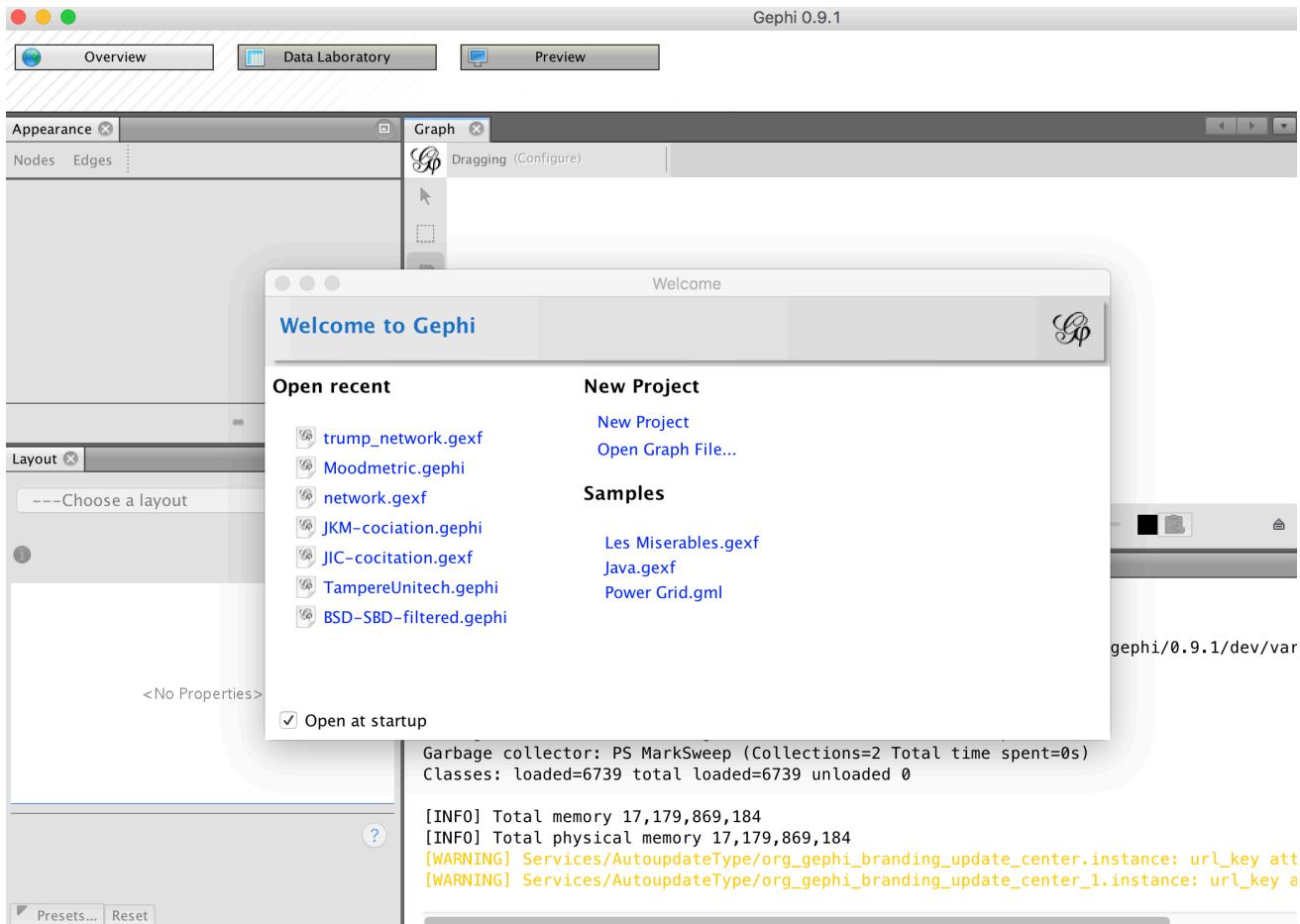
 Upload a file



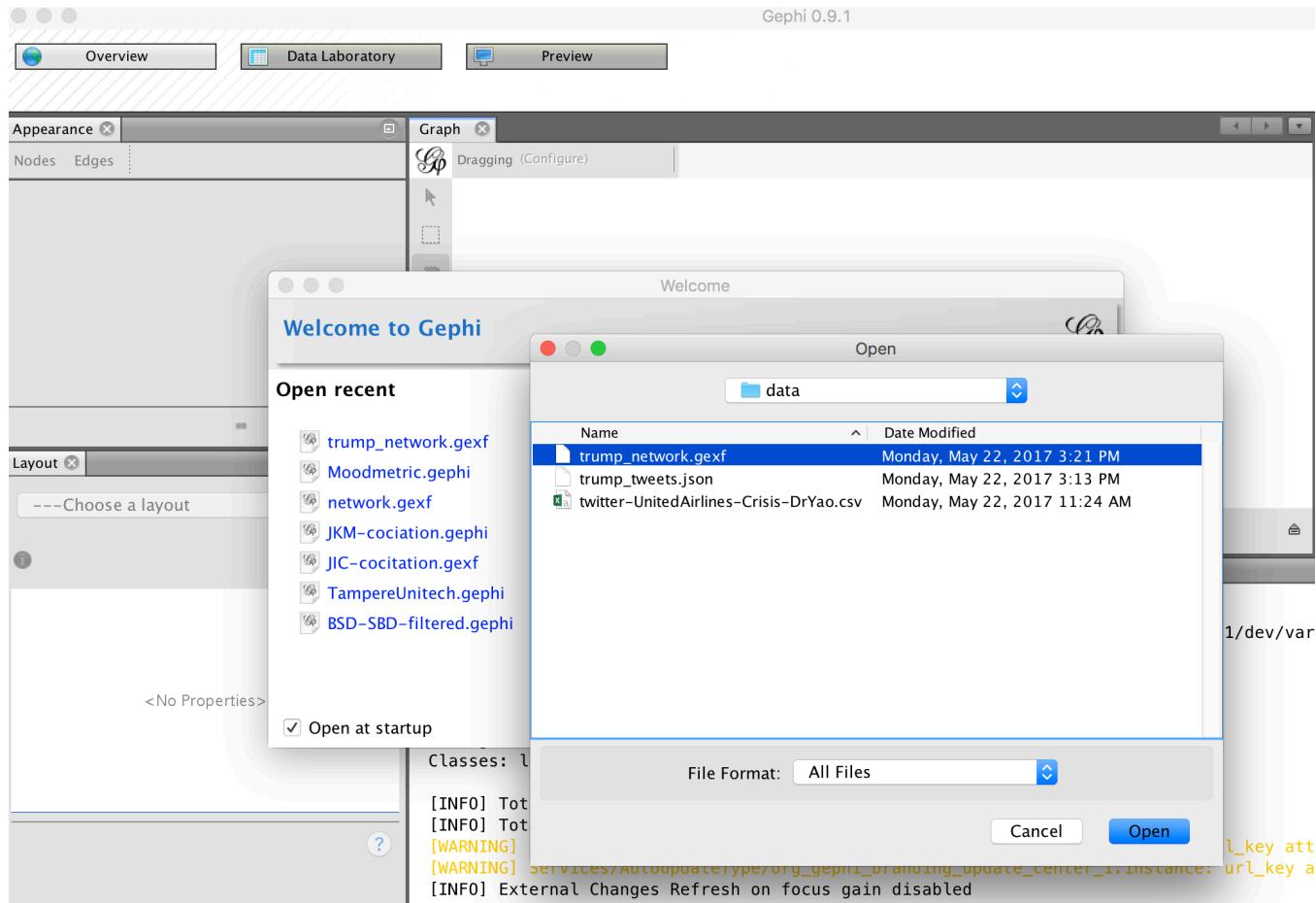


Gephi

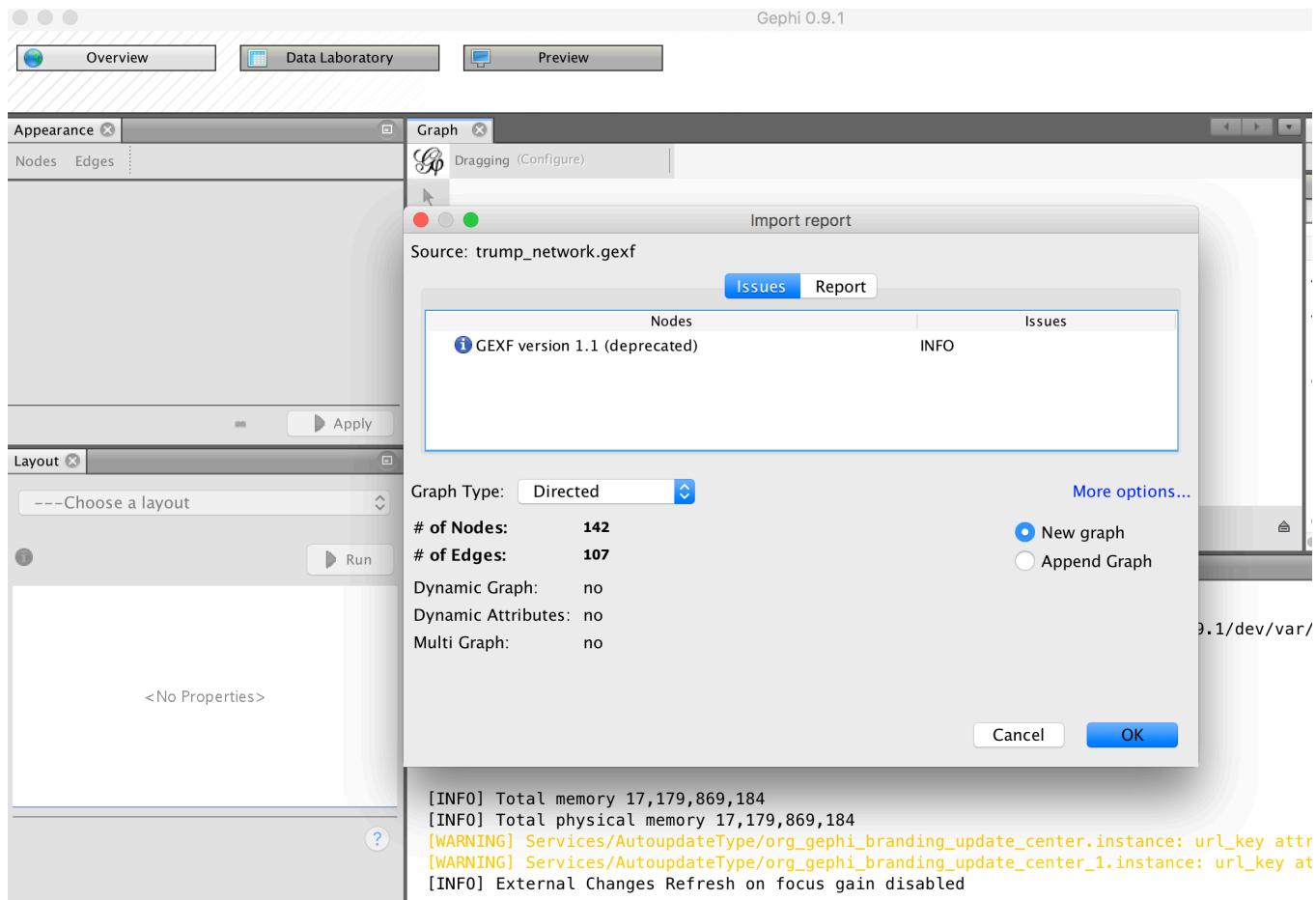
Gephi – Open Graph File...



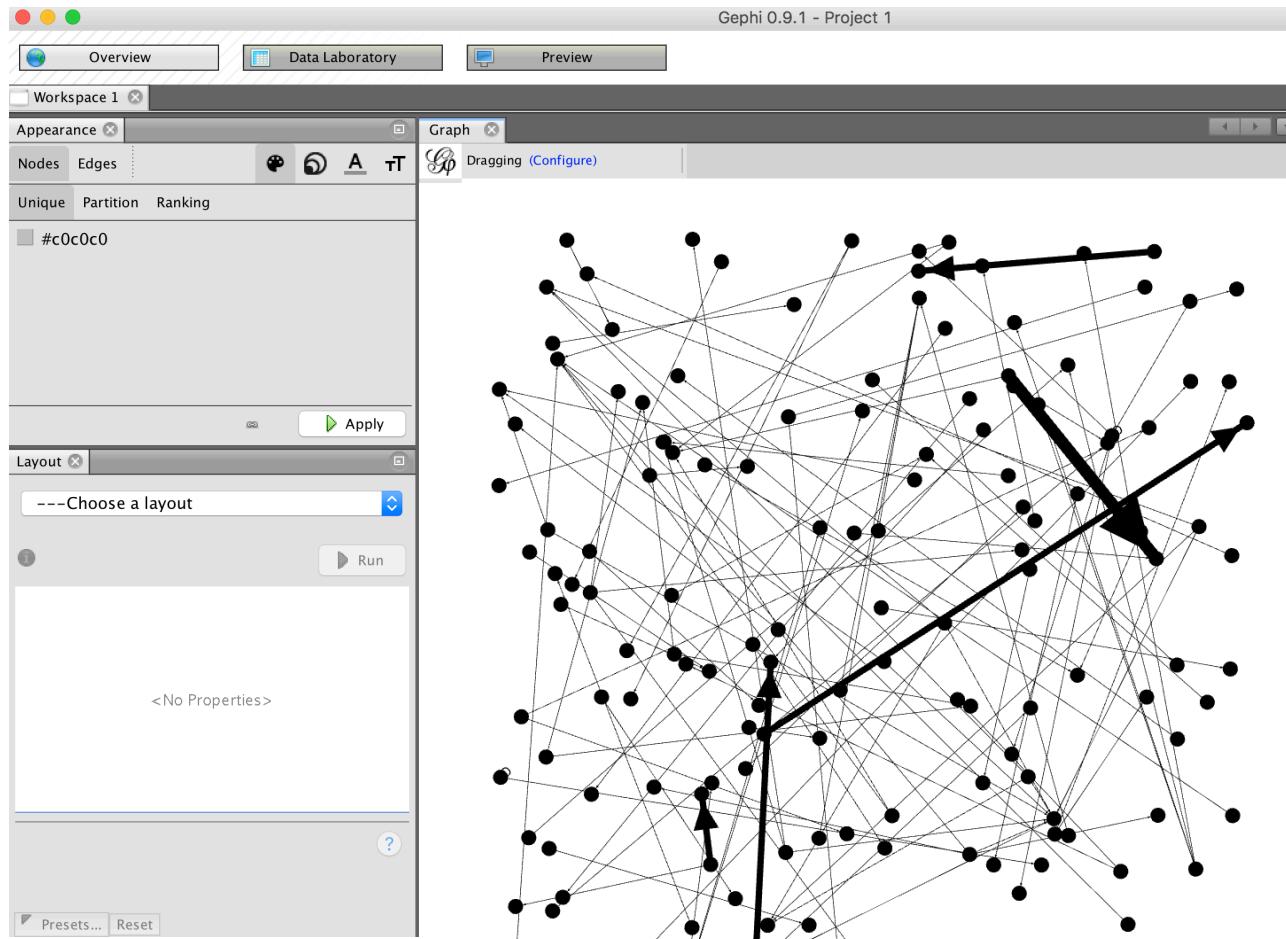
Open the created graph file



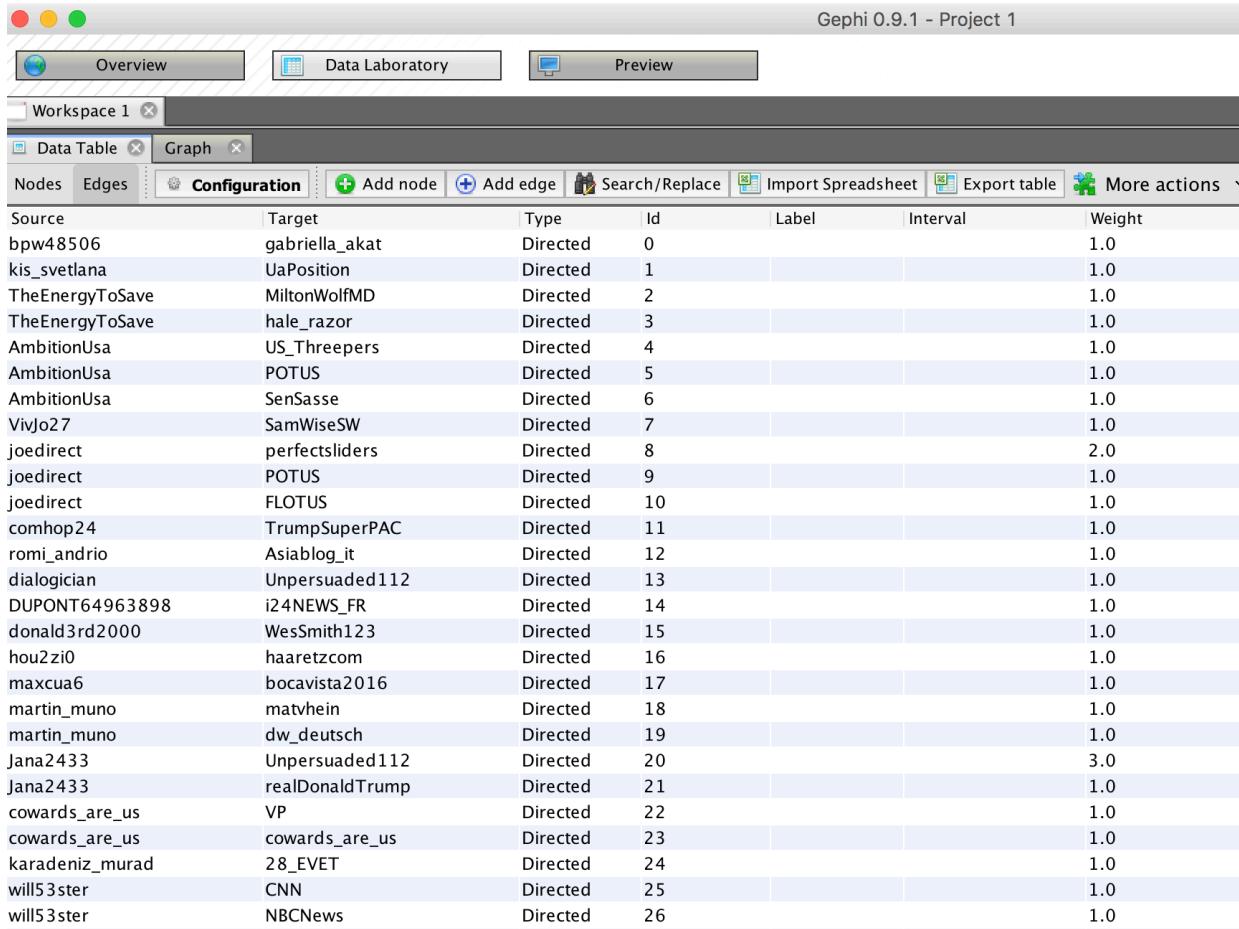
Graph Type: Directed



Visualizing the network



Data Laboratory: Data Table



The screenshot shows the Gephi 0.9.1 software interface with the title bar "Gephi 0.9.1 - Project 1". The top menu bar includes "Overview", "Data Laboratory" (which is selected), and "Preview". Below the menu is a toolbar with icons for "Data Table" (selected), "Graph", "Add node", "Add edge", "Search/Replace", "Import Spreadsheet", "Export table", and "More actions". The main area displays a data table with the following columns: Source, Target, Type, Id, Label, Interval, and Weight. The data consists of 26 rows of directed edges between various nodes, all assigned an ID from 0 to 26 and a weight of 1.0.

Source	Target	Type	Id	Label	Interval	Weight
bpw48506	gabriella_akat	Directed	0			1.0
kis_svetlana	UaPosition	Directed	1			1.0
TheEnergyToSave	MiltonWolfMD	Directed	2			1.0
TheEnergyToSave	hale_razor	Directed	3			1.0
AmbitionUsa	US_Threepers	Directed	4			1.0
AmbitionUsa	POTUS	Directed	5			1.0
AmbitionUsa	SenSasse	Directed	6			1.0
VivJo27	SamWiseSW	Directed	7			1.0
joedirect	perfectsliders	Directed	8			2.0
joedirect	POTUS	Directed	9			1.0
joedirect	FLOTUS	Directed	10			1.0
comhop24	TrumpSuperPAC	Directed	11			1.0
romi_andrio	Asiablog_it	Directed	12			1.0
dialogician	Unpersuaded112	Directed	13			1.0
DUPONT64963898	i24_NEWS_FR	Directed	14			1.0
donald3rd2000	WesSmith123	Directed	15			1.0
hou2zi0	haaretzcom	Directed	16			1.0
maxcua6	bocavista2016	Directed	17			1.0
martin_muno	matvhein	Directed	18			1.0
martin_muno	dw_deutsch	Directed	19			1.0
Jana2433	Unpersuaded112	Directed	20			3.0
Jana2433	realDonaldTrump	Directed	21			1.0
cowards_are_us	VP	Directed	22			1.0
cowards_are_us	cowards_are_us	Directed	23			1.0
karadeniz_murad	28_EVET	Directed	24			1.0
will53ster	CNN	Directed	25			1.0
will53ster	NBCNews	Directed	26			1.0

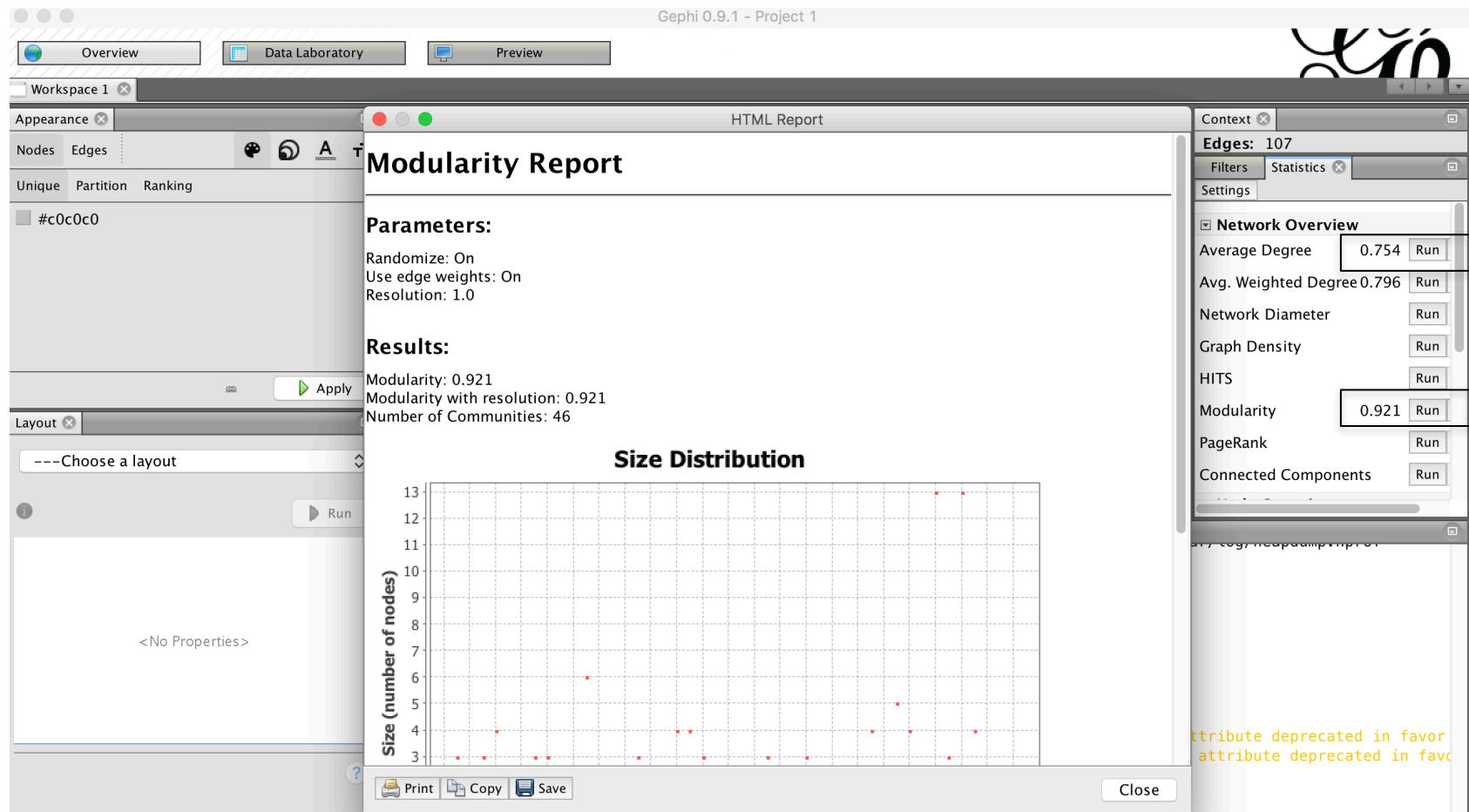


Three common things to visualize from social networks

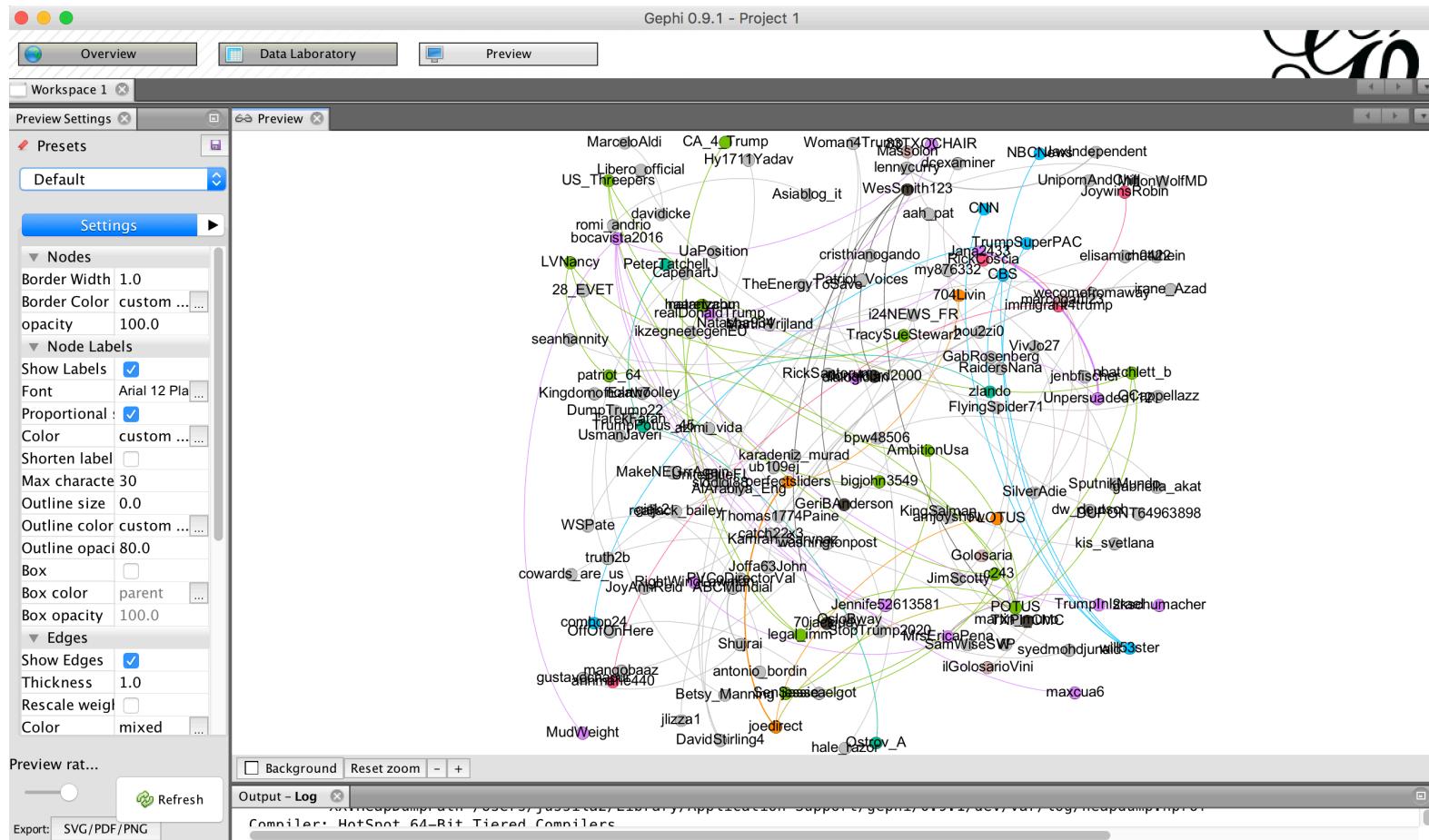
1. Nodes (Size, Partition) – e.g. node by size degree, node partition by modularity
2. Edges
3. Network layout – e.g. force-directed layouts
 - Label Adjust
 - Expansion
 - Etc.



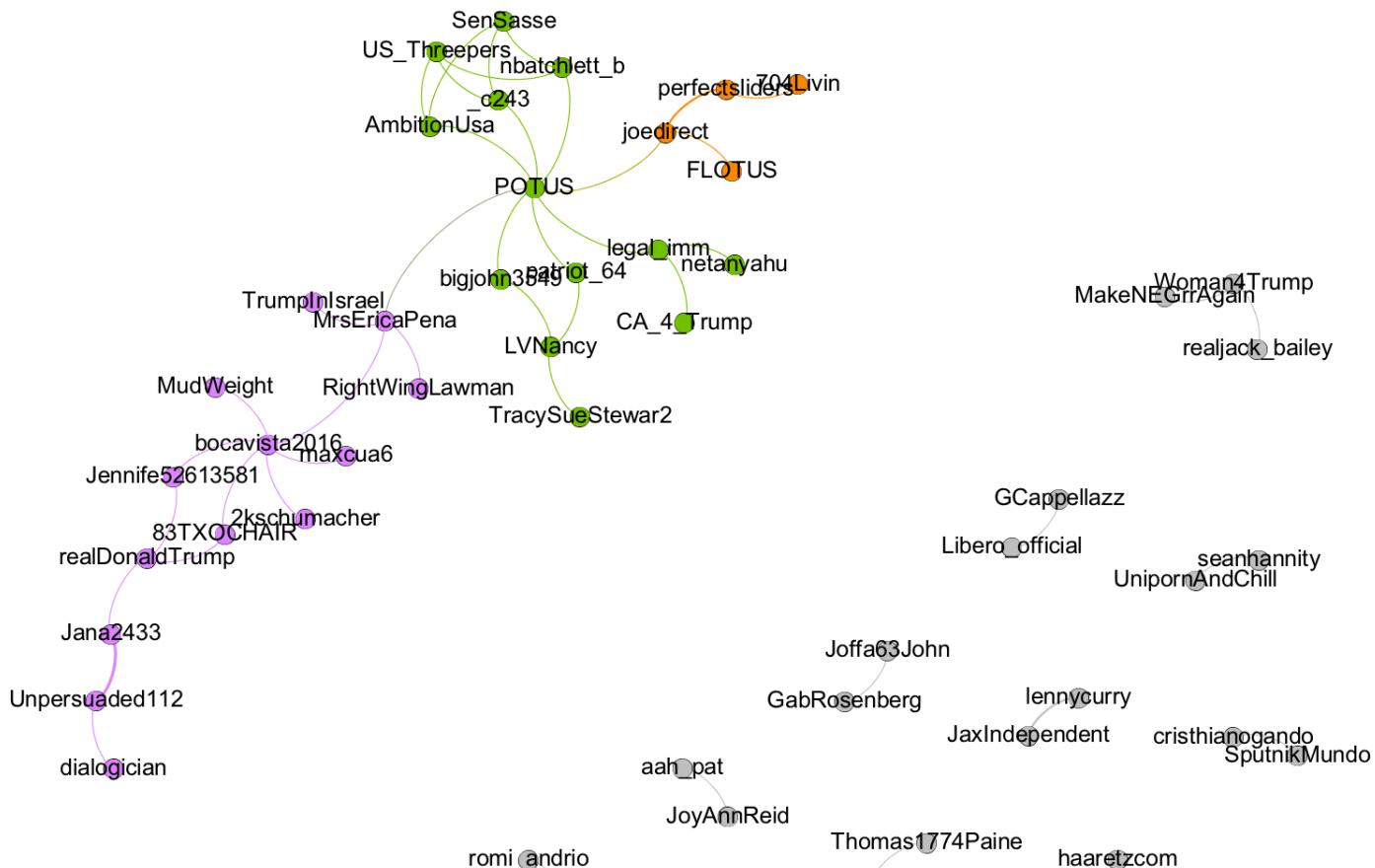
Calculating the Network Metrics



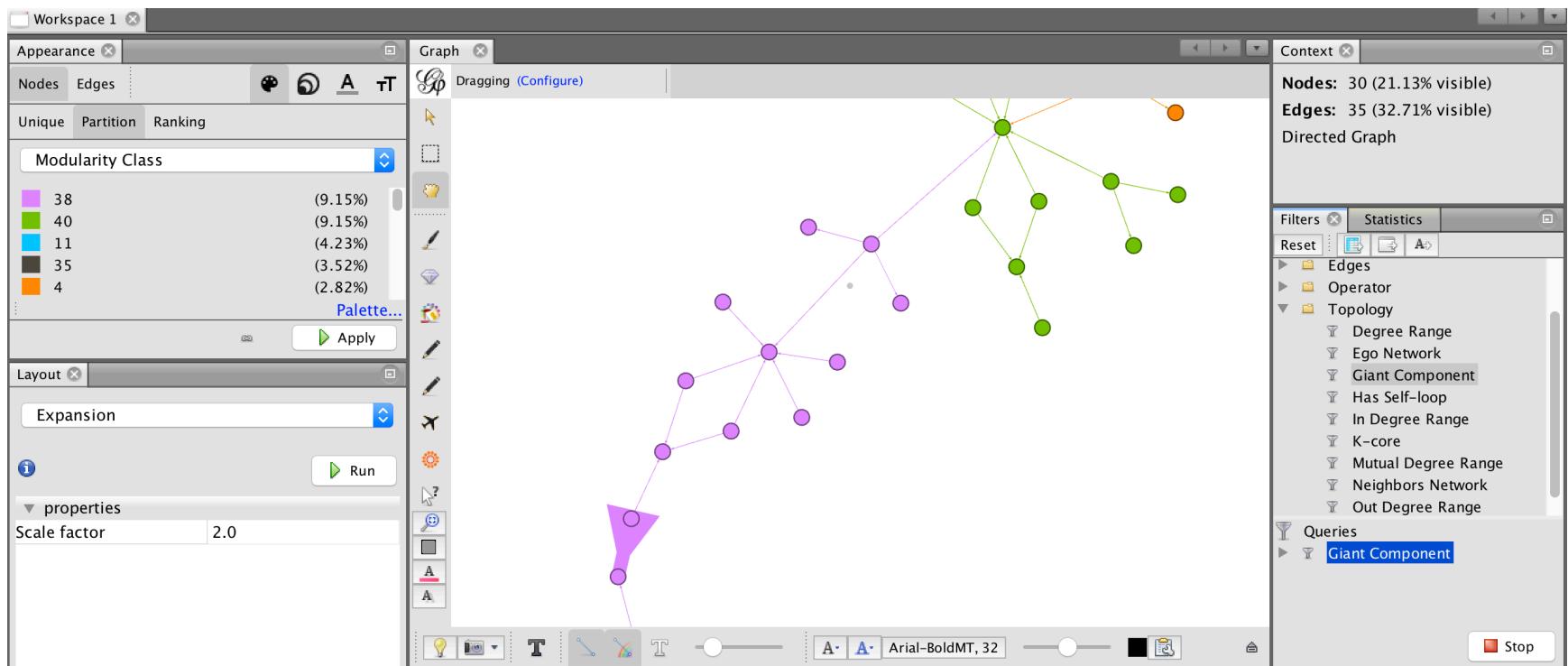
Nodes, e.g. Partition by Modularity



Layout, e.g. Force-directed layout algorithm



Filtered Network: Topology – Giant Component



Only the Connected Nodes

