70-764 Q&As

Administering a SQL Database Infrastructure

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QUESTION 1

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while

others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You support an application that stores data in a Microsoft SQL Server database. You have a query that returns data for a report that users run frequently.

The query optimizer sometimes generates a poorly-performing plan for the query when certain parameters are used. You observe that this is due to the distribution of data within a specific table that the query uses.

You need to ensure that the query optimizer always uses the query plan that you prefer.

Solution: You add the KEEPFIXED PLAN query hint to the query.

Does the solution meet the goal?

A. Yes

B. No

Correct Answer: A

PLAN forces the query optimizer not to recompile a query due to changes in statistics. Specifying KEEPFIXED PLAN makes sure that a query will be recompiled only if the schema of the underlying tables is changed or if sp_recompile is executed against those tables.

References: https://docs.microsoft.com/en-us/sql/t-sql/queries/hints-transact-sql-query?view=sql-server-2017

QUESTION 2

General Overview

You are the Senior Database Administrator (DBA) for a software development company named Leafield Solutions. The company develops software applications custom designed to meet customer requirements.

Requirements Leafield Solutions has been asked by a customer to develop a web-based Enterprise Resource Planning and Management application. The new application will eventually replace a desktop application that the customer is

currently using. The current application will remain in use while the users are trained to use the new webbased application.

You need to design the SQL Server and database infrastructure for the web-based application.

Databases

You plan to implement databases named Customers, Sales, Products, Current_Inventory, and TempReporting.

The Sales database contains a table named OrderTotals and a table named SalesInfo.

A stored procedure named SPUpdateSalesInfo reads data in the OrderTotals table and modifies data in the SalesInfo table.

The stored procedure then reads data in the OrderTotals table a second time and makes further changes to the information in the SalesInfo table. The Current_Inventory database contains a large table named Inv_Current. The Inv_Current

table has a clustered index for the primary key and a nonclustered index. The primary key column uses the identity property. The data in the Inv_Current table is over 120GB in size. The tables in the Current_Inventory database are accessed

by multiple queries in the Sales database. Another table in the Current_Inventory database contains a self-join with an unlimited number of hierarchies. This table is modified by a stored procedure named SPUpdate2. An external application

named ExternalApp1 will periodically query the Current_Inventory database to generate statistical information. The TempReporting database contains a single table named GenInfo. A stored procedure named SPUPdateGenInfo combines

data from multiple databases and generates millions of rows of data in the GenInfo table.

The GenInfo table is used for reports.

When the information in GenInfo is generated, a reporting process reads data from the Inv_Current table and queries information in the GenInfo table based on that data. The GenInfo table is deleted after the reporting process completes. The

Products database contains tables named ProductNames and ProductTypes.

Current System

The current desktop application uses data stored in a SQL Server 2005 database named DesABCopAppDB. This database will remain online and data from the Current_Inventory database will be copied to it as soon as data is changed in the

Current_Inventory database.

SQL Servers

A new SQL Server 2012 instance will be deployed to host the databases for the new system. The databases will be hosted on a Storage Area Network (SAN) that provides highly available storage.

Design Requirements

Your SQL Server infrastructure and database design must meet the following requirements:

Confidential information in the Current_ Inventory database that is accessed by ExternalApp1 must be securely stored.

Direct access to database tables by developers or applications must be denied.

The account used to generate reports must have restrictions on the hours when it is allowed to make a connection.

Deadlocks must be analyzed with the use of Deadlock Graphs.

In the event of a SQL Server failure, the databases must remain available.

Software licensing and database storage costs must be minimized.

Development effort must be minimized.

The Tempdb databases must be monitored for insufficient free space.

Failed authentication requests must be logged.

Every time a new row is added to the ProductTypes table in the Products database, a user defined function that validates the row must be called before the row is added to the table.

When SPUpdateSalesInfo queries data in the OrderTotals table the first time, the same rows must be returned along with any newly added rows when SPUpdateSalesInfo queries data in the OrderTotals table the second time.

The performance of the SPUpdate2 stored procedure needs to be improved.

Your solution must meet the design requirements.

What should your solution include?

A. A common table expression.

B. A derived table.

C. A Cursor.

D. A table variable.

Correct Answer: A

QUESTION 3

Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

You are a database administrator for a company that has an on-premises Microsoft SQL Server environment and Microsoft Azure SQL Database instances. The environment hosts several customer databases, and each customer uses a dedicated instance. The environments that you manage are shown in the following table.

Customer	Cloud Type	Description
AdventureWorks Cycles	Private	The environment includes a database named **Adventureworks** that contains a single schema named ADVSchema. You must implement auditing for all objects in the ADVSchema schema. You must also implement auditing to record access to data that is considered sensitive by the company.
Tailspin Toys	Private	Tailspin Toys has a custom application that accesses a hosted database named **TSpinDB**. The application will monitor **TSpinDB** and capture information over time about which database objects are accessed and how frequently they are accessed.
Contoso, Ltd.	Private	The environment has a database named **ConDB** that was recently upgraded to Microsoft SQL Server 2016. Contoso reports that **ConDB** is slow to return results when the server is busy. You must modify the startup parameters to **ConDB** to optimize performance.
Wingtip Toys	Private	Wingtip Toys has a database named **WingDB**. All tables in the database have indexes. Users report system response time is slow during peak activity periods. You observe that the performance issues are related to locking. Wingtip Toys receives data updates from suppliers each week. You must implement a process for importing the data into **WingDB**. You must use minimal logging and minimized data loss during import process.
Wide World Importers	Public	The environment includes a database named **WDWDB**. Neither auditing nor statistics are configured for **WDWDB**. You must log any deletion of views and all database record update operations.

You need to configure auditing for WDWDB.

In the table below, identify the event type that you must audit for each activity.

Hot Area:

Correct Answer:

QUESTION 4

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while

others might not have a correct solution.

After you answer a question in this sections, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a data warehouse that stored sales data. One fact table has 100 million rows.

You must reduce storage needs for the data warehouse.

You need to implement a solution that uses column-based storage and provides real-time analytics for the operational workload.

Solution: You generate a new certificate on new instance.

Does the solution meet the goal?

A. Yes

B. No

Correct Answer: B

Certificates are of no use in this scenario. You should use a column-store index.

QUESTION 5

You manage a Microsoft SQL Server environment. You plan to encrypt data when you create backups.

You need to configure the encryption options for backups.

What should you configure?

A. a certificate

B. an MD5 hash

C. a DES key

D. an AES 256-bit key

Correct Answer: D

To encrypt during backup, you must specify an encryption algorithm, and an encryptor to secure the encryption key. The following are the supported encryption options: Encryption Algorithm: The supported encryption algorithms are: AES 128, AES 192, AES 256, and Triple DES Encryptor: A certificate or asymmetric Key

References: https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/backup-encryption

QUESTION 6

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while

others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You support an application that stores data in a Microsoft SQL Server database. You have a query that returns data for a report that users run frequently.

The query optimizer sometimes generates a poorly-performing plan for the query when certain parameters are used. You observe that this is due to the distribution of data within a specific table that the query uses.

You need to ensure that the query optimizer always uses the query plan that you prefer.

Solution: You create a copy of the plan guide for the query plan.

Does the solution meet the goal?

A. Yes

B. No

Correct Answer: B

PLAN should be used as it forces the query optimizer not to recompile a query due to changes in statistics. References: https://docs.microsoft.com/en-us/sql/t-sql/queries/hints-transact-sql-query?view=sql-server-2017

QUESTION 7

You are the senior database administrator at Contoso, Ltd. You manage a SQL Server 2016 Instance, with multiple databases used for reporting.

You have recently hired a junior database administrator. You want this person to be able to view the database structures on the server, but you do not want him or her to be able to make changes or see the data in the tables.

The new hire\\'s login credentials are as follows:

Login name: JFree

Password: Jx672$qse

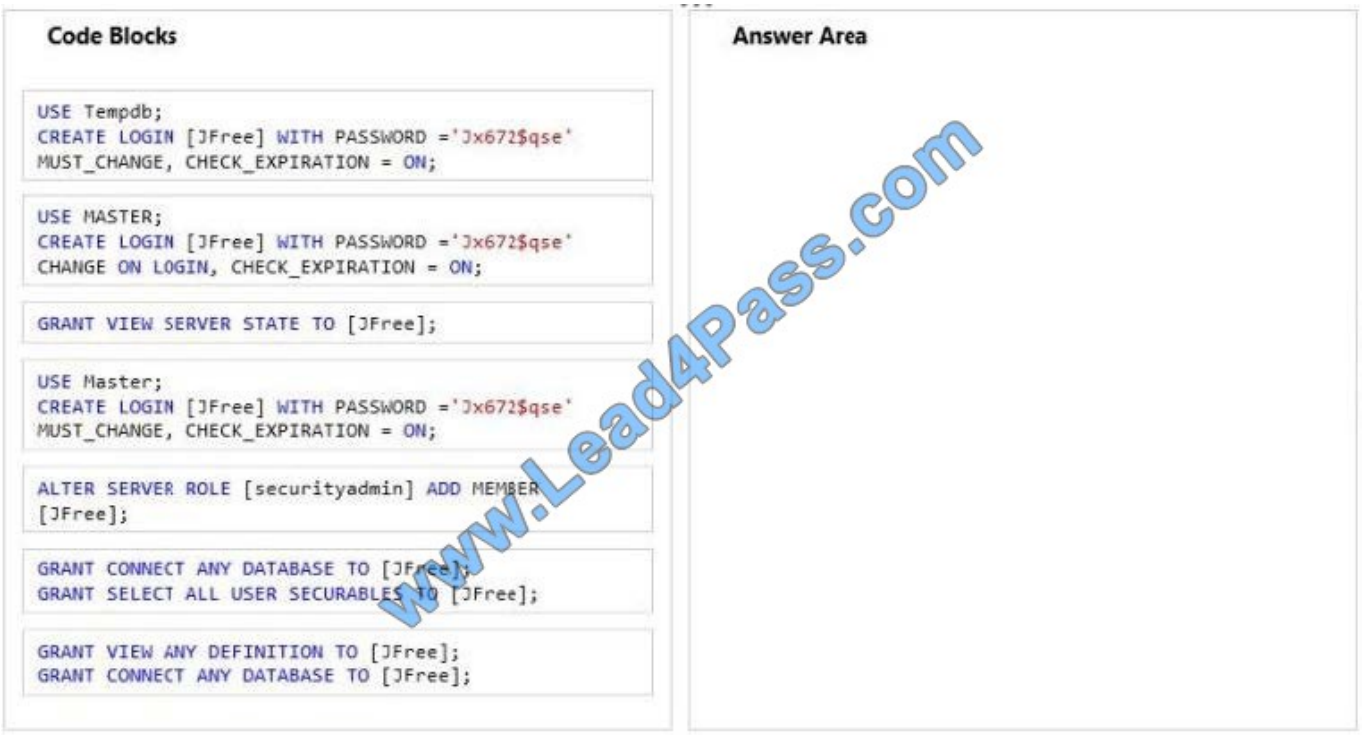
You want the new hire to be required to change his password on his next login.

The code that is produced should execute no matter the initial database context in which it is started.

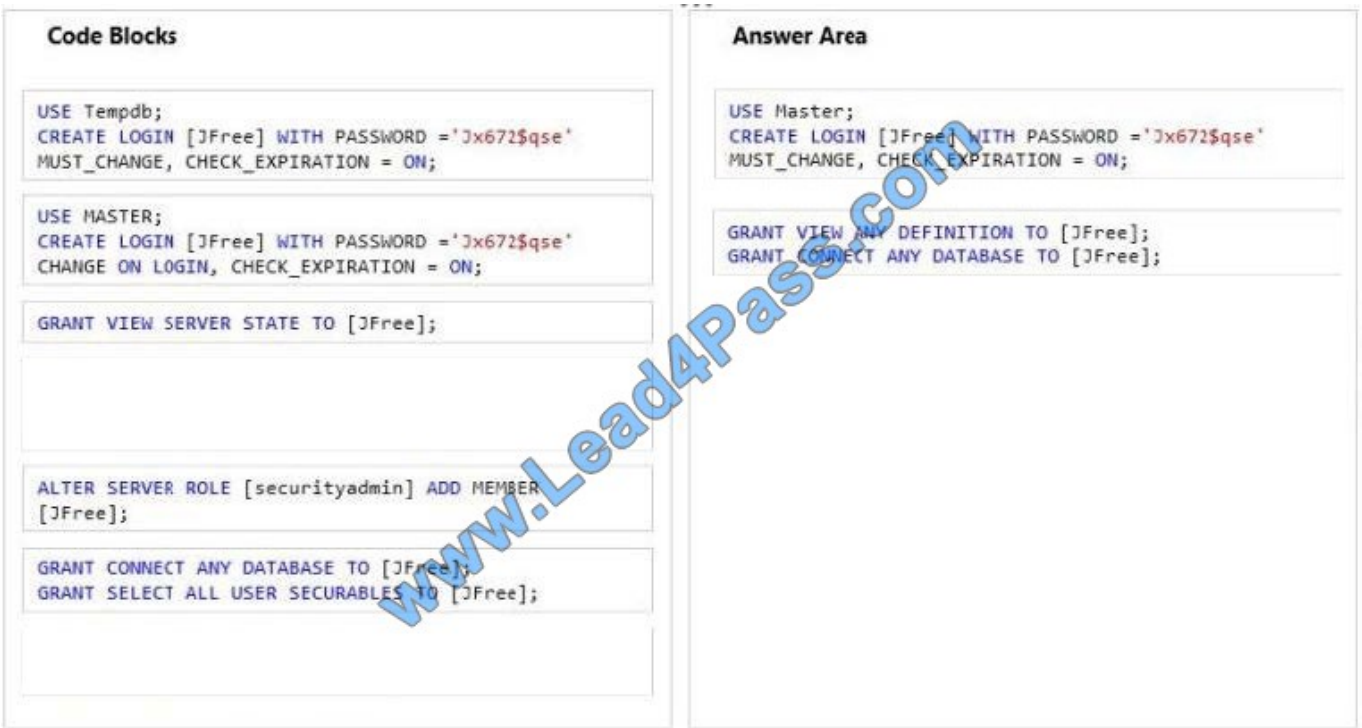
You need to write the code required to give the new hire only the desired access, using the smallest number of steps. Develop the solution by selecting and arranging the required code blocks in the correct order. You may not need all of the

code blocks.

Select and Place:



Correct Answer:



QUESTION 8

Overview

General Overview

ADatum Corporation has offices in Miami and Montreal.

The network contains a single Active Directory forest named adatum.com. The offices connect to each other by using a WAN link that has 5-ms latency. A. Datum standardizes its database platform by using SQL Server 2014 Enterprise

edition.

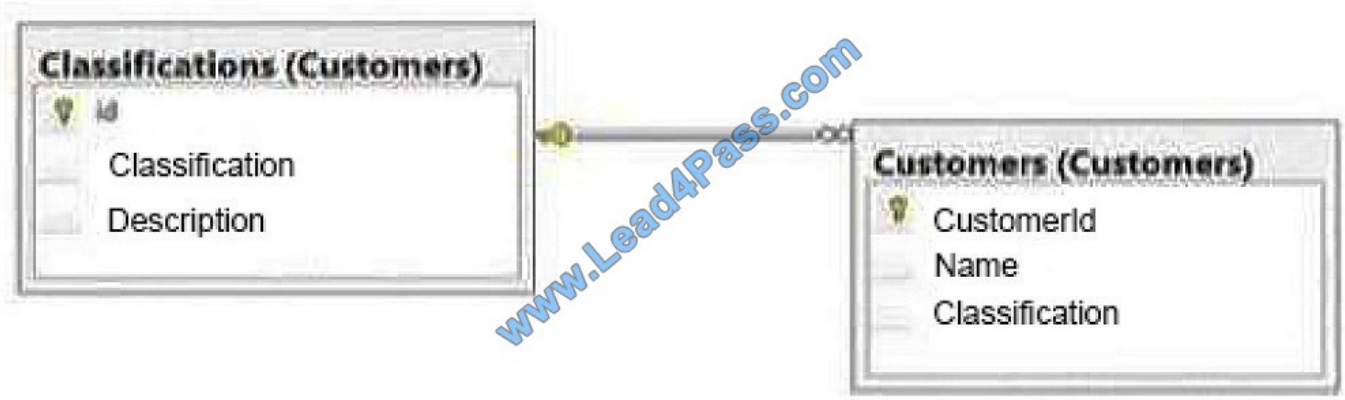
Databases

Each office contains databases named Sales, Inventory, Customers, Products, Personnel, and Dev.

Servers and databases are managed by a team of database administrators. Currently, all of the database administrators have the same level of permissions on all of the servers and all of the databases.

The Customers database contains two tables named Customers and Classifications.

The following graphic shows the relevant portions of the tables:



The following table shows the current data in the Classifications table:

ID	Classification	Description
1	Platinum	Yearly sales over 1,000,000
2	Gold	Yearly sales over 500,000
3	Silver	Yearly sales over 100,000

The Inventory database is updated frequently.

The database is often used for reporting.

A full backup of the database currently takes three hours to complete.

Stored Procedures

A stored procedure named USP_1 generates millions of rows of data for multiple reports. USP_1 combines data from five different tables from the Sales and Customers databases in a table named Table1. After Table1 is created, the

reporting process reads data from Table1 sequentially several times. After the process is complete, Table1 is deleted. A

stored procedure named USP_2 is used to generate a product list. The product list contains the names of products

grouped by category.

USP_2 takes several minutes to run due to locks on the tables the procedure accesses. The locks are caused by USP_1 and USP_3.

A stored procedure named USP_3 is used to update prices. USP_3 is composed of several UPDATE statements called in sequence from within a transaction. Currently, if one of the UPDATE statements fails, the stored procedure fails. A

stored procedure named USP_4 calls stored procedures in the Sales, Customers, and Inventory databases.

The nested stored procedures read tables from the Sales, Customers, and Inventory databases. USP_4 uses an EXECUTE AS clause.

All nested stored procedures handle errors by using structured exception handling. A stored procedure named USP_5 calls several stored procedures in the same database. Security checks are performed each time USP_5 calls a stored

procedure.

You suspect that the security checks are slowing down the performance of USP_5. All stored procedures accessed by user applications call nested stored procedures.

The nested stored procedures are never called directly.

Design Requirements

Data Recovery

You must be able to recover data from the Inventory database if a storage failure occurs. You have a Recovery Time Objective (RTO) of 5 minutes.

You must be able to recover data from the Dev database if data is lost accidentally. You have a Recovery Point Objective (RPO) of one day.

Classification Changes

You plan to change the way customers are classified. The new classifications will have four levels based on the number of orders. Classifications may be removed or added in the future. Management requests that historical data be

maintained for the previous classifications. Security A group of junior database administrators must be able to manage security for the Sales database. The junior database administrators will not have any other administrative rights. A. Datum

wants to track which users run each stored procedure.

Storage

ADatum has limited storage. Whenever possible, all storage space should be minimized for all databases and all backups.

Error Handling

There is currently no error handling code in any stored procedure.

You plan to log errors in called stored procedures and nested stored procedures. Nested stored procedures are never called directly.

You need to recommend a solution to minimize the amount of time it takes to execute USP_5. What should you include in the recommendation?

A. Enable cross-database chaining.

B. Use a server role to group all logins.

C. Use the EXECUTE AS clause in USP_5.

D. Copy USP.5 to each database.

Correct Answer: A

Scenario:

A stored procedure named USP_5 changes data in multiple databases. Security checks are performed each time USP_5 accesses a database.

- Cross-database ownership chaining occurs when a procedure in one database depends on objects in another database. A cross-database ownership chain works in the same way as ownership chaining within a single database, except that an unbroken ownership chain requires that all the object owners are mapped to the same login account. If the source object in the source database and the target objects in the target databases are owned by the same login account, SQL Server does not check permissions on the target objects.

QUESTION 9

You administer a SQL Server instance. A database named DB1 is corrupted.

Backups of DB1 are available on a disk backup device located at Z:\Backups\Backup.bak.

The backup device has the following backups sets:

a full database backup that is the first backup set on the device (FILE = 1)

a differential database backup that is the second backup set on the device (FILE = 2)

a transaction log backup that is the third backup set on the device (FILE = 3)

You restore the full database backup and the differential database backup without rolling back the uncommitted transactions.

You need to restore the transaction log backup and ensure the database is ready for use after restoring the transaction log.

How should you complete the Transact-SQL statement? To answer, drag the appropriate Transact-SQL segments to the correct locations. Each Transact-SQL segment may be used once, more than once, or not at all. You may need to drag

the split bar between panes or scroll to view content.

Select and Place:

Correct Answer:

The RESTORE restores backups taken using the BACKUP command. You can do restore a transaction log onto a database (a transaction log restore).

NORECOVERY specifies that roll back not occur. This allows roll forward to continue with the next statement in the sequence. In this case, the restore sequence can restore other backups and roll them forward.

RECOVERY (the default) indicates that roll back should be performed after roll forward is completed for the current backup.

Recovering the database requires that the entire set of data being restored (the roll forward set) is consistent with the database. If the roll forward set has not been rolled forward far enough to be consistent with the database and RECOVERY

is specified, the Database Engine issues an error.

References: https://docs.microsoft.com/en-us/sql/t-sql/statements/restore-statementstransact-sql

QUESTION 10

Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series.

Information and details provided in a question apply only to that question.

A company has an on-premises Microsoft SQL Server environment.

SQL Server backups should be stored as Microsoft Azure blob pages. The connection process from the SQL Server

instances to Azure should be encrypted.

You need to store backups as Azure blob pages. Which option should you use?

A. backup compression

B. backup encryption

C. file snapshot backup

D. mirrored backup media sets

E. SQL Server backup to URL

F. SQL Server Managed Backup to Azure

G. tail-log backup

H. back up and truncate the transaction log

Correct Answer: F

SQL Server Managed Backup to Microsoft Azure manages and automates SQL Server backups to Microsoft Azure Blob storage. You can choose to allow SQL Server to determine the backup schedule based on the transaction workload of your database. Or you can use advanced options to define a schedule. The retention settings determine how long the backups are stored in Azure Blob storage.

References: https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/sql-server-managed-backup-to-microsoft-azure?view=sql-server-2017

QUESTION 11

Note: This question is part of a series of questions that use the same scenario. For your convenience, the scenario is repeated in each question. Each question presents a different goal and answer choices, but the text of the scenario is exactly the same in each question in this series.

Start of repeated scenario.

You are a database administrator for a company that has on-premises Microsoft SQL Server environment. There are two domains in separate forests. There are no trust relationships between the domains. The environment hosts several customer databases, and each customer uses a dedicated instance running SQL Server 2016 Standard edition.

The customer environments are shown in the following table.

Customer	Domain	Description
AdventureWorks Cycles	DomainB	The environment includes a database named **Adventureworks** that contains a single schema named ADVSchema. You must implement auditing for all objects in the ADVSchema schema. You must also implement auditing to record access to data that is considered sensitive by the company.
Tailspin Toys	DomainA	Tailspin Toys has a database named **TSpinDB.** Tailspin Toys requires a custom application that monitors **TSpinDB** and captures information over time about which database objects are accessed and how frequently they are accessed.
Contoso, Ltd.	DomainB	The environment has a database named ConDB and is also running SQL Server Reporting Services (SSRS).
Wingtip Toys	DomainA	Wingtip Toys has a database named **WingDB**. All tables in the database have indexes. Users report system response time is slow during peak activity periods. You observe that the performance issues are related to locking. Wingtip Toys receives data updates from suppliers each week. You must implement a process for importing the data into **WingDB**. You must use minimal logging and minimize data loss during the import process.
Wide World Importers	DomainB	The environment includes a database named WDWDB. Neither auditing nor statistics are configured for WDWDB. You must log any deletion of views and all database record update operations.

End of repeated scenario.

You need to configure auditing for the AdventureWorks environment. How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

Answer Area

```
USE master
GO
[ CREATE DATABASE AUDIT | ALTER DATABASE AUDIT | CREATE SERVER AUDIT | ALTER SERVER AUDIT ] AuditADVAccess
    TO FILE ( FILEPATH = 'C:\ADVAudit\' )
    WHERE object_name = 'SensitiveData'
GO
[ CREATE DATABASE AUDIT | ALTER DATABASE AUDIT | CREATE SERVER AUDIT | ALTER SERVER AUDIT ] AuditADVAccess WITH (STATE = ON)
GO
Use Adventureworks
[ CREATE DATABASE AUDIT | ALTER DATABASE AUDIT | CREATE SERVER AUDIT | ALTER SERVER AUDIT ] SPECIFICATION [FilterForSensitiveData]
[ FOR SERVER AUDIT | FOR DATABASE AUDIT | USE [AuditDataAcces] | SELECT ID ] [AuditADVAccess]
ADD (SELECT ON SCHEMA::[ADVSchema] BY [public])
WITH (STATE = ON)
GO
```


Correct Answer:

Answer Area

```
USE master
GO
[CREATE DATABASE AUDIT | ALTER DATABASE AUDIT | CREATE SERVER AUDIT | ALTER SERVER AUDIT] AuditADVAccess
    TO FILE ( FILEPATH = 'C:\ADVAudit\' )
    WHERE object_name = 'SensitiveData'
GO
[CREATE DATABASE AUDIT | ALTER DATABASE AUDIT | CREATE SERVER AUDIT | ALTER SERVER AUDIT] AuditADVAccess WITH (STATE = ON)
GO
Use Adventureworks
[CREATE DATABASE AUDIT | ALTER DATABASE AUDIT | CREATE SERVER AUDIT | ALTER SERVER AUDIT] SPECIFICATION [FilterForSensitiveData]
[FOR SERVER AUDIT | FOR DATABASE AUDIT | USE [AuditDataAcces] | SELECT ID] [AuditADVAccess]
ADD (SELECT ON SCHEMA::[ADVSchema] BY [public])
WITH (STATE = ON)
GO
```


QUESTION 12

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution,

while

others might not have a correct solution.

After you answer a question in this sections, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a database that includes a table named Candidate.

You need to update the statistics for a column named Skills in the table and turn off automatic statistics updates for the column.

Solution: You run the following query:

```
USE CustomerDatabase
GO
UPDATE STATISTICS Person.Candidate(Skills)
RESAMPLE, NORECOMPUTE
GO
```

Does this meet the goal?

A. Yes

B. No

Correct Answer: B

RESAMPLE: Update each statistic using its most recent sample rate.

References: https://docs.microsoft.com/en-us/sql/t-sql/statements/update-statistics-transact-sql

QUESTION 13

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while

others might not have a correct solution.

After you answer a question in this sections, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You attempt to restore a database on a new SQL Server instance and receive the following error message:

"Msg 33111, Level 16, State 3, Line 2

Cannot find server certificate with thumbprint `0x7315277C70764B1F252DC7A5101F6F66EFB1069D\\'."

You need to ensure that you can restore the database successfully.

Solution: You disable BitLocker Drive Encryption (BitLocker) on the drive that contains the database backup.

Does this meet the goal?

A. Yes

B. No

Correct Answer: B

This is a certificate problem. The problem is not related to Bitlocker.

References: https://www.sqlservercentral.com/Forums/Topic1609923-3411-1.aspx

QUESTION 14

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while

others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

Your company is developing a new business intelligence application that will access data in a Microsoft Azure SQL Database instance. All objects in the instance have the same owner.

A new security principal named BI_User requires permission to run stored procedures in the database. The stored procedures read from and write to tables in the database. None of the stored procedures perform IDENTIFY_INSERT

operations or dynamic SQL commands.

The scope of permissions and authentication of BI_User should be limited to the database. When granting permissions, you should use the principle of least privilege.

You need to create the required security principals and grant the appropriate permissions.

Solution: You run the following Transact-SQL statement in the master database:

CREATE LOGIN BI_User WITH PASSWORD = `Pa$$w ?d\\'

You run the following Transact-SQL statement in the business intelligence database:

```
CREATE USER BI_User FROM LOGIN BI_User
GRANT EXECUTE TO BI_User
EXEC sp_addrolemember 'db_datareader', 'BI_user'
EXEC sp_addrolemember 'db_datawriter', 'BI_user'
```

Does the solution meet the goal?

A. Yes

B. No

Correct Answer: B

It is enough to grant EXECUTE permissions on the stored procedures for database roles you want to be able to access the data. We do not need to add roles to this user.

Note:

One method of creating multiple lines of defense around your database is to implement all data access using stored procedures or user-defined functions. You revoke or deny all permissions to underlying objects, such as tables, and grant

EXECUTE permissions on stored procedures. This effectively creates a security perimeter around your data and database objects.

Best Practices

Simply writing stored procedures isn\\'t enough to adequately secure your application. You should also consider the following potential security holes.

Grant EXECUTE permissions on the stored procedures for database roles you want to be able to access the data.

Revoke or deny all permissions to the underlying tables for all roles and users in the database, including the public role. All users inherit permissions from public. Therefore denying permissions to public means that only owners and sysadmin

members have access; all other users will be unable to inherit permissions from membership in other roles.

Do not add users or roles to the sysadmin or db_owner roles. System administrators and database owners can access all database objects.

References: https://docs.microsoft.com/en-us/dotnet/framework/data/adonet/sql/managing-permissions-with-stored-procedures-in-sql-server

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QUESTION 15

Overview

General Overview

ADatum Corporation has offices in Miami and Montreal.

The network contains a single Active Directory forest named adatum.com. The offices connect to each other by using a WAN link that has 5-ms latency. A. Datum standardizes its database platform by using SQL Server 2014 Enterprise

edition.

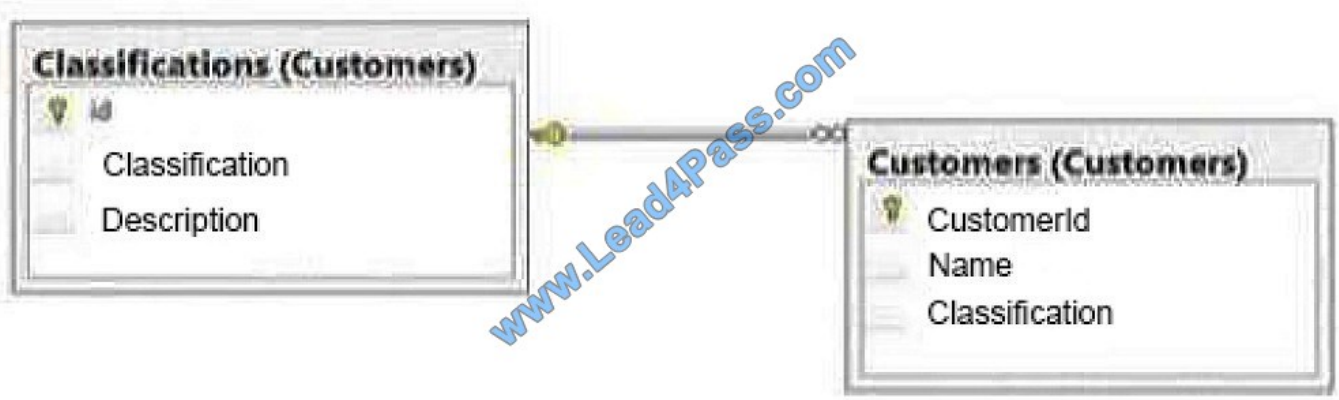
Databases

Each office contains databases named Sales, Inventory, Customers, Products, Personnel, and Dev.

Servers and databases are managed by a team of database administrators. Currently, all of the database administrators have the same level of permissions on all of the servers and all of the databases.

The Customers database contains two tables named Customers and Classifications.

The following graphic shows the relevant portions of the tables:



The following table shows the current data in the Classifications table:

ID	Classification	Description
1	Platinum	Yearly sales over 1,000,000
2	Gold	Yearly sales over 500,000
3	Silver	Yearly sales over 100,000

The Inventory database is updated frequently.

The database is often used for reporting.

A full backup of the database currently takes three hours to complete.

Stored Procedures

A stored procedure named USP_1 generates millions of rows of data for multiple reports. USP_1 combines data from five different tables from the Sales and Customers databases in a table named Table1. After Table1 is created, the

reporting process reads data from Table1 sequentially several times. After the process is complete, Table1 is deleted. A stored procedure named USP_2 is used to generate a product list. The product list contains the names of products

grouped by category.

USP_2 takes several minutes to run due to locks on the tables the procedure accesses. The locks are caused by USP_1 and USP_3.

A stored procedure named USP_3 is used to update prices. USP_3 is composed of several UPDATE statements called in sequence from within a transaction. Currently, if one of the UPDATE statements fails, the stored procedure fails. A

stored procedure named USP_4 calls stored procedures in the Sales, Customers, and Inventory databases.

The nested stored procedures read tables from the Sales, Customers, and Inventory databases. USP_4 uses an EXECUTE AS clause.

All nested stored procedures handle errors by using structured exception handling. A stored procedure named USP_5

calls several stored procedures in the same database. Security checks are performed each time USP_5 calls a stored

procedure.

You suspect that the security checks are slowing down the performance of USP_5. All stored procedures accessed by user applications call nested stored procedures.

The nested stored procedures are never called directly.

Design Requirements

Data Recovery

You must be able to recover data from the Inventory database if a storage failure occurs. You have a Recovery Time Objective (RTO) of 5 minutes.

You must be able to recover data from the Dev database if data is lost accidentally. You have a Recovery Point Objective (RPO) of one day.

Classification Changes

You plan to change the way customers are classified. The new classifications will have four levels based on the number of orders. Classifications may be removed or added in the future. Management requests that historical data be

maintained for the previous classifications. Security A group of junior database administrators must be able to manage security for the Sales database. The junior database administrators will not have any other administrative rights. A. Datum

wants to track which users run each stored procedure.

Storage

ADatum has limited storage. Whenever possible, all storage space should be minimized for all databases and all backups.

Error Handling

There is currently no error handling code in any stored procedure.

You plan to log errors in called stored procedures and nested stored procedures. Nested stored procedures are never called directly.

You need to recommend a solution for the planned changes to the customer classifications. What should you recommend? (Each correct answer presents part of the solution. Choose all that apply.)

A. Add a row to the Customers table each time a classification changes.

B. Add columns for each classification to the Customers table.

C. Add a table to track any changes made to the classification of each customer.

D. Add a column to the Classifications table to track the status of each classification.

E. Implement change data capture.

Correct Answer: CD

Scenario:

You plan to change the way customers are classified.

The new classifications will have four levels based on the number of orders. Classifications may be removed or added in the future.

Incorrect Answers:

E: Change data capture provides information about DML changes on a table and a database. By using change data capture, you eliminate expensive techniques such as user triggers, timestamp columns, and join queries.

QUESTION 16

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 wilt contains 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 ad 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 Appl_Dbl 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.

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

C. Create a column store index.Master Data Services

D. Drop the clustered index.change data capture

Correct Answer: A

Scenario:

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.

QUESTION 17

Background

Corporate Information

Fabrikam, Inc. is a retailer that sells electronics products on the Internet. The company has a headquarters site and one satellite sales office. You have been hired as the database administrator, and the company wants you to change the

architecture of the Fabrikam ecommerce site to optimize performance and reduce downtime while keeping capital expenditures to a minimum. To help with the solution, Fabrikam has decided to use cloud resources as well as on-premise

servers.

Physical Locations

All of the corporate executives, product managers, and support staff are stationed at the headquarters office. Half of the sales force works at this location. There is also a satellite sales office. The other half of the sales force works at the

satellite office in order to have sales people closer to clients in that area. Only sales people work at the satellite location.

Problem Statement

To be successful, Fabrikam needs a website that is fast and has a high degree of system uptime. The current system operates on a single server and the company is not happy with the single point of failure this presents. The current nightly

backups have been failing due to insufficient space on the available drives and manual drive cleanup often needing to happen to get past the errors. Additional space will not be made available for backups on the HQ or satellite servers.

During your investigation, you discover that the sales force reports are causing significant contention.

Configuration

Windows Logins

The network administrators have set up Windows groups to make it easier to manage security. Users may belong to more than one group depending on their role. The groups have been set up as shown in the following table:

Group	Members
OurDomain\Management	All corporate executives
OurDomain\SalesStaff	All sales people
OurDomain\ProductionStaff	All product managers and support staff
OurDomain\AllUsers	Everyone
OurDomain\CustomerSupport	Customer support representatives

Server Configuration The IT department has configured two physical servers with Microsoft Windows Server 2012 R2

and SQL Server 2014 Enterprise Edition and one Windows Azure Server. There are two tiers of storage available for use by database files only a fast tier and a slower tier. Currently the data and log files are stored on the fast tier of storage only. If a possible use case exists, management would like to utilize the slower tier storage for data files. The servers are configured as shown in the following table:

Location	Server
Company headquarters	HQ_Server
Satellite sales office	Satellite_Server
Microsoft Windows Azure (cloud)	Cloud_File Server

Database

Currently all information is stored in a single database called ProdDB, created with the following script:

```
CREATE DATABASE ProdDB
GO
ALTER DATABASE ProdDB SET RECOVERY SIMPLE
GO
```

The Product table is in the Production schema owned by the ProductionStaff Windows group. It is the main table in the system so access to information in the Product table should be as fast as possible. The columns in the Product table are defined as shown in the following table:

Column	Data type
ProductID	INT
ProductName	VARCHAR(100)
ProductDescription	VARCHAR(MAX)
ProductPrice	SMALLMONEY
QuantityOnHand	INT
ProductCost	SMALLMONEY
ProductSupplierID	INT

The SalesOrderDetail table holds the details about each sale. It is in the Sales schema owned by the SalesStaff Windows group. This table is constantly being updated, inserted into, and read. The columns in the SalesOrderDetail table are defined as shown in the following table:

Column	Data type
SalesOrderDetailID	INT
ProductID	INT
SalePrice	SMALLMONEY
SaleQuantity	INT

Database Issues

The current database does not perform well. Additionally, a recent disk problem caused the system to go down, resulting in lost sales revenue. In reviewing the current system, you found that there are no automated maintenance procedures.

The database is severely fragmented, and everyone has read and write access.

Requirements

Database

The database should be configured to maximize uptime and to ensure that very little data is lost in the event of a server failure. To help with performance, the database needs to be modified so that it can support in-memory data, specifically

for the Product table, which the CIO has indicated should be a memoryoptimized table. The auto-update statistics option is set off on this database. Only product managers are allowed to add products or to make changes to the name,

description, price, cost, and supplier. The changes are made in an internal database and pushed to the Product table in ProdDB during system maintenance time. Product managers and others working at the headquarters location also should

be able to generate reports that include supplier and cost information.

Customer data access

Customers access the company\\'s website to order products, so they must be able to read product information such asname, description, and price from the Product table. When customers place orders, stored procedures calledby the website

update product quantityon-hand values. This means the product table is constantly updated at randomtimes.

Customer support data access

Customer support representatives need to be able to view and not update or change product information. Management does not want the customer support representatives to be able to see the product cost or any supplier information.

Sales force data access

Sales people at both the headquarters office and the satellite office must generate reports that read from the Product and SalesOrderDetail tables. No updates or inserts are ever made by sales people. These reports are run at random times

and there can be no reporting downtime to refresh the data set except during the monthly maintenance window. The reports that run from the satellite office are process intensive queries with large data sets. Regardless of which office runs a

sales force report, the SalesOrderDetail table should only return valid, committed order data; any orders not yet committed should be ignored.

Historical Data

The system should keep historical information about customers who access the site so that sales people can see how frequently customers log in and how long they stay on the site.

The information should be stored in a table called Customer Access. Supporting this requirement should have minimal impact on production website performance.

Backups

The recovery strategy for Fabrikam needs to include the ability to do point in time restores and minimize the risk of data loss by performing transaction log backups every 15 minutes.

Database Maintenance

The company has defined a maintenance window every month when the server can be unavailable. Any maintenance functions that require exclusive access should be accomplished during that window.

Project milestones completed

Revoked all existing read and write access to the database, leaving the schema ownership in place.

Configured an Azure storage container secured with the storage account name MyStorageAccount with the primary access key StorageAccountKey on the cloud file server.

SQL Server 2014 has been configured on the satellite server and is ready for use.

On each database server, the fast storage has been assigned to drive letter F:, and the slow storage has been assigned to drive letter D:.

You need to change the ProdDB database.

Which two database options should you change to meet the requirements? Each correct answer presents part of the solution. (Choose two.)

A. CONTAINS FILESTREAM

B. Change recovery model to FULL

C. CONTAINMENT = PARTIAL

D. Change recovery model to BULK_LOGGED

E. COLLATE IN.MEMORY

F. CONTAINS MEMORY OPTIMIZED DATA

Correct Answer: EF

Scenario: To help with performance, the database needs to be modified so that it can support in-memory data, specifically for the Product table, which the CIO has indicated should be a memory-optimized table. Collations and Code Pages FileGroupDefinition.ContainsMemoryOptimizedData Property (Microsoft.SqlServer.TransactSql.ScriptDom)

QUESTION 18

Note: This question is part of a series of questions that use the same or similar answer choices. An answer choice may be correct for more than one question in the series. Each question is independent of the other questions in this series.

Information and details provided in a question apply only to that question.

You are the database administrator for a company that hosts Microsoft SQL Server. You manage both on-premises and Microsoft Azure SQL Database environments.

You have a user database named HRDB that contains sensitive human resources data. The HRDB backup files must be encrypted.

You need to grant the correct permission to the service account that backs up the HRDB database.

Which permission should you grant?

A. DDLAdmin

B. db_datawriter

C. dbcreator

D. dbo

E. View Database State

F. View Server State

G. View Definition

H. sysadmin

Correct Answer: G

Restoring the encrypted backup: SQL Server restore does not require any encryption parameters to be specified during restores. It does require that the certificate or the asymmetric key used to encrypt the backup file be available on the instance that you are restoring to. The user account performing the restore must have VIEW DEFINITION permissions on the certificate or key.

References: https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/backup-encryption

QUESTION 19

General Overview

You are the Senior Database Administrator (DBA) for a software development company named Leafield Solutions. The company develops software applications custom designed to meet customer requirements.

Requirements Leafield Solutions has been asked by a customer to develop a web-based Enterprise Resource Planning and Management application. The new application will eventually replace a desktop application that the customer is

currently using. The current application will remain in use while the users are trained to use the new webbased application.

You need to design the SQL Server and database infrastructure for the web-based application.

Databases

You plan to implement databases named Customers, Sales, Products, Current_Inventory, and TempReporting.

The Sales database contains a table named OrderTotals and a table named SalesInfo.

A stored procedure named SPUpdateSalesInfo reads data in the OrderTotals table and modifies data in the SalesInfo table.

The stored procedure then reads data in the OrderTotals table a second time and makes further changes to the information in the SalesInfo table. The Current_Inventory database contains a large table named Inv_Current. The

Inv_Current

table has a clustered index for the primary key and a nonclustered index. The primary key column uses the identity property. The data in the Inv_Current table is over 120GB in size. The tables in the Current_Inventory database are accessed

by multiple queries in the Sales database. Another table in the Current_Inventory database contains a self-join with an unlimited number of hierarchies. This table is modified by a stored procedure named SPUpdate2. An external application

named ExternalApp1 will periodically query the Current_Inventory database to generate statistical information. The TempReporting database contains a single table named GenInfo. A stored procedure named SPUPdateGenInfo combines

data from multiple databases and generates millions of rows of data in the GenInfo table.

The GenInfo table is used for reports.

When the information in GenInfo is generated, a reporting process reads data from the Inv_Current table and queries information in the GenInfo table based on that data. The GenInfo table is deleted after the reporting process completes. The

Products database contains tables named ProductNames and ProductTypes.

Current System

The current desktop application uses data stored in a SQL Server 2005 database named DesABCopAppDB. This database will remain online and data from the Current_Inventory database will be copied to it as soon as data is changed in the

Current_Inventory database.

SQL Servers

A new SQL Server 2012 instance will be deployed to host the databases for the new system. The databases will be hosted on a Storage Area Network (SAN) that provides highly available storage.

Design Requirements

Your SQL Server infrastructure and database design must meet the following requirements:

Confidential information in the Current_ Inventory database that is accessed by ExternalApp1 must be securely stored.

Direct access to database tables by developers or applications must be denied.

The account used to generate reports must have restrictions on the hours when it is allowed to make a connection.

Deadlocks must be analyzed with the use of Deadlock Graphs.

In the event of a SQL Server failure, the databases must remain available.

Software licensing and database storage costs must be minimized.

Development effort must be minimized.

The Tempdb databases must be monitored for insufficient free space.

Failed authentication requests must be logged.

Every time a new row is added to the ProductTypes table in the Products database, a user defined function that validates the row must be called before the row is added to the table.

When SPUpdateSalesInfo queries data in the OrderTotals table the first time, the same rows must be returned along with any newly added rows when SPUpdateSalesInfo queries data in the OrderTotals table the second time.

You need to recommend a solution to meet the design requirement of logging all failed authentication requests.

What should you recommend?

A. Object Access Auditing

B. C2 Audit Mode

C. Logon Triggers.

D. Login Auditing.

Correct Answer: D

QUESTION 20

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while

others might not have a correct solution.

After you answer a question in this sections, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a database that includes a table named Candidate.

You need to update the statistics for a column named Skills in the table and turn off automatic statistics updates for the column.

Solution: You run the following query:

```
USE CustomerDatabase
GO
UPDATE STATISTICS Person.Candidate(Skills)
WITH SAMPLE 100 PERCENT
GO
```

Does this meet the goal?

A. Yes

B. No

Correct Answer: B

Should use WITH FULLSCAN, NORECOMPUTE, not WITH SAMPLE.

References: https://docs.microsoft.com/en-us/sql/t-sql/statements/update-statistics-transact-sql

QUESTION 21

You are the administrator of a Microsoft SQL Server 2016 server. Some applications consume significant resources.

You need to manage the server workload by restricting resource-intensive applications.

You need to dynamically limit resource consumption.

What should you do?

A. Set up Service Broker to ensure that applications are not allowed to consume more than the specified amount of resources.

B. Configure Resource Pools, Workload Groups, and Classifier Function, and then enable the Resource Governor.

C. Configure Extended Events to monitor and restrict resource limits allowed by each application type.

D. Create a new Plan Guide with a Scope Type of sql and define the resource limits for each application.

Correct Answer: B

QUESTION 22

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while

others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You have a database named DB1 that is 640 GB and is updated frequently.

You enable log shipping for DB1 and configure backup and restore to occur every 30 minutes.

You discover that the hard disks on the database server are almost full.

You need to reduce the amount of disk space used by the log shipping process.

Solution: You increase the frequency of the transaction log backups to every 10 minutes.

Does this meet the goal?

A. Yes

B. No

Correct Answer: B

You should compress the transaction log backups.

References: https://docs.microsoft.com/en-us/sql/database-engine/log-shipping/configure-log-shipping-sql-server?view=sql-server-2017

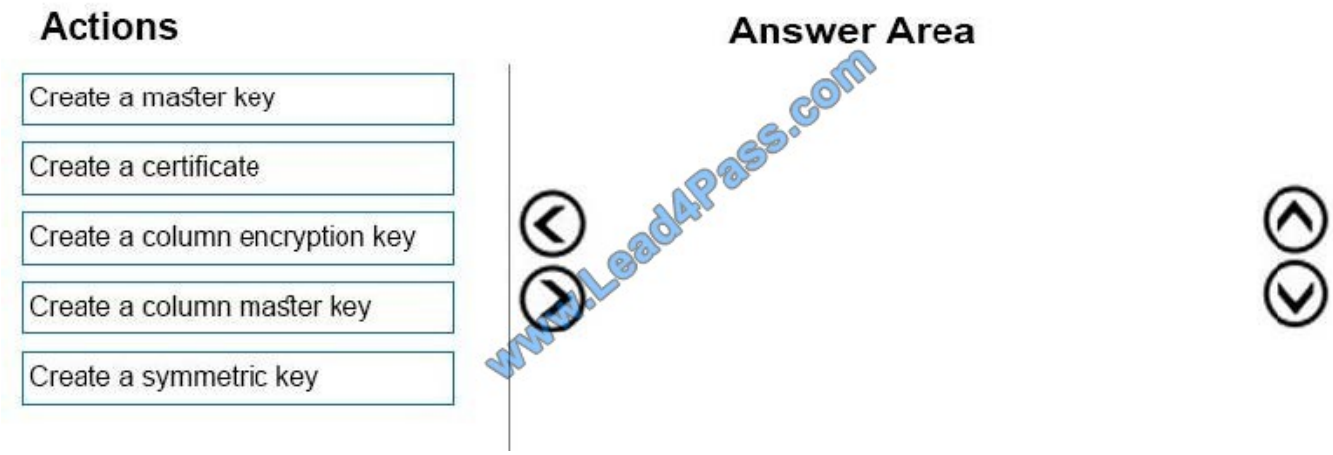
QUESTION 23

You have a database named DB1.

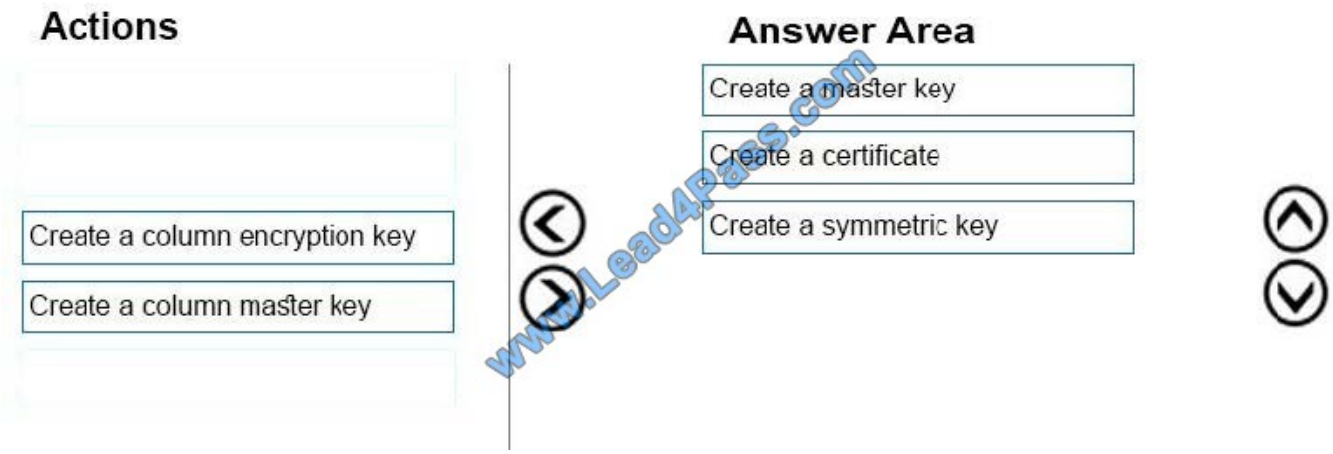
You need to encrypt two columns in DB1 by using column-level encryption.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:



Correct Answer:



Step 1: You must have a database master key. If your database does not already have a database master key, create

one.

Step 2: Create a certificate.

Step 3: Create a symmetric key.

References: https://docs.microsoft.com/en-us/sql/relationaldatabases/security/encryption/encrypt-a-column-of-data

QUESTION 24

You administer a Microsoft SQL Server 2016 database.

You want to make a full backup of the database to a file on disk.

In doing so, you need to output the progress of the backup.

Which backup option should you use?

A. STATS

B. COMPRESSION

C. CHECKSUM

D. IN IT

Correct Answer: A

QUESTION 25

You have the following servers:

Name	Role	Location
SQL1	primary	main office
SQL2	monitoring	main office
SQL3	secondary	branch office
FS1	file share for backups	main office

SQL1 hosts a database named DB1.

Users in the branch office must be able to access DB1 from SQL3.

You need to configure log shipping on DB1 from the main office to the branch office.

On which server should you configure the backup job?

A. SQL1

B. SQL2

C. SQL3

D. FS1

Correct Answer: A

The primary server instance runs the backup job to back up the transaction log on the primary database. This server instance then places the log backup into a primary log-backup file, which it sends to the backup folder. In this figure, the backup folder is on a shared directory-the backup share.

Note: SQL Server Log shipping allows you to automatically send transaction log backups from a primary database on a primary server instance to one or more secondary databases on separate secondary server instances. The transaction log backups are applied to each of the secondary databases individually. An optional third server instance, known as the monitor server, records the history and status of backup and restore operations and, optionally, raises alerts if these operations fail to occur as scheduled.

References: https://docs.microsoft.com/en-us/sql/database-engine/log-shipping/about-log-shipping-sql-server

QUESTION 26

You administer all the deployments of Microsoft SQL Server 2016 in your company.

A database contains a large product catalog that is updated periodically.

You need to be able to send the entire product catalog to all branch offices on a monthly basis.

Which configuration should you use?

A. Two servers configured in the same data center A primary server configured to perform log-shipping every 10 minutes A backup server configured as a warm standby

B. SQL Server that includes an application database configured to perform transactional replication

C. Two servers configured in the same data center SQL Server Availability Group configured in AsynchronousCommit Availability Mode One server configured as an Active Secondary

D. Two servers configured in a Windows Failover Cluster in the same data center SQL Server configured as a clustered instance

E. SQL Server that includes an application database configured to perform snapshot replication

F. Two servers configured in different data centers SQL Server Availability Group configured in Synchronous-Commit Availability Mode One server configured as an Active Secondary

G. Two servers configured on the same subnet SQL Server Availability Group configured in Synchronous-Commit Availability Mode

H. Two servers configured in different data centers SQL Server Availability Group configured in AsynchronousCommit Availability Mode

Correct Answer: E

Snapshot replication distributes data exactly as it appears at a specific moment in time and does not monitor for updates

to the data. When synchronization occurs, the entire snapshot is generated and sent to Subscribers.

Using snapshot replication by itself is most appropriate when one or more of the following is true:

Data changes infrequently.

It is acceptable to have copies of data that are out of date with respect to the Publisher for a period of time.

Replicating small volumes of data.

A large volume of changes occurs over a short period of time.

References: https://docs.microsoft.com/en-us/sql/relational-databases/replication/snapshot-replication

QUESTION 27

You administer a Microsoft SQL Server 2016 database.

You have a SQL Server Agent job instance that runs using the service account.

You have a job step within the job that requires elevated privileges.

You need to ensure that the job step can run using a different user account.

What should you use?

A. a schedule

B. an alert

C. an operator

D. a proxy

Correct Answer: D

QUESTION 28

You want to reproduce the same SQL Server 2016 installation configuration across five servers. Which of the following files will you generate by using SQL Server Setup to accomplish this goal?

A. Configuration.xml

B. Setup.ini

C. Setup.xml

D. ConfigurationFile.ini

Correct Answer: D

QUESTION 29

You administer all the deployments of Microsoft SQL Server 2016 in your company.

You need to ensure that data changes are sent to a non-SQL Server database server in near real time.

You also need to ensure that data on the primary server is unaffected.

Which configuration should you use?

A. SQL Server that includes an application database configured to perform transactional replication

B. Two servers configured in different data centers SQL Server Availability Group configured in AsynchronousCommit Availability Mode

C. Two servers configured in different data centers SQL Server Availability Group configured in Synchronous-Commit Availability Mode One server configured as an Active Secondary

D. SQL Server that includes an application database configured to perform snapshot replication

E. Two servers configured in the same data center SQL Server Availability Group configured in AsynchronousCommit Availability Mode One server configured as an Active Secondary

F. Two servers configured on the same subnet SQL Server Availability Group configured in Synchronous-Commit Availability Mode

G. Two servers configured in a Windows Failover Cluster in the same data center SQL Server configured as a clustered instance

H. Two servers configured in the same data center A primary server configured to perform log-shipping every 10 minutes A backup server configured as a warm standby

Correct Answer: A

SQL Server supports the following heterogeneous scenarios for transactional and snapshot replication:

Publishing data from SQL Server to non- SQL Server Subscribers.

Publishing data to and from Oracle has some restrictions.

References: https://docs.microsoft.com/en-us/sql/relational-databases/replication/non-sql/heterogeneous-database-replication

QUESTION 30

You plan to deploy a database by using SQL Server 2014. Your company identifies the following requirements for the database:

The name of all stored procedures must start with "usp_"always.

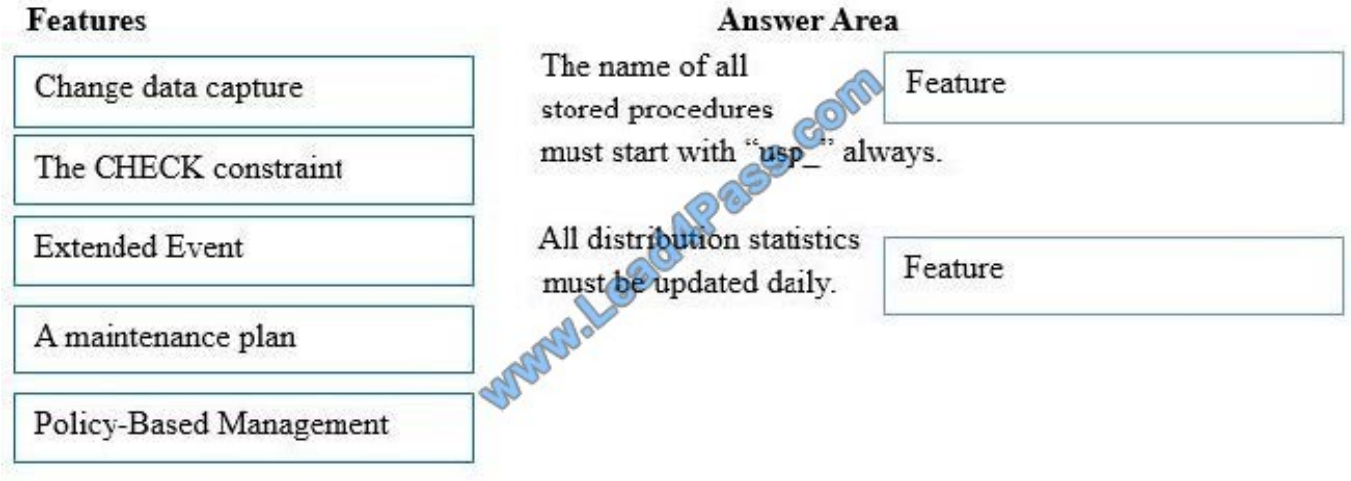
All distribution statistics must be updated daily

You need to identify which feature must be used to meet each database requirement.

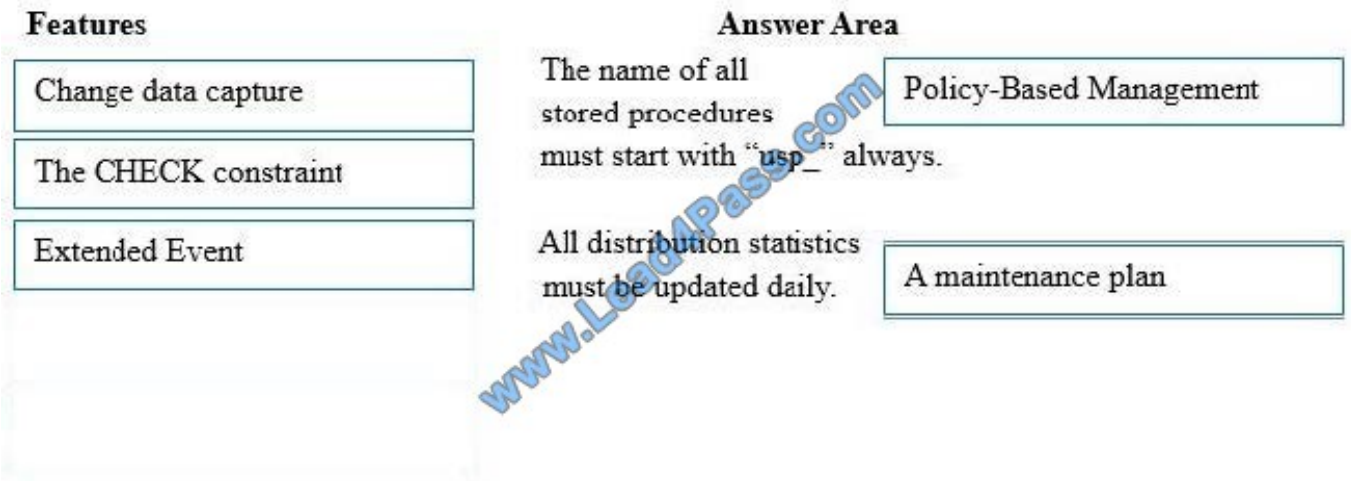
Which features should you identify? To answer, drag the appropriate feature to the correct database requirement in the

answer area.

Select and Place:



Correct Answer:



-Policy-Based Management Each Stored Procedure that are created and that will be created has to have prefix "USP_".

- Maintenance plans create a workflow of the tasks required to make sure that your database is optimized, regularly backed up, and free of inconsistencies.

QUESTION 31

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while

others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You need to configure a Microsoft SQL Server instance to ensure that a user Mail1 can send mail by using Database Mail.

Solution: You add the sysadmin server role to Mail1.

Does the solution meet the goal?

A. Yes

B. No

Correct Answer: B

You should add the DatabaseMailUserRole to Mail1 in the msdb database.

References: http://www.idevelopment.info/data/SQLServer/DBA_tips/Database_Administration/DBA_20.shtml

QUESTION 32

A Microsoft SQL Server database named DB1 has two filegroups named FG1 and FG2. You implement a backup strategy that creates backups for the filegroups.

DB1 experiences a failure. You must restore FG1 and then FG2.

You need to ensure that the database remains in the RECOVERING state until the restoration of FG2 completes. After the restoration of FG2 completes, the database must be online.

What should you specify when you run the recovery command?

A. the WITH NORECOVERY clause for FG1 and the WITH RECOVERY clause for FG2

B. the WITH RECOVERY clause for FG1 and the WITH RECOVERY clause for FG2

C. the WITH RECOVERY clause for both FG1 and FG2

D. the WITH NORECOVERY clause for both FG1 and FG2

Correct Answer: A

QUESTION 33

You work as a Database Administrator (DBA) for a company named ABC.com.

The company uses a Microsoft SQL Server 2012 infrastructure. Computer users use custom applications that store data in SQL Server databases hosted on a server named ABC-SQL1.

You discover that the Windows Application event log on ABC-SQL1 contains error events.

You need to configure a solution that will run an application whenever an event with a specific event ID number is generated in the Windows Application event log.

What should you configure?

A. You should configure an alert and a job.

B. You should configure an alert and a maintenance plan.

C. You should configure a trigger and a maintenance plan.

D. You should configure a trigger and a job.

E. You should configure an alert and a trigger.

Correct Answer: A

QUESTION 34

You plan to implement a fault tolerance solution for a Microsoft SQL Server database.

The solution must provide failover storage on the local network.

You need to ensure the solution can route traffic to failover storage by using SMB 3.0.

Which storage option should you use?

A. Cluster Shared Volumes

B. Microsoft Azure Blob storage

C. Always On availability group

D. Stretch Database

Correct Answer: A

Clustered Shared Volumes (CSV) is a new clustered file system in Windows Server that is a layer of abstraction above the NTFS file system in a WSFC environment. It allows all Nodes in the failover cluster to read and write to the CSV

volume. CSV leverages the investments Microsoft have made in SMB 3.0, such as SMB Direct and SMB Multichannel.

SQL Server 2014 was the first version of SQL Server to support CSVs.

References: https://www.microsoftpressstore.com/articles/article.aspx?p=2832586andseqNum=5

QUESTION 35

You work as a Database Administrator (DBA) for a company named ABC.com.

The company uses a Microsoft SQL Server 2012 infrastructure.

You have a database named CorpDB. CorpDB contains 2TB of data.

You plan to import a large amount of data into tables in CorpDB.

You want to minimize the size of the transaction log while the data is imported.

What should you do?

A. You should configure the recovery model of the database to Full.

B. You should configure the recovery model of the database to Bulk-Logged.

C. You should start a new transaction log file.

D. You should configure a new filegroup for the existing log file.

Correct Answer: B

QUESTION 36

You use SQL Server 2014 Enterprise Edition.

Your database contains a partitioned table named AuditData. AuditData is partitioned by year. Partition 1 contains data from the year 2010 and prior.

Management has decided to archive all AUDITDATA records from 2010 and prior.

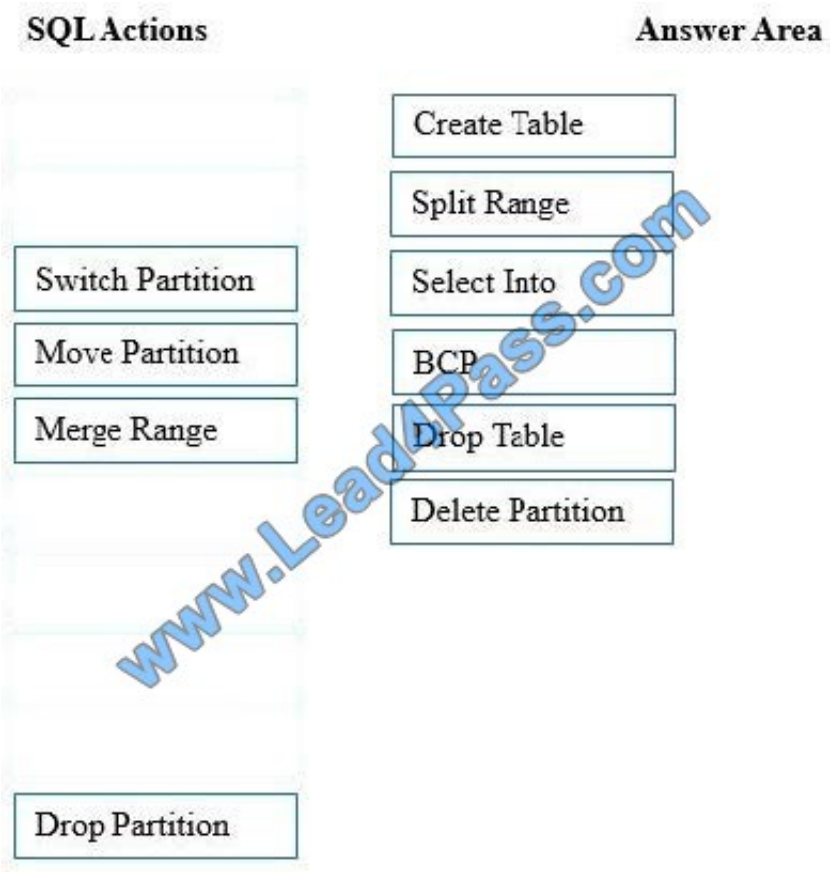
Management wants the records to be removed from the database entirely and provided to the backup team as a zipped text file. The data must no longer reside in the database.

There is very little tolerance for performance degradation in your environment. You need to remove all 2010 and prior data from the AuditData table by using the least amount of system resources possible. Develop the solution by selecting and arranging the required SQL actions in the correct order.

You may not need all of the actions.

Select and Place:

Correct Answer:



Note:

- Create a new partitioned table with the partition function you want, and then insert the data from the old table into the new table by using an INSERT INTO...SELECT FROM statement.

-SPLIT RANGE (boundary_value)

Adds one partition to the partition function. boundary_value determines the range of the new partition, and must differ from the existing boundary ranges of the partition function.

Based on boundary_value, the Database Engine splits one of the existing ranges into two.

Of these two, the one where the new boundary_value resides is considered the new partition.

-BCP can be used top produce the zipped text file.

-Example: plitting a partition of a partitioned table or index into two partitions

The following example creates a partition function to partition a table or index into four partitions.

ALTER PARTITION FUNCTION splits one of the partitions into two to create a total of five

partitions.

CREATE PARTITION FUNCTION myRangePF1 (int)

AS RANGE LEFT FOR VALUES (1, 100, 1000);

GO

-Split the partition between boundary_values 100 and 1000

-to create two partitions between boundary_values 100 and 500

--and between boundary_values 500 and 1000.

ALTER PARTITION FUNCTION myRangePF1 ()

SPLIT RANGE (500);

QUESTION 37

You are designing a database for a university.

The database will contain two tables named Classes and Enrollment that have the following specifications:

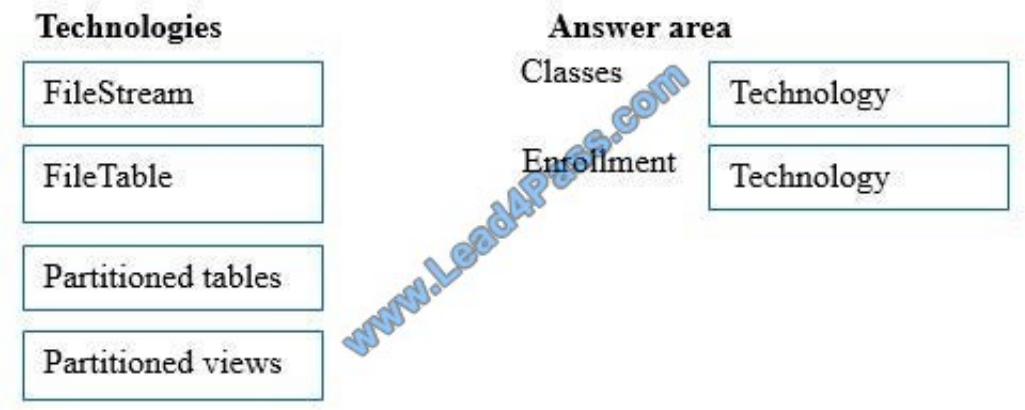
Classes will store brochures in the XPS format. The brochures must be structured in folders and must be accessible by using UNC paths.

Enrollment will store information about students and their classes. Performance must be enhanced for queries of the current enrollments.

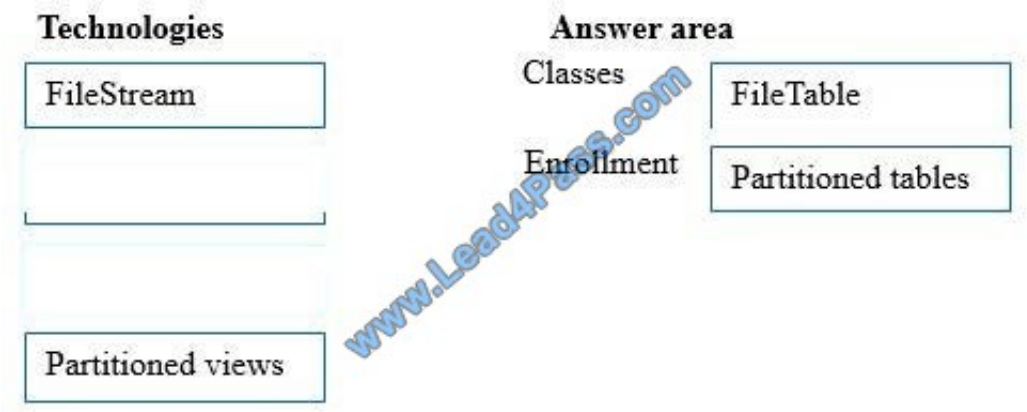
You need to identify which SQL Server technology meets the specifications of each table.

Which technologies should you identify? To answer, drag the appropriate technology to the correct table in the answer area.

Select and Place:



Correct Answer:



The FileTable feature brings support for the Windows file namespace and compatibility with Windows applications to the file data stored in SQL Server. FileTable lets an application integrate its storage and data management components, and provides integrated SQL Server services including full-text search and semantic search-over unstructured data and metadata. In other words, you can store files and documents in special tables in SQL Server called FileTables, but access them from Windows applications as if they were stored in the file system, without making any changes to your client applications.

QUESTION 38

You have a database named DB1.

You plan to create a stored procedure that will insert rows into three different tables. Each insert must use the same identifying value for each table, but the value must increase from one invocation of the stored procedure to the next.

Occasionally, the identifying value must be reset to its initial value. You need to design a mechanism to hold the identifying values for the stored procedure to use.

What should you do? More than one answer choice may achieve the goal. Select the BEST answer.

A. Create a sequence object that holds the next value in the sequence. Retrieve the next value by using the stored procedure. Reset the value by using an ALTER SEQUENCE statement as needed.

B. Create a sequence object that holds the next value in the sequence. Retrieve the next value by using the stored procedure. Increment the sequence object to the next value by using an ALTER SEQUENCE statement. Reset the value as needed by using a different ALTER SEQUENCE statement.

C. Create a fourth table that holds the next value in the sequence. At the end each transaction, update the value by using the stored procedure. Reset the value as needed by using an UPDATE statement.

D. Create an identity column in each of the three tables. Use the same seed and the same increment for each table. Insert new rows into the tables by using the stored procedure. Use the DBCC CHECKIDENT command to reset the columns as needed.

Correct Answer: A

-an application can obtain the next sequence number without inserting the row by calling the NEXT VALUE FOR function.

-ALTER SEQUENCE Includes argument:

RESTART [WITH]

The next value that will be returned by the sequence object. If provided, the RESTART WITH value must be an integer that is less than or equal to the maximum and greater than or equal to the minimum value of the sequence object. If the

WITH value is omitted, the sequence numbering restarts based on the original CREATE SEQUENCE options.

-CREATE SEQUENCE Creates a sequence object and specifies its properties. A sequence is a user-defined schema bound object that generates a sequence of numeric values according to the specification with which the sequence was created. The sequence of numeric values is generated in an ascending or descending order at a defined interval and can be configured to restart (cycle) when exhausted.

QUESTION 39

You maintain Microsoft SQL Server instances named SVR1 and SVR2 that are hosted on two different servers. You configure log shipping between the two instances as follows:

DB1 on SVR1 is configured as the primary database.

DB1 on SVR2 is configured as the secondary database for DB1 on SVR1.

No monitoring server is configured.

You need to monitor error log messages about the copy job.

What are two possible ways to achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. On SVR1, run the following Transact-SQL statement: SELECT * FROM msdb.dbo.log_shipping_monitor_error_detail.

B. Use the job Activity Monitor in SQL Server Management Studio by connecting to SVR1

C. View the Log Shipping Report in SQL Server Management Studio by connecting SVR1.

D. Use the Job Activity Monitor in SQL Server Management Studio by connecting to SVR2.

E. On SVR2 run the following Transact-SQL statement: SELECT * FROM msdb.dbo.log_shipping_monitor_error_detail.

Correct Answer: CE

C: The Log Shipping Report displays the status of any log shipping activity whose status is available from the server instance to which you are connected.

E: The history and status of the backup operation are stored at the primary server, and the history and status of the copy and restore operations are stored at the secondary server.

The log_shipping_monitor_error_detail table stores error details for log shipping jobs. You can query this table see the errors for an agent session. Optionally, you can sort the errors by the date and time at which each was logged. Each error is logged as a sequence of exceptions, and multiple errors (sequences) can per agent session.

References: https://docs.microsoft.com/en-us/sql/database-engine/log-shipping/view-the-log-shipping-report-sql-server-management-studio?view=sql-server-2017 https://docs.microsoft.com/en-us/sql/database-engine/log-shipping/monitor-log-shippingtransact-sql

QUESTION 40

You administer a Microsoft SQL Server 2016 database named Orders.

Users report that during peak usage periods, certain operations are taking more time than expected. Your initial analysis suggests that blocking is the cause.

You need to gather more data to be able to determine which processes are being blocked and to identify the root cause.

What should you do?

A. Start a trace using SQL Server Profiler to catch the Lock: Deadlock event.

B. Use sp_configure to set the blocked process threshold. Start a trace using SQL Server Profiler to catch the Blocked Process Report event.

C. Schedule a SQL Agent job to run every 60 seconds and insert the results of executing the sys.dm_os_wait_stats DMV into a table.

D. Use System Monitor to catch the Lock Waits/sec event.

Correct Answer: B