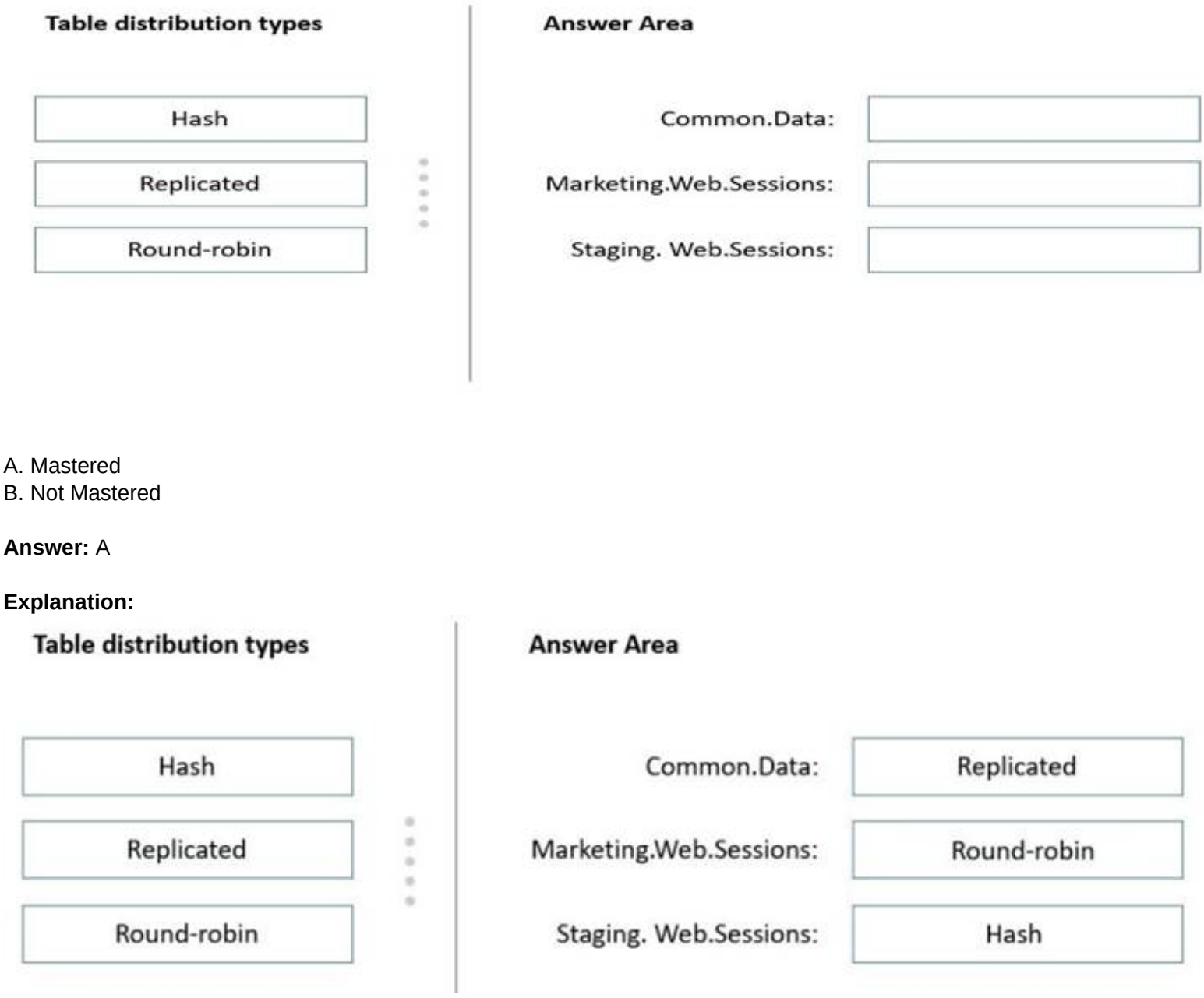
Exam Questions DP-203

Data Engineering on Microsoft Azure

https://www.2passeasy.com/dumps/DP-203/

NEW QUESTION 1
- (Exam Topic 3)
You have an Azure subscription.
You plan to build a data warehouse in an Azure Synapse Analytics dedicated SQL pool named pool1 that will contain staging tables and a dimensional model
Pool1 will contain the following tables.

Name	Number of rows	Update frequency	Description
Common.Date	7,300	New rows inserted yearly	• Contains one row per date for the last 20 years



A. Mastered
B. Not Mastered

Answer: A

Explanation:

NEW QUESTION 2
- (Exam Topic 3)
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.

A. Implement event ordering.
B. Implement Azure Stream Analytics user-defined functions (UDF).
C. Implement query parallelization by partitioning the data output.
D. Scale the SU count for the job up.
E. Scale the SU count for the job down.
F. Implement query parallelization by partitioning the data input.

Answer: DF

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

NEW QUESTION 3
- (Exam Topic 3)
You implement an enterprise data warehouse in Azure Synapse Analytics. You have a large fact table that is 10 terabytes (TB) in size.
Incoming queries use the primary key SaleKey column to retrieve data as displayed in the following table:

SaleKey	CityKey	CustomerKey	StockItemKey	InvoiceDateKey	Quantity	UnitPrice	TotalExcludingTax
49309	90858	70	69	10/22/13	8	16	128
49313	55710	126	69	10/22/13	2	16	32
49343	44710	234	68	10/22/13	10	16	160
49352	66109	163	70	10/22/13	4	16	64
49488	65312	230	70	10/22/13	8	16	128
49646	85877	271	70	10/24/13	1	16	16
49798	41238	288	69	10/24/13	1	16	16

You need to distribute the large fact table across multiple nodes to optimize performance of the table. Which technology should you use?

A. hash distributed table with clustered index
B. hash distributed table with clustered Columnstore index
C. round robin distributed table with clustered index
D. round robin distributed table with clustered Columnstore index
E. heap table with distribution replicate

Answer: B

Explanation:
Hash-distributed tables improve query performance on large fact tables.
Columnstore indexes can achieve up to 100x better performance on analytics and data warehousing workloads and up to 10x better data compression than traditional rowstore indexes.
Reference:
https://docs.microsoft.com/en-us/azure/sql-data-warehouse/sql-data-warehouse-tables-distribute https://docs.microsoft.com/en-us/sql/relational-databases/indexes/columnstore-indexes-query-performance

NEW QUESTION 4
- (Exam Topic 3)
A company plans to use Apache Spark analytics to analyze intrusion detection data.
You need to recommend a solution to analyze network and system activity data for malicious activities and policy violations. The solution must minimize administrative efforts.
What should you recommend?

A. Azure Data Lake Storage
B. Azure Databricks
C. Azure HDInsight
D. Azure Data Factory

Answer: B

Explanation:
Three common analytics use cases with Microsoft Azure Databricks
Recommendation engines, churn analysis, and intrusion detection are common scenarios that many organizations are solving across multiple industries. They require machine learning, streaming analytics, and utilize massive amounts of data processing that can be difficult to scale without the right tools.
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Note: Recommendation engines, churn analysis, and intrusion detection are common scenarios that many organizations are solving across multiple industries. They require machine learning, streaming analytics, and utilize massive amounts of data processing that can be difficult to scale without the right tools.
Reference:
https://azure.microsoft.com/es-es/blog/three-critical-analytics-use-cases-with-microsoft-azure-databricks/

NEW QUESTION 5
- (Exam Topic 3)
You manage an enterprise data warehouse in Azure Synapse Analytics.
Users report slow performance when they run commonly used queries. Users do not report performance changes for infrequently used queries.
You need to monitor resource utilization to determine the source of the performance issues. Which metric should you monitor?

A. Data IO percentage
B. Local tempdb percentage
C. Cache used percentage
D. DWU percentage

Answer: C

Explanation:
Monitor and troubleshoot slow query performance by determining whether your workload is optimally leveraging the adaptive cache for dedicated SQL pools.
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-how-to-monit

NEW QUESTION 6
- (Exam Topic 3)
You have an Azure subscription that contains an Azure Data Lake Storage Gen2 account named storage1. Storage1 contains a container named container1. Container1 contains a directory named directory1. Directory1 contains a file named file1.
You have an Azure Active Directory (Azure AD) user named User1 that is assigned the Storage Blob Data Reader role for storage1.
You need to ensure that User1 can append data to file1. The solution must use the principle of least privilege. Which permissions should you grant? To answer, drag the appropriate permissions to the correct resources.
Each permission 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.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Execute
If you are granting permissions by using only ACLs (no Azure RBAC), then to grant a security principal read or write access to a file, you'll need to give the security principal Execute permissions to the root folder of the container, and to each folder in the hierarchy of folders that lead to the file.
Box 2: Execute
On Directory: Execute (X): Required to traverse the child items of a directory Box 3: Write
On file: Write (W): Can write or append to a file. Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-access-control

NEW QUESTION 7
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool named Pool1 that contains a table named Sales. Sales has row-level security (RLS) applied. RLS uses the following predicate filter.

```
CREATE FUNCTION Security.fn_securitypredicate(@SalesRep AS sysname)
    RETURNS TABLE
WITH SCHEMABINDING
AS
    RETURN SELECT 1 AS fn_securitypredicate_result
WHERE @SalesRep = USER_NAME() OR USER_NAME() = 'Manager';
```

A user named SalesUser1 is assigned the db_datareader role for Pool1.

A user named SalesUser1 is assigned the db_datareader role for Pool1. Which rows in the Sales table are returned when SalesUser1 queries the table?

A. only the rows for which the value in the User_Name column is SalesUser1
B. all the rows
C. only the rows for which the value in the SalesRep column is Manager
D. only the rows for which the value in the SalesRep column is SalesUser1

Answer: A

NEW QUESTION 8
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool mat contains a table named dbo.Users.
You need to prevent a group of users from reading user email addresses from dbo.Users. What should you use?

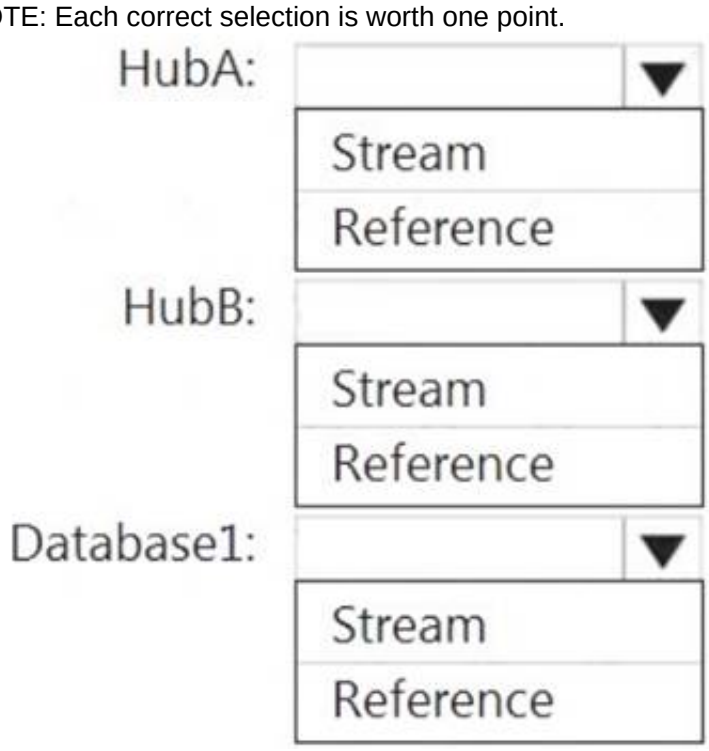
A. row-level security
B. column-level security
C. Dynamic data masking
D. Transparent Data Encryption (TDD

Answer: B

NEW QUESTION 9
- (Exam Topic 3)
You have an Azure SQL database named Database1 and two Azure event hubs named HubA and HubB. The data consumed from each source is shown in the following table.

Source	Data
Database1	Driver's name Driver's license number
HubA	Ride route Ride distance Ride duration
HubB	Ride fare Ride payment

You need to implement Azure Stream Analytics to calculate the average fare per mile by driver.
How should you configure the Stream Analytics input for each source? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
HubA: Stream HubB: Stream
Database1: Reference
Reference data (also known as a lookup table) is a finite data set that is static or slowly changing in nature, used to perform a lookup or to augment your data streams. For example, in an IoT scenario, you could store metadata about sensors (which don't change often) in reference data and join it with real time IoT data streams. Azure Stream Analytics loads reference data in memory to achieve low latency stream processing
Reference:
https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-use-reference-data

NEW QUESTION 10
- (Exam Topic 3)
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 use?

A. Type 0
B. Type 1
C. Type 2
D. Type 3

Answer: C

Explanation:
Type 2 - Creating a new additional record. In this methodology all history of dimension changes is kept in the database. You capture attribute change by adding a new row with a new surrogate key to the dimension table. Both the prior and new rows contain as attributes the natural key(or other durable identifier). Also 'effective date' and 'current indicator' columns are used in this method. There could be only one record with current indicator set to 'Y'. For 'effective date' columns, i.e. start_date and end_date, the end_date for current record usually is set to value 9999-12-31. Introducing changes to the dimensional model in type 2 could be very expensive database operation so it is not recommended to use it in dimensions where a new attribute could be added in the future.
https://www.datawarehouse4u.info/SCD-Slowly-Changing-Dimensions.html

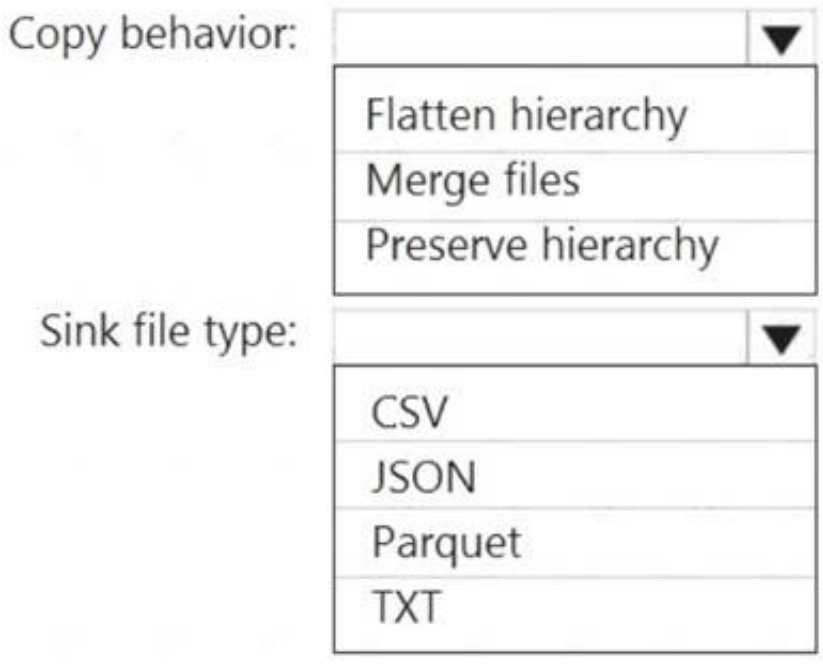
NEW QUESTION 10
- (Exam Topic 3)
You are designing an anomaly detection solution for streaming data from an Azure IoT hub. The solution must meet the following requirements:
- Send the output to Azure Synapse.
- Identify spikes and dips in time series data.
- Minimize development and configuration effort. Which should you include in the solution?

A. Azure Databricks
B. Azure Stream Analytics
C. Azure SQL Database

Answer: B

Explanation:
You can identify anomalies by routing data via IoT Hub to a built-in ML model in Azure Stream Analytics. Reference:
https://docs.microsoft.com/en-us/learn/modules/data-anomaly-detection-using-azure-iot-hub/

NEW QUESTION 15
- (Exam Topic 3)
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.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Preserver herarchy
Compared to the flat namespace on Blob storage, the hierarchical namespace greatly improves the performance of directory management operations, which improves overall job performance.
Box 2: Parquet
Azure Data Factory parquet format is supported for Azure Data Lake Storage Gen2. Parquet supports the schema property.
Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-introduction https://docs.microsoft.com/en-us/azure/data-factory/format-parquet

NEW QUESTION 20
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool named pool1.
You plan to implement a star schema in pool1 and create a new table named DimCustomer by using the following code.

```
CREATE TABLE dbo.[DimCustomer](
    [CustomerKey] int NOT NULL,
    [CustomerSourceID] [int] NOT NULL,
    [Title] [nvarchar](8) NULL,
    [FirstName] [nvarchar](50) NOT NULL,
    [MiddleName] [nvarchar](50) NULL,
    [LastName] [nvarchar](50) NOT NULL,
    [Suffix] [nvarchar](10) NULL,
    [CompanyName] [nvarchar](128) NULL,
    [SalesPerson] [nvarchar](256) NULL,
    [EmailAddress] [nvarchar](50) NULL,
    [Phone] [nvarchar](25) NULL,
    [InsertedDate] [datetime] NOT NULL,
    [ModifiedDate] [datetime] NOT NULL,
    [HashKey] [varchar](100) NOT NULL,
    [IsCurrentRow] [bit] NOT NULL
)
WITH
(
    DISTRIBUTION = REPLICATE,
    CLUSTERED COLUMNSTORE INDEX
);
GO
```

You need to ensure that DimCustomer has the necessary columns to support a Type 2 slowly changing dimension (SCD). Which two columns should you add? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

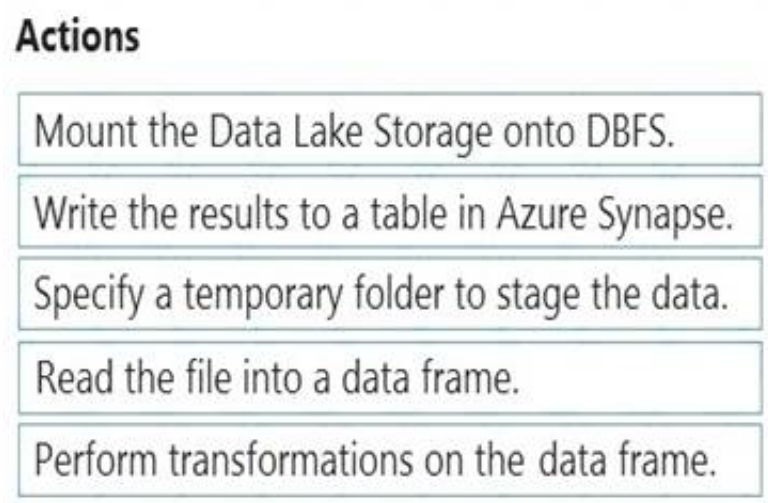
A. [HistoricalSalesPerson] [nvarchar] (256) NOT NULL
B. [EffectiveEndDate] [datetime] NOT NULL
C. [PreviousModifiedDate] [datetime] NOT NULL
D. [RowID] [bigint] NOT NULL
E. [EffectiveStartDate] [datetime] NOT NULL

Answer: AB

NEW QUESTION 22
- (Exam Topic 3)
You have an Azure Data Lake Storage Gen2 account that contains a JSON file for customers. The file contains two attributes named FirstName and LastName.
You need to copy the data from the JSON file to an Azure Synapse Analytics table by using Azure Databricks. A new column must be created that concatenates the FirstName and LastName values.
You create the following components:

- A destination table in Azure Synapse
- An Azure Blob storage container
- A service principal

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



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Table Description automatically generated
Step 1: Mount the Data Lake Storage onto DBFS
Begin with creating a file system in the Azure Data Lake Storage Gen2 account. Step 2: Read the file into a data frame.
You can load the json files as a data frame in Azure Databricks. Step 3: Perform transformations on the data frame.
Step 4: Specify a temporary folder to stage the data
Specify a temporary folder to use while moving data between Azure Databricks and Azure Synapse. Step 5: Write the results to a table in Azure Synapse.
You upload the transformed data frame into Azure Synapse. You use the Azure Synapse connector for Azure Databricks to directly upload a dataframe as a table

in a Azure Synapse.
Reference:
https://docs.microsoft.com/en-us/azure/azure-databricks/databricks-extract-load-sql-data-warehouse

NEW QUESTION 25
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool that contains a table named Table1. Table1 contains the following:

- One billion rows
- A clustered columnstore index
- A hash-distributed column named Product Key
- A column named Sales Date that is of the date data type and cannot be null Thirty million rows will be added to Table1 each month.

You need to partition Table1 based on the Sales Date column. The solution must optimize query performance and data loading.
How often should you create a partition?

A. once per month
B. once per year
C. once per day
D. once per week

Answer: B

Explanation:
Need a minimum 1 million rows per distribution. Each table is 60 distributions. 30 millions rows is added each month. Need 2 months to get a minimum of 1 million rows per distribution in a new partition.
Note: When creating partitions on clustered columnstore tables, it is important to consider how many rows belong to each partition. 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 distributions.
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.
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-partitio

NEW QUESTION 27
- (Exam Topic 3)
You have an Azure Factory instance named DF1 that contains a pipeline named PL1.PL1 includes a tumbling window trigger.
You create five clones of PL1. You configure each clone pipeline to use a different data source.
You need to ensure that the execution schedules of the clone pipeline match the execution schedule of PL1. What should you do?

A. Add a new trigger to each cloned pipeline
B. Associate each cloned pipeline to an existing trigger.
C. Create a tumbling window trigger dependency for the trigger of PL1.
D. Modify the Concurrency setting of each pipeline.

Answer: B

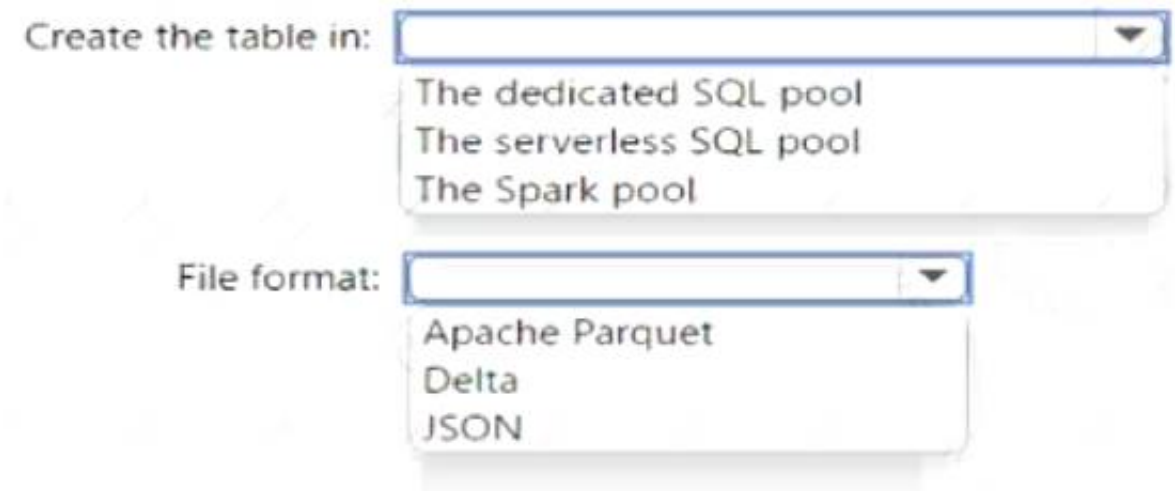
NEW QUESTION 31
- (Exam Topic 3)
You have an activity in an Azure Data Factory pipeline. The activity calls a stored procedure in a data warehouse in Azure Synapse Analytics and runs daily.
You need to verify the duration of the activity when it ran last. What should you use?

A. activity runs in Azure Monitor
B. Activity log in Azure Synapse Analytics
C. the sys.dm_pdw_wait_stats data management view in Azure Synapse Analytics
D. an Azure Resource Manager template

Answer: A

Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/monitor-visually

NEW QUESTION 33
- (Exam Topic 3)
You have an Azure Synapse Analytics serverless SQL pool, an Azure Synapse Analytics dedicated SQL pool, an Apache Spark pool, and an Azure Data Lake Storage Gen2 account.
You need to create a table in a lake database. The table must be available to both the serverless SQL pool and the Spark pool.
Where should you create the table, and Which file format should you use for data in the table? TO answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
The dedicated SQL pool Apache Parquet

NEW QUESTION 35
- (Exam Topic 3)
You need to design a solution that will process streaming data from an Azure Event Hub and output the data to Azure Data Lake Storage. The solution must ensure that analysts can interactively query the streaming data.
What should you use?

A. event triggers in Azure Data Factory
B. Azure Stream Analytics and Azure Synapse notebooks
C. Structured Streaming in Azure Databricks
D. Azure Queue storage and read-access geo-redundant storage (RA-GRS)

Answer: C

Explanation:
Apache Spark Structured Streaming is a fast, scalable, and fault-tolerant stream processing API. You can use it to perform analytics on your streaming data in near real-time.
With Structured Streaming, you can use SQL queries to process streaming data in the same way that you would process static data.
Azure Event Hubs is a scalable real-time data ingestion service that processes millions of data in a matter of seconds. It can receive large amounts of data from multiple sources and stream the prepared data to Azure Data Lake or Azure Blob storage.
Azure Event Hubs can be integrated with Spark Structured Streaming to perform the processing of messages in near real-time. You can query and analyze the processed data as it comes by using a Structured Streaming query and Spark SQL.
Reference:
https://k21academy.com/microsoft-azure/data-engineer/structured-streaming-with-azure-event-hubs/

NEW QUESTION 36
- (Exam Topic 3)
You have an Azure Synapse Analytics Apache Spark pool named Pool1.
You plan to load JSON files from an Azure Data Lake Storage Gen2 container into the tables in Pool1. The structure and data types vary by file.
You need to load the files into the tables. The solution must maintain the source data types. What should you do?

A. Use a Get Metadata activity in Azure Data Factory.
B. Use a Conditional Split transformation in an Azure Synapse data flow.
C. Load the data by using the OPEHROwset Transact-SQL command in an Azure Synapse Anarytics serverless SQL pool.
D. Load the data by using PySpark.

Answer: A

Explanation:
Serverless SQL pool can automatically synchronize metadata from Apache Spark. A serverless SQL pool database will be created for each database existing in serverless Apache Spark pools.
Serverless SQL pool enables you to query data in your data lake. It offers a T-SQL query surface area that accommodates semi-structured and unstructured data queries.
To support a smooth experience for in place querying of data that's located in Azure Storage files, serverless SQL pool uses the OPENROWSET function with additional capabilities.
The easiest way to see to the content of your JSON file is to provide the file URL to the OPENROWSET function, specify csv FORMAT.
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/query-json-files https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/query-data-storage

NEW QUESTION 40
- (Exam Topic 3)
You have a Microsoft Purview account. The Lineage view of a CSV file is shown in the following exhibit.

How is the data for the lineage populated?

A. manually
B. by scanning data stores
C. by executing a Data Factory pipeline

Answer: B

Explanation:
According to Microsoft Purview Data Catalog lineage user guide1, data lineage in Microsoft Purview is a core platform capability that populates the Microsoft Purview Data Map with data movement and transformations across systems2. Lineage is captured as it flows in the enterprise and stitched without gaps irrespective of its source2.

NEW QUESTION 41
- (Exam Topic 3)
You have the following Azure Stream Analytics query.

```
WITH

step1 AS (SELECT *
     FROM input1
     PARTITION BY StateID
     INTO 10),
step2 AS (SELECT *
     FROM input2
     PARTITION BY StateID
     INTO 10)

SELECT *
INTO output
FROM step1
PARTITION BY StateID
UNION
SELECT * INTO output
       FROM step2
       PARTITION BY StateID
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Statements	Yes	No
The query combines two streams of partitioned data.	○	○
The stream scheme key and count must match the output scheme.	○	○
Providing 60 streaming units will optimize the performance of the query.	○	○

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: No
Note: You can now use a new extension of Azure Stream Analytics SQL to specify the number of partitions of a stream when reshuffling the data.
The outcome is a stream that has the same partition scheme. Please see below for an example: WITH step1 AS (SELECT * FROM [input1] PARTITION BY DeviceID INTO 10),
step2 AS (SELECT * FROM [input2] PARTITION BY DeviceID INTO 10)
SELECT * INTO [output] FROM step1 PARTITION BY DeviceID UNION step2 PARTITION BY DeviceID Note: The new extension of Azure Stream Analytics SQL includes a keyword INTO that allows you to specify the number of partitions for a stream when performing reshuffling using a PARTITION BY statement.
Box 2: Yes
When joining two streams of data explicitly repartitioned, these streams must have the same partition key and partition count. Box 3: Yes
Streaming Units (SUs) represents the computing resources that are allocated to execute a Stream Analytics job. The higher the number of SUs, the more CPU and memory resources are allocated for your job.
In general, the best practice is to start with 6 SUs for queries that don't use PARTITION BY. Here there are 10 partitions, so 6x10 = 60 SUs is good.
Note: Remember, Streaming Unit (SU) count, which is the unit of scale for Azure Stream Analytics, must be adjusted so the number of physical resources available to the job can fit the partitioned flow. In general, six SUs is a good number to assign to each partition. In case there are insufficient resources assigned to the job, the system will only apply the repartition if it benefits the job.
Reference:
https://azure.microsoft.com/en-in/blog/maximize-throughput-with-repartitioning-in-azure-stream-analytics/ https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-streaming-unit-consumption

NEW QUESTION 45
- (Exam Topic 3)
You have an enterprise data warehouse in Azure Synapse Analytics named DW1 on a server named Server1. You need to determine the size of the transaction log file for each distribution of DW1.
What should you do?

A. On DW1, execute a query against the sys.database_files dynamic management view.
B. From Azure Monitor in the Azure portal, execute a query against the logs of DW1.
C. Execute a query against the logs of DW1 by using theGet-AzOperationalInsightsSearchResult PowerShell cmdlet.
D. On the master database, execute a query against the sys.dm_pdw_nodes_os_performance_counters dynamic management view.

Answer: A

Explanation:
For information about the current log file size, its maximum size, and the autogrow option for the file, you can also use the size, max_size, and growth columns for that log file in sys.database_files.
Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/logs/manage-the-size-of-the-transaction-log-file

NEW QUESTION 46
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this scenario, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You have an Azure Storage account that contains 100 GB of files. The files contain 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?

A. Yes
B. No

Answer: A

Explanation:
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

NEW QUESTION 51
- (Exam Topic 3)
You use Azure Stream Analytics to receive Twitter data from Azure Event Hubs and to output the data to an Azure Blob storage account.
You need to output the count of tweets from the last five minutes every minute. Which windowing function should you use?

A. Sliding
B. Session
C. Tumbling
D. Hopping

Answer: D

Explanation:
Hopping window functions hop forward in time by a fixed period. It may be easy to think of them as Tumbling windows that can overlap and be emitted more often than the window size. Events can belong to more than one Hopping window result set. To make a Hopping window the same as a Tumbling window, specify the hop size to be the same as the window size.

Reference:
https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-window-functions

NEW QUESTION 52
- (Exam Topic 3)
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?

A. zone-redundant storage (ZRS)
B. read-access geo-redundant storage (RA-GRS)
C. locally-redundant storage (LRS)
D. geo-redundant storage (GRS)

Answer: B

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

NEW QUESTION 56
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are designing an Azure Stream Analytics solution that will analyze Twitter data.
You need to count the tweets in each 10-second window. The solution must ensure that each tweet is counted only once.
Solution: You use a hopping window that uses a hop size of 10 seconds and a window size of 10 seconds. Does this meet the goal?

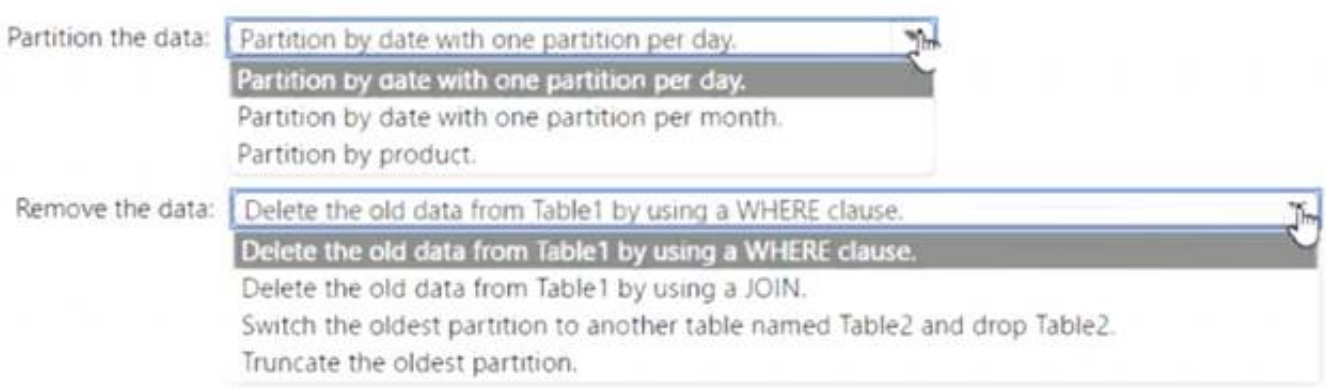
A. Yes
B. No

Answer: B

Explanation:
Instead use a tumbling window. Tumbling windows are a series of fixed-sized, non-overlapping and contiguous time intervals.
Reference:
https://docs.microsoft.com/en-us/stream-analytics-query/tumbling-window-azure-stream-analytics

NEW QUESTION 57
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool named Pool1. Pool1 contains a fact table named Tablet. Table1 contains sales data. Sixty-five million rows of data are added to Table1 monthly.
At the end of each month, you need to remove data that is older than 36 months. The solution must minimize how long it takes to remove the data.
How should you partition Table1, and how should you remove the old data? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

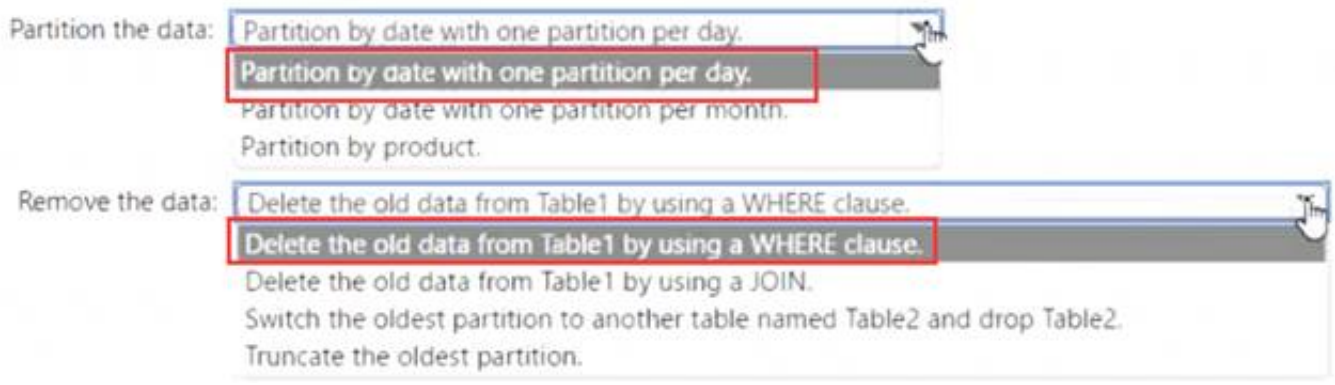


A. Mastered
B. Not Mastered

Answer: A

Explanation:

Answer Area



NEW QUESTION 58
- (Exam Topic 3)
You use Azure Data Lake Storage Gen2.
You need to ensure that workloads can use filter predicates and column projections to filter data at the time the data is read from disk.
Which two actions should you perform? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

A. Reregister the Microsoft Data Lake Store resource provider.
B. Reregister the Azure Storage resource provider.
C. Create a storage policy that is scoped to a container.
D. Register the query acceleration feature.
E. Create a storage policy that is scoped to a container prefix filter.

Answer: BD

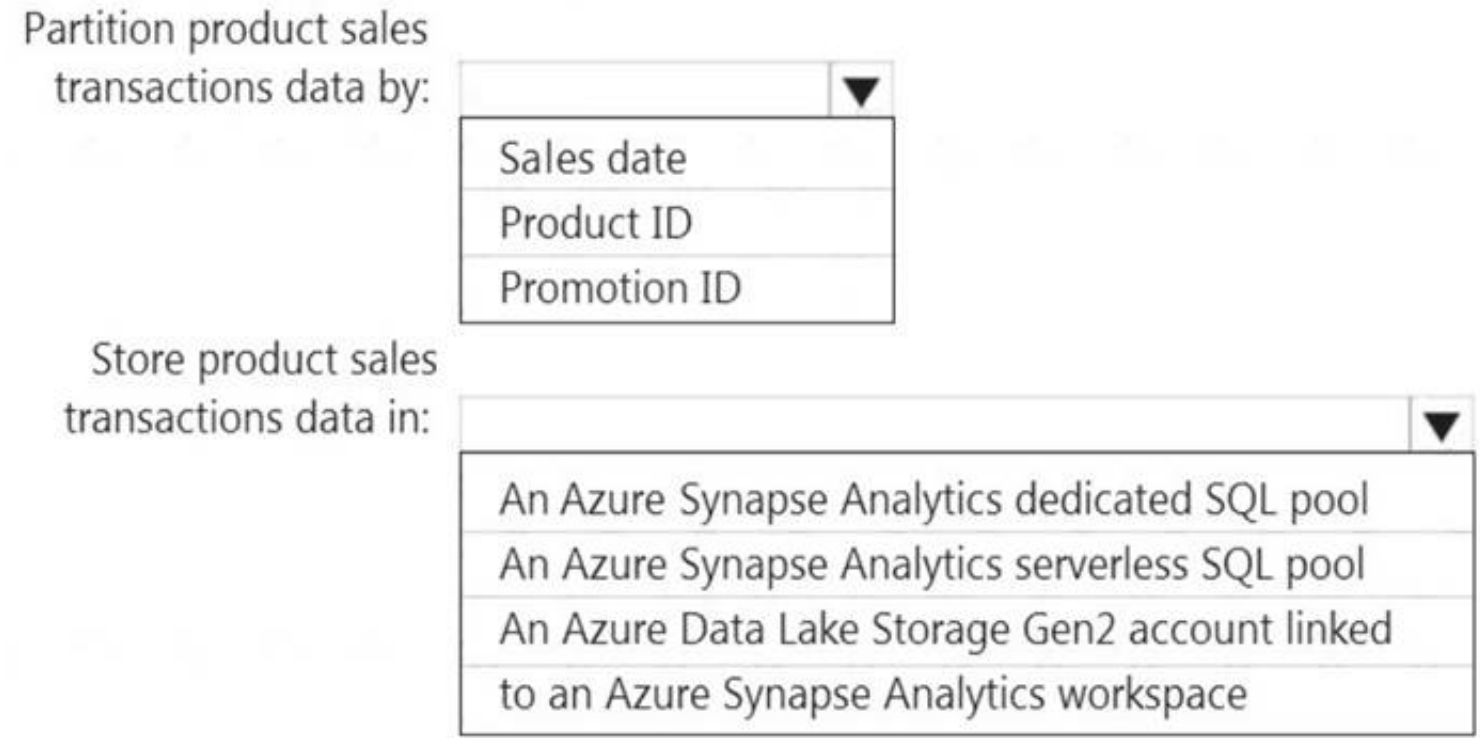
NEW QUESTION 63
- (Exam Topic 2)
What should you do to improve high availability of the real-time data processing solution?

A. Deploy identical Azure Stream Analytics jobs to paired regions in Azure.
B. Deploy a High Concurrency Databricks cluster.
C. Deploy an Azure Stream Analytics job and use an Azure Automation runbook to check the status of the job and to start the job if it stops.
D. Set Data Lake Storage to use geo-redundant storage (GRS).

Answer: A

Explanation:
Guarantee Stream Analytics job reliability during service updates
Part of being a fully managed service is the capability to introduce new service functionality and improvements at a rapid pace. As a result, Stream Analytics can have a service update deploy on a weekly (or more frequent) basis. No matter how much testing is done there is still a risk that an existing, running job may break due to the introduction of a bug. If you are running mission critical jobs, these risks need to be avoided. You can reduce this risk by following Azure's paired region model.
Scenario: The application development team will create an Azure event hub to receive real-time sales data, including store number, date, time, product ID, customer loyalty number, price, and discount amount, from the point of sale (POS) system and output the data to data storage in Azure
Reference:
https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-job-reliability

NEW QUESTION 64
- (Exam Topic 1)
You need to design the partitions for the product sales transactions. The solution must meet the sales transaction dataset requirements.
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.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Sales date
Scenario: Contoso requirements for data integration include:
- Partition data that contains sales transaction records. Partitions must be designed to provide efficient loads by month. Boundary values must belong to the partition on the right.

Box 2: An Azure Synapse Analytics Dedicated SQL pool Scenario: Contoso requirements for data integration include:
- Ensure that data storage costs and performance are predictable.

The size of a dedicated SQL pool (formerly SQL DW) is determined by Data Warehousing Units (DWU). Dedicated SQL pool (formerly SQL DW) stores data in relational tables with columnar storage. This format
significantly reduces the data storage costs, and improves query performance.
Synapse analytics dedicated sql pool Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-overview-wha

NEW QUESTION 66
- (Exam Topic 1)
You need to implement versioned changes to the integration pipelines. The solution must meet the data integration requirements.
In which order should you perform the actions? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

A. Mastered
B. Not Mastered

Answer: A

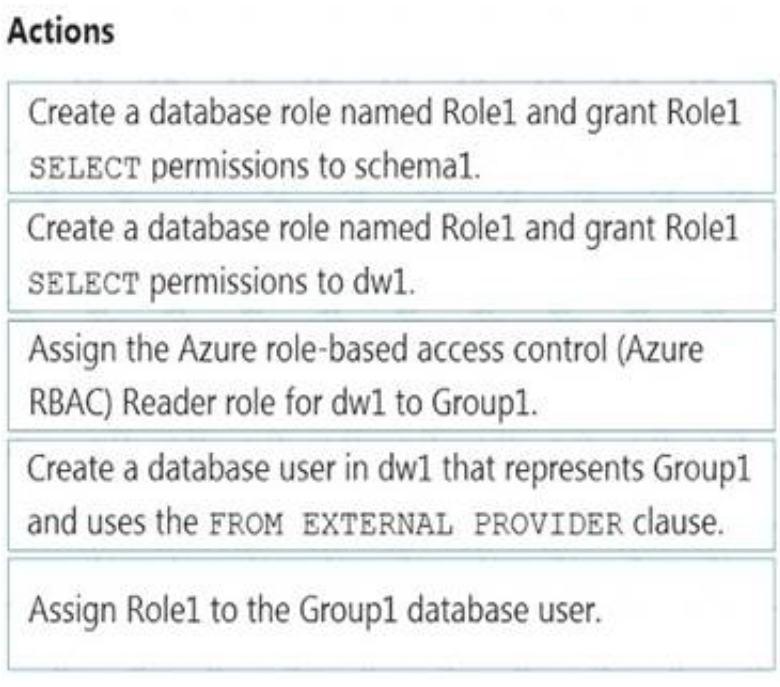
Explanation:
Graphical user interface, application Description automatically generated
Scenario: Identify a process to ensure that changes to the ingestion and transformation activities can be version-controlled and developed independently by multiple data engineers.
Step 1: Create a repository and a main branch
You need a Git repository in Azure Pipelines, TFS, or GitHub with your app. Step 2: Create a feature branch
Step 3: Create a pull request Step 4: Merge changes
Merge feature branches into the main branch using pull requests. Step 5: Publish changes
Reference:
https://docs.microsoft.com/en-us/azure/devops/pipelines/repos/pipeline-options-for-git

NEW QUESTION 68
- (Exam Topic 1)
You need to design a data retention solution for the Twitter feed data records. The solution must meet the customer sentiment analytics requirements.
Which Azure Storage functionality should you include in the solution?
A. change feed
B. soft delete
C. time-based retention
D. lifecycle management

Answer: D

Explanation:
Scenario: Purge Twitter feed data records that are older than two years.
Data sets have unique lifecycles. Early in the lifecycle, people access some data often. But the need for access often drops drastically as the data ages. Some data remains idle in the cloud and is rarely accessed once stored. Some data sets expire days or months after creation, while other data sets are actively read and modified throughout their lifetimes. Azure Storage lifecycle management offers a rule-based policy that you can use to transition blob data to the appropriate access tiers or to expire data at the end of the data lifecycle.
Reference:
https://docs.microsoft.com/en-us/azure/storage/blobs/lifecycle-management-overview

NEW QUESTION 72
- (Exam Topic 3)
You have an Azure Active Directory (Azure AD) tenant that contains a security group named Group1. You have an Azure Synapse Analytics dedicated SQL pool named dw1 that contains a schema named schema1.
You need to grant Group1 read-only permissions to all the tables and views in schema1. The solution must use the principle of least privilege.
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.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Step 1: Create a database role named Role1 and grant Role1 SELECT permissions to schema You need to grant Group1 read-only permissions to all the tables and views in schema1.
Place one or more database users into a database role and then assign permissions to the database role. Step 2: Assign Rol1 to the Group database user
Step 3: Assign the Azure role-based access control (Azure RBAC) Reader role for dw1 to Group1 Reference:
https://docs.microsoft.com/en-us/azure/data-share/how-to-share-from-sql

NEW QUESTION 73
- (Exam Topic 3)
You are developing a solution that will stream to Azure Stream Analytics. The solution will have both streaming data and reference data.
Which input type should you use for the reference data?

A. Azure Cosmos DB
B. Azure Blob storage
C. Azure IoT Hub
D. Azure Event Hubs

Answer: B

Explanation:
Stream Analytics supports Azure Blob storage and Azure SQL Database as the storage layer for Reference Data.
Reference:
https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-use-reference-data

NEW QUESTION 78
- (Exam Topic 3)
You are implementing an Azure Stream Analytics solution to process event data from devices.
The devices output events when there is a fault and emit a repeat of the event every five seconds until the fault is resolved. The devices output a heartbeat event every five seconds after a previous event if there are no faults present.
A sample of the events is shown in the following table.

DeviceID	EventType	EventTime
78cc5ht9-w357-684r-w4fr-kr16h6p9874e	HeartBeat	2020-12-01T19:00.000Z
78cc5ht9-w357-684r-w4fr-kr16h6p9874e	HeartBeat	2020-12-01T19:05.000Z
78cc5ht9-w357-684r-w4fr-kr16h6p9874e	TemperatureSensorFault	2020-12-01T19:07.000Z

You need to calculate the uptime between the faults.
How should you complete the Stream Analytics SQL query? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

```
SELECT

DeviceID,

MIN(EventTime) as StartTime,

MAX(EventTime) as EndTime,

DATEDIFF(second, MIN(EventTime), MAX(EventTime)) AS duration_in_seconds

FROM input TIMESTAMP BY EventTime
```

WHERE EventType='HeartBeat'
WHERE LAG(EventType, 1) OVER (LIMIT DURATION(second,5)) <> EventType
WHERE IsFirst(second,5) = 1

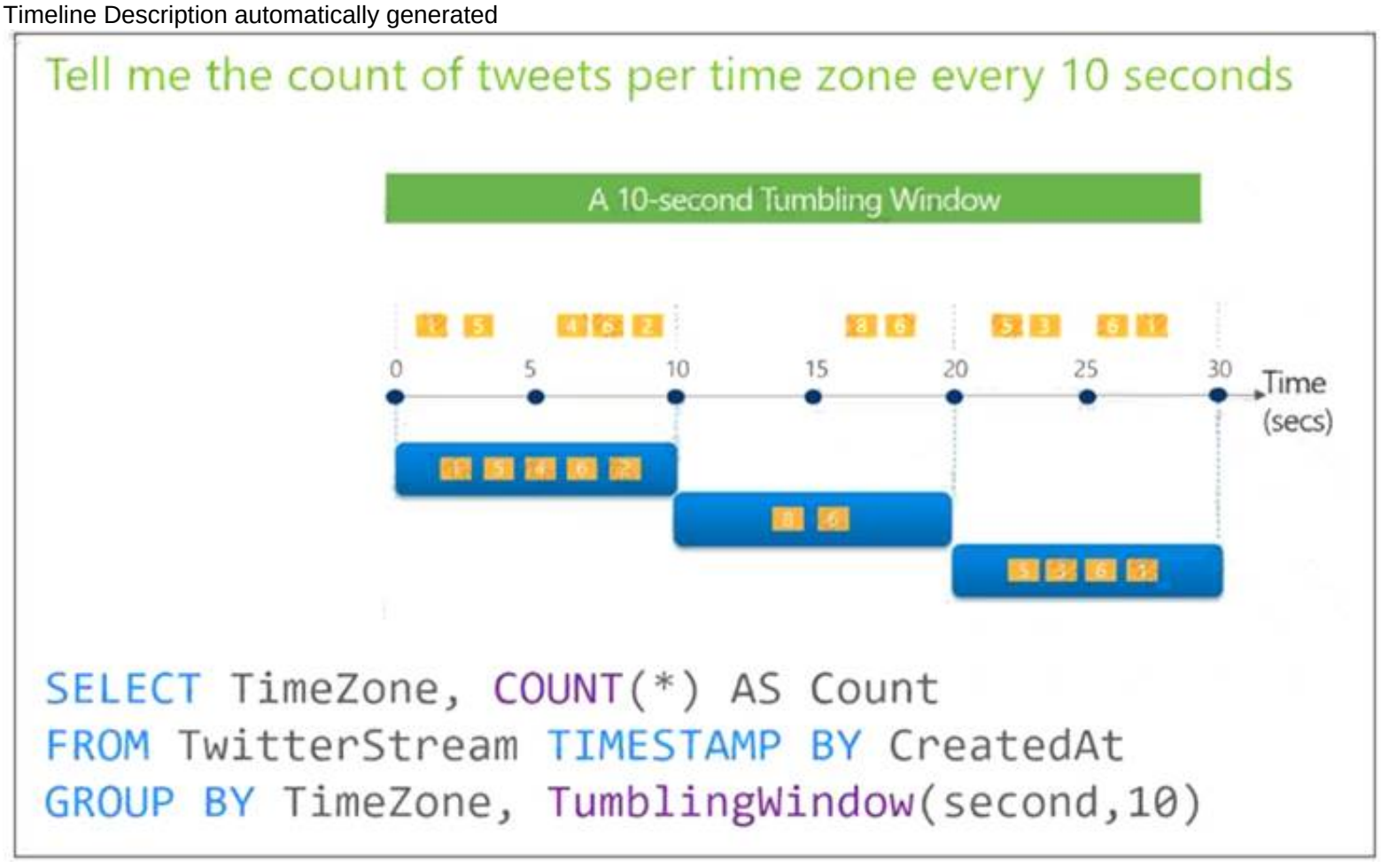
```
GROUP BY

DeviceID
```

,SessionWindow(second, 5, 50000) OVER (PARTITION BY DeviceID)
,TumblingWindow(second,5)
HAVING DATEDIFF(second, MIN(EventTime), MAX(EventTime)) > 5

A. Mastered
B. Not Mastered

Answer: A

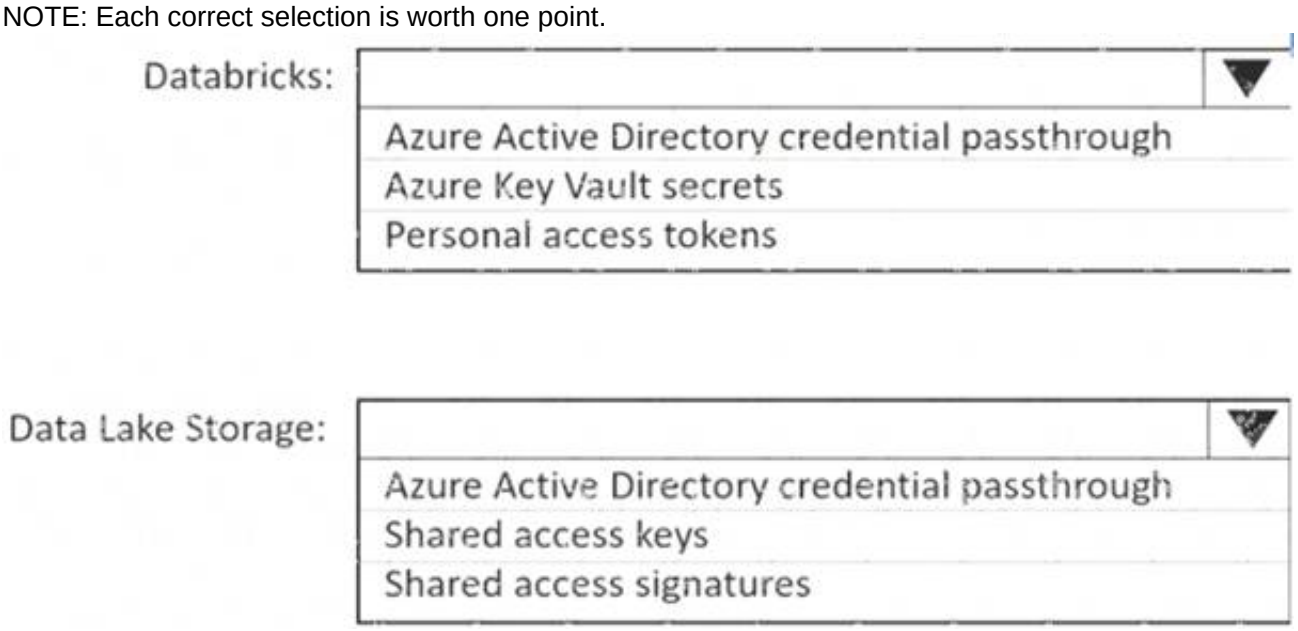
Explanation:
Graphical user interface, text, application Description automatically generated
Box 1: WHERE EventType='HeartBeat' Box 2: ,TumblingWindow(Second, 5)
Tumbling windows are a series of fixed-sized, non-overlapping and contiguous time intervals.
The following diagram illustrates a stream with a series of events and how they are mapped into 10-second tumbling windows.
Timeline Description automatically generated



Reference:
https://docs.microsoft.com/en-us/stream-analytics-query/session-window-azure-stream-analytics https://docs.microsoft.com/en-us/stream-analytics-query/tumbling-window-azure-stream-analytics

NEW QUESTION 82
- (Exam Topic 3)
You use Azure Data Lake Storage Gen2 to store data that data scientists and data engineers will query by using Azure Databricks interactive notebooks. Users will have access only to the Data Lake Storage folders that relate to the projects on which they work.
You need to recommend which authentication methods to use for Databricks and Data Lake Storage to provide the users with the appropriate access. The solution must minimize administrative effort and development effort.
Which authentication method should you recommend for each Azure service? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Table Description automatically generated
Box 1: Personal access tokens
You can use storage shared access signatures (SAS) to access an Azure Data Lake Storage Gen2 storage account directly. With SAS, you can restrict access to a storage account using temporary tokens with fine-grained access control.
You can add multiple storage accounts and configure respective SAS token providers in the same Spark session.
Box 2: Azure Active Directory credential passthrough
You can authenticate automatically to Azure Data Lake Storage Gen1 (ADLS Gen1) and Azure Data Lake Storage Gen2 (ADLS Gen2) from Azure Databricks clusters using the same Azure Active Directory (Azure AD) identity that you use to log into Azure Databricks. When you enable your cluster for Azure Data Lake Storage credential passthrough, commands that you run on that cluster can read and write data in Azure Data Lake Storage without requiring you to configure service principal credentials for access to storage.
After configuring Azure Data Lake Storage credential passthrough and creating storage containers, you can access data directly in Azure Data Lake Storage Gen1 using an adl:// path and Azure Data Lake Storage Gen2 using an abfss:// path:
Reference:
https://docs.microsoft.com/en-us/azure/databricks/data/data-sources/azure/adls-gen2/azure-datalake-gen2-sas-ac https://docs.microsoft.com/en-us/azure/databricks/security/credential-passthrough/adls-passthrough

NEW QUESTION 85
- (Exam Topic 3)
You have an enterprise data warehouse in Azure Synapse Analytics.
You need to monitor the data warehouse to identify whether you must scale up to a higher service level to accommodate the current workloads
Which is the best metric to monitor?
More than one answer choice may achieve the goal. Select the BEST answer.

A. Data 10 percentage
B. CPU percentage
C. DWU used
D. DWU percentage

Answer: C

NEW QUESTION 87
- (Exam Topic 3)
You are designing a sales transactions table in an Azure Synapse Analytics dedicated SQL pool. The table will contains approximately 60 million rows per month and will be partitioned by month. The table will use a clustered column store index and round-robin distribution.
Approximately how many rows will there be for each combination of distribution and partition?

A. 1 million
B. 5 million
C. 20 million
D. 60 million

Answer: D

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

NEW QUESTION 88
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool named SA1 that contains a table named Table1. You need to identify tables that have a high percentage of deleted rows. What should you run?
A)

```
sys.pdw_nodes_column_store_segments
```

B)

```
sys.dm_db_column_store_row_group_operational_stats
```

C)

```
sys.pdw_nodes_column_store_row_groups
```

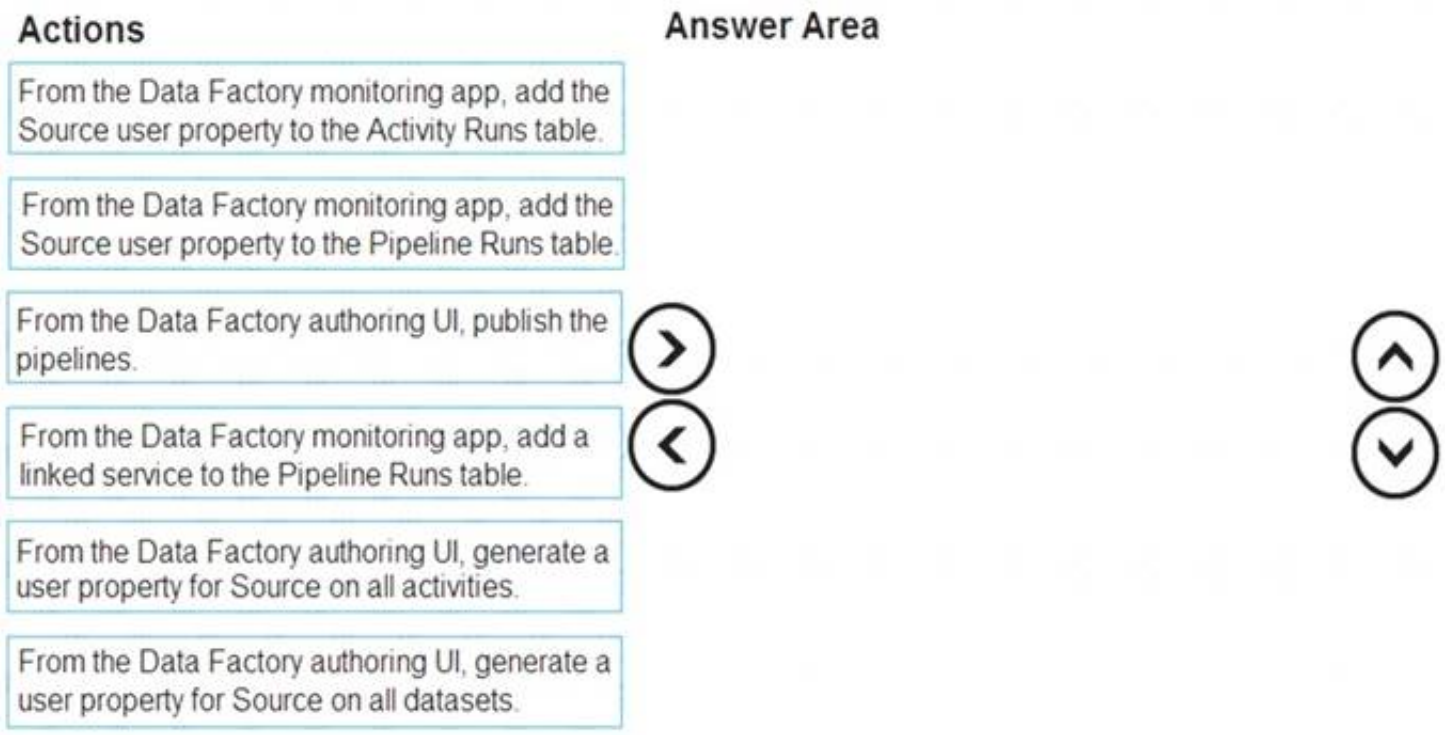
D)

```
sys.dm_db_column_store_row_group_physical_stats
```

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

Answer: B

NEW QUESTION 89
- (Exam Topic 3)
You plan to monitor an Azure data factory by using the Monitor & Manage app.
You need to identify the status and duration of activities that reference a table in a source database.
Which three actions should you perform in sequence? To answer, move the actions from the list of actions to the answer are and arrange them in the correct order.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Step 1: From the Data Factory authoring UI, generate a user property for Source on all activities. Step 2: From the Data Factory monitoring app, add the Source user property to Activity Runs table.
You can promote any pipeline activity property as a user property so that it becomes an entity that you can
monitor. For example, you can promote the Source and Destination properties of the copy activity in your pipeline as user properties. You can also select Auto Generate to generate the Source and Destination user properties for a copy activity.
Step 3: From the Data Factory authoring UI, publish the pipelines
Publish output data to data stores such as Azure SQL Data Warehouse for business intelligence (BI) applications to consume.
References:
https://docs.microsoft.com/en-us/azure/data-factory/monitor-visually

NEW QUESTION 92
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You have an Azure Synapse Analytics dedicated SQL pool that contains a table named Table1. You have files that are ingested and loaded into an Azure Data Lake Storage Gen2 container named
container1.
You plan to insert data from the files in container1 into Table1 and transform the data. Each row of data in the files will produce one row in the serving layer of Table1.
You need to ensure that when the source data files are loaded to container1, the DateTime is stored as an additional column in Table1.
Solution: You use a dedicated SQL pool to create an external table that has an additional DateTime column. Does this meet the goal?

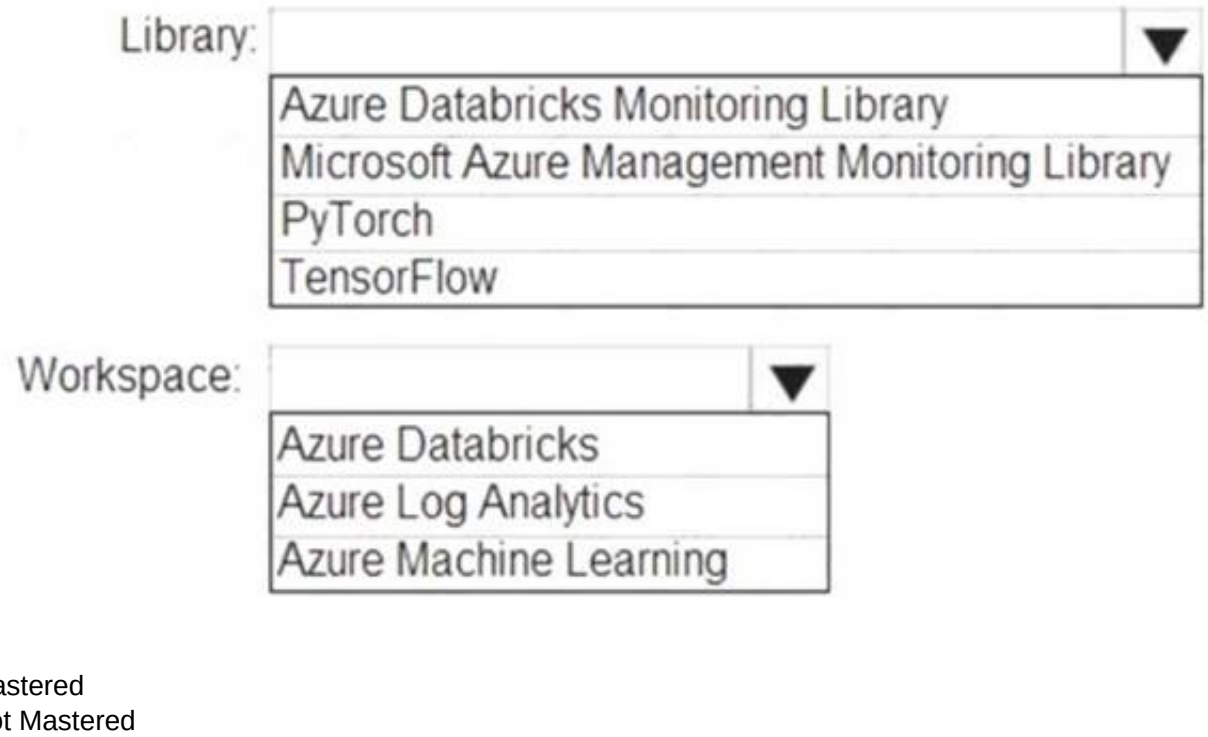
A. Yes
B. No

Answer: B

Explanation:

Instead use the derived column transformation to generate new columns in your data flow or to modify existing fields.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/data-flow-derived-column

NEW QUESTION 96
- (Exam Topic 3)
You need to collect application metrics, streaming query events, and application log messages for an Azure Databrick cluster.
Which type of library and workspace should you implement? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

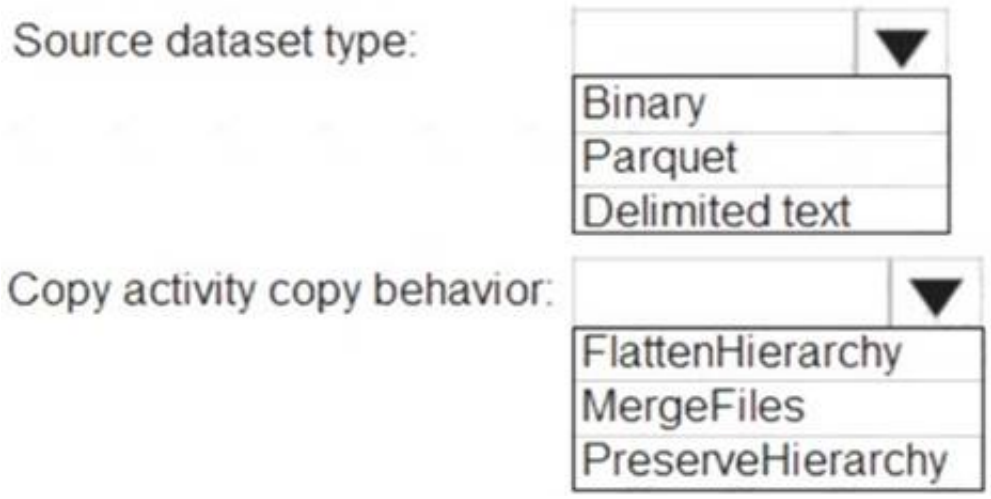
Answer: A

Explanation:
You can send application logs and metrics from Azure Databricks to a Log Analytics workspace. It uses the Azure Databricks Monitoring Library, which is available on GitHub.
References:
https://docs.microsoft.com/en-us/azure/architecture/databricks-monitoring/application-logs

NEW QUESTION 99
- (Exam Topic 3)
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.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Graphical user interface, text, application, chat or text message Description automatically generated
Box 1: Parquet
For Parquet datasets, the type property of the copy activity source must be set to ParquetSource. 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.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/format-parquet https://docs.microsoft.com/en-us/azure/data-factory/connector-azure-data-lake-storage

NEW QUESTION 104
- (Exam Topic 3)
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?

A. CustomerSegment
B. AccountType
C. TransactionType
D. TransactionMonth

Answer: C

Explanation:
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.

NEW QUESTION 105
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool named pool1.
You need to perform a monthly audit of SQL statements that affect sensitive data. The solution must minimize administrative effort.
What should you include in the solution?

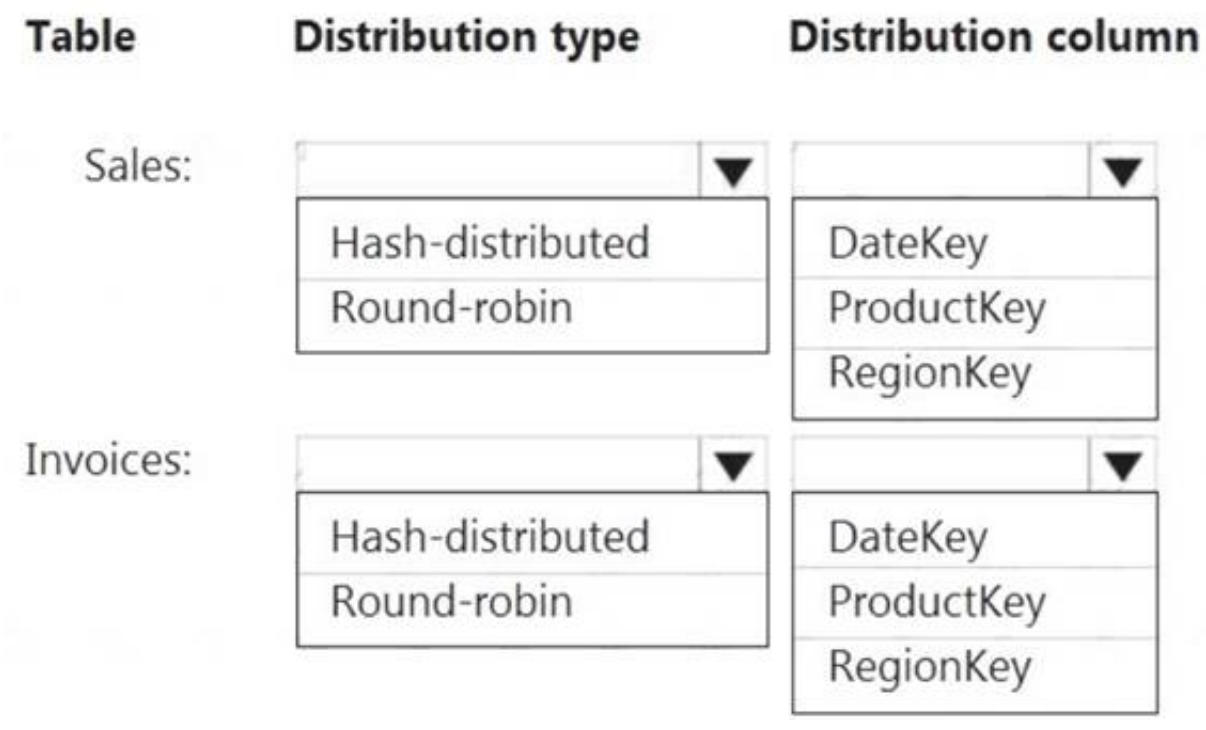
A. Microsoft Defender for SQL
B. dynamic data masking
C. sensitivity labels
D. workload management

Answer: B

NEW QUESTION 107
- (Exam Topic 3)
You have an on-premises data warehouse that includes the following fact tables. Both tables have the following columns: DateKey, ProductKey, RegionKey. There are 120 unique product keys and 65 unique region keys.

Table	Comments
Sales	The table is 600 GB in size. DateKey is used extensively in the WHERE clause in queries. ProductKey is used extensively in join operations. RegionKey is used for grouping. Severity-five percent of records relate to one of 40 regions.
Invoice	The table is 6 GB in size. DateKey and ProductKey are used extensively in the WHERE clause in queries. RegionKey is used for grouping.

Queries that use the data warehouse take a long time to complete.
You plan to migrate the solution to use Azure Synapse Analytics. You need to ensure that the Azure-based solution optimizes query performance and minimizes processing skew.
What should you recommend? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Hash-distributed
Box 2: ProductKey
ProductKey is used extensively in joins.
Hash-distributed tables improve query performance on large fact tables. Box 3: Round-robin
Box 4: RegionKey
Round-robin tables are useful for improving loading speed.
Consider using the round-robin distribution for your table in the following scenarios:

- When getting started as a simple starting point since it is the default
- If there is no obvious joining key
- If there is not good candidate column for hash distributing the table
- If the table does not share a common join key with other tables
- If the join is less significant than other joins in the query
- When the table is a temporary staging table

Note: A distributed table appears as a single table, but the rows are actually stored across 60 distributions. The rows are distributed with a hash or round-robin algorithm.
Reference:
https://docs.microsoft.com/en-us/azure/sql-data-warehouse/sql-data-warehouse-tables-distribute

NEW QUESTION 110
- (Exam Topic 3)
You plan to perform batch processing in Azure Databricks once daily. Which type of Databricks cluster should you use?

A. High Concurrency
B. automated
C. interactive

Answer: C

Explanation:
Azure Databricks has two types of clusters: interactive and automated. You use interactive clusters to analyze data collaboratively with interactive notebooks. You use automated clusters to run fast and robust automated jobs.
Example: Scheduled batch workloads (data engineers running ETL jobs)
This scenario involves running batch job JARs and notebooks on a regular cadence through the Databricks platform.
The suggested best practice is to launch a new cluster for each run of critical jobs. This helps avoid any issues (failures, missing SLA, and so on) due to an existing workload (noisy neighbor) on a shared cluster.
Reference:
https://docs.databricks.com/administration-guide/cloud-configurations/aws/cmbp.html#scenario-3-scheduled-bat

NEW QUESTION 114
- (Exam Topic 3)
You are designing a statistical analysis solution that will use custom proprietary1 Python functions on near real-time data from Azure Event Hubs.
You need to recommend which Azure service to use to perform the statistical analysis. The solution must minimize latency.
What should you recommend?

A. Azure Stream Analytics
B. Azure SQL Database
C. Azure Databricks
D. Azure Synapse Analytics

Answer: A

Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/event-hubs/process-data-azure-stream-analytics

NEW QUESTION 116
- (Exam Topic 3)
You need to implement a Type 3 slowly changing dimension (SCD) for product category data in an Azure Synapse Analytics dedicated SQL pool.
You have a table that was created by using the following Transact-SQL statement.

```
CREATE TABLE [DBO].[DimProduct] (
[ProductKey] [int] IDENTITY(1,1) NOT NULL,
[ProductSourceID] [int] NOT NULL,
[ProductName] [nvarchar] (100) NULL,
[Color] [nvarchar] (15) NULL,
[SellStartDate] [date] NOT NULL,
[SellEndDate] [date] NULL,
[RowInsertedDateTime] [datetime] NOT NULL,
[RowUpdatedDateTime] [datetime] NOT NULL,
[ETLAuditID] [int] NOT NULL
)
```

Which two columns should you add to the table? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.
A. [EffectiveScarcDate] [datetime] NOT NULL,
B. [CurrentProduccCacegory] [nvarchar] (100) NOT NULL,
C. [EffectiveEndDace] [dacecime] NULL,
D. [ProductCategory] [nvarchar] (100) NOT NULL,
E. [OriginalProduccCacegory] [nvarchar] (100) NOT NULL,

Answer: BE

Explanation:
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.
This type of tracking may be used for one or two columns in a dimension table. It is not common to use it for many members of the same table. It is often used in combination with Type 1 or Type 2 members.
Graphical user interface, application, email Description automatically generated

CustomerID	FirstName	LastName	CurrentEmail	OriginalEmail	CompanyName	InsertedDate	ModifiedDate
2	Keith	Harris	keith0@aw.com	keith0@aw.com	Progressive Sports	2021-03-20	2021-03-20
3	Donna	Carreras	donna0@aw.com	donna0@aw.com	A Bike Store	2021-03-20	2021-03-20

CustomerID	FirstName	LastName	CurrentEmail	OriginalEmail	CompanyName	InsertedDate	ModifiedDate
2	Keith	Harris	keith0@aw.com	keith0@aw.com	Progressive Sports	2021-03-20	2021-03-20
3	Donna	Carreras	dc3@aw.com	donna0@aw.com	A Bike Store	2021-03-20	2021-03-22

Reference:
https://k21academy.com/microsoft-azure/azure-data-engineer-dp203-q-a-day-2-live-session-review/

NEW QUESTION 118
- (Exam Topic 3)
You have an Azure Databricks workspace and an Azure Data Lake Storage Gen2 account named storage! New files are uploaded daily to storage1.
• Incrementally process new files as they are upkorage1 as a structured streaming source. The solution must meet the following requirements:
• Minimize implementation and maintenance effort.
• Minimize the cost of processing millions of files.
• Support schema inference and schema drift. Which should you include in the recommendation?

A. Auto Loader
B. Apache Spark FileStreamSource
C. COPY INTO
D. Azure Data Factory

Answer: D

NEW QUESTION 122
- (Exam Topic 3)
You are designing a dimension table in an Azure Synapse Analytics dedicated SQL pool.
You need to create a surrogate key for the table. The solution must provide the fastest query performance. What should you use for the surrogate key?

A. a GUID column
B. a sequence object
C. an IDENTITY column

Answer: C

Explanation:
Use IDENTITY to create surrogate keys using dedicated SQL pool in AzureSynapse Analytics.
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://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-identity

NEW QUESTION 124
- (Exam Topic 3)
You have an Azure Data Lake Storage Gen 2 account named storage1.
You need to recommend a solution for accessing the content in storage1. The solution must meet the following requirements:

- List and read permissions must be granted at the storage account level.
- Additional permissions can be applied to individual objects in storage1.
- Security principals from Microsoft Azure Active Directory (Azure AD), part of Microsoft Entra, must be used for authentication.

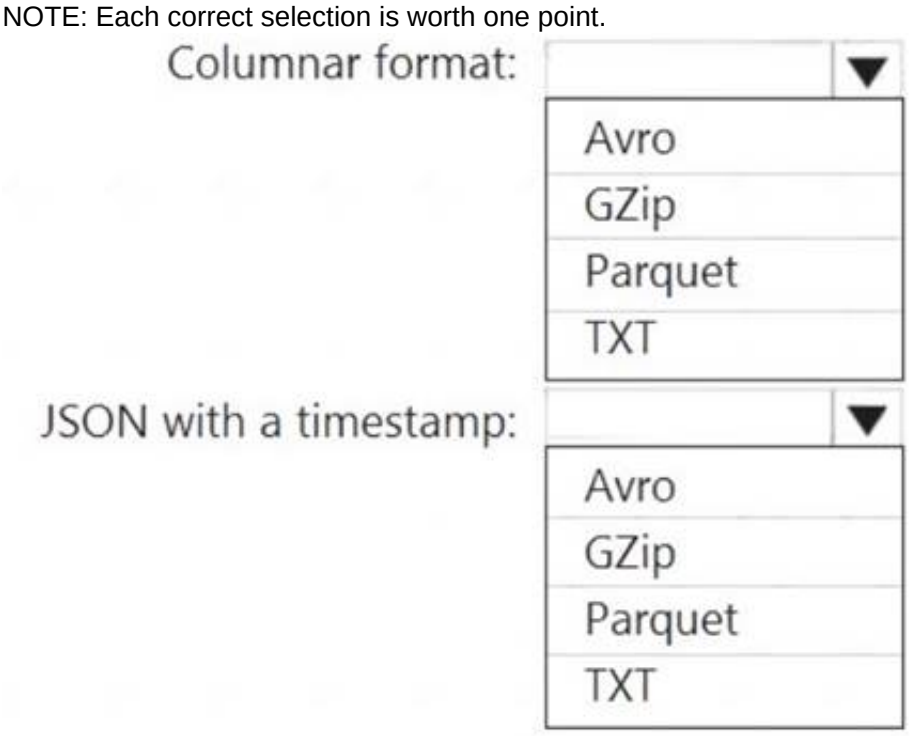
What should you use? To answer, drag the appropriate components to the correct requirements. Each component may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: Role-based access control (RBAC) roles
List and read permissions must be granted at the storage account level.
Security principals from Microsoft Azure Active Directory (Azure AD), part of Microsoft Entra, must be used for authentication.
Role-based access control (Azure RBAC)
Azure RBAC uses role assignments to apply sets of permissions to security principals. A security principal is an object that represents a user, group, service principal, or managed identity that is defined in Azure Active Directory (AD). A permission set can give a security principal a "coarse-grain" level of access such as read or write access to all of the data in a storage account or all of the data in a container.
Box 2: Access control lists (ACLs)
Additional permissions can be applied to individual objects in storage1. Access control lists (ACLs)
ACLs give you the ability to apply "finer grain" level of access to directories and files. An ACL is a permission construct that contains a series of ACL entries. Each ACL entry associates security principal with an access level.
Reference: https://learn.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-access-control-model

NEW QUESTION 129
- (Exam Topic 3)
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.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
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

NEW QUESTION 131
- (Exam Topic 3)
You have an Azure subscription.
You need to deploy an Azure Data Lake Storage Gen2 Premium account. The solution must meet the following requirements:
• Blobs that are older than 365 days must be deleted.
• Administrator efforts must be minimized.
• Costs must be minimized
What should you use? To answer, select the appropriate options in the answer area. NOTE Each correct selection is worth one point.

Answer Area

A. Mastered
B. Not Mastered

Answer: A

Explanation:
https://learn.microsoft.com/en-us/azure/storage/blobs/premium-tier-for-data-lake-storage

NEW QUESTION 136
- (Exam Topic 3)
You have an Azure Storage account and a data warehouse in Azure Synapse Analytics in the UK South region. You need to copy blob data from the storage account to the data warehouse by using Azure Data Factory. The solution must meet the following requirements:

- Ensure that the data remains in the UK South region at all times.
- Minimize administrative effort.

Which type of integration runtime should you use?

A. Azure integration runtime
B. Azure-SSIS integration runtime
C. Self-hosted integration runtime

Answer: A

Explanation:

IR type	Public network	Private network
Azure	Data Flow Data movement Activity dispatch	
Self-hosted	Data movement Activity dispatch	Data movement Activity dispatch
Azure-SSIS	SSIS package execution	SSIS package execution

Reference:
https://docs.microsoft.com/en-us/azure/data-factory/concepts-integration-runtime

NEW QUESTION 140
- (Exam Topic 3)
You have an Azure subscription linked to an Azure Active Directory (Azure AD) tenant that contains a service principal named ServicePrincipal1. The subscription contains an Azure Data Lake Storage account named adls1. Adls1 contains a folder named Folder2 that has a URI of https://adls1.dfs.core.windows.net/container1/Folder1/Folder2/.
ServicePrincipal1 has the access control list (ACL) permissions shown in the following table.

Resource	Permission
container1	Access – Execute
Folder1	Access – Execute
Folder2	Access – Read

You need to ensure that ServicePrincipal1 can perform the following actions:
- Traverse child items that are created in Folder2.
- Read files that are created in Folder2.

The solution must use the principle of least privilege.
Which two permissions should you grant to ServicePrincipal1 for Folder2? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Access - Read
B. Access - Write
C. Access - Execute
D. Default-Read
E. Default - Write
F. Default - Execute

Answer: DF

Explanation:
Execute (X) permission is required to traverse the child items of a folder.
There are two kinds of access control lists (ACLs), Access ACLs and Default ACLs. Access ACLs: These control access to an object. Files and folders both have Access ACLs.
Default ACLs: A "template" of ACLs associated with a folder that determine the Access ACLs for any child items that are created under that folder. Files do not have Default ACLs.
Reference:
https://docs.microsoft.com/en-us/azure/data-lake-store/data-lake-store-access-control

NEW QUESTION 142
- (Exam Topic 3)
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.
```
ALTER EXTERNAL TABLE [Ext].[Items]
  ADD [ItemID] int;
```

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

C.
```
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
);
```

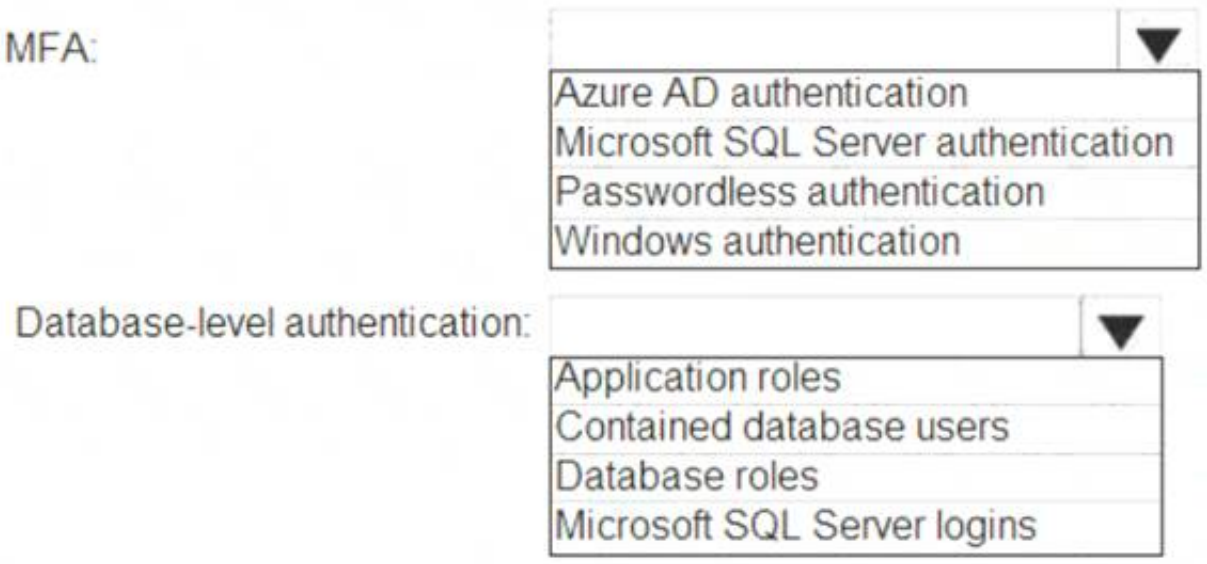
D.
```
ALTER TABLE [Ext].[Items]
ADD [ItemID] int;
```

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

Answer: C

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

NEW QUESTION 143
- (Exam Topic 3)
You have an Azure subscription that is linked to a hybrid Azure Active Directory (Azure AD) tenant. The subscription contains an Azure Synapse Analytics SQL pool named Pool1.
You need to recommend an authentication solution for Pool1. The solution must support multi-factor authentication (MFA) and database-level authentication.
Which authentication solution or solutions should you include in the recommendation? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Graphical user interface, text, application, chat or text message Description automatically generated
Box 1: Azure AD authentication
Azure Active Directory authentication supports Multi-Factor authentication through Active Directory Universal Authentication.
Box 2: Contained database users
Azure Active Directory Uses contained database users to authenticate identities at the database level. Reference:

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

NEW QUESTION 148
- (Exam Topic 3)
You are designing an Azure Synapse Analytics dedicated SQL pool.
Groups will have access to sensitive data in the pool as shown in the following table.

Name	Enhanced access
Executives	No access to sensitive data
Analysts	Access to in-region sensitive data
Engineers	Access to all numeric sensitive data

You have policies for the sensitive data. The policies vary be region as shown in the following table.

Region	Data considered sensitive
RegionA	Financial, Personally Identifiable Information (PII)
RegionB	Financial, Personally Identifiable Information (PII), medical
RegionC	Financial, medical

You have a table of patients for each region. The tables contain the following potentially sensitive columns.

Name	Sensitive data	Description
CardOnFile	Financial	Debit/credit card number for charges
Height	Medical	Patient's height in cm
ContactEmail	PII	Email address for secure communications

You are designing dynamic data masking to maintain compliance.
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.

Statements	Yes	No
Analysts in RegionA require dynamic data masking rules for [Patients_RegionA].	○	○
Engineers in RegionC require a dynamic data masking rule for [Patients_RegionA], [Height]	○	○
Engineers in RegionB require a dynamic data masking rule for [Patients_RegionB], [Height]	○	○

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Text Description automatically generated
Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/dynamic-data-masking-overview

NEW QUESTION 150
- (Exam Topic 3)
You are designing a security model for an Azure Synapse Analytics dedicated SQL pool that will support multiple companies. You need to ensure that users from each company can view only the data of their respective company. Which two objects should you include in the solution? Each correct answer presents part of the solution
NOTE: Each correct selection it worth one point.

A. a custom role-based access control (RBAC) role.
B. asymmetric keys
C. a predicate function
D. a column encryption key
E. a security policy

Answer: AE

Explanation:
Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/security/row-level-security https://docs.microsoft.com/en-us/azure/synapse-analytics/security/synapse-workspace-access-control-overview

NEW QUESTION 154
- (Exam Topic 3)

You are designing an Azure Data Lake Storage Gen2 structure for telemetry data from 25 million devices distributed across seven key geographical regions. Each minute, the devices will send a JSON payload of metrics to Azure Event Hubs.
You need to recommend a folder structure for the data. The solution must meet the following requirements:

- Data engineers from each region must be able to build their own pipelines for the data of their respective region only.
- The data must be processed at least once every 15 minutes for inclusion in Azure Synapse Analytics serverless SQL pools.

How should you recommend completing the structure? 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.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: {YYYY}/{MM}/{DD}/{HH}
Date Format [optional]: if the date token is used in the prefix path, you can select the date format in which your files are organized. Example: YYYY/MM/DD
Time Format [optional]: if the time token is used in the prefix path, specify the time format in which your files are organized. Currently the only supported value is HH.
Box 2: {regionID}/raw
Data engineers from each region must be able to build their own pipelines for the data of their respective region only.
Box 3: {deviceID} Reference:
https://github.com/paolosalvatori/StreamAnalyticsAzureDataLakeStore/blob/master/README.md

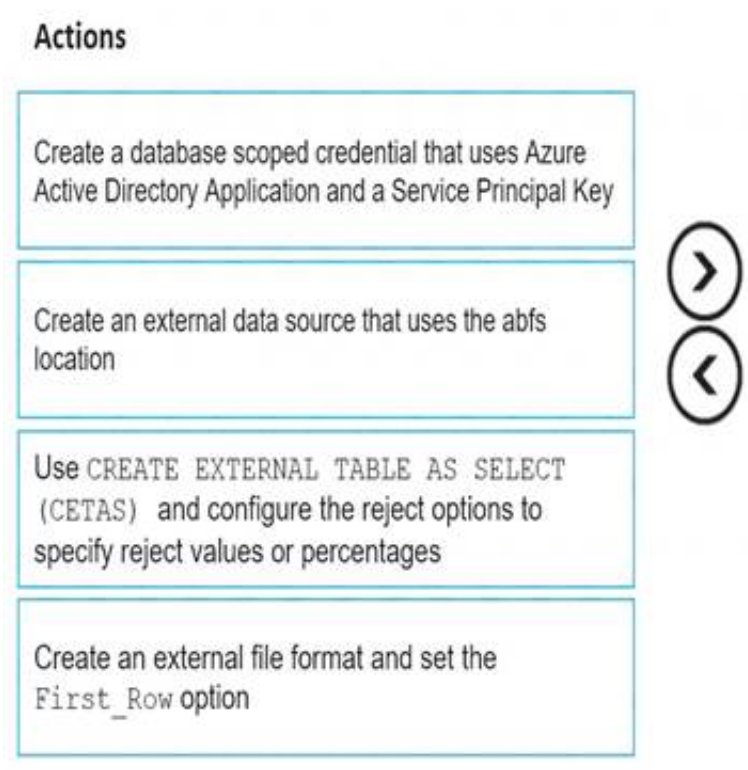
NEW QUESTION 159
- (Exam Topic 3)
You have the following Azure Data Factory pipelines
• ingest Data from System 1
• Ingest Data from System2
• Populate Dimensions
• Populate facts
ingest Data from System1 and Ingest Data from System1 have no dependencies. Populate Dimensions must execute after Ingest Data from System1 and Ingest Data from System* Populate Facts must execute after the Populate Dimensions pipeline. All the pipelines must execute every eight hours.
What should you do to schedule the pipelines for execution?

A. Add an event trigger to all four pipelines.
B. Create a parent pipeline that contains the four pipelines and use an event trigger.
C. Create a parent pipeline that contains the four pipelines and use a schedule trigger.
D. Add a schedule trigger to all four pipelines.

Answer: C

Explanation:
Schedule trigger: A trigger that invokes a pipeline on a wall-clock schedule. Reference:
https://docs.microsoft.com/en-us/azure/data-factory/concepts-pipeline-execution-triggers

NEW QUESTION 164
- (Exam Topic 3)
You have data stored in thousands of CSV files in Azure Data Lake Storage Gen2. Each file has a header row followed by a properly formatted carriage return (/r) and line feed (/n).
You are implementing a pattern that batch loads the files daily into an enterprise data warehouse in Azure Synapse Analytics by using PolyBase.
You need to skip the header row when you import the files into the data warehouse. Before building the loading pattern, you need to prepare the required database objects in Azure Synapse Analytics.
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: Each correct selection is worth one point



A. Mastered
B. Not Mastered

Answer: A

Explanation:
A picture containing timeline Description automatically generated
Step 1: Create an external data source that uses the abfs location
Create External Data Source to reference Azure Data Lake Store Gen 1 or 2 Step 2: Create an external file format and set the First_Row option.
Create External File Format.
Step 3: Use CREATE EXTERNAL TABLE AS SELECT (CETAS) and configure the reject options to specify reject values or percentages
To use PolyBase, you must create external tables to reference your external data. Use reject options.
Note: REJECT options don't apply at the time this CREATE EXTERNAL TABLE AS SELECT statement is run. Instead, they're specified here so that the database can use them at a later time when it imports data from the external table. Later, when the CREATE TABLE AS SELECT statement selects data from the external table, the database will use the reject options to determine the number or percentage of rows that can fail to import before it stops the import.
Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/polybase/polybase-t-sql-objects https://docs.microsoft.com/en-us/sql/t-sql/statements/create-external-table-as-select-transact-sql

NEW QUESTION 169
- (Exam Topic 3)
You have a SQL pool in Azure Synapse.
You discover that some queries fail or take a long time to complete. You need to monitor for transactions that have rolled back.
Which dynamic management view should you query?

A. sys.dm_pdw_request_steps
B. sys.dm_pdw_nodes_tran_database_transactions
C. sys.dm_pdw_waits
D. sys.dm_pdw_exec_sessions

Answer: B

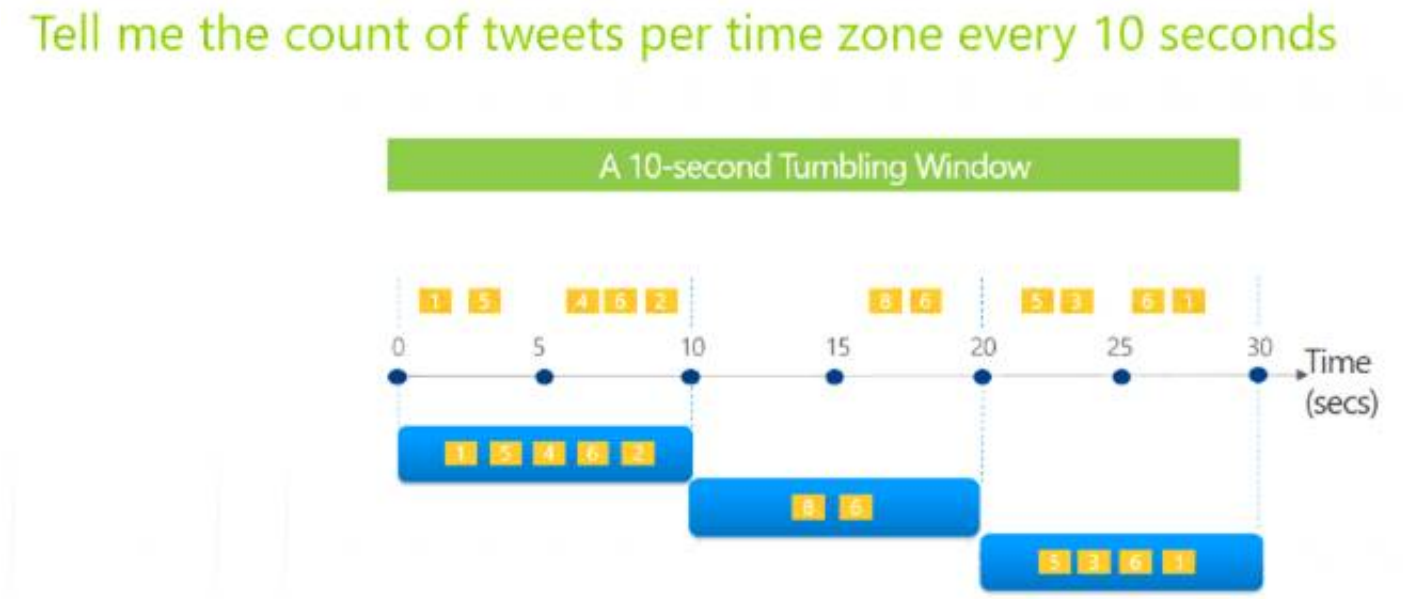
Explanation:
You can use Dynamic Management Views (DMVs) to monitor your workload including investigating query execution in SQL pool.
If your queries are failing or taking a long time to proceed, you can check and monitor if you have any transactions rolling back.
Example:
-- Monitor rollback SELECT
SUM(CASE WHEN t.database_transaction_next_undo_lsn IS NOT NULL THEN 1 ELSE 0 END), t.pdw_node_id,
nod.[type]
FROM sys.dm_pdw_nodes_tran_database_transactions t
JOIN sys.dm_pdw_nodes nod ON t.pdw_node_id = nod.pdw_node_id GROUP BY t.pdw_node_id, nod.[type]
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-manage-monit

NEW QUESTION 170
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are designing an Azure Stream Analytics solution that will analyze Twitter data.
You need to count the tweets in each 10-second window. The solution must ensure that each tweet is counted only once.
Solution: You use a tumbling window, and you set the window size to 10 seconds. Does this meet the goal?

A. Yes
B. No

Answer: A

Explanation:
Tumbling windows are a series of fixed-sized, non-overlapping and contiguous time intervals. The following diagram illustrates a stream with a series of events and how they are mapped into 10-second tumbling windows.



Reference:
https://docs.microsoft.com/en-us/stream-analytics-query/tumbling-window-azure-stream-analytics

NEW QUESTION 173
- (Exam Topic 3)
You have an Azure subscription that contains an Azure Data Lake Storage account named myaccount1. The myaccount1 account contains two containers named container1 and contained. The subscription is linked to an Azure Active Directory (Azure AD) tenant that contains a security group named Group1.
You need to grant Group1 read access to contamer1. The solution must use the principle of least privilege. Which role should you assign to Group1?

A. Storage Blob Data Reader for container1
B. Storage Table Data Reader for container1
C. Storage Blob Data Reader for myaccount1
D. Storage Table Data Reader for myaccount1

Answer: A

NEW QUESTION 178
- (Exam Topic 3)
You create an Azure Databricks cluster and specify an additional library to install. When you attempt to load the library to a notebook, the library in not found.
You need to identify the cause of the issue. What should you review?

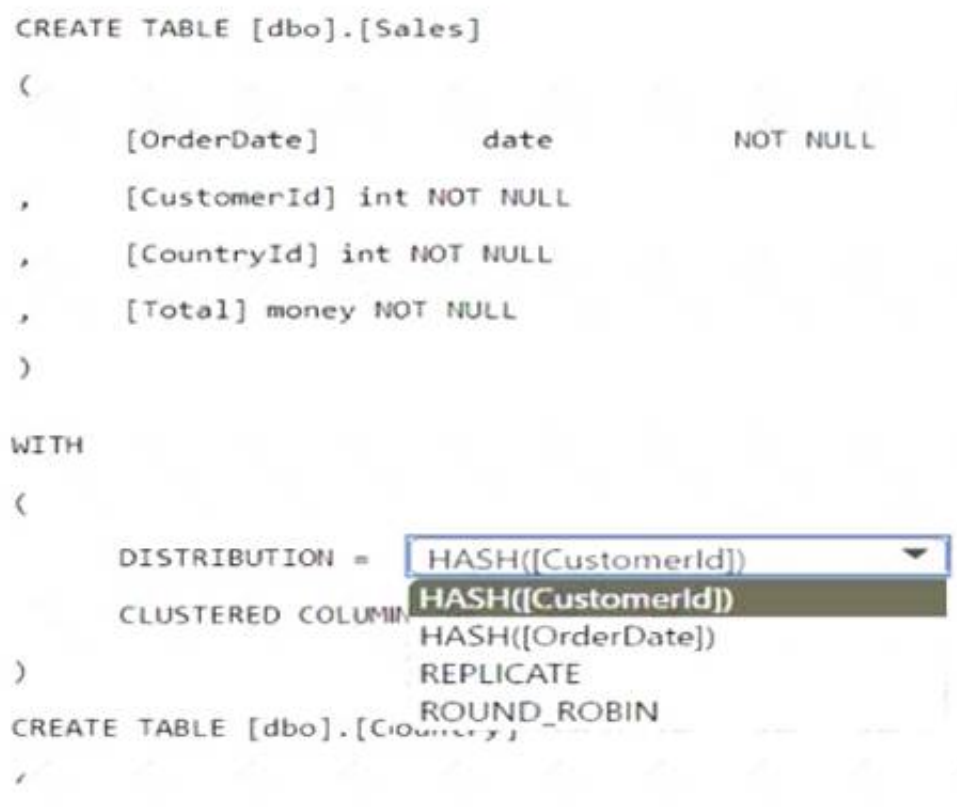
A. notebook logs
B. cluster event logs
C. global init scripts logs
D. workspace logs

Answer: C

Explanation:
Cluster-scoped Init Scripts: Init scripts are shell scripts that run during the startup of each cluster node before the Spark driver or worker JVM starts. Databricks customers use init scripts for various purposes such as installing custom libraries, launching background processes, or applying enterprise security policies.
Logs for Cluster-scoped init scripts are now more consistent with Cluster Log Delivery and can be found in the same root folder as driver and executor logs for the cluster.
Reference:
https://databricks.com/blog/2018/08/30/introducing-cluster-scoped-init-scripts.html

NEW QUESTION 183
- (Exam Topic 3)
You have an Azure subscription that contains an Azure Synapse Analytics dedicated SQL pool. You plan to deploy a solution that will analyze sales data and include the following:
• A table named Country that will contain 195 rows
• A table named Sales that will contain 100 million rows
• A query to identify total sales by country and customer from the past 30 days
You need to create the tables. The solution must maximize query performance.
How should you complete the script? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Answer Area



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Answer Area

NEW QUESTION 188
- (Exam Topic 3)
You have a SQL pool in Azure Synapse.
A user reports that queries against the pool take longer than expected to complete. You need to add monitoring to the underlying storage to help diagnose the issue.
Which two metrics should you monitor? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

A. Cache used percentage
B. DWU Limit
C. Snapshot Storage Size
D. Active queries
E. Cache hit percentage

Answer: AE

Explanation:
A: Cache used is the sum of all bytes in the local SSD cache across all nodes and cache capacity is the sum of the storage capacity of the local SSD cache across all nodes.
E: Cache hits is the sum of all columnstore segments hits in the local SSD cache and cache miss is the columnstore segments misses in the local SSD cache summed across all nodes
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-concept-resou

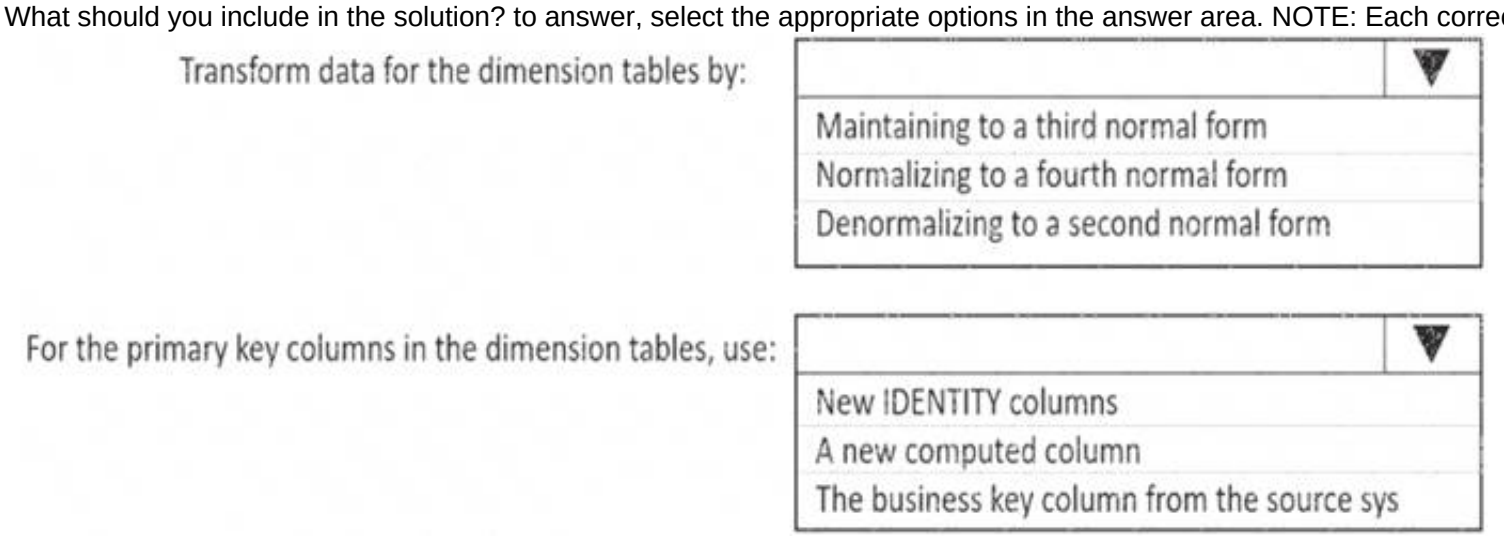
NEW QUESTION 190
- (Exam Topic 3)
Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this scenario, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You have an Azure Storage account that contains 100 GB of files. The files contain 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 Azure SQL data warehouse. 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?

A. Yes
B. No

Answer: A

Explanation:
Instead modify the files to ensure that each row is less than 1 MB. References:
https://docs.microsoft.com/en-us/azure/sql-data-warehouse/guidance-for-loading-data

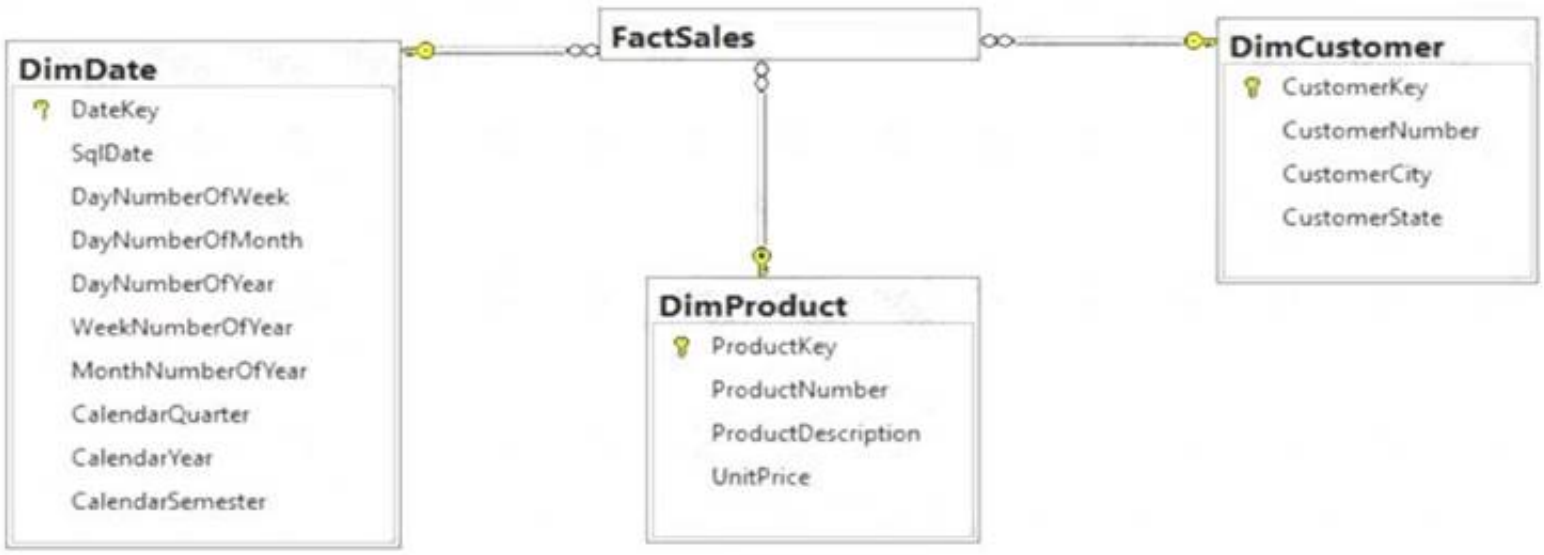
NEW QUESTION 194
- (Exam Topic 3)
You have a Microsoft SQL Server database that uses a third normal form schema.
You plan to migrate the data in the database to a star schema in an Azure Synapse Analytics dedicated SQI pool.
You need to design the dimension tables. The solution must optimize read operations.
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.



A. Mastered
B. Not Mastered

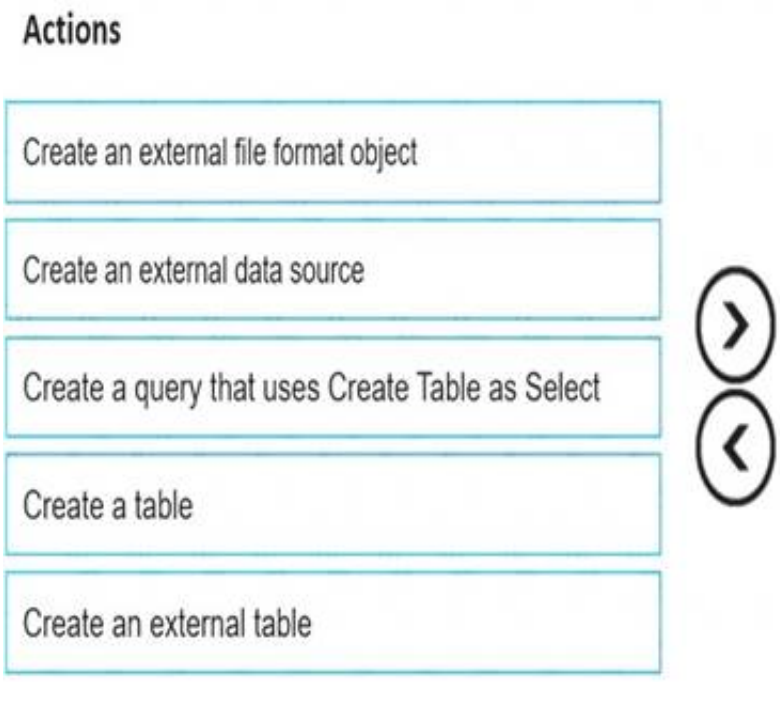
Answer: A

Explanation:
Text, table Description automatically generated
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 at 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:
Diagram Description automatically generated



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

NEW QUESTION 197
- (Exam Topic 3)
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.



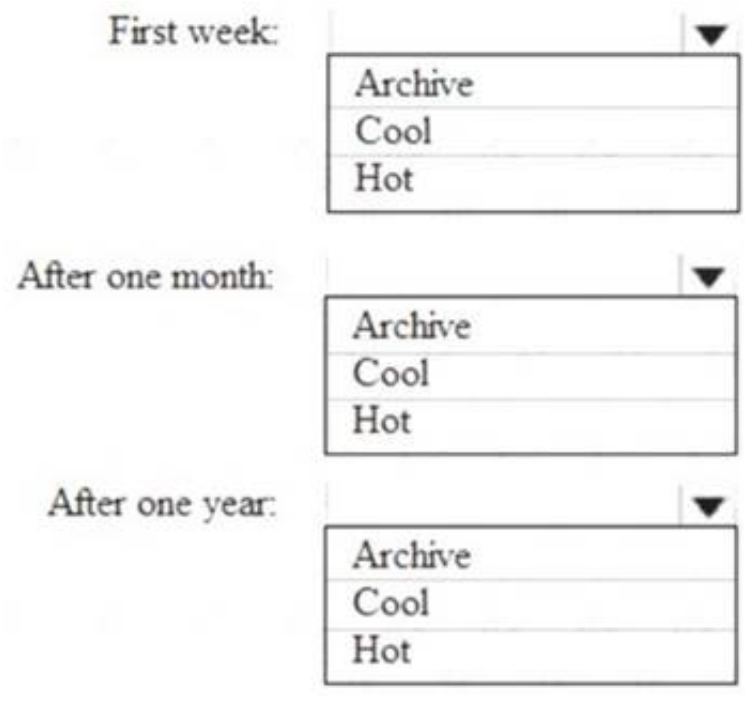
A. Mastered
B. Not Mastered

Answer: A

Explanation:
Graphical user interface, text, application, email Description automatically generated
Step 1: Create an external data source
You can create external tables in Synapse SQL pools via the following steps:
- CREATE EXTERNAL DATA SOURCE to reference an external Azure storage and specify the credential that should be used to access the storage.
- CREATE EXTERNAL FILE FORMAT to describe format of CSV or Parquet files.
- 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

NEW QUESTION 198
- (Exam Topic 3)
You are designing an application that will store petabytes of medical imaging data
When the data is first created, the data will be accessed frequently during the first week. After one month, the data must be accessible within 30 seconds, but files will be accessed infrequently. After one year, the data will be accessed infrequently but must be accessible within five minutes.
You need to select a storage strategy for the data. The solution must minimize costs.
Which storage tier should you use for each time frame? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

Answer: A

Explanation:

First week: Hot
Hot - Optimized for storing data that is accessed frequently. After one month: Cool
Cool - Optimized for storing data that is infrequently accessed and stored for at least 30 days.
After one year: Cool

NEW QUESTION 200
- (Exam Topic 3)
You are monitoring an Azure Stream Analytics job.
The Backlogged Input Events count has been 20 for the last hour. You need to reduce the Backlogged Input Events count.
What should you do?

A. Drop late arriving events from the job.
B. Add an Azure Storage account to the job.
C. Increase the streaming units for the job.
D. Stop the job.

Answer: C

Explanation:
General symptoms of the job hitting system resource limits include:
- If the backlog event metric keeps increasing, it's an indicator that the system resource is constrained (either because of output sink throttling, or high CPU).

Note: Backlogged Input Events: Number of input events that are backlogged. A non-zero value for this metric implies that your job isn't able to keep up with the number of incoming events. If this value is slowly increasing or consistently non-zero, you should scale out your job: adjust Streaming Units.
Reference:
https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-scale-jobs https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-monitoring

NEW QUESTION 202
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool.
You need to ensure that data in the pool is encrypted at rest. The solution must NOT require modifying applications that query the data.
What should you do?

A. Enable encryption at rest for the Azure Data Lake Storage Gen2 account.
B. Enable Transparent Data Encryption (TDE) for the pool.
C. Use a customer-managed key to enable double encryption for the Azure Synapse workspace.
D. Create an Azure key vault in the Azure subscription grant access to the pool.

Answer: B

Explanation:
Transparent Data Encryption (TDE) helps protect against the threat of malicious activity by encrypting and decrypting your data at rest. When you encrypt your database, associated backups and transaction log files are encrypted without requiring any changes to your applications. TDE encrypts the storage of an entire database by using a symmetric key called the database encryption key.
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-overviewmana

NEW QUESTION 204
- (Exam Topic 3)
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?

A. 24
B. an error
C. a null value

Answer: B

Explanation:
Once a database has been created by a Spark job, you can create tables in it with Spark that use Parquet as the storage format. Table names will be converted to lower case and need to be queried using the lower case name. These tables will immediately become available for querying by any of the Azure Synapse workspace Spark pools. They can also be used from any of the Spark jobs subject to permissions.
Note: For external tables, since they are synchronized to serverless SQL pool asynchronously, there will be a delay until they appear.
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/metadata/table

NEW QUESTION 208
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool.

You need to create a table named FactInternetSales that will be a large fact table in a dimensional model. FactInternetSales will contain 100 million rows and two columns named SalesAmount and OrderQuantity. Queries executed on FactInternetSales will aggregate the values in SalesAmount and OrderQuantity from the last year for a specific product. The solution must minimize the data size and query execution time.
How should you complete the code? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

```
CREATE TABLE [dbo].[FactInternetSales]
( [ProductKey] int NOT NULL
, [OrderDateKey] int NOT NULL
, [CustomerKey] int NOT NULL
, [PromotionKey] int NOT NULL
, [SalesOrderNumber] nvarchar(20) NOT NULL
, [OrderQuantity] smallint NOT NULL
, [UnitPrice] money NOT NULL
, [SalesAmount] money NOT NULL
)
WITH
(
, DISTRIBUTION =
);
```

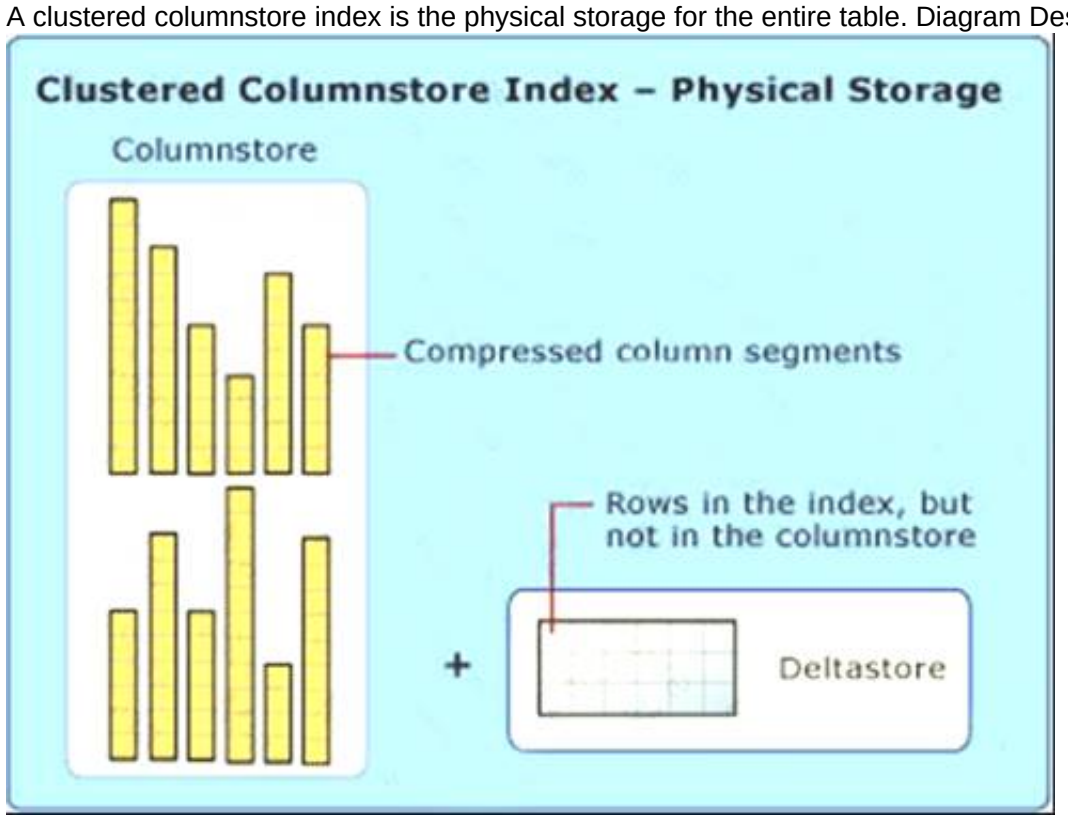
- (CLUSTERED COLUMNSTORE INDEX
- (CLUSTERED INDEX ([OrderDateKey])
- (HEAP
- (INDEX on [ProductKey]

- Hash([OrderDateKey])
- Hash([ProductKey])
- REPLICATE
- ROUND_ROBIN

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: (CLUSTERED COLUMNSTORE INDEX CLUSTERED COLUMNSTORE INDEX
Columnstore indexes are the standard for storing and querying large data warehousing fact tables. This index uses column-based data storage and query processing to achieve gains up to 10 times the query performance in your data warehouse over traditional row-oriented storage. You can also achieve gains up to 10 times the data compression over the uncompressed data size. Beginning with SQL Server 2016 (13.x) SP1, columnstore
indexes enable operational analytics: the ability to run performant real-time analytics on a transactional workload.
Note: Clustered columnstore index
A clustered columnstore index is the physical storage for the entire table. Diagram Description automatically generated



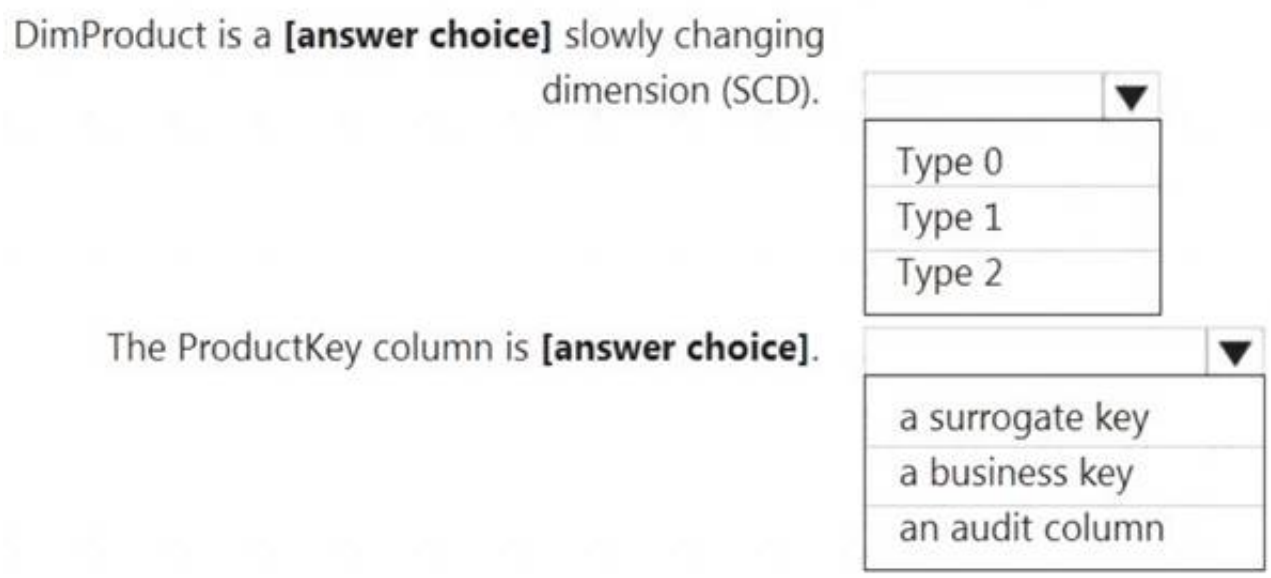
To reduce fragmentation of the column segments and improve performance, the columnstore index might store some data temporarily into a clustered index called a deltastore and a B-tree list of IDs for deleted rows. The deltastore operations are handled behind the scenes. To return the correct query results, the clustered columnstore index combines query results from both the columnstore and the deltastore.
Box 2: HASH([ProductKey])
A hash distributed table distributes rows based on the value in the distribution column. A hash distributed table is designed to achieve high performance for queries on large tables.
Choose a distribution column with data that distributes evenly
Reference: https://docs.microsoft.com/en-us/sql/relational-databases/indexes/columnstore-indexes-overview https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-overvie https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-distribu

NEW QUESTION 210
- (Exam Topic 3)

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.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
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.
Reference:
https://docs.microsoft.com/en-us/learn/modules/populate-slowly-changing-dimensions-azure-synapse-analytics

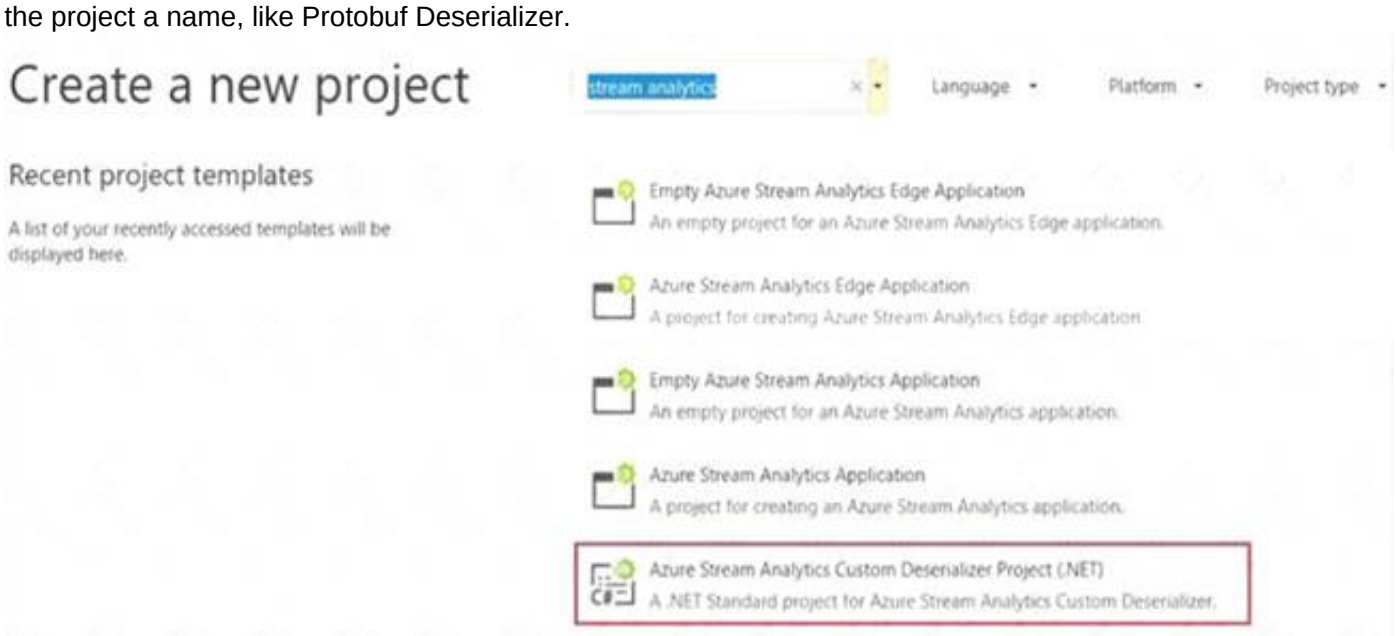
NEW QUESTION 214
- (Exam Topic 3)
You have an Azure Stream Analytics job that is a Stream Analytics project solution in Microsoft Visual Studio. The job accepts data generated by IoT devices in the JSON format.
You need to modify the job to accept data generated by the IoT devices in the Protobuf format.
Which three actions should you perform from Visual Studio on sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions	Answer Area
Change the Event Serialization Format to Protobuf in the input.json file of the job and reference the DLL.	
Add an Azure Stream Analytics Custom Deserializer Project (.NET) project to the solution.	
Add .NET deserializer code for Protobuf to the custom deserializer project.	
Add .NET deserializer code for Protobuf to the Stream Analytics project.	
Add an Azure Stream Analytics Application project to the solution.	

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Step 1: Add an Azure Stream Analytics Custom Deserializer Project (.NET) project to the solution. Create a custom deserializer
* 1. Open Visual Studio and select File > New > Project. Search for Stream Analytics and select Azure Stream Analytics Custom Deserializer Project (.NET). Give the project a name, like Protobuf Deserializer.



* 2. In Solution Explorer, right-click your Protobuf Deserializer project and select Manage NuGet Packages from the menu. Then install the Microsoft.Azure.StreamAnalytics and Google.Protobuf NuGet packages.
* 3. Add the MessageBodyProto class and the MessageBodyDeserializer class to your project.
* 4. Build the Protobuf Deserializer project.
Step 2: Add .NET deserializer code for Protobuf to the custom deserializer project
Azure Stream Analytics has built-in support for three data formats: JSON, CSV, and Avro. With custom .NET deserializers, you can read data from other formats such as Protocol Buffer, Bond and other user defined formats for both cloud and edge jobs.
Step 3: Add an Azure Stream Analytics Application project to the solution Add an Azure Stream Analytics project
In Solution Explorer, right-click the Protobuf Deserializer solution and select Add > New Project. Under Azure Stream Analytics > Stream Analytics, choose Azure Stream Analytics Application. Name it ProtobufCloudDeserializer and select OK.
Right-click References under the ProtobufCloudDeserializer Azure Stream Analytics project. Under Projects, add Protobuf Deserializer. It should be automatically populated for you.
Reference:
https://docs.microsoft.com/en-us/azure/stream-analytics/custom-deserializer

NEW QUESTION 217
- (Exam Topic 3)
You have two fact tables named Flight and Weather. Queries targeting the tables will be based on the join between the following columns.

Table	Column
Flight	ArrivalAirportID ArrivalDateTime
Weather	AirportID ReportDateTime

You need to recommend a solution that maximizes query performance. What should you include in the recommendation?

A. In the tables use a hash distribution of ArrivalDateTime and ReportDateTime.
B. In the tables use a hash distribution of ArrivalAirportID and AirportID.
C. In each table, create an identity column.
D. In each table, create a column as a composite of the other two columns in the table.

Answer: B

Explanation:
Hash-distribution improves query performance on large fact tables.

NEW QUESTION 219
- (Exam Topic 3)
You are implementing a star schema in an Azure Synapse Analytics dedicated SQL pool. You plan to create a table named DimProduct.
DimProduct must be a Type 3 slowly changing dimension (SCO) table that meets the following requirements:
• The values in two columns named ProductKey and ProductSourceID will remain the same.
• The values in three columns named ProductName, ProductDescription, and Color can change. You need to add additional columns to complete the following table definition.

```
CREATE TABLE [dbo].[dimproduct]
  (
     [ProductKey]          INT NOT NULL,
     [ProductSourceID]     INT NOT NULL,
     [ProductName]         NVARCHAR(100) NOT NULL,
     [ProductDescription]  NVARCHAR(2000) NOT NULL,
     [Color]               NVARCHAR(50) NOT NULL
  )
WITH
(
    DISTRIBUTION = REPLICATE,
    CLUSTERED COLUMNSTORE INDEX
);
```

A)
```
[OriginalProductDescription] NVARCHAR(2000) NOT NULL
```

B)
```
[IsCurrentRow] [bit] NOT NULL
```

C)
```
[EffectiveStartDate] [datetime] NOT NULL
```

D)
```
[EffectiveEndDate] [datetime] NOT NULL
```

E)
```
[OriginalProductName] NVARCHAR(100) NULL
```

F)
```
[OriginalColor] NVARCHAR(50) NOT NULL
```

A. Option A
B. Option B
C. Option C
D. Option D
E. Option E
F. Option F

Answer: ABC

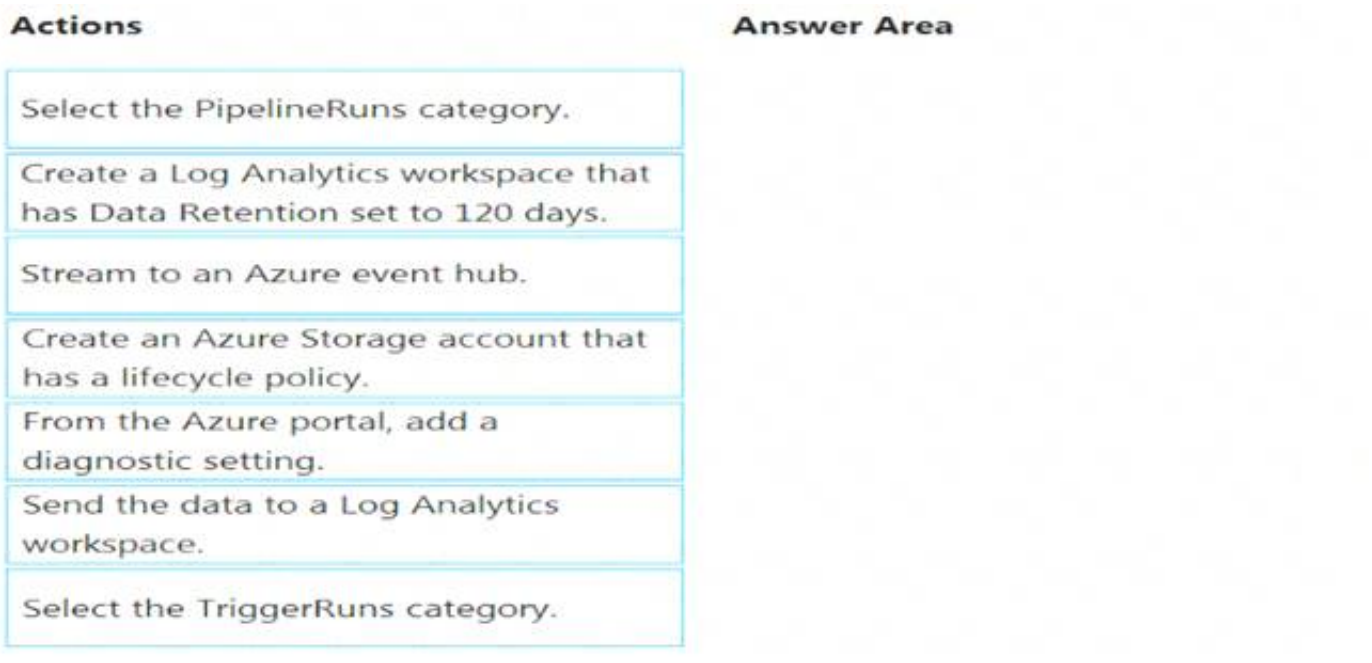
NEW QUESTION 221
- (Exam Topic 3)
You have an Azure subscription that contains an Azure Synapse Analytics dedicated SQL pool named SQLPool1.
SQLPool1 is currently paused.
You need to restore the current state of SQLPool1 to a new SQL pool. What should you do first?

A. Create a workspace.
B. Create a user-defined restore point.
C. Resume SQLPool1.
D. Create a new SQL pool.

Answer: B

Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-restore-active

NEW QUESTION 222
- (Exam Topic 3)
You have an Azure data factory.
You need to ensure that pipeline-run data is retained for 120 days. The solution must ensure that you can query the data by using the Kusto query language.
Which four 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.



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Step 1: Create an Azure Storage account that has a lifecycle policy
To automate common data management tasks, Microsoft created a solution based on Azure Data Factory. The service, Data Lifecycle Management, makes frequently accessed data available and archives or purges other data according to retention policies. Teams across the company use the service to reduce storage costs, improve app performance, and comply with data retention policies.
Step 2: Create a Log Analytics workspace that has Data Retention set to 120 days.
Data Factory stores pipeline-run data for only 45 days. Use Azure Monitor if you want to keep that data for a longer time. With Monitor, you can route diagnostic logs for analysis to multiple different targets, such as a Storage Account: Save your diagnostic logs to a storage account for auditing or manual inspection. You can use the diagnostic settings to specify the retention time in days.
Step 3: From Azure Portal, add a diagnostic setting. Step 4: Send the data to a log Analytics workspace,
Event Hub: A pipeline that transfers events from services to Azure Data Explorer. Keeping Azure Data Factory metrics and pipeline-run data.
Configure diagnostic settings and workspace.
Create or add diagnostic settings for your data factory.

- In the portal, go to Monitor. Select Settings > Diagnostic settings.
- Select the data factory for which you want to set a diagnostic setting.
- If no settings exist on the selected data factory, you're prompted to create a setting. Select Turn on diagnostics.
- Give your setting a name, select Send to Log Analytics, and then select a workspace from Log Analytics Workspace.
- Select Save. Reference:

https://docs.microsoft.com/en-us/azure/data-factory/monitor-using-azure-monitor

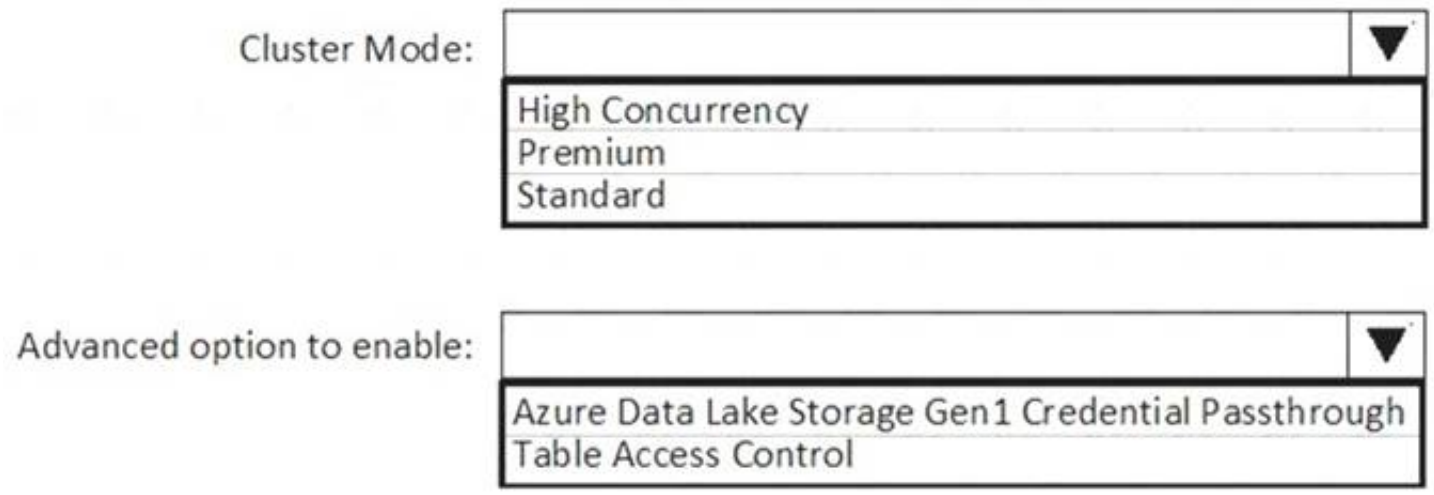
NEW QUESTION 225
- (Exam Topic 3)
You have an Azure subscription that contains an Azure SQL database named DB1 and a storage account named storage1. The storage1 account contains a file named File1.txt. File1.txt contains the names of selected tables in DB1.
You need to use an Azure Synapse pipeline to copy data from the selected tables in DB1 to the files in storage1. The solution must meet the following requirements:
• The Copy activity in the pipeline must be parameterized to use the data in File1.txt to identify the source and destination of the copy.
• Copy activities must occur in parallel as often as possible.
Which two pipeline activities should you include in the pipeline? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

A. If Condition
B. ForEach
C. Lookup
D. Get Metadata

Answer: BC

Explanation:
Lookup: This is a control activity that retrieves a dataset from any of the supported data sources and makes it available for use by subsequent activities in the pipeline. You can use a Lookup activity to read File1.txt from storage1 and store its content as an array variable1.
ForEach: This is a control activity that iterates over a collection and executes specified activities in a loop. You can use a ForEach activity to loop over the array variable from the Lookup activity and pass each table name as a parameter to a Copy activity that copies data from DB1 to storage11.

NEW QUESTION 227
- (Exam Topic 3)
You need to implement an Azure Databricks cluster that automatically connects to Azure Data Lake Storage Gen2 by using Azure Active Directory (Azure AD) integration.
How should you configure the new cluster? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

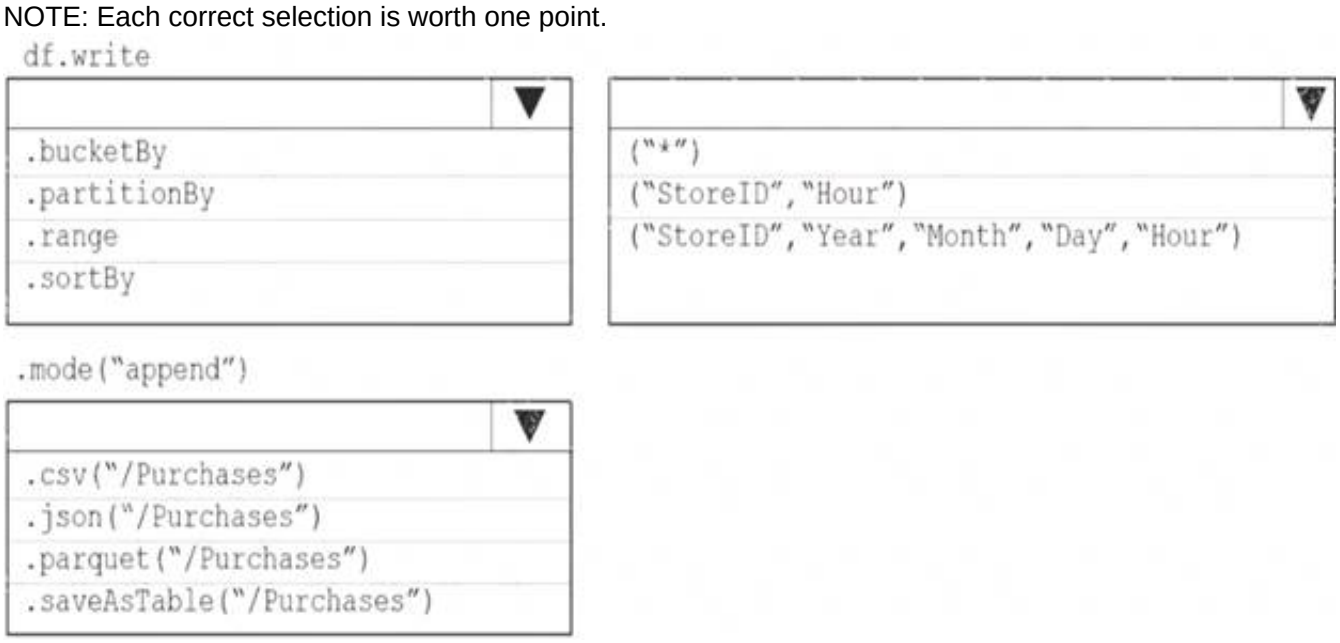


A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: High Concurrency
Enable Azure Data Lake Storage credential passthrough for a high-concurrency cluster. Incorrect:
Support for Azure Data Lake Storage credential passthrough on standard clusters is in Public Preview.
Standard clusters with credential passthrough are supported on Databricks Runtime 5.5 and above and are limited to a single user.
Box 2: Azure Data Lake Storage Gen1 Credential Passthrough
You can authenticate automatically to Azure Data Lake Storage Gen1 and Azure Data Lake Storage Gen2 from Azure Databricks clusters using the same Azure Active Directory (Azure AD) identity that you use to log into Azure Databricks. When you enable your cluster for Azure Data Lake Storage credential passthrough, commands that you run on that cluster can read and write data in Azure Data Lake Storage without requiring you to configure service principal credentials for access to storage.
References:
https://docs.azuredatabricks.net/spark/latest/data-sources/azure/adls-passthrough.html

NEW QUESTION 230
- (Exam Topic 3)
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 StoreID. the solution must minimize storage costs. How should you complete the rode? To answer, select the appropriate options In the answer area.
NOTE: Each correct selection is worth one point.



A. Mastered
B. Not Mastered

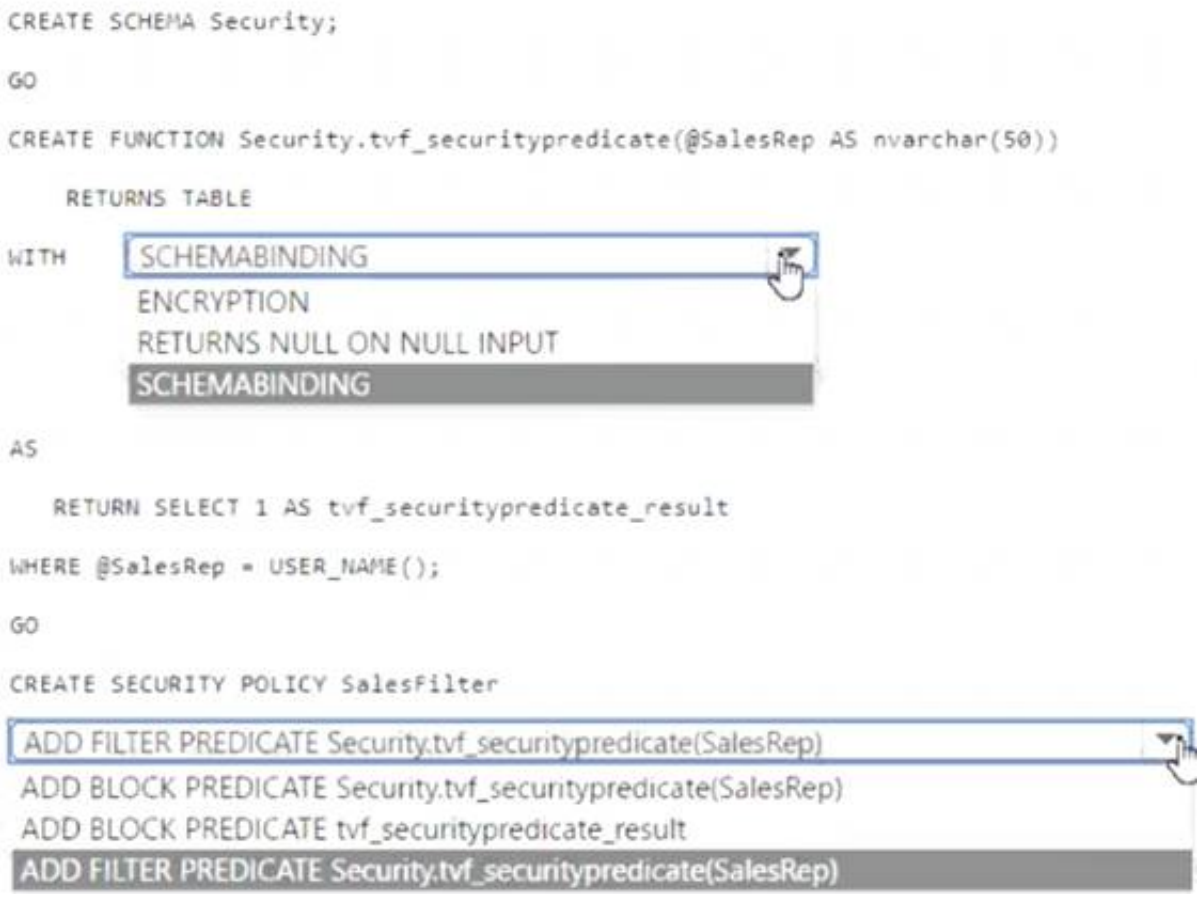
Answer: A

Explanation:
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-partiti

NEW QUESTION 233
- (Exam Topic 3)
You have an Azure Synapse Analytics dedicated SQL pool that contains a table named Sales.Orders. Sales.Orders contains a column named SalesRep.
You plan to implement row-level security (RLS) for Sales.Orders.
You need to create the security policy that will be used to implement RLS. The solution must ensure that sales representatives only see rows for which the value of the SalesRep column matches their username.
How should you complete the code? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

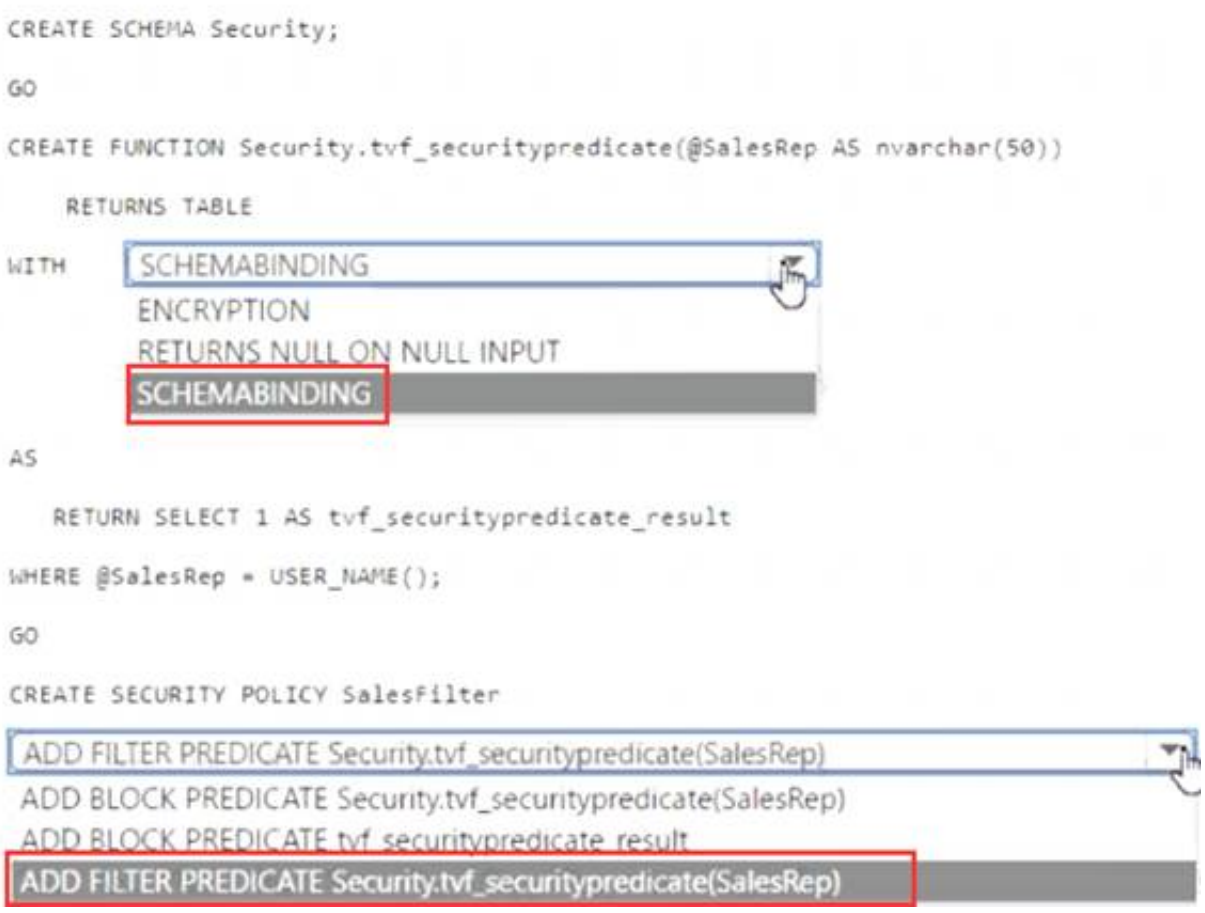
Answer Area



A. Mastered
B. Not Mastered

Answer: A

Explanation:
Answer Area



NEW QUESTION 235
- (Exam Topic 3)
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?

A. /{SubjectArea}/{DataSource}/{DD}/{MM}/{YYYY}/{FileData}_{YYYY}_{MM}_{DD}.csv
B. /{DD}/{MM}/{YYYY}/{SubjectArea}/{DataSource}/{FileData}_{YYYY}_{MM}_{DD}.csv
C. /{YYYY}/{MM}/{DD}/{SubjectArea}/{DataSource}/{FileData}_{YYYY}_{MM}_{DD}.csv
D. /{SubjectArea}/{DataSource}/{YYYY}/{MM}/{DD}/{FileData}_{YYYY}_{MM}_{DD}.csv

Answer: D

Explanation:
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}/

NEW QUESTION 238
- (Exam Topic 3)
You have an enterprise data warehouse in Azure Synapse Analytics named DW1 on a server named Server1. You need to verify whether the size of the transaction log file for each distribution of DW1 is smaller than 160 GB.
What should you do?

A. On the master database, execute a query against the sys.dm_pdw_nodes_os_performance_counters dynamic management view.
B. From Azure Monitor in the Azure portal, execute a query against the logs of DW1.
C. On DW1, execute a query against the sys.database_files dynamic management view.
D. Execute a query against the logs of DW1 by using theGet-AzOperationalInsightSearchResult PowerShell cmdlet.

Answer: A

Explanation:
The following query returns the transaction log size on each distribution. If one of the log files is reaching 160 GB, you should consider scaling up your instance or limiting your transaction size.
-- Transaction log size SELECT
instance_name as distribution_db, cntr_value*1.0/1048576 as log_file_size_used_GB, pdw_node_id
FROM sys.dm_pdw_nodes_os_performance_counters WHERE
instance_name like 'Distribution_%'
AND counter_name = 'Log File(s) Used Size (KB)'
References:
https://docs.microsoft.com/en-us/azure/sql-data-warehouse/sql-data-warehouse-manage-monitor

NEW QUESTION 242
- (Exam Topic 3)
You have a C# application that process data from an Azure IoT hub and performs complex transformations. You need to replace the application with a real-time solution. The solution must reuse as much code as possible from the existing application.

A. Azure Databricks
B. Azure Event Grid
C. Azure Stream Analytics
D. Azure Data Factory

Answer: C

Explanation:
Azure Stream Analytics on IoT Edge empowers developers to deploy near-real-time analytical intelligence closer to IoT devices so that they can unlock the full value of device-generated data. UDF are available in C# for IoT Edge jobs
Azure Stream Analytics on IoT Edge runs within the Azure IoT Edge framework. Once the job is created in Stream Analytics, you can deploy and manage it using IoT Hub.
References:
https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-edge

NEW QUESTION 245
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