Structured Query Language MySQL

The term *relational database* was first defined by British computer scientist Edgar Codd in 1970. Codd invented the relational model, which became the basis for the most widely used language for relational databases. Codd’s method used mathematical terminology similar to Structured Query Language (SQL) that was being developed around the same time. Structured Query Language is subdivided into several language elements. As its name implies, the most important of these elements or operations is the query, which is performed with the declarative select statement. Select retrieves data from one or more tables or expressions. Standard select statements have no persistent effect on the databases. Some of the most common operations of SQL include the following:

- **Clauses** (constituent components of statements and queries)
- **Expressions** (tables consisting of tables and rows or scalar data)
- **Predicates** (specify conditions that can be evaluated to SQL)
- **Queries** (retrieve data based on specific criteria)
- **Statements** (control connections, sessions)

Creating Databases with MySQL

The creation of databases that do not exist in database servers is an advantage for developers. The programming language flexibility and capability to make database development is much easier to accomplish and prepare for queries and other services demanded by the user toward the database.

Examples of language statements used in MySQL by developers to create or modify a database are CREATE DATABASE and database name, which are used to create a database when one does not exist. Notice the ease and power of one statement to create a database structure. The ability for developers to see if other databases exist in the database is not a cumbersome process but one that can be obtained with the simple statement SHOW DATABASES, which will show all of the databases on the database server.

Tables, which are the foundation to create relational databases, can also be easier and understood quicker because of the simplicity of one programming statement creating tables and functions that are powerful for queries and services, such as database reports. An example of the power of MySQL
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programming language is in being able to alter the table structure of an existing table through the statement ALTER (IGNORE) TABLE table_name actions. This simple statement can alter a table or several tables, which saves time for developers and produces efficient development practices toward other sections of database development.

The Source of MySQL

Under the MySQL development project, the source code is available to the general public. Many open-source application packages needing full-scale database management systems use MySQL for its simplicity of use and its ability to integrate with the very popular PHP language that is used for Web applications, Web sites, and Web servers and its ability to run on a myriad of platforms. Although MySQL began as a low-cost alternative to more powerful but expensive proprietary databases, MySQL has evolved to support larger scale applications. In addition, MySQL has many open-source tools, such as phpMyAdmin—a free Web-based administration tool that makes it even easier to implement and manage a MySQL database. MySQL has revolutionized the capabilities of database applications because new communities of creative developers are included through cost efficiency and distribution, which provides an opportunity for the creation of greater solutions and powerful database applications.