Microsoft

Exam Questions DP-203

Data Engineering on Microsoft Azure

NEW QUESTION 1
- (Exam Topic 1)
You need to design the partitions for the product sales transactions. The solution must mee 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.

Answer Area

Partition product sales transactions data by:
| Sales date |
| Product ID |
| Promotion ID |

Store product sales transactions data in:
| An Azure Synapse Analytics dedicated SQL pool |
| An Azure Synapse Analytics serverless SQL pool |
| An Azure Data Lake Storage Gen2 account linked to an Azure Synapse Analytics workspace |

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 2
- (Exam Topic 1)
You need to design a data storage structure 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.

Answer Area

Table type to store the product sales transactions:
| Hash |
| Round-robin |
| Replicated |

When creating the table for sales transactions:
| Configure a clustered index. |
| Set the distribution column to product ID. |
| Set the distribution column to the sales date. |

A. Mastered
B. Not Mastered

Answer: A

Explanation:

Answer Area

Table type to store the product sales transactions:
| Hash |
| Round-robin |
| **Replicated** |

When creating the table for sales transactions:
| Configure a clustered index. |
| **Set the distribution column to product ID.** |
| Set the distribution column to the sales date. |

NEW QUESTION 3
- (Exam Topic 1)
You need to integrate the on-premises data sources and Azure Synapse Analytics. The solution must meet the data integration requirements.
Which type of integration runtime should you use?

A. Azure-SSIS integration runtime

B. self-hosted integration runtime
C. Azure integration runtime

Answer: C

NEW QUESTION 4
- (Exam Topic 3)
You need to create an Azure Data Factory pipeline to process data for the following three departments at your company: Ecommerce, retail, and wholesale. The solution must ensure that data can also be processed for the entire company.
How should you complete the Data Factory data flow script? 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:
The conditional split transformation routes data rows to different streams based on matching conditions. The conditional split transformation is similar to a CASE decision structure in a programming language. The transformation evaluates expressions, and based on the results, directs the data row to the specified stream.
Box 1: dept=='ecommerce', dept=='retail', dept=='wholesale'
First we put the condition. The order must match the stream labeling we define in Box 3. Syntax:
<incomingStream> split(
<conditionalExpression1>
<conditionalExpression2>
disjoint: {true | false}
) ~> <splitTx>@(stream1, stream2, ..., <defaultStream>)
Box 2: discount : false
disjoint is false because the data goes to the first matching condition. All remaining rows matching the third condition go to output stream all.
Box 3: ecommerce, retail, wholesale, all Label the streams
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/data-flow-conditional-split

NEW QUESTION 5
- (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 6
- (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.

Copy behavior:

- Flatten hierarchy
- Merge files
- Preserve hierarchy

Sink file type:

- CSV
- JSON
- Parquet
- TXT

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 7
- (Exam Topic 3)
You need to schedule an Azure Data Factory pipeline to execute when a new file arrives in an Azure Data Lake Storage Gen2 container.
Which type of trigger should you use?

A. on-demand
B. tumbling window
C. schedule
D. event

Answer: D

Explanation:
Event-driven architecture (EDA) is a common data integration pattern that involves production, detection, consumption, and reaction to events. Data integration scenarios often require Data Factory customers to trigger pipelines based on events happening in storage account, such as the arrival or deletion of a file in Azure Blob Storage account.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/how-to-create-event-trigger

NEW QUESTION 8
- (Exam Topic 3)
You have an Azure Data Lake Storage account that has a virtual network service endpoint configured.
You plan to use Azure Data Factory to extract data from the Data Lake Storage account. The data will then be loaded to a data warehouse in Azure Synapse Analytics by using PolyBase.
Which authentication method should you use to access Data Lake Storage?

A. shared access key authentication
B. managed identity authentication
C. account key authentication
D. service principal authentication

Answer: B

Explanation:
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/connector-azure-sql-data-warehouse#use-polybase-to-load-d

NEW QUESTION 9
- (Exam Topic 3)
What should you recommend using to secure sensitive customer contact information?

A. data labels
B. column-level security
C. row-level security
D. Transparent Data Encryption (TDE)

Answer: B

Explanation:
Scenario: All cloud data must be encrypted at rest and in transit.
Always Encrypted is a feature designed to protect sensitive data stored in specific database columns from access (for example, credit card numbers, national identification numbers, or data on a need to know basis). This includes database administrators or other privileged users who are authorized to access the database to perform management tasks, but have no business need to access the particular data in the encrypted columns. The data is always encrypted, which means the encrypted data is decrypted only for processing by client applications with access to the encryption key.
References:
https://docs.microsoft.com/en-us/azure/sql-database/sql-database-security-overview

NEW QUESTION 10
- (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

NEW QUESTION 10
- (Exam Topic 3)
You are designing a monitoring solution for a fleet of 500 vehicles. Each vehicle has a GPS tracking device that sends data to an Azure event hub once per minute.
You have a CSV file in an Azure Data Lake Storage Gen2 container. The file maintains the expected geographical area in which each vehicle should be.
You need to ensure that when a GPS position is outside the expected area, a message is added to another event hub for processing within 30 seconds. The solution must minimize cost.
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: Azure Stream Analytics Box 2: Hopping
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.

Box 3: Point within polygon Reference:

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

NEW QUESTION 13

- (Exam Topic 3)

You have an Apache Spark DataFrame named temperatures. A sample of the data is shown in the following table.

Date	Temp
...	...
18-01-2021	3
19-01-2021	4
20-01-2021	2
21-01-2021	2
...	...

You need to produce the following table by using a Spark SQL query.

Year	JAN	FEB	MAR	APR	MAY
2019	2.3	4.1	5.2	7.6	9.2
2020	2.4	4.2	4.9	7.8	9.1
2021	2.6	5.3	3.4	7.9	9.5

How should you complete the query? 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.

Values

- CAST
- COLLATE
- CONVERT
- FLATTEN
- PIVOT
- UNPIVOT

Answer Area

```
SELECT * FROM (
    SELECT YEAR(Date) Year, MONTH(Date)
Month, Temp
    FROM temperatures
    WHERE date BETWEEN DATE '2019-01-01' AND DATE
'2021-08-31'
)
    Value (
                Value    (Temp AS DECIMAL(4, 1)))
AVG
    FOR Month in (
        1 JAN, 2 FEB, 3 MAR, 4 APR, 5 MAY, 6
JUN,
        7 JUL, 8 AUG, 9 SEP, 10 OCT, 11 NOV,
12 DEC
    )
)
ORDER BY Year ASC
```

A. Mastered
B. Not Mastered

Answer: A

Explanation:

Values

- CAST
- COLLATE
- CONVERT
- FLATTEN
- PIVOT
- UNPIVOT

Answer Area

```
SELECT * FROM (

    SELECT YEAR(Date) Year, MONTH(Date)
Month, Temp
        FROM temperatures

        WHERE date BETWEEN DATE '2019-01-01' AND DATE
'2021-08-31'
)

CONVERT          (

            COLLATE          (Temp AS DECIMAL(4, 1)))
AVG    (

    FOR Month in (

        1 JAN, 2 FEB, 3 MAR, 4 APR, 5 MAY, 6
JUN, 7 JUL, 8 AUG, 9 SEP, 10 OCT, 11 NOV,
12 DEC

        )

    )

ORDER BY Year ASC
```

NEW QUESTION 17
- (Exam Topic 3)
You are developing a solution using a Lambda architecture on Microsoft Azure. The data at test layer must meet the following requirements:
Data storage:
•Serve as a repository (or high volumes of large files in various formats.
•Implement optimized storage for big data analytics workloads.
•Ensure that data can be organized using a hierarchical structure. Batch processing:
•Use a managed solution for in-memory computation processing.
•Natively support Scala, Python, and R programming languages.
•Provide the ability to resize and terminate the cluster automatically. Analytical data store:
•Support parallel processing.
•Use columnar storage.
•Support SQL-based languages.
You need to identify the correct technologies to build the Lambda architecture.
Which technologies should you use? To answer, select the appropriate options in the answer area NOTE: Each correct selection is worth one point.

Architecture requirement | **Technology**

Data storage ▼
- Azure SQL Database
- Azure Blob Storage
- Azure Cosmos DB
- **Azure Data Lake Store**

Batch processing ▼
- **HDInsight Spark** ✔
- HDInsight Hadoop
- Azure Databricks
- HDInsight Interactive Query

Analytical data store ▼
- HDInsight HBase
- **Azure SQL Data Warehouse**
- Azure Analysis Services
- Azure Cosmos DB

A. Mastered
B. Not Mastered

Answer: A

Explanation:

Data storage: Azure Data Lake Store

A key mechanism that allows Azure Data Lake Storage Gen2 to provide file system performance at object storage scale and prices is the addition of a hierarchical namespace. This allows the collection of objects/files within an account to be organized into a hierarchy of directories and nested subdirectories in the same way that the file system on your computer is organized. With the hierarchical namespace enabled, a storage account becomes capable of providing the scalability and cost-effectiveness of object storage, with file system semantics that are familiar to analytics engines and frameworks.

Batch processing: HD Insight Spark

Aparch Spark is an open-source, parallel-processing framework that supports in-memory processing to boost the performance of big-data analysis applications. HDInsight is a managed Hadoop service. Use it deploy and manage Hadoop clusters in Azure. For batch processing, you can use Spark, Hive, Hive LLAP, MapReduce.

Languages: R, Python, Java, Scala, SQL Analytic data store: SQL Data Warehouse

SQL Data Warehouse is a cloud-based Enterprise Data Warehouse (EDW) that uses Massively Parallel Processing (MPP).

SQL Data Warehouse stores data into relational tables with columnar storage. References:

https://docs.microsoft.com/en-us/azure/storage/blobs/data-lake-storage-namespace https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/batch-processing https://docs.microsoft.com/en-us/azure/sql-data-warehouse/sql-data-warehouse-overview-what-is

NEW QUESTION 21

- (Exam Topic 3)

What should you recommend to prevent users outside the Litware on-premises network from accessing the analytical data store?

A. a server-level virtual network rule
B. a database-level virtual network rule
C. a database-level firewall IP rule
D. a server-level firewall IP rule

Answer: A

Explanation:

Virtual network rules are one firewall security feature that controls whether the database server for your single databases and elastic pool in Azure SQL Database or for your databases in SQL Data Warehouse accepts communications that are sent from particular subnets in virtual networks.

Server-level, not database-level: Each virtual network rule applies to your whole Azure SQL Database server, not just to one particular database on the server. In other words, virtual network rule applies at the serverlevel, not at the database-level.

References:

https://docs.microsoft.com/en-us/azure/sql-database/sql-database-vnet-service-endpoint-rule-overview

NEW QUESTION 25

- (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.

HubA:
- **Stream**
- Reference

HubB:
- **Stream**
- Reference

Database1:
- Stream
- **Reference**

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

NEW QUESTION 26
- (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: B

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 29
- (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.
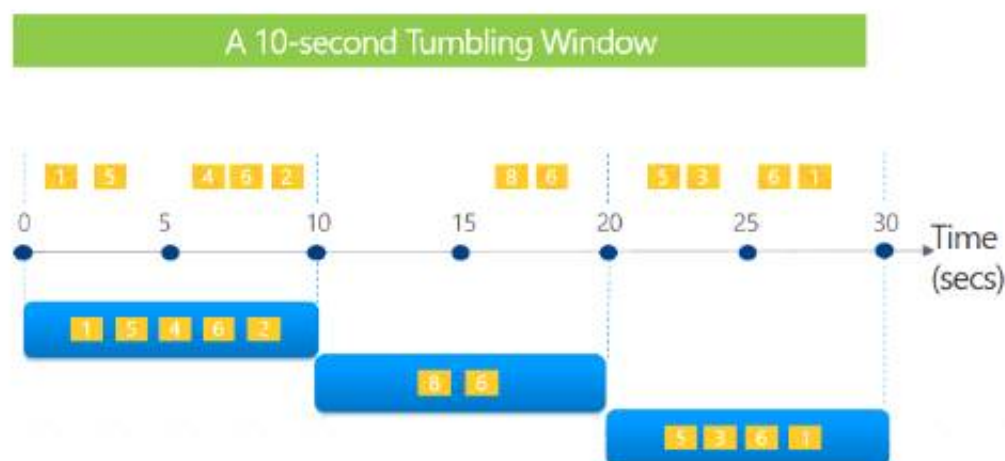Does this meet the goal?

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.


```
SELECT TimeZone, COUNT(*) AS Count
FROM TwitterStream TIMESTAMP BY CreatedAt
GROUP BY TimeZone, TumblingWindow(second,10)
```

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

NEW QUESTION 33
- (Exam Topic 3)
You have an Azure Databricks workspace named workspace1 in the Standard pricing tier.
You need to configure workspace1 to support autoscaling all-purpose clusters. The solution must meet the following requirements:

› Automatically scale down workers when the cluster is underutilized for three minutes.

› Minimize the time it takes to scale to the maximum number of workers.

› Minimize costs.

What should you do first?

A. Enable container services for workspace1.
B. Upgrade workspace1 to the Premium pricing tier.
C. Set Cluster Mode to High Concurrency.
D. Create a cluster policy in workspace1.

Answer: B

Explanation:
For clusters running Databricks Runtime 6.4 and above, optimized autoscaling is used by all-purpose clusters in the Premium plan
Optimized autoscaling:
Scales up from min to max in 2 steps.
Can scale down even if the cluster is not idle by looking at shuffle file state. Scales down based on a percentage of current nodes.
On job clusters, scales down if the cluster is underutilized over the last 40 seconds.
On all-purpose clusters, scales down if the cluster is underutilized over the last 150 seconds.
The spark.databricks.aggressiveWindowDownS Spark configuration property specifies in seconds how often a cluster makes down-scaling decisions. Increasing the value causes a cluster to scale down more slowly. The maximum value is 600.
Note: Standard autoscaling
Starts with adding 8 nodes. Thereafter, scales up exponentially, but can take many steps to reach the max. You can customize the first step by setting the spark.databricks.autoscaling.standardFirstStepUp Spark configuration property.
Scales down only when the cluster is completely idle and it has been underutilized for the last 10 minutes. Scales down exponentially, starting with 1 node.
Reference:

NEW QUESTION 35
- (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 plan to create an Azure Databricks workspace that has a tiered structure. The workspace will contain the following three workloads:

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

› A workload for jobs that will run notebooks that use Python, Scala, and SOL.

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

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

› The data engineers must share a cluster.

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

› All the data scientists must be assigned their own cluster that terminates automatically after 120 minutes of inactivity. Currently, there are three data scientists.
You need to create the Databricks clusters for the workloads.
Solution: You create a Standard cluster for each data scientist, a High Concurrency cluster for the data engineers, and a Standard cluster for the jobs.
Does this meet the goal?

A. Yes
B. No

Answer: B

Explanation:
We would need a High Concurrency cluster for the jobs. Note:
Standard clusters are recommended for a single user. Standard can run workloads developed in any language: Python, R, Scala, and SQL.
A high concurrency cluster is a managed cloud resource. The key benefits of high concurrency clusters are that they provide Apache Spark-native fine-grained sharing for maximum resource utilization and minimum query latencies.
Reference: https://docs.azuredatabricks.net/clusters/configure.html

NEW QUESTION 40
- (Exam Topic 3)
You have an Azure subscription that contains a logical Microsoft SQL server named Server1. Server1 hosts an Azure Synapse Analytics SQL dedicated pool named Pool1.
You need to recommend a Transparent Data Encryption (TDE) solution for Server1. The solution must meet the following requirements:

› Track the usage of encryption keys.

› Maintain the access of client apps to Pool1 in the event of an Azure datacenter outage that affects the availability of the encryption keys.
What should you include in the recommendation? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

To track encryption key usage:

| Always Encrypted |
| TDE with customer-managed keys |
| TDE with platform-managed keys |

To maintain client app access in
the event of a datacenter outage:

| Create and configure Azure key vaults in two Azure regions. |
| Enable Advanced Data Security on Server1. |
| Implement the client apps by using a Microsoft .NET Framework data provider. |

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: TDE with customer-managed keys
Customer-managed keys are stored in the Azure Key Vault. You can monitor how and when your key vaults are accessed, and by whom. You can do this by enabling logging for Azure Key Vault, which saves information in an Azure storage account that you provide.
Box 2: Create and configure Azure key vaults in two Azure regions
The contents of your key vault are replicated within the region and to a secondary region at least 150 miles away, but within the same geography to maintain high durability of your keys and secrets.
Reference:
https://docs.microsoft.com/en-us/azure/synapse-analytics/security/workspaces-encryption https://docs.microsoft.com/en-us/azure/key-vault/general/logging

NEW QUESTION 41
- (Exam Topic 3)
You are designing an Azure Databricks table. The table will ingest an average of 20 million streaming events per day.
You need to persist the events in the table for use in incremental load pipeline jobs in Azure Databricks. The solution must minimize storage costs and incremental load times.
What should you include in the solution?

A. Partition by DateTime fields.
B. Sink to Azure Queue storage.
C. Include a watermark column.
D. Use a JSON format for physical data storage.

Answer: B

Explanation:
The Databricks ABS-AQS connector uses Azure Queue Storage (AQS) to provide an optimized file source that lets you find new files written to an Azure Blob storage (ABS) container without repeatedly listing all of the files.
This provides two major advantages:
≫ Lower costs: no more costly LIST API requests made to ABS.
Reference:
https://docs.microsoft.com/en-us/azure/databricks/spark/latest/structured-streaming/aqs

NEW QUESTION 46
- (Exam Topic 3)
You have an Azure data factory.
You need to examine the pipeline failures from the last 60 days. What should you use?

A. the Activity log blade for the Data Factory resource
B. the Monitor & Manage app in Data Factory
C. the Resource health blade for the Data Factory resource
D. Azure Monitor

Answer: D

Explanation:
Data Factory stores pipeline-run data for only 45 days. Use Azure Monitor if you want to keep that data for a longer time.
Reference:
https://docs.microsoft.com/en-us/azure/data-factory/monitor-using-azure-monitor

NEW QUESTION 49
- (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.

Cluster Mode:	▼
High Concurrency	
Premium	
Standard	

Advanced option to enable:	▼
Azure Data Lake Storage Gen1 Credential Passthrough	
Table Access Control	

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 52
- (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 53
- (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 57
- (Exam Topic 3)
You are designing an inventory updates table in an Azure Synapse Analytics dedicated SQL pool. The table will have a clustered columnstore index and will include the following columns:
• EventDate: 1 million per day
• EventTypeID: 10 million per event type
• WarehouseID: 100 million per warehouse
• ProductCategoryTypeiD: 25 million per product category type You identify the following usage patterns:
Analyst will most commonly analyze transactions for a warehouse.
Queries will summarize by product category type, date, and/or inventory event 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. ProductCategoryTypeID
B. EventDate
C. WarehouseID
D. EventTypeID

Answer: D

NEW QUESTION 59
- (Exam Topic 3)
You are designing an enterprise data warehouse in Azure Synapse Analytics that will contain a table named Customers. Customers will contain credit card information.
You need to recommend a solution to provide salespeople with the ability to view all the entries in Customers. The solution must prevent all the salespeople from viewing or inferring the credit card information.
What should you include in the recommendation?

A. data masking
B. Always Encrypted
C. column-level security
D. row-level security

Answer: A

Explanation:
SQL Database dynamic data masking limits sensitive data exposure by masking it to non-privileged users. The Credit card masking method exposes the last four digits of the designated fields and adds a constant string as a prefix in the form of a credit card.
Example: XXXX-XXXX-XXXX-1234
Reference:
https://docs.microsoft.com/en-us/azure/sql-database/sql-database-dynamic-data-masking-get-started

NEW QUESTION 64
- (Exam Topic 3)
You are planning a streaming data solution that will use Azure Databricks. The solution will stream sales transaction data from an online store. The solution has the following specifications:
* The output data will contain items purchased, quantity, line total sales amount, and line total tax amount.
* Line total sales amount and line total tax amount will be aggregated in Databricks.
* Sales transactions will never be updated. Instead, new rows will be added to adjust a sale.
You need to recommend an output mode for the dataset that will be processed by using Structured Streaming. The solution must minimize duplicate data.
What should you recommend?

A. Append
B. Update
C. Complete

Answer: C

NEW QUESTION 66
- (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 68
- (Exam Topic 3)
You are implementing Azure Stream Analytics windowing functions.
Which windowing function should you use for each requirement? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

Segment the data stream into distinct time segments that repeat but do not overlap:
- Hopping
- Sliding
- Tumbling

Segment the data stream into distinct time segments that repeat and can overlap:
- Hopping
- Sliding
- Tumbling

Segment the data stream to produce an output only when an event occurs:
- Hopping
- Sliding
- Tumbling

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Answer Area

Segment the data stream into distinct time segments that repeat but do not overlap:
- Hopping
- Sliding
- Tumbling

Segment the data stream into distinct time segments that repeat and can overlap:
- Hopping
- Sliding
- Tumbling

Segment the data stream to produce an output only when an event occurs:
- Hopping
- Sliding
- Tumbling

NEW QUESTION 73
- (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 74
- (Exam Topic 3)
You need to create a partitioned table in an Azure Synapse Analytics dedicated SQL pool.

How should you complete the Transact-SQL statement? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.
NOTE: Each correct selection is worth one point.

Values

| CLUSTERED INDEX |
| COLLATE |
| DISTRIBUTION |
| PARTITION |
| PARTITION FUNCTION |
| PARTITION SCHEME |

Answer Area

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

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: DISTRIBUTION
Table distribution options include DISTRIBUTION = HASH (distribution_column_name), assigns each row
to one distribution by hashing the value stored in distribution_column_name. Box 2: PARTITION
Table partition options. Syntax:
PARTITION (partition_column_name RANGE [LEFT | RIGHT] FOR VALUES ([boundary_value [,...n]]
))
Reference:
https://docs.microsoft.com/en-us/sql/t-sql/statements/create-table-azure-sql-data-warehouse?

NEW QUESTION 78
- (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 83
- (Exam Topic 3)
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 into Table1 and azure Data Lake Storage Gen2 container named container1.
You plan to insert data from the files 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: In an Azure Synapse Analytics pipeline, you use a data flow that contains a Derived Column transformation.

A. Yes
B. No

Answer: B

NEW QUESTION 88
- (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 89
- (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 session window that uses a timeout 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 94
- (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: A

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 98
- (Exam Topic 3)
You have an Azure event hub named retailhub that has 16 partitions. Transactions are posted to retailhub. Each transaction includes the transaction ID, the individual line items, and the payment details. The transaction ID is used as the partition key.
You are designing an Azure Stream Analytics job to identify potentially fraudulent transactions at a retail store. The job will use retailhub as the input. The job will output the transaction ID, the individual line items, the payment details, a fraud score, and a fraud indicator.
You plan to send the output to an Azure event hub named fraudhub.

You need to ensure that the fraud detection solution is highly scalable and processes transactions as quickly as possible.
How should you structure the output of the Stream Analytics job? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Number of partitions: ▼

| 1 |
| 8 |
| 16 |
| 32 |

Partition key: ▼

| Fraud indicator |
| Fraud score |
| Individual line items |
| Payment details |
| Transaction ID |

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Box 1: 16
For Event Hubs you need to set the partition key explicitly.
An embarrassingly parallel job is the most scalable scenario in Azure Stream Analytics. It connects one partition of the input to one instance of the query to one partition of the output.
Box 2: Transaction ID Reference:
https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-features#partitions

NEW QUESTION 100
- (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 104
- (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 during the last five minutes every five minutes. Each tweet must only be counted once.
Which windowing function should you use?

A. a five-minute Session window
B. a five-minute Sliding window
C. a five-minute Tumbling window
D. a five-minute Hopping window that has one-minute hop

Answer: C

Explanation:
Tumbling window functions are used to segment a data stream into distinct time segments and perform a function against them, such as the example below. The key differentiators of a Tumbling window are that they repeat, do not overlap, and an event cannot belong to more than one tumbling window.
References:
https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-window-functions

NEW QUESTION 108
- (Exam Topic 3)
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 into Table1 and azure Data Lake Storage Gen2 container named container1.
You plan to insert data from the files 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: In an Azure Synapse Analytics pipeline, you use a Get Metadata activity that retrieves the DateTime of the files.
Does this meet the goal?

A. Yes
B. No

Answer: B

NEW QUESTION 110
......

Thank You for Trying Our Product

We offer two products:

1st - We have Practice Tests Software with Actual Exam Questions

2nd - Questons and Answers in PDF Format

DP-203 Practice Exam Features:

* DP-203 Questions and Answers Updated Frequently

* DP-203 Practice Questions Verified by Expert Senior Certified Staff

* DP-203 Most Realistic Questions that Guarantee you a Pass on Your FirstTry

* DP-203 Practice Test Questions in Multiple Choice Formats and Updatesfor 1 Year

100% Actual & Verified — Instant Download, Please Click
Order The DP-203 Practice Test Here