COMP1835

Lab 9 Working with Neo4J and Cypher language

Overview:

In order to practice more complicated queries, we need a large data set. Neo4J comes with large data set, called **movies**. It also comes with a few predefined exercises that you can use to practice.
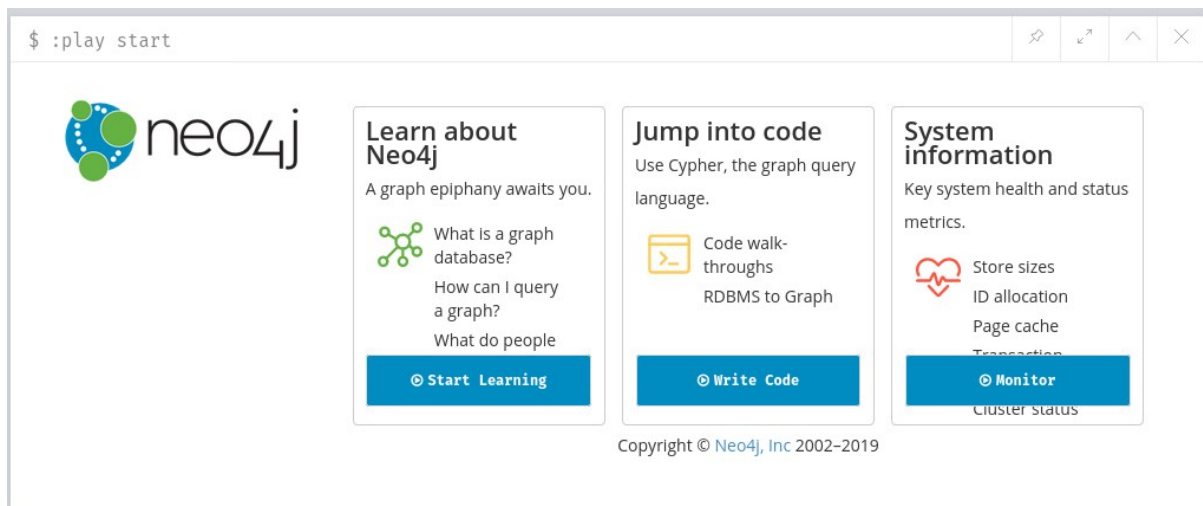
In this lab you will install **movies** data set, use predefined exercises, and then will write your code to produce required outcomes. .

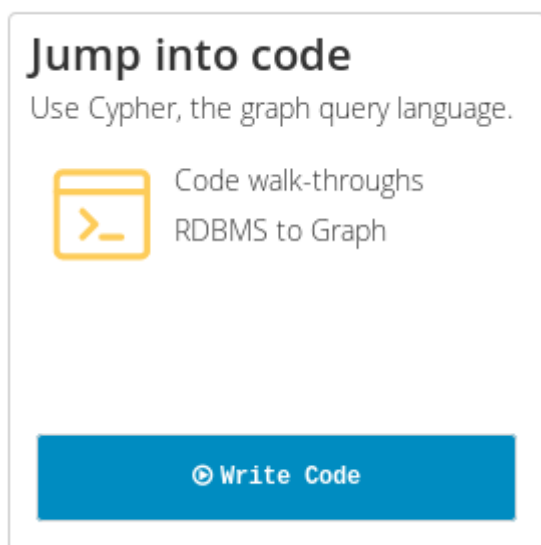You will continue using your second VM- COMP1835-graphdb

Login: **username**=student, **password**=student

Lab 9.1 Installation of the movies data set.

To install movies data set, **re-open** Neo4J Browser to get this pane:

Then click on Write Code button in the section Jump into code:

Then click on **Create a graph** button in **Movie Graph** section

Movie Graph

Actors & movies in cross-referenced pop culture.

A complete example graph.
Demonstrates common query patterns.
Solves the Bacon path!

⊙ Create a graph

On the next screen click on the Next icon:

$:play movie-graph

Movie Graph
Pop-cultural connections between actors and movies

The Movie Graph is a mini graph application containing actors and directors that are related through the movies they've collaborated on.
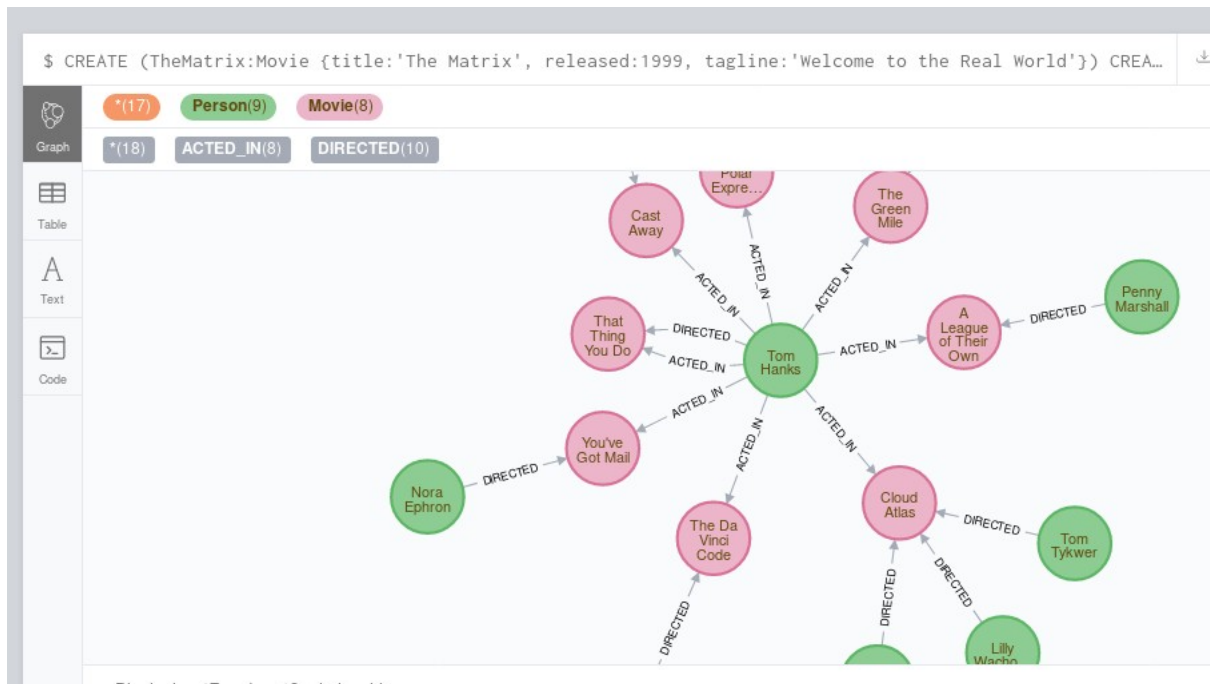
This guide will show you how to:

1. Create: insert movie data into the graph
2. Find: retrieve individual movies and actors
3. Query: discover related actors and directors
4. Solve: the Bacon Path

Then click Play button to load CREATE command for the movies data set into the Editor bar:
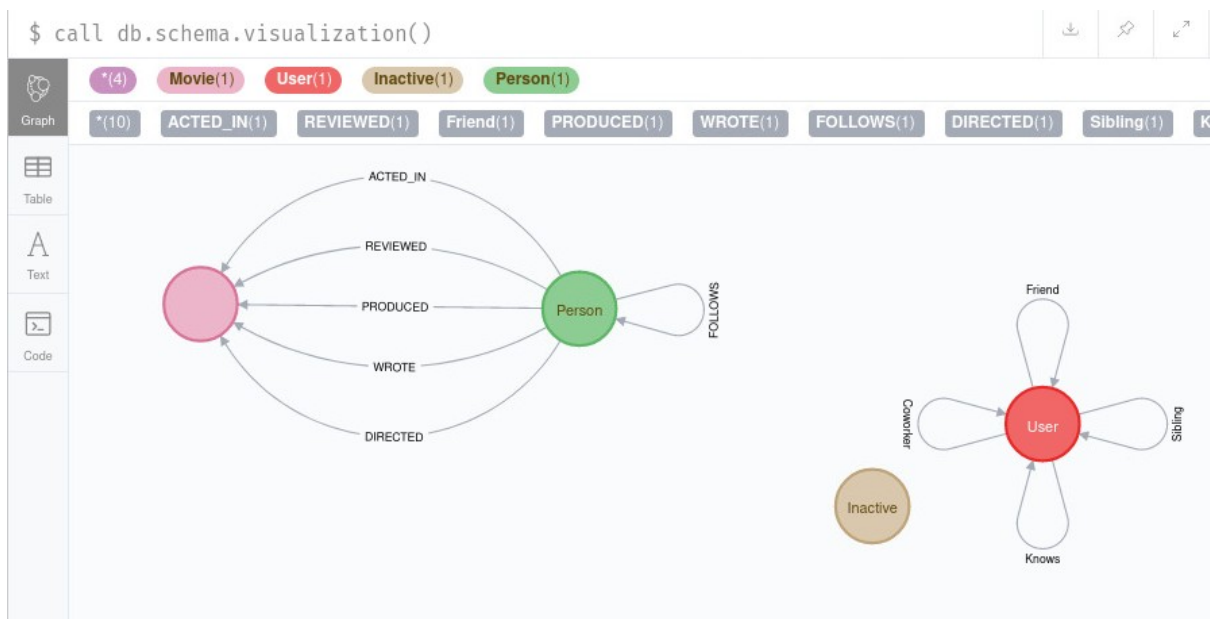


```
⊙ CREATE (TheMatrix:Movie {title:'The Matrix', released:1999,
'})
CREATE (Keanu:Person {name:'Keanu Reeves', born:1964})
CREATE (Carrie:Person {name:'Carrie-Anne Moss', born:1967})
CREATE (Laurence:Person {name:'Laurence Fishburne', born:1961}
CREATE (Hugo:Person {name:'Hugo Weaving', born:1960})
CREATE (LillyW:Person {name:'Lilly Wachowski', born:1967})
CREATE (LanaW:Person {name:'Lana Wachowski', born:1965})
CREATE (JoelS:Person {name:'Joel Silver', born:1952})
CREATE
  (Keanu)-[:ACTED_IN {roles:['Neo']}]->(TheMatrix),
```

And press button Play to execute it

```
        rating:65}]→(TheDaVinciCode),
505  (JessicaThompson)-[:REVIEWED {summary:'You had me at Jerry', rating:92}]→
        (JerryMaguire)
506
507  WITH TomH as a
508  MATCH (a)-[:ACTED_IN]→(m)←[:DIRECTED]-(d) RETURN a,m,d LIMIT 10;
```
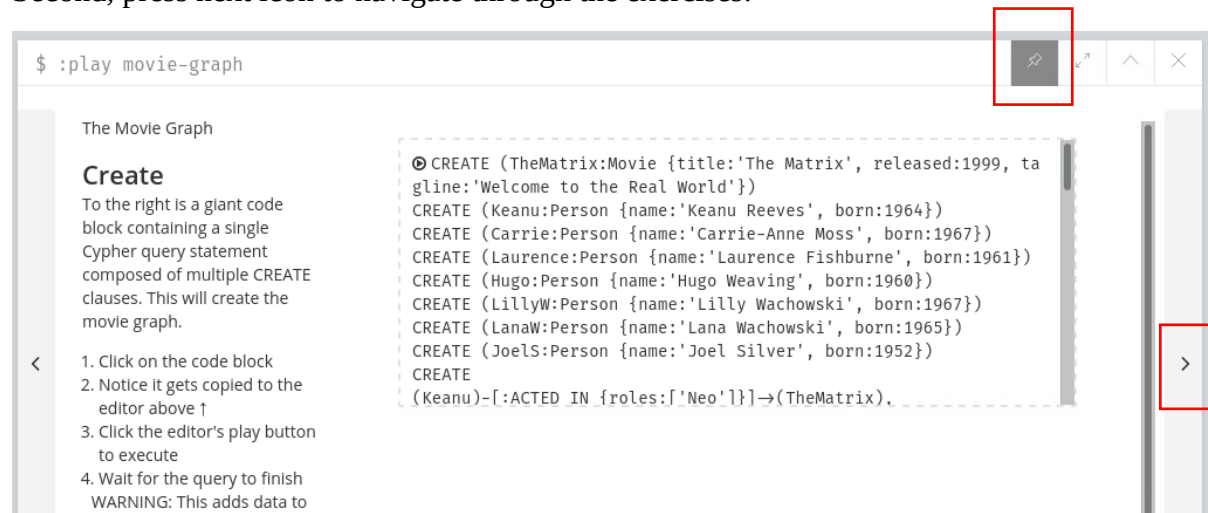

In order to understand better movies data set, investigate its schema:

Now scroll down to return to the previous screen and

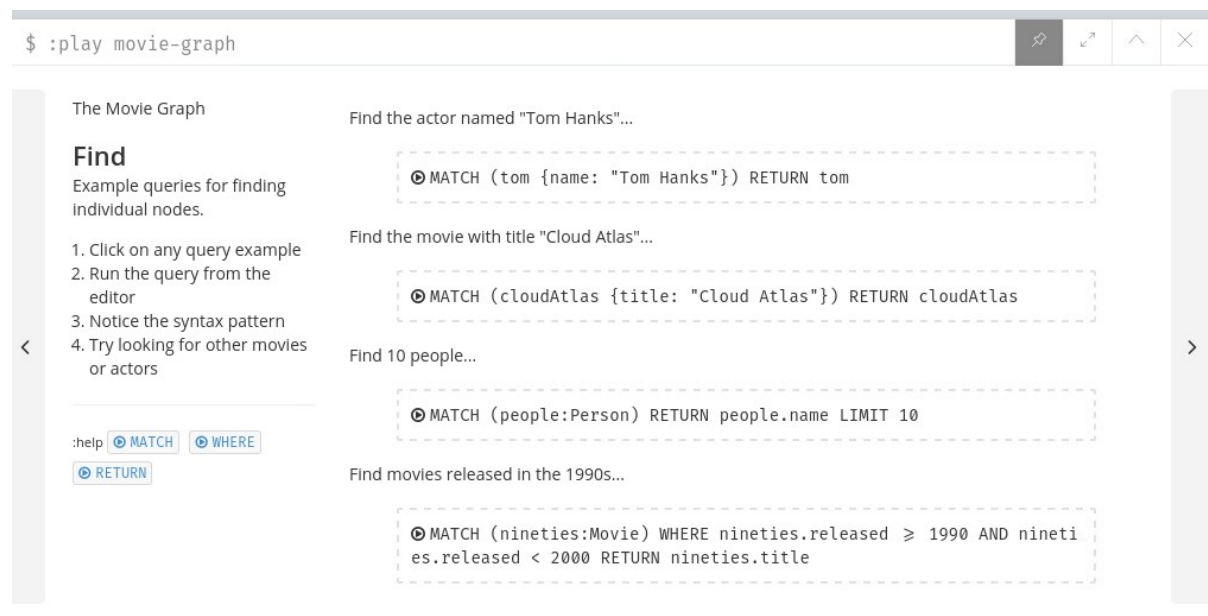First, press pin icon to keep this pane always at the top

Second, press next icon to navigate through the exercises:

Lab 9.2 Performing pre-define exercises.

Next few screens offer you questions and examples of the code that will answer those questions.

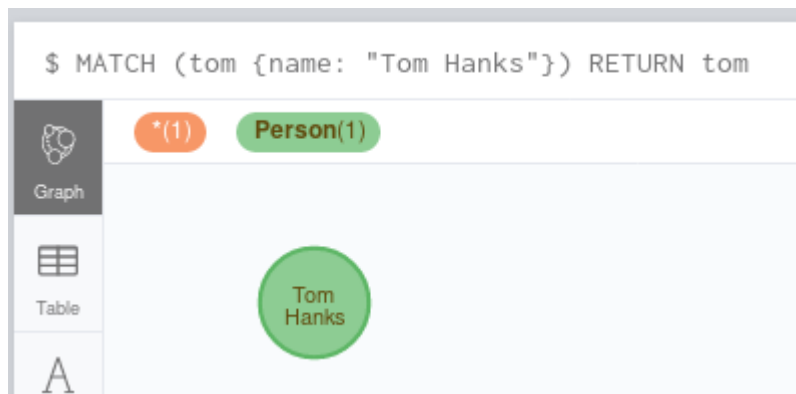**Please make sure you use them all and understand the code!**

Complete all exercises by pressing Play icon next to each exercise to load the command into the Editor bar and then executing it:

1.

Find the actor named "Tom Hanks"...

```
⊙ MATCH (tom {name: "Tom Hanks"}) RETURN tom
```

Your results will be displayed below:

```
$ MATCH (tom {name: "Tom Hanks"}) RETURN tom
```
*(1)   Person(1)

Graph

Table

A

Tom
Hanks

2.

Find the movie with title "Cloud Atlas"...

```
⊙ MATCH (cloudAtlas {title: "Cloud Atlas"}) RETURN cloudAtlas
```

```
$ MATCH (cloudAtlas {title: "Cloud Atlas"}) RETURN cloudAtlas
```
*(1)   Movie(1)

Graph

Table

A
Text

Cloud
Atlas

3.

Find 10 people...

```
⊙ MATCH (people:Person) RETURN people.name LIMIT 10
```

4.

Find movies released in the 1990s...

```
⊙ MATCH (nineties:Movie) WHERE nineties.released >= 1990 AND nineties.released < 2000 RETURN nineti
es.title
```

Navigate to the next set of exercises:

List all Tom Hanks movies...

```
⊙ MATCH (tom:Person {name: "Tom Hanks"})-[:ACTED_IN]→(tomHanksMov
ies) RETURN tom,tomHanksMovies
```

Who directed "Cloud Atlas"?

```
⊙ MATCH (cloudAtlas {title: "Cloud Atlas"})←[:DIRECTED]-(director
s) RETURN directors.name
```

Tom Hanks' co-actors...

```
⊙ MATCH (tom:Person {name:"Tom Hanks"})-[:ACTED_IN]→(m)←[:ACTED_
IN]-(coActors) RETURN coActors.name
```
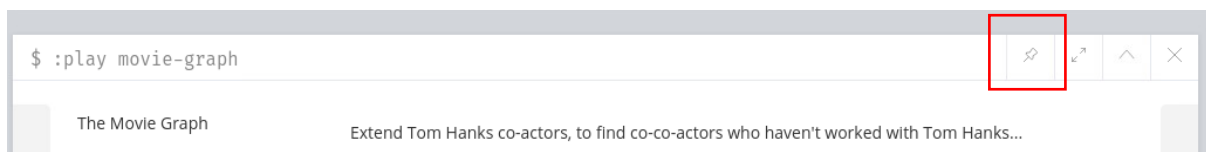
How people are related to "Cloud Atlas"...

Navigate to the next set of the exercises and complete all 6 out 8

6 / 8   ‹ • • • • • • • • • ›

Now un-pin this screen, as we do not need it at the top anymore:

```
$ :play movie-graph
```

The Movie Graph   Extend Tom Hanks co-actors, to find co-co-actors who haven't worked with Tom Hanks...

Lab 9.3. Find more information in movies graph.

Now, that you had a bit of a practice, answer the following questions by performing appropriate queries. Use lecture notes and Quiz notes for guidance:

1. How many actors do you have in your database? You should get 133.

actors

A — 133
Text

Code

2. How many movies do you have in your database? You should get 38:

movies

A — 38
Text

3. Now return the titles of all these 38 movies, sorted in alphabetic order by their title:

movies

"A Few Good Men"

"A League of Their Own"

"Apollo 13"

"As Good as It Gets"

"Bicentennial Man"

"Cast Away"

"Charlie Wilson's War"

"Cloud Atlas"

"Frost/Nixon"

4. List the titles of all movies with Tom Cruise. You should get this:

5. Find all actors who were also in the same movies as Tom Cruise. You should have 24 records:

Started streaming 24 records a

6. Find the title of the movie where Tom Cruise and Val Kilmer were together. You should get this:

Started streaming 1 records a

7. How many movies Meg Ryan was in? Return just the total number of the movies. You should get 5:

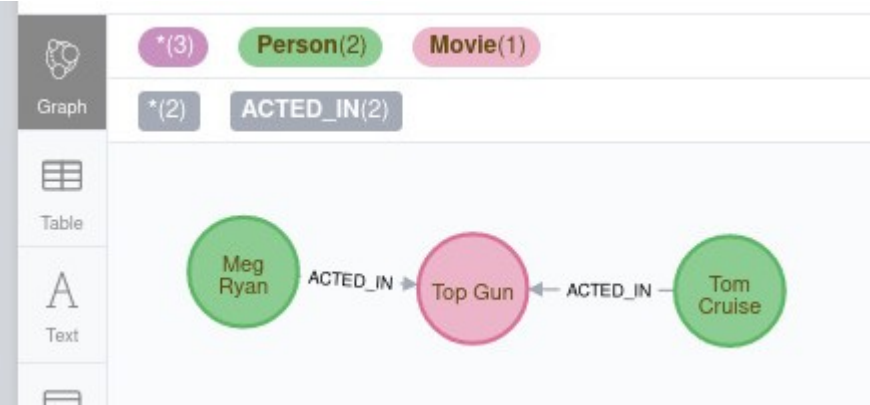6. What is the shortest path between Meg Ryan and Tom Cruise.

7. Display all movie titles and the names of all actors in those movies that have been directed by Lana Wachowski. You should get 24 records like these:

Director	movie	actors
"Lana Wachowski"	"The Matrix"	"Emil Eifrem"
"Lana Wachowski"	"The Matrix"	"Keanu Reeves"
"Lana Wachowski"	"The Matrix"	"Carrie-Anne Moss"
"Lana Wachowski"	"The Matrix"	"Laurence Fishburne"
"Lana Wachowski"	"The Matrix"	"Hugo Weaving"
"Lana Wachowski"	"The Matrix Reloaded"	"Hugo Weaving"
"Lana Wachowski"	"The Matrix Reloaded"	"Keanu Reeves"
"Lana Wachowski"	"The Matrix Reloaded"	"Laurence Fishburne"
"Lana Wachowski"	"The Matrix Reloaded"	"Carrie-Anne Moss"

8. Find all movies, that have been directed by more than 1 director. Display the titles of these movies and the number of the directors for each.

movie	number_of_directors
"The Matrix"	2
"The Matrix Reloaded"	2
"The Matrix Revolutions"	2
"Cloud Atlas"	3
"Speed Racer"	2

Started streaming 5 records after 2 ms and completed after 2 ms.