

DP-203 Dumps

Data Engineering on Microsoft Azure

<https://www.certleader.com/DP-203-dumps.html>



NEW QUESTION 1

- (Exam Topic 1)

You need to design the partitions for the product sales transactions. The solution must mee the sales transaction dataset requirements.

What should you include in the solution? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Answer Area

Partition product sales transactions data by:

Sales date
Product ID
Promotion ID

Store product sales transactions data in:

An Azure Synapse Analytics dedicated SQL pool
An Azure Synapse Analytics serverless SQL pool
An Azure Data Lake Storage Gen2 account linked to an Azure Synapse Analytics workspace

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Sales date

Scenario: Contoso requirements for data integration include:

➤ Partition data that contains sales transaction records. Partitions must be designed to provide efficient loads by month. Boundary values must belong to the partition on the right.

Box 2: An Azure Synapse Analytics Dedicated SQL pool Scenario: Contoso requirements for data integration include:

➤ Ensure that data storage costs and performance are predictable.

The size of a dedicated SQL pool (formerly SQL DW) is determined by Data Warehousing Units (DWU). Dedicated SQL pool (formerly SQL DW) stores data in relational tables with columnar storage. This format significantly reduces the data storage costs, and improves query performance.

Synapse analytics dedicated sql pool Reference:

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

NEW QUESTION 2

- (Exam Topic 1)

You need to implement an Azure Synapse Analytics database object for storing the sales transactions data. The solution must meet the sales transaction dataset requirements.

What solution must meet the sales transaction dataset requirements.

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

Answer Area

Transact-SQL DDL command to use:

CREATE EXTERNAL TABLE
CREATE TABLE
CREATE VIEW

Partitioning option to use in the WITH clause of the DDL statement:

FORMAT_OPTIONS
FORMAT_TYPE
RANGE LEFT FOR VALUES
RANGE RIGHT FOR VALUES

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Answer Area

Transact-SQL DDL command to use:

CREATE EXTERNAL TABLE
CREATE TABLE
CREATE VIEW

Partitioning option to use in the WITH clause of the DDL statement:

FORMAT_OPTIONS
FORMAT_TYPE
RANGE LEFT FOR VALUES
RANGE RIGHT FOR VALUES

NEW QUESTION 3

- (Exam Topic 3)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the

stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution. After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen. You plan to create an Azure Databricks workspace that has a tiered structure. The workspace will contain the following three workloads:

- A workload for data engineers who will use Python and SQL.
- A workload for jobs that will run notebooks that use Python, Scala, and SQL.
- A workload that data scientists will use to perform ad hoc analysis in Scala and R.

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

- The data engineers must share a cluster.
- The job cluster will be managed by using a request process whereby data scientists and data engineers provide packaged notebooks for deployment to the cluster.
- All the data scientists must be assigned their own cluster that terminates automatically after 120 minutes of inactivity. Currently, there are three data scientists.

You need to create the Databricks clusters for the workloads.

Solution: You create a High Concurrency cluster for each data scientist, a High Concurrency cluster for the data engineers, and a Standard cluster for the jobs. Does this meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

Need a High Concurrency cluster for the jobs.

Standard clusters are recommended for a single user. Standard can run workloads developed in any language: Python, R, Scala, and SQL.

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

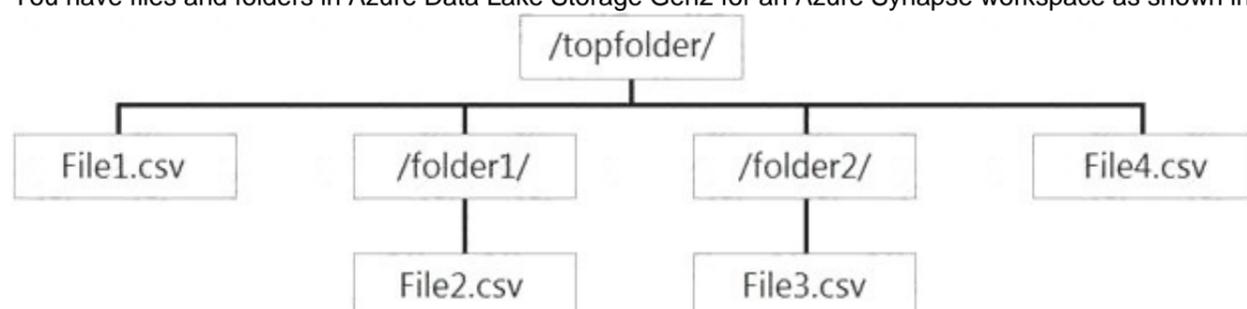
Reference:

<https://docs.azuredatabricks.net/clusters/configure.html>

NEW QUESTION 4

- (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 5

- (Exam Topic 3)

You have an Azure Data Lake Storage account that has a virtual network service endpoint configured.

You plan to use Azure Data Factory to extract data from the Data Lake Storage account. The data will then be loaded to a data warehouse in Azure Synapse Analytics by using PolyBase.

Which authentication method should you use to access Data Lake Storage?

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

Answer: B

Explanation:

Reference:

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

NEW QUESTION 6

- (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 snared access signature (SAS) as the credentials for the data load process.
- F. Create a managed identity.

Answer: ADF

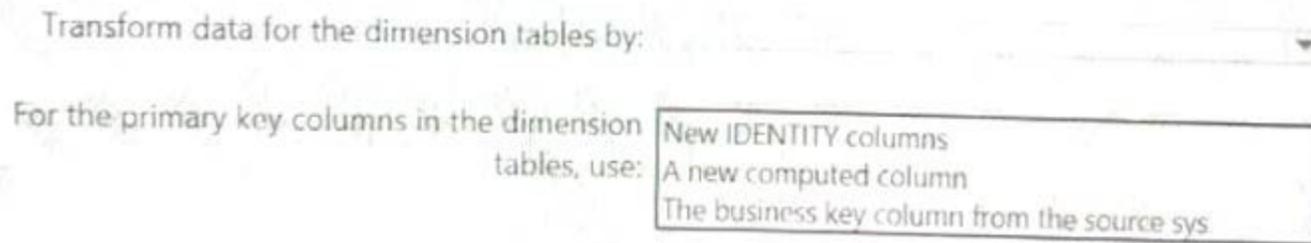
Explanation:

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 7

- (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.

Answer Area

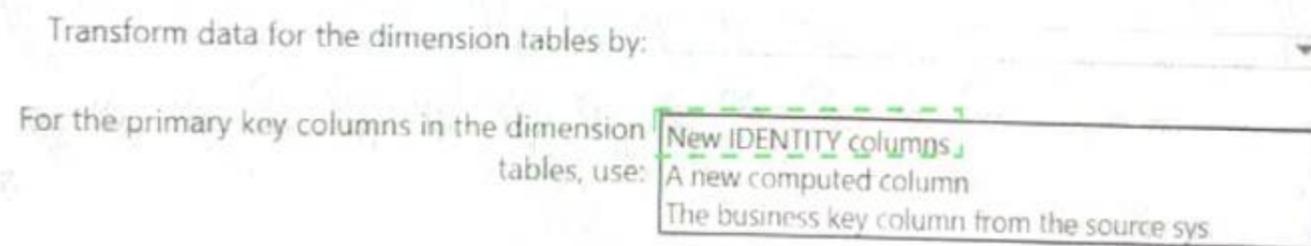


- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Answer Area



NEW QUESTION 8

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

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

Answer: A

NEW QUESTION 9

- (Exam Topic 3)
You have an Apache Spark DataFrame named temperatures. A sample of the data is shown in the following table.

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

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

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

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

Values

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

Answer Area

```

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Values

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

Answer Area

```

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

NEW QUESTION 10

- (Exam Topic 3)

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

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

Answer: C

Explanation:

Azure Stream Analytics on IoT Edge empowers developers to deploy near-real-time analytical intelligence closer to IoT devices so that they can unlock the full value of device-generated data. UDF are available in C# for IoT Edge jobs
Azure Stream Analytics on IoT Edge runs within the Azure IoT Edge framework. Once the job is created in Stream Analytics, you can deploy and manage it using IoT Hub.

References:

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

NEW QUESTION 10

- (Exam Topic 3)

You are designing a solution that will copy Parquet files stored in an Azure Blob storage account to an Azure Data Lake Storage Gen2 account. The data will be loaded daily to the data lake and will use a folder structure of {Year}/{Month}/{Day}/.

You need to design a daily Azure Data Factory data load to minimize the data transfer between the two accounts.

Which two configurations should you include in the design? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

- A. Delete the files in the destination before loading new data.
- B. Filter by the last modified date of the source files.
- C. Delete the source files after they are copied.
- D. Specify a file naming pattern for the destination.

Answer: BC

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/data-factory/connector-azure-data-lake-storage>

NEW QUESTION 11

- (Exam Topic 3)

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You plan to create an Azure Databricks workspace that has a tiered structure. The workspace will contain the following three workloads:

- > A workload for data engineers who will use Python and SQL.
- > A workload for jobs that will run notebooks that use Python, Scala, and SOL.
- > A workload that data scientists will use to perform ad hoc analysis in Scala and R.

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

- > The data engineers must share a cluster.

- > The job cluster will be managed by using a request process whereby data scientists and data engineers provide packaged notebooks for deployment to the cluster.
 - > All the data scientists must be assigned their own cluster that terminates automatically after 120 minutes of inactivity. Currently, there are three data scientists. You need to create the Databricks clusters for the workloads.
- Solution: You create a Standard cluster for each data scientist, a High Concurrency cluster for the data engineers, and a Standard cluster for the jobs. Does this meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

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

NEW QUESTION 16

- (Exam Topic 3)

You have an Azure subscription that contains a logical Microsoft SQL server named Server1. Server1 hosts an Azure Synapse Analytics SQL dedicated pool named Pool1.

You need to recommend a Transparent Data Encryption (TDE) solution for Server1. The solution must meet the following requirements:

- > Track the usage of encryption keys.
- > Maintain the access of client apps to Pool1 in the event of an Azure datacenter outage that affects the availability of the encryption keys.

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

NOTE: Each correct selection is worth one point.

To track encryption key usage:

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

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

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: TDE with customer-managed keys

Customer-managed keys are stored in the Azure Key Vault. You can monitor how and when your key vaults are accessed, and by whom. You can do this by enabling logging for Azure Key Vault, which saves information in an Azure storage account that you provide.

Box 2: Create and configure Azure key vaults in two Azure regions

The contents of your key vault are replicated within the region and to a secondary region at least 150 miles away, but within the same geography to maintain high durability of your keys and secrets.

Reference:

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

NEW QUESTION 21

- (Exam Topic 3)

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

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

What should you create first?

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

D. an external library

Answer: C

NEW QUESTION 25

- (Exam Topic 3)

You plan to create an Azure Synapse Analytics dedicated SQL pool.

You need to minimize the time it takes to identify queries that return confidential information as defined by the company's data privacy regulations and the users who executed the queries.

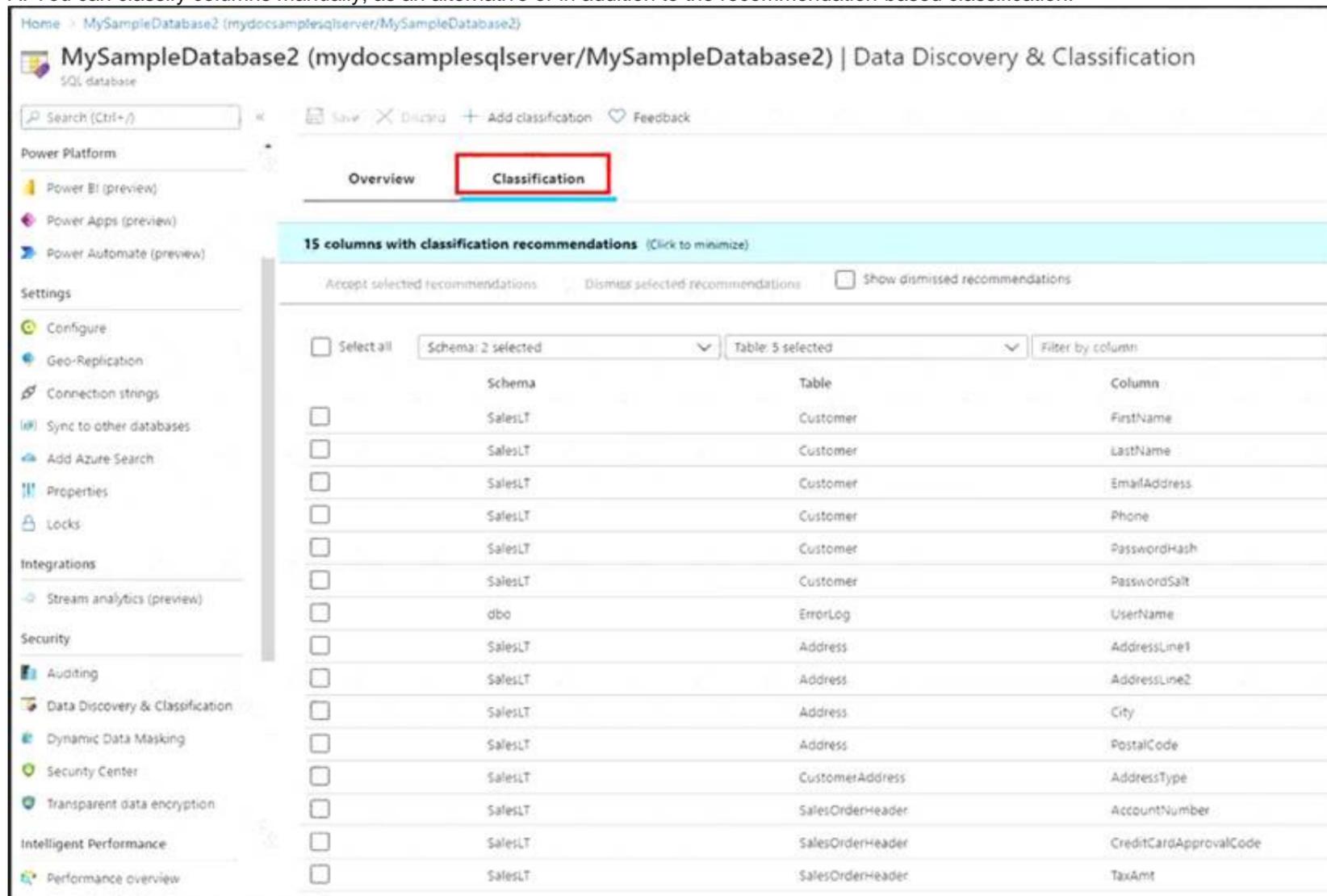
Which two components should you include in the solution? Each correct answer presents part of the solution. NOTE: Each correct selection is worth one point.

- A. sensitivity-classification labels applied to columns that contain confidential information
- B. resource tags for databases that contain confidential information
- C. audit logs sent to a Log Analytics workspace
- D. dynamic data masking for columns that contain confidential information

Answer: AC

Explanation:

A: You can classify columns manually, as an alternative or in addition to the recommendation-based classification:



- > Select Add classification in the top menu of the pane.
- > In the context window that opens, select the schema, table, and column that you want to classify, and the information type and sensitivity label.
- > Select Add classification at the bottom of the context window.

C: An important aspect of the information-protection paradigm is the ability to monitor access to sensitive data. Azure SQL Auditing has been enhanced to include a new field in the audit log called data_sensitivity_information. This field logs the sensitivity classifications (labels) of the data that was returned by a query. Here's an example:

id	client_ip	application_name	duration_milliseconds	response_rows	affected_rows	connection_id	data_sensitivity_information
	██████████7.125	Microsoft SQL Server Management Studio - Query	1	847	847	C244A066-2271-...	Confidential - GDPR
	██████████7.125	Microsoft SQL Server Management Studio - Query	2	32	32	C244A066-2271-...	Confidential
	██████████7.125	Microsoft SQL Server Management Studio - Query	41	32	32	A7088FD4-759E-...	Confidential, Confidential - GDPR

Reference:

<https://docs.microsoft.com/en-us/azure/azure-sql/database/data-discovery-and-classification-overview>

NEW QUESTION 27

- (Exam Topic 3)

You have an Azure data factory.

You need to examine the pipeline failures from the last 60 days. What should you use?

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

D. Azure Monitor

Answer: D

Explanation:

Data Factory stores pipeline-run data for only 45 days. Use Azure Monitor if you want to keep that data for a longer time.

Reference:

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

NEW QUESTION 30

- (Exam Topic 3)

You have an Azure data factory.

You need to ensure that pipeline-run data is retained for 120 days. The solution must ensure that you can query the data by using the Kusto query language.

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

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

Actions

Answer Area

- Select the PipelineRuns category.
- Create a Log Analytics workspace that has Data Retention set to 120 days.
- Stream to an Azure event hub.
- Create an Azure Storage account that has a lifecycle policy.
- From the Azure portal, add a diagnostic setting.
- Send the data to a Log Analytics workspace.
- Select the TriggerRuns category.

A. Mastered

B. Not Mastered

Answer: A

Explanation:

Step 1: Create an Azure Storage account that has a lifecycle policy

To automate common data management tasks, Microsoft created a solution based on Azure Data Factory. The service, Data Lifecycle Management, makes frequently accessed data available and archives or purges other data according to retention policies. Teams across the company use the service to reduce storage costs, improve app performance, and comply with data retention policies.

Step 2: Create a Log Analytics workspace that has Data Retention set to 120 days.

Data Factory stores pipeline-run data for only 45 days. Use Azure Monitor if you want to keep that data for a longer time. With Monitor, you can route diagnostic logs for analysis to multiple different targets, such as a Storage Account: Save your diagnostic logs to a storage account for auditing or manual inspection. You can use the diagnostic settings to specify the retention time in days.

Step 3: From Azure Portal, add a diagnostic setting. Step 4: Send the data to a log Analytics workspace,

Event Hub: A pipeline that transfers events from services to Azure Data Explorer. Keeping Azure Data Factory metrics and pipeline-run data.

Configure diagnostic settings and workspace.

Create or add diagnostic settings for your data factory.

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

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

NEW QUESTION 33

- (Exam Topic 3)

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

- EventDate: 1 million per day
 - EventTypeID: 10 million per event type
 - WarehouseID: 100 million per warehouse
 - ProductCategoryTypeID: 25 million per product category type
- You identify the following usage patterns:
Analyst will most commonly analyze transactions for a warehouse.

Queries will summarize by product category type, date, and/or inventory event type. You need to recommend a partition strategy for the table to minimize query times. On which column should you recommend partitioning the table?

- A. ProductCategoryTypeID
- B. EventDate
- C. WarehouseID
- D. EventTypeID

Answer: D

NEW QUESTION 36

- (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.

Name	Data type	Nullable
PurchaseKey	Bigint	No
DateKey	Int	No
SupplierKey	Int	No
StockItemKey	Int	No
PurchaseOrderID	Int	Yes
OrderedQuantity	Int	No
OrderedOuters	Int	No
ReceivedOuters	Int	No
Package	Nvarchar(50)	No
IsOrderFinalized	Bit	No
LineageKey	Int	No

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 41

- (Exam Topic 3)

You need to output files from Azure Data Factory.

Which file format should you use for each type of output? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Columnar format:

	▼
Avro	
GZip	
Parquet	
TXT	

JSON with a timestamp:

	▼
Avro	
GZip	
Parquet	
TXT	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Parquet

Parquet stores data in columns, while Avro stores data in a row-based format. By their very nature, column-oriented data stores are optimized for read-heavy analytical workloads, while row-based databases are best for write-heavy transactional workloads.

Box 2: Avro

An Avro schema is created using JSON format.

AVRO supports timestamps.

Note: Azure Data Factory supports the following file formats (not GZip or TXT).

- > Avro format
- > Binary format
- > Delimited text format
- > Excel format
- > JSON format
- > ORC format
- > Parquet format
- > XML format

Reference:

<https://www.datanami.com/2018/05/16/big-data-file-formats-demystified>

NEW QUESTION 46

- (Exam Topic 3)

You have the following table named Employees.

first name	last name	hire date	employee type
Jane	Doe	2019-08-23	new
Ben	Smith	2017-12-15	Standard

You need to calculate the employee _type value based on the hire date value.

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 Answer Area

- CASE
- ELSE
- OVER
- PARTITION
- ROW_NUMBER

```
SELECT
    *,
    Value
    WHEN hire_date >= '2019-01-01' THEN
    'New' Value 'Standard'
END AS employee_type
FROM
    employees;
```

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Values Answer Area

- CASE
- ELSE
- OVER
- PARTITION
- ROW_NUMBER

```
SELECT
    *,
    CASE
    WHEN hire_date >= '2019-01-01' THEN
    'New' PARTITION 'Standard'
    END AS employee_type
FROM
    employees;
```

NEW QUESTION 51

- (Exam Topic 3)

You use Azure Data Lake Storage Gen2.

You need to ensure that workloads can use filter predicates and column projections to filter data at the time the data is read from disk.

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

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

Answer: BD

NEW QUESTION 53

- (Exam Topic 3)

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

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

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

- A. Add a pass-through query.
- B. Add a temporal analytic function.
- C. Scale out the query by using PARTITION BY.
- D. Convert the query to a reference query.
- E. Increase the number of streaming units.

Answer: CE

Explanation:

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

E: Streaming Units (SUs) represents the computing resources that are allocated to execute a Stream Analytics job. The higher the number of SUs, the more CPU and memory resources are allocated for your job. This capacity lets you focus on the query logic and abstracts the need to manage the hardware to run your Stream Analytics job in a timely manner.

References:

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

NEW QUESTION 58

- (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 60

- (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 65

- (Exam Topic 3)

You develop data engineering solutions for a company.

A project requires the deployment of data to Azure Data Lake Storage.

You need to implement role-based access control (RBAC) so that project members can manage the Azure Data Lake Storage resources.

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

- A. Assign Azure AD security groups to Azure Data Lake Storage.
- B. Configure end-user authentication for the Azure Data Lake Storage account.
- C. Configure service-to-service authentication for the Azure Data Lake Storage account.
- D. Create security groups in Azure Active Directory (Azure AD) and add project members.
- E. Configure access control lists (ACL) for the Azure Data Lake Storage account.

Answer: ADE

Explanation:

References:

<https://docs.microsoft.com/en-us/azure/data-lake-store/data-lake-store-secure-data>

NEW QUESTION 69

- (Exam Topic 3)

You have an Azure Data Lake Storage Gen2 container that contains 100 TB of data.

You need to ensure that the data in the container is available for read workloads in a secondary region if an outage occurs in the primary region. The solution must minimize costs.

Which type of data redundancy should you use?

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

Answer: C

NEW QUESTION 70

- (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 72

- (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 75

- (Exam Topic 3)

You have an Azure Synapse workspace named MyWorkspace that contains an Apache Spark database named mytestdb.

You run the following command in an Azure Synapse Analytics Spark pool in MyWorkspace. CREATE TABLE mytestdb.myParquetTable(EmployeeID int, EmployeeName string, EmployeeStartDate date) USING Parquet

You then use Spark to insert a row into mytestdb.myParquetTable. The row contains the following data.

EmployeeName	EmployeeID	EmployeeStartDate
Alice	24	2020-01-25

One minute later, you execute the following query from a serverless SQL pool in MyWorkspace. SELECT EmployeeID FROM mytestdb.dbo.myParquetTable WHERE name = 'Alice';

What will be returned by the query?

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

Answer: A

Explanation:

Once a database has been created by a Spark job, you can create tables in it with Spark that use Parquet as the storage format. Table names will be converted to lower case and need to be queried using the lower case name. These tables will immediately become available for querying by any of the Azure Synapse workspace Spark pools. They can also be used from any of the Spark jobs subject to permissions.

Note: For external tables, since they are synchronized to serverless SQL pool asynchronously, there will be a delay until they appear.

Reference:

<https://docs.microsoft.com/en-us/azure/synapse-analytics/metadata/table>

NEW QUESTION 76

- (Exam Topic 3)

You have an Azure event hub named retailhub that has 16 partitions. Transactions are posted to retailhub. Each transaction includes the transaction ID, the individual line items, and the payment details. The transaction ID is used as the partition key.

You are designing an Azure Stream Analytics job to identify potentially fraudulent transactions at a retail store. The job will use retailhub as the input. The job will output the transaction ID, the individual line items, the payment details, a fraud score, and a fraud indicator.

You plan to send the output to an Azure event hub named fraudhub.

You need to ensure that the fraud detection solution is highly scalable and processes transactions as quickly as possible.

How should you structure the output of the Stream Analytics job? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Number of partitions:

▼

1

8

16

32

Partition key:

▼

Fraud indicator

Fraud score

Individual line items

Payment details

Transaction ID

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: 16

For Event Hubs you need to set the partition key explicitly.

An embarrassingly parallel job is the most scalable scenario in Azure Stream Analytics. It connects one partition of the input to one instance of the query to one partition of the output.

Box 2: Transaction ID Reference:

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

NEW QUESTION 81

- (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 83

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