[NEW] Practice Tests | DP-203: Azure Data Engineer 2022

udemy.com/course/microsoft-azure-data-engineer-exam-practice-tests/learn/quiz/5461772/result/724530770

`Practice Test 2: DP-203: Microsoft Azure Data Engineer Exam - Resultados

Tentativa 1

Pergunta 1: Incorreto
You have a table in an Azure Synapse Analytics dedicated SQL pool. The table was created by using the following Transact-SQL statement.

```
CREATE TABLE [dbo].[DimEmployee](
[EmployeeKey] [int] IDENTITY(1,1) NOT NULL,
[EmployeeID] [int] NOT NULL,
[FirstName] [varchar](100) NOT NULL,
[LastName] [varchar](100) NOT NULL,
[JobTitle] [varchar](100) NULL,
[LastHireDate] [date] NULL,
[StreetAddress] [varchar](500) NOT NULL,
[City] [varchar](200) NOT NULL,
[StateProvince] [varchar](50) NOT NULL,
[Portalcode] [varchar](10) NOT NULL
)
```

You need to alter the table to meet the following requirements:
• Ensure that users can identify the current manager of employees.
• Support creating an employee reporting hierarchy for your entire company.
• Provide fast lookup of the managers' attributes such as name and job title.
Which column should you add to the table?

Explicação

Correct Answer: *C*

We need an extra column to identify the Manager. Use the data type as the EmployeeKey column, an int column.

Reference:

https://docs.microsoft.com/en-us/analysis-services/tabular-models/hierarchies-ssas-tabular

Pergunta 2: Correto

You have an Azure Synapse workspace named MyWorkspace that contains an Apache Spark database named mytestdb.
You run the following command in an Azure Synapse Analytics Spark pool in MyWorkspace.
CREATE TABLE mytestdb.myParquetTable(
EmployeeID int,
EmployeeName string,
EmployeeStartDate date)

USING Parquet -
You then use Spark to insert a row into mytestdb.myParquetTable. The row contains the following data.

EmployeeName	EmployeeID	EmployeeStartDate
Alice	24	2020-01-25

One minute later, you execute the following query from a serverless SQL pool in MyWorkspace.

SELECT EmployeeID -
FROM mytestdb.dbo.myParquetTable
WHERE name = 'Alice';
What will be returned by the query?

Explicação

Correct Answer: *B*

There is a column 'name' in the where clause which doesn't exist in the table.

https://docs.microsoft.com/en-us/azure/synapse-analytics/metadata/table

Pergunta 3: Incorreto
You have a table named SalesFact in an enterprise data warehouse in Azure Synapse Analytics.
SalesFact contains sales data from the past 36 months and has the following characteristics:
• Is partitioned by month
• Contains one billion rows
• Has clustered columnstore indexes
At the beginning of each month, you need to remove data from SalesFact that is older than 36 months as quickly as possible.
Which three actions should you perform in sequence in a stored procedure? 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:

Actions	Answer Area
Switch the partition containing the stale data from SalesFact to SalesFact_Work.	
Truncate the partition containing the stale data.	
Drop the SalesFact_Work table.	
Create an empty table named SalesFact_Work that has the same schema as SalesFact.	
Execute a DELETE statement where the value in the Date column is more than 36 months ago.	
Copy the data to a new table by using CREATE TABLE AS SELECT (CTAS).	

Explicação

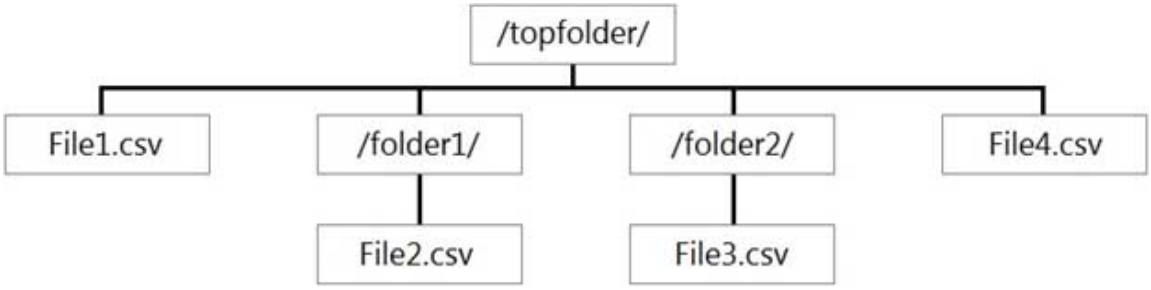
Correct Answer:

Actions	Answer Area
Switch the partition containing the stale data from SalesFact to SalesFact_Work.	Create an empty table named SalesFact_Work that has the same schema as SalesFact.
Truncate the partition containing the stale data.	Switch the partition containing the stale data from SalesFact to SalesFact_Work.
Drop the SalesFact_Work table.	Drop the SalesFact_Work table.
Create an empty table named SalesFact_Work that has the same schema as SalesFact.	
Execute a DELETE statement where the value in the Date column is more than 36 months ago.	
Copy the data to a new table by using CREATE TABLE AS SELECT (CTAS).	

Step 1: Create an empty table named SalesFact_work that has the same schema as SalesFact.
Step 2: Switch the partition containing the stale data from SalesFact to SalesFact_Work.
SQL Data Warehouse supports partition splitting, merging, and switching. To switch partitions between two tables, you must ensure that the partitions align on their respective boundaries and that the table definitions match.
Loading data into partitions with partition switching is a convenient way stage new data in a table that is not visible to users the switch in the new data.
Step 3: Drop the SalesFact_Work table.
Reference:

https://docs.microsoft.com/en-us/azure/sql-data-warehouse/sql-data-warehouse-tables-partition

Pergunta 4: Incorreto
You have files and folders in Azure Data Lake Storage Gen2 for an Azure Synapse workspace as shown in the following exhibit.



You create an external table named ExtTable that has LOCATION='/topfolder/'.

When you query ExtTable by using an Azure Synapse Analytics serverless SQL pool, which files are returned?

Explicação

Correct Answer: *B*

In case of a serverless pool a wildcard should be added to the location.

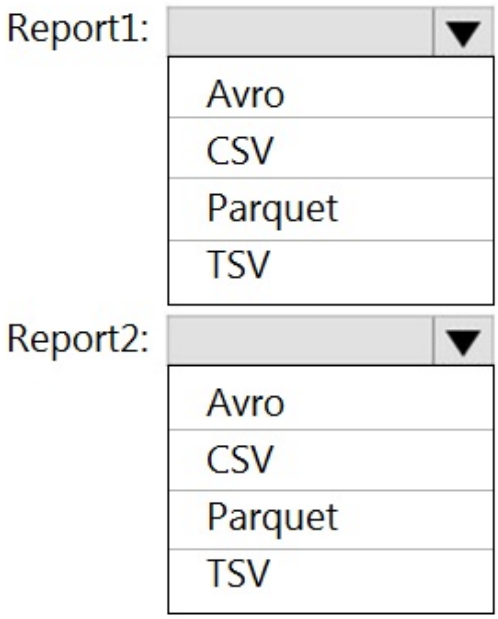
"Serverless SQL pool can recursively traverse folders only if you specify /** at the end of path."

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/develop-tables-external-tables?tabs=hadoop#arguments-create-external-table

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/query-folders-multiple-csv-files

Pergunta 5: Correto
You are planning the deployment of Azure Data Lake Storage Gen2.
You have the following two reports that will access the data lake:
• Report1: Reads three columns from a file that contains 50 columns.
• Report2: Queries a single record based on a timestamp.
You need to recommend in which format to store the data in the data lake to support the reports. The solution must minimize read times.
What should you recommend for each report? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area



Explicação

Correct Answer: A

Box1: Parquet - column-oriented binary file format

Box2: AVRO - Row based format, and has logical type timestamp

Reference:

https://youtu.be/UrWthx8T3UY

https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-best-practices

Pergunta 6: Incorreto
You are designing the folder structure for an Azure Data Lake Storage Gen2 container.

Users will query data by using a variety of services including Azure Databricks and Azure Synapse Analytics serverless SQL pools. The data will be secured by subject area. Most queries will include data from the current year or current month.

Which folder structure should you recommend to support fast queries and simplified folder security?

Explicação

Correct Answer: D

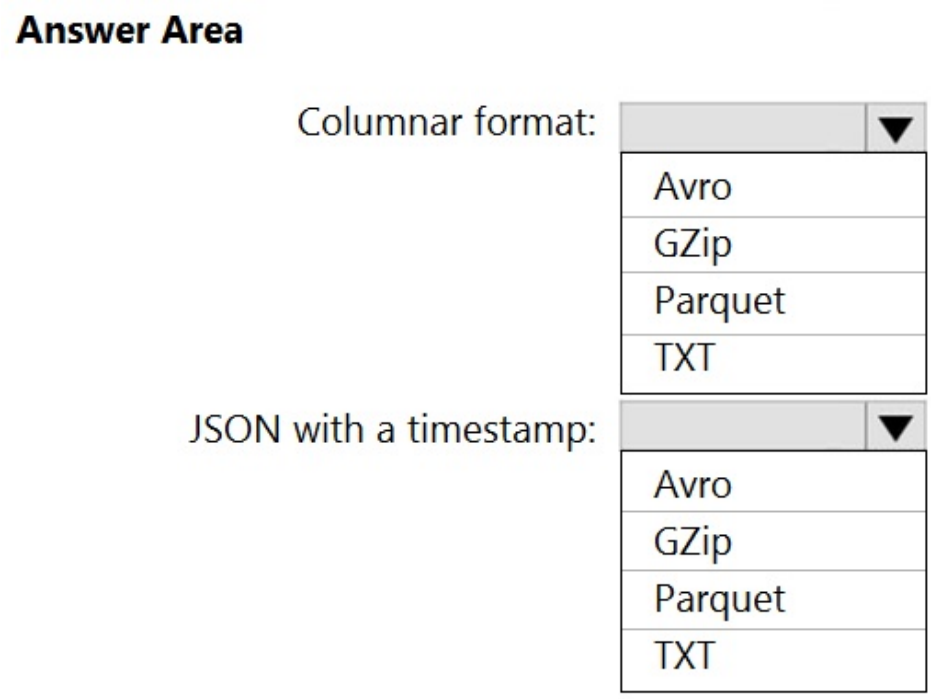
There's an important reason to put the date at the end of the directory structure. If you want to lock down certain regions or subject matters to users/groups, then you can easily do so with the POSIX permissions. Otherwise, if there was a need to restrict a certain security group to viewing just the UK data or certain planes, with the date structure in front a separate permission would be required for numerous directories under every hour directory. Additionally, having the date structure in front would exponentially increase the number of directories as time went on.

Note: In IoT workloads, there can be a great deal of data being landed in the data store that spans across numerous products, devices, organizations, and customers. It's important to pre-plan the directory layout for organization, security, and efficient processing of the data for down-stream consumers. A general template to consider might be the following layout:

{Region}/{SubjectMatter(s)}/{yyyy}/{mm}/{dd}/{hh}/

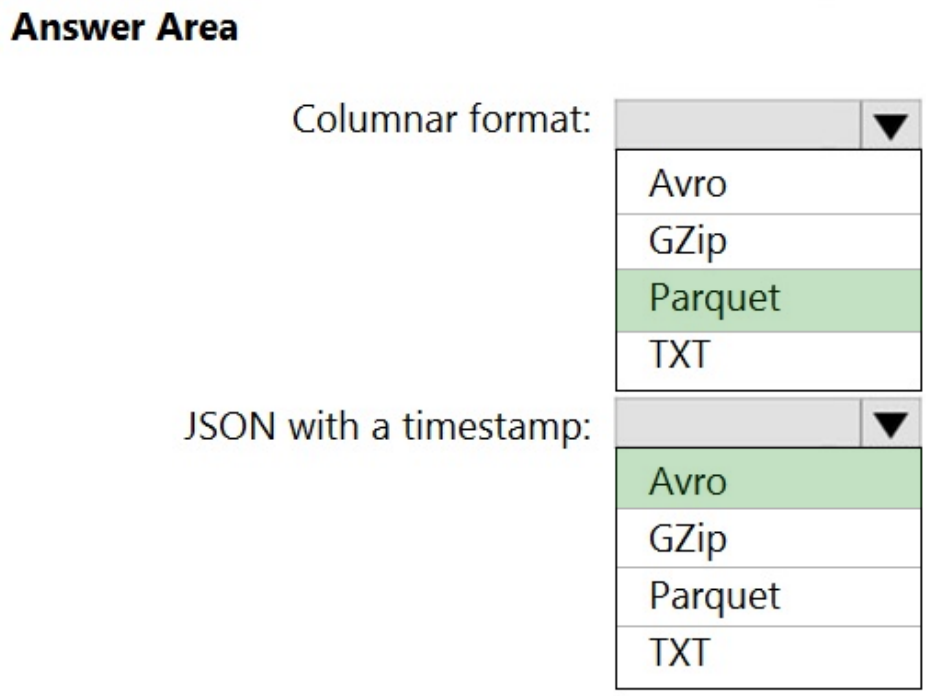
https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-best-practices#batch-jobs-structure

Pergunta 7: Correto
You need to output files from Azure Data Factory.
Which file format should you use for each type of output? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:



Explicação

Correct Answer:



Box 1: Parquet -
Parquet stores data in columns, while Avro stores data in a row-based format. By their very nature, column-oriented data stores are optimized for read-heavy analytical workloads, while row-based databases are best for write-heavy transactional workloads.

Box 2: Avro -
An Avro schema is created using JSON format.
AVRO supports timestamps.
Note: Azure Data Factory supports the following file formats (not GZip or TXT).

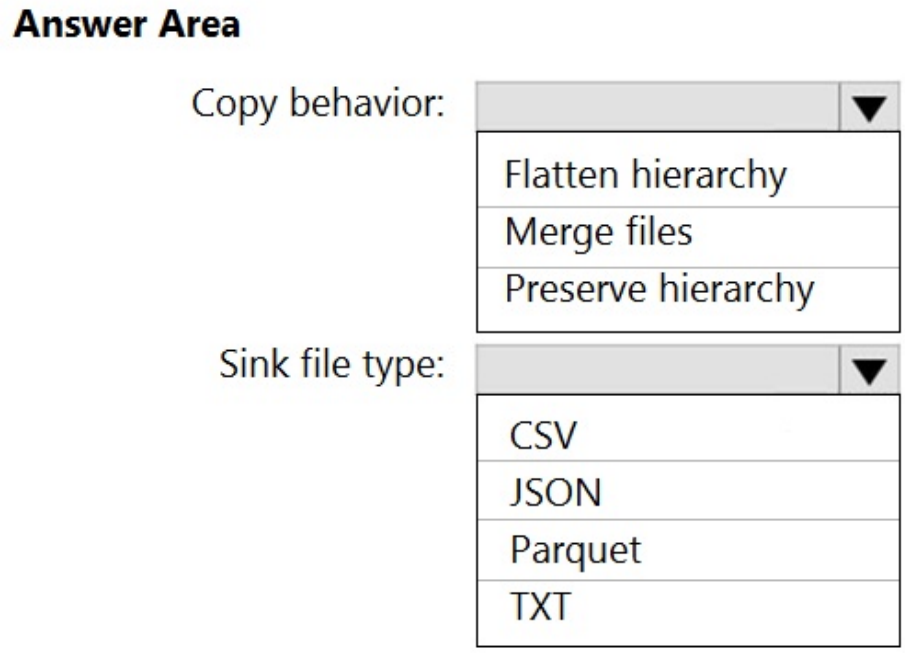
Avro format -

- Binary format
- Delimited text format
- Excel format
- JSON format
- ORC format
- Parquet format
- XML format

Reference:
https://www.datanami.com/2018/05/16/big-data-file-formats-demystified

Pergunta 8: Incorreto
You use Azure Data Factory to prepare data to be queried by Azure Synapse Analytics serverless SQL pools.
Files are initially ingested into an Azure Data Lake Storage Gen2 account as 10 small JSON files. Each file contains the same data attributes and data from a subsidiary of your company.

You need to move the files to a different folder and transform the data to meet the following requirements:
• Provide the fastest possible query times.
• Automatically infer the schema from the underlying files.
How should you configure the Data Factory copy activity? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:



Explicação

Correct Answer: A

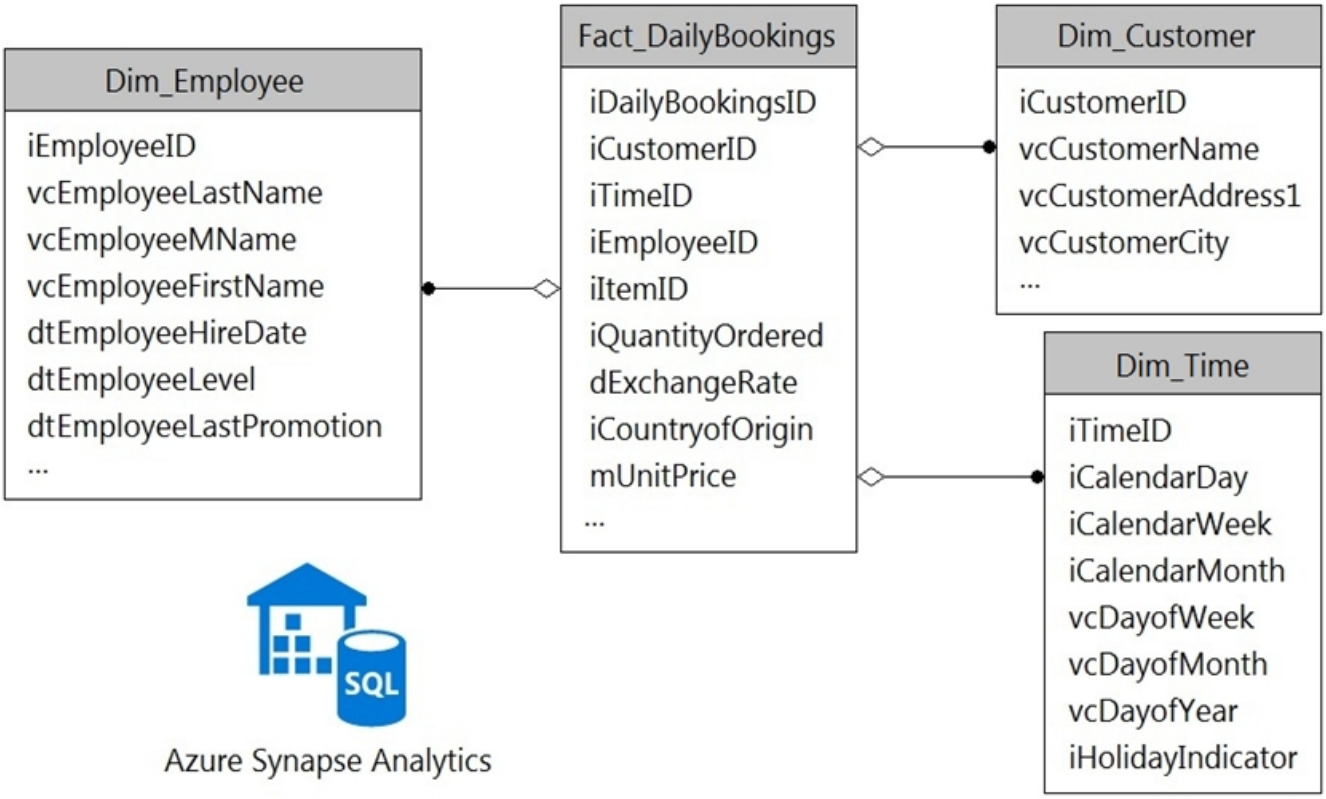
Box1. Merge Files ("initially ingested as 10 small json files". There is no hint on hierarchy or partition information. so clearly we need to merge these files for better performance)

Box2. Parquet (Always gives better performance for columnar based data)

Reference:

https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-performance-tuning-guidance

Pergunta 9: Correto
You have a data model that you plan to implement in a data warehouse in Azure Synapse Analytics as shown in the following exhibit.



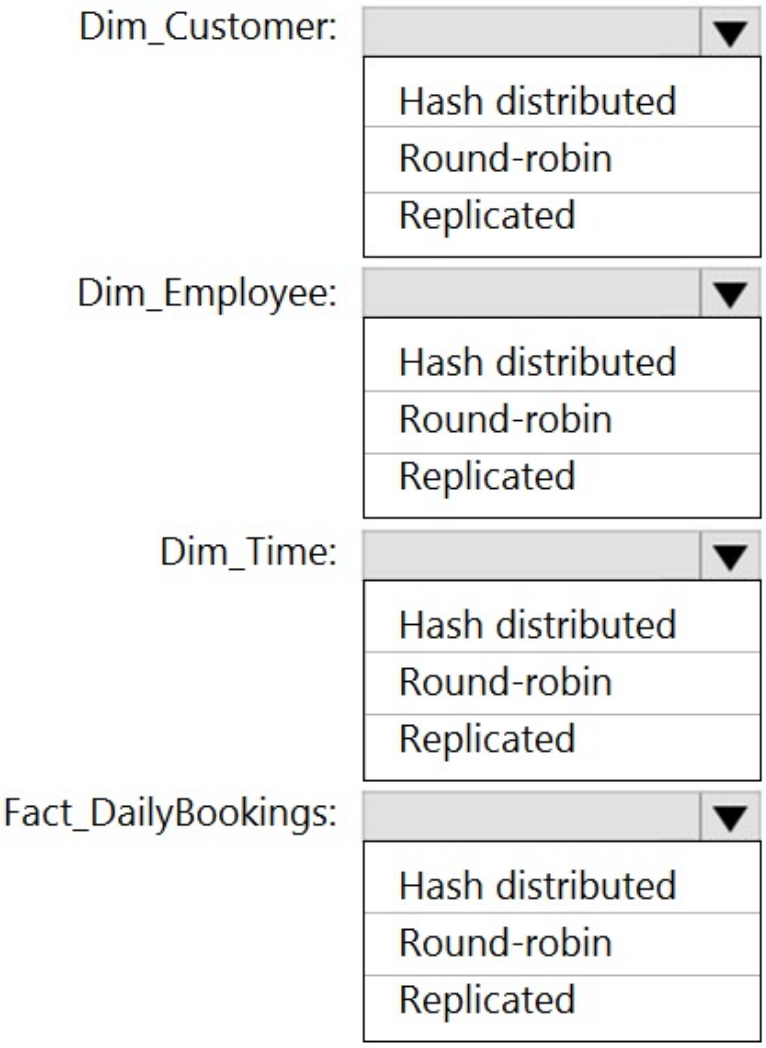
All the dimension tables will be less than 2 GB after compression, and the fact table will be approximately 6 TB. The dimension tables will be relatively static with very few data inserts and updates.

Which type of table should you use for each table? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

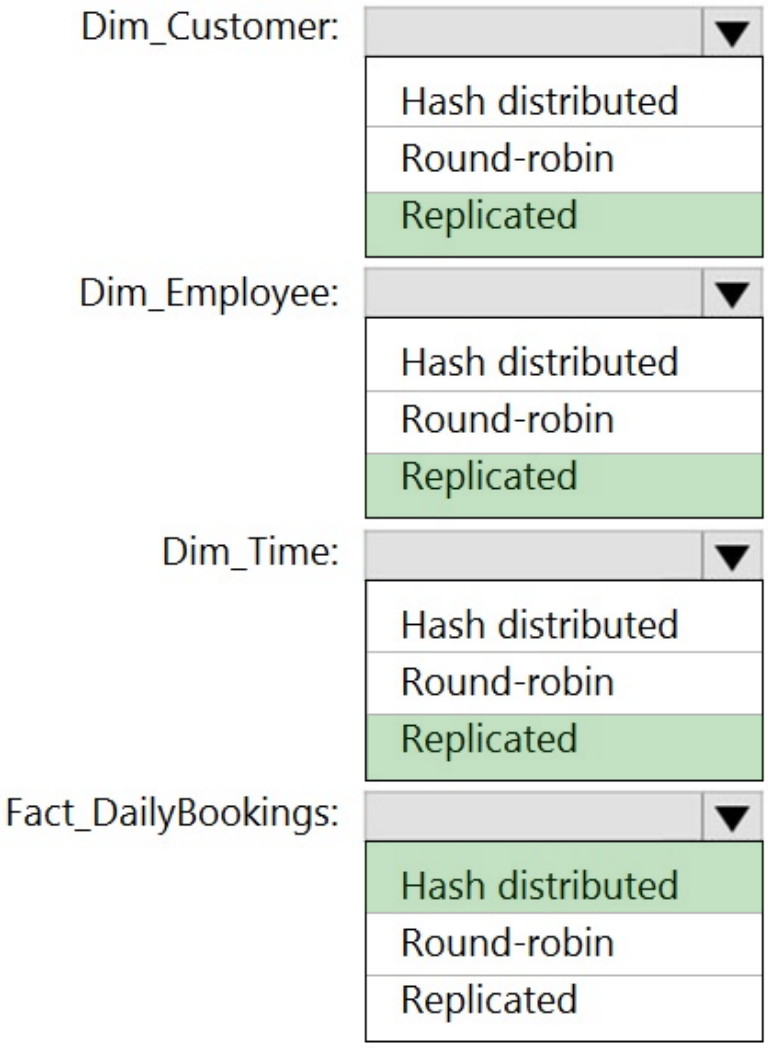
Answer Area



Explicação

Correct Answer:

Answer Area



Box 1: Replicated -
Replicated tables are ideal for small star-schema dimension tables, because the fact table is often distributed on a column that is not compatible with the connected dimension tables. If this case applies to your schema, consider changing small dimension tables currently implemented as round-robin to replicated.

Box 2: Replicated -

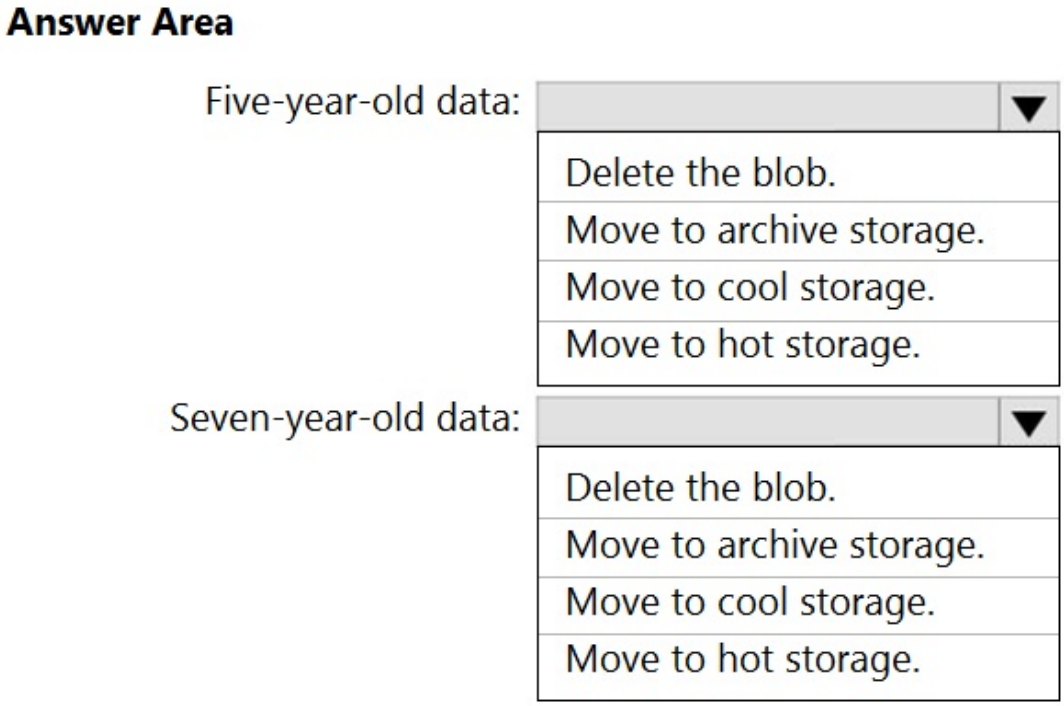
Box 3: Replicated -

Box 4: Hash-distributed -
For Fact tables use hash-distribution with clustered columnstore index. Performance improves when two hash tables are joined on the same distribution column.
Reference:

https://azure.microsoft.com/en-us/updates/reduce-data-movement-and-make-your-queries-more-efficient-with-the-general-availability-of-replicated-tables/

https://azure.microsoft.com/en-us/blog/replicated-tables-now-generally-available-in-azure-sql-data-warehouse/

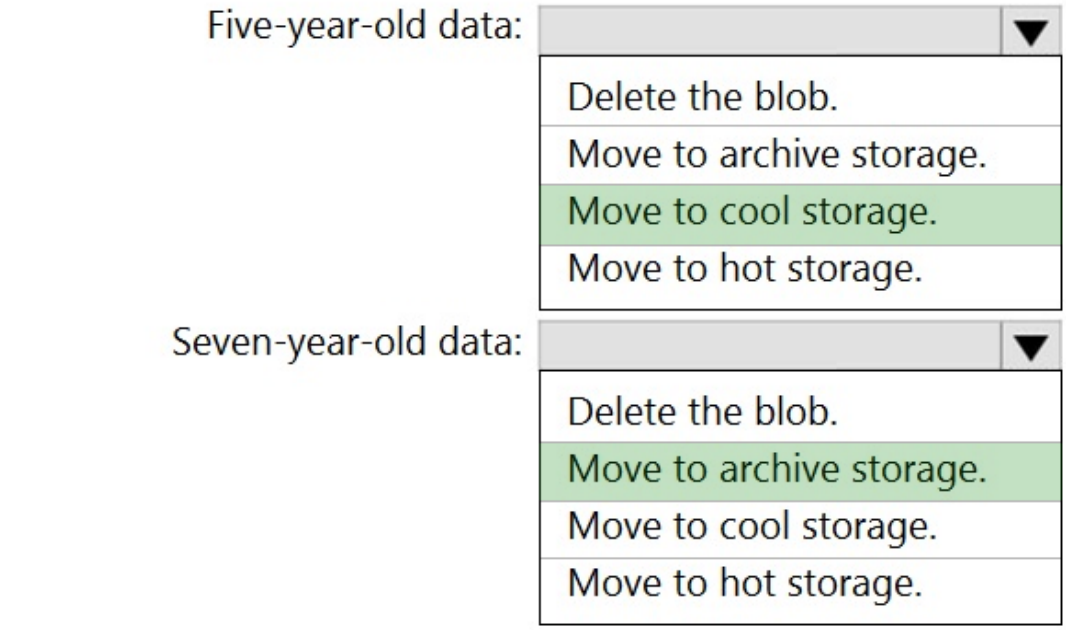
Pergunta 10: Correto
You have an Azure Data Lake Storage Gen2 container.
Data is ingested into the container, and then transformed by a data integration application. The data is NOT modified after that. Users can read files in the container but cannot modify the files.
You need to design a data archiving solution that meets the following requirements:
• New data is accessed frequently and must be available as quickly as possible.
• Data that is older than five years is accessed infrequently but must be available within one second when requested.
• Data that is older than seven years is NOT accessed. After seven years, the data must be persisted at the lowest cost possible.
• Costs must be minimized while maintaining the required availability.
How should you manage the data? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point
Hot Area:



Explicação

Correct Answer:

Answer Area



Box 1: Move to cool storage -

Box 2: Move to archive storage -
Archive - Optimized for storing data that is rarely accessed and stored for at least 180 days with flexible latency requirements, on the order of hours.
The following table shows a comparison of premium performance block blob storage, and the hot, cool, and archive access tiers.

	Premium performance	Hot tier	Cool tier	Archive tier
Availability	99.9%	99.9%	99%	Offline
Availability (RA-GRS reads)	N/A	99.99%	99.9%	Offline
Usage charges	Higher storage costs, lower access, and transaction cost	Higher storage costs, lower access, and transaction costs	Lower storage costs, higher access, and transaction costs	Lowest storage costs, highest access, and transaction costs
Minimum storage duration	N/A	N/A	30 days[1]	180 days
Latency (Time to first byte)	Single-digit milliseconds	milliseconds	milliseconds	hours[2]

Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers

Pergunta 11: Correto
You need to create a partitioned table in an Azure Synapse Analytics dedicated SQL pool.
How should you complete the Transact-SQL statement? To answer, drag the appropriate values to the correct targets. Each value 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.
NOTE: Each correct selection is worth one point.
Select and Place:

Values

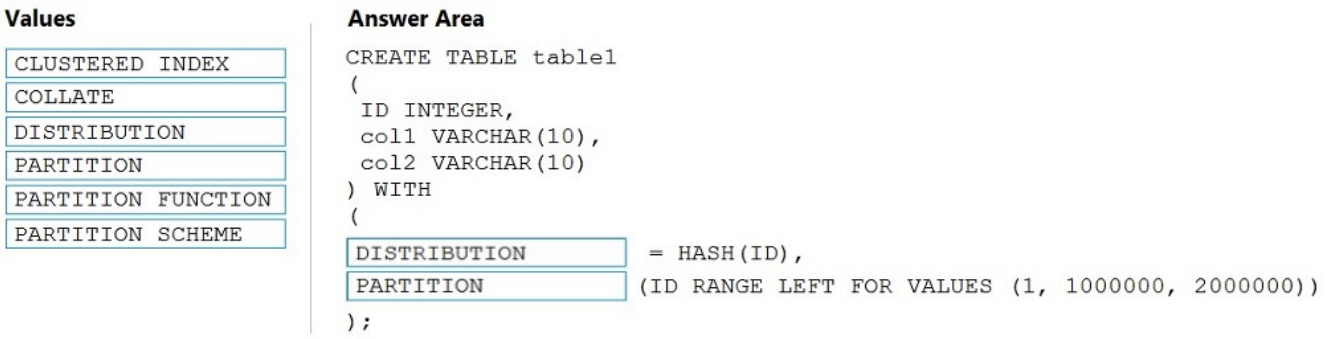
- CLUSTERED INDEX
- COLLATE
- DISTRIBUTION
- PARTITION
- PARTITION FUNCTION
- PARTITION SCHEME

Answer Area

```
CREATE TABLE table1
(
 ID INTEGER,
 col1 VARCHAR(10),
 col2 VARCHAR(10)
) WITH
(
                    = HASH(ID),
                    (ID RANGE LEFT FOR VALUES (1, 1000000, 2000000))
);
```

Explicação

Correct Answer:



Box 1: DISTRIBUTION -
Table distribution options include DISTRIBUTION = HASH (distribution_column_name), assigns each row to one distribution by hashing the value stored in distribution_column_name.

Box 2: PARTITION -
Table partition options. Syntax:
PARTITION (partition_column_name RANGE [LEFT | RIGHT] FOR VALUES ([boundary_value [,...n]]))
Reference:
https://docs.microsoft.com/en-us/sql/t-sql/statements/create-table-azure-sql-data-warehouse

Pergunta 12: Incorreto
You have an enterprise-wide Azure Data Lake Storage Gen2 account. The data lake is accessible only through an Azure virtual network named VNET1.

You are building a SQL pool in Azure Synapse that will use data from the data lake.

Your company has a sales team. All the members of the sales team are in an Azure Active Directory group named Sales. POSIX controls are used to assign the

Sales group access to the files in the data lake.

You plan to load data to the SQL pool every hour.

You need to ensure that the SQL pool can load the sales data from the data lake.

Which three actions should you perform? Each correct answer presents part of the solution.

NOTE: Each area selection is worth one point.

Explicação

Correct Answer: ABF

F. Create a managed identity.

A. Add the managed identity to the Sales group.

B. Use the managed identity as the credentials for the data load process.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/quickstart-bulk-load-copy-tsql-examples

Pergunta 13: Correto
You have an Azure Synapse Analytics dedicated SQL pool that contains the users shown in the following table.

Name	Role
User1	Server admin
User2	db_datereader

User1 executes a query on the database, and the query returns the results shown in the following exhibit.

```
SELECT c.name,
    tbl.name as table_name,
    typ.name as datatype,
    c.is_masked,
    c.masking_function
FROM sys.masked_columns AS c
INNER JOIN sys.tables AS tbl ON c.[object_id] = tbl.[object_id]
INNER JOIN sys.types typ ON c.user_type_id = typ.user_type_id
WHERE is_masked = 1;
```

Results Messages

	name	table_name	datatype	is_masked	masking_function
1	BirthDate	DimCustomer	date	1	default()
2	Gender	DimCustomer	nvarchar	1	default()
3	EmailAddress	DimCustomer	nvarchar	1	email()
4	YearlyIncome	DimCustomer	money	1	default()

User1 is the only user who has access to the unmasked data.
Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

When User2 queries the YearlyIncome column, the values returned will be **[answer choice]**.

- a random number
- the values stored in the database
- XXXX
- 0

When User1 queries the BirthDate column, the values returned will be **[answer choice]**.

- a random date
- the values stored in the database
- XXXX
- 1900-01-01

Explicação

Correct Answer:

Answer Area

When User2 queries the YearlyIncome column, the values returned will be **[answer choice]**.

- a random number
- the values stored in the database
- XXXX
- 0 ✓

When User1 queries the BirthDate column, the values returned will be **[answer choice]**.

- a random date
- the values stored in the database ✓
- XXXX
- 1900-01-01

Box 1: 0 -
The YearlyIncome column is of the money data type.

The Default masking function: Full masking according to the data types of the designated fields
• Use a zero value for numeric data types (bigint, bit, decimal, int, money, numeric, smallint, smallmoney, tinyint, float, real).

Box 2: the values stored in the database
Users with administrator privileges are always excluded from masking, and see the original data without any mask.

Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/dynamic-data-masking-overview

Pergunta 14: Incorreto
You have an enterprise data warehouse in Azure Synapse Analytics.
Using PolyBase, you create an external table named [Ext].[Items] to query Parquet files stored in Azure Data Lake Storage Gen2 without importing the data to the data warehouse.
The external table has three columns.
You discover that the Parquet files have a fourth column named ItemID.
Which command should you run to add the ItemID column to the external table?

A.
```
DROP EXTERNAL TABLE [Ext].[Items]
CREATE EXTERNAL TABLE [Ext].[Items]
( [ItemID] [int] NULL,
  [ItemName] nvarchar(50) NULL,
  [ItemType] nvarchar(20) NULL,
  [ItemDescription] nvarchar(250))
WITH
(
    LOCATION='/Items/',
      DATA_SOURCE = AzureDataLakeStore,
      FILE_FORMAT = PARQUET,
      REJECT_TYPE = VALUE,
      REJECT_VALUE = 0
);
```

B.
```
ALTER TABLE [Ext].[Items]
ADD [ItemID] int;
```

C.
```
DROP EXTERNAL FILE FORMAT parquetfile1;
CREATE EXTERNAL FILE FORMAT parquetfile1
WITH (
    FORMAT_TYPE = PARQUET,
    DATA_COMPRESSION = 'org.apache.hadoop.io.compress.SnappyCodec'
);
```

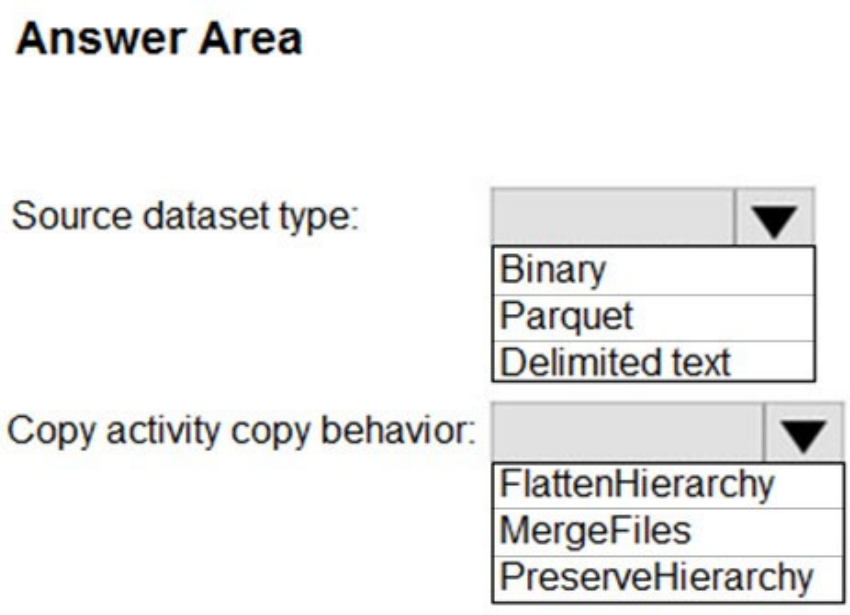
D.
```
ALTER EXTERNAL TABLE [Ext].[Items]
ADD [ItemID] int;
```

Explicação

Correct Answer: *A*
Incorrect Answers:
B, D: Only these Data Definition Language (DDL) statements are allowed on external tables:
• CREATE TABLE and DROP TABLE
• CREATE STATISTICS and DROP STATISTICS
• CREATE VIEW and DROP VIEW

Reference:
https://docs.microsoft.com/en-us/sql/t-sql/statements/create-external-table-transact-sql

Pergunta 15: Incorreto
You have two Azure Storage accounts named Storage1 and Storage2. Each account holds one container and has the hierarchical namespace enabled. The system has files that contain data stored in the Apache Parquet format.
You need to copy folders and files from Storage1 to Storage2 by using a Data Factory copy activity. The solution must meet the following requirements:
• No transformations must be performed.
• The original folder structure must be retained.
• Minimize time required to perform the copy activity.
How should you configure the copy activity? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:



Explicação

Correct Answer: A

Box 1: Binary -

With binary source and sink datasets it works. When using Binary dataset, the service does not parse file content but treat it as-is not parsing the file will save the time.

Box 2: PreserveHierarchy -

PreserveHierarchy (default): Preserves the file hierarchy in the target folder. The relative path of the source file to the source folder is identical to the relative path of the target file to the target folder.

Incorrect Answers:

• FlattenHierarchy: All files from the source folder are in the first level of the target folder. The target files have autogenerated names.

• MergeFiles: Merges all files from the source folder to one file. If the file name is specified, the merged file name is the specified name. Otherwise, it's an autogenerated file name.

Reference:

https://docs.microsoft.com/en-us/azure/data-factory/format-binary

https://docs.microsoft.com/en-us/azure/data-factory/connector-azure-data-lake-storage

Pergunta 16: Incorreto
You have an Azure Data Lake Storage Gen2 container that contains 100 TB of data.

You need to ensure that the data in the container is available for read workloads in a secondary region if an outage occurs in the primary region. The solution must minimize costs.

Which type of data redundancy should you use?

Explicação

Correct Answer: B

Geo-redundant storage (with GRS or GZRS) replicates your data to another physical location in the secondary region to protect against regional outages.

However, that data is available to be read only if the customer or Microsoft initiates a failover from the primary to secondary region. When you enable read access to the secondary region, your data is available to be read at all times, including in a situation where the primary region becomes unavailable.

Incorrect Answers:

A: While Geo-redundant storage (GRS) is cheaper than Read-Access Geo-Redundant Storage (RA-GRS), GRS does NOT initiate automatic failover.

C, D: Locally redundant storage (LRS) and Zone-redundant storage (ZRS) provides redundancy within a single region.

Reference:

https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy

Pergunta 17: Correto
You plan to implement an Azure Data Lake Gen 2 storage account.

You need to ensure that the data lake will remain available if a data center fails in the primary Azure region. The solution must minimize costs.

Which type of replication should you use for the storage account?

Explicação

Correct Answer: *D*

Zone-redundant storage (ZRS) copies your data synchronously across three Azure availability zones in the primary region.

Incorrect Answers:

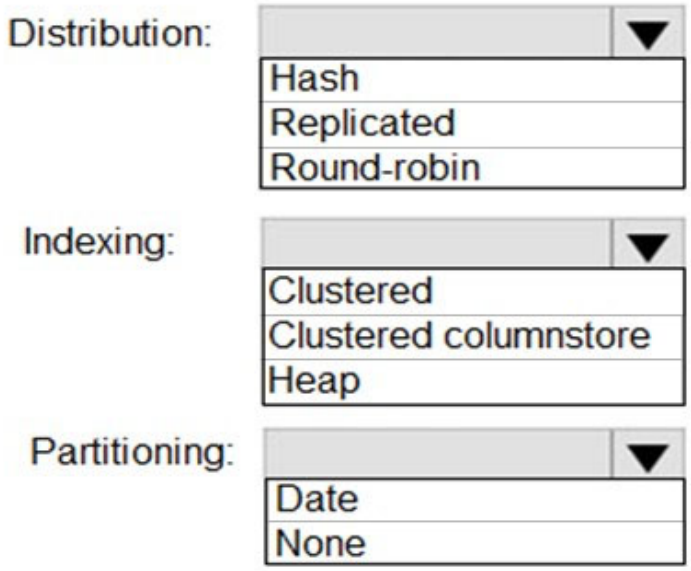
C: Locally redundant storage (LRS) copies your data synchronously three times within a single physical location in the primary region. LRS is the least expensive replication option, but is not recommended for applications requiring high availability or durability

Reference:

https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy

Pergunta 18: Incorreto
You have a SQL pool in Azure Synapse.
You plan to load data from Azure Blob storage to a staging table. Approximately 1 million rows of data will be loaded daily. The table will be truncated before each daily load.
You need to create the staging table. The solution must minimize how long it takes to load the data to the staging table.
How should you configure the table? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area



Explicação

Correct Answer: B

Box1.Round-robin - Search for “Use round-robin for the staging table.”

Box2. Heap - Search for: “A heap table can be especially useful for loading data, such as a staging table,...”

Within this doc:

Box3. None - Partitioning by date is useful when stage destination has data because you can hide the inserting data’s new partition (to keep users from hitting it), complete the load and then unhide the new partition.

However, in this question it states, “the table will be truncated before each daily load”, so, it appears it’s a true Staging table and there are no users with access, no existing data, and I see no reason to have a Date partition. To me, such a partition would do nothing but slow the load.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/develop-tables-overview

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-partition?context=/azure/synapse-analytics/context/context

Pergunta 19: Correto

You are designing a fact table named FactPurchase in an Azure Synapse Analytics dedicated SQL pool. The table contains purchases from suppliers for a retail store. FactPurchase will contain the following columns.

Name	Data type	Nullable
PurchaseKey	Bigint	No
DateKey	Int	No
SupplierKey	Int	No
StockItemKey	Int	No
PurchaseOrderID	Int	Yes
OrderedQuantity	Int	No
OrderedOuters	Int	No
ReceivedOuters	Int	No
Package	Nvarchar(50)	No
IsOrderFinalized	Bit	No
LineageKey	Int	No

FactPurchase will have 1 million rows of data added daily and will contain three years of data.
Transact-SQL queries similar to the following query will be executed daily.

SELECT -
SupplierKey, StockItemKey, IsOrderFinalized, COUNT(*)

FROM FactPurchase -

WHERE DateKey >= 20210101 -

AND DateKey <= 20210131 -
GROUP By SupplierKey, StockItemKey, IsOrderFinalized
Which table distribution will minimize query times?

Explicação

Correct Answer: B

Hash-distributed tables improve query performance on large fact tables.

To balance the parallel processing, select a distribution column that:

• Has many unique values. The column can have duplicate values. All rows with the same value are assigned to the same distribution. Since there are 60 distributions, some distributions can have > 1 unique values while others may end with zero values.

• Does not have NULLs, or has only a few NULLs.

• Is not a date column.

Incorrect Answers:

C: Round-robin tables are useful for improving loading speed.

Reference:

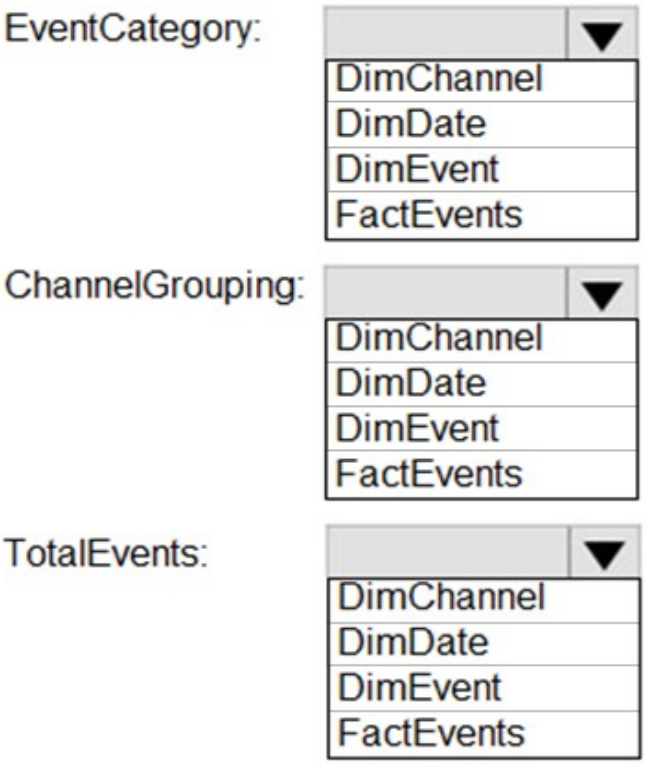
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-distribute

Pergunta 20: Correto
From a website analytics system, you receive data extracts about user interactions such as downloads, link clicks, form submissions, and video plays.
The data contains the following columns.

Name	Sample value
Date	15 Jan 2021
EventCategory	Videos
EventAction	Play
EventLabel	Contoso Promotional
ChannelGrouping	Social
TotalEvents	150
UniqueEvents	120
SessionWithEvents	99

You need to design a star schema to support analytical queries of the data. The star schema will contain four tables including a date dimension.
To which table should you add each column? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

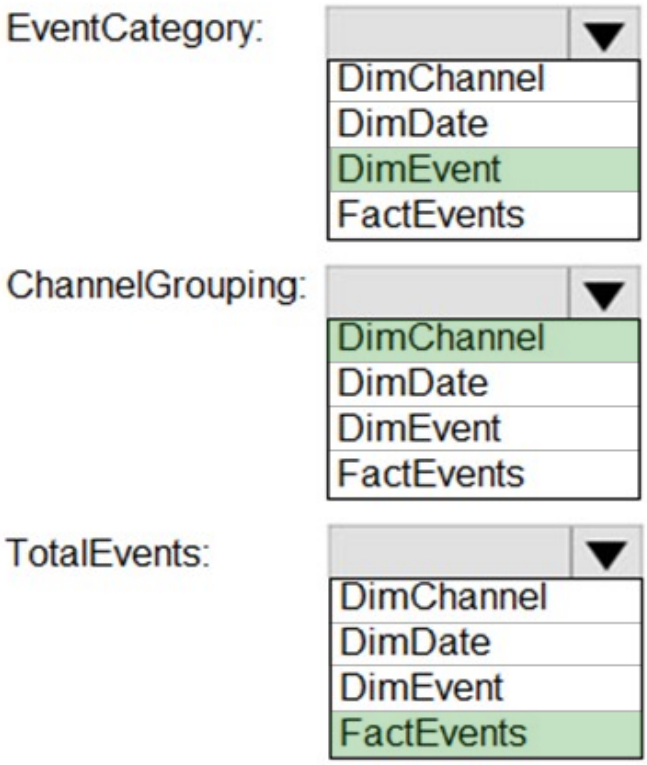
Answer Area



Explicação

Correct Answer:

Answer Area



Box 1: DimEvent -

Box 2: DimChannel -

Box 3: FactEvents -
Fact tables store observations or events, and can be sales orders, stock balances, exchange rates, temperatures, etc
Reference:
https://docs.microsoft.com/en-us/power-bi/guidance/star-schema

Pergunta 21: Correto
You have an Azure Storage account that contains 100 GB of files. The files contain rows of text and numerical values. 75% of the rows contain description data that has an average length of 1.1 MB.

You plan to copy the data from the storage account to an enterprise data warehouse in Azure Synapse Analytics.

You need to prepare the files to ensure that the data copies quickly.

Solution: You convert the files to compressed delimited text files.

Does this meet the goal?

Explicação

Correct Answer: *A*

All file formats have different performance characteristics. For the fastest load, use compressed delimited text files.

Reference:

https://docs.microsoft.com/en-us/azure/sql-data-warehouse/guidance-for-loading-data

Pergunta 22: Incorreto
You have an Azure Storage account that contains 100 GB of files. The files contain rows of text and numerical values. 75% of the rows contain description data that has an average length of 1.1 MB.

You plan to copy the data from the storage account to an enterprise data warehouse in Azure Synapse Analytics.

You need to prepare the files to ensure that the data copies quickly.

Solution: You copy the files to a table that has a columnstore index.

Does this meet the goal?

Explicação

Correct Answer: *B*

Instead convert the files to compressed delimited text files.

Reference:

https://docs.microsoft.com/en-us/azure/sql-data-warehouse/guidance-for-loading-data

Pergunta 23: Correto
You have an Azure Storage account that contains 100 GB of files. The files contain rows of text and numerical values. 75% of the rows contain description data that has an average length of 1.1 MB.

You plan to copy the data from the storage account to an enterprise data warehouse in Azure Synapse Analytics.

You need to prepare the files to ensure that the data copies quickly.

Solution: You modify the files to ensure that each row is more than 1 MB.

Does this meet the goal?

Explicação

Correct Answer: *B*

Instead convert the files to compressed delimited text files.

Reference:

https://docs.microsoft.com/en-us/azure/sql-data-warehouse/guidance-for-loading-data

Pergunta 24: Correto
You build a data warehouse in an Azure Synapse Analytics dedicated SQL pool.

Analysts write a complex SELECT query that contains multiple JOIN and CASE statements to transform data for use in inventory reports. The inventory reports will use the data and additional WHERE parameters depending on the report. The reports will be produced once daily.

You need to implement a solution to make the dataset available for the reports. The solution must minimize query times.

What should you implement?

Explicação

Correct Answer: B

Materialized views for dedicated SQL pools in Azure Synapse provide a low maintenance method for complex analytical queries to get fast performance without any query change.

Incorrect Answers:

C: One daily execution does not make use of result cache caching.

Note: When result set caching is enabled, dedicated SQL pool automatically caches query results in the user database for repetitive use. This allows subsequent query executions to get results directly from the persisted cache so recomputation is not needed. Result set caching improves query performance and reduces compute resource usage. In addition, queries using cached results set do not use any concurrency slots and thus do not count against existing concurrency limits.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/performance-tuning-materialized-views

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/performance-tuning-result-set-caching

Pergunta 25: Incorreto
You have an Azure Synapse Analytics workspace named WS1 that contains an Apache Spark pool named Pool1.

You plan to create a database named DB1 in Pool1.

You need to ensure that when tables are created in DB1, the tables are available automatically as external tables to the built-in serverless SQL pool.

Which two formats can you use for the tables in DB1?

Explicação

Correct Answer: A*D*

"For each Spark external table based on Parquet or CSV and located in Azure Storage, an external table is created in a serverless SQL pool database. As such, you can shut down your Spark pools and still query Spark external tables from serverless SQL pool."

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/develop-storage-files-spark-tables

Pergunta 26: Correto
You are planning a solution to aggregate streaming data that originates in Apache Kafka and is output to Azure Data Lake Storage Gen2. The developers who will implement the stream processing solution use Java.

Which service should you recommend using to process the streaming data?

Explicação

Correct Answer: *D*

The following tables summarize the key differences in capabilities for stream processing technologies in Azure.

General capabilities -

Capability	Azure Stream Analytics	HDInsight with Spark Streaming	Apache Spark in Azure Databricks	HDInsight with Storm
Programmability	Stream analytics query language, JavaScript	C#/F#, Java, Python, Scala	C#/F#, Java, Python, R, Scala	C#, Java

Integration capabilities -

Capability	Azure Stream Analytics	HDInsight with Spark Streaming	Apache Spark in Azure Databricks	HDInsight with Storm
Inputs	Azure Event Hubs, Azure IoT Hub, Azure Blob storage	Event Hubs, IoT Hub, Kafka, HDFS, Storage Blobs, Azure Data Lake Store	Event Hubs, IoT Hub, Kafka, HDFS, Storage Blobs, Azure Data Lake Store	Event Hubs, IoT Hub, Storage Blobs, Azure Data Lake Store
Sinks	Azure Data Lake Store, Azure SQL Database, Storage Blobs, Event Hubs, Power BI, Table Storage, Service Bus Queues, Service Bus Topics, Cosmos DB, Azure Functions	HDFS, Kafka, Storage Blobs, Azure Data Lake Store, Cosmos DB	HDFS, Kafka, Storage Blobs, Azure Data Lake Store, Cosmos DB	Event Hubs, Service Bus, Kafka

Reference:

https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/stream-processing

Pergunta 27: Incorreto
You plan to implement an Azure Data Lake Storage Gen2 container that will contain CSV files. The size of the files will vary based on the number of events that occur per hour.

File sizes range from 4 KB to 5 GB.

You need to ensure that the files stored in the container are optimized for batch processing.

What should you do?

Explicação

Correct Answer: D

If you store your data as many small files, this can negatively affect performance. In general, organize your data into larger sized files for better performance (256 MB to 100 GB in size).

https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-best-practices#optimize-for-data-ingest

https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-best-practices#file-size

Pergunta 28: Incorreto
You store files in an Azure Data Lake Storage Gen2 container. The container has the storage policy shown in the following exhibit.

```
{
   "rules": [
     {
       "enabled": true,
       "name": "contosorule",
       "type": "Lifecycle",
       "definition": {
         "actions": {
           "version": {
             "delete": {
               "daysAfterCreationGreaterThan": 60
             }
           },
           "baseBlob": {
             "tierToCool": {
               "daysAfterModificationGreaterThan":
30
             },
             },
           }
        },
        "filters": {
          "blobTypes": [
            "blockBlob"
          ],
          "prefixMatch": [
            "container1/contoso"
          ]
        }
      }
    }
  ]
}
```

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

The files are **[answer choice]** after 30 days:

- deleted from the container
- moved to archive storage
- moved to cool storage
- moved to hot storage

The storage policy applies to **[answer choice]**:

- container1/contoso.csv
- container1/docs/contoso.json
- container1/mycontoso/contoso.csv

Explicação

Correct Answer:

Answer Area

The files are **[answer choice]** after 30 days:

- deleted from the container
- moved to archive storage
- moved to cool storage
- moved to hot storage

The storage policy applies to **[answer choice]**:

- container1/contoso.csv
- container1/docs/contoso.json
- container1/mycontoso/contoso.csv

Box 1: moved to cool storage -
The ManagementPolicyBaseBlob.TierToCool property gets or sets the function to tier blobs to cool storage. Support blobs currently at Hot tier.

Box 2: container1/contoso.csv -
As defined by prefixMatch.
prefixMatch: An array of strings for prefixes to be matched. Each rule can define up to 10 case-senstive prefixes. A prefix string must start with a container name.
Reference:
https://docs.microsoft.com/en-us/dotnet/api/microsoft.azure.management.storage.fluent.models.managementpolicybaseblob.tiertocool

Pergunta 29: Correto
You are designing a financial transactions table in an Azure Synapse Analytics dedicated SQL pool. The table will have a clustered columnstore index and will include the following columns:

• TransactionType: 40 million rows per transaction type

• CustomerSegment: 4 million per customer segment

• TransactionMonth: 65 million rows per month

AccountType: 500 million per account type

You have the following query requirements:

• Analysts will most commonly analyze transactions for a given month.

• Transactions analysis will typically summarize transactions by transaction type, customer segment, and/or account type

You need to recommend a partition strategy for the table to minimize query times.

On which column should you recommend partitioning the table?

Explicação

Correct Answer: *D*

For optimal compression and performance of clustered columnstore tables, a minimum of 1 million rows per distribution and partition is needed. Before partitions are created, dedicated SQL pool already divides each table into 60 distributed databases.

Example: Any partitioning added to a table is in addition to the distributions created behind the scenes. Using this example, if the sales fact table contained 36 monthly partitions, and given that a dedicated SQL pool has 60 distributions, then the sales fact table should contain 60 million rows per month, or 2.1 billion rows when all months are populated. If a table contains fewer than the recommended minimum number of rows per partition, consider using fewer partitions in order to increase the number of rows per partition.

Pergunta 30: Correto
You have an Azure Data Lake Storage Gen2 account named account1 that stores logs as shown in the following table.

Type	Designated retention period
Application	360 days
Infrastructure	60 days

You do not expect that the logs will be accessed during the retention periods.
You need to recommend a solution for account1 that meets the following requirements:
• Automatically deletes the logs at the end of each retention period
• Minimizes storage costs
What should you include in the recommendation? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

To minimize storage costs:
- Store the infrastructure logs and the application logs in the Archive access tier
- Store the infrastructure logs and the application logs in the Cool access tier
- Store the infrastructure logs in the Cool access tier and the application logs in the Archive access tier

To delete logs automatically:
- Azure Data Factory pipelines
- Azure Blob storage lifecycle management rules
- Immutable Azure Blob storage time-based retention policies

Explicação

Correct Answer:

Answer Area

To minimize storage costs:
- Store the infrastructure logs and the application logs in the Archive access tier
- Store the infrastructure logs and the application logs in the Cool access tier
- **Store the infrastructure logs in the Cool access tier and the application logs in the Archive access tier**

To delete logs automatically:
- Azure Data Factory pipelines
- **Azure Blob storage lifecycle management rules**
- Immutable Azure Blob storage time-based retention policies

Box 1: Store the infrastructure logs in the Cool access tier and the application logs in the Archive access tier
For infrastructure logs: Cool tier - An online tier optimized for storing data that is infrequently accessed or modified. Data in the cool tier should be stored for a minimum of 30 days. The cool tier

has lower storage costs and higher access costs compared to the hot tier.
For application logs: Archive tier - An offline tier optimized for storing data that is rarely accessed, and that has flexible latency requirements, on the order of hours.
Data in the archive tier should be stored for a minimum of 180 days.
Box 2: Azure Blob storage lifecycle management rules
Blob storage lifecycle management offers a rule-based policy that you can use to transition your data to the desired access tier when your specified conditions are met. You can also use lifecycle management to expire data at the end of its life.
Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/access-tiers-overview

Pergunta 31: Incorreto
You plan to ingest streaming social media data by using Azure Stream Analytics. The data will be stored in files in Azure Data Lake Storage, and then consumed by using Azure Databricks and PolyBase in Azure Synapse Analytics.

You need to recommend a Stream Analytics data output format to ensure that the queries from Databricks and PolyBase against the files encounter the fewest possible errors. The solution must ensure that the files can be queried quickly and that the data type information is retained.

What should you recommend?

Explicação

Correct Answer: *B*

Need Parquet to support both Databricks and PolyBase.

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/create-external-file-format-transact-sql

Pergunta 32: Incorreto
You have an Azure Synapse Analytics dedicated SQL pool named Pool1. Pool1 contains a partitioned fact table named dbo.Sales and a staging table named stg.Sales that has the matching table and partition definitions.

You need to overwrite the content of the first partition in dbo.Sales with the content of the same partition in stg.Sales. The solution must minimize load times.

What should you do?

Explicação

Correct Answer: *C*

Stg.sales is a temp table which does not have any partition

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/best-practices-dedicated-sql-pool

Pergunta 33: Incorreto
You are designing a slowly changing dimension (SCD) for supplier data in an Azure Synapse Analytics dedicated SQL pool.
You plan to keep a record of changes to the available fields.
The supplier data contains the following columns.

Name	Description
SupplierSystemID	Unique supplier ID in an enterprise resource planning (ERP) system
SupplierName	Name of the supplier company
SupplierAddress1	Address of the supplier company
SupplierAddress2	Second address line of the supplier company
SupplierCity	City of the supplier company
SupplierStateProvince	State or province of the supplier company
SupplierCountry	Country of the supplier company
SupplierPostalCode	Postal code of the supplier company
SupplierDescription	Free-text description of the supplier company
SupplierCategory	Category of goods provided by the supplier company

Which three additional columns should you add to the data to create a Type 2 SCD? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

Explicação

Correct Answer: *ABE*

In order to support type 2 changes, we need to add four columns to our table:

· Surrogate Key – the original ID will no longer be sufficient to identify the specific record we require, we therefore need to create a new ID that the fact records can join to specifically.

· Current Flag – A quick method of returning only the current version of each record

· Start Date – The date from which the specific historical version is active

· End Date – The date to which the specific historical version record is active

https://adatis.co.uk/introduction-to-slowly-changing-dimensions-scd-types/

Pergunta 34: Correto
You have a Microsoft SQL Server database that uses a third normal form schema.
You plan to migrate the data in the database to a star schema in an Azure Synapse Analytics dedicated SQL pool.
You need to design the dimension tables. The solution must optimize read operations.
What should you include in the solution? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area

Transform data for the dimension tables by:

- Maintaining to a third normal form
- Normalizing to a fourth normal form
- Denormalizing to a second normal form

For the primary key columns in the dimension tables, use:

- New IDENTITY columns
- A new computed column
- The business key column from the source sys

Explicação

Correct Answer:

Answer Area

Transform data for the dimension tables by:

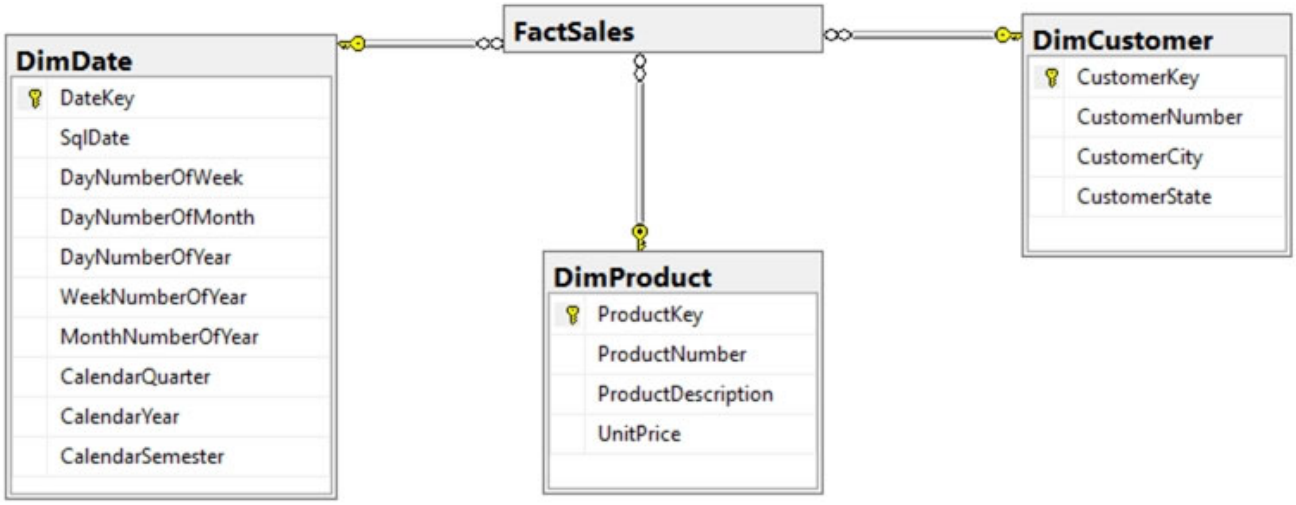
- Maintaining to a third normal form
- Normalizing to a fourth normal form
- Denormalizing to a second normal form

For the primary key columns in the dimension tables, use:

- New IDENTITY columns
- A new computed column
- The business key column from the source sys

Box 1: Denormalize to a second normal form
Denormalization is the process of transforming higher normal forms to lower normal forms via storing the join of higher normal form relations as a base relation.
Denormalization increases the performance in data retrieval at cost of bringing update anomalies to a database.

Box 2: New identity columns -
The collapsing relations strategy can be used in this step to collapse classification entities into component entities to obtain flat dimension tables with single-part keys that connect directly to the fact table. The single-part key is a surrogate key generated to ensure it remains unique over time.
Example:



Note: A surrogate key on a table is a column with a unique identifier for each row. The key is not generated from the table data. Data modelers like to create surrogate keys on their tables when they design data warehouse models. You can use the IDENTITY property to achieve this goal simply and effectively without affecting load performance.

Reference:

https://www.mssqltips.com/sqlservertip/5614/explore-the-role-of-normal-forms-in-dimensional-modeling/

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-identity

Pergunta 35: Correto

You plan to develop a dataset named Purchases by using Azure Databricks. Purchases will contain the following columns:

- ProductID
- ItemPrice

- LineTotal
- Quantity
- StoreID
- Minute
- Month
- Hour

Year -

- Day

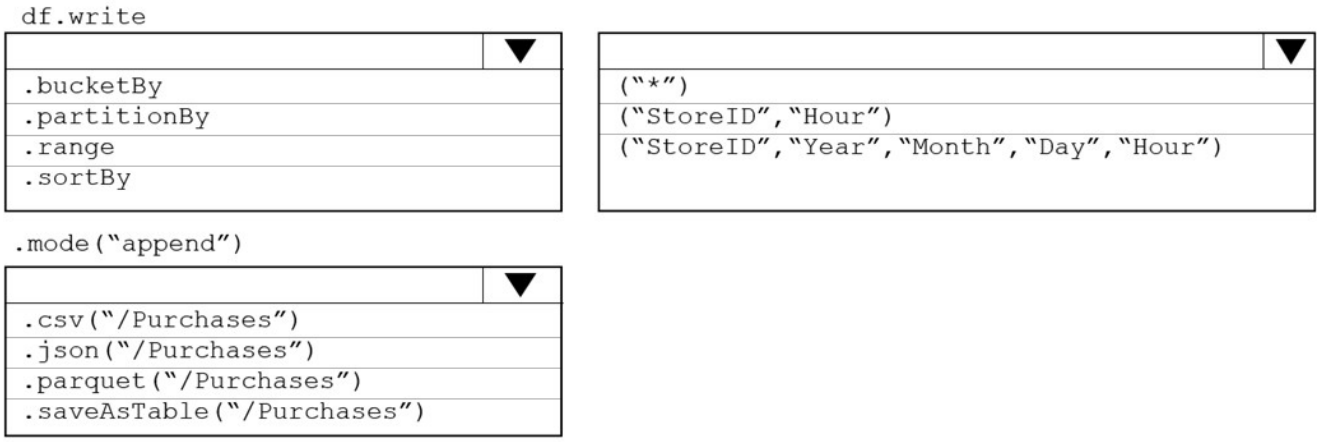
You need to store the data to support hourly incremental load pipelines that will vary for each Store ID. The solution must minimize storage costs.

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Hot Area:

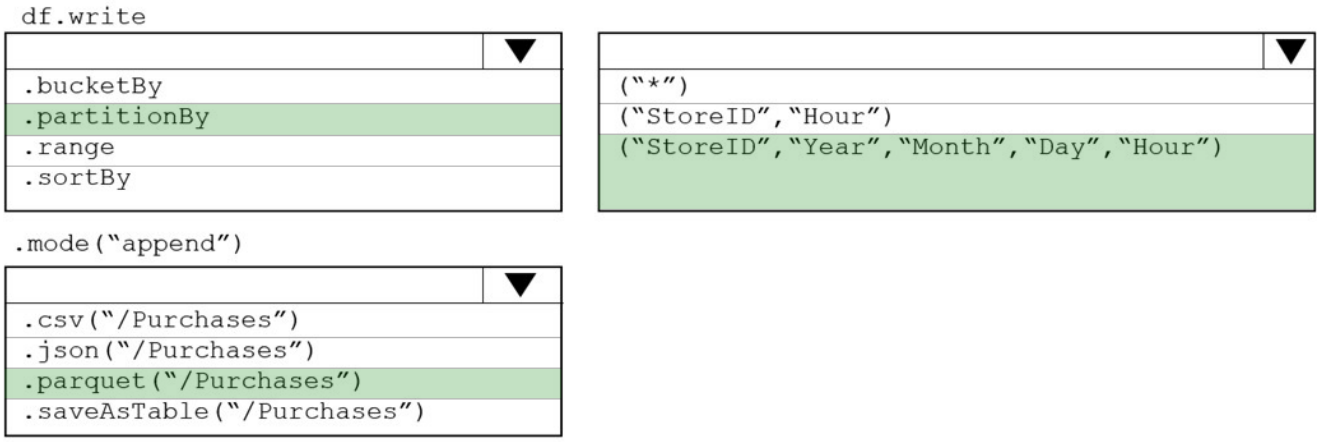
Answer Area



Explicação

Correct Answer:

Answer Area



Box 1: partitionBy -
We should overwrite at the partition level.
Example:
df.write.partitionBy("y","m","d")
.mode(SaveMode.Append)
.parquet("/data/hive/warehouse/db_name.db/" + tableName)
Box 2: ("StoreID", "Year", "Month", "Day", "Hour", "StoreID")
Box 3: parquet("/Purchases")
Reference:
https://intellipaat.com/community/11744/how-to-partition-and-write-dataframe-in-spark-without-deleting-partitions-with-no-new-data

Pergunta 36: Incorreto
You are designing a partition strategy for a fact table in an Azure Synapse Analytics dedicated SQL pool. The table has the following specifications:

- Contain sales data for 20,000 products.
Use hash distribution on a column named ProductID.

- Contain 2.4 billion records for the years 2019 and 2020.
Which number of partition ranges provides optimal compression and performance for the clustered columnstore index?

Explicação

Correct Answer: *A*
Each partition should have around 1 millions records. Dedication SQL pools already have 60 partitions.
We have the formula: Records/(Partitions*60)= 1 million
Partitions= Records/(1 million * 60)
Partitions= 2.4 x 1,000,000,000/(1,000,000 * 60) = 40

Note: Having too many partitions can reduce the effectiveness of clustered columnstore indexes if each partition has fewer than 1 million rows. Dedicated SQL pools automatically partition your data into 60 databases. So, if you create a table with 100 partitions, the result will be 6000 partitions.

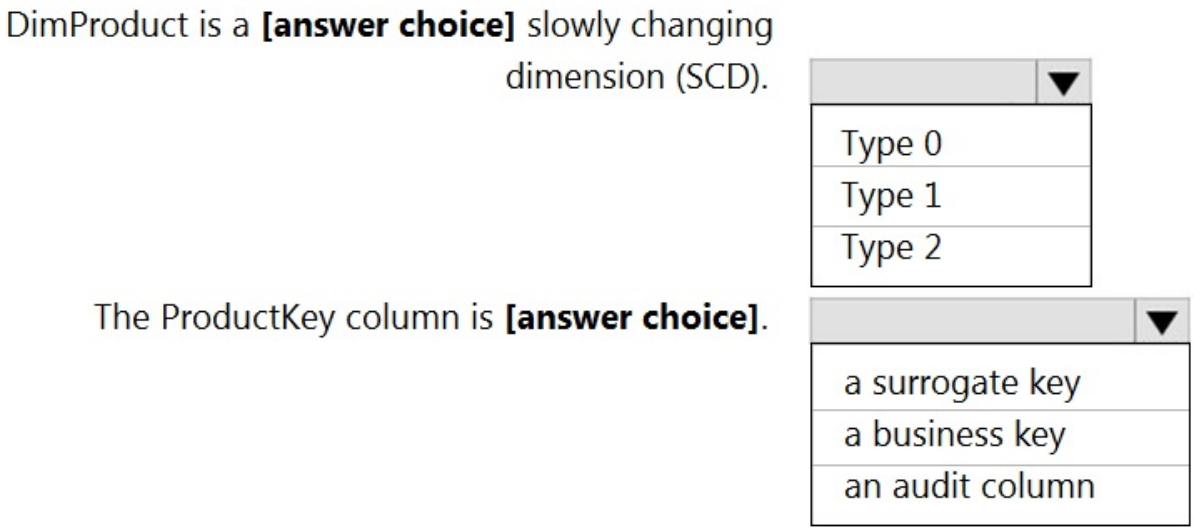
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/best-practices-dedicated-sql-pool

Pergunta 37: Correto
You are creating dimensions for a data warehouse in an Azure Synapse Analytics dedicated SQL pool. You create a table by using the Transact-SQL statement shown in the following exhibit.

```
CREATE TABLE [DBO].[DimProduct](
        [ProductKey] [int] IDENTITY(1,1) NOT NULL,
        [ProductSourceID] [int] NOT NULL,
        [ProductName] [nvarchar](100) NOT NULL,
        [ProductNumber] [nvarchar](25) NOT NULL,
        [Color] [nvarchar](15) NULL,
        [Size] [nvarchar](5) NULL,
        [Weight] [decimal](8, 2) NULL,
        [ProductCategory] [nvarchar](100) NULL,
        [SellStartDate] [date] NOT NULL,
        [SellEndDate] [date] NULL,
        [RowInsertedDateTime] [datetime] NOT NULL,
        [RowUpdatedDateTime] [datetime] NOT NULL,
        [ETLAuditID] [int] NOT NULL
)
```

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.
NOTE: Each correct selection is worth one point.
Hot Area:

Answer Area



Explicação

Correct Answer: B

Box 1: Type 2 -

A Type 2 SCD supports versioning of dimension members. Often the source system doesn't store versions, so the data warehouse load process detects and manages changes in a dimension table. In this case, the dimension table must use a surrogate key to provide a unique reference to a version of the dimension member. It also includes columns that define the date range validity of the version (for example, StartDate and EndDate) and possibly a flag column (for example,

IsCurrent) to easily filter by current dimension members.

Incorrect Answers:

A Type 1 SCD always reflects the latest values, and when changes in source data are detected, the dimension table data is overwritten.

Box 2: a surrogate key -

"In data warehousing, IDENTITY functionality is particularly important as it makes easier the creation of surrogate keys."

Why ProductKey is certainly not a business key: "The IDENTITY value in Synapse is not guaranteed to be unique if the user explicitly inserts a duplicate value with 'SET IDENTITY_INSERT ON' or reseeds IDENTITY". Business key is an index which identifies uniqueness of a row and here Microsoft says

that identity doesn't guarantee uniqueness.

Reference:

https://azure.microsoft.com/en-us/blog/identity-now-available-with-azure-sql-data-warehouse/
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-identity

Pergunta 38: Correto
You are designing a fact table named FactPurchase in an Azure Synapse Analytics dedicated SQL pool. The table contains purchases from suppliers for a retail store. FactPurchase will contain the following columns.

Name	Data type	Nullable
PurchaseKey	Bigint	No
DateKey	Int	No
SupplierKey	Int	No
StockItemKey	Int	No
PurchaseOrderID	Int	Yes
OrderedQuantity	Int	No
OrderedOuters	Int	No
ReceivedOuters	Int	No
Package	Nvarchar(50)	No
IsOrderFinalized	Bit	No
LineageKey	Int	No

FactPurchase will have 1 million rows of data added daily and will contain three years of data.
Transact-SQL queries similar to the following query will be executed daily.

SELECT -
SupplierKey, StockItemKey, COUNT(*)

FROM FactPurchase -

WHERE DateKey >= 20210101 -

AND DateKey <= 20210131 -
GROUP By SupplierKey, StockItemKey
Which table distribution will minimize query times?

Explicação

Correct Answer: B

Hash-distributed tables improve query performance on large fact tables, and are the focus of this article. Round-robin tables are useful for improving loading speed.

Incorrect:

Not D: Do not use a date column. . All data for the same date lands in the same distribution. If several users are all filtering on the same date, then only 1 of the 60 distributions do all the processing work.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-distribute

Pergunta 39: Correto
You are implementing a batch dataset in the Parquet format.

Data files will be produced be using Azure Data Factory and stored in Azure Data Lake Storage Gen2. The files will be consumed by an Azure Synapse Analytics serverless SQL pool.

You need to minimize storage costs for the solution.

What should you do?

Explicação

Correct Answer: A

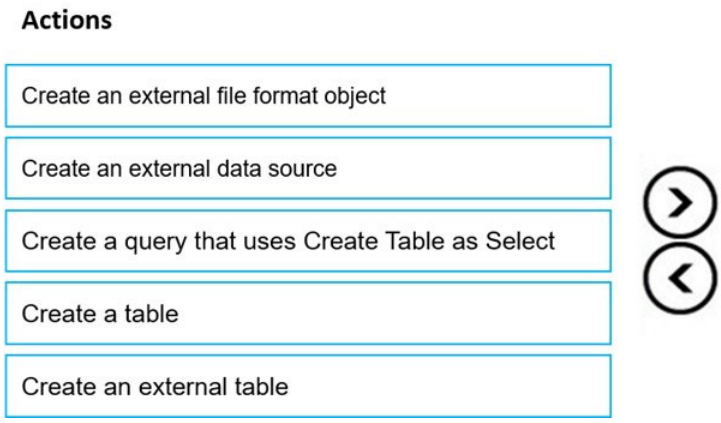
This talks about minimizing storage costs, not querying costs

creating an external table with fewer columns than the file has no effect on the file itself and will actually fail so in no way helps with storage costs.

See MS documentation "The column definitions, including the data types and number of columns, must match the data in the external files. If there's a mismatch, the file rows will be rejected when querying the actual data."

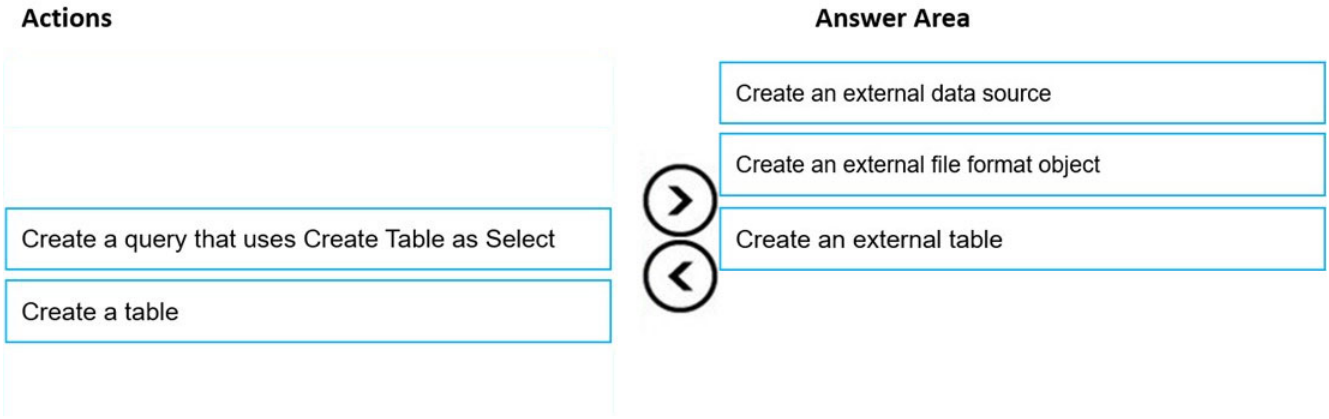
https://docs.microsoft.com/en-us/azure/data-factory/format-parquet#dataset-properties

Pergunta 40: Correto
You need to build a solution to ensure that users can query specific files in an Azure Data Lake Storage Gen2 account from an Azure Synapse Analytics serverless SQL pool.
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.
NOTE: More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.
Select and Place:



Explicação

Correct Answer:



Step 1: Create an external data source
You can create external tables in Synapse SQL pools via the following steps:
1. CREATE EXTERNAL DATA SOURCE to reference an external Azure storage and specify the credential that should be used to access the storage.
2. CREATE EXTERNAL FILE FORMAT to describe format of CSV or Parquet files.
3. CREATE EXTERNAL TABLE on top of the files placed on the data source with the same file format.
Step 2: Create an external file format object
Creating an external file format is a prerequisite for creating an external table.
Step 3: Create an external table

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/develop-tables-external-tables

Pergunta 41: Incorreto

You are designing a data mart for the human resources (HR) department at your company. The data mart will contain employee information and employee transactions.
From a source system, you have a flat extract that has the following fields:

- EmployeeID

FirstName -
- LastName
- Recipient
- GrossAmount
- TransactionID
- GovernmentID
- NetAmountPaid
- TransactionDate

You need to design a star schema data model in an Azure Synapse Analytics dedicated SQL pool for the data mart.
Which two tables should you create? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

Explicação

Correct Answer: *CE*

C: Dimension tables contain attribute data that might change but usually changes infrequently. For example, a customer's name and address are stored in a dimension table and updated only when the customer's profile changes. To minimize the size of a large fact table, the customer's name and address don't need to be in every row of a fact table. Instead, the fact table and the dimension table can share a customer ID. A query can join the two tables to associate a customer's profile and transactions.

E: Fact tables contain quantitative data that are commonly generated in a transactional system, and then loaded into the dedicated SQL pool. For example, a retail business generates sales transactions every day, and then loads the data into a dedicated SQL pool fact table for analysis.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-overview

Pergunta 42: Incorreto
You are designing a dimension table for a data warehouse. The table will track the value of the dimension attributes over time and preserve the history of the data by adding new rows as the data changes.

Which type of slowly changing dimension (SCD) should you use?

Explicação

Correct Answer: *C*

A Type 2 SCD supports versioning of dimension members. Often the source system doesn't store versions, so the data warehouse load process detects and manages changes in a dimension table. In this case, the dimension table must use a surrogate key to provide a unique reference to a version of the dimension member. It also includes columns that define the date range validity of the version (for example, StartDate and EndDate) and possibly a flag column (for example,

IsCurrent) to easily filter by current dimension members.

Incorrect Answers:

B: A Type 1 SCD always reflects the latest values, and when changes in source data are detected, the dimension table data is overwritten.

D: A Type 3 SCD supports storing two versions of a dimension member as separate columns. The table includes a column for the current value of a member plus either the original or previous value of the member. So Type 3 uses additional columns to track one key instance of history, rather than storing additional rows to track each change like in a Type 2 SCD.

Reference:

https://docs.microsoft.com/en-us/learn/modules/populate-slowly-changing-dimensions-azure-synapse-analytics-pipelines/3-choose-between-dimension-types

Pergunta 43: Incorreto

You are building an Azure Synapse Analytics dedicated SQL pool that will contain a fact table for transactions from the first half of the year 2020.
You need to ensure that the table meets the following requirements:
Minimizes the processing time to delete data that is older than 10 years
Minimizes the I/O for queries that use year-to-date values
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

```
CREATE TABLE [dbo].[FactTransaction]
(
     [TransactionTypeID]   int     NOT NULL
,    [TransactionDateID]   int     NOT NULL
,    [CustomerID]          int     NOT NULL
,    [RecipientID]         int     NOT NULL
,    [Amount]              money   NOT NU::
)
WITH
(
```

[▼]
- CLUSTERED COLUMNSTORE INDEX
- DISTRIBUTION
- PARTITION
- TRUNCATE_TARGET

```
    (
```

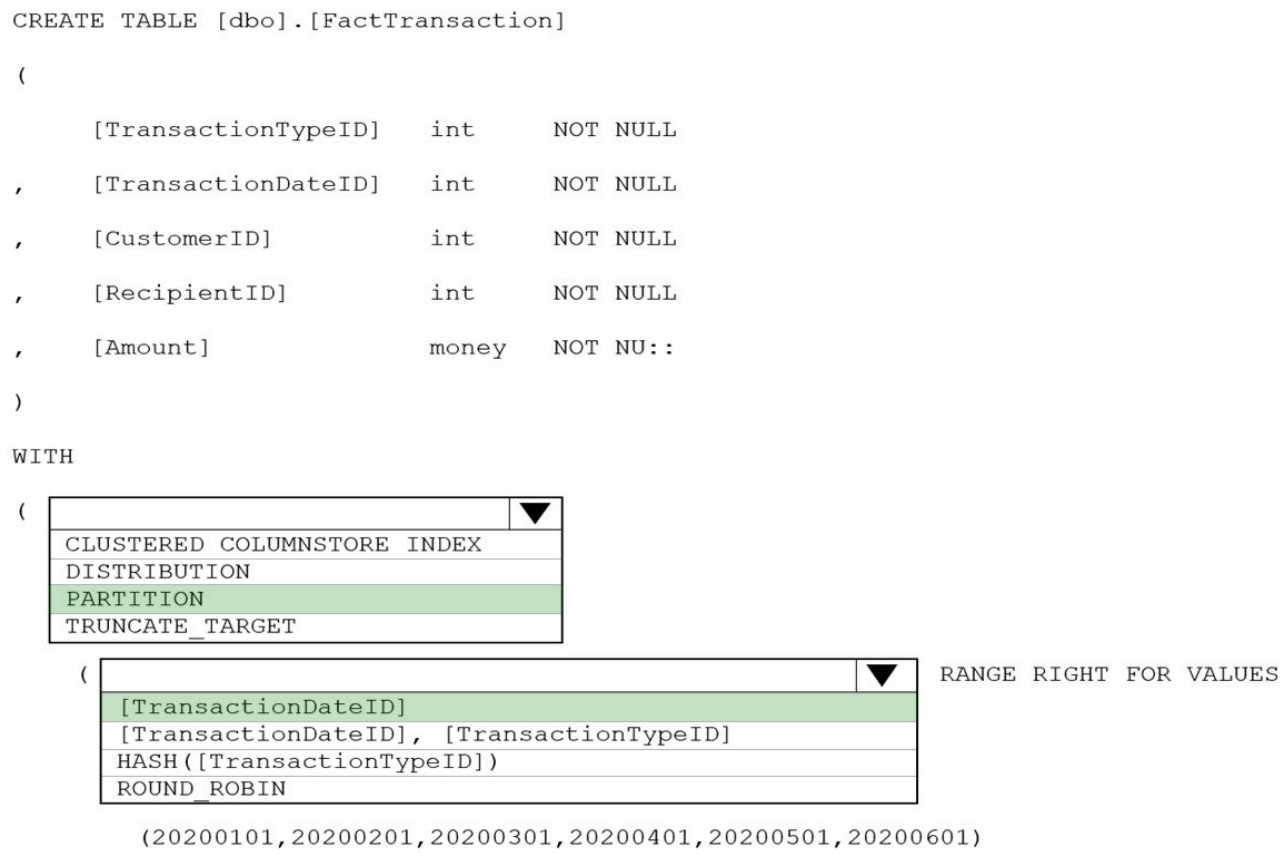
[▼] RANGE RIGHT FOR VALUES
- [TransactionDateID]
- [TransactionDateID], [TransactionTypeID]
- HASH([TransactionTypeID])
- ROUND_ROBIN

```
        (20200101,20200201,20200301,20200401,20200501,20200601)
```

Explicação

Correct Answer:

Answer Area



Box 1: PARTITION -
RANGE RIGHT FOR VALUES is used with PARTITION.
Part 2: [TransactionDateID]
Partition on the date column.
Example: Creating a RANGE RIGHT partition function on a datetime column
The following partition function partitions a table or index into 12 partitions, one for each month of a year's worth of values in a datetime column.
CREATE PARTITION FUNCTION [myDateRangePF1] (datetime)
AS RANGE RIGHT FOR VALUES ('20030201', '20030301', '20030401',
'20030501', '20030601', '20030701', '20030801',
'20030901', '20031001', '20031101', '20031201');

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/create-partition-function-transact-sql

Pergunta 44: Correto
You are performing exploratory analysis of the bus fare data in an Azure Data Lake Storage Gen2 account by using an Azure Synapse Analytics serverless SQL pool.
You execute the Transact-SQL query shown in the following exhibit.

```
SELECT
   payment_type,
   SUM(fare_amount) AS fare_total
FROM OPENROWSET(
         BULK 'csv/busfare/tripdata_2020*.csv',
         DATA_SOURCE = 'BusData',
         FORMAT = 'CSV', PARSER_VERSION = '2.0',
         FIRSTROW = 2
   )
   WITH (
         payment_type INT 10,
         fare_amount FLOAT 11
   ) AS nyc
GROUP BY payment_type
ORDER BY payment_type;
```

What do the query results include?

Explicação

Correct Answer: *D*

Only CSV that have file names that beginning with "tripdata_2020".

Pergunta 45: Correto
You plan to create an Azure Databricks workspace that has a tiered structure. The workspace will contain the following three workloads:

• A workload for data engineers who will use Python and SQL.

• A workload for jobs that will run notebooks that use Python, Scala, and SQL.

• A workload that data scientists will use to perform ad hoc analysis in Scala and R.

The enterprise architecture team at your company identifies the following standards for Databricks environments:

• The data engineers must share a cluster.

• The job cluster will be managed by using a request process whereby data scientists and data engineers provide packaged notebooks for deployment to the cluster.

• All the data scientists must be assigned their own cluster that terminates automatically after 120 minutes of inactivity. Currently, there are three data scientists.

You need to create the Databricks clusters for the workloads.

Solution: You create a Standard cluster for each data scientist, a High Concurrency cluster for the data engineers, and a Standard cluster for the jobs.

Does this meet the goal?

Explicação

Correct Answer: *A*

as all the requirements are met:

Data Engineers - High Concurrency cluster as it provides for sharing . Also caters for SQL, Python and R.

Data Scientist - Standard Clusters which automatically terminates after 120 minutes and caters for Scala, SQL, Python and R.

JOBS- Standard Cluster

Pergunta 46: Incorreto
You plan to create an Azure Databricks workspace that has a tiered structure. The workspace will contain the following three workloads:

• A workload for data engineers who will use Python and SQL.

• A workload for jobs that will run notebooks that use Python, Scala, and SQL.

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• The data engineers must share a cluster.

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• All the data scientists must be assigned their own cluster that terminates automatically after 120 minutes of inactivity. Currently, there are three data scientists.

You need to create the Databricks clusters for the workloads.

Solution: You create a Standard cluster for each data scientist, a High Concurrency cluster for the data engineers, and a High Concurrency cluster for the jobs.

Does this meet the goal?

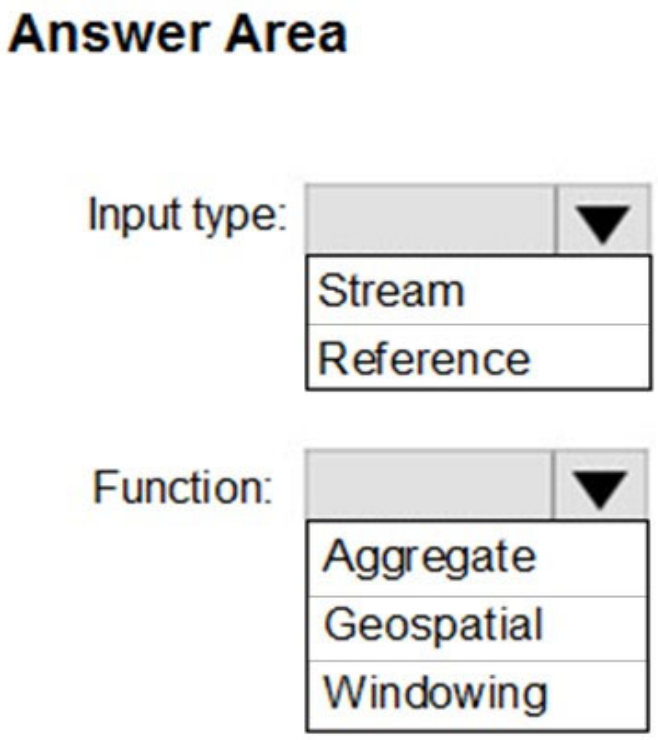
Explicação

Correct Answer: *B*

High-concurrency clusters do not support Scala. So the answer is still 'No

https://docs.microsoft.com/en-us/azure/databricks/clusters/configure

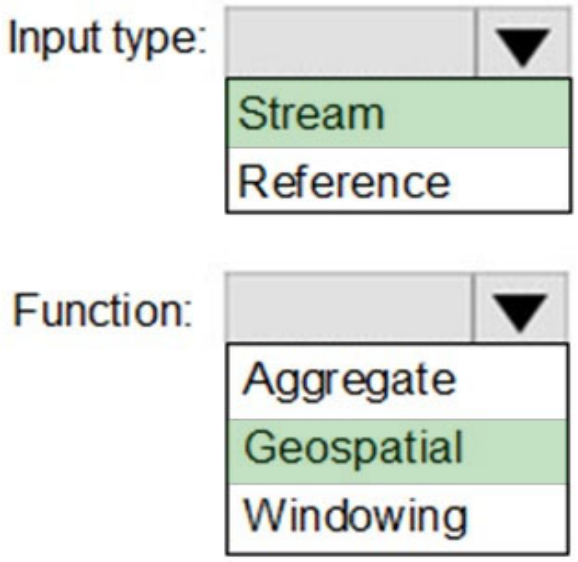
Pergunta 47: Incorreto
You plan to create a real-time monitoring app that alerts users when a device travels more than 200 meters away from a designated location.
You need to design an Azure Stream Analytics job to process the data for the planned app. The solution must minimize the amount of code developed and the number of technologies used.
What should you include in the Stream Analytics job? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.
Hot Area:



Explicação

Correct Answer:

Answer Area



Input type: Stream -
You can process real-time IoT data streams with Azure Stream Analytics.

Function: Geospatial -
With built-in geospatial functions, you can use Azure Stream Analytics to build applications for scenarios such as fleet management, ride sharing, connected cars, and asset tracking.
Note: In a real-world scenario, you could have hundreds of these sensors generating events as a stream. Ideally, a gateway device would run code to push these events to Azure Event Hubs or Azure IoT Hubs.

Reference:

https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-get-started-with-azure-stream-analytics-to-process-data-from-iot-devices

https://docs.microsoft.com/en-us/azure/stream-analytics/geospatial-scenarios

Pergunta 48: Incorreto
A company has a real-time data analysis solution that is hosted on Microsoft Azure. The solution uses Azure Event Hub to ingest data and an Azure Stream

Analytics cloud job to analyze the data. The cloud job is configured to use 120 Streaming Units (SU).

You need to optimize performance for the Azure Stream Analytics job.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

Explicação

Correct Answer: *CF*

Partitioning lets you divide data into subsets based on a partition key. If your input (for example Event Hubs) is partitioned by a key, it is highly recommended to specify this partition key when adding input to your Stream Analytics job. Scaling a Stream Analytics job takes advantage of partitions in the input and output.

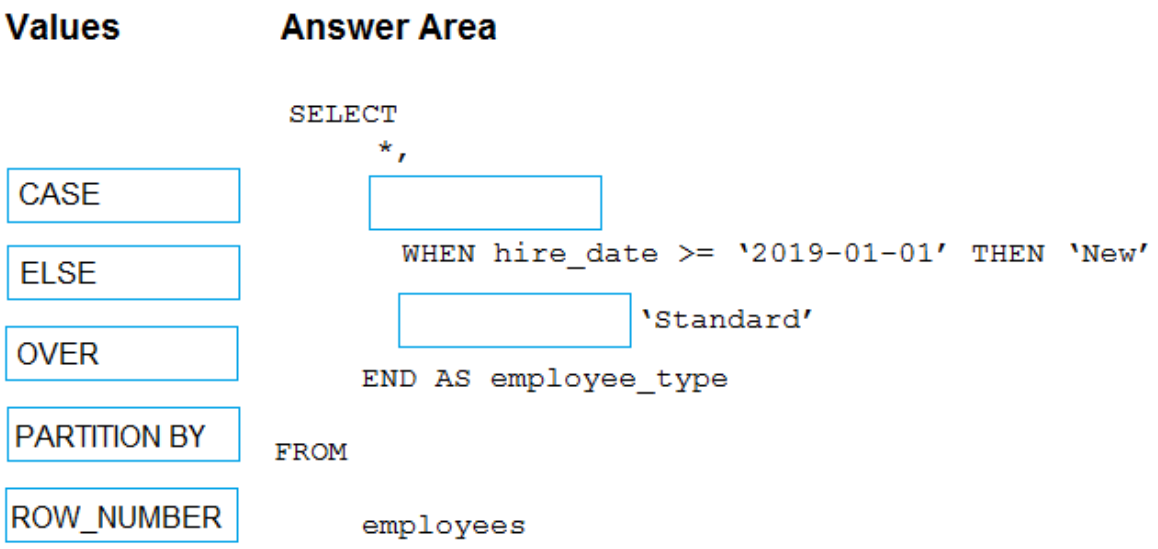
Reference:

https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-parallelization

Pergunta 49: Incorreto
You have the following table named Employees.

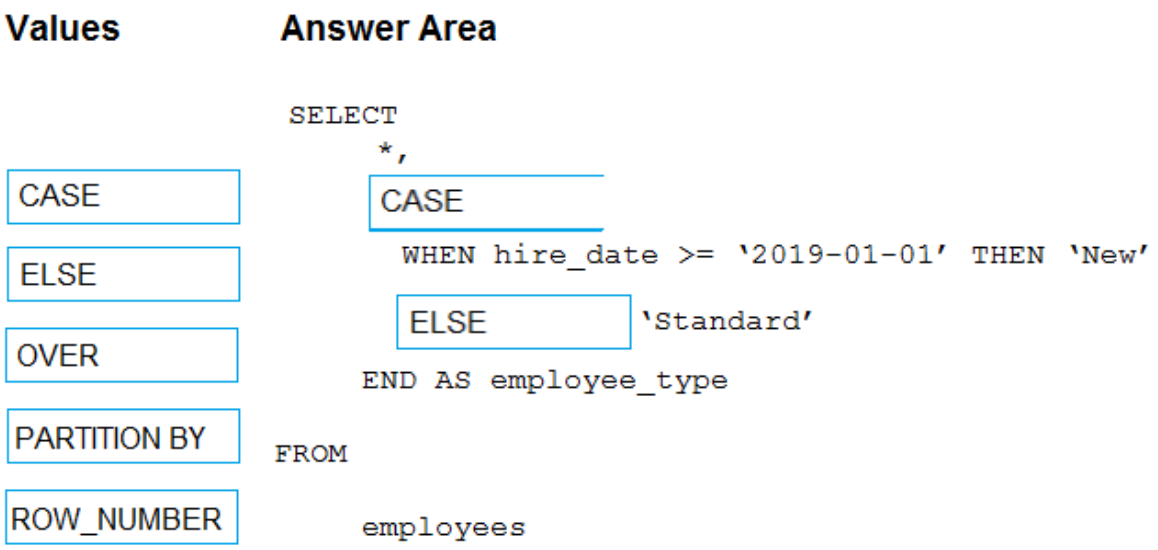
first_name	last_name	hire_date	employee_type
Jane	Doe	2019-08-23	new
Ben	Smith	2017-12-15	Standard

You need to calculate the employee_type value based on the hire_date value.
How should you complete the Transact-SQL statement? To answer, drag the appropriate values to the correct targets. Each value 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.
NOTE: Each correct selection is worth one point.
Select and Place:



Explicação

Correct Answer:



Box 1: CASE -
CASE evaluates a list of conditions and returns one of multiple possible result expressions.
CASE can be used in any statement or clause that allows a valid expression. For example, you can use CASE in statements such as SELECT, UPDATE, DELETE and SET, and in clauses such as select_list, IN, WHERE, ORDER BY, and HAVING.
Syntax: Simple CASE expression:

CASE input_expression -
WHEN when_expression THEN result_expression [...n]
[ELSE else_result_expression]

END -

Box 2: ELSE -

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/language-elements/case-transact-sql

Pergunta 50: Correto
You have data stored in thousands of CSV files in Azure Data Lake Storage Gen2. Each file has a header row followed by a property formatted carriage return (/r) and line feed (/n).

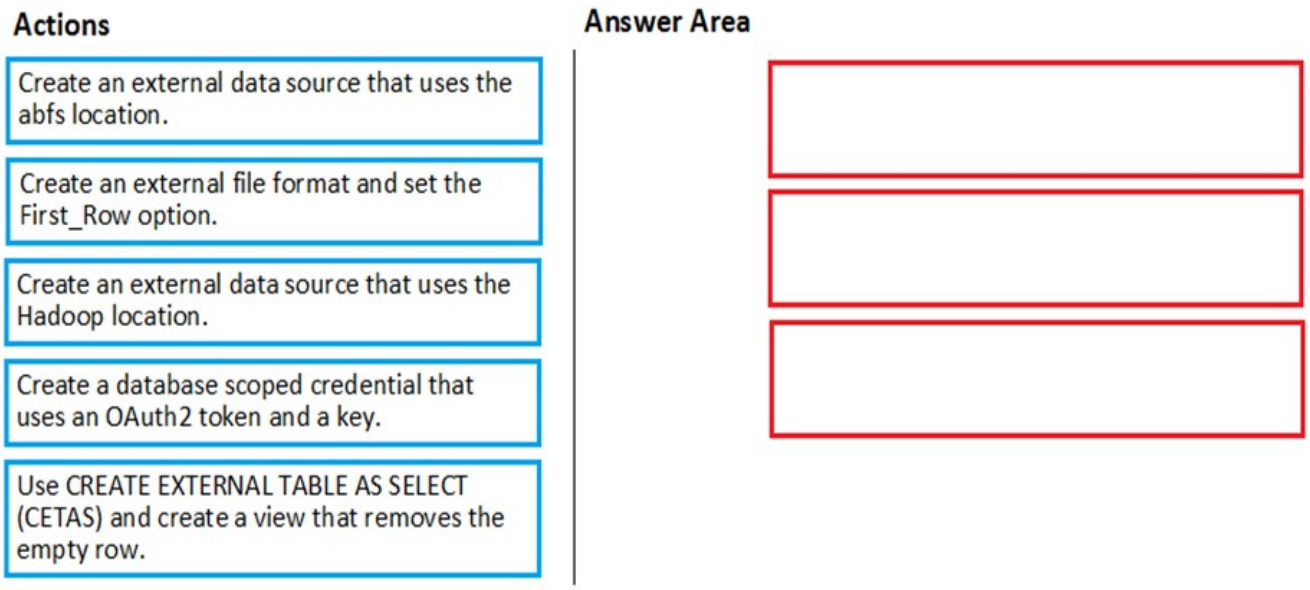
You are implementing a pattern that batch loads the files daily into an Azure SQL data warehouse by using PolyBase.

You need to skip the header row when you import the files into the data warehouse.

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.

Which three actions 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:



Explicação

Correct Answer: A

1. Create a database scoped credential using OAuth2 token and key

2. Create external data source using the abfs location

3. Create an external file format and set the First_row option

Sources:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-load-from-azure-data-lake-store

https://docs.microsoft.com/en-us/sql/t-sql/statements/create-external-file-format-transact-sql?view=sql-server-ver15&tabs=delimited

Conteúdo do curso

- Iniciar
  Simulado 1: Practice Test 1: DP-203: Microsoft Azure Data Engineer Exam
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  Simulado 2: `Practice Test 2: DP-203: Microsoft Azure Data Engineer Exam
- Iniciar
  Simulado 3: Practice Test 3: DP-203: Microsoft Azure Data Engineer Exam
- Iniciar
  Simulado 4: Practice Test 4: DP-203: Microsoft Azure Data Engineer Exam

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Sobre este curso

Professional Practice Exam | 185 Questions | May 2022 Updated Version | Maestro DP-203 in First Attempt

Pelos números

Nível de experiência: Todos os níveis

Alunos: 615

Idiomas: Inglês

Legendas: Não

Descrição

DP-203: Microsoft Azure Data Engineer Associate exam is one of the recent additions in the Azure role-based certification model. These full-length mock tests with 185 different questions.

We offer the following resources to supplement your experience and help you prepare for DP-203: Microsoft Azure Data Engineer Associate Certification, after passing DP-203 exam, you will earn the Microsoft Azure Data Engineer Associate certification.

These practice sets measure your ability to accomplish the following technical tasks: design and implement data storage, design and develop data processing, design and implement data security, monitor and optimize data storage, data processing and governance–this role should manage how decisions in each area affect an overall solution.

These practice exams supplement each exam blueprint guide and help an individual test their knowledge before taking the final exam

This exam should have subject matter expertise in integrating, transforming, and consolidating data from various structured and unstructured data systems into a structure that is suitable for building analytics solutions.

This practice test course contains four practice tests so that you can prove your skills in Azure Architecture. A perfect tool to assess your readiness, and find those one or two spots that you can study in the days before taking the test.

Azure DP-203 Exam Objectives

* Design and Implement Data Storage (40-45%)

* Design and Develop Data Processing (25-30%)

* Design and Implement Data Security (10-15%)

* Monitor and Optimize Data Storage and Data Processing (10-15%)

You should immediately catch hold of DP-203 practice tests once you are done with your preparation. Do not forget to follow the official study guide for DP-203 that you can find easily on Microsoft's official website.

Happy Learning and All the Best!

O que você aprenderá

- It contains 2022 exam version questions which are likely to be asked in the Real Exam.
- These practice tests help you with Self-Study and Self-Assessment in Exam.
- These practice tests helps you check your knowledge and upgrade your skills.
- It is compatible with iPhone and Android mobiles.
- Lifetime access practice tests with all the updates for DP-203 Certification Exam.

Há algum requisito ou pré-requisito para o curso?

- General knowledge of IT architecture
- Intermediate to strong knowledge of most Azure offerings

Para quem é este curso:

- People who want to become Azure Data Engineer Associate
- People preparing for Microsoft's DP-203 exam
- Good technical exposure with Azure Data Engineer
- Those people who interested in passing the Azure DP-203 exam
- IT teams who want to learn more about Azure Data Engineering

Instrutor

Shivam Gupta is Microsoft Certified Trainer and a Cloud Solutions Architect/DevOps Expert at an MNC company in India with multiple information technology certifications including

Microsoft Certified Azure Solutions Architect Expert,

Microsoft Certified Azure DevOps Expert,

Microsoft Certified Azure Security Engineer,

Microsoft Certified Azure Data Engineer,

Microsoft Certified Azure Network Engineer,

Microsoft Certified Azure Administrator,

Microsoft Certified Azure Fundamentals,

Microsoft Certified Azure Data Fundamentals,

Certified Kubernetes Administrator &

AWS Certified Solutions Architect.

Shivam has been privileged enough to have several roles for more than 9 years as DevOps engineer, senior infrastructure/Cloud engineer, solutions architect as well as cloud security expert.

Shivam has hands-on experience in architecting/automating and optimizing mission-critical deployment over small & large infrastructure. Proficient with Configuration Management tools and in developing CI/CD pipelines.