ITS

ITS Data-Solutions Pvt. Ltd.
3rd Floor, Vrajendra Complex, Near Devendra Bus Stop, Naranpura
Ahmedabad 380013 Gujarat India Phone : +91 9879558787, +91 9825306119
www.itsahmedabad.com GST 24AACCI0498K1ZF CIN no : U72200GJ2009PTC056371

Course Name: Microsoft SQL Server Database Developer

Course Duration: 40 Hrs.
Prerequisites

- Basic understanding about relational databases.
- Basic knowledge of the Microsoft Windows operating system.

Introduction toMicrosoft SQL Server

- The Basic Architecture of SQL Server
- SQL Server Editions and Versions
- Getting Started with SQL Server management studio

Introduction to T-SQL Querying

- Introducing T-SQL
- Understanding Sets
- Understanding Predicate Logic
- Understanding the Logical Order of Operations in SELECT statements

Writing SELECT Queries

- Writing Simple SELECT Statements
- Eliminating Duplicates with DISTINCT
- Using Column and Table Aliases
- Writing Simple CASE Expressions

Querying Multiple Tables

- Understanding Joins
- Querying with Inner Joins
- Querying with Outer Joins
- Querying with Cross Joins and Self Join

Sorting and Filtering Data

- Sorting Data
- Filtering Data with Predicates
- Filtering with the TOP and OFFSET-FETCH Options
- Working with Unknown Values

Using Built-In Functions

- Writing Queries with Built-In (Character, Date, Number) Functions
- Using Conversion Functions
- Using Logical Functions
- Using Functions to Work with NULL

Grouping and Aggregating Data

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

Using Sub queries

- Writing Self-Contained Subqueries
- Writing Correlated Subqueries
- Using the EXISTS Predicate with Subqueries

Using Set Operators

- Writing Queries with the UNION Operator
- Using EXCEPT and INTERSECT
- Using APPLY

Introduction to Database Development

- Introduction to the SQL Server Platform
- SQL Server Database Development Tasks
- After completing this module, you will be able to:
- Describe the SQL Server platform.
- Use SQL Server administration tools.

Designing and Implementing Tables

- Designing Tables
- Data Types
- Working with Schemas
- Creating and Altering Tables

Ensuring Data Integrity through Constraints

- Enforcing Data Integrity
- Implementing Data Domain Integrity
- Implementing Entity and Referential Integrity

Using DML to Modify Data
- Inserting Data
- Modifying and Deleting Data

Advanced Table Designs
- Compressing Data
- Temporal Tables

Designing and Implementing Views
- Introduction to Views
- Creating and Managing Views
- Performance Considerations for Views

Designing and Implementing Stored Procedures
- Introduction to Stored Procedures
- Working with Stored Procedures
- Implementing Parameterized Stored Procedures
- Controlling Execution Context

Designing and Implementing User-Defined Functions
- Overview of Functions
- Designing and Implementing Scalar Functions
- Designing and Implementing Table-Valued Functions
- Considerations for Implementing Functions
- Alternatives to Functions

Responding to Data Manipulation via Triggers
- Designing DML Triggers
- Implementing DML Triggers
- Advanced Trigger Concepts

SQL Server Concurrency
- Concurrency and Transactions
- Locking Internals

Introduction to Indexes
- Core Indexing Concepts
- Data Types and Indexes
- Heaps, Clustered, and Non clustered Indexes
- Single Column and Composite Indexes

ITS Data-Solutions Pvt. Ltd.
3rd Floor, Vrajendra Complex, Near Devendra Bus Stop, Naranpura
Ahmedabad 380013 Gujarat India Phone : +91 9879558787, +91 9825306119
www.itsahmedabad.com GST 24AACCI0498K1ZF CIN no : U72200GJ2009PTC056371

Designing Optimized Index Strategies

- Index Strategies
- Managing Indexes
- Execution Plans
- The Database Engine Tuning Advisor
- Query Store

Performance and Monitoring

- Extended Events
- Working with extended Events
- Live Query Statistics
- Optimize Database File Configuration
- Metrics