

# Exam Questions DP-203

Data Engineering on Microsoft Azure

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



### 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:	<input type="checkbox"/> Sales date <input checked="" type="checkbox"/> Product ID <input checked="" type="checkbox"/> Promotion ID
Store product sales transactions data in:	<input checked="" type="checkbox"/> An Azure Synapse Analytics dedicated SQL pool <input checked="" type="checkbox"/> An Azure Synapse Analytics serverless SQL pool <input type="checkbox"/> 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 ensure that the Twitter feed data can be analyzed in the dedicated SQL pool. The solution must meet the customer sentiment analytics requirements. Which three Transaction-SQL DDL commands should you run in sequence? To answer, move the appropriate commands from the list of commands 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.

#### Commands

#### Answer Area

CREATE EXTERNAL DATA SOURCE
CREATE EXTERNAL FILE FORMAT
CREATE EXTERNAL TABLE
CREATE EXTERNAL TABLE AS SELECT
CREATE DATABASE SCOPED CREDENTIAL

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

Scenario: Allow Contoso users to use PolyBase in an Azure Synapse Analytics dedicated SQL pool to query the content of the data records that host the Twitter feeds. Data must be protected by using row-level security (RLS). The users must be authenticated by using their own Azure AD credentials.

Box 1: CREATE EXTERNAL DATA SOURCE

External data sources are used to connect to storage accounts. Box 2: CREATE EXTERNAL FILE FORMAT

CREATE EXTERNAL FILE FORMAT creates an external file format object that defines external data stored in Azure Blob Storage or Azure Data Lake Storage. Creating an external file format is a prerequisite for creating an external table.

Box 3: CREATE EXTERNAL TABLE AS SELECT

When used in conjunction with the CREATE TABLE AS SELECT statement, selecting from an external table imports data into a table within the SQL pool. In addition to the COPY statement, external tables are useful for loading data.

Reference:

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

### 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 1)

You need to implement the surrogate key for the retail store table. The solution must meet the sales transaction dataset requirements. What should you create?

- A. a table that has an IDENTITY property
- B. a system-versioned temporal table
- C. a user-defined SEQUENCE object
- D. a table that has a FOREIGN KEY constraint

**Answer:** A

#### Explanation:

Scenario: Implement a surrogate key to account for changes to the retail store addresses.

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 5

- (Exam Topic 2)

Which Azure Data Factory components should you recommend using together to import the daily inventory data from the SQL server to Azure Data Lake Storage? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Integration runtime type: ▼

Azure integration runtime
Azure-SSIS integration runtime
Self-hosted integration runtime

Trigger type: ▼

Event-based trigger
Schedule trigger
Tumbling window trigger

Activity type: ▼

Copy activity
Lookup activity
Stored procedure activity

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

Box 1: Self-hosted integration runtime

A self-hosted IR is capable of running copy activity between a cloud data stores and a data store in private network.

Box 2: Schedule trigger

Schedule every 8 hours Box 3: Copy activity Scenario:

- > Customer data, including name, contact information, and loyalty number, comes from Salesforce and can be imported into Azure once every eight hours. Row modified dates are not trusted in the source table.
- > Product data, including product ID, name, and category, comes from Salesforce and can be imported into Azure once every eight hours. Row modified dates are not trusted in the source table.

#### NEW QUESTION 6

- (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.

Library:

Workspace:

- 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 7**

- (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 8**

- (Exam Topic 3)

You are designing a slowly changing dimension (SCD) for supplier data in an Azure Synapse Analytics dedicated SQL pool.

You plan to keep a record of changes to the available fields. The supplier data contains the following columns.

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

Which three additional columns should you add to the data to create a Type 2 SCD? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. surrogate primary key
- B. foreign key
- C. effective start date
- D. effective end date
- E. last modified date
- F. business key

**Answer:** BCF

#### NEW QUESTION 9

- (Exam Topic 3)

You have several Azure Data Factory pipelines that contain a mix of the following types of activities.

- \* Wrangling data flow
- \* Notebook
- \* Copy
- \* jar

Which two Azure services should you use to debug the activities? Each correct answer presents part of the solution NOTE: Each correct selection is worth one point.

- A. Azure HDInsight
- B. Azure Databricks
- C. Azure Machine Learning
- D. Azure Data Factory
- E. Azure Synapse Analytics

**Answer:** CE

#### NEW QUESTION 10

- (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 10

- (Exam Topic 3)

You have an enterprise-wide Azure Data Lake Storage Gen2 account. The data lake is accessible only through an Azure virtual network named VNET1. You are building a SQL pool in Azure Synapse that will use data from the data lake. Your company has a sales team. All the members of the sales team are in an Azure Active Directory group named Sales. POSIX controls are used to assign the Sales group access to the files in the data lake. You plan to load data to the SQL pool every hour. You need to ensure that the SQL pool can load the sales data from the data lake. Which three actions should you perform? Each correct answer presents part of the solution. NOTE: Each area selection is worth one point.

- A. Add the managed identity to the Sales group.
- B. Use the managed identity as the credentials for the data load process.
- C. Create a shared access signature (SAS).
- D. Add your Azure Active Directory (Azure AD) account to the Sales group.
- E. Use the shared access signature (SAS) as the credentials for the data load process.
- F. Create a managed identity.

**Answer:** ADF

**Explanation:**

The managed identity grants permissions to the dedicated SQL pools in the workspace.

Note: Managed identity for Azure resources is a feature of Azure Active Directory. The feature provides Azure services with an automatically managed identity in Azure AD Reference:

<https://docs.microsoft.com/en-us/azure/synapse-analytics/security/synapse-workspace-managed-identity>

**NEW QUESTION 12**

- (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 17**

- (Exam Topic 3)

You are designing a statistical analysis solution that will use custom proprietary 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 19**

- (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.

Service:

Window:

Analysis type:

- 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 22**

- (Exam Topic 3)

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

- Contain sales data for 20,000 products.
- Use hash distribution on a column named ProductID.
- Contain 2.4 billion records for the years 2019 and 2020.

Which number of partition ranges provides optimal compression and performance of the clustered columnstore index?

- A. 40  
 B. 240  
 C. 400  
 D. 2,400

Answer: B

**NEW QUESTION 25**

- (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 28

- (Exam Topic 3)

You have an Azure subscription that contains the following resources:

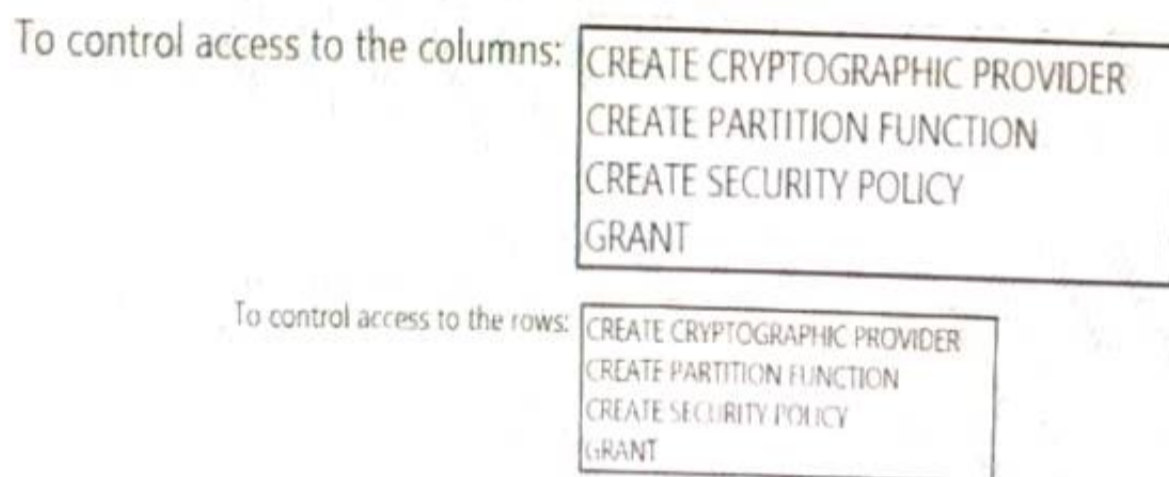
\* An Azure Active Directory (Azure AD) tenant that contains a security group named Group1.

\* An Azure Synapse Analytics SQL pool named Pool1.

You need to control the access of Group1 to specific columns and rows in a table in Pool1

Which Transact-SQL commands should you use? To answer, select the appropriate options in the answer area. NOTE: Each appropriate options in the answer area.

### Answer Area

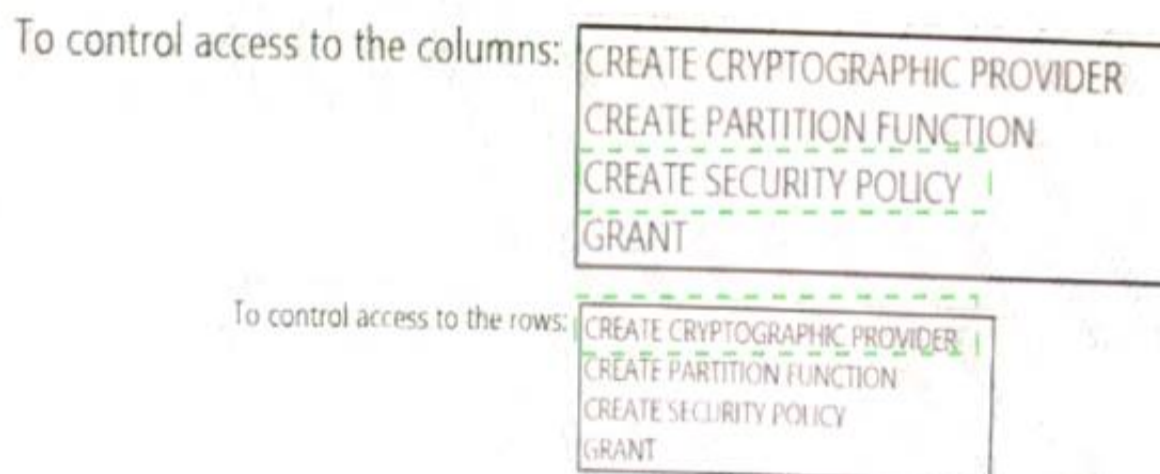


- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

### Answer Area



### NEW QUESTION 33

- (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 35

- (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

Which five actions should you perform in sequence next in is Databricks notebook? 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

Mount the Data Lake Storage onto DBFS.
Write the results to a table in Azure Synapse.
Perform transformations on the file.
Specify a temporary folder to stage the data.
Write the results to Data Lake Storage.
Read the file into a data frame.
Drop the data frame.
Perform transformations on the data frame.

- A. Mastered  
B. Not Mastered

**Answer:** A

#### Explanation:

Step 1: Read the file into a data frame.

You can load the json files as a data frame in Azure Databricks. Step 2: Perform transformations on the data frame.

Step 3: Specify a temporary folder to stage the data

Specify a temporary folder to use while moving data between Azure Databricks and Azure Synapse. Step 4: 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.

Step 5: Drop the data frame

Clean up resources. You can terminate the cluster. From the Azure Databricks workspace, select Clusters on the left. For the cluster to terminate, under Actions, point to the ellipsis (...) and select the Terminate icon.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-databricks/databricks-extract-load-sql-data-warehouse>

### NEW QUESTION 36

- (Exam Topic 3)

You have an Azure Synapse Analytics serverless SQL pool named Pool1 and an Azure Data Lake Storage Gen2 account named storage1. The AllowedBlobpublicAccess porperty is disabled for storage1.

You need to create an external data source that can be used by Azure Active Directory (Azure AD) users to access storage1 from Pool1.

What should you create first?

- A. an external resource pool  
B. a remote service binding  
C. database scoped credentials  
D. an external library

**Answer:** C

### NEW QUESTION 41

- (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 42**

- (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 46**

- (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 47**

- (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 less than 1 MB. Does this meet the goal?

- A. Yes
- B. No

**Answer: A**

**Explanation:**

When exporting data into an ORC File Format, you might get Java out-of-memory errors when there are large text columns. To work around this limitation, export only a subset of the columns.

References:

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

**NEW QUESTION 51**

- (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 52**

- (Exam Topic 3)

You have an Azure Stream Analytics query. The query returns a result set that contains 10,000 distinct values for a column named clusterID.

You monitor the Stream Analytics job and discover high latency. You need to reduce the latency.

Which two actions should you perform? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

A. Add a pass-through query.

B. Add a temporal analytic function.

C. Scale out the query by using PARTITION BY.

D. Convert the query to a reference query.

E. Increase the number of streaming units.

**Answer: CE**

**Explanation:**

C: Scaling a Stream Analytics job takes advantage of partitions in the input or output. Partitioning lets you divide data into subsets based on a partition key. A process that consumes the data (such as a Streaming Analytics job) can consume and write different partitions in parallel, which increases throughput.

E: 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. This capacity lets you focus on the query logic and abstracts the need to manage the hardware to run your Stream Analytics job in a timely manner.

#### References:

<https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-parallelization> <https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-streaming-unit-consumption>

#### NEW QUESTION 55

- (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.

#### Actions

#### Answer Area

Create a database role named Role1 and grant Role1 SELECT permissions to schema1.

Create a database role named Role1 and grant Role1 SELECT permissions to dw1.

Assign the Azure role-based access control (Azure RBAC) Reader role for dw1 to Group1.

Create a database user in dw1 that represents Group1 and uses the FROM EXTERNAL PROVIDER clause.

Assign Role1 to the Group1 database user.

- 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 56

- (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 61

- (Exam Topic 3)

You configure monitoring for a Microsoft Azure SQL Data Warehouse implementation. The implementation uses PolyBase to load data from comma-separated value (CSV) files stored in Azure Data Lake Gen 2 using an external table.

Files with an invalid schema cause errors to occur. You need to monitor for an invalid schema error. For which error should you monitor?

A. EXTERNAL TABLE access failed due to internal error: 'Java exception raised on call to HdfsBridge\_Connect:

Error[com.microsoft.polybase.client.KerberosSecureLogin] occurred while accessing external files.'

B. EXTERNAL TABLE access failed due to internal error: 'Java exception raised on call to HdfsBridge\_Connect: Error [No FileSystem for scheme: wasbs] occurred while accessing external file.'

C. Cannot execute the query "Remote Query" against OLE DB provider "SQLNCLI11": for linked server "(null)", Query aborted- the maximum reject threshold (orows) was reached while regarding from an external source: 1 rows rejected out of total 1 rows processed.

D. EXTERNAL TABLE access failed due to internal error: 'Java exception raised on call to HdfsBridge\_Connect: Error [Unable to instantiate LoginClass] occurredwhile accessing external files.'

**Answer: C**

#### Explanation:

Customer Scenario:

SQL Server 2016 or SQL DW connected to Azure blob storage. The CREATE EXTERNAL TABLE DDL points to a directory (and not a specific file) and the directory contains files with different schemas.

SSMS Error:

Select query on the external table gives the following error: Msg 7320, Level 16, State 110, Line 14

Cannot execute the query "Remote Query" against OLE DB provider "SQLNCLI11" for linked server "(null)". Query aborted-- the maximum reject threshold (0 rows) was reached while reading from an external source: 1 rows rejected out of total 1 rows processed.

Possible Reason:

The reason this error happens is because each file has different schema. The PolyBase external table DDL when pointed to a directory recursively reads all the files in that directory. When a column or data type mismatch happens, this error could be seen in SSMS.

Possible Solution:

If the data for each table consists of one file, then use the filename in the LOCATION section prepended by the directory of the external files. If there are multiple files per table, put each set of files into different directories in Azure Blob Storage and then you can point LOCATION to the directory instead of a particular file. The latter suggestion is the best practices recommended by SQLCAT even if you have one file per table.

#### NEW QUESTION 66

- (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 step2
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 joins two streams of partitioned data.	<input type="radio"/>	<input type="radio"/>
The stream scheme key and count must match the output scheme.	<input type="radio"/>	<input type="radio"/>
Providing 60 streaming units will optimize the performance of the query.	<input type="radio"/>	<input type="radio"/>

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

Box 1: Yes

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

10 partitions x six SUs = 60 SUs is fine.

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/>

#### NEW QUESTION 67

- (Exam Topic 3)

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

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

What should you recommend?

- A. Parquet
- B. Avro
- C. CSV
- D. JSON

**Answer: B**

#### Explanation:

The Avro format is great for data and message preservation. Avro schema with its support for evolution is essential for making the data robust for streaming architectures like Kafka, and with the metadata that schema provides, you can reason on the data. Having a schema provides robustness in providing meta-data about the data stored in Avro records which are self- documenting the data. References: <http://cloudurable.com/blog/avro/index.html>

#### NEW QUESTION 68

- (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 73

- (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 76

- (Exam Topic 3)

You have an Azure Synapse Analytics job that uses Scala. You need to view the status of the job.

What should you do?

- A. From Azure Monitor, run a Kusto query against the AzureDiagnostics table.
- B. From Azure Monitor, run a Kusto query against the SparkLogging1 Event.CL table.
- C. From Synapse Studio, select the workspace
- D. From Monitor, select Apache Sparks applications.

- E. From Synapse Studio, select the workspac  
 F. From Monitor, select SQL requests.

**Answer:** C

#### NEW QUESTION 80

- (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:

Partition key:

- 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 82

- (Exam Topic 3)

You have a partitioned table in an Azure Synapse Analytics dedicated SQL pool.

You need to design queries to maximize the benefits of partition elimination. What should you include in the Transact-SQL queries?

- A. JOIN  
 B. WHERE  
 C. DISTINCT  
 D. GROUP BY

**Answer:** B

#### NEW QUESTION 85

- (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 87

- (Exam Topic 3)

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

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

You need to alter the table to meet the following requirements:

- Ensure that users can identify the current manager of employees.
- Support creating an employee reporting hierarchy for your entire company.
- Provide fast lookup of the managers' attributes such as name and job title.

Which column should you add to the table?

- A. [ManagerEmployeeID] [int] NULL
- B. [ManagerEmployeeID] [smallint] NULL
- C. [ManagerEmployeeKey] [int] NULL
- D. [ManagerName] [varchar](200) NULL

Answer: A

#### Explanation:

Use the same definition as the EmployeeID column. Reference:

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

#### NEW QUESTION 89

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