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OpenCourseWare

Database

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Project 6 (neo4j (3.4))

Exercise 1: Airport

The goal of this network is to look for the best possible flight options when traveling from one destination to another. These searches can be based on different criteria, such as ticket prices, number of stops, travel time, operating airline, and etc.

Data about travelers, organizing systems of airports, airlines, the popularity of destinations, etc are highly connected.
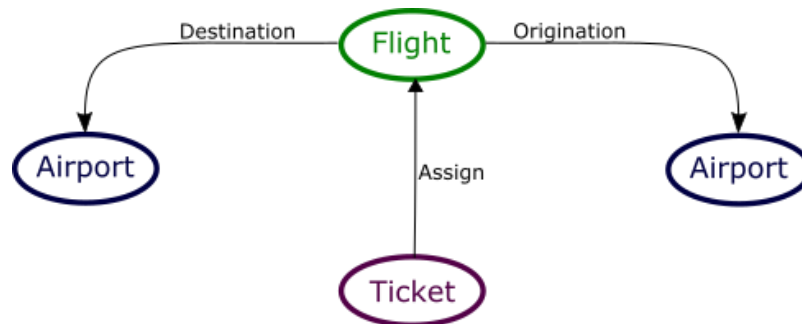
Download from Aula global platform the Airport script, and insert data (nodes, relationships, properties) into the graph. Before doing the queries, it is recommended to explore the data model as well as the network data.

Drills

Display Schema / Graph

Write the query and display the screenshot of the output (text, table or graph)

2.1.   Write a query to display the schema of your database.
2.2.   Recover all nodes and relationships (display graph).

Query / Update / Remove

Write the query and display the screenshot of the output (text, table or graph)

2.3.   Find prices for direct flights originating from a "Fresno Yosemite International Airport (FAT)" for an economy class ticket.
2.4.   Find prices for a direct flight to the destination "Los Angeles International Airport (LAX)" for an economy class ticket.
2.5.   Find Flights with one-stop from a "Seattle airport (SEA)" to a "San Francisco Airport (SFO)".
2.6.   Find prices for direct flights from a "Los Angeles International Airport (LAX)" to a "Tucson International Airport (TUS)".
2.7.   Find how many direct flights there are between two airports for a first class.
2.8.   Find how many flights are originating for each given city and/or airline

Exercise 2: Create a Graph database

Create a graph database that represents a network of personal libraries of friends.

- It is necessary to include nodes of 'person' in which it is necessary to include the name and nick of the person, and other property that you have to invent.
- It is necessary to include nodes of 'novel' in which it is necessary to include the title and date of the novel, and other property that you have to invent.
- It is necessary to include nodes of ' writer' in which it is necessary to include the name and other property that you have to invent.
- You need to create relationships between nodes, relationships are "is friend of", "is a novel read by". "is a novel written by", "It is a novel recommended by", "is a writer recommended by" and other relationships that you invent. Relationships must have some properties.

Drills

Create

2.1. Write the script, insert data (nodes, relationships, properties) into the graph, display the screenshot of the right menu (Database Information) and output (Table)

Display Schema / Graph

Write the query and display the screenshot of the output (text, table or graph)

2.2. Write a query to display the schema of your database.
2.3. Recover all nodes and relationships (display graph).

Query

Write the query and display the screenshot of the output (text, table or graph)

2.4. Recover all the people on the network who recommend the writer "Maria Dueñas".
2.5. Recover the names of all people with her/his number of friends.
2.6. Recover all novels recommended by more than two people.
2.7. Invent three queries based on your scheme and data included in the graph.