

MS SQL SERVER Administration Course Content

- **Course Introduction**
 1. What is Covered in this course
 2. How to use this course
 3. Operating Systems, SQL Server Editions
 4. Professional Development for SQL Server
- **Why MS SQL Server**
 1. The Express & Web Editions
 2. 32-bit or 64-bit which to choose
 3. SQL Server Licensing : Basics
 4. SQL Server Licensing : CPU & Core Factors
 5. SQL Server Licensing : Virtualization & HA/DR
 6. History of SQL Server
- **Installing and Upgrading to SQL Server**
 1. Security Model
 2. RAID Model
 3. File Placement
 4. Service Accounts, Domain Groups
 5. Instance Names, Multiple Instances, Collations
- **Using the tools and configure SQL Server**
 1. SQL Server Management Studio – Walkthrough
 2. SQL Server Management Studio - Connections
 3. SQL Server Management Studio - Templates
 4. SQL Server Management Studio – Networking Aliases
- **Creating & Managing databases**
 1. Creating a Database
 2. Sizing and Configuring Database Files
 3. Expanding a database
 4. Working with multiple data and Log File

5. Attaching & Detaching in Database
- **Security in MS SQL Server Database**
 1. The principle of Least Privilege
 2. Reducing the attack surface area
 3. SQL Server SecurityModel
 4. Scope & Securables
 5. Account Lockout, Password Policies, Enable Disable logins
- **SQL Server Backup & Recovery**
 1. How transaction log works
 2. Types of SQL backups and Permissions required
 3. Recovery Models
 4. Bulk operations in SQL Server
 5. How to change recovery model
 6. How to take backup in SSMS
 7. Viewing contents of backup files
 8. Backup Compression
 9. Developing backup strategies
 10. Why should we backup system databases
 11. Fundamentals of restoring databases
- **Automating your SQL Server**
 1. SQL Server Agent
 2. SQL Server Operators and alerts
 3. Testing and troubleshooting Database mail
 4. How to create SQL Server WMI Event alerts
 5. Create a job to backup database
 6. Send Email when SQL Agent Starts
 7. Create a job to perform bulk import
- **Database Maintenance**
 1. Maintenance & DBA
 2. Types of Indexes
 3. Page Splits

4. Identifying & Replacing Index fragmentations
 5. How to view & Update MS SQL server Statistics
 6. Maintenance plans
- **SQL Server Performance Monitoring**
 1. Performance monitoring tools & Concepts DBA's need to be familiar with
 2. Using PAL to create automated report for SQL Server
 3. Using SSMS to Monitor performance
 4. Locking & Blocking
 5. Lock hints & Block levels
 6. Waits & Queues
 7. Using SQL Server profiler to spot problems
 - **Virtualizing your SQL Server Instance**
 1. Why Virtualization?
 2. What tools are available?
 3. SQL Azure & Cloud
 - **VLDB's, SSD's, SAN's, Partitioning Strategies**
 1. Working with very large Databases
 2. Disk subsystems – SAN, SSD or Both?
 3. Partitioning strategies for large tables
 4. Indexed views & Filtered Indexes
 - **Managing MS SQL Server with shell**
 1. What can we do with Powershell & MS SQL Server
 2. How to navigate SQL Server with Powershell
 3. Using LogParser with SQL Server
 - **A Guide to move and copy Databases**
 1. Options for moving & Copying databases
 2. How to move & Copy database with backup & restore
 3. Attaching & Detaching SQL Server Databases
 4. Dealing with Orphaned users
 - **SQL Server Replication**

1. What is replication
 2. Why do we need replication
 3. Types of SQL Server Replication
- **Miscellaneous Administration Topics**
 1. SQL CLR – Managing .NET in the Database
 2. Encryption in SQL Server
 3. Database Snapshots
 4. FILESTREAM & FileTables