

Microsoft

Exam 70-465

Designing Database Solutions for Microsoft SQL Server

Version: 12.0

[Total Questions: 111]

Topic break down

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Topic 1, Litware, Inc

Overview

You are a database administrator for a company named Litware, Inc. Litware is a book publishing house.

Litware has a main office and a branch office.

You are designing the database infrastructure to support a new web-based application that is being developed. The web application will be accessed at www.litwareinc.com. Both internal employees and external partners will use the application.

You have an existing desktop application that uses a SQL Server 2008 database named App1_DB. App1_DB will remain in production.

Requirements

Planned Changes

You plan to deploy a SQL Server 2014 instance that will contain two databases named Database1 and Database2. All database files will be stored in a highly available SAN.

Database1 will contain two tables named Orders and OrderDetails. Database1 will also contain a stored procedure named `usp_UpdateOrderDetails`. The stored procedure is used to update order information. The stored procedure queries the Orders table twice each time the procedure executes. The rows returned from the first query must be returned on the second query unchanged along with any rows added to the table between the two read operations.

Database1 will contain several queries that access data in the Database2 tables.

Database2 will contain a table named Inventory. Inventory will contain over 100 GB of data. The Inventory table will have two indexes: a clustered index on the primary key and a nonclustered index. The column that is used as the primary key will use the identity property.

Database2 will contain a stored procedure named `usp_UpdateInventory`.

`Usp_UpdateInventory` will manipulate a table that contains a self-join that has an unlimited number of hierarchies.

All data in Database2 is recreated each day and does not change until the next data creation process.

Data from Database2 will be accessed periodically by an external application named Application1. The data from Database2 will be sent to a database named App1_Db1 as soon as changes occur to the data in Database2.

Litware plans to use offsite storage for all SQL Server 2014 backups.

Business Requirements

You have the following requirements:

- ✍ Costs for new licenses must be minimized.
- ✍ Private information that is accessed by Application must be stored in a secure format.
- ✍ Development effort must be minimized whenever possible.
- ✍ The storage requirements for databases must be minimized.
- ✍ System administrators must be able to run real-time reports on disk usage.
- ✍ The databases must be available if the SQL Server service fails.
- ✍ Database administrators must receive a detailed report that contains allocation errors and data corruption.
- ✍ Application developers must be denied direct access to the database tables. Applications must be denied direct access to the tables.
- ✍ You must encrypt the backup files to meet regulatory compliance requirements. The encryption strategy must minimize changes to the databases and to the applications.

Question No : 1 - (Topic 1)

You need to recommend a solution for the deployment of SQL Server 2014. The solution must meet the business requirements.

What should you include in the recommendation?

- A. Create a new instance of SQL Server 2014 on the server that hosts the SQL Server 2008 instance.
- B. Upgrade the existing SQL Server 2008 instance to SQL Server 2014.
- C. Deploy two servers that have SQL Server 2014 installed and implement Failover Clustering.
- D. Deploy two servers that have SQL Server 2014 installed and implement database mirroring.

Answer: C

Explanation:

Scenario: The databases must be available if the SQL Server service fails.

Reference:

Failover Clustering Overview

Windows Server Failover Clustering (WSFC) with SQL Server

Question No : 2 - (Topic 1)

You need to recommend a solution to allow application users to perform tables. The solution must meet the business requirements.

What should you recommend?

- A. Create a Policy-Based Management Policy.
- B. Create a user-defined database role and add users to the role.
- C. Create stored procedures that use EXECUTE AS clauses.
- D. Create functions that use EXECUTE AS clauses.

Answer: D

Explanation:

* c Clause (Transact-SQL)

In SQL Server you can define the execution context of the following user-defined modules: functions (except inline table-valued functions), procedures, queues, and triggers.

Reference: Using EXECUTE AS in Modules

Question No : 3 - (Topic 1)

You need to recommend a feature to support your backup solution.

What should you include in the recommendation?

- A. Transparent Data Encryption (TDE)
- B. Column-level encryption
- C. An NTFS file permission
- D. A Secure Sockets Layer (SSL)

Answer: A

Explanation:

- * Scenario: You must encrypt the backup files to meet regulatory compliance requirements. The encryption strategy must minimize changes to the databases and to the applications.
- * Transparent data encryption (TDE) performs real-time I/O encryption and decryption of the data and log files. The encryption uses a database encryption key (DEK), which is stored in the database boot record for availability during recovery.

Reference: Transparent Data Encryption (TDE)

Question No : 4 - (Topic 1)

You need to recommend a solution to synchronize Database2 to App1_Db1.

What should you recommend?

- A. Change data capture
- B. Snapshot replication
- C. Master Data Services
- D. Transactional replication

Answer: D

Explanation:

Scenario:

- * Data from Database2 will be accessed periodically by an external application named Application1. The data from Database2 will be sent to a database named App1_Db1 as soon as changes occur to the data in Database2.
- * All data in Database2 is recreated each day and does not change until the next data creation process.

Reference:

Transactional Replication

Question No : 5 - (Topic 1)

You need to recommend a solution to improve the performance of `usp.UpdateInventory`. The solution must minimize the amount of development effort.

What should you include in the recommendation?

- A. A table variable
- B. A common table expression
- C. A subquery
- D. A cursor

Answer: A

Explanation:

*Scenario: Database2 will contain a stored procedure named `usp_UpdateInventory`. `Usp_UpdateInventory` will manipulate a table that contains a self-join that has an unlimited number of hierarchies.

* A table variable can be very useful to store temporary data and return the data in the table format.

table

* Example: The following example uses a self-join to find the products that are supplied by more than one vendor.

Because this query involves a join of the `ProductVendor` table with itself, the `ProductVendor` table appears in two roles. To distinguish these roles, you must give the `ProductVendor` table two different aliases (`pv1` and `pv2`) in the `FROM` clause. These aliases are used to qualify the column names in the rest of the query. This is an example of the self-join Transact-SQL statement:

```
USE AdventureWorks2008R2;
GO
SELECT DISTINCT pv1.ProductID, pv1.VendorID
FROM Purchasing.ProductVendor pv1
INNER JOIN Purchasing.ProductVendor pv2
ON pv1.ProductID = pv2.ProductID
AND pv1.VendorID <> pv2.VendorID
ORDER BY pv1.ProductID
```

Incorrect:

Not B: Using a CTE offers the advantages of improved readability and ease in maintenance of complex queries. The query can be divided into separate, simple, logical building blocks. These simple blocks can then be used to build more complex, interim CTEs until the final result set is generated.

Question No : 6 - (Topic 1)

You need to recommend a solution for Application1 that meets the security requirements.

What should you include in the recommendation?

- A. Signed stored procedures
- B. Certificate Authentication
- C. Encrypted columns
- D. Secure Socket Layer (SSL)

Answer: A

Explanation:

* Scenario:

/ Data from Database2 will be accessed periodically by an external application named Application1

/ Application developers must be denied direct access to the database tables. Applications must be denied direct access to the tables.

Reference:

Tutorial: Signing Stored Procedures with a Certificate

Question No : 7 - (Topic 1)

You need to recommend a disk monitoring solution that meets the business requirements.

What should you include in the recommendation?

- A. An audit
- B. A dynamic management view
- C. A maintenance plan
- D. An SQL Server Agent alert

Answer: B

Reference:

Dynamic Management Views and Functions (Transact-SQL)

Question No : 8 - (Topic 1)

You need to recommend a database reporting solution that meets the business requirements.

What should you include in the recommendation?

- A. Data collection
- B. Performance Monitor
- C. A maintenance plan
- D. A dynamic management view

Answer: A

Explanation:

* Scenario: System administrators must be able to run real-time reports on disk usage.

* The data collector provides an historical report for each of the System Data collection sets. Each of the following reports use data that is stored in the management data warehouse:

Disk Usage Summary

Query Statistics History

Server Activity History

You can use these reports to obtain information for monitoring system capacity and troubleshooting system performance.

Reference:

System Data Collection Set Reports

Question No : 9 - (Topic 1)

You need to recommend an isolation level for usp_UpdateOrderDetails.

Which isolation level should you recommend?

- A. Read committed
- B. Repeatable read
- C. Read uncommitted
- D. Serializable

Answer: B

Explanation:

* Scenario: Databasel will also contain a stored procedure named usp_UpdateOrderDetails. The stored procedure is used to update order information. The stored procedure queries the Orders table twice each time the procedure executes. The rows returned from the first query must be returned on the second query unchanged along with any rows added to the table between the two read operations.

* REPEATABLE READ

Specifies that statements cannot read data that has been modified but not yet committed by other transactions and that no other transactions can modify data that has been read by the current transaction until the current transaction completes.

Reference: Transaction Isolation Levels

Question No : 10 - (Topic 1)

During performance testing, you discover that database INSERT operations against the Inventory table are slow.

You need to recommend a solution to reduce the amount of time it takes to complete the INSERT operations.

What should you recommend?

- A. Partition the nonclustered index.
- B. Partition the Inventory table.snapshot replication