

## SQL Server Training

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#### About SQL Server Training

This SQL Server training teaches developers all the Transact-SQL skills they need to create database objects like Tables, Views, Stored procedures & Functions and triggers in SQL Server. Gives idea about writing Queries & Sub-queries, working with Joins, etc. As well as database management skills like backup, restore, etc.

#### SQL Server Training Course Prerequisite

- No Prior Experience is presumed.

#### SQL Server Training Course Objective

- Learn Database models
- Overview of SQL Server Management Studio and Transact-SQL language
- Master writing simple and complex queries that retrieve data from the database
- Calculate information across result sets using aggregate queries (sum, min, max, avg, etc.)
- Insert, update, and delete data
- Retrieve data from tables
- Joins
- Sub-queries
- Working with Data Types
- Procedure and Functions
- Understand the different Views
- Working with Triggers
- Design a database
- Maintain databases, tables, and sequences with SQL statements
- Create and manage views
- Ensure the integrity of multiple, related database updates by using transactions
- Retrieve data using cursors
- Manage binary data using BLOBs

#### SQL Server Training Course Duration

- 30 Working days, daily one and half hours

## SQL Server Training Course Overview

### Introduction To DBMS

- File Management System And Its Drawbacks
- Database Management System (DBMS) and Data Models
  - Physical Data Models
  - Logical Data Models
    - Hierarchical Data Model (HDBMS)
    - Network Data Model (NDBMS)
    - Relational Data Model (RDBMS)
    - Object Data Model (ODBMS)
    - Object Relational Data Model (ORDBMS)
- Conceptual Data Models
  - Entity – Relationship (E-R) Model

### Introduction To SQL Server

- Advantages and Drawbacks Of SQL Server Compared To Oracle And DB2
- Connecting To Server
  - Server Type
  - Server Name
  - Authentication Modes
    - Sql Server Authentication Mode
    - Windows Authentication Mode
    - Login and Password
- Sql Server Management Studio and Tools In Management Studio
  - Object Explorer
  - Object Explorer Details
  - Query Editor

## TSQL (Transact Structured Query Language)

### Introduction To TSQL

- History and Features of TSQL
- Types Of TSQL Commands
  - Data Definition Language (DDL)
  - Data Manipulation Language (DML)
  - Data Query Language (DQL)
  - Data Control Language (DCL)

- Transaction Control Language (TCL)
- Database
  - Creating Database
  - Altering Database
  - Deleting Database
  - Constrains
    - Procedural Integrity Constraints
    - Declarative Integrity Constraints
      - Not Null, Unique, Default and Check constraints
      - Primary Key and Referential Integrity or foreign key constraints
    - Data Types In TSQL
    - Table
      - Creating Table
      - Altering Table
      - Deleting Table

#### Data Manipulation Language

- Insert
- Identity
- Creating A Table From Another Table
- Inserting Rows From One Table To Another
- Update
- Computed Columns
- Delete
- Truncate
- Differences Between Delete and Truncate

#### Data Query Language (DQL)

- Select
- Where clause
- Order By Clause
- Distinct Keyword
- Isnull() function
- Column aliases
- Predicates
  - Between ... And
  - In
  - Like

- Is Null

#### Built In Functions

- Scalar Functions
  - Numeric Functions
  - Character Functions
  - Conversion Functions
  - Date Functions
  - Aggregate Functions
    - Convenient Aggregate Functions
    - Statistical Aggregate Functions
    - Group By and Having Clauses
    - Super Aggregates
    - Over(partition by ...) Clause
    - Ranking Functions
    - Common Table Expressions (CTE)

#### Top n Clause

#### Set Operators

- Union
- Intersect
- Except

#### Joins

- Inner Join
  - Equi Join
  - Natural Join
  - Non-Equi Join
  - Self Join
  - Outer Join
    - Left Outer Join
    - Right Outer Join
    - Full Outer Join
    - Cross Join

#### Sub Queries



- Single Row Sub Queries
- Multi Row Sub Queries
  - Any or Some
  - ALL
- Nested Sub Queries
- Co-Related Sub Queries
- Exists and Not Exists

#### Indexes

- Clustered Index
- NonClustered Index
- Create , Alter and Drop Indexes
- Using Indexes

#### Security

- Login Creation
  - SQL Server Authenticated Login
  - Windows Authenticated Login
- User Creation
- Granting Permissions
- Revoking Permissions
- Roles

#### Views

- Purpose Of Views
- Creating , Altering and Dropping Indexes
- Simple and Complex Views
- Encryption and Schema Binding Options in creating views

#### Transaction Management

- Introduction
- Begin Transaction
- Commit Transaction
- Rollback Transaction
- Save Transaction
- Role Of Log File In Transaction Management

- Implicit Transactions

### TSQL Programming

- Drawbacks Of TSQL that leads to TSQL Programming
- Introduction To TSQL Programming
- Control statements In TSQL Programming
  - Conditional Control Statements
    - If
    - Case
- Looping Control Statements
  - While

### Cursors

- Working With Cursors
- Types Of Cursors
  - Forward\_Only and Scroll Cursors
  - Static, Dynamic and Keyset Cursors
  - Local and Global Cursors

### Stored Sub Programs

- Advantages Of Stored Sub Programs compared to Independent SQL Statements
- Stored Procedures
  - Creating , Altering and Dropping
    - Optional Parameters
    - Input and Output Parameters
    - Permissions on Stored Procedures
  - User Defined Functions
    - Creating, Altering and Dropping
    - Types Of User Defined Functions
      - Scalar Functions
      - Table Valued Functions
        - Inline Table Valued Functions
        - Multi Statement Table Valued Functions
    - Permissions On User Defined Functions
  - Triggers
    - Purpose of Triggers
    - Differences Between Stored Procedures and User Defined Functions and Triggers

- Creating, Altering and Dropping Triggers
- Magic Tables
- Instead Of Triggers
- Exception Handling
- Implementing Exception Handling
- Adding and removing User Defined Error Messages To And From SQL Server Error Messages List
- Raising Exceptions Manual

#### CLR Integration

- What is CLR Integration and The Steps For Implementing It
- A Simple Example With CLR Integration

#### Working with XML Data Type

#### Backup and Restore Of Database

#### Attach and Detach of Database

#### Normalization

#### FAQ

#### INTERVIEW QUESTIONS



# Focus Training Services

**Contact : 8801105544**