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Lab 1
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Data vs. Information

A current database that exists which is open on the Internet is the GMS Arena cellphone database. In this database, there is information of almost every phone that was created and designed across the world. In a sense, all of its data is stored and grouped in an organized fashion that highly resembles a relational database. To make this information more feasible for users, each cellphone in the database is stored from a main entity, which is its specific brand name. Brand names like Apple, Samsung, and BlackBerry all contain several cellphones and in each cellphone in the database contain its specific attributes.

Looking at the Apple brand entity as an example, Apple has released multiple products since its iPhone release in 2007. For each cellphone under the Apple brand, the data is ordered by most recent product, in order for users to get quick access to any of the new releases. Taking a product of Apple like the iPhone 7 and iPhone 6, users can get access to any of the information regarding the overall specs of each product. Along with the specs, there are personal site reviews, user opinions, ratings, and comparison modules with other products. There is numerous data about each cellphone, which are grouped by its specific title. Without the grouping of the title, it would be meaningless to know what is unique about the product.

Once data is given context, information can lead to discussion, improvements, and innovation. Without information, data is concrete and it does not tell the user any representation. Looking at this database as an example, it would be inefficient to have just the data of each cellphone without no particular grouping or organization because there would be lack of reasoning and organization. In addition, context allows users to have their own opinion of a specific product in this particular database.

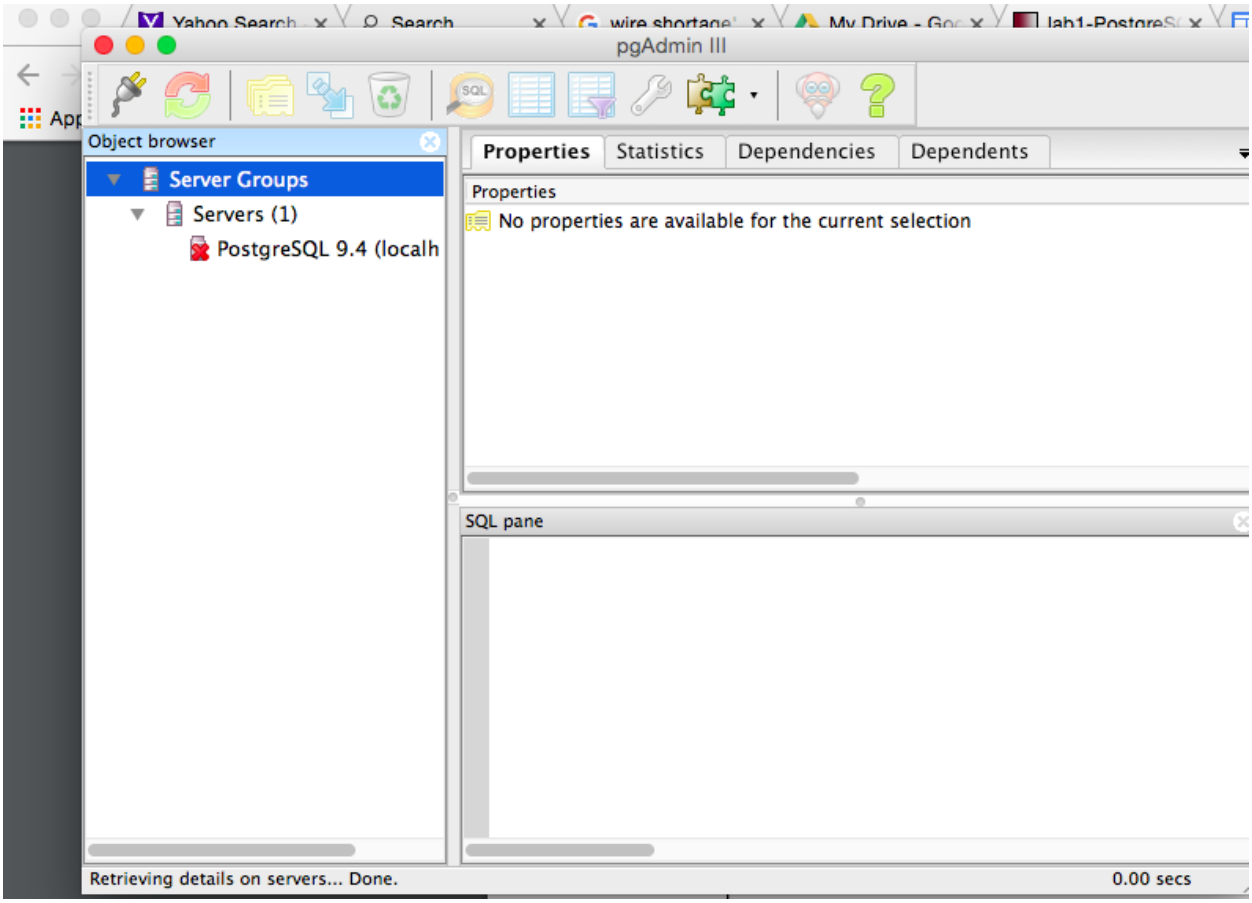
Data Models

By looking at the relational, hierarchical, and network database models, one can determine the purpose of each model and how they compare. The hierarchical database model represents a tree-based structure that displays many different entities to one specific parent. Since the database represents a hierarchical tree, the relationship is one to many. This database does have its flaws, for example it is no guarantee that an entity is only going to have just one parent. Restricting an entity to one parent provides lack of feasibility in a database model. The network database model is a spin-off of the hierarchical database model, in which each element can record multiple parents and multiple children in a web based structure. This represents a many to many relationship and differs from the hierarchical model, since elements in a hierarchical model can only have one parent, with many children. This is a flaw in itself because in a database with a large amount of relationships and entities, it would be highly difficult to read the graph and identify which relationship is related to the other.

Both the network and hierarchical database model comes off short to the relational database model. Instead of using links and graphs, the relational database model focuses on grouping its data by storing it in tables, rows and columns. A table in a relational model can serve as a parent or child, and a specific field can represent its relationship with one another. Each row in a table is unique, and accessed by a specific key. In addition, it is easy to remove and add data into a relational model as compared to both the hierarchical and network model, which uses graphs and links. Therefore, the relational database model is the most efficient model used today and it defeats the flaws that existed in both the network and hierarchical model.

The XML database model can be seen as an efficient model, however it has its flaws. It is efficient since it contains straightforward information about a specific entity and its field. However, compared to a database model that is based upon a relational database, it lacks the row and column structure and format, which exist only in a table itself. Therefore, the XML database model would be best used when looking at one specific piece of data, but it would seem unorganized and hard to keep up with when looking at large chunks of data.

PG Admin Screenshot


pgAdmin III
Object browser
Server Groups
Servers (1)
PostgreSQL 9.4 (localh
Properties
Statistics
Dependencies
Dependents
Properties
No properties are available for the current selection
SQL pane
Retrieving details on servers... Done.
0.00 secs