

### Topic 1: Starting with SQL Server

- Tools of SQL Server
- Differences between Enterprise and Standard editions
- Instances
- SQL Server Services

### Topic 2: Installing and configuring

- Installing SQL Server 2005 & 2008.
- Configuration

### Topic 3: Working with Databases

- Working with databases
- Database Architecture.
- Creating Databases.
- Adding files, filegroups.

### Topic 4: Implementing Security.

- Security in SQL Server 2008 R2/ 2012
- Security Enhancements
- Types of Authentications
- Orphan logins.
- Understanding server roles,permissions
- Resolving orphan users.
- Understanding database roles, custom and application roles
- Encryption and decryption.
- Security catalog views and stored procedures.

### Topic 5: Backup and Restoration

- Understanding Transaction Log file.
- Understanding checkpoints & Lazy writer.
- Recovery Models,compressions,point-in-time recovery
- Setting recovery model.
- Database Backups
- Copy-only, Mirrored and tail log backups.
- Backup Devices.system databases
- Performing Restoration
- Using LiteSpeed for backups.
- Viewing complete details of backup process.

### Topic 6: Replication

- Replication and advantages
- New features 2008 R2/ 2012
- Replication Entities,topologies
- Replication Architecture.replication agents
- Types of Replications
- Configuring,peer to peer ,managing replication

### Topic 7: Automating Administrative Task

- Reverting from Snapshot.
- Maintenance Plans

### Topic 8: High Availability

- Using System Monitor
- Using Profiler
- Using System views and SPs

### Topic 9: Advanced Administration Concepts

- Storage Engine
- Buffer pool
- Managing execution plans
- Troubleshooting slowly running queries
- Using DTA
- SQL Server Up gradation.
- Using DBCC commands.
- Troubleshooting SQL Server

### Topic 10: Clustering SQL Server

- Introduction to cluster environment & features.
- Overview of Windows Clustering.
- How SQL Server supports clustering.
- Requirements
- Installing and configuring SQL Server clustering.
- Applying service packs and hot fixes.
- Moving groups.

### Topic 11: SQL Server 2012 DBA Concepts

- Introduction to SQL Server 2012 environment
- Always On (HA/DR) features
- Column Store Indexes
- Contained Databases
- User defined server roles.
- Database recovery advisor.
- New/Updated DMVs (Dynamic Management Views) Overview of Windows Clustering.

### Participants benefits

After end of course the students get hands-on knowledge on

- How to install and configure SQL Server.
- How to troubleshoot database corruption errors.
- How to handle high availability issues.
- How to handle performance issues.
- Good material for troubleshooting different scenarios, FAQs.