

MS SQL Server 2012 DBA Course Contents

1) SQL History & SQL Server History

2) Database Management Systems(DBMS)

3) Relational Database Management System(RDBMS)

4) SQL Server set up installations & service pack installation

5) SQL Server

Versions and Editions

Features of SQL Server

Differentiate the SQL Server and Oracle

Services of SQL Server

Tools of SQL server

6) SQL Server components over view

MSSQL SERVER

SQL SERVER AGENT

SQL BROWSER

SQL SERVER SURFACE AREA CONFIGURATION

SQL SERVER CONFIGURATION MANGER

SQL SERVER MANAGEMENT STUDIO

SQL SERVER INTEGRATION SERVICES

SQL SERVER REPORTING SERVICES

SQL SERVER ANALYSIS SERVICES

SQL SERVER PROFILER

SQL SERVER DATA TUNING ADVISOR

SQL SERVER ACTIVITY MONIOTOR

7) SQL SERVER DATABASE ENGINE ARCHITRECTURE

RELATIONAL DATABASE ENGINE

STORAGE ENGINE

SQL OS

8) SQL SERVER STORAGE

Pages and Extents

Type of Extents

9) Transaction Log Architecture

Virtual Log files

Dirty page

Checkpoint

10) Memory Architecture

32 Bit & 64 Bit

Virtual Address space(VAS)

PAE(Page Address extension)

AWE(Address windows extension)

11) Files and File groups

Type of Files

Type of File groups

How to add the files in a database

How to secondary file groups in a database

12) Backup, Restore and Recovery models

Full backup

Differential backup

Transaction log backup

File backup

File Group Backup

Split backup

Mirror backup

Copy only

Tail log backup

Restore methods

Recovery mode

Standby mode

No recovery mode

Recovery Models & Recovery options when database

Crashed(Point in Time Recovery)

Simple

Full

Bulk Logged

13) Maintenance and Troubleshooting of System Databases

Moving system databases(Master,model,msdb,tempdb,resourcedb)

Rebuilding system databases

14) Login the SQL Server using by DAC(Dedicated administrator Connection)

15) Migrating SQL server Databases

Migration methods

1. In place migration
2. Side by side Migration
 - Backup and Restore
 - Attach and Detach
 - Import and Export
 - Copy Database
 - Migrating of Orphaned users
 - Linked Servers

16) Security

- i) Authentication modes
- ii) Logins and Server roles
- iii) Database users and Database roles
- iv) User mapping
- v) Fixing orphaned users

17) Automation and SQL server agent

- Creating jobs
- Creating Job Scheduling
- Creating Alerts and Operators
- Database mail Configuration

18) Monitoring SQL Server

- Job Activity Monitor
- Activity monitor

Log File Viewer

Performance Monitor

Windows Event viewer

Monitoring by SQL Server Alerts

SQL Server Profiler

High Availability & Disaster Recovery techniques

19) Log shipping

Configuring Log shipping

Monitoring & Troubleshooting Log shipping

20) Mirroring

Types of Mirroring

High availability with automatic failover

High Protection without automatic failover

High performance mode without automatic failover

Types of Data Transfer methods

Failover of Mirroring

Applying patches at mirroring

Add data file in mirroring

21) Replication

Types of Replication

Snapshot replications

Transactional Replication

Merge Replications

Peer to Peer Replication on agents

22) Clustering

Connection Setup of Clusters

Nodes

Quorum modes

Automatic failover

Moving to another Node

Monitoring Clusters

Patching in cluster with minimal downtime

23) Always ON

Demo for SQL SERVER 2012 New feature

Configure & Troubleshoot Always on high availability

Combine of both High availability and

Disaster recovery

24) Performance tuning

Types of Isolation levels

Locks

Deadlocks

Blockings

Profiler for collecting trace files

Data Tuning Advisor analyzing trace files

Missing Index scripts

Finding Fragmentation for slow running queries

Update Statistics for outdated statistics

Dynamic Management Views(DMV)

25) Indexing

Types of Indexes

Differences of Indexes

Index Structure

Rebuild and Reorganizing

Fill Factor

26) DBCC Commands

27) Database Suspect Mode

How to bring database from suspect mode to online

28) New features in SQL SERVER 2008, 2012 AND 2014

- i) Change data capture
- ii) Resource governor
- iii) Encryption and decryption
- iv) Transparent data encryption
- v) In memory

29) Third party tools

Backup tools (Ex: Litespeed,Redgate,Symentic,Veritas,Remedy)

Performance tools(Solarwind,Pss Diag)

Monitoring tools(SCOM, HP service manager)

30) Resume Preparation &

Interview Preparation

