Cypher Cheat Sheet

Introduction

Cypher is the most widely adopted, fully specified, and open query language for **property graph databases**. It provides an intuitive and fast way to work with property graphs.

Basic CRUD operations

1. Matching

1.1 Select all nodes and relationships in the database and exibit with number limit 30.

```
MATCH (n) RETURN * LIMIT 30;
```

1.2 Finds nodes with specific label and properties.

```
MATCH (n: Movie)
WHERE n.title = "The Matrix".   // specify property
RETURN n;
```

1.3 Finds nodes with specific relationships.

```
MATCH (p: Person)-[:ACTED_IN]-(n: Movie)
RETURN n, p;
```

In the above syntax, `(p: Person)` refers to node with label `Person` , `[:ACTED_IN]` refers to the relationship `ACTED_IN` , and we just returned all the nodes with the above relationships.

1.4. Match node with multiple labels.

```
MATCH (n:Person:Actor)
RETURN n;
```

The above syntax match nodes with both Person and Actor labels.

2.Creating

2.1 Create a node

```
CREATE (n:Movie {title: "Shawshank Redemption", released: 1994})
```

Create `Movie` labeled node with `title` and `released` properties.

2.2 Create a new relationship between nodes.

```
MATCH
  (a:Person),
  (b:Person)
WHERE a.name = 'A' AND b.name = 'B'
CREATE (a)-[r:RELTYPE]->(b)
RETURN type(r)
```

In the syntax above, we created a relationship called `RELTYPE` between two specific named `Person` nodes.

2.3 Create an existing relationship between two nodes.

```
MATCH (n: Movie), (p: Person)
WHERE n.title = "The Matrix" AND p.name = "Somebody"
CREATE (p)-[:ACTED_IN]->(n)
```

Note that the arrow `->` specify the direction of relationship. And we use `<-[:RELTYPE]->` to denote a mutual relationships(undirected edges in the graph).

3 Updating

3.1 Add or update node properties.

```
MATCH (p: Person {name: "Bob"})
SET p.name = "Oliver"
```

Update `Person` node's name whose name is "Bob" to "Oliver"

3.2 Rename a property

```
MATCH (m:Movie)
WHERE m.name IS null
SET m.name = m.title
REMOVE m.title
```

We just rename the property `title` of `Movie` to `name` .

4 Deleting

4.1 Delete nodes or relationships.

```
MATCH (m: Movie)-[r]-()
WHERE c.released = "1999"
DELETE r, c
```

Delete all the `Movie` labeled nodes released in 1999. Note we need to delete all the relationships of the node first before deleting it. The `-[r]-()` simply match all its relationships.

4.2 Delete a property of node.

```
MATCH (m: Movie)
DELETE c.released
```

Reference

https://neo4j.com/developer/neo4j-doc-manager/