MS-SQL SERVER 2008

MS SQL Server is a powerful database management system and the user can create application that requires little or no programming. It supports GUI features and an entire programming language, Visual Studio Application which can be used to develop richer and more developed application.

There are quite a few reasons, the first being that SQL is a feature rich program that can handle any database related task you have. You can create places to store your data build tools that make it easy to read and modify your database contents, and ask questions of your data. SQL is a relational database, a database that stores information about related objects. In MS SQL that database means a collection of tables that hold data. It collectively stores all the other related objects such as queries, forms and reports that are used to implement function effectively.

The MS SQL database can act as a back end database for .NET as a front end, MS SQL supports the user with its powerful database management functions. A beginner can create his/her own database very simply by some mouse clicks. Another good reason to use SQL as backend tool is that it is a component of the overwhelmingly popular Microsoft office software suite.

MS SQL however is a relational database, which means that you can define relationships among the data it contains. Relational database, are superior to flat file databases because you can store discrete information.

Microsoft SQL Server 2008 is a full-featured relational database management system (RDBMS) that offers a variety of administrative tools to ease the burdens of database development, maintenance and administration. In this article, we'll cover six of the more frequently used tools: Enterprise Manager, Query Analyzer, SQL Profiler, Service Manager, Data Transformation Services and Books Online. Let's take a brief look at each:

Enterprise Manager is the main administrative console for SQL Server installations. It provides you with a graphical "birds-eye" view of all of the SQL Server installations on your network. You can perform high-level administrative functions that affect one or more servers, schedule common maintenance tasks or create and modify the structure of individual databases.

Query Analyzer offers a quick and dirty method for performing queries against any of your SQL Server databases.It's a great way to quickly pull information out of a database in response to a user request, test queries before implementing them in other applications, create/modify stored procedures and execute administrative tasks.

SQL Profiler provides a window into the inner workings of your database. You can monitor many different event types and observe database performance in real time. SQL Profiler allows you to capture and replay system "traces" that log various activities. It's a great tool for optimizing databases with performance issues or troubleshooting particular problems.

Service Manager is used to control the MSSQLServer (the main SQL Server process), MSDTC (Microsoft Distributed Transaction Coordinator) and SQLServerAgent processes. An icon for this service normally resides in the system tray of machines running SQL Server. You can use Service Manager to start, stop or pause any one of these services.

Data Transformation Services (DTS) provide an extremely flexible method for importing and exporting data between a Microsoft SQL Server installation and a large variety of other formats. The most commonly used DTS application is the "Import and Export Data" wizard found in the SQL Server program group.

Books Online is an often overlooked resource provided with SQL Server that contains answers to a variety of administrative, development and installation issues. It's a great resource to consult before turning to the Internet or technical support. Hopefully, this article has provided you with a brief introduction to the various tools available to Microsoft SQL Server users. Now get out there and give them a whirl!

SQL Server Architecture

Microsoft® SQL Server data is stored in databases. The data in a database is organized into the logical components visible to users. A database is also physically implemented as two or more files on disk. When using a database, you work primarily with the logical components such

as tables, views, procedures, and users. The physical implementation of files is largely transparent. Typically, only the database administrator needs to work with the physical implementation.

Each instance of SQL Server has four system databases (**master**, **model**, **tempdb**, and **msdb**) and one or more user databases. Some organizations have only one user database, containing all the data for their organization. Some organizations have different databases for each group in their organization, and sometimes a database used by a single application. For example, an organization could have one database for sales, one for payroll, one for a document management application, and so on. Sometimes an application uses only one database; other applications may access several databases.

It is not necessary to run multiple copies of the SQL Server database engine to allow multiple users to access the databases on a server. An instance of the SQL Server is capable of handling thousands of users working in multiple databases at the same time. Each instance of SQL Server makes all databases in the instance available to all users that connect to the instance, subject to the defined security permissions.

When connecting to an instance of SQL Server, your connection is associated with a particular database on the server. This database is called the **current database**. You are usually connected to a database defined as your default database by the system administrator.

SQL Server allows you to **detach** databases from an instance of SQL Server, then **reattach** them to another instance, or even attach the database back to the same instance. If you have a SQL Server database file, you can tell SQL Server when you connect to attach that database file with a specific database name.