

GuruJus Infotech Pvt. Ltd.

SQL SERVER 2008

We believe in Practical experience and given chance to learner for creating best and strong IT career. So, we cover all practical and conceptual things for SQL server 2008 Development.

1) Introduction to Databases

- Databases – Relational and Others
- SQL Server vs. Other Relational Database Systems
- The Database as Part of the System Architecture
- The Role of the Database Administrator (DBA)
- Review & Summary

2) Database Design

- Entity-Relationship Diagram (ERD)
- Entities, Attributes & Keys
- Types of Relationships
- Inheritance
- Normalization Rules
- Denormalization Scenarios
- The Physical Design Process
- Types of Tables
- Practice

3) Introduction to the Transact-SQL Language

- SQL vs. Transact-SQL
- Types of Transact-SQL Statements
- Transact-SQL Syntax Elements
- System Functions and System Stored Procedures
- Connections, Sessions, Batches and Transactions

4. Basic Programming with Transact-SQL

a) The SELECT Statement

- A Simple Query
- Formatting the Result Set
- Filtering the Data
- Grouping and Sorting
- Joining Multiple Tables

b) Advanced Querying

- The CASE Clause
- Combining Multiple Result Sets
- Using Sub-Queries
- Ranking and Partitioning Functions
- Using PIVOT and UNPIVOT

5.) Modifying Data

- Inserting Data
- The UPDATE Statement
- Deleting Data
- The MERGE Statement
- Using the OUTPUT Clause
- Practice
- Review & Summary

6) Transactions and Locks

- Transactions Overview
- Lock Types
- Concurrency Issues
- Transaction Isolation Levels
- Locking Hints
- Deadlocks
- Nesting Transactions
- Practice

7) Writing Procedural Code with Transact-SQL

- Working with Cursors

- **Dynamic Execution**
- **Practice**
- **Review & Summary**

3 SQL Server Object Hierarchy

- a. **Installing a SQL Server 2008 R2 Instance**
 - **Preparing to Install SQL Server 2008 R2**
 - **Upgrade Considerations**
 - **The Installation Process**
 - **Configuring the Instance**

8) Indexes and Statistics

- **Introduction to Indexes**
- **Physical Structures**
- **Special Types of Indexes**
- **Creating an Index**
- **Guidelines for Planning Indexes**
- **The Database Engine Tuning Advisor**
- **Introducing Statistics**
- **Understanding Execution Plans**
- **Index and Statistics Maintenance**

9) Table Constraints

- **Data Integrity Overview**
- **Primary Key and Unique Constraint**
- **Foreign Key**
- **Check and Default Constraints**
- **Creating and Disabling Constraints**
- **Practice**

10) Partitioning

- **Introduction to Partitioning**
- **Partitioning Setup**
- **Operations on a Partitioned Table**

- **Partitioned Indexes**
- **Special Guidelines**

11. Advanced Programming in SQL Server 2008 R2

12. Views

- **Introduction to Views**
- **Modifying Data through a View**
- **Indexed Views**
- **Partitioned Views**
- **Practice**
- **Review & Summary**
- **Homework**

13. User-Defined Functions

14. Introduction to User-Defined Functions

- **Scalar Functions**
- **Table-Valued Functions**
- **Joining with APPLY**
- **Practice**

15. Stored Procedures

- **Introduction to Stored Procedures**
- **Stored Procedure Interfaces**
- **Creating and Executing Stored Procedures**
- **Compilation Sequence**

16. Triggers

- **Introduction to Triggers**
- **The INSERTED and DELETED Tables**
- **Creating a Trigger**
- **Nested and Recursive Triggers**
- **Triggers Pros and Cons**

- **Scenarios for Using Triggers**

17.XML

- **Introduction to XML**
- **XPath and XQuery**
- **The XML System Data Type**
- **XML Schema Collections**
- **XML Indexes**
- **Converting Relational Data to XML**
- **Converting XML to Relational Data**

18.Managing a SQL Server Environment

a. Backup and Recovery

- **Backup Types**
- **Database Recovery Models**
- **Understanding the Recovery Process**
- **The Restore Operation**
- **Performing Online Restore Operations**
- **Recovering from Database Snapshot**
- **Recovering System Databases**
- **Planning a Backup Strategy**

19 .Monitoring and Troubleshooting

- **Planning a Monitoring Strategy**
- **Windows and SQL Server Logs**
- **Working with Windows Performance Monitor**
- **The Activity Monitor**
- **Working with Dynamic Management Objects**
- **Using SQL Server Profiler**
- **DDL Triggers and Event Notifications**