001-generic-relationship-1

chapter01$

```
MATCH (n {id:"0eLgWXRdFvQWb5Ch6Hm33Z"})-[:HAS_TRACK]->(t:Track)
    -[:ARTIST]->(a:Artist) //this n matches an album
RETURN t.name AS trackName, a.name AS artistName
```

```
1 MATCH (n {id:"0eLgWXRdFvQWb5Ch6Hm33Z"})-[:HAS_TRACK]->(t:Track)
2         -[:ARTIST]->(a:Artist) //this n matches an album
3 RETURN t.name AS trackName, a.name AS artistName
```

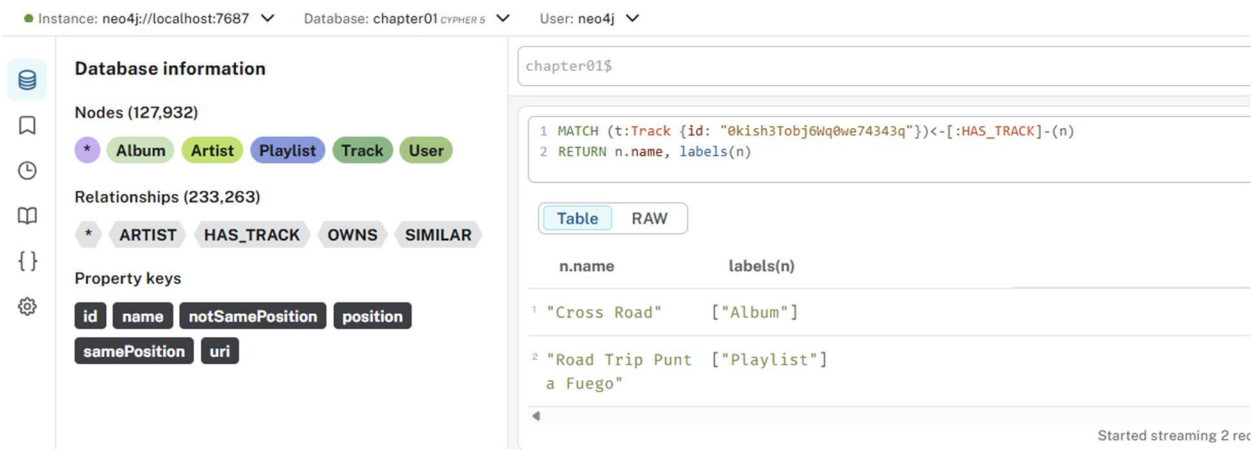
Table RAW

trackName	artistName
"Always"	"Bon Jovi"

002-generic-relationship-2

chapter01$

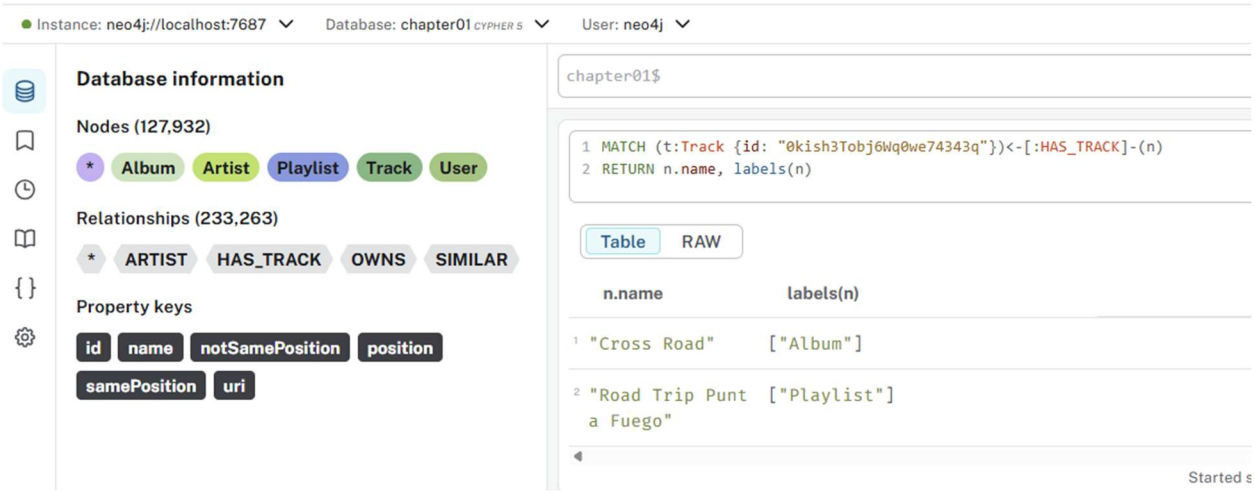
```
MATCH (t:Track {id: "0kish3Tobj6Wq0we74343q"})<-[:HAS_TRACK]-(n)
RETURN n.name, labels(n)
```



003-generic-relationship-3

chapter01$

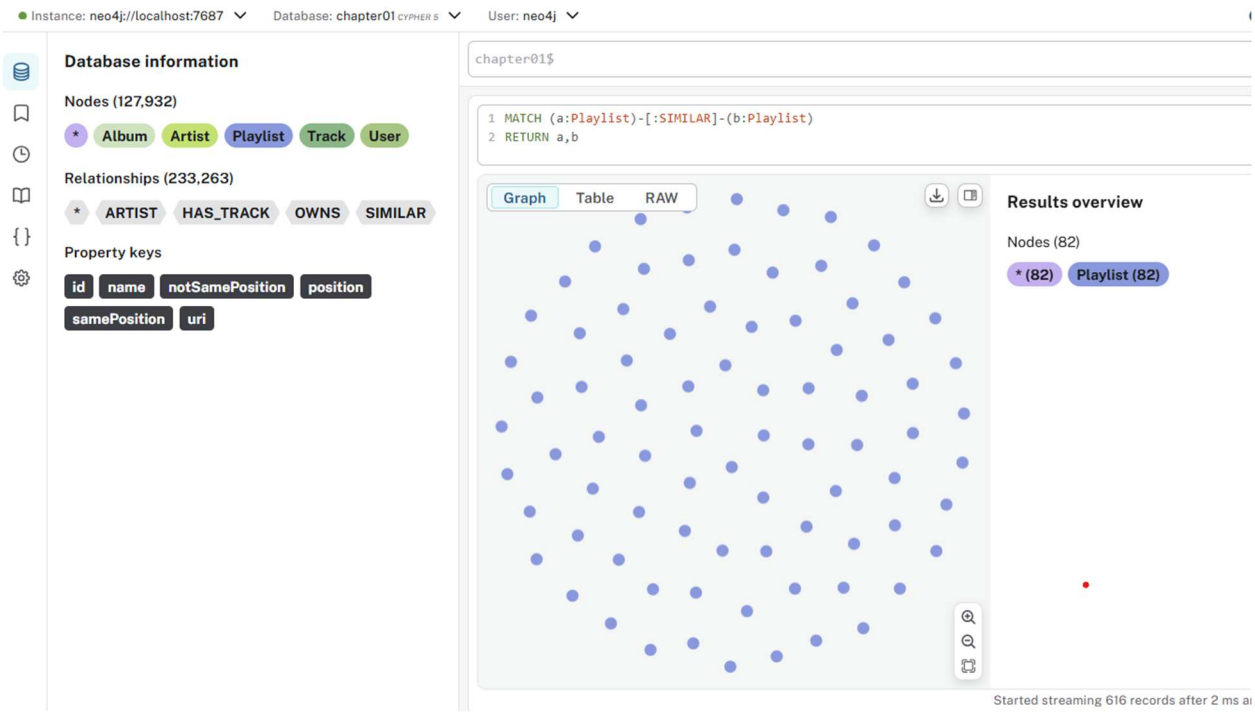
```
MATCH (t:Track {id:"15vzANxN8G9wWfwAJLLMCg"})<-[:HAS_TRACK]-(a:Album)
RETURN t,a
```



004-find-similar

chapter01$

```
MATCH (a:Playlist)-[:SIMILAR]-(b:Playlist)
RETURN a,b
```



005-double-traversal

chapter01$

```
MATCH path=(track1:Track {id:"0BB9eUBBaaX6GALSYNcEp7"})-[*3]-(track2:Track
{id:"2KmEgiY8fQs0G6WNxtzQKr"})
RETURN path
```

- [*] means "any number of relationships/hops"
- [*3] means "exactly 3 relationships/hops"
- So the pattern will match paths where there are exactly 3 relationships between `track1` and `track2`

What does this query do:

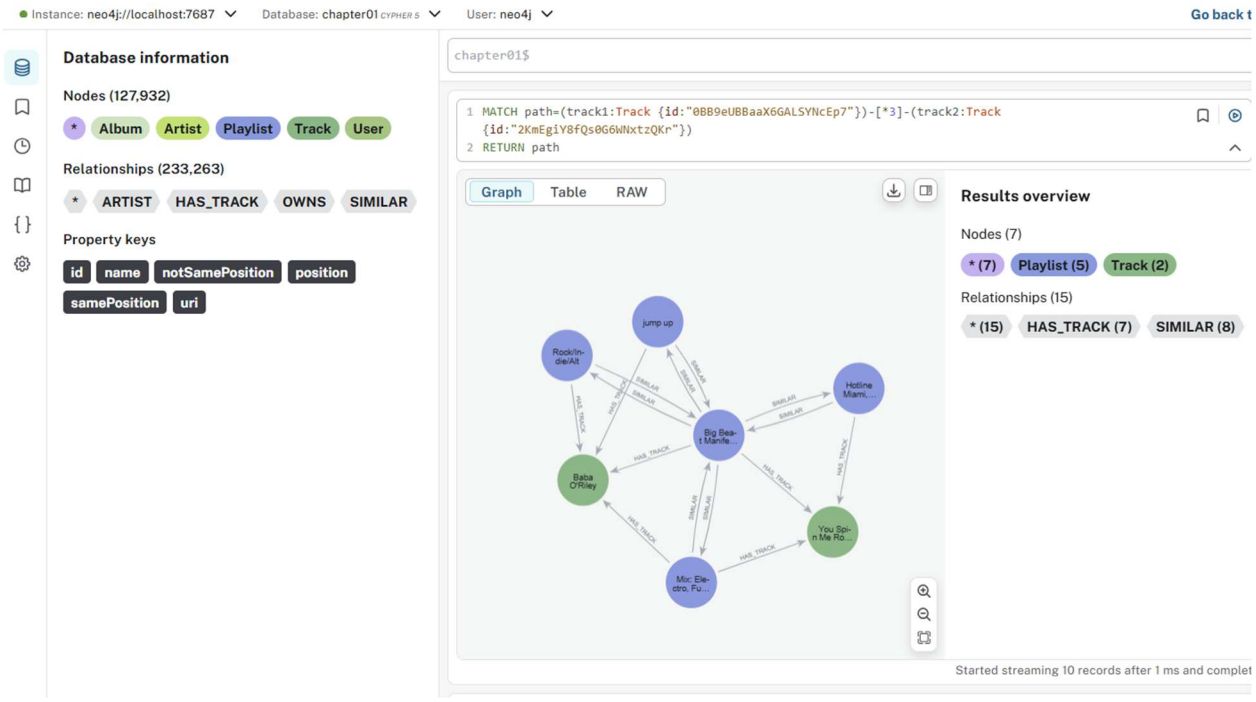
- Finds all paths that connect these two specific tracks
- Each path must have exactly 3 relationships (edges) between them
- The path could go through other nodes (likely other tracks, artists, albums, etc.)

Other examples of variable-length relationships:

- [*1..3] = 1 to 3 hops
- [*..5] = up to 5 hops
- [*3..] = 3 or more hops
- [*] = any number of hops

In your music graph context, this might find connections like:

- Track1 → Artist → Album → Track2
- Track1 → Genre → Playlist → Track2
- Or any other 3-step path through the graph structure



006-drop-similar

chapter01$

```
MATCH ()-[r:SIMILAR]-()
DELETE r
```

007-single-similar-rel

chapter01$

```
MATCH path=(p:Playlist)-[r1:HAS_TRACK]->(track)<-[r2:HAS_TRACK]-(other:Playlist)
WITH p AS playlistLeft, other AS playlistRight, collect({track: track, positionLeft: r1.position, positionRight: r2.position}) AS commonTracks
  WHERE size(commonTracks) > 5
WITH playlistLeft, playlistRight, size([track in commonTracks WHERE track.positionLeft = track.positionRight]) AS tracksWithSamePosition,
    size([track in commonTracks WHERE NOT track.positionLeft = track.positionRight]) AS tracksAtDifferentPosition
MERGE (playlistLeft)-[r:SIMILAR]-(playlistRight)
SET r.samePosition = tracksWithSamePosition, r.notSamePosition = tracksAtDifferentPosition
```