



## MCTS: Implementation and Maintenance (70-432):

- **Pre requisites:** Candidates should have one to two years of experience using SQL Server 2008 or two to three years of experience using previous versions of SQL Server
- **Level:** Intermediate

### Credit Toward Certification:

When you pass Exam 70-432: TS: Microsoft SQL Server 2008, Implementation and Maintenance, you complete the requirements for the following certification(s):

[Microsoft Certified Technology Specialist \(MCTS\): Microsoft SQL Server 2008, Implementation and Maintenance](#)

### Skills Being Measured:

This exam measures your ability to accomplish the technical tasks listed below. The percentages indicate the relative weight of each major topic area on the exam.

#### Installing and Configuring SQL Server 2008 (10 percent)

- Install SQL Server 2008 and related services.  
This objective may include but is not limited to: file locations; default paths; service accounts
- Configure SQL Server instances.  
This objective may include but is not limited to: sp\_configure
- Configure SQL Server services.  
This objective may include but is not limited to: configuration manager; SQL browser
- Configure additional SQL Server components.  
This objective may include but is not limited to: SQL Server Integration Services (SSIS), SQL Server Analysis Services (SSAS), SQL Server Reporting Services (SSRS), replication
- Implement database mail.  
This objective may include but is not limited to: set up and configure



- Configure full-text indexing.  
This objective may include but is not limited to: enable/disable, index population

### **Maintaining SQL Server Instances (13 percent)**

- Manage SQL Server Agent jobs.  
This objective may include but is not limited to: create and schedule jobs; notification of job execution; disable/enable jobs; change job step order; logging
- Manage SQL Server Agent alerts.  
This objective may include but is not limited to: performance condition alerts; SQL event alerts; Windows Management Instrumentation (WMI) alerts
- Manage SQL Server Agent operators.  
This objective may include but is not limited to: operator schedules; fail safe operator; add a new operator; notification methods
- Implement the declarative management framework (DMF).  
This objective may include but is not limited to: create a policy; verify a policy; schedule a policy compliance check; enforce a policy; create a condition
- Back up a SQL Server environment.  
This objective may include but is not limited to: operating system-level concepts

### **Managing SQL Server Security (15 percent)**

- Manage logins and server roles.  
This objective may include but is not limited to: create logins; disable/enable logins; security model (authentication mode); password policy enforcement; fixed server roles; alter logins
- Manage users and database roles.  
This objective may include but is not limited to: user mapping; user-defined roles; fixed roles; guest, public, dbo; creating and deleting user roles
- Manage SQL Server instance permissions.  
This objective may include but is not limited to: logon triggers; permissions vs. fixed role membership; cross-database ownership chaining; impersonation
- Manage database permissions.  
This objective may include but is not limited to: impersonation; cross-database ownership



chaining

- Manage schema permissions and object permissions.  
This objective may include but is not limited to: manage schema ownership
- Audit SQL Server instances.  
This objective may include but is not limited to: use DDL triggers and logon triggers; C2; common criteria; login failures; event notifications
- Manage transparent data encryption.  
This objective may include but is not limited to: impact of transparent data encryption on backups
- Configure surface area.  
This objective may include but is not limited to: sp\_configure

#### **Maintaining a SQL Server Database (16 percent)**

- Back up databases.  
This objective may include but is not limited to: full backups; differential backups; transaction log; compressed backups; file and filegroup backups; verifying backup
- Restore databases.  
This objective may include but is not limited to: online restores; full restores; differential restores; transaction log; file and filegroup restores; verifying restore; tail of the transaction log
- Manage and configure databases.  
This objective may include but is not limited to: files, file groups, and related options; database options; recovery model; attach/detach data
- Manage database snapshots.  
This objective may include but is not limited to: create, drop, revert
- Maintain database integrity.  
This objective may include but is not limited to: DBCC CHECKDB; suspect pages
- Maintain a database by using maintenance plans.  
This objective may include but is not limited to: Maintenance Plan Wizard; Maintenance Plan Designer

#### **Performing Data Management Tasks (14 percent)**

- Import and export data.



This objective may include but is not limited to: BCP; BULK INSERT; OPENROWSET; GUI tools

- Manage data partitions.

This objective may include but is not limited to: switching data from one partition to another; add a filegroup; alter a partition function; alter a partition scheme

- Implement data compression.

This objective may include but is not limited to: sparse columns; page/row

- Maintain indexes.

This objective may include but is not limited to: create spatial indexes; create partitioned indexes; clustered and non-clustered indexes; XML indexes; disable and enable indexes; filtered index on sparse columns; indexes with included columns; rebuilding/reorganizing indexes; online/offline

- Manage collations.

This objective may include but is not limited to: column collation; database collation; instance collation

### **Monitoring and Troubleshooting SQL Server (13 percent)**

- Identify SQL Server service problems.

This objective may include but is not limited to: DB Engine service; SQL Agent service; SQL Browser service

- Identify concurrency problems.

This objective may include but is not limited to: blocks, locks, deadlocks, activity monitor; relevant Dynamic Management Views

- Identify SQL Agent job execution problems.

This objective may include but is not limited to: proxy accounts; credentials; job history

- Locate error information.

This objective may include but is not limited to: error log; agent log; job execution history; event logs

### **Optimizing SQL Server Performance (10 percent)**

- Implement Resource Governor.
- Use the Database Engine Tuning Advisor.
- Collect trace data by using SQL Server Profiler.



- Collect performance data by using Dynamic Management Views (DMVs).
- Collect performance data by using System Monitor.
- Use Performance Studio.

### **Implementing High Availability (9 percent)**

- Implement database mirroring.  
This objective may include but is not limited to: monitoring, configuring, failover
- Implement a SQL Server clustered instance.  
This objective may include but is not limited to: monitoring, configuring, failover
- Implement log shipping.  
This objective may include but is not limited to: monitoring, configuring, failover
- Implement replication.  
This objective may include but is not limited to: monitoring, configuring, failover