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# SQL Server Query Training Course Contents

## **Introduction to Microsoft SQL Server**

- SQL Server Service
- SQL Server Instances
- SSMS

## **SELECT Queries**

- Logical Order in SELECT Statements
- Writing Simple SELECT Statements
- Select with DISTINCT
- Column and Table Aliases
- CASE Expressions

## **Order By and Where Conditions**

- Sorting Data
- Filtering Data
- Filtering Data with TOP and OFFSETFETCH
- Working with NULL Values

## **Retrieving Data from Two or More Tables**

- Inner Joins
- Left Outer Joins
- Right Outer Joins
- Self Join
- Cross Joins

All the training sessions will be conducted with Practical Examples.  
Students' practice labs will be provided separately for hands on.



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## **Group By Clause**

- Using Aggregate Functions
- Using the GROUP BY Clause
- Filtering Groups with HAVING

## **Creating and maintaining databases, tables, and sequences with SQL statements**

- Creating Databases, Tables
- Using Constraints Working with Schema Creating and Altering Tables Working with Sequences

## **SQL Server Data Types**

- Character Data Type
- Numeric Data type
- Datetime Datatype
- Other Data types
- Data Type Conversion
- Implicit Conversion
- Explicit Conversion

## **DML to Modify Data**

- Adding Data to Tables
- Modifying and Removing Data
- Sequences VS Identity

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## **Built-in Functions**

Writing Queries with Built-in Functions

Using Conversion Functions

Using Logical Functions

Using Functions to Work with NULL

## **Subqueries**

Subqueries in Search Conditions

Other Ways to Use Subqueries

Correlated Subqueries

Using the EXISTS Predicate with Subqueries

Guidelines for Working with Complex Queries

Common Table Expressions

Using Derived Tables

## **Set Operators**

Writing Queries with the UNION Operator

Using EXCEPT and INTERSECT

## **Window Functions**

Creating Windows with OVER

Exploring Window Functions

## **Pivoting and Grouping Sets**

Writing Queries with PIVOT Writing

Queries with UNPIVOT Writing

Queries with GROUPING SETS

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## **Programming with T SQL**

- Batches
- Variables
- Loops
- If...else
- While loop
- Synonyms

## **Stored Procedures (SP)**

- Advantages of SP
- Create , Alter Drop SP
- Passing parameters to SP
- Executing SP

## **Metadata**

- Catalog Views and Functions
- System Stored Procedures
- Information Schema Views
- Dynamic Management Objects

## **Error Handling**

- TRY / CATCH Blocks
- Working with Error Information
- Throw, Raiserror
- Adding Customized Error Messages into SQL Server

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