



Microsoft

Exam Questions DP-203

Data Engineering on Microsoft Azure

NEW QUESTION 1

- (Exam Topic 3)

You have a self-hosted integration runtime in Azure Data Factory.

The current status of the integration runtime has the following configurations:

- > Status: Running
- > Type: Self-Hosted
- > Version: 4.4.7292.1
- > Running / Registered Node(s): 1/1
- > High Availability Enabled: False
- > Linked Count: 0
- > Queue Length: 0
- > Average Queue Duration: 0.00s

The integration runtime has the following node details:

- > Name: X-M
- > Status: Running
- > Version: 4.4.7292.1
- > Available Memory: 7697MB
- > CPU Utilization: 6%
- > Network (In/Out): 1.21KBps/0.83KBps
- > Concurrent Jobs (Running/Limit): 2/14
- > Role: Dispatcher/Worker
- > Credential Status: In Sync

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

NOTE: Each correct selection is worth one point.

If the X-M node becomes unavailable, all executed pipelines will:

▼

fail until the node comes back online

switch to another integration runtime

exceed the CPU limit

The number of concurrent jobs and the CPU usage indicate that the Concurrent Jobs (Running/Limit) value should be:

▼

raised

lowered

left as is

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: fail until the node comes back online

We see: High Availability Enabled: False

Note: Higher availability of the self-hosted integration runtime so that it's no longer the single point of failure in your big data solution or cloud data integration with Data Factory.

Box 2: lowered We see:

Concurrent Jobs (Running/Limit): 2/14 CPU Utilization: 6%

Note: When the processor and available RAM aren't well utilized, but the execution of concurrent jobs reaches a node's limits, scale up by increasing the number of concurrent jobs that a node can run

Reference:

<https://docs.microsoft.com/en-us/azure/data-factory/create-self-hosted-integration-runtime>

NEW QUESTION 2

- (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 3

- (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: <https://docs.databricks.com/clusters/configure.html>

NEW QUESTION 4

- (Exam Topic 3)

You have an Azure Data Factory that contains 10 pipelines.

You need to label each pipeline with its main purpose of either ingest, transform, or load. The labels must be available for grouping and filtering when using the monitoring experience in Data Factory.

What should you add to each pipeline?

- A. a resource tag
- B. a correlation ID
- C. a run group ID
- D. an annotation

Answer: D

Explanation:

<https://docs.microsoft.com/en-us/sql/t-sql/statements/create-partition-function-transact-sql?view=sql-server-ver1>

NEW QUESTION 7

- (Exam Topic 3)

You have an Azure Data Factory pipeline named pipeline1 that is invoked by a tumbling window trigger named Trigger1. Trigger1 has a recurrence of 60 minutes. You need to ensure that pipeline1 will execute only if the previous execution completes successfully. How should you configure the self-dependency for Trigger1?

- A. offset: "-00:01:00" size: "00:01:00"
- B. offset: "01:00:00" size: "-01:00:00"
- C. offset: "01:00:00" size: "01:00:00"
- D. offset: "-01:00:00" size: "01:00:00"

Answer: D

Explanation:

Tumbling window self-dependency properties

In scenarios where the trigger shouldn't proceed to the next window until the preceding window is successfully completed, build a self-dependency. A self-dependency trigger that's dependent on the success of earlier runs of itself within the preceding hour will have the properties indicated in the following code.

Example code:

```
"name": "DemoSelfDependency", "properties": {
  "runtimeState": "Started", "pipeline": { "pipelineReference": { "referenceName": "Demo", "type": "PipelineReference"
}
},
"type": "TumblingWindowTrigger", "typeProperties": {
  "frequency": "Hour", "interval": 1,
  "startTime": "2018-10-04T00:00:00Z", "delay": "00:01:00",
  "maxConcurrency": 50, "retryPolicy": { "intervalInSeconds": 30
},
"dependsOn": [
{
  "type": "SelfDependencyTumblingWindowTriggerReference",
  "size": "01:00:00",
  "offset": "-01:00:00"
}
]
}
}
```

Reference: <https://docs.microsoft.com/en-us/azure/data-factory/tumbling-window-trigger-dependency>

NEW QUESTION 8

- (Exam Topic 3)

You are designing the folder structure for an Azure Data Lake Storage Gen2 account. You identify the following usage patterns:

- Users will query data by using Azure Synapse Analytics serverless SQL pools and Azure Synapse Analytics serverless Apache Spark pods.
- Most queries will include a filter on the current year or week.
- Data will be secured by data source.

You need to recommend a folder structure that meets the following requirements:

- Supports the usage patterns
- Simplifies folder security
- Minimizes query times

Which folder structure should you recommend?

A)

```
\\YYYY\MM\DataSource\SubjectArea\FileData_YYYY_MM_DD.parquet
```

B)

```
DataSource\SubjectArea\MM\YYYY\FileData_YYYY_MM_DD.parquet
```

C)

```
\DataSource\SubjectArea\YYYY\MM\FileData_YYYY_MM_DD.parquet
```

D)

```
\DataSource\SubjectArea\YYYY-MM\FileData_YYYY_MM_DD.parquet
```

E)

```
MM\YYYY\SubjectArea\DataSource\FileData_YYYY_MM_DD.parquet
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D
- E. Option E

Answer: C

Explanation:

Data will be secured by data source. -> Use DataSource as top folder.

Most queries will include a filter on the current year or week -> Use \YYYY\MM as subfolders. Common Use Cases

A common use case is to filter data stored in a date (and possibly time) folder structure such as

/YYYY/MM/DD/ or /YYYY/MM/YYYY-MM-DD/. As new data is generated/sent/copied/moved to the storage account, a new folder is created for each specific time

period. This strategy organises data into a maintainable folder structure.
 Reference: <https://www.serverlesssql.com/optimisation/azurestoragefilteringusingfilepath/>

NEW QUESTION 9

- (Exam Topic 3)

You plan to create a dimension table in Azure Synapse Analytics that will be less than 1 GB. You need to create the table to meet the following requirements:

- Provide the fastest Query time.
- Minimize data movement during queries. Which type of table should you use?

- A. hash distributed
- B. heap
- C. replicated
- D. round-robin

Answer: C

Explanation:

A replicated table has a full copy of the table accessible on each Compute node. Replicating a table removes the need to transfer data among Compute nodes before a join or aggregation. Since the table has multiple copies, replicated tables work best when the table size is less than 2 GB compressed. 2 GB is not a hard limit.

Reference:

<https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/design-guidance-for-replicated-tab>

NEW QUESTION 10

- (Exam Topic 3)

You have an Azure data factory.

You need to examine the pipeline failures from the last 180 flays. What should you use?

- A. the Activity tog blade for the Data Factory resource
- B. Azure Data Factory activity runs in Azure Monitor
- C. Pipeline runs in the Azure Data Factory user experience
- D. the Resource health blade for the Data Factory resource

Answer: B

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 10

- (Exam Topic 3)

You are building an Azure Stream Analytics job to identify how much time a user spends interacting with a feature on a webpage.

The job receives events based on user actions on the webpage. Each row of data represents an event. Each event has a type of either 'start' or 'end'.

You need to calculate the duration between start and end events.

How should you complete the query? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

```

SELECT
    [user],
    feature,
    [Box 1],
    second,
    [Box 2],
    (Time) as duration
    (Time) OVER (PARTITION BY [user], feature LIMIT DURATION(hour, 1) WHEN Event = 'start'),
FROM input TIMESTAMP BY Time
WHERE
    Event = 'end'
    
```

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: DATEDIFF

DATEDIFF function returns the count (as a signed integer value) of the specified datepart boundaries crossed between the specified startdate and enddate.

Syntax: DATEDIFF (datepart , startdate, enddate) Box 2: LAST

The LAST function can be used to retrieve the last event within a specific condition. In this example, the condition is an event of type Start, partitioning the search by PARTITION BY user and feature. This way, every user and feature is treated independently when searching for the Start event. LIMIT DURATION limits the search back in time to 1 hour between the End and Start events.

Example: SELECT
 [user], feature, DATEDIFF(
 second,
 LAST(Time) OVER (PARTITION BY [user], feature LIMIT DURATION(hour,
 1) WHEN Event = 'start'), Time) as duration
 FROM input TIMESTAMP BY Time WHERE
 Event = 'end' Reference:
<https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-stream-analytics-query-patterns>

NEW QUESTION 15

- (Exam Topic 3)

You are designing an application that will use an Azure Data Lake Storage Gen 2 account to store petabytes of license plate photos from toll booths. The account will use zone-redundant storage (ZRS).

You identify the following usage patterns:

- The data will be accessed several times a day during the first 30 days after the data is created. The data must meet an availability SLA of 99.9%.
- After 90 days, the data will be accessed infrequently but must be available within 30 seconds.
- After 365 days, the data will be accessed infrequently but must be available within five minutes.

First 30 days:

After 90 days:

After 365 days:

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Hot
 The data will be accessed several times a day during the first 30 days after the data is created. The data must meet an availability SLA of 99.9%.

Box 2: Cool
 After 90 days, the data will be accessed infrequently but must be available within 30 seconds. Data in the Cool tier should be stored for a minimum of 30 days. When your data is stored in an online access tier (either Hot or Cool), users can access it immediately. The Hot tier is the best choice for data that is in active use, while the Cool tier is ideal for data that is accessed less frequently, but that still must be available for reading and writing.

Box 3: Archive
 After 365 days, the data will be accessed infrequently but must be available within five minutes. Reference: <https://docs.microsoft.com/en-us/azure/storage/blobs/access-tiers-overview> <https://docs.microsoft.com/en-us/azure/storage/blobs/archive-rehydrate-overview>

NEW QUESTION 18

- (Exam Topic 3)

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

Distribution: ▼
 Hash
 Replicated
 Round-robin

Indexing: ▼
 Clustered
 Clustered columnstore
 Heap

Partitioning: ▼
 Date
 None

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Graphical user interface, application, table Description automatically generated

Box 1: Hash

Hash-distributed tables improve query performance on large fact tables. They can have very large numbers of rows and still achieve high performance.

Box 2: Clustered columnstore

When creating partitions on clustered columnstore tables, it is important to consider how many rows belong to each partition. For optimal compression and performance of clustered columnstore tables, a minimum of 1 million rows per distribution and partition is needed.

Box 3: Date

Table partitions enable you to divide your data into smaller groups of data. In most cases, table partitions are created on a date column.

Partition switching can be used to quickly remove or replace a section of a table. Reference:

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

NEW QUESTION 23

- (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.

```
SELECT sensorId,
       growth = reading -
            (reading) OVER (PARTITION BY sensorId  (hour, 1))
FROM input
```

LAG
 LAST
 LEAD

LIMIT DURATION
 OFFSET
 WHEN

- 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 25

- (Exam Topic 3)

A company plans to use Platform-as-a-Service (PaaS) to create the new data pipeline process. The process must meet the following requirements:

Ingest:

- > Access multiple data sources.

- Provide the ability to orchestrate workflow.
- Provide the capability to run SQL Server Integration Services packages. Store:
- Optimize storage for big data workloads.
- Provide encryption of data at rest.
- Operate with no size limits. Prepare and Train:
- Provide a fully-managed and interactive workspace for exploration and visualization.
- Provide the ability to program in R, SQL, Python, Scala, and Java.
- Provide seamless user authentication with Azure Active Directory. Model & Serve:
- Implement native columnar storage.
- Support for the SQL language
- Provide support for structured streaming. You need to build the data integration pipeline.

Which technologies should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Architecture requirement	Technology
Ingest	<input type="text"/> Logic Apps Azure Data Factory Azure Automation
Store	<input type="text"/> Azure Data Lake Storage Azure Blob storage Azure files
Prepare and Train	<input type="text"/> HDInsight Apache Spark cluster Azure Databricks HDInsight Apache Storm cluster
Model and Serve	<input type="text"/> HDInsight Apache Kafka cluster Azure Synapse Analytics Azure Data Lake Storage

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Graphical user interface, application, table, email Description automatically generated

NEW QUESTION 27

- (Exam Topic 3)

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

You plan to create a database named DB1 in Pool1.

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

Which format should you use for the tables in DB1?

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

Answer: A

Explanation:

Serverless SQL pool can automatically synchronize metadata from Apache Spark. A serverless SQL pool database will be created for each database existing in serverless Apache Spark pools.

For each Spark external table based on Parquet or CSV and located in Azure Storage, an external table is created in a serverless SQL pool database.

Reference:

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

NEW QUESTION 30

- (Exam Topic 3)

You have an Azure data factory named ADF1.

You currently publish all pipeline authoring changes directly to ADF1.

You need to implement version control for the changes made to pipeline artifacts. The solution must ensure that you can apply version control to the resources currently defined in the UX Authoring canvas for ADF1.

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

- A. Create an Azure Data Factory trigger
- B. From the UX Authoring canvas, select Set up code repository
- C. Create a GitHub action
- D. From the UX Authoring canvas, run Publish All.
- E. Create a Git repository
- F. From the UX Authoring canvas, select Publish

Answer: DE

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/data-factory/source-control>

NEW QUESTION 31

- (Exam Topic 3)

You need to trigger an Azure Data Factory pipeline when a file arrives in an Azure Data Lake Storage Gen2 container.

Which resource provider should you enable?

- A. Microsoft.Sql
- B. Microsoft-Automation
- C. Microsoft.EventGrid
- D. Microsoft.EventHub

Answer: C

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. Data Factory natively integrates with Azure Event Grid, which lets you trigger pipelines on such events.

Reference:

<https://docs.microsoft.com/en-us/azure/data-factory/how-to-create-event-trigger> <https://docs.microsoft.com/en-us/azure/data-factory/concepts-pipeline-execution-triggers>

NEW QUESTION 35

- (Exam Topic 3)

You have a SQL pool in Azure Synapse that contains a table named dbo.Customers. The table contains a column named Email.

You need to prevent nonadministrative users from seeing the full email addresses in the Email column. The users must see values in a format of aXXX@XXXX.com instead.

What should you do?

- A. From Microsoft SQL Server Management Studio, set an email mask on the Email column.
- B. From the Azure portal, set a mask on the Email column.
- C. From Microsoft SQL Server Management studio, grant the SELECT permission to the users for all the columns in the dbo.Customers table except Email.
- D. From the Azure portal, set a sensitivity classification of Confidential for the Email column.

Answer: D

Explanation:

From Microsoft SQL Server Management Studio, set an email mask on the Email column. This is because "This feature cannot be set using portal for Azure Synapse (use PowerShell or REST API) or SQL Managed Instance." So use Create table statement with Masking e.g. CREATE TABLE Membership (MemberID int IDENTITY PRIMARY KEY, FirstName varchar(100) MASKED WITH (FUNCTION = 'partial(1,"XXXXXXX",0)') NULL, . .

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

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NEW QUESTION 37

- (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 Role1 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 42

- (Exam Topic 3)

You have an Azure Stream Analytics job.

You need to ensure that the job has enough streaming units provisioned. You configure monitoring of the SU % Utilization metric.

Which two additional metrics should you monitor? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Backlogged Input Events
- B. Watermark Delay
- C. Function Events
- D. Out of order Events
- E. Late Input Events

Answer: AB

Explanation:

To react to increased workloads and increase streaming units, consider setting an alert of 80% on the SU Utilization metric. Also, you can use watermark delay and backlogged events metrics to see if there is an impact.

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, by increasing the SUs.

Reference:

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

NEW QUESTION 44

- (Exam Topic 3)

You are designing a streaming data solution that will ingest variable volumes of data. You need to ensure that you can change the partition count after creation.

Which service should you use to ingest the data?

- A. Azure Event Hubs Dedicated
- B. Azure Stream Analytics
- C. Azure Data Factory
- D. Azure Synapse Analytics

Answer: B

Explanation:

You can't change the partition count for an event hub after its creation except for the event hub in a dedicated cluster.

Reference:

<https://docs.microsoft.com/en-us/azure/event-hubs/event-hubs-features>

NEW QUESTION 48

- (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	<input type="text"/> Azure SQL Database Azure Blob Storage Azure Cosmos DB Azure Data Lake Store
Batch processing	<input type="text"/> HDInsight Spark HDInsight Hadoop Azure Databricks HDInsight Interactive Query
Analytical data store	<input type="text"/> 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

Apache 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 to 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 52

- (Exam Topic 3)

You are creating an Apache Spark job in Azure Databricks that will ingest JSON-formatted data. You need to convert a nested JSON string into a DataFrame that will contain multiple rows. Which Spark SQL function should you use?

- A. explode
- B. filter
- C. coalesce
- D. extract

Answer: A

Explanation:

Convert nested JSON to a flattened DataFrame

You can flatten nested JSON, using only "\$column.*" and explode methods. Note: Extract and flatten

Use "\$column.*" and explode methods to flatten the struct and array types before displaying the flattened DataFrame.

Scala

```
display(DF.select($"id" as "main_id", $"name", $"batters", $"ppu", explode($"topping"))) // Exploding the topping column using explode as it is an array type
withColumn("topping_id", $"col.id") // Extracting topping_id from col using DOT form
withColumn("topping_type", $"col.type") // Extracting topping_type from col using DOT form
drop($"col")
```

```
select($"*", $"batters.*") // Flattened the struct type batters tto array type which is batter drop($"batters")
select($"*", explode($"batter")) drop($"batter")
withColumn("batter_id", $"col.id") // Extracting batter_id from col using DOT form withColumn("battter_type", $"col.type") // Extracting battter_type from col using DOT form drop($"col")
)
```

Reference: <https://learn.microsoft.com/en-us/azure/databricks/kb/scala/flatten-nested-columns-dynamically>

NEW QUESTION 57

- (Exam Topic 3)

You are performing exploratory analysis of the bus fare data in an Azure Data Lake Storage Gen2 account by using an Azure Synapse Analytics serverless SQL pool.

You execute the Transact-SQL query shown in the following exhibit.

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

What do the query results include?

- A. Only CSV files in the tripdata_2020 subfolder.
- B. All files that have file names that beginning with "tripdata_2020".
- C. All CSV files that have file names that contain "tripdata_2020".
- D. Only CSV that have file names that beginning with "tripdata_2020".

Answer: D

NEW QUESTION 61

- (Exam Topic 3)

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

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

You need to skip the header row when you import the files into the data warehouse. Before building the loading pattern, you need to prepare the required database objects in Azure Synapse Analytics.

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

NOTE: Each correct selection is worth one point

Actions	Answer Area
Create a database scoped credential that uses Azure Active Directory Application and a Service Principal Key	
Create an external data source that uses the abfs location	
Use CREATE EXTERNAL TABLE AS SELECT (CETAS) and configure the reject options to specify reject values or percentages	
Create an external file format and set the First_Row option	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

A picture containing timeline Description automatically generated

Step 1: Create an external data source that uses the abfs location

Create External Data Source to reference Azure Data Lake Store Gen 1 or 2 Step 2: Create an external file format and set the First_Row option.

Create External File Format.

Step 3: Use CREATE EXTERNAL TABLE AS SELECT (CETAS) and configure the reject options to specify reject values or percentages

To use PolyBase, you must create external tables to reference your external data. Use reject options.

Note: REJECT options don't apply at the time this CREATE EXTERNAL TABLE AS SELECT statement is run. Instead, they're specified here so that the database can use them at a later time when it imports data from the external table. Later, when the CREATE TABLE AS SELECT statement selects data from the external table, the database will use the reject options to determine the number or percentage of rows that can fail to import before it stops the import.

Reference:

<https://docs.microsoft.com/en-us/sql/relational-databases/polybase/polybase-t-sql-objects> <https://docs.microsoft.com/en-us/sql/t-sql/statements/create-external-table-as-select-transact-sql>

NEW QUESTION 66

- (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.

Values	Answer Area
all, ecommerce, retail, wholesale	<pre>CleanData split([] []) ~> SplitByDept@([])</pre>
dept=='ecommerce', dept=='retail', dept=='wholesale'	
dept=='ecommerce', dept=='wholesale', dept=='retail'	
disjoint: false	
disjoint: true	
ecommerce, retail, wholesale, all	

- 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 70

- (Exam Topic 3)

You have an Azure Synapse Analytics dedicated SQL pool.

You need to Create a fact table named Table1 that will store sales data from the last three years. The solution must be optimized for the following query operations:

Show order counts by week.

- Calculate sales totals by region.
- Calculate sales totals by product.
- Find all the orders from a given month.

Which data should you use to partition Table1?

- A. region
- B. product
- C. week
- D. month

Answer: D

Explanation:

Table partitions enable you to divide your data into smaller groups of data. In most cases, table partitions are created on a date column.

Benefits to queries

Partitioning can also be used to improve query performance. A query that applies a filter to partitioned data can limit the scan to only the qualifying partitions. This method of filtering can avoid a full table scan and only scan a smaller subset of data. With the introduction of clustered columnstore indexes, the predicate elimination performance benefits are less beneficial, but in some cases there can be a benefit to queries.

For example, if the sales fact table is partitioned into 36 months using the sales date field, then queries that filter on the sale date can skip searching in partitions that don't match the filter.

Note: Benefits to loads

The primary benefit of partitioning in dedicated SQL pool is to improve the efficiency and performance of loading data by use of partition deletion, switching and merging. In most cases data is partitioned on a date column that is closely tied to the order in which the data is loaded into the SQL pool. One of the greatest benefits of using partitions to maintain data is the avoidance of transaction logging. While simply inserting, updating, or deleting data can be the most straightforward approach, with a little thought and effort, using partitioning during your load process can substantially improve performance.

Reference:

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

NEW QUESTION 72

- (Exam Topic 3)

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

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

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

NOTE: Each correct selection is worth one point.

DimProduct is a [answer choice] slowly changing dimension (SCD).

▼
Type 0
Type 1
Type 2

The ProductKey column is [answer choice].

▼
a surrogate key
a business key
an audit column

- 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 76

- (Exam Topic 3)

You have an Azure Databricks workspace named workspace1 in the Standard pricing tier. Workspace1 contains an all-purpose cluster named cluster1. You need to reduce the time it takes for cluster 1 to start and scale up. The solution must minimize costs. What should you do first?

- A. Upgrade workspace1 to the Premium pricing tier.
- B. Create a cluster policy in workspace1.
- C. Create a pool in workspace1.
- D. Configure a global init script for workspace1.

Answer: C

Explanation:

You can use Databricks Pools to Speed up your Data Pipelines and Scale Clusters Quickly. Databricks Pools, a managed cache of virtual machine instances that enables clusters to start and scale 4 times faster. Reference: <https://databricks.com/blog/2019/11/11/databricks-pools-speed-up-data-pipelines.html>

NEW QUESTION 78

- (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: ▼

- An Azure Synapse Analytics Apache Spark pool
- An Azure Synapse Analytics serverless SQL pool
- Azure Data Factory
- Azure Stream Analytics

Window: ▼

- Hopping
- No window
- Session
- Tumbling

Analysis type: ▼

- Event pattern matching
- Lagged record comparison
- Point within polygon
- Polygon overlap

- 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 83

- (Exam Topic 3)

You plan to create an Azure Data Factory pipeline that will include a mapping data flow. You have JSON data containing objects that have nested arrays. You need to transform the JSON-formatted data into a tabular dataset. The dataset must have one row for each item in the arrays. Which transformation method should you use in the mapping data flow?

- A. unpivot
- B. flatten
- C. new branch
- D. alter row

Answer: B

Explanation:

Use the flatten transformation to take array values inside hierarchical structures such as JSON and unroll them into individual rows. This process is known as denormalization. Reference: <https://docs.microsoft.com/en-us/azure/data-factory/data-flow-flatten>

NEW QUESTION 88

- (Exam Topic 3)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution. After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

You are designing an Azure Stream Analytics solution that will analyze Twitter data.
 You need to count the tweets in each 10-second window. The solution must ensure that each tweet is counted only once.
 Solution: You use a hopping window that uses a hop size of 5 seconds and a window size 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 89

- (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 90

- (Exam Topic 3)

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

Transform data for the dimension tables by:

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

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

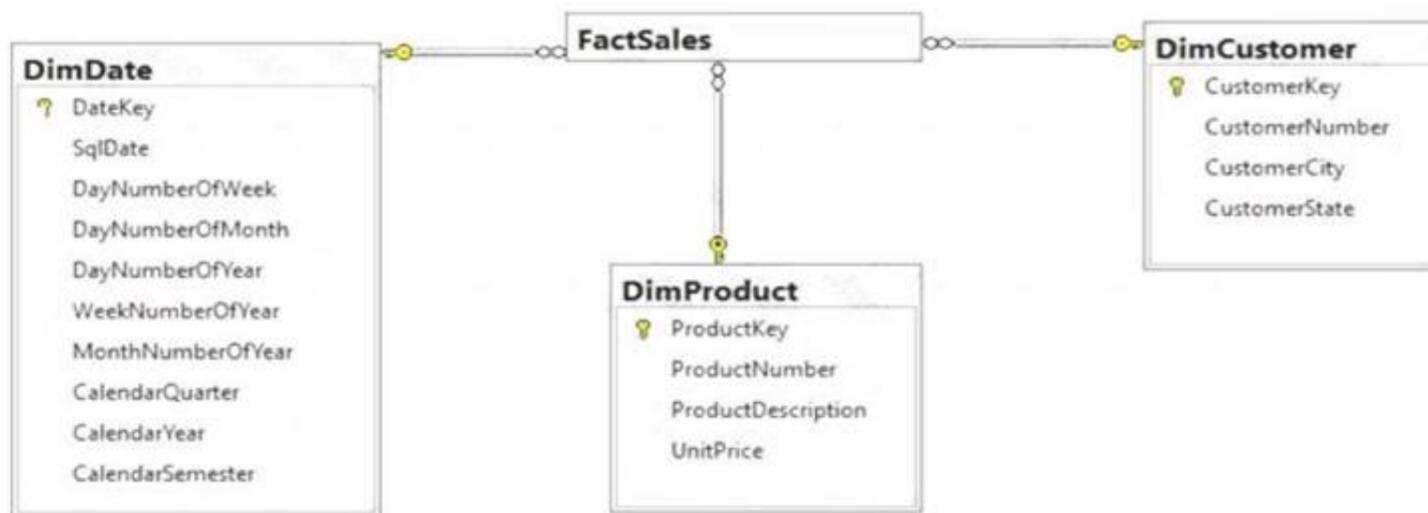
	▼
New IDENTITY columns	
A new computed column	
The business key column from the source sys	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Text, table Description automatically generated
 Box 1: Denormalize to a second normal form
 Denormalization is the process of transforming higher normal forms to lower normal forms via storing the join of higher normal form relations as a base relation. Denormalization increases the performance in data retrieval at cost of bringing update anomalies to a database.
 Box 2: New identity columns
 The collapsing relations strategy can be used in this step to collapse classification entities into component entities to obtain at dimension tables with single-part keys that connect directly to the fact table. The single-part key is a surrogate key generated to ensure it remains unique over time.
 Example:
 Diagram Description automatically generated



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

Reference:

<https://www.mssqltips.com/sqlservertip/5614/explore-the-role-of-normal-forms-in-dimensional-modeling/> <https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tables-identity>

NEW QUESTION 91

- (Exam Topic 3)

You have an Azure Synapse Analytics dedicated SQL pool that contains a large fact table. The table contains 50 columns and 5 billion rows and is a heap. Most queries against the table aggregate values from approximately 100 million rows and return only two columns.

You discover that the queries against the fact table are very slow. Which type of index should you add to provide the fastest query times?

- A. nonclustered columnstore
- B. clustered columnstore
- C. nonclustered
- D. clustered

Answer: B

Explanation:

Clustered columnstore indexes are one of the most efficient ways you can store your data in dedicated SQL pool.

Columnstore tables won't benefit a query unless the table has more than 60 million rows. Reference:

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

NEW QUESTION 92

- (Exam Topic 3)

You are designing an Azure Data Lake Storage Gen2 structure for telemetry data from 25 million devices distributed across seven key geographical regions. Each minute, the devices will send a JSON payload of metrics to Azure Event Hubs.

You need to recommend a folder structure for the data. The solution must meet the following requirements:

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

How should you recommend completing the structure? To answer, drag the appropriate values to the correct targets. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

Values	Answer Area
{deviceID}	/ Value / Value / Value .json
{mm}/{HH}/{DD}/{MM}/{YYYY}	
{regionID}/{deviceID}	
{regionID}/raw	
{YYYY}/{MM}/{DD}/{HH}	
{YYYY}/{MM}/{DD}/{HH}/{mm}	
raw/{deviceID}	
raw/{regionID}	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: {YYYY}/{MM}/{DD}/{HH}

Date Format [optional]: if the date token is used in the prefix path, you can select the date format in which your files are organized. Example: YYYY/MM/DD

Time Format [optional]: if the time token is used in the prefix path, specify the time format in which your files are organized. Currently the only supported value is HH.

Box 2: {regionID}/raw

Data engineers from each region must be able to build their own pipelines for the data of their respective region only.

Box 3: {deviceId} Reference:

<https://github.com/paolosavatori/StreamAnalyticsAzureDataLakeStore/blob/master/README.md>

NEW QUESTION 96

- (Exam Topic 3)

You have two Azure Data Factory instances named ADFdev and ADFprod. ADFdev connects to an Azure DevOps Git repository.

You publish changes from the main branch of the Git repository to ADFdev. You need to deploy the artifacts from ADFdev to ADFprod.

What should you do first?

- A. From ADFdev, modify the Git configuration.
- B. From ADFdev, create a linked service.
- C. From Azure DevOps, create a release pipeline.
- D. From Azure DevOps, update the main branch.

Answer: C

Explanation:

In Azure Data Factory, continuous integration and delivery (CI/CD) means moving Data Factory pipelines from one environment (development, test, production) to another.

Note:

The following is a guide for setting up an Azure Pipelines release that automates the deployment of a data factory to multiple environments.

- > In Azure DevOps, open the project that's configured with your data factory.
 - > On the left side of the page, select Pipelines, and then select Releases.
 - > Select New pipeline, or, if you have existing pipelines, select New and then New release pipeline.
 - > In the Stage name box, enter the name of your environment.
 - > Select Add artifact, and then select the git repository configured with your development data factory.
- Select the publish branch of the repository for the Default branch. By default, this publish branch is adf_publish.
- > Select the Empty job template.

Reference:

<https://docs.microsoft.com/en-us/azure/data-factory/continuous-integration-deployment>

NEW QUESTION 100

- (Exam Topic 3)

You are designing an Azure Databricks cluster that runs user-defined local processes. You need to recommend a cluster configuration that meets the following requirements:

- Minimize query latency.
 - Maximize the number of users that can run queues on the cluster at the same time « Reduce overall costs without compromising other requirements
- Which cluster type should you recommend?

- A. Standard with Auto termination
- B. Standard with Autoscaling
- C. High Concurrency with Autoscaling
- D. High Concurrency with Auto Termination

Answer: C

Explanation:

A High Concurrency cluster is a managed cloud resource. The key benefits of High Concurrency clusters are that they provide fine-grained sharing for maximum resource utilization and minimum query latencies.

Databricks chooses the appropriate number of workers required to run your job. This is referred to as autoscaling. Autoscaling makes it easier to achieve high cluster utilization, because you don't need to provision the cluster to match a workload.

Reference:

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

NEW QUESTION 101

- (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: B

Explanation:

By default, streams run in append mode, which adds new records to the table. <https://docs.databricks.com/delta/delta-streaming.html>

NEW QUESTION 105

- (Exam Topic 3)

You are designing an Azure Synapse Analytics workspace.

You need to recommend a solution to provide double encryption of all the data at rest.

Which two components should you include in the recommendation? Each correct answer presents part of the solution

NOTE: Each correct selection is worth one point.

- A. an X509 certificate
- B. an RSA key
- C. an Azure key vault that has purge protection enabled
- D. an Azure virtual network that has a network security group (NSG)
- E. an Azure Policy initiative

Answer: BC

Explanation:

Synapse workspaces encryption uses existing keys or new keys generated in Azure Key Vault. A single key is used to encrypt all the data in a workspace.

Synapse workspaces support RSA 2048 and 3072 byte-sized keys, and RSA-HSM keys.

The Key Vault itself needs to have purge protection enabled. Reference:

<https://docs.microsoft.com/en-us/azure/synapse-analytics/security/workspaces-encryption>

NEW QUESTION 107

- (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: You use a dedicated SQL pool to create an external table that has an additional DateTime column. Does this meet the goal?

- A. Yes
- B. No

Answer: A

NEW QUESTION 108

- (Exam Topic 3)

You have an Azure Data Lake Storage account that contains a staging zone.

You need to design a daily process to ingest incremental data from the staging zone, transform the data by executing an R script, and then insert the transformed data into a data warehouse in Azure Synapse Analytics.

Solution: You use an Azure Data Factory schedule trigger to execute a pipeline that executes mapping data Flow, and then inserts the data into the data warehouse.

Does this meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

If you need to transform data in a way that is not supported by Data Factory, you can create a custom activity, not a mapping flow, with your own data processing logic and use the activity in the pipeline. You can create a custom activity to run R scripts on your HDInsight cluster with R installed.

Reference:

<https://docs.microsoft.com/en-US/azure/data-factory/transform-data>

NEW QUESTION 110

- (Exam Topic 3)

You are designing a data mart for the human resources (HR) department at your company. The data mart will contain information and employee transactions.

From a source system you have a flat extract that has the following fields:

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

You need to design a star schema data model in an Azure Synapse Analytics dedicated SQL pool for the data mart.

Which two tables should you create? Each correct answer presents part of the solution.

- A. a dimension table for employee
- B. a fact table for Employee
- C. a dimension table for EmployeeTransaction
- D. a dimension table for Transaction
- E. a fact table for Transaction

Answer: AE

Explanation:

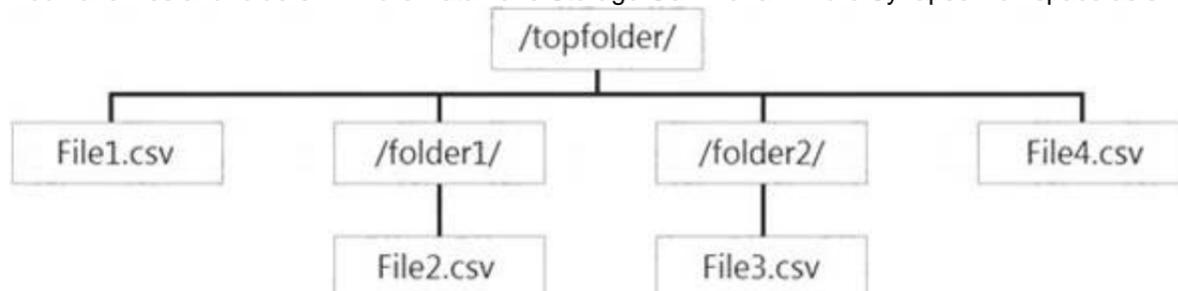
Reference:

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

NEW QUESTION 112

- (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: B

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 117

- (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 workspace
- F. From Monitor, select SQL requests.

Answer: C

Explanation:

Use Synapse Studio to monitor your Apache Spark applications. To monitor running Apache Spark application Open Monitor, then select Apache Spark applications. To view the details about the Apache Spark applications that are running, select the submitting Apache Spark application and view the details. If the Apache Spark application is still running, you can monitor the progress.

Reference:

<https://docs.microsoft.com/en-us/azure/synapse-analytics/monitoring/apache-spark-applications>

NEW QUESTION 119

- (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 124

- (Exam Topic 3)

You need to build a solution to ensure that users can query specific files in an Azure Data Lake Storage Gen2 account from an Azure Synapse Analytics serverless SQL pool.

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

NOTE: More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

Actions		Answer Area
Create an external file format object	 	
Create an external data source		
Create a query that uses Create Table as Select		
Create a table		
Create an external table		

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Graphical user interface, text, application, email Description automatically generated

Step 1: Create an external data source

You can create external tables in Synapse SQL pools via the following steps:

- > CREATE EXTERNAL DATA SOURCE to reference an external Azure storage and specify the credential that should be used to access the storage.
- > CREATE EXTERNAL FILE FORMAT to describe format of CSV or Parquet files.
- > CREATE EXTERNAL TABLE on top of the files placed on the data source with the same file format.

Step 2: Create an external file format object

Creating an external file format is a prerequisite for creating an external table. Step 3: Create an external table

Reference:

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

NEW QUESTION 129

- (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 130

- (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 133

- (Exam Topic 3)

You have an Azure Synapse Analytics pipeline named Pipeline1 that contains a data flow activity named Dataflow1. Pipeline1 retrieves files from an Azure Data Lake Storage Gen 2 account named storage1. Dataflow1 uses the AutoResolveIntegrationRuntime integration runtime configured with a core count of 128. You need to optimize the number of cores used by Dataflow1 to accommodate the size of the files in storage1. What should you configure? To answer, select the appropriate options in the answer area.

To Pipeline1, add:

- A custom activity
- A Get Metadata activity
- An If Condition activity

For Dataflow1, set the core count by using:

- Dynamic content
- Parameters
- User properties

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: A Get Metadata activity
 Dynamically size data flow compute at runtime
 The Core Count and Compute Type properties can be set dynamically to adjust to the size of your incoming source data at runtime. Use pipeline activities like Lookup or Get Metadata in order to find the size of the source dataset data. Then, use Add Dynamic Content in the Data Flow activity properties.
 Box 2: Dynamic content
 Reference: <https://docs.microsoft.com/en-us/azure/data-factory/control-flow-execute-data-flow-activity>

NEW QUESTION 135

- (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 140

- (Exam Topic 3)

You have an Azure subscription that contains an Azure Blob Storage account named storage1 and an Azure Synapse Analytics dedicated SQL pool named Pool1. You need to store data in storage1. The data will be read by Pool1. The solution must meet the following requirements:

- > Enable Pool1 to skip columns and rows that are unnecessary in a query.
- > Automatically create column statistics.
- > Minimize the size of files.

Which type of file should you use?

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

Answer: B

Explanation:

Automatic creation of statistics is turned on for Parquet files. For CSV files, you need to create statistics manually until automatic creation of CSV files statistics is supported.

Reference:

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

NEW QUESTION 141

- (Exam Topic 3)

You have an Azure Data Factory pipeline named Pipeline1!. Pipelinel contains a copy activity that sends data to an Azure Data Lake Storage Gen2 account. Pipeline 1 is executed by a schedule trigger.

You change the copy activity sink to a new storage account and merge the changes into the collaboration branch.

After Pipelinel executes, you discover that data is NOT copied to the new storage account. You need to ensure that the data is copied to the new storage account. What should you do?

- A. Publish from the collaboration branch.
- B. Configure the change feed of the new storage account.
- C. Create a pull request.
- D. Modify the schedule trigger.

Answer: A

Explanation:

CI/CD lifecycle

- > A development data factory is created and configured with Azure Repos Git. All developers should have permission to author Data Factory resources like pipelines and datasets.
- > A developer creates a feature branch to make a change. They debug their pipeline runs with their most recent changes
- > After a developer is satisfied with their changes, they create a pull request from their feature branch to the main or collaboration branch to get their changes reviewed by peers.

➤ After a pull request is approved and changes are merged in the main branch, the changes get published to the development factory.
 Reference: <https://docs.microsoft.com/en-us/azure/data-factory/continuous-integration-delivery>

NEW QUESTION 143

- (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 146

- (Exam Topic 3)

You have the following Azure Stream Analytics query.

```
WITH

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

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

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Statements	Yes	No
The query combines two streams of partitioned data.	<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: No

Note: You can now use a new extension of Azure Stream Analytics SQL to specify the number of partitions of a stream when reshuffling the data.

The outcome is a stream that has the same partition scheme. Please see below for an example: WITH step1 AS (SELECT * FROM [input1] PARTITION BY DeviceID INTO 10),

step2 AS (SELECT * FROM [input2] PARTITION BY DeviceID INTO 10)

SELECT * INTO [output] FROM step1 PARTITION BY DeviceID UNION step2 PARTITION BY DeviceID Note: The new extension of Azure Stream Analytics SQL includes a keyword INTO that allows you to specify

the number of partitions for a stream when performing reshuffling using a PARTITION BY statement.

Box 2: Yes

When joining two streams of data explicitly repartitioned, these streams must have the same partition key and partition count.

Box 3: Yes

Streaming Units (SUs) represents the computing resources that are allocated to execute a Stream Analytics job. The higher the number of SUs, the more CPU and memory resources are allocated for your job.

In general, the best practice is to start with 6 SUs for queries that don't use PARTITION BY. Here there are 10 partitions, so $6 \times 10 = 60$ SUs is good.

Note: Remember, Streaming Unit (SU) count, which is the unit of scale for Azure Stream Analytics, must be adjusted so the number of physical resources available to the job can fit the partitioned flow. In general, six SUs is a good number to assign to each partition. In case there are insufficient resources assigned to the job, the system will only apply the repartition if it benefits the job.

Reference:

<https://azure.microsoft.com/en-in/blog/maximize-throughput-with-repartitioning-in-azure-stream-analytics/> <https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-streaming-unit-consumption>

NEW QUESTION 151

- (Exam Topic 3)

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

- > TransactionType: 40 million rows per transaction type
- > CustomerSegment: 4 million per customer segment
- > TransactionMonth: 65 million rows per month
- > AccountType: 500 million per account type

You have the following query requirements:

- > Analysts will most commonly analyze transactions for a given month.
- > Transactions analysis will typically summarize transactions by transaction type, customer segment, and/or account type

You need to recommend a partition strategy for the table to minimize query times. On which column should you recommend partitioning the table?

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

Answer: C

Explanation:

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

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

NEW QUESTION 155

- (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 158

- (Exam Topic 3)

You are building an Azure Stream Analytics job that queries reference data from a product catalog file. The file is updated daily. The reference data input details for the file are shown in the Input exhibit. (Click the Input tab.)

Input Details ✕

products

Container

Create new
 Use existing

refdata

Path pattern

Date format

Time format

Event serialization format *

Delimiter

Encoding

• If the chosen resource and the stream analytics job are located in different regions, you will be billed to move data between regions.

The storage account container view is shown in the Refdata exhibit. (Click the Refdata tab.)

refdata
Container

Search (Ctrl + /) Upload Add Directory Refresh Rename Delete

Overview Access Control (IAM) Settings

Access policy Properties Metadata

Authentication method: Access key (Switch to Azure AD User Account)
 Location: refdata / 2020-03-20

Search blobs by prefix (case-sensitive)

Name
<input type="checkbox"/> [..]
<input type="checkbox"/> product.csv

You need to configure the Stream Analytics job to pick up the new reference data. What should you configure? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Path pattern:

- {date}/product.csv
- {date}/{time}/product.csv
- product.csv
- */product.csv

Date format:

- MM/DD/YYYY
- YYYY/MM/DD
- YYYY-DD-MM
- YYYY-MM-DD

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Graphical user interface, application, table Description automatically generated

Box 1: {date}/product.csv

In the 2nd exhibit we see: Location: refdata / 2020-03-20

Note: Path Pattern: This is a required property that is used to locate your blobs within the specified container. Within the path, you may choose to specify one or more instances of the following 2 variables:

{date}, {time}

Example 1: products/{date}/{time}/product-list.csv

Example 2: products/{date}/product-list.csv

Example 3: product-list.csv

Box 2: YYYY-MM-DD

Note: Date Format [optional]: If you have used {date} within the Path Pattern that you specified, then you can select the date format in which your blobs are organized from the drop-down of supported formats.

Example: YYYY/MM/DD, MM/DD/YYYY, etc. Reference:

<https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-use-reference-data>

NEW QUESTION 163

- (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:

- Azure Databricks Monitoring Library
- Microsoft Azure Management Monitoring Library
- PyTorch
- TensorFlow

Workspace:

- Azure Databricks
- Azure Log Analytics
- Azure Machine Learning

- 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.

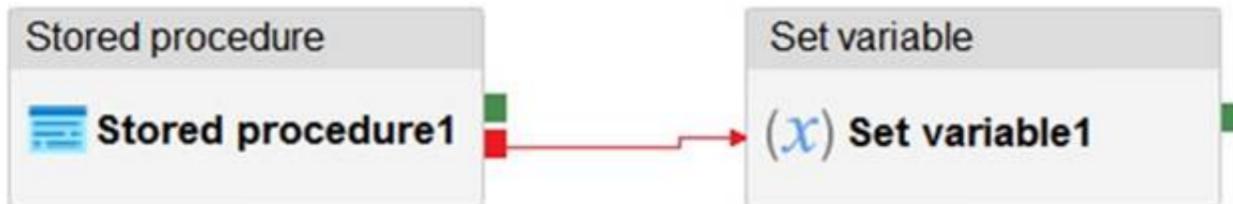
References:

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

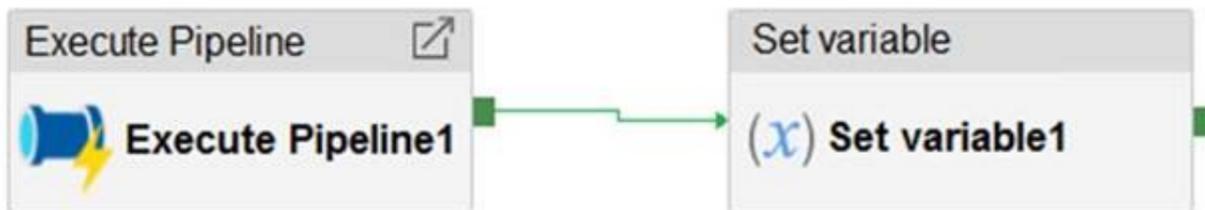
NEW QUESTION 168

- (Exam Topic 3)

You have an Azure Data Factory instance that contains two pipelines named Pipeline1 and Pipeline2. Pipeline1 has the activities shown in the following exhibit.



Pipeline2 has the activities shown in the following exhibit.



You execute Pipeline2, and Stored procedure1 in Pipeline1 fails. What is the status of the pipeline runs?

- A. Pipeline1 and Pipeline2 succeeded.
- B. Pipeline1 and Pipeline2 failed.
- C. Pipeline1 succeeded and Pipeline2 failed.
- D. Pipeline1 failed and Pipeline2 succeeded.

Answer: A

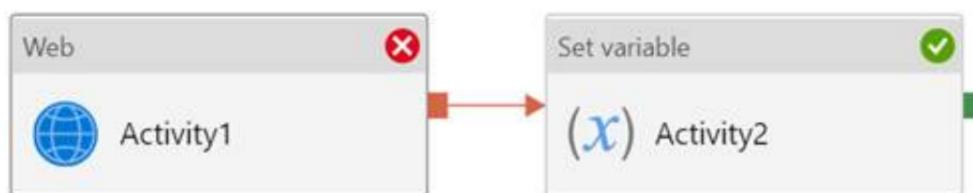
Explanation:

Activities are linked together via dependencies. A dependency has a condition of one of the following: Succeeded, Failed, Skipped, or Completed.

Consider Pipeline1:

If we have a pipeline with two activities where Activity2 has a failure dependency on Activity1, the pipeline will not fail just because Activity1 failed. If Activity1 fails and Activity2 succeeds, the pipeline will succeed. This scenario is treated as a try-catch block by Data Factory.

Waterfall chart Description automatically generated with medium confidence



The failure dependency means this pipeline reports success. Note:

If we have a pipeline containing Activity1 and Activity2, and Activity2 has a success dependency on Activity1, it will only execute if Activity1 is successful. In this scenario, if Activity1 fails, the pipeline will fail.

Reference:

<https://datasavvy.me/category/azure-data-factory/>

NEW QUESTION 172

- (Exam Topic 3)

You have an Azure Synapse Analytics dedicated SQL pool that contains a table named Contacts. Contacts contains a column named Phone.

You need to ensure that users in a specific role only see the last four digits of a phone number when querying the Phone column.

What should you include in the solution?

- A. a default value
- B. dynamic data masking
- C. row-level security (RLS)
- D. column encryption
- E. table partitions

Answer: B

Explanation:

Dynamic data masking helps prevent unauthorized access to sensitive data by enabling customers to designate how much of the sensitive data to reveal with minimal impact on the application layer. It's a policy-based security feature that hides the sensitive data in the result set of a query over designated database fields, while the data in the database is not changed.

Reference:

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

NEW QUESTION 173

- (Exam Topic 3)

You are designing a highly available Azure Data Lake Storage solution that will induce geo-zone-redundant storage (GZRS).

You need to monitor for replication delays that can affect the recovery point objective (RPO). What should you include in the monitoring solution?

- A. Last Sync Time
- B. Average Success Latency
- C. Error errors
- D. availability

Answer: A

Explanation:

Because geo-replication is asynchronous, it is possible that data written to the primary region has not yet been written to the secondary region at the time an outage occurs. The Last Sync Time property indicates the last time that data from the primary region was written successfully to the secondary region. All writes made to the primary region before the last sync time are available to be read from the secondary location. Writes made to the primary region after the last sync time property may or may not be available for reads yet.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/common/last-sync-time-get>

NEW QUESTION 176

- (Exam Topic 2)

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 181

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