SQL Databases

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What is SQL?

- A programming language designed to manage data in relational database management systems (RDBMs)
- Stands for Structured Query Language
- The Most Widely used data base language
History

• Developed in the early 1970's by Donald Chamberlin and Raymond Boyce of IBM
• Originally called the Structured English Query Language (SEQUEL) but was changed to SQL due to a trademark issue.
• Designed to manipulate and retrieve data stored at the company's management system.
• Oracle (Previously Relational Software Inc) saw potential application of RDBMs in Navy, and later came up with SQL in 1979.
Benefits

• Makes storing dynamic data such as user information and email lists easy
• Helps e-commerce websites, community sites, and online web services such as Amazon to manage user data or process purchases
• Flexible and simple among web developers
• With some basic knowledge of HTML, PHP, and a database program such as Microsoft's SQL Server, a developer becomes capable of creating complex websites and applications while relying on online web services to provide a SQL backend in which user data is stored.
SQL Standards and Platforms

- SQL is a standard, however it comes in different versions and each version has different features. However every version is suppose to support major keywords such as **SELECT, UPDATE, DELETE, INSERT, WHERE**, and others.

- The Platforms below have support multiple versions such as DB2, LUW, H2, JavaDB/Derby, Mimer SQL, MySQL, PostgreSQL, SQLite, SQL Server, Sybase, SQL Anywhere, Sybase ASE:
  - RazorSQL
  - dBvisualizer
How SQL Works

- The databases that use SQL contain at least one object called a table that stores data.
- SQL has standard commands that allow it to retrieve and change data on any table in the database.
SQL Useful Commands

- **Table Modification:**
  - **CREATE TABLE** - creates a new database table
  - **ALTER TABLE** - alters (changes) a database table
  - **DROP TABLE** - deletes a database table

- **Data Modification**
  - **SELECT** - extracts data from a database table
  - **UPDATE** - updates data in a database table
  - **DELETE** - deletes data from a database table
  - **INSERT INTO** - inserts new data into a database table
  - **LIKE** - specifies a search pattern in a column. Wild cards are specified by %.
Resources

SQL Tutorials:
http://www.w3schools.com/sql/default.asp
http://www.1keydata.com/sql/sql.html

Multi SQL Version Supported Platforms:
http://www.razorsql.com/
http://www.dbvis.com/

SQL Free Platform:
http://www.sql-workbench.net/downloads.html