Cypher Shell Neo4j graph CLI

CONCEPTS

Statements typed in the shell must end with a semicolon; lines starting with : are shell commands and need none.

cypher-shell your terminal
↓ Bolt
Neo4j server port 7687
↓ routes to
Database neo4j / system
↓ holds
Graph nodes + relationships

Patterns are drawn in ASCII art: (node)-[:REL]→(node). Labels start with a colon, properties go in braces.

CONNECT

cypher-shell -u *<user>* **-p** *<password>*
Connect to localhost

cypher-shell -a *<uri>*
Connect to another server

cypher-shell -d *<database>*
Start in a given database

cypher-shell --access-mode read
Open a read-only session

Environment variables

Variable	Replaces
NEO4J_USERNAME	-u
NEO4J_PASSWORD	-p
NEO4J_ADDRESS	-a
NEO4J_DATABASE	-d

SHELL COMMANDS

:help
List shell commands

:exit
Quit the shell

:use *<database>*
Set the active database

:begin
Open an explicit transaction

:commit
Commit the open transaction

:rollback
Roll back the open transaction

:param { alias: 'Robin' }
Set a query parameter

SHELL COMMANDS (cont.)

:source *<file>*
Run statements from a file

Arrows browse history, Tab autocompletes commands, Home and End jump along the line.

SCRIPT & OUTPUT

cypher-shell "*<cypher>***"**
Run one statement and exit

cypher-shell -f *<file>*
Run a Cypher file and exit

cypher-shell --format plain
Minimal output for scripts

cypher-shell --format verbose
Tables plus statistics

cypher-shell -P '{n: 3}'
Set a session parameter

cypher-shell --fail-at-end
Report errors after the whole file

READ

MATCH (n) RETURN n LIMIT *<k>*
Sample some nodes

MATCH (n:*<Label>***) RETURN n**
Nodes with a label

MATCH (n:*<Label>* **{***<prop>***:** *<value>***}) RETURN n**
Match by property

MATCH (a)-[r:*<TYPE>***]→(b) RETURN a, r, b**
Follow a relationship type

WHERE n.*<prop>* **>** *<value>*
Filter matches

RETURN n.*<prop>* **AS** *<alias>*
Rename a returned value

RETURN DISTINCT n.*<prop>*
Remove duplicate rows

ORDER BY n.*<prop>* **DESC**
Sort the rows

SKIP *<n>* **LIMIT** *<m>*
Page through results

OPTIONAL MATCH (n)⟶(m)
Match, or give null

MATCH (a)-[*1..3]→(b)
Paths of one to three hops

READ (cont.)

count(n), sum(n.*<prop>***), collect(n)**
Aggregate rows

WRITE

CREATE (:*<Label>* **{***<prop>***:** *<value>***})**
Create a node

CREATE (a)-[:*<TYPE>***]→(b)**
Create a relationship

MERGE (n:*<Label>* **{***<prop>***:** *<value>***})**
Create only if missing

SET n.*<prop>* **=** *<value>*
Set a property

SET n += {*<prop>***:** *<value>***}**
Update several properties

DELETE r
Delete a relationship

DETACH DELETE n
Delete a node and its relationships

PIPELINES

WITH n, count(*) AS c
Pass results to the next part

UNWIND *<list>* **AS x**
Turn a list into rows

SCHEMA & ADMIN

SHOW DATABASES
List databases

SHOW INDEXES
List indexes

SHOW CONSTRAINTS
List constraints

CREATE INDEX FOR (n:*<Label>***) ON (n.***<prop>***)**
Index a property

CREATE CONSTRAINT FOR (n:*<Label>***) REQUIRE n.***<prop>* **IS UNIQUE**
Enforce unique values

TUNING

EXPLAIN *<query>*
Show the plan without running

PROFILE *<query>*
Run and show rows and db hits