

# MS SQL SERVER DBA COURSE CONTENT

## **Module1: Starting with SQL Server**

- Responsibilities of Database Administrator
- Types of DBAs
- History of SQL Server
- Editions of SQL Server
- Tools of SQL Server
- Differences between Standard and Enterprise editions
- Instances types in SQL Server
- Default Instance
- Named Instance
- SQL Server Services
- Instance aware services
- Instance unaware services

## **Module2: Installing SQL Server**

- Pre-requisites
- Installation
- Post Installation verification Session

## **Module3: Functioning of Databases**

- Database
- Types of Database and Brief explanation
- System Databases
- User Database
- Database Architecture
- Pages
- Extents
- File groups
- Database
- Transaction Architecture
- Creating Database
- Modifying Database

- Adding Files
- Moving and renaming of Database files
- Database modes
- **Real time Scenario**  
**Module4: Security**
- Authentication Types in SQL Server
- Types of Login
- Windows Login
- SQL Login
- Creating Users and Logins
- Server roles
- Password policy
- Understanding Database and Server Roles
- Permissions
- Working on access level issues
- **Orphan users Finding and Fixing**
- **Important Queries**  
**Module5: Database Backups and Restoration**
- Database Backups
- Why we need backups
- Types of Backup
- Full Backup
- Differential Backup
- Transaction Log Backup
- Copy-only, Mirrored, Split and Tail log Backups
- Differences between backups
- Backup Strategy
- Understanding how the data moving from Log to Data File, **CHECKPOINT**
- Monitoring the space usage of Log File and fixing
- Checking the backup files **VALID** or **CORRUPTED**
- **Backup storage tables**
- **Important Queries**
- **Performing Restorations**

- Types of Restoration
- Attach and Detach
- Shrinking files
- **Module6: Recovery Models of Database**
- Types of Recovery Models
- Full
- Bulk Logged
- Simple
- **Differences between Recovery Models**
- Setting Recovery Models according to the Scenarios with examples
- **Module7: Automation of SQL SERVER**
- Working with SQL SERVER Agent
- Creating Jobs
- **Managing Jobs and Resolving issues**
- Monitoring Jobs
- Monitoring Tables
- Log Shipping
- Mirroring
- Replication
- Clusteri
- **HIGH AVAILABILTY CONCEPTS**
- **Module1: Log Shipping**
- Log Shipping
- Working with Log Shipping
- Terminology
- Pre-requisites to implement Log Shipping
- Different modes of Log Shipping
- Configuring Log Shipping
- Monitoring
- Manually Performing Failover
- Log Shipping Tables
- **Discussing Real Time Scenarios**
- **Module2: Database Mirroring**
- Working with Database Mirroring

- Terminology
- Pre-requisites to implement Mirroring
- Pre check mirroring **ports ENABLED or DISABLED**
- **Architecture**
- Operating Modes
- Differences between Modes
- Port numbers involved in Mirroring
- Requirements for Mirroring
- Configuring Mirroring
- **Mirroring failover**
- **Issues on Mirroring**
- **Module3: Replication**
- Working with Replication
- Terminology
- **Pre-requisites to implement to Replication**
- Types of Replications
- **DISTRIBUTOR Database**
- Agents involved in Replication
- Configuring Replication
- **Resolving Issues**
- **Module4: Clustering**
- Introduction about clustering
- Clustering Architecture
- Importance of IP's involved in Clustering
- SAN importance
- Drive dependency
- Nodes in Clustering
- Important commands

**\*\* DIFFERENCES BETWEEN ABOVE HIGH AVAILABILITY CONCEPTS \*\***  
**ADVANCED CONCEPTS**

**Module1: Monitoring Tools**

- System Monitor
- SQL Server Profiler
- SQL Server and Windows Error Logs
- **Module2: Database Performance Tuning**

- Indexes
  - Types of indexes
  - Fragmentation in Indexes
  - Types of Fragmentations
  - Database Tuning Advisor
  - Dead Locks
  - Blockings
  - Terminating Processes
- Module3: Managing the SQL Server and Databases**
- Starting SQL Server in Single user mode
  - Changing the Default path of Database files
  - Modifying the Logical and Physical names of database files
- High Lights:**
- Discussions on Real time scenarios
  - Replying to Questioner mails on subject doubts
  - Resume Preparations  
Providing material