

NUTECH COMPUTER TRAINING INSTITUTE

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MCTS SQL Server 2005 Developer – Course Outlines

Exam 70–431: TS: Microsoft SQL Server 2005 – Implementation and Maintenance

Installing and Configuring SQL Server 2005

Install SQL Server 2005.

- Verify prerequisites.
- Upgrade from an earlier version of SQL Server.
- Create an instance.

Configure SQL Server 2005 instances and databases.

- Configure log files and data files.
- Configure the SQL Server Database Mail subsystem for an instance.
- Choose a recovery model for the database.

Configure SQL Server security.

- Configure server security principals.
- Configure database securables.
- Configure encryption.

Configure linked servers by using SQL Server Management Studio (SSMS).

- Identify the external data source.
- Identify the characteristics of the data source.
- Identify the security model of the data source.

Implementing High Availability and Disaster Recovery

Implement database mirroring.

- Prepare databases for database mirroring.
- Create endpoints.
- Specify database partners.
- Specify a witness server.

- Configure an operating mode.
- Implement log shipping.
- Initialize a secondary database.
 - Configure log shipping options.
 - Configure a log shipping mode.
 - Configure monitoring.
- Manage database snapshots.
- Create a snapshot.
 - Revert a database from a snapshot.

Supporting Data Consumers

Retrieve data to support ad hoc and recurring queries.

- Construct SQL queries to return data.
- Format the results of SQL queries.
- Identify collation details.

Manipulate relational data.

- Insert, update, and delete data.
- Handle exceptions and errors.
- Manage transactions.

Manage XML data.

- Identify the specific structure needed by a consumer.
- Retrieve XML data.
- Modify XML data.
- Convert between XML data and relational data.
- Create an XML index.
- Load an XML schema.

Implement an HTTP endpoint.

- Create an HTTP endpoint.
- Secure an HTTP endpoint.

Implement Service Broker components.

- Create services.
- Create queues.
- Create contracts.
- Create conversations.
- Create message types.
- Send messages to a service.
- Route a message to a service.
- Receive messages from a service.

Import and export data from a file.

- Set a database to the bulk-logged recovery model to avoid inflating the transaction log.

- Run the bcp utility.
- Perform a Bulk Insert task.

- Import bulk XML data by using the OPENROWSET function.
- Copy data from one table to another by using the SQL Server 2005 Integration

Services (SSIS) Import and Export Wizard.

Manage replication.

- Distinguish between replication types.
- Configure a publisher, a distributor, and a subscriber.
- Configure replication security.
- Configure conflict resolution settings for merge replication.
- Monitor replication.
- Improve replication performance.
- Plan for, stop, and restart recovery procedures.

Maintaining Databases

Implement and maintain SQL Server Agent jobs.

- Set a job owner.
- Create a job schedule.
- Create job steps.
- Configure job steps.
- Disable a job.
- Create a maintenance job.
- Set up alerts.
- Configure operators.
- Modify a job.
- Delete a job.
- Manage a job.

Manage databases by using Transact-SQL.

- Manage index fragmentation.
- Manage statistics.
- Shrink files.
- Perform database integrity checks by using DBCC CHECKDB.

Back up a database.

- Perform a full backup.
- Perform a differential backup.
- Perform a transaction log backup.
- Initialize a media set by using the FORMAT option.
- Append or overwrite an existing media set.
- Create a backup device.
- Back up filegroups.

Restore a database.

- Identify which files are needed from the backup strategy.
- Restore a database from a single file and from multiple files.
- Choose an appropriate restore method.

Move a database between servers.

- Choose an appropriate method for moving a database.

Monitoring and Troubleshooting SQL Server Performance

Gather performance and optimization data by using the SQL Server Profiler.

- Start a new trace.
- Save the trace logs.
- Configure SQL Server Profiler trace properties.
- Configure a System Monitor counter log.
- Correlate a SQL Server Profiler trace with System Monitor log data.

Gather performance and optimization data by using the Database Engine Tuning

Advisor.

- Build a workload file by using the SQL Server Profiler.
- Tune a workload file by using the Database Engine Tuning Advisor.
- Save recommended indexes.

Monitor and resolve blocks and deadlocks.

- Identify the cause of a block by using the sys.dm_exec_requests system view.
- Terminate an errant process.
- Configure SQL Server Profiler trace properties.
- Identify transaction blocks.

Diagnose and resolve database server errors.

- Connect to a non-responsive server by using the dedicated administrator connection (DAC).
- Review SQL Server startup logs.
- Review error messages in event logs.

Monitor SQL Server Agent job history.

- Identify the cause of a failure.
- Identify outcome details.
- Find out when a job last ran.

Gather performance and optimization data by using DMVs.

Creating and Implementing Database Objects

Implement a table.

- Specify column details.
- Specify the filegroup.
- Assign permissions to a role for tables.
- Specify a partition scheme when creating a table.
- Specify a transaction.

Implement a view.

- Create an indexed view.
- Create an updateable view.

- Assign permissions to a role or schema for a view.
- Implement triggers.
- Create a trigger.
 - Create DDL triggers for responding to database structure changes.
 - Identify recursive triggers.
 - Identify nested triggers.
 - Identify transaction triggers.
- Implement functions.
- Create a function.
 - Identify deterministic versus nondeterministic functions.
- Implement stored procedures.
- Create a stored procedure.
 - Recompile a stored procedure.
 - Assign permissions to a role for a stored procedure.
- Implement constraints.
- Specify the scope of a constraint.
 - Create a new constraint.
- Implement indexes.
- Specify the filegroup.
 - Specify the index type.
 - Specify relational index options.
 - Specify columns.
 - Specify a partition scheme when creating an index.
 - Disable an index.
 - Create an online index by using an ONLINE argument.
- Create user-defined types.
- Create a Transact-SQL user-defined type.
 - Specify details of the data type.
 - Create a CLR user-defined type.
- Implement a full-text search.
- Create a catalog.
 - Create an index.
 - Specify a full-text population method.
- Implement partitions.