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SQL RDBMS

A Brief Overview of Common Relational Database Management Systems

Background

Relational Database Management Systems (RDBMS)

A relational database management system (RDBMS) is a program that lets you create, update, and administer a relational database. Most relational database management systems use SQL to access the database.

There are more similarities than differences between the different RDBMS, but the SQL syntax may be slightly different depending on which RDBMS you are using.

Here is a brief description of popular types of RDBMS

SQLite

SQLite is a popular open source SQL database. It is able to store an entire database in a single file. One of the biggest advantages this provides is that all of the data can be stored locally without having to connect your database to a server.

SQLite is a popular choice for databases in cellphones, PDAs, MP3 players, set-top boxes, and other electronic gadgets. The SQL course on Codecademy also uses SQLite.

MySQL

MySQL is the most popular open source SQL database. It is typically used for web application development, and often accessed using PHP.

The main advantages of MySQL are that it is easy to use, inexpensive, reliable (has been around since 1995) and has a large community of developers who can help answer questions.

Some of the disadvantages are that it has been known to suffer from poor performance when scaling, open source development has lagged since Oracle has taken control of MySQL, and it does not include some advanced features that developers may be used to.

PostgreSQL

PostgreSQL is an open source SQL database that is not controlled by any corporation. It is typically used for web application development.

PostgreSQL shares many of the same advantages of MySQL. It is easy to use, inexpensive, reliable, and has a large community of developers. It also provides some additional features such as foreign key support without requiring complex configuration.

The main disadvantage of PostgreSQL is that it is slower in performance than other databases such as MySQL. It is also less popular than MySQL which makes it harder to come by hosts or service providers that offer managed PostgreSQL instances.

Oracle DB

Oracle DB is owned by the Oracle corporation and the code is not open sourced.

Oracle is used for large applications, particularly in the banking industry. Most of the world's top banks run Oracle applications because Oracle offers a powerful combination of technology and comprehensive, pre-integrated business applications, including key functionality built specifically for banks.

The main disadvantage of using Oracle is that it is not free to use like its open source competitors and can be quite expensive.

SQL Server

SQL Server is owned by Microsoft. Like Oracle DB, the code is also close sourced.

SQL Server is mainly used by large enterprise applications. The major difference between Oracle and SQL Server is that SQL Server only supports the Windows Operating System.

Microsoft offers a free entry level version called *Express*, but can become very expensive as you scale your application.

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