M/S SQL Server DBA Advanced level

Duration: 2 Months(8 Weeks or Weekends)

Prerequisites

- Knowledge of Basic DBMS

Course Content

1. **Introduction To Database Management Systems And Databases**
   - What are a database and a database management system (DBMS?)
   - What id RDBMS, EF Codd Rule, ACID Property
   - Introduction to Microsoft SQL Server and its overall SQL Server Data Platform
   - Tasks of a Database Administrator

2. **SQL Server 2012 Installation.**
   - Editions of SQL Server 2012
   - Editions of SQL Server 2012
   - Hardware and Software prerequisite for a successful SQL Server installation
   - SQL Server Binaries Installation
   - SQL Server Default Instance Creation
   - Named Instance Creation
   - SQL DB Creation
   - SQL Server services Configuration
   - Perform a successful SQL Server 2012 installation

3. **SQL Server 2012 Administration and Development Tools**
   - Using SQL Server Management Studio (SSMS)
   - Using SQL Server Command Line interface
   - Using SQL Server Configuration Manager

4. **SQL Server 2012 Architecture.**
   - Understanding SQL Server system databases
   - Understanding the SQL Server database structure
   - Physical & Logical Architecture
   - SQL Server files and filegroups
   - SQL Server Transactional logs
   - What is the difference between SQL Server instance and database
   - Client-Server Communication
   - Attaching and detaching SQL Server databases.

5. **SQL Server Database Objects**
   - Understanding Schemas
   - Understanding SQL Server data types
   - Understanding column properties
   - Creating tables, altering tables and adding constraints, relationships
   - Understanding the filetable
   - Creating database diagrams

6. **SQL Server Backup and Recovery**
   - Introduction to Backup and Recovery strategy for databases
   - Full Database backups using SIMPLE Recovery Model

- Full Database and Transactional log backups with FULL Recovery Model
- Backup history and maintenance
- Designing Maintenance plans for Backup Tasks
- SQL Server Agent for scheduling backups
- Database Mail for email notifications to DBAs

7. **SQL server remote connectivity and network configuration**

- Network Protocol
- Listener Setup
- Default Ports
- Firewall Setup

8. **SQL Server Data Export and Import (Data Movement)**

- Partial Data export and import using the command line tools
- Partial Data export and import using GUI tools – Export and Import Wizard

9. **SQL Server Authentication, Security and Access Privileges**

- SQL Server Authentication vs. Windows Authentication
- Auditing database logins using SQL Server Error Logging
- User Database Roles, Application Roles
- Database Access, Schemas
- SQL Server server-wide logins and database specific users
- Creating user-defined server roles

10. **SQL Server Maintains Plans**

- History cleanup
- Reorganize Index
- Rebuild Index
- Update statistic
- Check database integrity

11. **Performance Monitoring and generic Issues**

- Jobs
- Schedule
- Alerts
- SQL server/ Database logs

12. **SQL server advance feature**

- Database snapshots backups
- Always on HA cluster configuration
- SQL server table and index partitioning
- Sql server integration services.