CS 1656 – Introduction to Data Science

Department of Computer Science – University of Pittsburgh
Instructor: Prof. Alexandros Labrinidis
Teaching Assistant: Phuong Pham – Additional Credits: Zuha Agha, Anatoli Shein

Windows Setup for Graph Databases: Neo4j & Cypher

Step 1: Install neo4j community edition 3.3.0 for your operating system from the link provided below.

https://neo4j.com/download/community-edition/

Step 2: Install official neo4j python driver which allows connecting to a neo4j graph database and run cypher queries from a python program. Type in the command below to install the driver.

```
pip install neo4j-driver
```

There are other python community drivers available as well which can be found at the link below,

https://neo4j.com/developer/python/

Step 3: For this assignment, you will be using a graph database of movies found at the link below:

http://cs1656.org/data/cineasts_12k_movies_50k_actors.zip

Extract the zip file where ever you want. The extracted directory **cineasts_12k_movies_50k_actors.db** can really go anywhere, but I placed it next to the existing default data directory **default.graphdb** in:

C:\Users\aus\Documents\Neo4j\cineasts_12k_movies_50k_actors.db

Step 4: Go to the **\path\to\Neo4j CE 3.3.0\bin** directory and run **neo4j-ce.exe**. The following dialogue will appear:
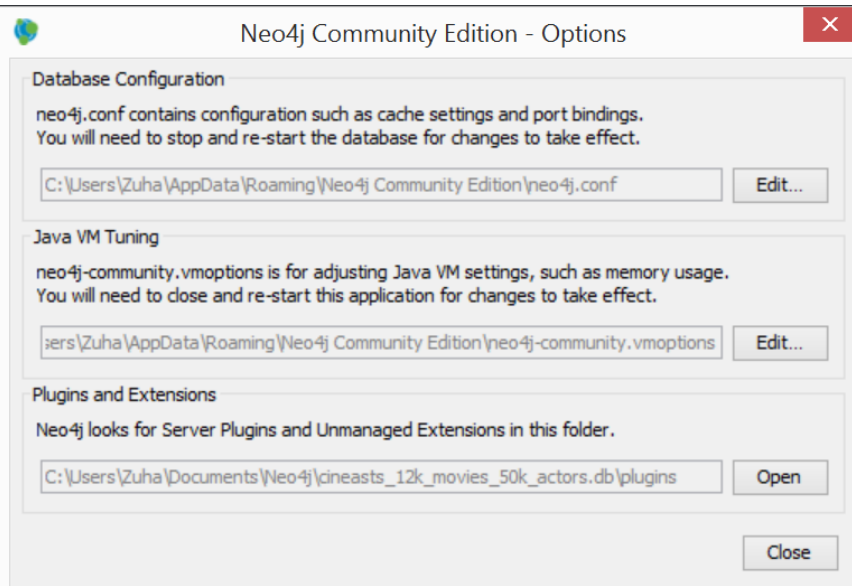
If the server is already running, click on 'Stop' button to stop the server.

Step 5: Click on Choose and select the movie dataset **cineasts_12k_movies_50k_actors.db** that you downloaded and extracted.
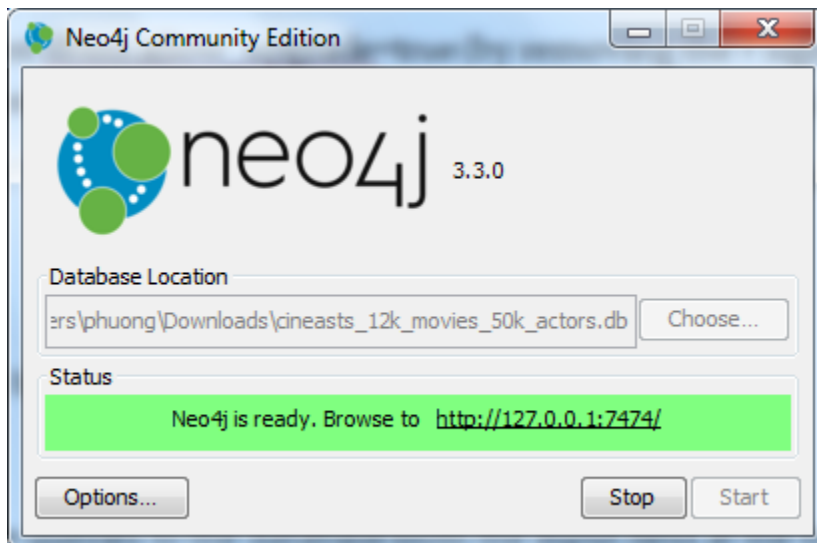

Step 6: Click on 'Options…' button and the following dialogue will appear.

Step 7: Click on 'Edit' button in 'Database configuration' and make the following changes in the configuration file:

- Change dbms.secuirty.auth_enabled = true to false as shown below. This would allow you to the connect to the database without authenticating your username and password every time.
- Uncomment dbms.allow_upgrade=true (by removing the # sign)
- Uncomment dbms.directories.import=import (if it is commented).

Step 8: Click 'Start' button to connect to the database. Once the server is started you will see the following screen:

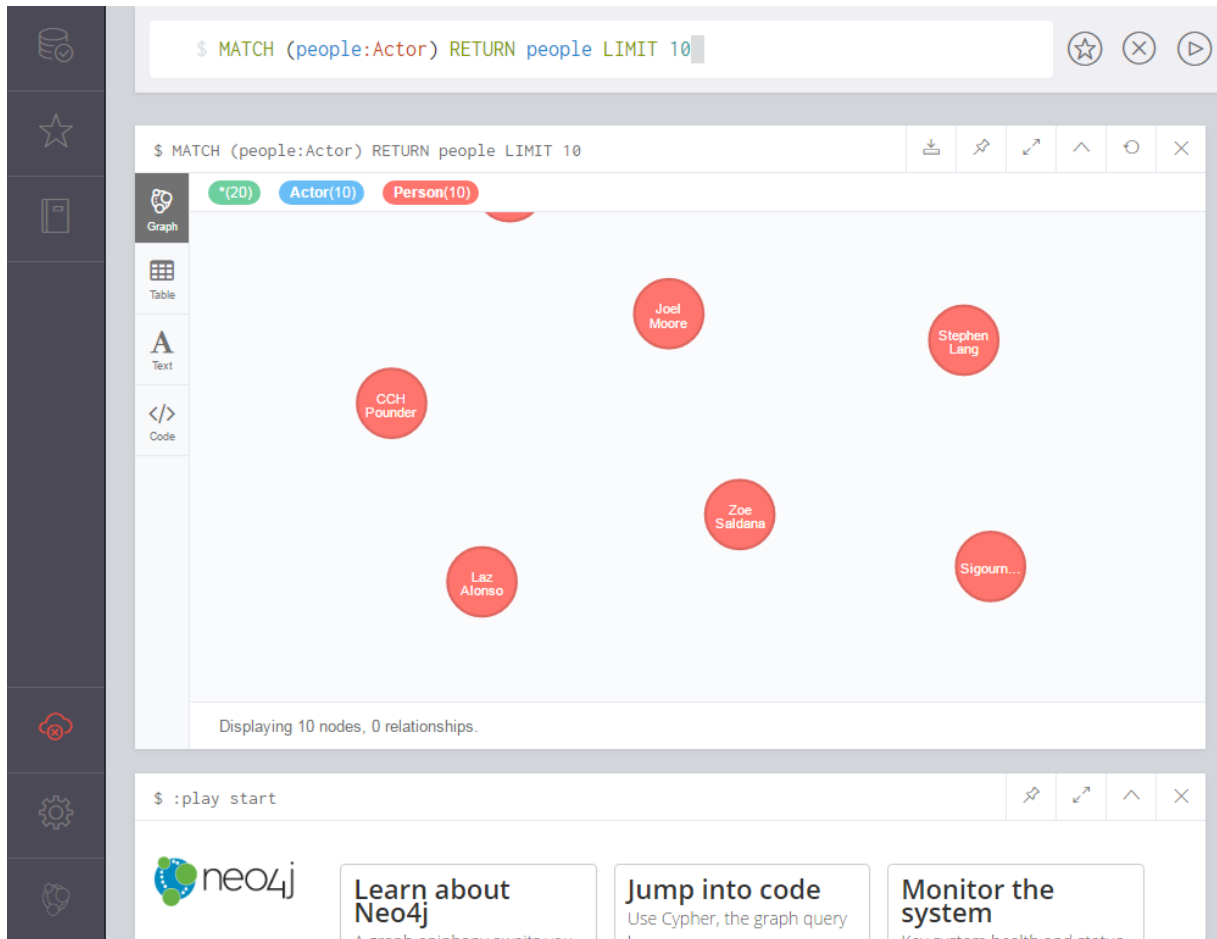**Step 9:** Open your browser to:

Now you can issue queries to the database from the input field at the top of this page.

For example try:

MATCH (people:Actor) RETURN people LIMIT 10

You should see the following screen if it was a success:

Step 10: You can also execute Cypher queries on this Neo4j movie database in python. The sample python program that uses neo4j-driver is provided in **recitation11.py**