

DBMS Lab 2 - Neo4j

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Creating nodes with varying fields

Creating different types of nodes with different properties:

```
neo4j$ Create (n:Dog {name: 'Raisin', breed: 'Samoyed'});
Added 1 label, created 1 node, set 2 properties, completed after 29 ms.

neo4j$ Create (n:Cat {name: 'Atlas', breed: 'Norwegian Forest Cat'});
Added 1 label, created 1 node, set 2 properties, completed after 24 ms.

neo4j$ Create (n:Cat {name: 'Isaac', breed: 'Ragdoll'});
Added 1 label, created 1 node, set 2 properties, completed after 111 ms.
```

Table

Code

Server version

Neo4j/4.3.2

Server address

3679e73cff9dcab7a05673414c0fd47e.neo4jsandbox.com:7687

Query

Create (n:Dog {name: 'Raisin', breed: 'Samoyed'});

Summary

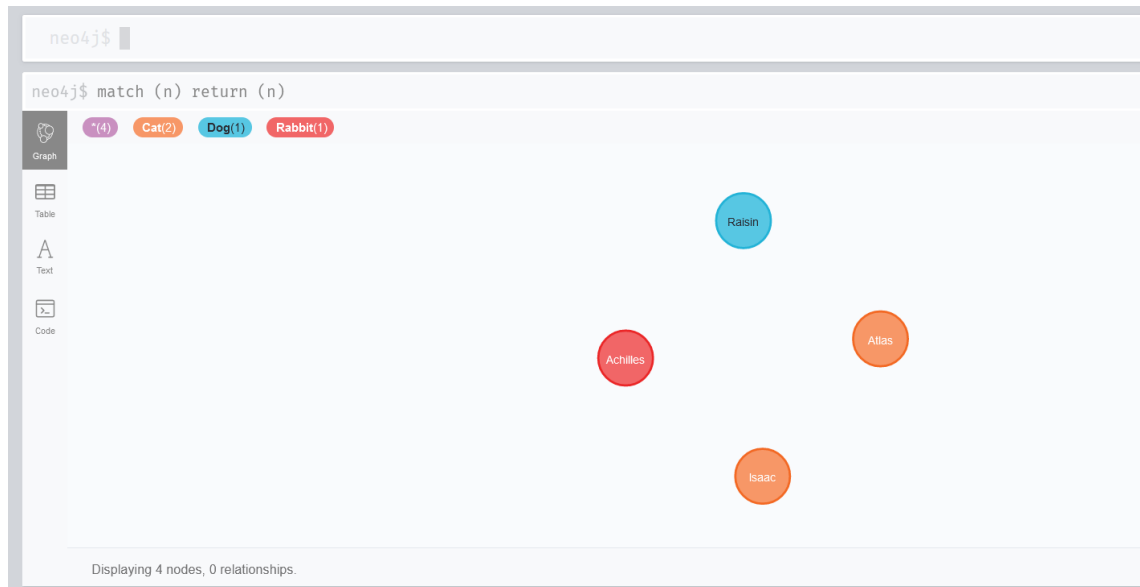
{, "query": {, "text": "Create (n:Dog {name: 'Raisin', breed: 'Samoyed'});", ...

Response

[] ...

Added 1 label, created 1 node, set 2 properties, completed after 29 ms.

Displaying all nodes in graph form:



Adding properties to nodes

The nodes in the graph above are detailed in the table below:

LABEL	PROPERTIES	
	NAME	BREED
Cat	Isaac	Ragdoll
Cat	Atlas	Norwegian Forest Cat
Dog	Raisin	Samoyed
Rabbit	Achilles	Holland Lop

Adding relationships between nodes

Adding the relationships:

```
neo4j$ match (n:Cat),(u:Dog) where n.name='Isaac' and u.name='Raisin' create(n)-[:Pats]→(u)
Created 1 relationship, completed after 9 ms.

neo4j$ match (n) return (n)

neo4j$ match (n:Cat),(u:Rabbit) where n.name='Atlas' and u.name='Achilles' create(n)-[:Eats]→(u)
Created 1 relationship, completed after 7 ms.

neo4j$ match (n:Cat),(u:Dog) where n.name='Atlas' and u.name='Raisin' create(n)-[:Attacks]→(u)
Created 1 relationship, completed after 10 ms.

neo4j$ match (n) return (n)

neo4j$ match (n:Cat),(u:Rabbit) where n.name='Isaac' and u.name='Achilles' create(n)-[:FriendsWith]→(u)
Created 1 relationship, completed after 17 ms.

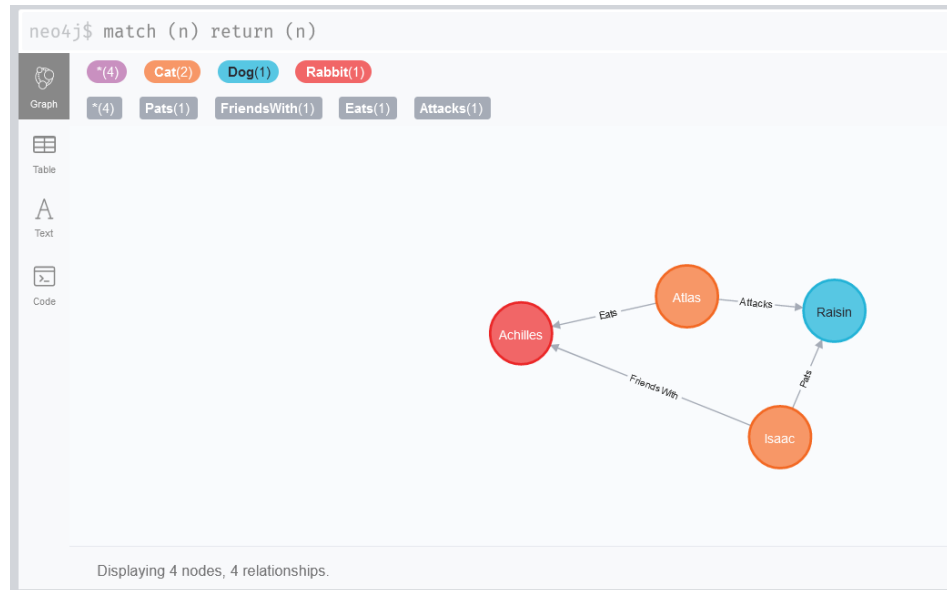
neo4j$ match (n) return (n)

neo4j$ match (n:Cat),(n:Rabbit) where n.name='Isaac' and n.name='Achilles' create(n)-[:FriendsWith]→(n)
Completed after 7 ms.
```

Displaying the first relationship as a graph:



Displaying all relationships as a graph:



Retrieving nodes and relationships

Retrieving the nodes based on label



Retrieving the nodes based on filter

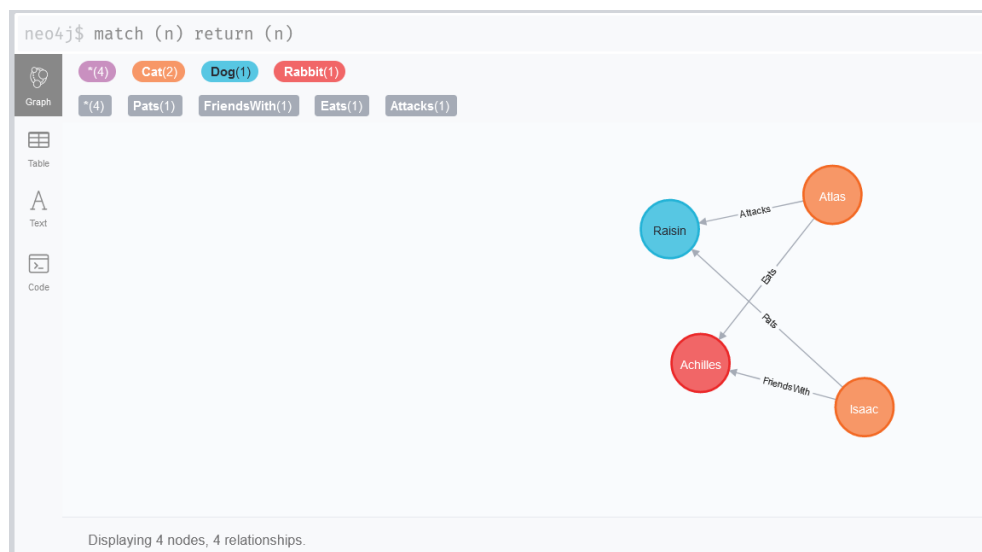
```
neo4j$ match (Cat{name: 'Isaac'})--(n) return n.breed
```

	n.breed
1	"Samoyed"
2	"Holland Lop"

Started streaming 2 records after 5 ms and completed after 6 ms.

Deleting nodes and relationships

Deleting a certain relationship (graph before deletion):



Deleting a certain relationship (command and graph after deletion):

```
neo4j$ match (n) return (n)
```

Graph view showing 4 nodes and 3 relationships. The nodes are Isaac (orange), Achilles (red), Atlas (orange), and Raisin (blue). The relationships are FriendsWith (Isaac to Achilles), Eats (Achilles to Atlas), and Attacks (Atlas to Raisin).

Displaying 4 nodes, 3 relationships.

```
neo4j$ match(n)-[r:Pats]->>() delete r
```

Deleted 1 relationship, completed after 14 ms.

Deleting all relationships:

```
neo4j$ match (n) return (n)
```

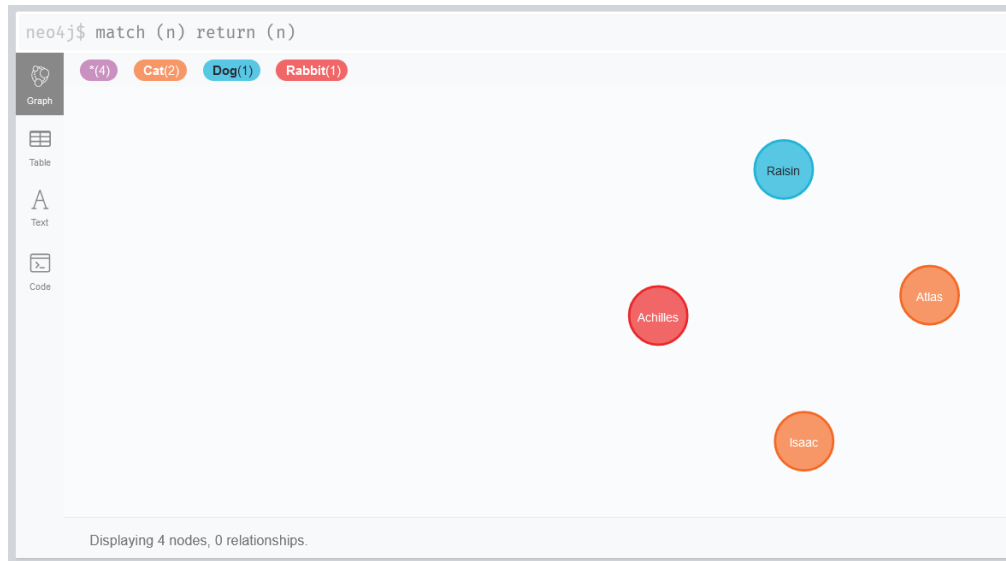
(no changes, no records)

Completed after 3 ms.

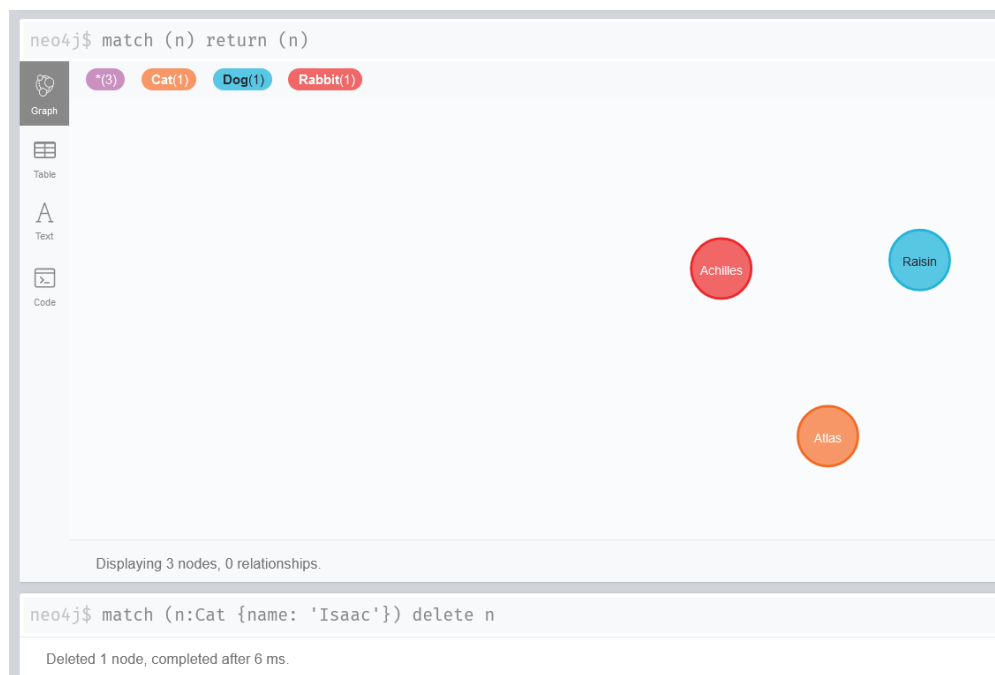
```
neo4j$ match(n) detach delete n
```

Deleted 4 nodes, deleted 3 relationships, completed after 14 ms.

Deleting a specific node (graph before deletion):





Deleting a specific node (command and graph after deletion):



Deleting all nodes:

```
neo4j$ match (n) return (n)
```


Table


Code

(no changes, no records)

Completed after 4 ms.

```
neo4j$ match (n) delete n
```

Deleted 3 nodes, completed after 5 ms.