

MS SQL Server 2012 Developer Course Contents

Basic Database Concept

- History of SQL
- History of SQL Server
- Concepts of Data, Metadata, Files
- Concepts of DBMS
- Database Models
- File Management Systems
- Relational Database Systems
- RDBMS(Relational database Management system)
- Difference between DBMS and RDBMS
- Database Design
- E.F.Codd's Rules

Normalization

- First Normal Form
- Second Normal Form
- Third Normal Form

Introduction to Sql server

- Features of SQL Server
- Different Editions of SQL Server
- Components of SQL Server
- Services of SQL Server
- Comparison of SQL Server with Oracle

Database Design

- Logical & Physical database design
- Relational database design
- Creating databases

SQL Server Management Studio

- Basics of SQL
- Data types, expressions, operators
- Working with Queries
- Creating Databases

Implementing Data Integrity

- Entity integrity
- Domain integrity
- Referential integrity
- Types of constraints

Data Definition Language(DDL)

- Creation of table
- Modifying the structure of a table

- Dropping a table
- Working with different options

Data Manipulation Language(DML)

- Inserting, updating & deleting operations
- Operators, Built-in functions, Grouping
- Working with multiple tables

Data Control Language(DCL)

- Creating Users and Roles
- Granting & Revoking of Roles & Privileges

Transaction Control Language(TCL)

Commit Transaction

- Rollback Transaction
- Save Point

Operators

The EXISTS Operator

Mixing Data Types: CAST and CONVERT

Joins

- Introduction to Joins
- Inner join
- Outer join
- Cross joins
- Self join

SubQueries

- Nested sub queries
- Correlated sub queries
- Derived tables

Index

- Introduction to indexes
- Creating, dropping indexes
- Clustered & non clustered indexes
- Rebuild and Reorganize Index

Implementing Views

- Introduction & advantages of views
- Creating views
- Altering, dropping views

Backup & Restore Methods

- Full backup
- Differential backup
- Log backup
- Mirror backup
- Copy only

Restoring databases with

- Recovery
- No recovery
- Standby

Performance Tuning

- Profiler
- Data Tuning Advisor
- Finding Blockings & handling blockings
- Deadlocks detection
- Dynamic Management Views
- DBCC commands
- Performance monitor

Transactions

- ACID properties
- Commit Transactions
- Rollback Transactions
- Save Point

Locks & Concurrency

Lock Modes

- Shared Locks
- Exclusive Locks
- Update Locks
- Intent Locks
- Schema Locks

Isolation modes

- READ COMMITTED
- READ UNCOMMITTED
- REPEATABLE READ
- SERIALIZABLE
- SNAPSHOT

Transact SQL(T-SQL)

Script Basics

The USE Statement

Declaring Variables

Setting the Value in Your Variables

Using @@IDENTITY

Using @@ROWCOUNT

Control-of-Flow Statements

The IF ... ELSE Statement

The ELSE Clause

The CASE Statement
A Simple CASE
Looping with the WHILE Statement

Error Handling

- TryCatch block to Handle errors

Stored Procedures

- Introduction to stored procedures
- Creating, executing, modifying, dropping sp's
- Executing extended sp's

User Defined Functions

- Introduction
- Creating, executing, altering, dropping UDF's
- Scalar, multi-statement, built-in functions

Triggers

- Introduction to Triggers
- Constraints vs Triggers
- Creating, altering, dropping triggers
- for/after/instead of triggers

Scheduling & Maintaining Jobs

- Creating an Operator
- Creating an Operator Using Management Studio
- Creating Jobs and Tasks
- Creating Jobs and Tasks Using Management Studio

New Features Between SQL 2008 and SQL 2012

- Policy Based Management
- Resource Governer
- CHANGE DATA CAPTURE
- Backup Compression
- New Data Types
- Merge Join
- OFFSET and FETCH
- SEQUENCE

- Error handling with THROW