

Product Questions: 80

Version: 4.0

Question: 1

Over the weekend, a company's transaction database was moved to an upgraded server. All validations performed after the migration indicated that the database was functioning as expected. However, on Monday morning, multiple users reported that the corporate reporting application was not working.

Which of the following are the most likely causes? (Choose two.)

- A. The access permissions for the service account used by the reporting application were not changed.
- B. The new database server has its own reporting system, so the old one is not needed.
- C. The reporting jobs that could not process during the database migration have locked the application.
- D. The reporting application's mapping to the database location was not updated.
- E. The database server is not permitted to fulfill requests from a reporting application.
- F. The reporting application cannot keep up with the new, faster response from the database.

Answer: A, D

Explanation:

The most likely causes of the reporting application not working are that the access permissions for the service account used by the reporting application were not changed, and that the reporting application's mapping to the database location was not updated. These two factors could prevent the reporting application from accessing the new database server. The other options are either irrelevant or unlikely to cause the problem. Reference: [CompTIA DataSys+ Course Outline](#), Domain 3.0 Database Management and Maintenance, Objective 3.2 Given a scenario, troubleshoot common database issues.

Question: 2

Given the following customer table:

ID	First_Purchase_Date	State	Country
12365	02-02-2020	CA	US
36745	04-01-2022	NY	US
63456	01-07-2018	VT	US

Which of the following ORM snippets would return the ID, state, and country of all customers with the newest customers appearing first?

A)

```
result = session.execute(
    select(Customer.ID, Customer.State, Customer.Country)
    .order_by(Customer.First_Purchase_Date.asc())
)
```

B)

```
result = session.execute(
    select(Customer.ID, Customer.State, Customer.Country)
    .order_by(Customer.First_Purchase_Date.desc())
)
```

C)

```
result = session.execute(
    select(Customer.ID, Customer.State, Customer.Country)
)
```

D)

```
result = session.execute(
    select(Customer.ID, Customer.State, Customer.Country)
    .order_by(Customer.First_Purchase_Date)
)
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Explanation:

The ORM snippet that would return the ID, state, and country of all customers with the newest customers appearing first is option C. This snippet uses the select method to specify the columns to be returned, the order method to sort the results by ID in descending order, and the all method to fetch all the records. The other options either have syntax errors, use incorrect methods, or do not sort the results correctly. Reference: [CompTIA DataSys+ Course Outline](#), Domain 1.0 Database Fundamentals, Objective 1.2 Given a scenario, execute database tasks using scripting and programming languages.

Question: 3

A DBA is reviewing the following logs to determine the current data backup plan for a primary data server:

Timestamp	Activity	Size	Duration
2023-Jan-23 23:59:00	Back up to disk	7.35GB	03:14:55
2023-Jan-24 23:59:00	Back up to disk	0.12GB	00:14:22
2023-Jan-25 23:59:00	Back up to disk	1.11GB	01:11:55
2023-Jan-26 23:59:00	Back up to disk	1.23GB	01:22:12
2023-Jan-27 23:59:00	Back up to disk	1.22GB	01:19:56
2023-Jan-28 23:59:00	Back up to disk	1.21GB	01:17:19
2023-Jan-29 23:59:00	Back up to disk	0.94GB	01:01:29
2023-Jan-30 23:59:00	Back up to disk	8.1GB	03:45:66

Which of the following best describes this backup plan?

- A. Monthly full, daily differential
- B. Daily differential
- C. Daily full
- D. Weekly full, daily incremental

Answer: D

Explanation:

The backup plan that best describes the logs is weekly full, daily incremental. This means that a full backup of the entire database is performed once a week, and then only the changes made since the last backup are backed up every day. This can be inferred from the logs by looking at the size and duration of the backups. The full backups are larger and take longer than the incremental backups, and they occur every seven days. The other backup plans do not match the pattern of the logs. Reference: [CompTIA DataSys+ Course Outline](#), Domain 5.0 Business Continuity, Objective 5.2 Given a scenario, implement backup and restoration of database management systems.

Question: 4

A database administrator needs to ensure that a newly installed corporate business intelligence application can access the company's transactional data.

a. Which of the following tasks should the administrator perform first?

A. Create a new service account exclusively for the business intelligence application.

B. Build a separate data warehouse customized to the business intelligence application's specifications.

C. Set up a nightly FTP data transfer from the database server to the business intelligence application server.

D. Send the business intelligence administrator the approved TNS names file to configure the data mapping.

E. Open a new port on the database server exclusively for the business intelligence application.

Answer: A

Explanation:

The first task that the administrator should perform is to create a new service account exclusively for the business intelligence application. This will ensure that the application has the appropriate permissions and credentials to access the company's transactional data. The other options are either unnecessary, inefficient, or insecure. For example, building a separate data warehouse would require additional resources and time, setting up a nightly FTP data transfer would expose the data to potential breaches, sending the TNS names file would not guarantee that the application can connect to the database, and opening a new port on the database server would create a vulnerability for attackers. Reference: [CompTIA DataSys+ Course Outline](#), Domain 2.0 Database Deployment, Objective 2.1 Given a scenario, install and configure database software and tools.

Question: 5

Which of the following scripts would set the database recovery model for sys.database?

A)

```
select name, recoverymodel from sys.database where name='XYZ'  
USE[master]  
GO  
ALTER DATABASE [xyz] SET RECOVERY FULL WITH NO_WAIT  
GO
```

B)

```
select name, recoverymodel from sys.database where name='XYZ'  
USE[master]  
GO  
UPDATE DATABASE [xyz] SET RECOVERY FULL WITH NO_WAIT  
GO
```

C)

```
select name, recoverymodel from sys.database where name='XYZ'  
USE[master]  
GO  
TRUNCATE DATABASE [xyz] SET RECOVERY FULL WITH NO_WAIT  
GO
```

D)

```
select name, recoverymodel from sys.database where name='XYZ'  
USE[master]  
GO  
DROP DATABASE [xyz] SET RECOVERY FULL WITH NO_WAIT  
GO
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

Explanation:

The script that would set the database recovery model for sys.database is option A. This script uses the ALTER DATABASE statement to modify the recovery model of the sys.database to full with no wait. The other options either have syntax errors, use incorrect keywords, or do not specify the recovery model correctly. Reference: [CompTIA DataSys+ Course Outline](#), Domain 3.0 Database Management and Maintenance, Objective 3.1 Given a scenario, perform common database maintenance tasks.

Question: 6

A database administrator is conducting a stress test and providing feedback to a team that is developing an application that uses the Entity Framework. Which of the following explains the approach the administrator should use when conducting the stress test?

- A. Capture business logic, check the performance of codes, and report findings.
- B. Check the clustered and non-clustered indexes, and report findings.
- C. Review application tables and columns, and report findings.
- D. Write queries directly into the database and report findings.

Answer: A

Explanation:

The approach that the administrator should use when conducting the stress test is to capture business logic, check the performance of codes, and report findings. This will help the administrator

to evaluate how well the application handles high volumes of data and transactions, identify any bottlenecks or errors in the code, and provide feedback to the development team on how to improve the application's efficiency and reliability. The other options are either too narrow or too broad in scope, and do not address the specific needs of an application that uses the Entity Framework. Reference: [CompTIA DataSys+ Course Outline](#), Domain 4.0 Data and Database Security, Objective 4.3 Given a scenario, monitor database performance and security.

Question: 7

A database administrator is creating a table, which will contain customer data, for an online business. Which of the following SQL syntaxes should the administrator use to create an object?

A)

```
CREATE TABLE
(
    ID INT,
    NAME VARCHAR(100),
    AGE INT
)
```

B)

```
CREATE CUSTOMER
(
    ID INT,
    NAME VARCHAR(100),
    AGE INT
)
```

C)

```
CREATE
(
    TABLE CUSTOMER
    ID INT,
    NAME VARCHAR(100),
    AGE INT
)
```

D)

```
CREATE TABLE CUSTOMER
(
  ID INT,
  NAME VARCHAR(100),
  AGE INT
)
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

Explanation:

The SQL syntax that the administrator should use to create an object is option B. This syntax uses the CREATE TABLE statement to define a new table named customer with four columns: customer_id, name, email, and phone. Each column has a data type and a constraint, such as NOT NULL or PRIMARY KEY. The other options either have syntax errors, use incorrect keywords, or do not specify the table name or columns correctly. Reference: [CompTIA DataSys+ Course Outline](#), Domain 1.0 Database Fundamentals, Objective 1.1 Given a scenario, identify and apply database structure types.

Question: 8

A database administrator wants to remove inactive customers from a database. Which of the following statements should the administrator use?

A)

```
Update Transaction Customer;
Delete from customer where customer_ID = 20;
End;
```

B)

```
Open Transaction Customer;
Delete from customer where customer_ID = 20;
Close Transaction;
```

C)

```
While Transaction Customer;  
Delete from customer where customer_ID = 20;  
Catch;
```

D)

```
Begin Transaction Customer;  
Delete from customer where customer_ID = 20;  
Commit;
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

Explanation:

The statement that the administrator should use to remove inactive customers from a database is option A. This statement uses the DELETE command to delete all the rows from the customer table where the status column is equal to 'inactive'. The other options either have syntax errors, use incorrect commands, or do not specify the condition correctly. Reference: [CompTIA DataSys+ Course Outline](#), Domain 1.0 Database Fundamentals, Objective 1.2 Given a scenario, execute database tasks using scripting and programming languages.

Question: 9

Which of the following is the correct order of the steps in the database deployment process?

A)

1. Connect
2. Install
3. Configure
4. Confirm prerequisites
5. Validate
6. Test
7. Release

B)

1. Configure
2. Install
3. Connect
4. Test
5. Confirm prerequisites
6. Validate
7. Release

C)

1. Confirm prerequisites
 2. Install
 3. Configure
 4. Connect
 5. Test
 6. Validate
 7. Release
- D)
1. Install
 2. Configure
 3. Confirm prerequisites
 4. Connect
 5. Test
 6. Validate
 7. Release

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Explanation:

The correct order of the steps in the database deployment process is option C. This order follows the best practices for deploying a database system, which are:

Confirm prerequisites: Check the system requirements and compatibility of the database software and tools before installation.

Install: Install the database software and tools on the target server or platform.

Configure: Configure the database settings and parameters according to the specifications and needs of the application or organization.

Connect: Connect the database to the network and other systems or applications that will access it.

Test: Test the functionality and performance of the database system and verify that it meets the expectations and requirements.

Validate: Validate the data quality and integrity of the database system and ensure that it complies with the standards and regulations.

Release: Release the database system to production and make it available for use by end-users or customers. The other options do not follow this order and may result in errors, inefficiencies, or security issues. Reference: [CompTIA DataSys+ Course Outline](#), Domain 2.0 Database Deployment, Objective 2.1 Given a scenario, install and configure database software and tools.

Question: 10

A company wants to deploy a new application that will distribute the workload to five different database instances. The database administrator needs to ensure that, for each copy of the database, users are able to read and write data that will be synchronized across all of the instances.

Which of the following should the administrator use to achieve this objective?

- A. [Peer-to-peer replication
- B. Failover clustering
- C. Log shipping
- D. Availability groups

Answer: A

Explanation:

The administrator should use peer-to-peer replication to achieve this objective. Peer-to-peer replication is a type of replication that allows data to be distributed across multiple database instances that are equal partners, or peers. Each peer can read and write data that will be synchronized across all peers. This provides high availability, scalability, and load balancing for the application. The other options are either not suitable for this scenario or do not support bidirectional data synchronization. For example, failover clustering provides high availability but does not distribute the workload across multiple instances; log shipping provides disaster recovery but does not allow writing data to secondary instances; availability groups provide high availability and read-only access to secondary replicas but do not support peer-to-peer replication. Reference: [CompTIA DataSys+ Course Outline](#), Domain 5.0 Business Continuity, Objective 5.3 Given a scenario, implement replication of database management systems.

Question: 11

A database administrator manages a database server that is running low on disk space. A lot of backup files are stored on the server's disks.

Which of the following is the best action for the administrator to take?

- A. Move all the backup files to external disks.
- B. Delete all the backup files containing data that is rated as classified.
- C. Delete all the backup files that are not required by the backup retention policy.
- D. Delete all the backup files except for the most recent one.

Answer: C

Explanation:

The best action for the administrator to take is to delete all the backup files that are not required by the backup retention policy. This will free up disk space on the server and also comply with the best practices for data backup and recovery. The backup retention policy defines how long the backup files should be kept and when they should be deleted or archived. The other options are either risky, inefficient, or impractical. For example, moving all the backup files to external disks would require additional hardware and time, deleting all the backup files containing data that is rated as classified would compromise data security and compliance, and deleting all the backup files except for the most recent one would limit the recovery options in case of a disaster. Reference: [CompTIA DataSys+ Course Outline](#), Domain 5.0 Business Continuity, Objective 5.2 Given a scenario, implement backup and restoration of database management systems.

Question: 12

A business analyst is using a client table and an invoice table to create a database view that shows clients who have not made purchases yet. Which of the following joins is most appropriate for the analyst to use to create this database view?

- A. INNER JOIN ON Client.Key = Invoice.Key
- B. RIGHT JOIN ON Client.Key = Invoice.Key WHERE BY Client.Key IS NOLL
- C. LEFT JOIN ON Client.Key = Invoice.Key
- D. LEFT JOIN ON Client.Key = Invoice.Key WHERE BY Invoice.Key IS NOLL

Answer: D

Explanation:

The join that is most appropriate for the analyst to use to create this database view is option D. This join uses the LEFT JOIN clause to combine the client table and the invoice table based on the matching values in the Key column. The WHERE clause filters out the rows where the Invoice.Key column is not null, meaning that the client has made a purchase. The result is a view that shows only the clients who have not made any purchases yet. The other options either do not produce the desired result or have syntax errors. For example, option A would show only the clients who have made purchases, option B would show only the invoices that do not have a matching client, and option C would show all the clients regardless of their purchase status. Reference: [CompTIA DataSys+ Course Outline](#), Domain 1.0 Database Fundamentals, Objective 1.2 Given a scenario, execute database tasks using scripting and programming languages.

Question: 13

A database administrator would like to create a table named XYZ. Which of the following queries should the database administrator use to create the table?

A)

```
Create Table XYZ(  
column1 datatype;  
column2 datatype);
```

B)

```
Create Table XYZ(  
column1 datatype,  
column2 datatype);
```

C)

```
Select Table XYZ(  
column1 datatype,  
column2 datatype);
```

D)

```
Append Table XYZ(  
column1 datatype;  
column2 datatype);
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

Explanation:

The query that the administrator should use to create the table is option B. This query uses the CREATE TABLE statement to define a new table named XYZ with three columns: ID, Name, and Age. Each column has a data type and a constraint, such as NOT NULL, PRIMARY KEY, or CHECK. The other options either have syntax errors, use incorrect keywords, or do not specify the table name or columns correctly. Reference: [CompTIA DataSys+ Course Outline](#), Domain 1.0 Database Fundamentals, Objective 1.1 Given a scenario, identify and apply database structure types.

Question: 14

A database administrator needs to provide access to data from two different tables to multiple group users in order to facilitate ongoing reporting. However, some columns in each table are restricted, and users should not be able to see the values in these columns.

Which of the following is the best action for the administrator to take?

- A. Create a stored procedure.
- B. Create a view.
- C. Create a csv export.
- D. Create a trigger.

Answer: B

Explanation:

The best action for the administrator to take is to create a view. A view is a virtual table that shows a subset of data from one or more tables. The administrator can use a view to provide access to data from two different tables to multiple group users without exposing the restricted columns. The view can also simplify the queries and improve the performance of the reporting process. The other

options are either not suitable for this scenario or do not address the requirement of hiding some columns from users. For example, creating a stored procedure would require additional coding and execution, creating a csv export would create a static file that may not reflect the latest data changes, and creating a trigger would perform an action in response to an event rather than provide access to data. Reference: [CompTIA DataSys+ Course Outline](#), Domain 2.0 Database Deployment, Objective 2.2 Given a scenario, create database objects using scripting and programming languages.

Question: 15

Which of the following describes a scenario in which a database administrator would use a relational database rather than a non-relational database?

- A. An organization wants to maintain consistency among the data in the database.
- B. An organization requires data encryption.
- C. An organization wants to process complex data sets.
- D. An organization wants to store a large number of videos, photos, and documents.

Answer: A

Explanation:

A scenario in which a database administrator would use a relational database rather than a non-relational database is when an organization wants to maintain consistency among the data in the database. A relational database is a type of database that organizes data into tables with predefined columns and rows, and enforces rules and constraints to ensure data integrity and accuracy. A relational database also supports transactions, which are sets of operations that must be executed as a whole or not at all, to prevent data corruption or inconsistency. The other options are either not exclusive to relational databases or not relevant to the choice of database type. For example, data encryption can be applied to both relational and non-relational databases, processing complex data sets may require specialized tools or techniques that are not dependent on the database type, and storing a large number of videos, photos, and documents may be better suited for a non-relational database that can handle unstructured or semi-structured data. Reference: [CompTIA DataSys+ Course Outline](#), Domain 1.0 Database Fundamentals, Objective 1.1 Given a scenario, identify and apply database structure types.

Question: 16

A database administrator set up a connection for a SQL Server instance for a new user, but the administrator is unable to connect using the user's workstation. Which of the following is the most likely cause of the issue?

- A. The SQL Server codes are performing badly.
- B. The SQL Server has not been tested properly.
- C. The SQL Server ports to the main machine are closed.
- D. The SQL Server has many concurrent users.

Answer: C

Explanation:

The most likely cause of the issue is that the SQL Server ports to the main machine are closed. SQL Server uses TCP/IP ports to communicate with clients and other servers. If these ports are blocked by a firewall or other network device, the connection will fail. The administrator should check the port configuration on both the server and the user's workstation, and make sure that they are open and match the expected values. The other options are either unlikely or unrelated to the issue. For example, the SQL Server codes performing badly or having many concurrent users may affect the performance or availability of the server, but not prevent the connection entirely; the SQL Server not being tested properly may cause errors or bugs in the functionality or security of the server, but not affect the connection unless there is a configuration problem. Reference: [CompTIA DataSys+ Course Outline](#), Domain 2.0 Database Deployment, Objective 2.3 Given a scenario, troubleshoot common database deployment issues.

Question: 17

A group of developers needs access to a database in a development environment, but the database contains sensitive data

a. Which of the following should the database administrator do before giving the developers access to the environment?

- A. Audit access to tables with sensitive data.
- B. Remove sensitive data from tables
- C. Mask the sensitive data.
- D. Encrypt connections to the development environment.

Answer: C

Explanation:

The database administrator should mask the sensitive data before giving the developers access to the environment. Data masking is a technique that replaces sensitive data with fictitious but realistic data, such as random numbers or characters, to protect it from unauthorized access or exposure. Data masking preserves the format and structure of the original data, but does not reveal its actual value. This allows developers to work with realistic data without compromising its confidentiality or compliance. The other options are either insufficient or excessive for this scenario. For example, auditing access to tables with sensitive data may help monitor and track who accesses the data, but does not prevent it from being seen; removing sensitive data from tables may compromise the quality or completeness of the data, and may not be feasible if there is a large amount of data; encrypting connections to the development environment may protect the data in transit, but not at rest or in use. Reference: [CompTIA DataSys+ Course Outline](#), Domain 4.0 Data and Database Security, Objective 4.2 Given a scenario, implement security controls for databases.

Question: 18

A database administrator needs to aggregate data from multiple tables in a way that does not impact the original tables, and then provide this information to a department. Which of the following is the best way for the administrator to accomplish this task?

- A. Create a materialized view.