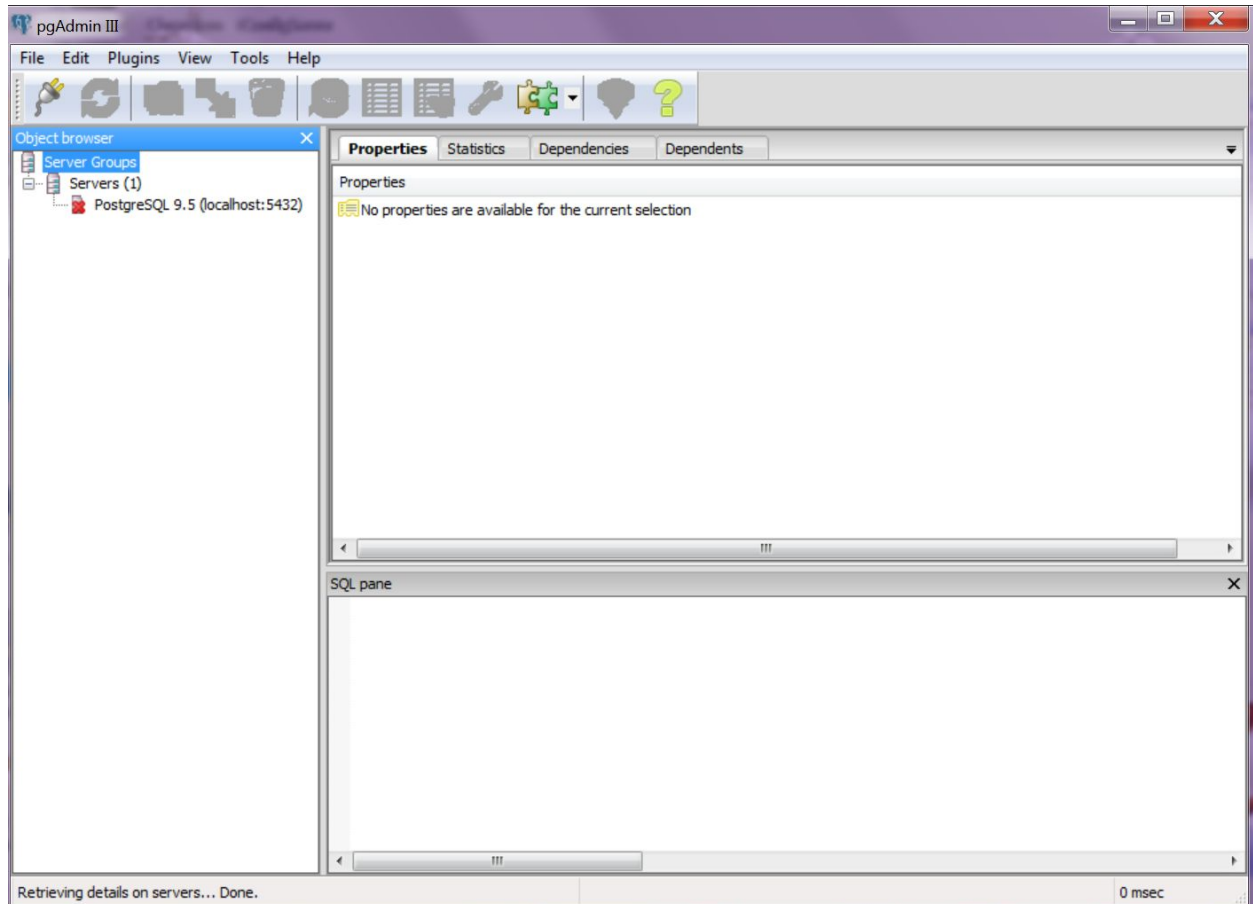


Brian Jahnke

Database Management Lab 1



1. Amazon.com is an example of a company that uses databases for various purposes. An example of Amazon collecting data would be that it keeps track of what it's users search for on their website and what users buy. Specific examples of data would include several search queries by a user for different kinds of books. While this data is necessary, it is not useful in its current state because it is not organized in any way so there is no way to pick up on any kind of search patterns. After this data is organized within the database, it becomes information because it allows amazon to pick up on meaningful patterns such as genre and author preferences. Amazon uses this information so that it may better

understand an individual user's interests and what he or she might be willing to buy.

After figuring this out, Amazon will present the user with products that are similar to what he or she has bought or searched. The most obvious way Amazon does this is through their home page. Besides the search bar, the rest of the page will most likely be dedicated to showing users products that they might purchase. This information is invaluable as it makes shopping more convenient for users and drives up sales for Amazon.

2. The hierarchical data model was created by IBM in the 1960s. It's notable feature is that it organizes data in a tree-like structure. Data is stored in various records which are connected through links. The type of data that goes into each record is defined by the record's entity type, which defines the fields that are present in each record. One of the main issues with the hierarchical data model is that it is very slow in searching for information on lower entities because the entire tree needs to be searched starting from the root node. Another issue being that relationships were inflexible as data required a parent. The network prerelational data model was created with the purpose of being more flexible in showing relationships. A major change from hierarchical being that child nodes can have many parents. However, there are issues with maintaining such a data model as its use of pointers makes changing the data within it complicated. The use of XML could be a good model for storage as it takes the classic hierarchical structure and improves on its faults. One factor being that XML is well suited to deeply nested data, a major weakness to hierarchical. XML is also composed in a format that is human understandable and doesn't require a database expert to access like in relational models.