

BIG GRAPH DATABASES

Lab: Neo4j



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Recap to Neo4j

- Most popular Property graph database
- **The graph has**
 - **Nodes** representing real world entities,
 - **Edges** represent relationships among entities
 - **Property** convey extra information about entities and relationships they are associated with
- **Nodes** can
 - Have Labels, representing their roles
 - Have Properties, as (key, value) pairs
 - Be indexed and be bound by constraints
- **Edges**
 - Can have properties, like nodes
 - Must have direction
 - Must have start and end node



Neo4j Query Language: Cypher

- **Cypher is Neo4j's declarative query language**
 - Developed in 2011 as an equivalent of SQL but for graphs
 - Same as SQL, user specifies what to retrieve rather than how to retrieve (imperative).
 - Unlike SQL, Cypher is schema-flexible
 - At the core, Graph pattern matching is used to navigate, describe, and extract data
 - Intuitive graphical way of expressing queries
- **Cypher Manual for detailed description**
 - <https://neo4j.com/docs/cypher-manual/current/introduction/>
 - <https://neo4j.com/docs/getting-started/cypher/>