

Neo4j

Steps to create Neo4j database:

Neo4j can be downloaded from <https://neo4j.com/download/>

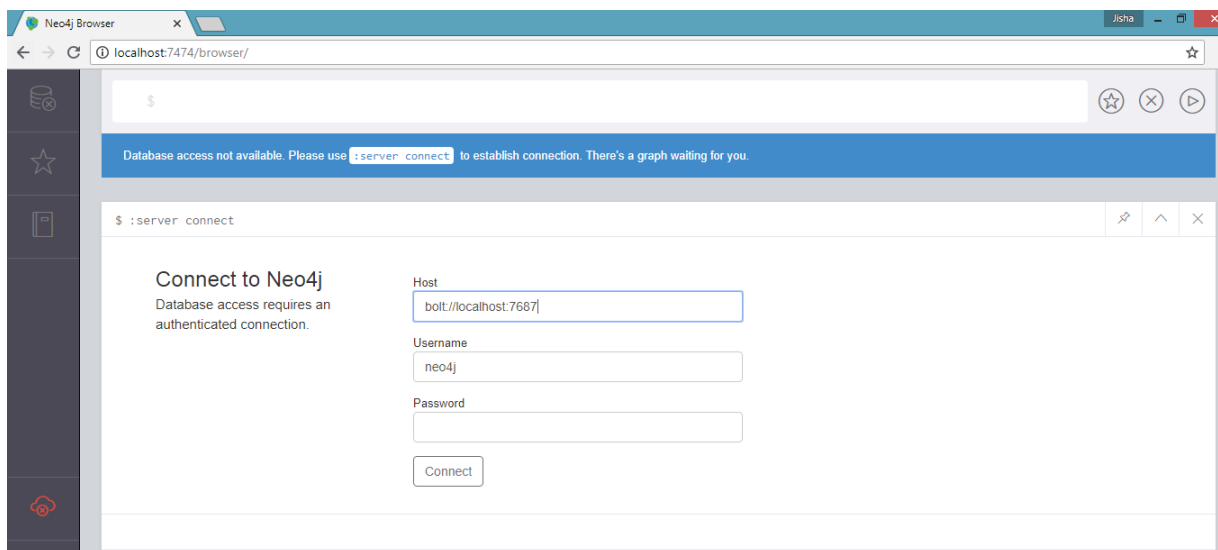
I downloaded the Community Edition and ran the installer.

1] Ran Neo4j as a console application

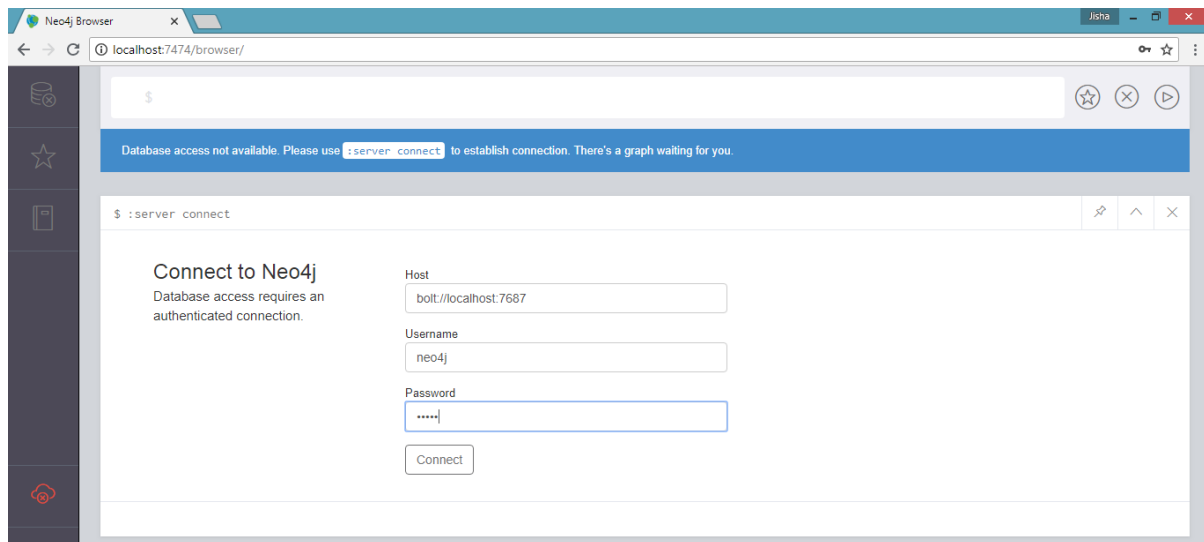
```
C:\Users\Jisha Uarghese\Downloads\neo4j-community-3.4.4-windows\neo4j-community-3.4.4\bin>neo4j.bat console

2018-07-15 05:38:15.364+0000 INFO  ===== Neo4j 3.4.4 =====
2018-07-15 05:38:15.527+0000 INFO  Starting...
2018-07-15 05:38:34.434+0000 INFO  Bolt enabled on 127.0.0.1:7687.
2018-07-15 05:38:49.577+0000 INFO  Started.
2018-07-15 05:38:56.160+0000 WARN  Low configured threads: <max=<> - required=<>
>=<> < warnAt=<> for <>
2018-07-15 05:38:56.256+0000 INFO  Remote interface available at http://localhost:7474/
```

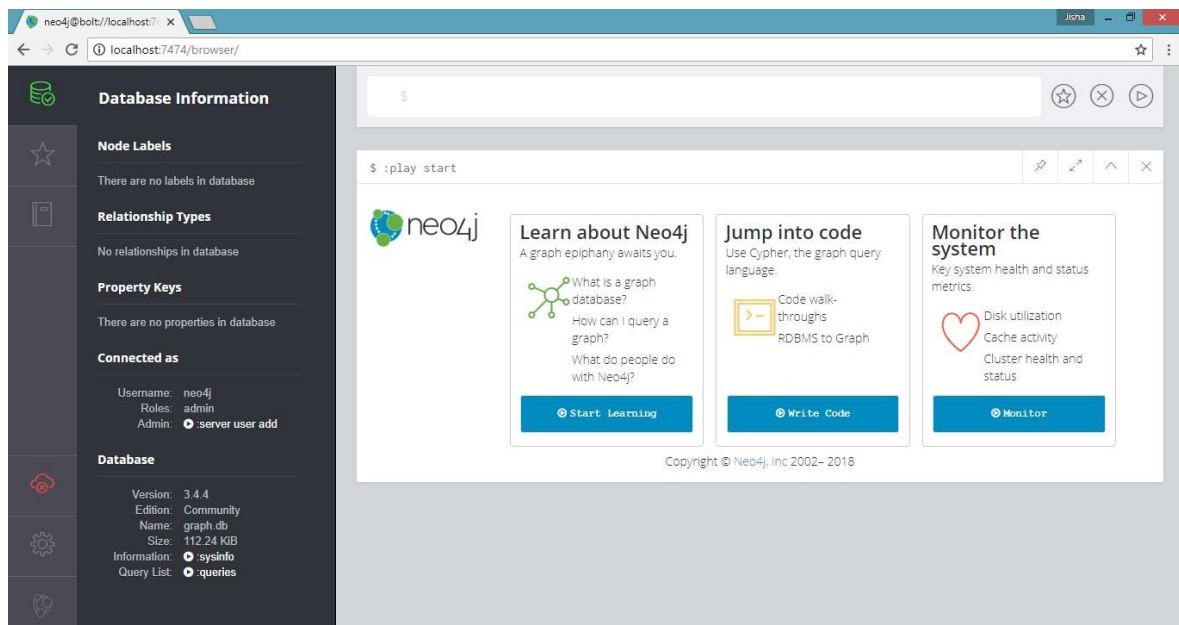
2] Accessed <http://localhost:7474> in the web browser.

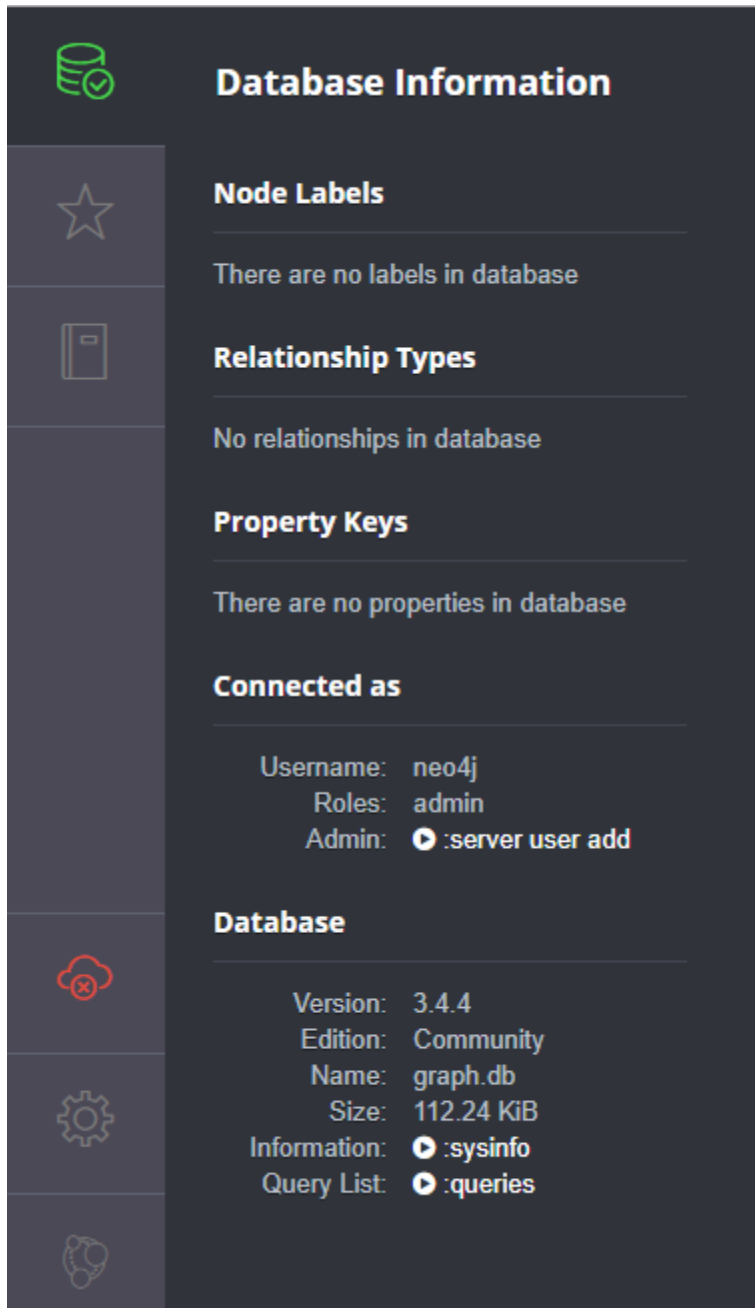


3] Connected to Neo4j using the username 'neo4j' with default password 'neo4j'. Then was prompted to change the password.



4]Then after connecting with the new credentials got the following:





The screenshot displays the Neo4j Desktop interface. On the left is a sidebar with icons for Database Information (green database icon), Node Labels (star icon), Relationship Types (book icon), Property Keys (key icon), Connected as (cloud icon with a red 'x'), Database (gear icon), and Query List (headset icon). The main panel is titled 'Database Information' and contains several sections: 'Node Labels' (empty), 'Relationship Types' (empty), 'Property Keys' (empty), 'Connected as' (showing user 'neo4j' with roles 'admin' and 'server user add'), and 'Database' (showing version '3.4.4', edition 'Community', name 'graph.db', size '112.24 KiB', and links for 'sysinfo' and 'queries').

Database Information

Node Labels

There are no labels in database

Relationship Types

No relationships in database

Property Keys

There are no properties in database

Connected as

Username: neo4j
Roles: admin
Admin: [:server user add](#)

Database

Version: 3.4.4
Edition: Community
Name: graph.db
Size: 112.24 KiB
Information: [:sysinfo](#)
Query List: [:queries](#)

5] Then populated the following data:

```
CREATE (Mark:Doctor {doc_id:1,name:'Mark  
Steven',speciality:'Nephrologist',sex:'Male',phonenumber:91923456  
78}) CREATE (Jane:Doctor {doc_id:2,name:'Jane  
Philip',speciality:'Cadiologist',sex:'Female',phonenumber:91909856  
7}) CREATE (Ronit:Doctor {doc_id:3,name:'Ronit  
Ray',speciality:'Dermatologist',sex:'Male',phonenumber:919578902  
3}) CREATE (Jude:Doctor {doc_id:4,name:'Jude  
Thomas',speciality:'Oncologist',sex:'Male',phonenumber:919786435  
6}) CREATE (Joan:Doctor {doc_id:5,name:'Joan  
Thomas',speciality:'Neurologist',sex:'Female',phonenumber:919916  
0428})
```

```

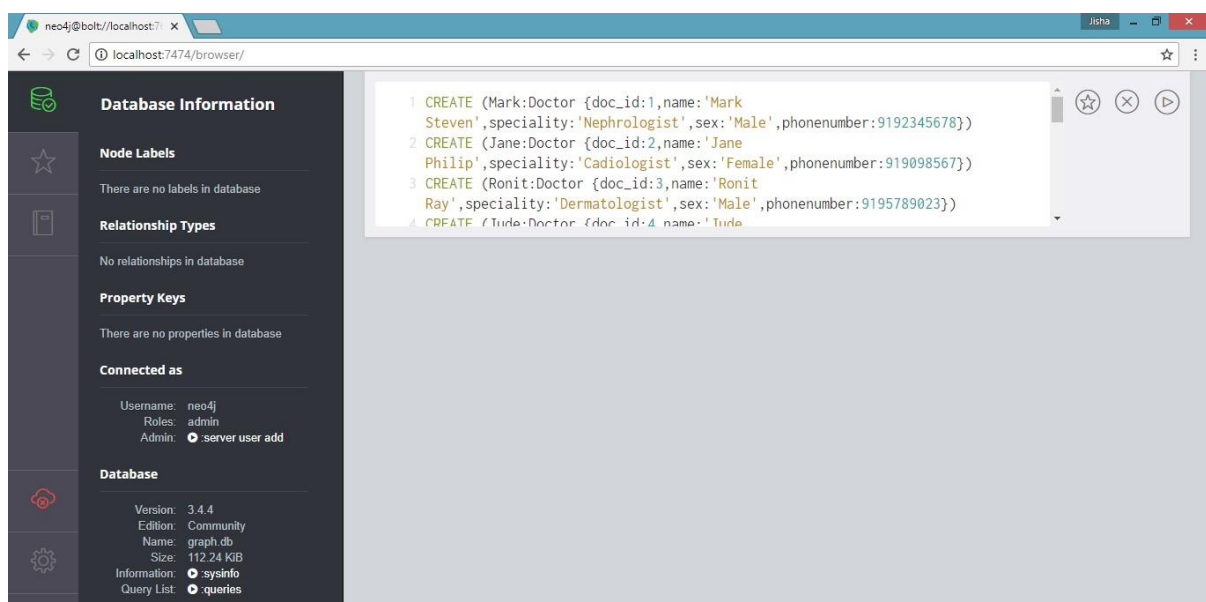
CREATE (Jack:Patient {patient_id:'p001',name:'Jack Jay',sex:'Male',address:'24
Central Lane',phonenummer:9074567890,age:28})
CREATE (Judith:Patient {patient_id:'p002',name:'Judith Matthew',sex:'Male',address:'108
Kingsway Lane',phonenummer:9074567890,age:38})
CREATE (Philip:Patient {patient_id:'p003',name:'Philip
Thomas',sex:'Male',address:'Miami Blvd',phonenummer:9074567890,age:56})
CREATE (John:Patient {patient_id:'p004',name:'John
Peter',sex:'Male',address:'M.B. Town',phonenummer:9074567890,age:40})
CREATE (Jill:Patient {patient_id:'p005',name:'Jill Peter',sex:'Female',address:'3606
Cornwallis road',phonenummer:9074567890,age:25})

```

```

CREATE
(Mark)-[:TREATED {procedure:['Dialysis access insertion']}]>
>(Jack), (Jane)-[:TREATED {procedure:['Echocardiogram']}]>
>(Judith), (Jane)-[:TREATED {procedure:['Angioplasty']}]>
>(Philip),
(Ronit)-[:TREATED {procedure:['Laser Hair Removal']}]>
>(John), (Jude)-[:TREATED
{procedure:['Chemotherapy']}]>(John), (Joan)-
[:TREATED {procedure:['Electromyography']}]>(Jill)

```



neo4j@bolt://localhost:7... X Jisha

localhost:7474/browser/

Database Information

Node Labels

There are no labels in database

Relationship Types

No relationships in database

Property Keys

There are no properties in database

Connected as

Username: neo4j
Roles: admin
Admin: server user add

Database

Version: 3.4.4
Edition: Community
Name: graph.db
Size: 112.24 KiB
Information: sysinfo
Query List: queries

```
4 CREATE (Jude:Doctor {doc_id:4,name:'Jude
Thomas',speciality:'Oncologist',sex:'Male',phonenumber:9197864356})
5 CREATE (Joan:Doctor {doc_id:5,name:'Joan
Thomas',speciality:'Neurologist',sex:'Female',phonenumber:9199160428})
6
7 CREATE (Jack:Patient {patient_id:'p001',name:'Jack
Jav',sex:'Male',address:'24 Central Lane',phonenumber:9074567890.age:28})
```

neo4j@bolt://localhost:7... X Jisha

localhost:7474/browser/

Database Information

Node Labels

There are no labels in database

Relationship Types

No relationships in database

Property Keys

There are no properties in database

Connected as

Username: neo4j
Roles: admin
Admin: server user add

Database

Version: 3.4.4
Edition: Community
Name: graph.db
Size: 112.24 KiB
Information: sysinfo
Query List: queries

```
7 CREATE (Jack:Patient {patient_id:'p001',name:'Jack
Jay',sex:'Male',address:'24 Central Lane',phonenumber:9074567890,age:28})
8 CREATE (Judith:Patient {patient_id:'p002',name:'Judith
Matthew',sex:'Male',address:'108 Kingsway
Lane',phonenumber:9074567890,age:38})
9 CREATE (Philip:Patient {patient_id:'p003',name:'Philip
Thomas',sex:'Male',address:'108 Kingsway
Lane',phonenumber:9074567890,age:38})
```

neo4j@bolt://localhost:7

localhost:7474/browser/

Database Information

Node Labels

Relationship Types

Property Keys

Connected as

Database

There are no labels in database

No relationships in database

There are no properties in database

Username: neo4j
Roles: admin
Admin: server user add

Version: 3.4.4
Edition: Community
Name: graph.db
Size: 112.24 KiB
Information: sysinfo
Query List: queries

```
9 CREATE (Philip:Patient {patient_id:'p003',name:'Philip
Thomas',sex:'Male',address:'Miami Blvd',phonenumber:9074567890,age:56})
10 CREATE (John:Patient {patient_id:'p004',name:'John
Peter',sex:'Male',address:'M.B. Town',phonenumber:9074567890,age:40})
11 CREATE (Jill:Patient {patient_id:'p005',name:'Jill
Peter',sex:'Female',address:'3606 Cornwallis
road', phonenumber:9074567890, age:25})
```

neo4j@bolt://localhost:7

localhost:7474/browser/

Database Information

Node Labels

Relationship Types

Property Keys

Connected as

Database

There are no labels in database

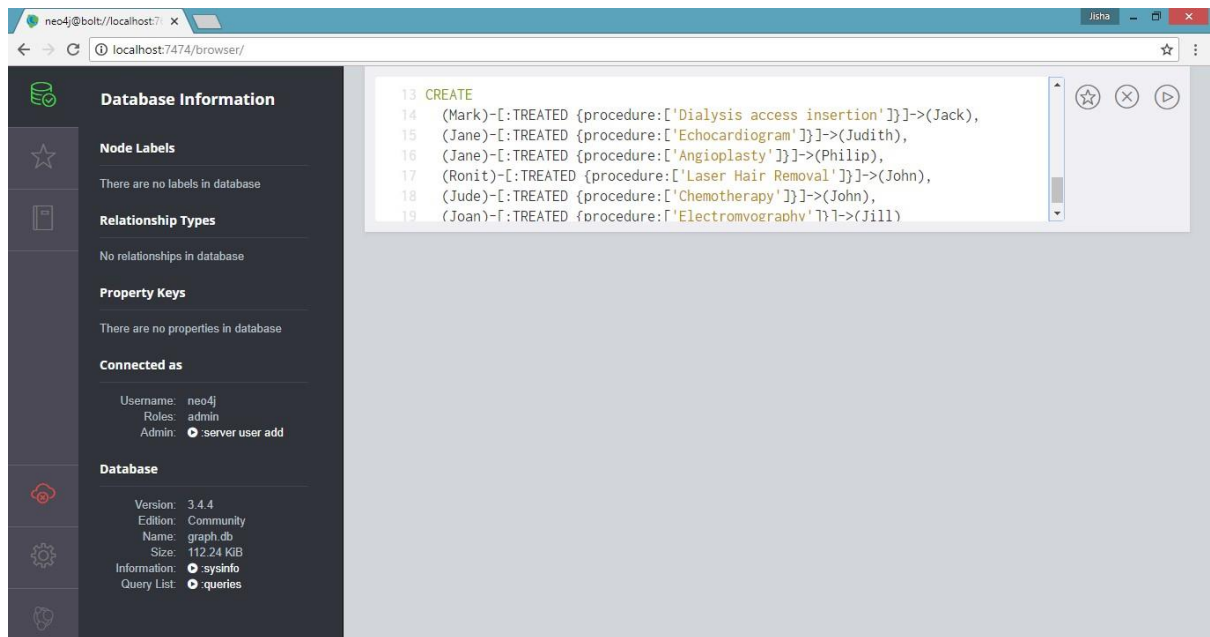
No relationships in database

There are no properties in database

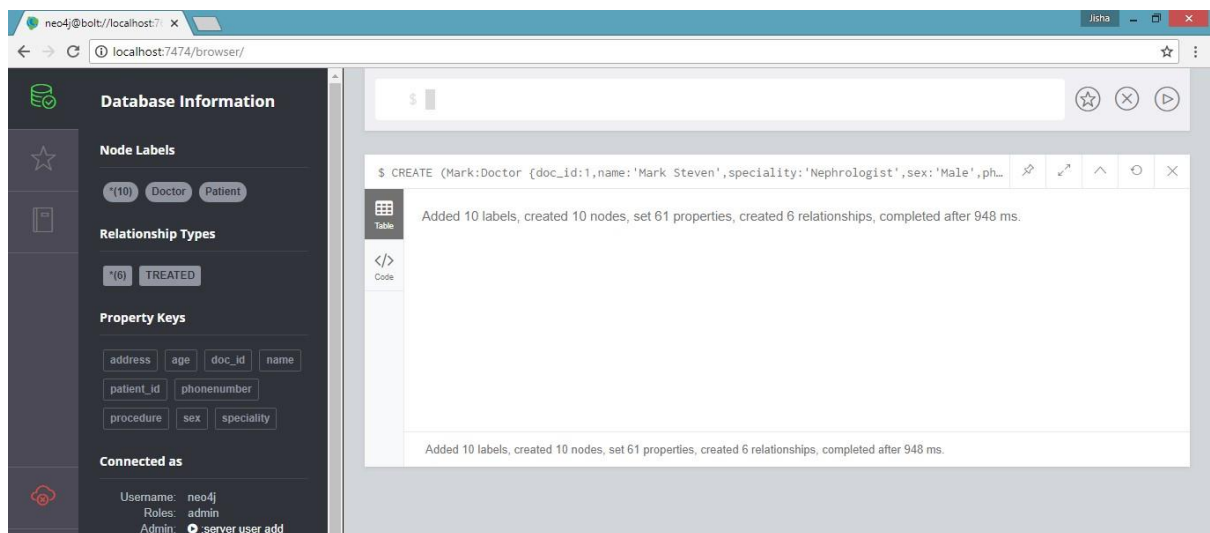
Username: neo4j
Roles: admin
Admin: server user add

Version: 3.4.4
Edition: Community
Name: graph.db
Size: 112.24 KiB
Information: sysinfo
Query List: queries


```
11 CREATE (Jill:Patient {patient_id:'p005',name:'Jill
Peter',sex:'Female',address:'3606 Cornwallis
road', phonenumber:9074567890,age:25})
12
13 CREATE
14 (Mark)-[:TREATED {procedure:['Dialysis access insertion']}]>(Jack),
15 (Jane)-[:TREATED {procedure:['Echocardiogram']}]>(Judith)
```




6] Clicked on the Play button and got the result as follows:



7] Finally the Neo4j database details are as shown below:




Database Information




Node Labels

*(10) Doctor Patient



Relationship Types


*(6) TREATED




Property Keys


address age doc_id name patient_id phonenumber procedure sex speciality



Connected as

Username: neo4j
Roles: admin
Admin:  :server user add



Database

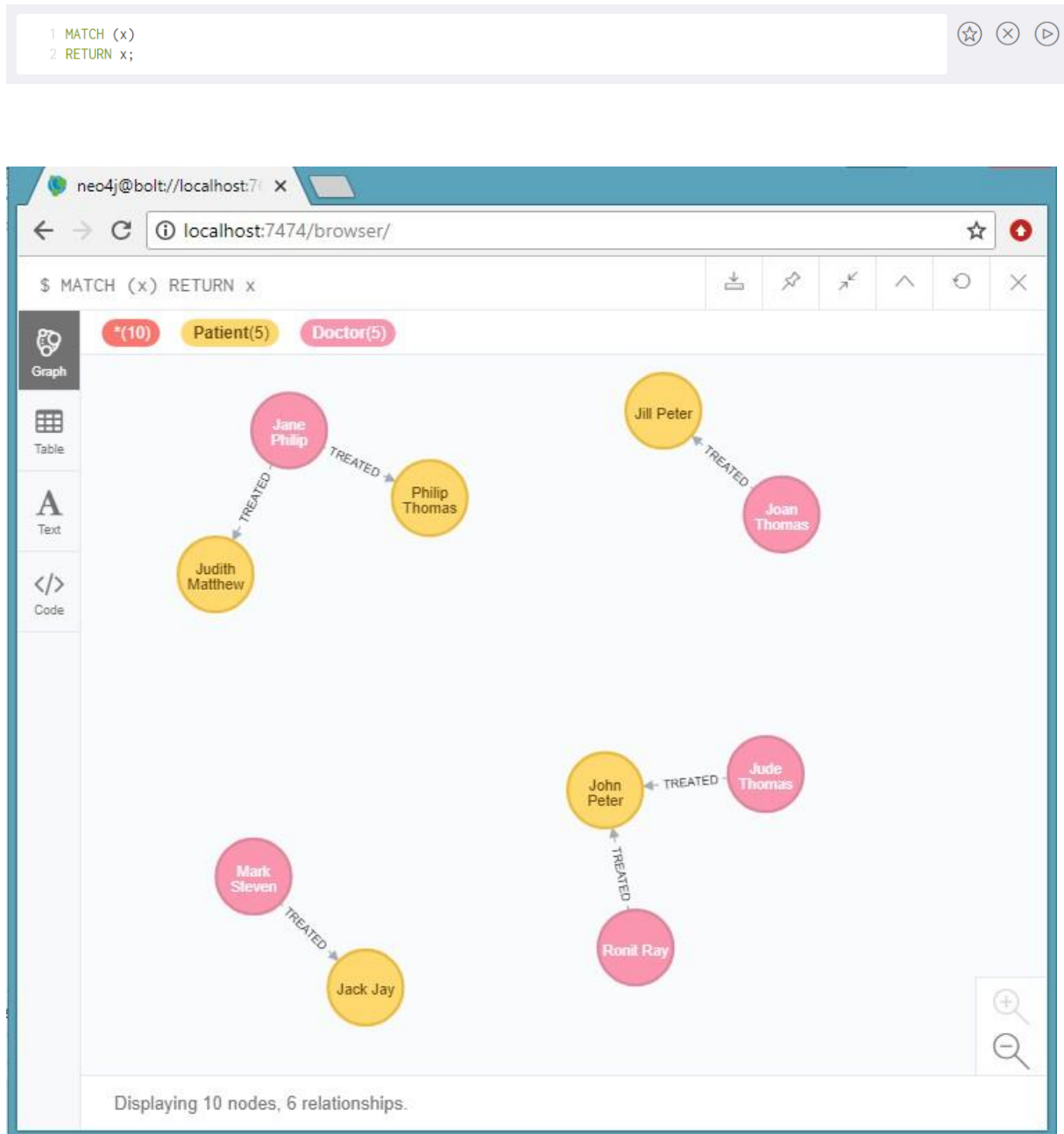


Version: 3.4.4
Edition: Community
Name: graph.db
Size: 118.06 KiB
Information:  :sysinfo
Query List:  :queries

Queries

1] MATCH (x)
RETURN x;

Screenshot:



2] MATCH (patient:Patient)
RETURN patient.name as Name,patient.age as Age
ORDER BY patient.age;

Screenshot:

```
1 MATCH (patient:Patient)
2 RETURN patient.name as Name,patient.age as Age
3 ORDER BY patient.age;
```

\$ MATCH (patient:Patient) RETURN patient.name as Name,patient.age as Age ORDER BY patient.age

Name	Age
"Jill Peter"	25
"Jack Jay"	28
"Judith Matthew"	38
"John Peter"	40
"Philip Thomas"	56

Started streaming 5 records after 143 ms and completed after 144 ms.

3] MATCH (doctor:Doctor)-[:TREATED]->(patient:Patient)
RETURN doctor.name as Doctor,patient.name as Patient
SKIP 1 LIMIT 2;

Screenshot:

```
1 MATCH (doctor:Doctor)-[:TREATED]->(patient:Patient)
2 RETURN doctor.name as Doctor,patient.name as Patient
3 SKIP 1 LIMIT 2;
```

\$ MATCH (doctor:Doctor)-[:TREATED]->(patient:Patient) RETURN doctor.name as Doctor,patient.name as Patient SKIP 1 LIMIT 2

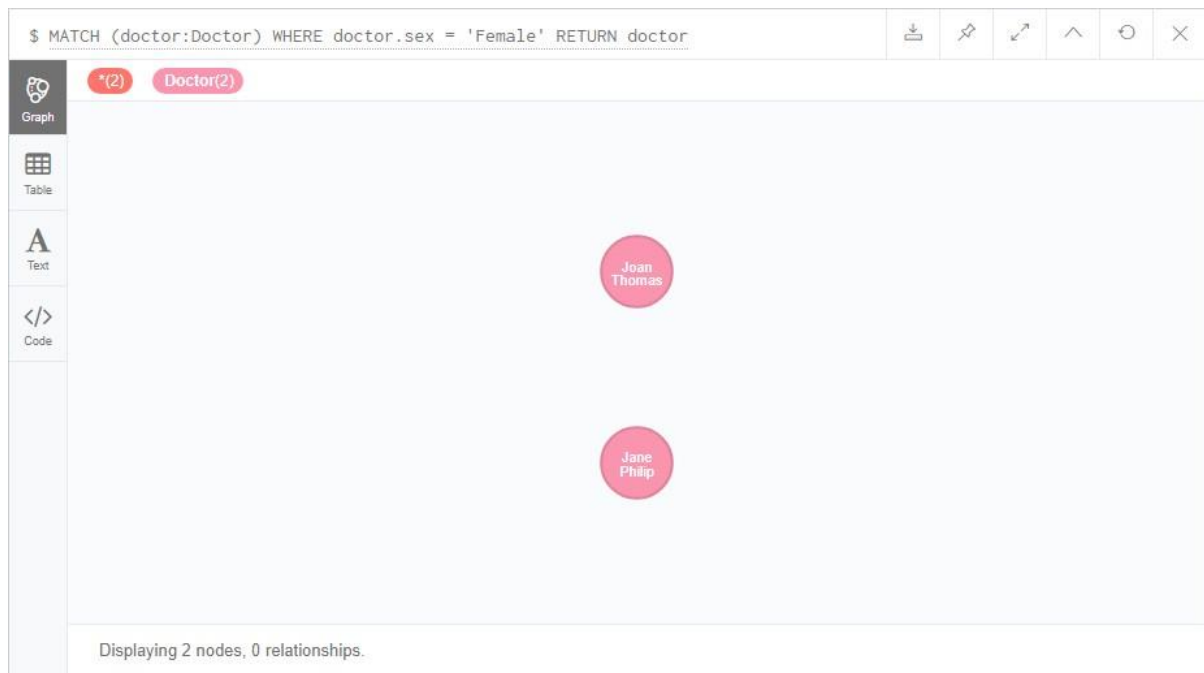
Doctor	Patient
"Jude Thomas"	"John Peter"
"Joan Thomas"	"Jill Peter"

Started streaming 2 records after 2 ms and completed after 8 ms.

4] MATCH (doctor:Doctor)
WHERE doctor.sex = 'Female'
RETURN doctor;

Screenshot:

```
1 MATCH (doctor:Doctor)
2 WHERE doctor.sex = 'Female'
3 RETURN doctor;
```



```
5] MATCH (doctor:Doctor)
WHERE doctor.sex = 'Male'
RETURN count(*) AS Number_Of_Male_Doctors;
```

Screenshot:



```
6] MATCH (patient:Patient)
RETURN avg(patient.age) as AverageAge;
```

Screenshot:

```
1 MATCH (patient:Patient)
2 RETURN avg(patient.age) as AverageAge;
```

\$ MATCH (patient:Patient) RETURN avg(patient.age) as AverageAge							
	AverageAge						
	37.4						
Started streaming 1 records after 130 ms and completed after 131 ms.							

7] MATCH (doctor:Doctor)
RETURN collect(doctor.speciality) as Speciality;

Screenshot:

```
1 MATCH (doctor:Doctor)
2 RETURN collect(doctor.speciality) as Speciality;
```

\$ MATCH (doctor:Doctor) RETURN collect(doctor.speciality) as Speciality							
	Speciality						
	["Nephrologist", "Cadiologist", "Dermatologist", "Oncologist", "Neurologist"]						
Started streaming 1 records after 10 ms and completed after 10 ms.							

8] MATCH (patient:Patient)
WHERE patient.name = 'Judith Matthew'
SET patient.address = '208 Kingsway Lane'
RETURN patient.name as Name, patient.address as Address;

Screenshot:

```
1 MATCH (patient:Patient)
2 RETURN avg(patient.age) as AverageAge;
```

\$ MATCH (patient:Patient) WHERE patient.name = 'Judith Matthew' SET patient.address = '208 Kingsway Lane' RETURN patient...

Name	Address
"Judith Matthew"	"208 Kingsway Lane"

Set 1 property, started streaming 1 records after 641 ms and completed after 641 ms.

9] MATCH (patient:Patient)
RETURN max(patient.age);

Screenshot:

```
1 MATCH (patient:Patient)
2 RETURN max(patient.age);
```

\$ MATCH (patient:Patient) RETURN max(patient.age)

max(patient.age)
56

Started streaming 1 records after 47 ms and completed after 47 ms.

10] MATCH (doctor:Doctor)
RETURN split(doctor.name, ' ')[0] as First_Name;

Screenshot:

```
1 MATCH (doctor:Doctor)
2 RETURN split(doctor.name, ' ')[0] as First_Name;
```

\$ MATCH (doctor:Doctor) RETURN split(doctor.name,' ')[0] as First_Name		📄	🔍	↗️	⬆️	🔄	✖️
Table	First_Name						
		"Mark"					
		"Jane"					
		"Ronit"					
		"Jude"					
		"Joan"					
		Started streaming 5 records after 5 ms and completed after 96 ms.					

11] MATCH (doctor:Doctor)
RETURN split(doctor.name,' ')[1] as Last_Name;

Screenshot:

```
1 MATCH (doctor:Doctor)
2 RETURN split(doctor.name,' ')[1] as Last_Name;
```

\$ MATCH (doctor:Doctor) RETURN split(doctor.name,' ')[1] as Last_Name		📄	🔍	↗️	⬆️	🔄	✖️
Table	Last_Name						
		"Steven"					
		"Philip"					
		"Ray"					
		"Thomas"					
		"Thomas"					
		Started streaming 5 records after 7 ms and completed after 16 ms.					

12] MATCH (patient:Patient {patient_id:"p005"})
OPTIONAL MATCH (patient)-[r]-()
DELETE patient,r;

Screenshot:

```
1 MATCH (patient:Patient {patient_id:"p005"})
2 OPTIONAL MATCH (patient)-[r]-()
3 DELETE patient,r;
```

\$ MATCH (doctor:Doctor) RETURN split(doctor.name, ' ')[0] as First_Name

Table

Text

Code

First_Name

"Mark"

"Jane"

"Ronit"

"Jude"

"Joan"

Started streaming 5 records after 5 ms and completed after 96 ms.