## **SQL** Server

Programming Basic to Advance concepts Instructor: Amol A Khandekar

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## **Objective**

This course has been designed for the beginners to help them understand the basics to advanced concepts of MSSQL programming language. After completing this tutorial, you will find yourself at a great level of expertise in SQL programming, from where you can take yourself to the next levels.

Course Content (42 Hr)

**Introduction** 

(2 Hr)

- Brief History of SQL
- Relational Database
  - Table
  - Relationships
  - Primary Keys
  - Foreign Keys
  - Relational Database Management System
- Normalization
- SQL Statements
  - DDL Data Definition Language
  - DML Data Manipulation Language
  - DQL Data Query Language
  - DCL Data Control Language

**SQL Server Setup** 

(1 Hr)

- Installation
- Query Tool
- Session and SQL Editor

DQL - Select Statement (Part - I)

(6 Hr)

- Exploring Tables
- Operators
  - Mathematical
  - Comparison
  - Logical
  - Set
- Clauses
  - Where
  - Group By
  - Having
  - Order By
  - Distinct
- Functions
  - Aggregate Functions

8	DDL – Data Definition Language	(3 Hr)
	<ul><li>Create Table</li></ul>	
	<ul><li>Data Type</li></ul>	
	<ul><li>Primary Key</li></ul>	
	■ Foreign Key	
	<ul><li>Constraints</li></ul>	
	<ul><li>Null Concept</li></ul>	
	<ul><li>Alter Table</li></ul>	
	<ul><li>Add Column</li></ul>	
	<ul><li>Alter Column</li></ul>	
	<ul><li>Drop Column</li></ul>	
	<ul> <li>Add Constraint</li> </ul>	
	<ul><li>Drop Constraint</li></ul>	
	<ul> <li>Drop Table</li> </ul>	
9	DML – Data Manipulation Language	(2 Hr)
	■ INSERT	` ,
	<ul> <li>UPDATE</li> </ul>	
	<ul> <li>DELETE</li> </ul>	
	<ul><li>Constraint Violation</li></ul>	
8	DQL – Data Control Language	(1 Hr)
	<ul><li>Commit</li></ul>	
	<ul><li>Rollback</li></ul>	
	<ul> <li>Understanding of Transaction and ACID Property</li> </ul>	
8	DQL – Select Statement (Part – II)	(6 Hr)
	<ul><li>Sub Query</li></ul>	
	<ul> <li>Co-related Query</li> </ul>	
	<ul> <li>Joins with multiple tables</li> </ul>	
	<ul><li>Inner</li></ul>	
	<ul><li>Outer</li></ul>	
	<ul><li>Union/ Union All</li></ul>	
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	Programing Construct	(3 Hr)
	<ul><li>Declare</li></ul>	
	• Set	
	<ul> <li>Conditional Construct</li> </ul>	
	<ul> <li>Looping Construct</li> </ul>	
	<ul> <li>Set</li> </ul>	
	User Define Programming Objects	(6 Hr)
	<ul><li>Store Procedure</li></ul>	
	<ul><li>Function</li></ul>	
	<ul><li>Views</li></ul>	
	<ul><li>Trigger</li></ul>	

Date Functions
String Functions

Raising an error
Creating Index
Difference between Clustered Index and Non Clustered Index
B-Tree Structure
Reading Execution Plan

Complex Datatype
XML
JSON

Project & Assignment – Part I (3Hr)

Project & Assignment – Part II (3Hr)