



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.

- 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.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

NEW QUESTION 3

- (Exam Topic 3)

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

You can send application logs and metrics from Azure Databricks to a Log Analytics workspace. It uses the Azure Databricks Monitoring Library, which is available on GitHub.

References:

<https://docs.microsoft.com/en-us/azure/architecture/databricks-monitoring/application-logs>

NEW QUESTION 4

- (Exam Topic 3)

You have an on-premises data warehouse that includes the following fact tables. Both tables have the following columns: DateKey, ProductKey, RegionKey. There are 120 unique product keys and 65 unique region keys.

Queries that use the data warehouse take a long time to complete.

You plan to migrate the solution to use Azure Synapse Analytics. You need to ensure that the Azure-based solution optimizes query performance and minimizes processing skew.

What should you recommend? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Hash-distributed

Box 2: ProductKey

ProductKey is used extensively in joins.

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

Box 3: Round-robin

Box 4: RegionKey

Round-robin tables are useful for improving loading speed.

Consider using the round-robin distribution for your table in the following scenarios:

When getting started as a simple starting point since it is the default

If there is no obvious joining key

If there is not good candidate column for hash distributing the table

If the table does not share a common join key with other tables

If the join is less significant than other joins in the query

When the table is a temporary staging table

Note: A distributed table appears as a single table, but the rows are actually stored across 60 distributions. The rows are distributed with a hash or round-robin algorithm.

Reference:

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

NEW QUESTION 5

- (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 6

- (Exam Topic 3)

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

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

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

A. File2.csv and File3.csv only

B. File1.csv and File4.csv only

C. File1.csv, File2.csv, File3.csv, and File4.csv

D. File1.csv only

Answer: C

Explanation:

To run a T-SQL query over a set of files within a folder or set of folders while treating them as a single entity or rowset, provide a path to a folder or a pattern (using wildcards) over a set of files or folders. Reference:

<https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/query-data-storage#query-multiple-files-or-folders>

NEW QUESTION 7

- (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 8

- (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 9

- (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 10

- (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 10

- (Exam Topic 3)

You plan to implement an Azure Data Lake Gen2 storage account.

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

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

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

Answer: A

Explanation:

Geo-redundant storage (GRS) copies your data synchronously three times within a single physical location in the primary region using LRS. It then copies your data asynchronously to a single physical location in the secondary region.

Reference:

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

NEW QUESTION 14

- (Exam Topic 3)

You are designing an Azure Synapse Analytics dedicated SQL pool.

You need to ensure that you can audit access to Personally Identifiable information (PII). What should you include in the solution?

- A. dynamic data masking
- B. row-level security (RLS)
- C. sensitivity classifications
- D. column-level security

Answer: D

NEW QUESTION 16

- (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 20

- (Exam Topic 3)

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

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

NEW QUESTION 24

- (Exam Topic 3)

You plan to monitor an Azure data factory by using the Monitor & Manage app.

You need to identify the status and duration of activities that reference a table in a source database.

Which three actions should you perform in sequence? To answer, move the actions from the list of actions to the answer area and arrange them in the correct order.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Step 1: From the Data Factory authoring UI, generate a user property for Source on all activities. Step 2: From the Data Factory monitoring app, add the Source user property to Activity Runs table.

You can promote any pipeline activity property as a user property so that it becomes an entity that you can monitor. For example, you can promote the Source and Destination properties of the copy activity in your pipeline as user properties. You can also select Auto Generate to generate the Source and Destination user properties for a copy activity.

Step 3: From the Data Factory authoring UI, publish the pipelines

Publish output data to data stores such as Azure SQL Data Warehouse for business intelligence (BI) applications to consume.

References:

<https://docs.microsoft.com/en-us/azure/data-factory/monitor-visually>

NEW QUESTION 25

- (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.

- 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 26

- (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:

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 30

- (Exam Topic 3)

You have an Azure Stream Analytics job that is a Stream Analytics project solution in Microsoft Visual Studio. The job accepts data generated by IoT devices in the JSON format.

You need to modify the job to accept data generated by the IoT devices in the Protobuf format.

Which three actions should you perform from Visual Studio on sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Step 1: Add an Azure Stream Analytics Custom Deserializer Project (.NET) project to the solution. Create a custom deserializer

* 1. Open Visual Studio and select File > New > Project. Search for Stream Analytics and select Azure Stream Analytics Custom Deserializer Project (.NET). Give the project a name, like Protobuf Deserializer.

* 2. In Solution Explorer, right-click your Protobuf Deserializer project and select Manage NuGet Packages from the menu. Then install the Microsoft.Azure.StreamAnalytics and Google.Protobuf NuGet packages.

* 3. Add the MessageBodyProto class and the MessageBodyDeserializer class to your project.

* 4. Build the Protobuf Deserializer project.

Step 2: Add .NET deserializer code for Protobuf to the custom deserializer project

Azure Stream Analytics has built-in support for three data formats: JSON, CSV, and Avro. With custom .NET deserializers, you can read data from other formats such as Protocol Buffer, Bond and other user defined formats for both cloud and edge jobs.

Step 3: Add an Azure Stream Analytics Application project to the solution Add an Azure Stream Analytics project

In Solution Explorer, right-click the Protobuf Deserializer solution and select Add > New Project. Under Azure Stream Analytics > Stream Analytics, choose Azure Stream Analytics Application. Name it ProtobufCloudDeserializer and select OK.

Right-click References under the ProtobufCloudDeserializer Azure Stream Analytics project. Under Projects, add Protobuf Deserializer. It should be automatically populated for you.

Reference:

<https://docs.microsoft.com/en-us/azure/stream-analytics/custom-deserializer>

NEW QUESTION 31

- (Exam Topic 3)

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

Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Type 2

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

Reference:

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

NEW QUESTION 35

- (Exam Topic 3)

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

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

```
SELECT  
SupplierKey, StockItemKey, COUNT(*)  
FROM FactPurchase  
WHERE DateKey >= 20210101  
AND DateKey <= 20210131  
GROUP BY SupplierKey, StockItemKey
```

Which table distribution will minimize query times?

- A. round-robin
- B. replicated
- C. hash-distributed on DateKey
- D. hash-distributed on PurchaseKey

Answer: D

Explanation:

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

Reference:

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

NEW QUESTION 40

- (Exam Topic 3)

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.

B. Not Mastered

Answer: A

Explanation:

NEW QUESTION 45

- (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.

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 48

- (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 49

- (Exam Topic 3)

You have an Azure Stream Analytics job that receives clickstream data from an Azure event hub.

Count the number of clicks within each 10-second

window based on the country of a visitor.

Ensure that each click is NOT counted more than once. How should you define the Query?

- A. SELECT Country, Avg(*) AS AverageFROM ClickStream TIMESTAMP BY CreatedAt GROUP BY Country, SlidingWindow(second, 10)
- B. SELECT Country, Count(*) AS CountFROM ClickStream TIMESTAMP BY CreatedAt GROUP BY Country, TumblingWindow(second, 10)
- C. SELECT Country, Avg(*) AS AverageFROM ClickStream TIMESTAMP BY CreatedAt GROUP BY Country, HoppingWindow(second, 10, 2)
- D. SELECT Country, Count(*) AS CountFROM ClickStream TIMESTAMP BY CreatedAt GROUP BY Country, SessionWindow(second, 5, 10)

Answer: B

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.

Example: Reference:

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

NEW QUESTION 54

- (Exam Topic 3)

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

File sizes range from 4.KB to 5 GB.

You need to ensure that the files stored in the container are optimized for batch processing. What should you do?

- A. Compress the files.
- B. Merge the files.
- C. Convert the files to JSON
- D. Convert the files to Avro.

Answer: D

NEW QUESTION 57

- (Exam Topic 3)

You are building an Azure Analytics query that will receive input data from Azure IoT Hub and write the results to Azure Blob storage.

You need to calculate the difference in readings per sensor per hour.

How should you complete the query? 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: LAG

The LAG analytic operator allows one to look up a “previous” event in an event stream, within certain constraints. It is very useful for computing the rate of growth of a variable, detecting when a variable crosses a threshold, or when a condition starts or stops being true.

Box 2: LIMIT DURATION

Example: Compute the rate of growth, per sensor: SELECT sensorId,

growth = reading

LAG(reading) OVER (PARTITION BY sensorId LIMIT DURATION(hour, 1)) FROM input

Reference:

<https://docs.microsoft.com/en-us/stream-analytics-query/lag-azure-stream-analytics>

NEW QUESTION 59

- (Exam Topic 3)

You need to design an Azure Synapse Analytics dedicated SQL pool that meets the following requirements:

Can return an employee record from a given point in time.

Maintains the latest employee information.

Minimizes query complexity.

How should you model the employee data?

- A. as a temporal table
- B. as a SQL graph table
- C. as a degenerate dimension table
- D. as a Type 2 slowly changing dimension (SCD) table

Answer: D

Explanation:

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

Reference:

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

NEW QUESTION 62

- (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 67

- (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 69

- (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.

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 71

- (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 76

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