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Graph Databases

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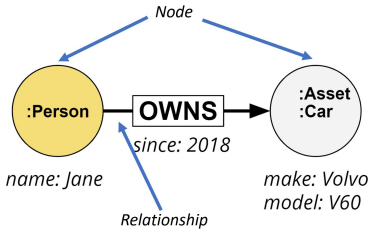
What is a graph database?

- A graph database is a visual tree type of datastore that displays our databases connections as a series of nodes and relations that we can actually see
- Each node, also known as vertex, are the main elements of which graph databases are comprised from and they represent each data element
- Each relationship, also known as an edge, will act as a connection between nodes. The relationships will have a direction and a type.
- A node without relationships is permitted, however, a relationship without two nodes is not allowed



Graph vs. Relational database

- Graph databases and relational databases are two different database types and that has to do with the way they represent data
- Graph databases will represent each piece of data as a node with relationships, whereas the relational database stores the pieces of data as inputs into a row in a column and is then further processed

Graph Database vs. Document Store

- The difference between graph databases and document store databases is a difference in the levels of abstraction
- The document store database stores information in a document, meaning it’s associations and everything will be contained in that document
- The graph database differs because the data and it’s associations aren’t contained, it’s designed to be viewed as a whole

Graph Database vs. Key-Value Store

- The graph database and key-value store database don’t have very much in common
- The key-value store database stores all of the information under a key-value that will correspond to the correct data
- The graph database stores it’s information as viewable nodes and relationship arrows

Graph Database vs. Semantic Store

- Semantic Data Store offers a repeatable approach to analyze highly complex scenarios to visualize the current results to recognize dependencies, errors and potential solutions faster
- This differs from the visual representation of data that the graph database provides

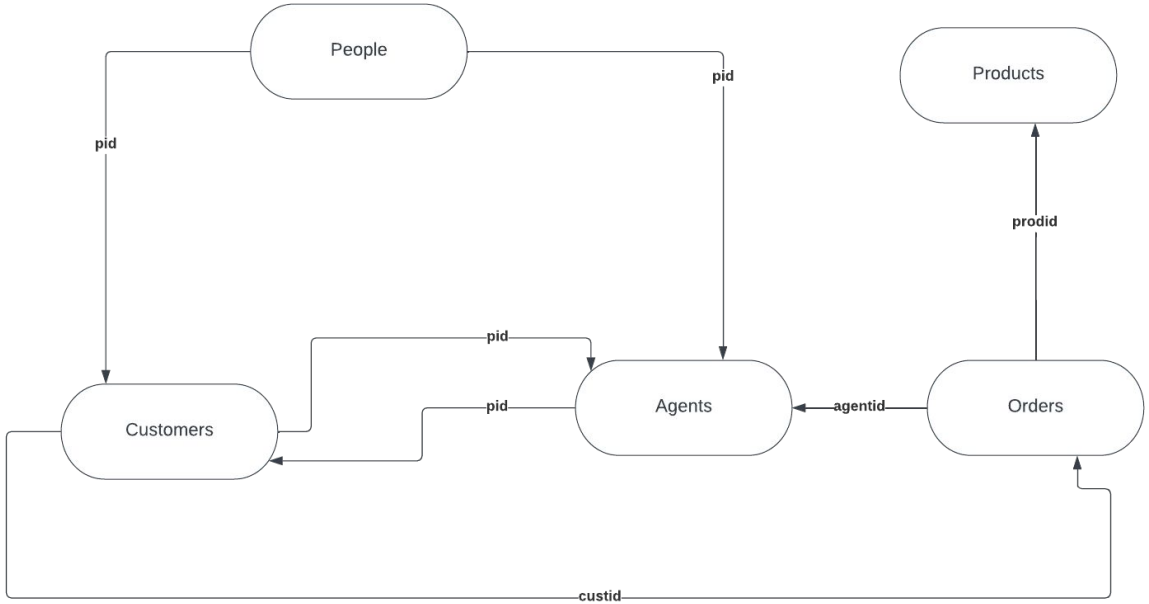
Graph Database vs. Network Database

- A network database represents a database that already has a predefined structure and this database will follow that structure, it will represent the data in a fixed set of fields that are already predetermined, can be a tree but doesn’t have to be a tree
- The graph database will represent the data in a semantic query in a tree structure

Transformation from Relational CAP to Graph CAP

- I tried to create only the relationships that are necessary to connect the graph together and that could be connected between two nodes
- The relationships that are used would be the foreign keys from that connect these tables in the relational database

CAP Graph Database



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