**SQL Server 2014 Training Course Overview**

**Introduction To DBMS**

* File Management System And Its Drawbacks
* Database Management System (DBMS) and Data Models
* Relationships in Sql Server

**Introduction To SQL Server**

* Advantages and Drawbacks Of SQL Server Compared To Oracle And DB2
* SQL Server Installation.
* 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)

**Data Definition Language(DDL)**

* Database
* Creating Database
* Altering Database
* Deleting Database
* Constrains
* Procedural Integrity Constraints(Triggers)
* Declarative Integrity Constraints
* Not Null, Unique, Default and Check constraints
* Primary Key and Referential Integrity or foreign key constraints
* Delete and update Rules in Foreign Key
* On update/delete no action
* On update/delete cascade
* On update/delete set null
* On update/delete set default
* Data Types In TSQL
* Table
* Creating Table
* Altering Table
* Dropping Table

**Data Manipulation Language(DML)**

* 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
* Merge Statement

**Data Query Language (DQL)**

* Select
* Where clause
* Order By Clause
* Distinct Keyword
* Isnull() function
* Column & table aliases

**Operators:**

* Arithmetic operators
* comparison operators
* range operators
* list operators
* string /pattern matching operator
* unknown value operators
* logical operators
* set operators

**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
* Rank()
* Dense\_rank()
* Row\_Number()
* Ntile(n)

Table Expressions

* Derived tables
* Common Table Expressions (CTE)

**Top n Clause
Joins**

* Inner Join
* Equip 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
* Creating indexed view
* Using Indexes

**Security**

* Login Creation
* SQL Server Authenticated Login
* Windows Authenticated Login
* User Creation
* Granting Permissions
* Revoking Permissions

**Schema**

* Creating a schema
* Creating an object under schema
* Alterring a schema
* Droping a schema
* Providing security to schemaa

**Views**

Purpose Of Views

* Creating , Altering and Dropping Views
* Simple and Complex Views
* Updating(insert/delete/update) the views
* With check option
* Encryption and Schema Binding Options in creating views

**Transaction Management-(TCL)**

Introduction

* Explicit Transactions
* Begin Transaction
* Commit Transaction
* Rollback Transaction
* Save Transaction
* Implicit Transactions

**TSQL Programming (like PL/SQL in Oracle)**

* 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
* Cursors with functions, procedures and triggers(will be dealt at the end)

**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
* Diff between fucntions and procedures
* Triggers
* Purpose of Triggers
* Differences Between Stored Procedures and User Defined Functions and Triggers
* Creating, Altering and Dropping Triggers
* After Triggers
* Magic Tables
* Instead Of Triggers
* Updating the complex view using instead of triggers
* Exception Handling
* Implementing Exception Handling
* Try –catch mechanism
* Adding and removing User Defined Error Messages To And From SQL Server Error Messages List
* Raising Exceptions Manual
* Generating Errors through throws key word

**Normalization**

* First Normal Form
* Second Normal Form
* Third Normal Form
* Boyce-Codd Normal Form

**Backup and Restore Of Database**
**Attach and Detach of Database**