



From sql to nosql

Stefano Felli – 1896877

Lorenzo Cirillo – 1895955

Hw 3 – Data Management for Data Science
Sapienza University of Rome



Table of contents

1

Why Neo4j?

3

Import DB:
Approach #1

5

Import DB:
Approach #3

2

Constraints

4

Import DB:
Approach #2

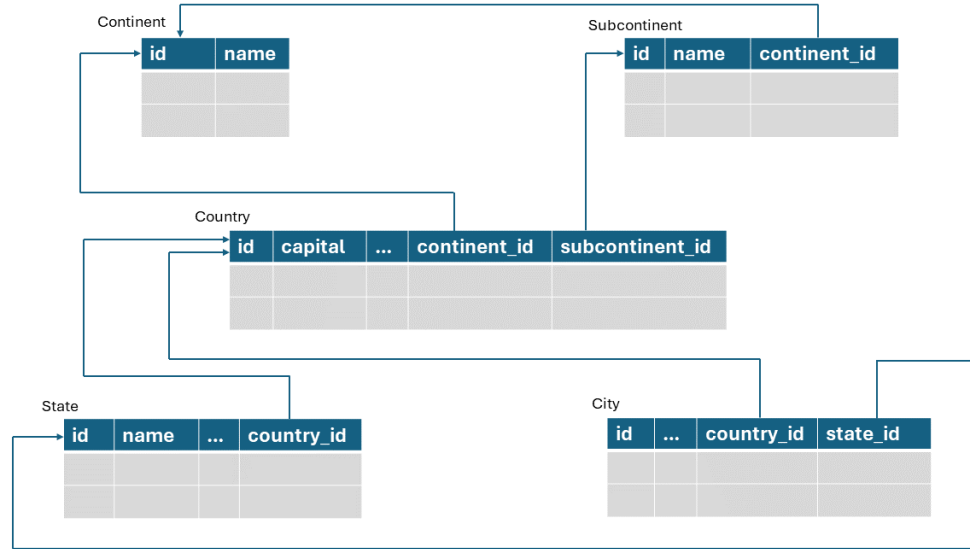
6

Go to the queries...



Why Neo4j?

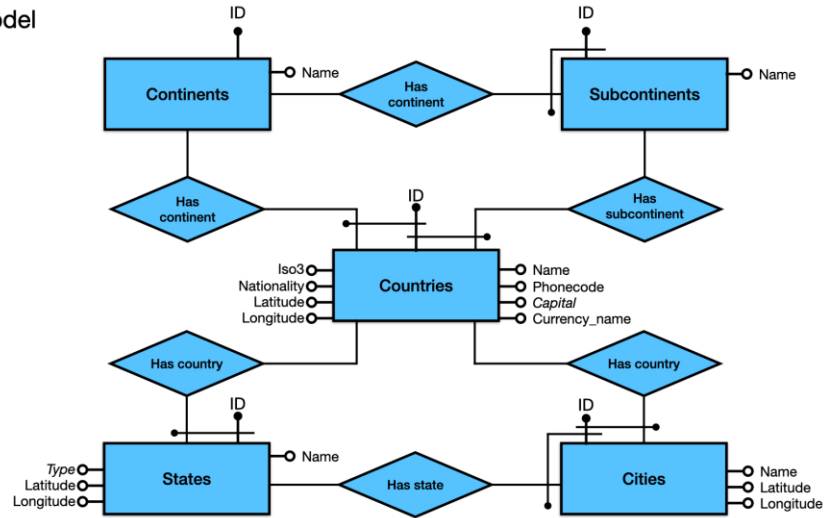
- Many binary relationships
- Hierarchical structure
- Faster query execution



Constraints

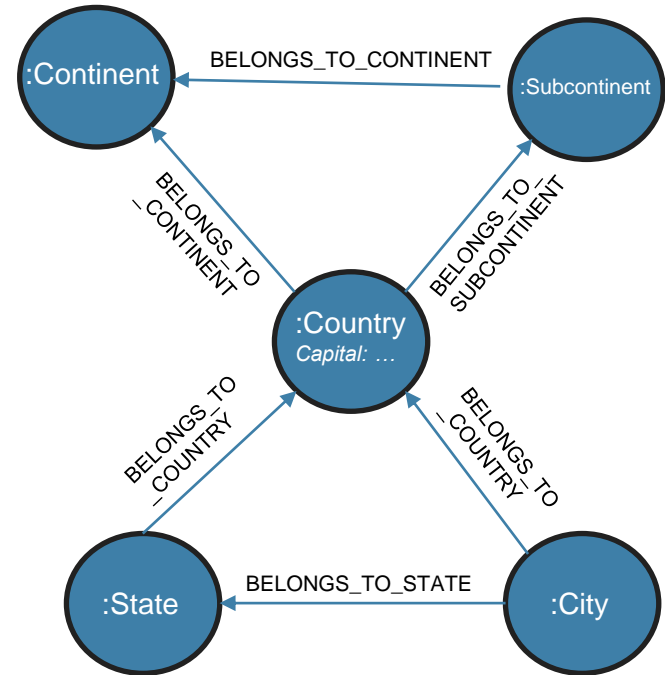
All the constraints reported in the E-R Model have been implemented (i.e., keys and not null)

E-R Model



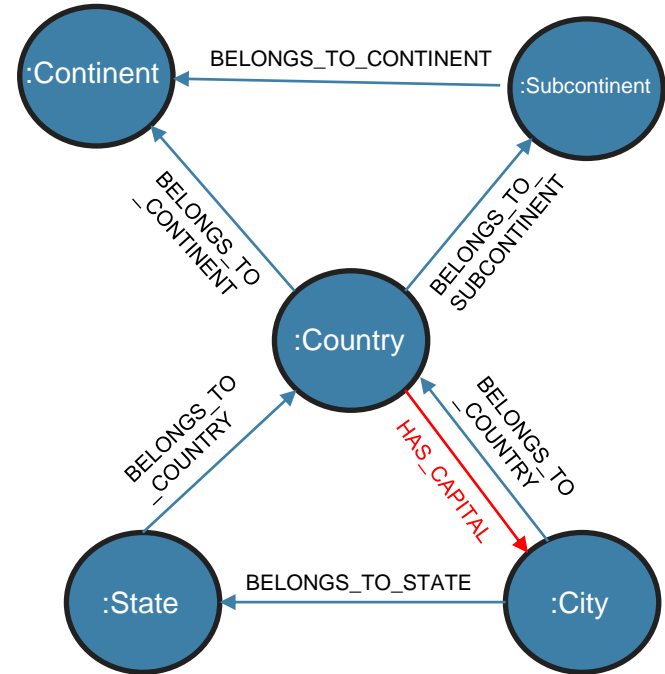
Import DB: Approach #1

- Same «schema» as relational db
- rows → nodes
- columns → properties
- primary keys → relationships
- *capital* property inside **Country** nodes



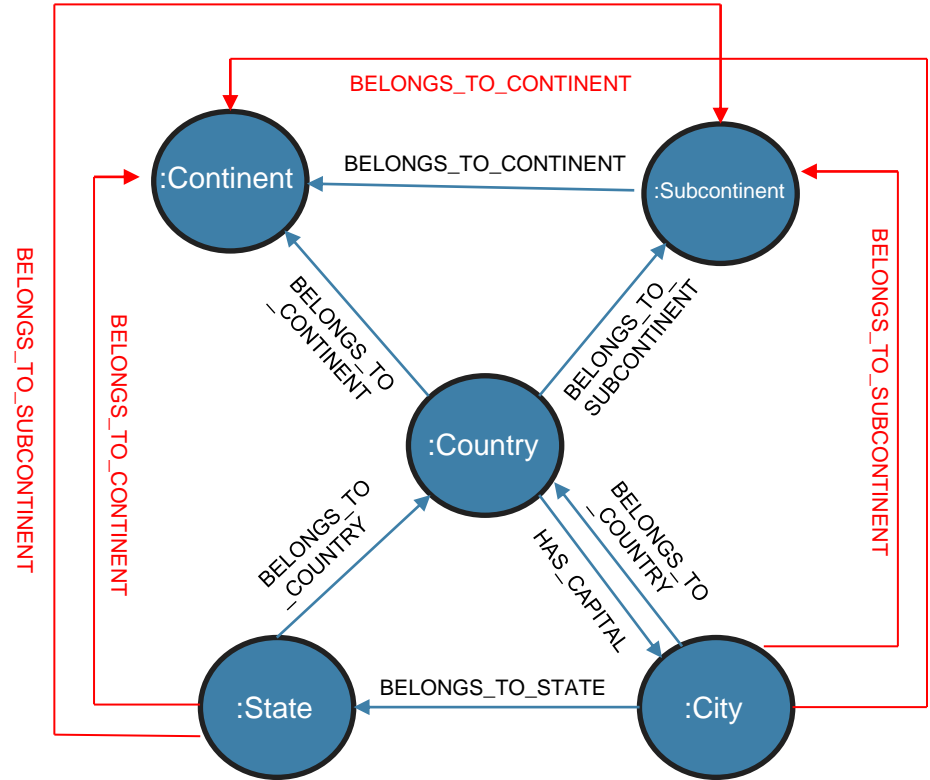
Import DB: Approach #2

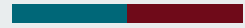
- *capital* modeled as *City*
- edge *HAS_CAPITAL* between *City* and *Country*
- problems:
 - not all *capital* appear as tuples in *City* table
 - there are cities with the same *name*



Import DB: Approach #3

edges *HAS_CONTINENT* and *HAS_SUBCONTINENT* from **State** and **City**, without passing through **Country**





LET'S GO THE QUERIES...

