001-create-database

neo4j$ CREATE DATABASE testload WAIT;

002-create-constraint

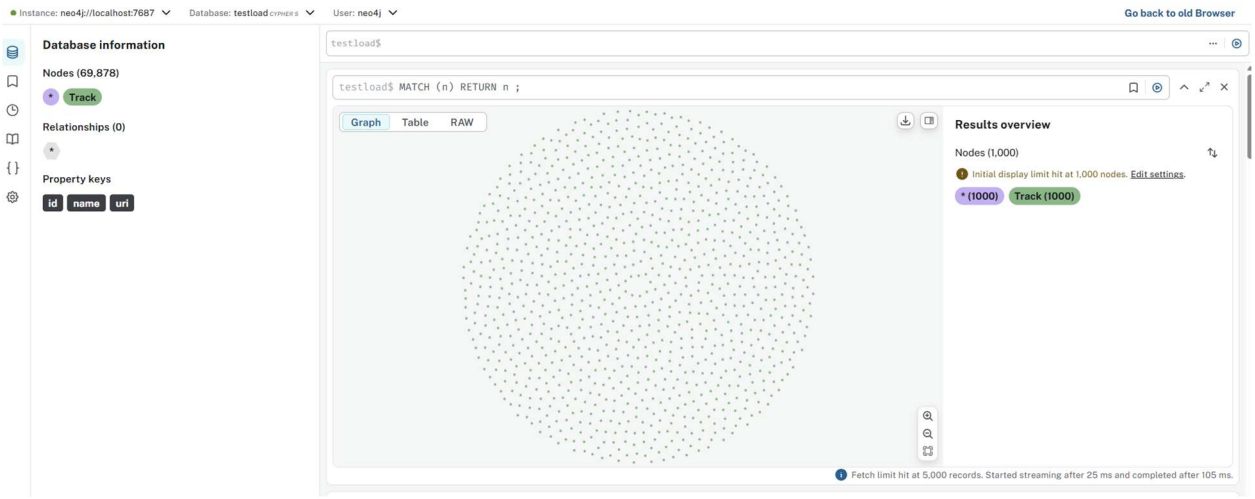
testload$

CREATE CONSTRAINT FOR (n:Track) REQUIRE n.id IS NODE KEY;

003-load-tracks

testload$

```
LOAD CSV WITH HEADERS FROM "file:///medium/sample_tracks_medium.csv" AS row
MERGE (track:Track {id: row.track_id})
SET track.uri = row.track_uri,
track.name = row.track_name;
```

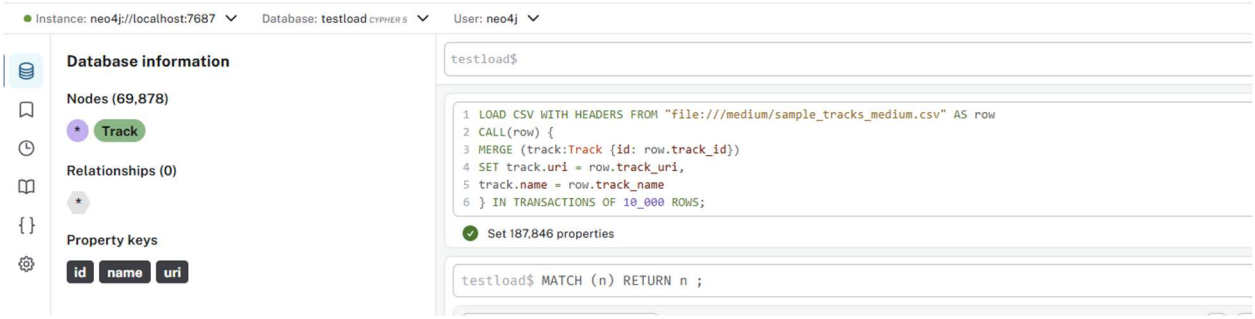


004-call-in-transactions

testload$

```
LOAD CSV WITH HEADERS FROM "file:///medium/sample_tracks_medium.csv" AS row
CALL(row) {
MERGE (track:Track {id: row.track_id})
SET track.uri = row.track_uri,
track.name = row.track_name
} IN TRANSACTIONS OF 10_000 ROWS;

// CALL { ... }: Executes a subquery for each row
// IN TRANSACTIONS OF 10_000 ROWS: Processes in batches of 10,000 rows
```



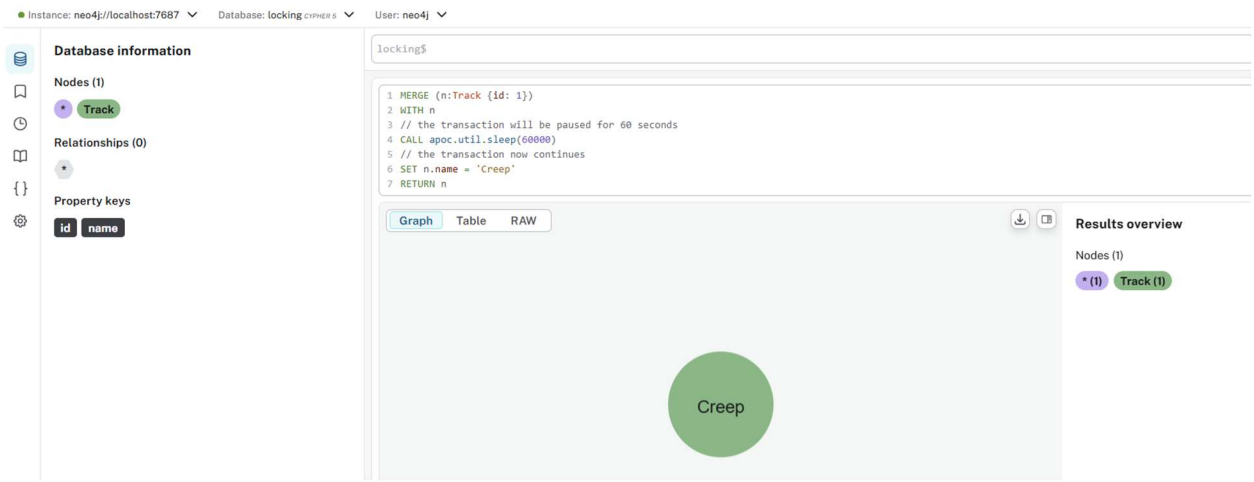
005-create-database-locking

neo4j$ CREATE DATABASE locking WAIT;

006-merge-wait-spinning

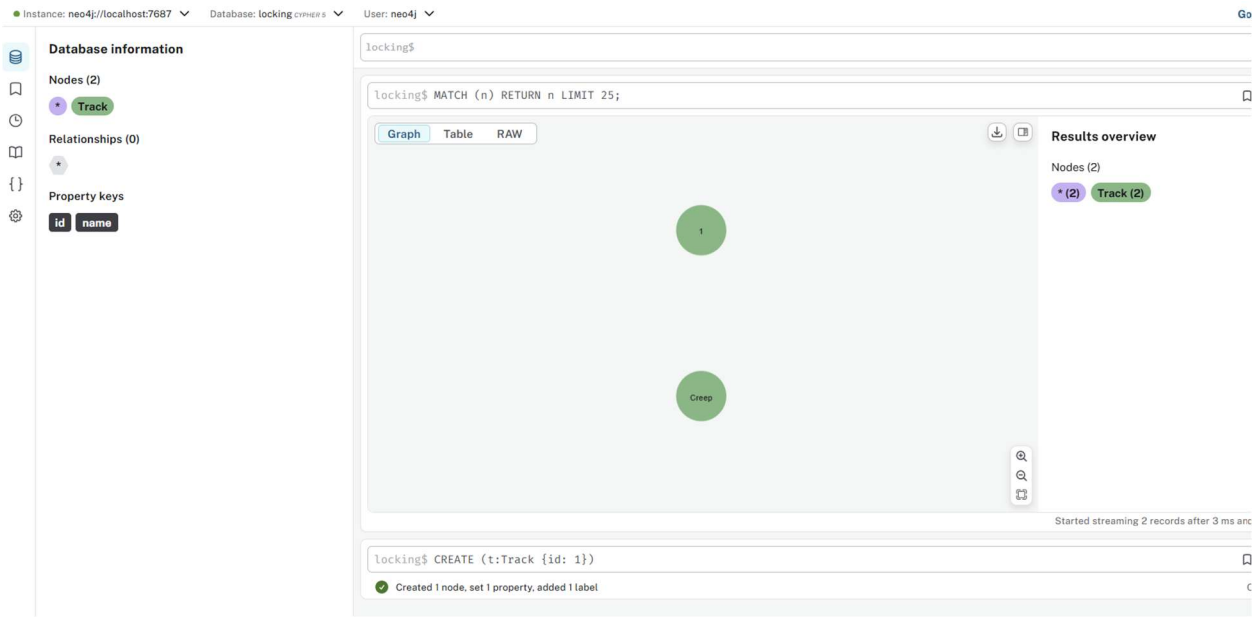
locking$

```
MERGE (n:Track {id: 1})
WITH n
// the transaction will be paused for 60 seconds
CALL apoc.util.sleep(60000)
// the transaction now continues
SET n.name = 'Creep'
RETURN n
```



007-create-node-1

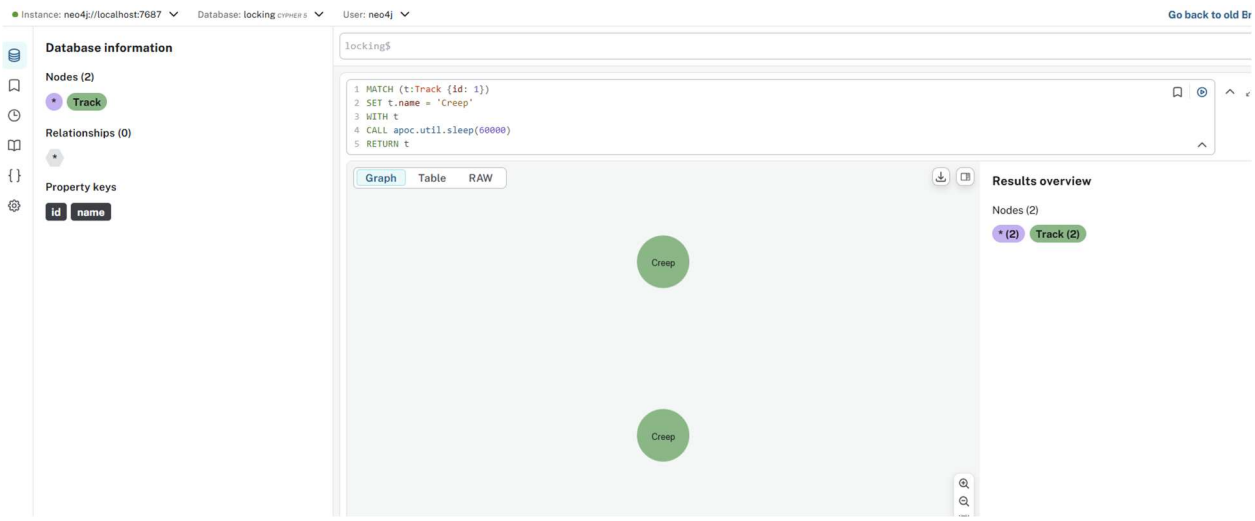
locking$ CREATE (t:Track {id: 1})



008-tab-1-1

locking$

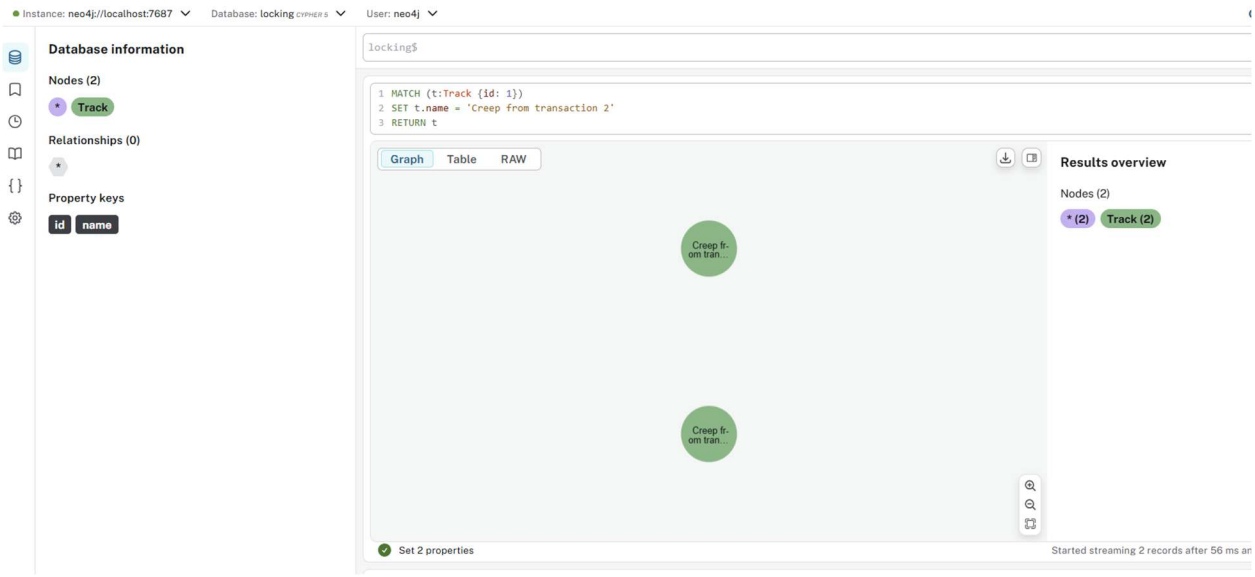
```
MATCH (t:Track {id: 1})
SET t.name = 'Creep'
WITH t
CALL apoc.util.sleep(60000)
RETURN t
```



009-tab-1-2

locking$

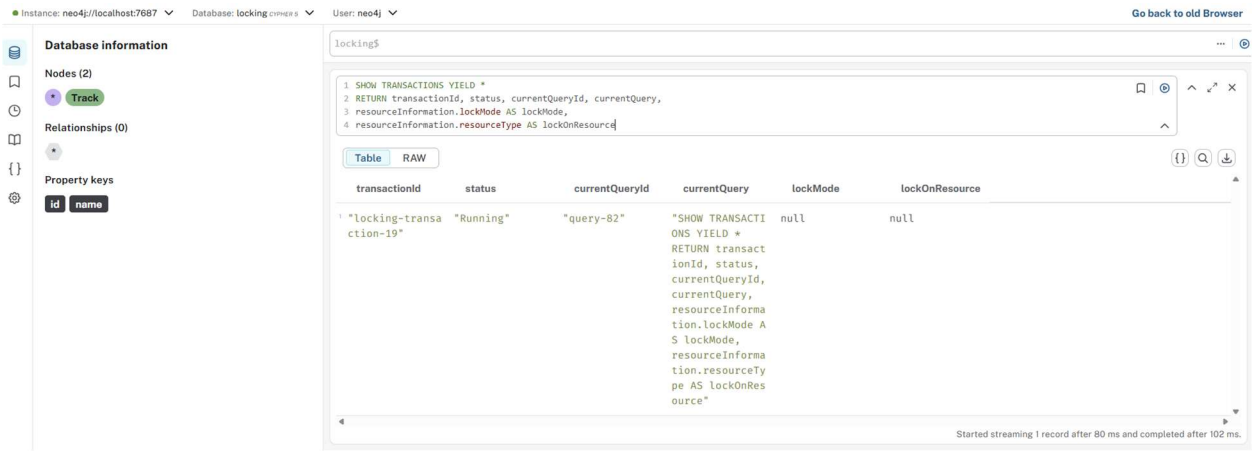
```
MATCH (t:Track {id: 1})
SET t.name = 'Creep from transaction 2'
RETURN t
```



010-transactions-info

locking$

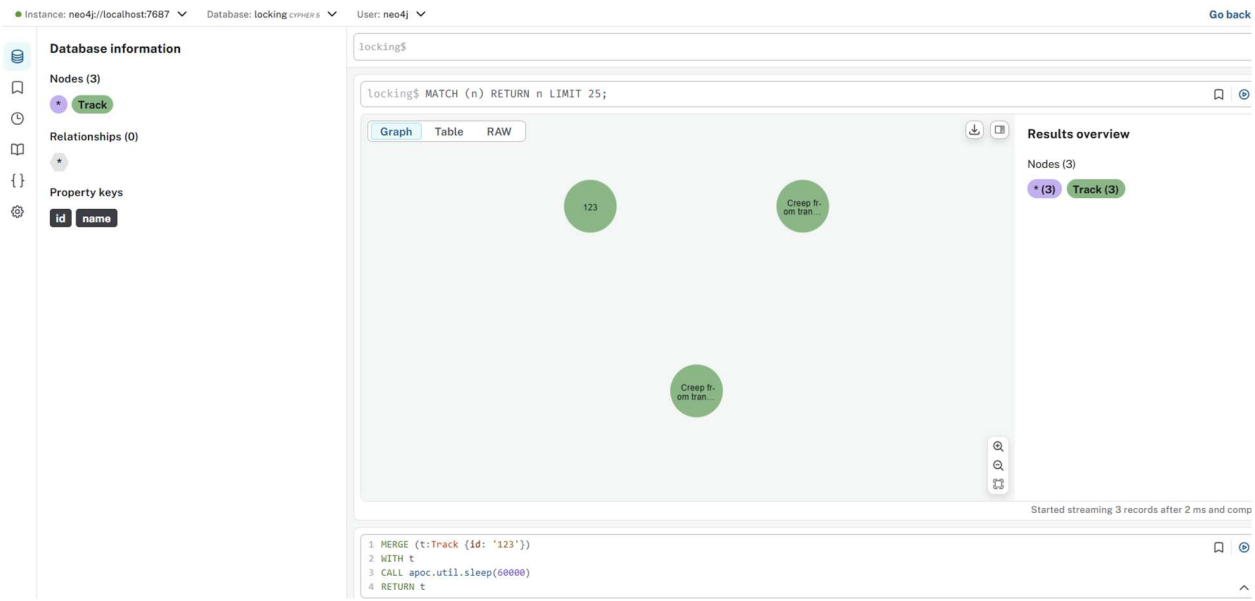
```
SHOW TRANSACTIONS YIELD *
RETURN transactionId, status, currentQueryId, currentQuery,
resourceInformation.lockMode AS lockMode,
resourceInformation.resourceType AS lockOnResource
```



011-tab-2-1

locking$

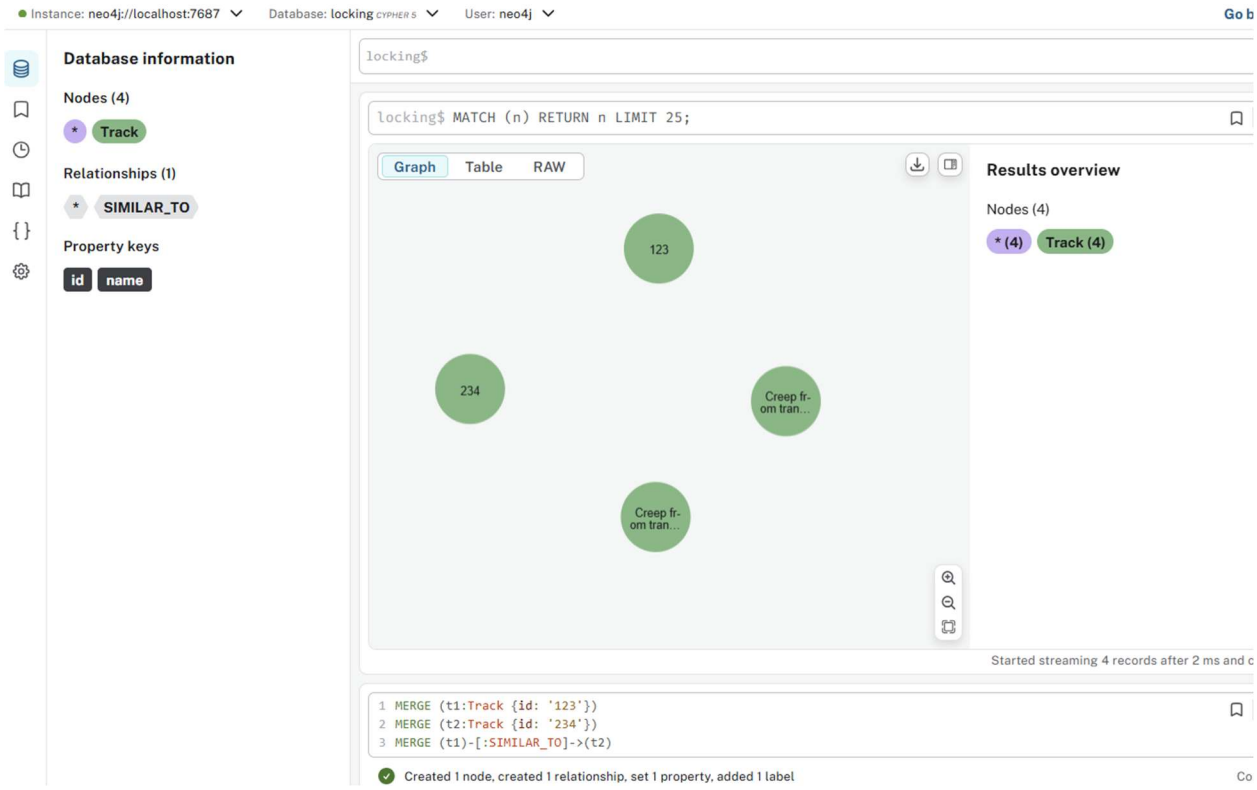
```
MERGE (t:Track {id: '123'})
WITH t
CALL apoc.util.sleep(60000)
RETURN t
```

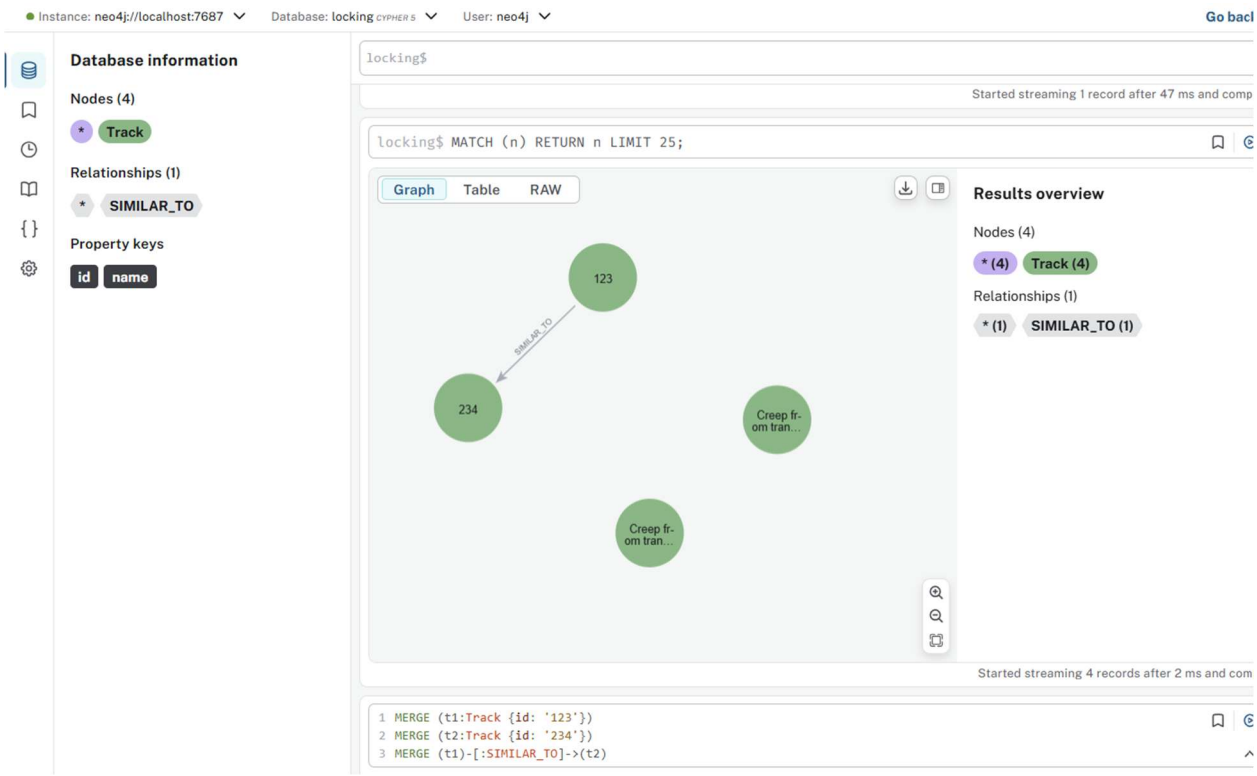


012-tab-2-2

locking$

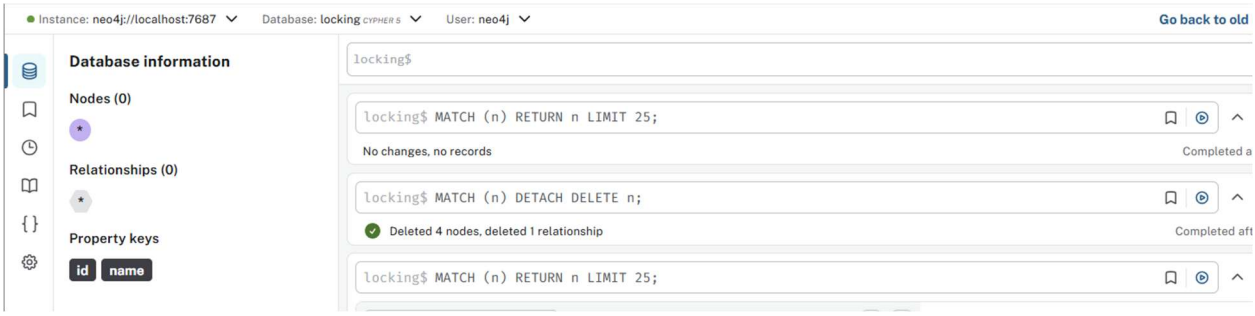
```
MERGE (t1:Track {id: '123'})
MERGE (t2:Track {id: '234'})
MERGE (t1)-[:SIMILAR_TO]->(t2)
```


Instance: neo4j://localhost:7687
Database: locking CYPHER 5
User: neo4j
Go b
Database information
Nodes (4)
* Track
Relationships (1)
* SIMILAR_TO
Property keys
id name
locking$
locking$ MATCH (n) RETURN n LIMIT 25;
Graph Table RAW
123
234
Creep fr-om tran...
Creep fr-om tran...
Results overview
Nodes (4)
* (4) Track (4)
Started streaming 4 records after 2 ms and c
1 MERGE (t1:Track {id: '123'})
2 MERGE (t2:Track {id: '234'})
3 MERGE (t1)-[:SIMILAR_TO]->(t2)
Created 1 node, created 1 relationship, set 1 property, added 1 label
Co


Instance: neo4j://localhost:7687
Database: locking CYPHER 5
User: neo4j
Go bacl
Database information
Nodes (4)
* Track
Relationships (1)
* SIMILAR_TO
Property keys
id name
locking$
Started streaming 1 record after 47 ms and comp
locking$ MATCH (n) RETURN n LIMIT 25;
Graph Table RAW
123
SIMILAR_TO
234
Creep fr-om tran...
Creep fr-om tran...
Results overview
Nodes (4)
* (4) Track (4)
Relationships (1)
* (1) SIMILAR_TO (1)
Started streaming 4 records after 2 ms and com
1 MERGE (t1:Track {id: '123'})
2 MERGE (t2:Track {id: '234'})
3 MERGE (t1)-[:SIMILAR_TO]->(t2)

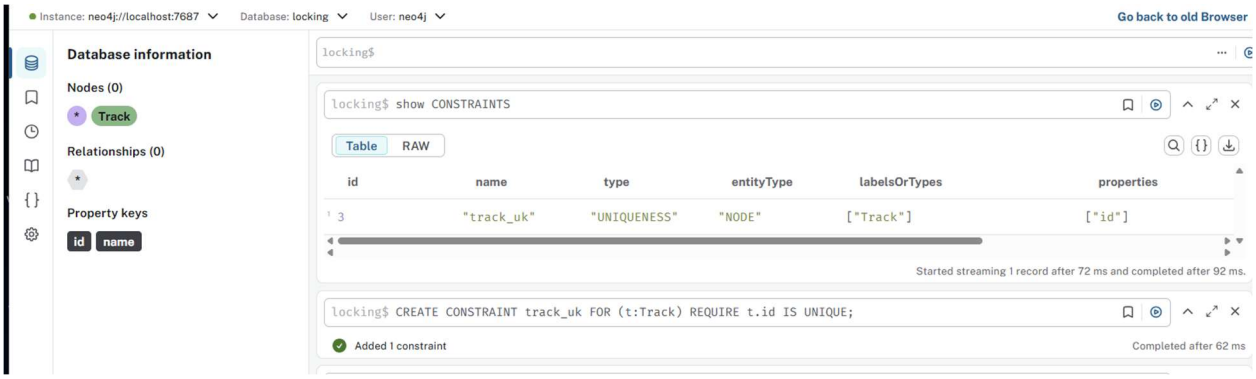
013-unique-constraint

locking$ MATCH (n) DETACH DELETE n;



locking$

CREATE CONSTRAINT track_uk FOR (t:Track) REQUIRE t.id IS UNIQUE;



014-tab-3-1

locking$

MATCH (t1:Track {id: 1})
SET t1.popularity = 0.9
WITH t1
CALL apoc.util.sleep(60000)

015-tab-3-2

locking$

```
MATCH (t1:Track {id: 1})
MATCH (t2:Track {id: 2})
CREATE (t1)-[r:SIMILAR]->(t2)
```