



Basic SQL Server

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Agenda

- DDL Statements
 - Creating Database
 - Creating Tables
- DML Statements
 - Inserting data
 - Updating data
 - Deleting data

T-SQL Statements

- T-SQL Statements are used to access and interact with SQL Server.
- SQL Server supports following types of T-SQL Statements:
 - **DDL – Data Definition Language**
 - CREATE, ALTER, DROP Statements
 - **DML – Data Manipulation Language**
 - SELECT, INSERT, UPDATE, DELETE Statements
 - **DCL – Data Control Language**
 - GRANT, REVOKE, DENY Statements

Databases in SQL Server

- To create a database, you must have a CREATE DATABASE permission.
- The user who creates the database becomes the owner of the database.
- A maximum of 32,767 databases can be created on an instance of SQL Server.
- The name of the database must follow the rules of identifiers.
- All objects in the model database are copied to all newly created databases.

Database Files

- There are 3 types of files used to store a database.
- Primary Files (.mdf file extension)
- Secondary Files (.ndf file extension)
- Transaction Log Files (.ldf file extension)

Primary File

- A database must have a Primary data file.
- The primary file contains the startup information for the database.
- Every database has one primary file.

Secondary Files

- In case of large database when the primary file is not sufficient to store data, optional secondary data files can be created.
- Large database may use multiple secondary data files to store data.

Transaction Log Files

- Transaction log files used to store log information used to recover the database.
- There must be at least one transaction log file for each database.
- There may be multiple log files for each database.
- The minimum size for a log file is 512 KB.

Creating and Modifying Databases

- Following statements are used to create, change and delete a database in SQL Server :
- CREATE DATABASE
- ALTER DATABASE
- DROP DATABASE

Data Integrity

- **Entity integrity**
 - PRIMARY KEY and UNIQUE constraints, UNIQUE indexes
- **Domain integrity**
 - CHECK, DEFAULT, FOREIGN KEY and NOT NULL constraints, Data Types, Rules
- **Referential integrity**
 - FOREIGN KEY constraint
- **User-defined integrity**

Enforcing Data Integrity

- Following constraints can be used to apply data integrity :
 - PRIMARY KEY
 - FOREIGN KEY
 - UNIQUE
 - CHECK
 - DEFAULT
 - NOT NULL

Tables in SQL Server

- SQL Server uses tables to store data.
- A database may include up to 2,147,483,647 objects (2 billion approx.), including tables.
- You can define up to 1024 columns per table.
- The number of rows and total size of the table are limited only by the available storage.
- The maximum number of bytes per row is 8,060.

Creating and Modifying Tables

- Following statements are used to create, change and delete a table in SQL Server :
- CREATE TABLE
- ALTER TABLE
- DROP TABLE

Applying Constraints

- Following commands are used create
- ADD CONSTRAINT
- DROP CONSTRAINT

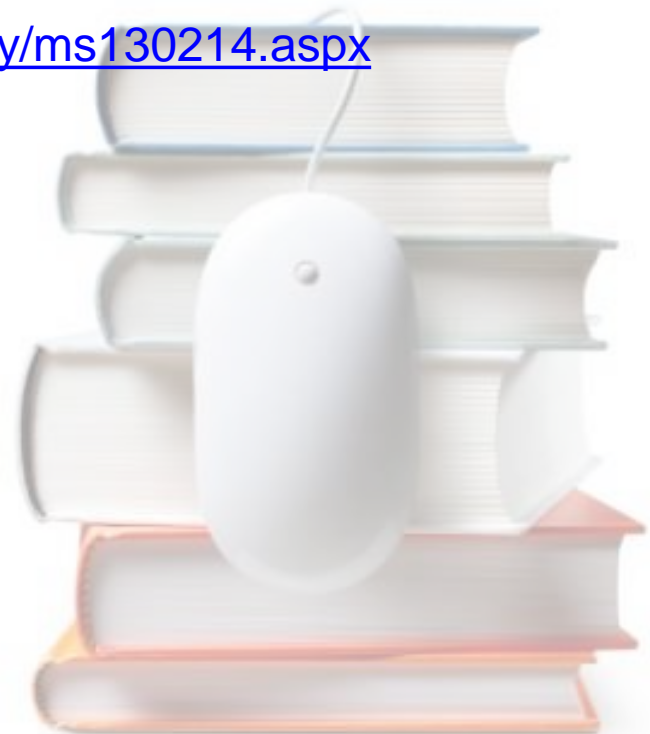
DML Statements

- Following commands are used to add, change and delete data from a table in SQL Server :
- INSERT or INSERT INTO
- UPDATE
- DELETE or DELETE FROM

Bibliography, Important Links

[WWW.MSDN.COM](http://www.msdn.com) (SQL SERVER 2012 BOOKS ONLINE)

<http://msdn.microsoft.com/en-us/library/ms130214.aspx>



Any Questions?



Thank you!