Brandon Litwin

Alan Labouseur

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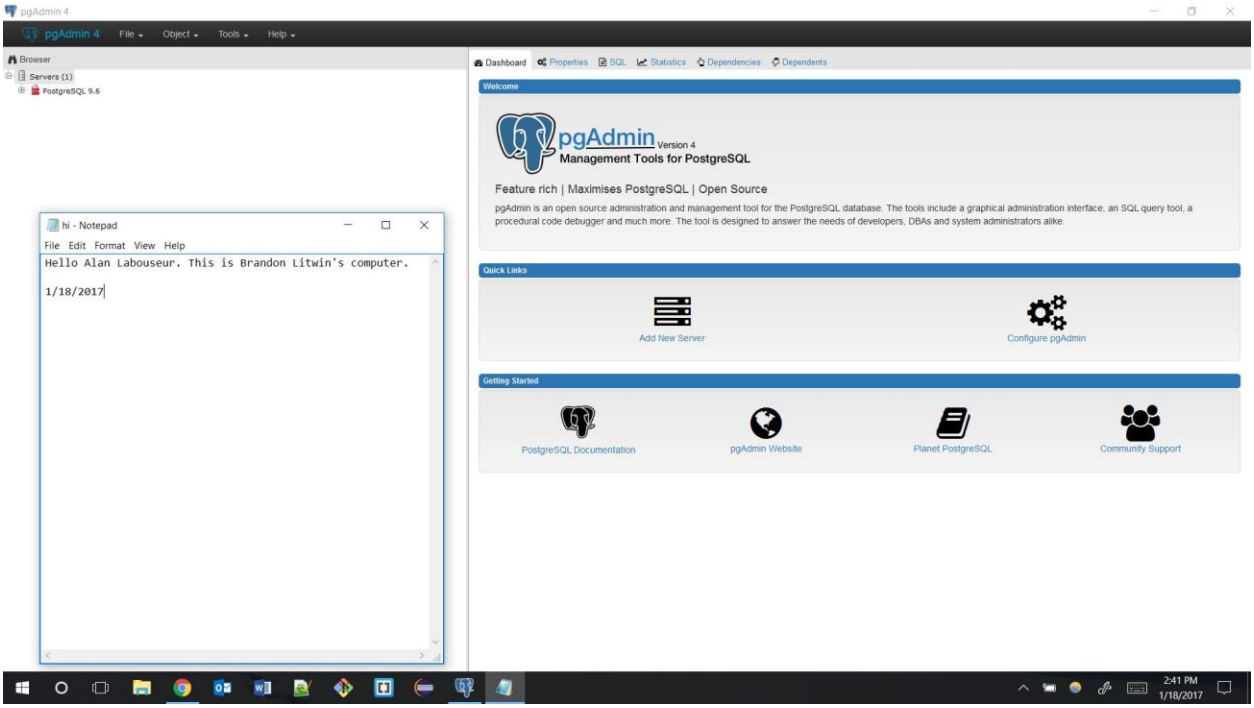
Data vs. Information

An example of a database that might be used today is a record of the weather in Poughkeepsie, NY every day since January 1, 1900. The data elements that it might keep a record of are the date, the temperature, and a description of the weather that day. The database stores more than just the raw data, however, because raw data by itself can be interpreted in many ways. For example, the number "55" does not give information about what it represents. It could be a temperature, an age, or the number of cats in someone's house. Therefore, a good database will organize the data under a certain category that describes what the data represents, such as "temperature in degrees Fahrenheit". Now, this piece of data is information because it has been given context. With this information, the data can be analyzed to find, for example, the average temperature in January each year from 1900-2000. This is valuable information that scientists can use to draw conclusions about the change in the conditions of the earth's atmosphere in the past century.

Data Models

The hierarchical model was developed by IBM as a solution to the primitive flat file system that was used previously. The hierarchical model sorts the data into a tree shape that clearly shows parent-child relationships between the data. For example, the parent might be a player character in a video game and the children are the items that they carry. This model can be quickly navigated, but its problems are that it is not flexible enough, and it can lead to duplications of data. The updated version of this model is the network model, which eliminates duplications by having multiple parents for a single child. This system was still not perfect, however, because it was still not very flexible and not easily separated from the physical computer system it was on. The relational model, developed by IBM employee Edgar Codd, is much better than the previous models because it gets rid of inconsistencies in the data and it is flexible and easy to change. The XML model looks similar to the hierarchical model, but the main difference is that it can connect arbitrary nodes that are not next to each other. An advantage of XML is that it creates and updates a hierarchical tree as each new piece of data is entered (https://www.w3.org/XML/Datamodel.html). Overall, XML is not a good model for data storage because it is based on the hierarchical model, which is inferior to the relational model.


pgAdmin 4
File
Object
Tools
Help
Browser
Servers (1)
PostgreSQL 9.6
Dashboard
Properties
SQL
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Dependents
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pgAdmin Version 4
Management Tools for PostgreSQL
Feature rich | Maximises PostgreSQL | Open Source
pgAdmin is an open source administration and management tool for the PostgreSQL database. The tools include a graphical administration interface, an SQL query tool, a procedural code debugger and much more. The tool is designed to answer the needs of developers, DBAs and system administrators alike.
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hi - Notepad
File Edit Format View Help
Hello Alan Labouseur. This is Brandon Litwin's computer.
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2:41 PM
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