

MS SQL Server Training Course Content

- **Introduction to DBMS (Database Management System).**
 - i) File management & its drawbacks
 - ii) DBMS & Data Models -
 - (1) Physical Data Models
 - (2) Logical Data Models -
 - (a) Hierarchical Data Model (HDBMS).
 - (b) Network Data Model (NDBMS).
 - (c) Relational Data Model (RDBMS).
 - (d) Object Data Model (ODBMS).
 - (e) Object Relational Data Model (ORDBMS).
 - iii) Conceptual Data Models –
 - (1) Entity – Relationship Model (ER Model).
- **Introduction to MS SQL Server**
 - i) Advantages and drawbacks of SQL Server Compared to Oracle & DB2.
 - (1) Connecting to Server**
 - (a) Server Type .
 - (b) Server Name.
 - (c) Authentication Modes.**
 - (i) SQL Server Authentication Modes.
 - (ii) Windows Authentication Modes.
 - (iii) Login and Password.
 - (iv) SQL Server Management Studio & Tools in Management Studio.**
 - 1. Object Explorer.
 - 2. Object Explorer Details.
 - 3. Query Editor.
- **Database**
 - i) Creating Database.
 - ii) Altering Database.
 - iii) Deleting Database.
 - iv) Constraints.

- (1) Procedural Integrity Constraints.
- (2) Declarative Integrity Constraints.**
 - (a) Not Null, Unique, Default & Check Constraints.
 - (b) Primary Key and Referential Integrity or foreign key constraints.
 - (c) Data types in MS SQL.
- (3) Tables**
 - (a) Creation.
 - (b) Alter.
 - (c) Delete.
- **DML (Data Manipulation Language)**
 - i) Insert.
 - ii) Update.
 - iii) Delete.
 - iv) Truncate.
 - v) Differences between Truncate & Delete.
- **DQL (Data Query Language)**
 - i) Select.
 - ii) Where Clause.
 - iii) Order by Clause.
 - iv) Distinct Keyword.
 - v) IsNull() function.
 - vi) Column aliases.
 - vii) Predicates**
 - (1) Between ... AND
 - (2) In
 - (3) Like
 - (4) Is Null
- **Built in Functions**
 - i) Scalar Functions**
 - (1) Numeric Functions.
 - (2) Character Functions.
 - (3) Conversion Functions.

- (4) Date Functions
- (5) Aggregate Functions.
- **Set Operators**
 - i) Union
 - ii) Intersect
 - iii) Except
- **Joins**
 - i) Equi join.
 - ii) Natural join.
 - iii) Non-Equi join.
 - iv) Self join.
 - v) **Outer joins**
 - (1) Left Outer join.
 - (2) Right Outer join.
 - (3) Full Outer join.
 - (4) Cross Outer join.
- **Indexes**
 - i) Clustered Index.
 - ii) Non Clustered Index.
 - iii) Create, Alter & Drop Indexes.
 - iv) Using Indexes.
- **Security**
 - i) **Login Creation**
 - (1) SQL Server Authenticated Login.
 - (2) Windows Authenticated Login.
 - (3) User Creation.
 - (4) Granting Permissions.
 - (5) Revoking Permissions.
 - (6) Roles.
- **Views**
 - i) Purpose of Views

- ii) Creating, Altering & Dropping Indexes.
- iii) Simple & Complex Views.
- iv) Encryption & Schema Binding Options in Creating views.
- **Normalization.**
- **Attach & Detach of Database.**
- **Backup & Restore of Database.**
- **Working with XML Data Types.**