

SQL SERVER:

Microsoft SQL Server is a relational database management system (RDBMS) that supports a wide variety of transaction processing, business intelligence and analytics applications in corporate IT environments.

SQL Server is primarily built around a row-based table structure that connects related data elements in several tables to at least one another, avoiding the necessity to redundantly store data in multiple places within a database.

The core component is the SQL Server Database Engine, which controls data storage, processing and security. It includes a relational engine that processes commands and queries and a storage engine that manages database files, tables, pages, indexes, data buffers and transactions. Stored procedures, triggers, views and other database objects also are created and executed by the Database Engine.

Architecture:

The protocol layer implements the external interface to SQL Server. All operations which will be invoked on SQL Server are communicated thereto via a Microsoft-defined format, called Tabular Data Stream (TDS). TDS is an application layer protocol, which is used to transfer data between a database server and a client.

Benefits:

- Higher Productivity
- Better risk mitigation
- Sustainable hiring
- Increased business agility



SQL Server Editions

- SQL Server Enterprise
- SQL Server Standard
- SQL Server WEB
- SQL Server Developer
- SQL Server Express

Key Components:

- Database Engine
- SQL Server
- SQL Server Agent
- SQL Server Browser
- SQL Server Full-Text Search
- SQL Server VSS Writer
- SQL Server Analysis Services (SSAS)
- SQL Server Reporting Services (SSRS)
- SQL Server Integration Services (SSIS)



Course Content:

- Availability and Scalability Features
- Security Features
- Data Management Features
- Administration and Maintenance Features
- Development Features
- To enable SQL Mail
- Testing mail delivery
- Installing SQL Server 2005 & 2008
- SQL Server 2005 & 2008 Editions

Installing Microsoft SQL Server:

- System Requirements
- Preparing for a SQL 2005 Installation
- Installation Checklist
- Setup Features
- Using the System Consistency Checker
- Component Install
- Unattended Installation



- Installation Sequence
- Installation Maintenance

Upgrading to SQL Server Management Studio:

- Management Studio Windows
- Registered Servers
- Object Explorer
- Review Database Objects
- Modify Database Properties
- Create Database Scripts
- The Maintenance Plans Node
- Solution Explorer
- Query Editor
- Template Explorer
- Dynamic Help
- Upgrading to SQL Server Computer Manager
- SQL Server 2005 & 2008 Services node
- SQL Server 2005 & 2008 Network Configuration node
- SQL Server 2005 & 2008 Native Client Configuration node



- The SQLCMD Management Utility
- SQLCMD Syntax
- SQLCMD Variables
- Dedicated Administrative Connection
- SQL Server Management Studio SQLCMD Mode

Monitoring the Database Server:

- Managing Metadata Views
- Metadata Storage
- System Views
- Information Schema
- Catalog Views
- Sys All
- Dynamic Management Views
- System Stored Procedures

Database and Index Maintenance:

- Index Management
- New Index Features



- Creating Indexes
- Online Index Maintenance
- Parallel (multiple CPU) Index Operations
- Lock Options
- Included Columns in Indexes
- Partitioned Tables and Indexes
- XML Index Support
- Altering an Index
- Rebuilding an Index
- Reorganizing an Index
- Disabling an Index
- Dropping an Index
- Index Fragmentation
- Using the Database Tuning Advisor

Securing SQL Server 2005 & 2008:

- Implementing Securable
- New Security Features
- Principals



- Securable
- Permissions
- Permission Types
- Managing Logins
- Managing Schemas
- Managing Users
- Schema Definition
- Using Schemas
- Managing Execution Context
- Managing Permissions
- Manage Server Permissions
- Manage Server-Scope Securable Permissions
- Manage Database Permissions
- Manage Database-Scope Securable Permissions
- Native Data Encryption
- Code and Module Signing

SQL Server Disaster Recovery:

• Disaster Recovery



- SQL 2005 Disaster Recovery Feature
- Enhanced Features
- Database Snapshots
- Creating a Snapshot
- Common Snapshot Applications
- Undeleting table rows
- Undoing a table update
- Recovering a dropped object
- Backup and Restore
- Media Integrity Changes
- Recovering the MASTER Database
- Create a mirrored backup
- Restore from the backup mirror
- Create a snapshot
- Restore the snapshot data
- Automate the creation of daily snapshots



Database Availability:

- SQL 2005 Data Availability
- Database Mirroring
- The Witness Server and Automatic Failover
- Configuring Database Mirroring
- Transaction Safety Level
- Operating Modes
- High Availability Operating Mode
- High Protection Operating Mode
- High Performance Operating Mode
- Monitoring Mirroring
- Database States for Database Mirroring
- Prepare the Servers
- Configure Mirroring
- Verify Principal and Mirror Access
- Execute the Mirror Failover
- Verify Mirror and Witness Status
- Terminating the Mirror Session



Replicating Information:

- Replication Enhancements
- Stand-alone Replication Monitor
- Support for Oracle Publishing
- HTTP Synchronization for Merge Replication
- Subscriber Initialization
- Replicating DDL Statements
- Modified User Interface
- Replication Management Objects
- To Configure Publishing and Distribution
- Configuring Peer-to-Peer Replication
- Create a Publication
- Create a Subscription with RMO

SQL Server 2005 & 2008 Integration Services:

- Creating the Database Objects
- Creating a Package Using Business Intelligence Studio
- Integration Services Project Template



- OLE DB Command object
- Column Mappings
- Adding a Data Viewer

Monitoring and Performance:

- SQL Server Profiler
- Optimal Data Storage
- Diagnostic Tools
- Query Analyzer
- Database Engine Tuning Advisor
- Index Optimization
- Federated Database Servers
- Partitioned Indexes
- Lock Optimization
- Best Practices for Native XML Web Services



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- Comprehensive course selection of Instructor-Led Training
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In addition:

- Interview preparation with mock interview drills
- Effective resume building
- Process of applying jobs at the right places

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