

Exam Questions DP-201

Designing an Azure Data Solution

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NEW QUESTION 1

- (Exam Topic 1)

You need to ensure that performance requirements for Backtrack reports are met.

What should you recommend? To answer, drag the appropriate technologies to the correct locations. Each technology 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.

Technologies	Answer Area	
	Requirement	Technology
Cosmos DB TTL		
Cosmos DB indexes		
Cosmos DB transactions		
Cosmos DB change feed		
Cosmos DB stored procedures		
	Backtrack reporting	
	Privacy and security policy	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Cosmos DB indexes

The report for Backtrack must execute as quickly as possible.

You can override the default indexing policy on an Azure Cosmos container, this could be useful if you want to tune the indexing precision to improve the query performance or to reduce the consumed storage.

Box 2: Cosmos DB TTL

This solution reports on all data related to a specific vehicle license plate. The report must use data from the SensorData collection. Users must be able to filter vehicle data in the following ways:

- vehicles on a specific road
- vehicles driving above the speed limit

Note: With Time to Live or TTL, Azure Cosmos DB provides the ability to delete items automatically from a container after a certain time period. By default, you can set time to live at the container level and override the value on a per-item basis. After you set the TTL at a container or at an item level, Azure Cosmos DB will automatically remove these items after the time period, since the time they were last modified.

NEW QUESTION 2

- (Exam Topic 1)

You need to design the runtime environment for the Real Time Response system. What should you recommend?

- A. General Purpose nodes without the Enterprise Security package
- B. Memory Optimized Nodes without the Enterprise Security package
- C. Memory Optimized nodes with the Enterprise Security package
- D. General Purpose nodes with the Enterprise Security package

Answer: B

NEW QUESTION 3

- (Exam Topic 1)

HOTSPOT

You need to ensure that security policies for the unauthorized detection system are met. What should you recommend? To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Setting	Value
Audit log destination	<div>Storage queue</div> <div>Event Hub</div> <div>Event Grid</div> <div>Blob storage</div>
Detection app service	<div>Function App</div> <div>Web App</div> <div>API App</div>

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Blob storage

Configure blob storage for audit logs.

Scenario: Unauthorized usage of the Planning Assistance data must be detected as quickly as possible. Unauthorized usage is determined by looking for an unusual pattern of usage.

Data used for Planning Assistance must be stored in a sharded Azure SQL Database. Box 2: Web Apps

SQL Advanced Threat Protection (ATP) is to be used.

One of Azure's most popular service is App Service which enables customers to build and host web applications in the programming language of their choice without managing infrastructure. App Service offers auto-scaling and high availability, supports both Windows and Linux. It also supports automated deployments from GitHub, Visual Studio Team Services or any Git repository. At RSA, we announced that Azure Security Center leverages the scale of the cloud to identify attacks targeting App Service applications.

References:

<https://azure.microsoft.com/sv-se/blog/azure-security-center-can-identify-attacks-targeting-azure-app-service-ap>

NEW QUESTION 4

- (Exam Topic 1)

You need to design a sharding strategy for the Planning Assistance database. What should you recommend?

- A. a list mapping shard map on the binary representation of the License Plate column
- B. a range mapping shard map on the binary representation of the speed column
- C. a list mapping shard map on the location column
- D. a range mapping shard map on the time column

Answer: A

Explanation:

Data used for Planning Assistance must be stored in a sharded Azure SQL Database.

A shard typically contains items that fall within a specified range determined by one or more attributes of the data. These attributes form the shard key (sometimes referred to as the partition key). The shard key should be static. It shouldn't be based on data that might change.

References:

<https://docs.microsoft.com/en-us/azure/architecture/patterns/sharding>

NEW QUESTION 5

- (Exam Topic 2)

You need to recommend a solution for storing customer data. What should you recommend?

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

Answer: C

Explanation:

From the scenario:

Customer data must be analyzed using managed Spark clusters.

All cloud data must be encrypted at rest and in transit. The solution must support: parallel processing of customer data.

References:

<https://www.microsoft.com/developerblog/2019/01/18/running-parallel-apache-spark-notebook-workloads-on-a>

NEW QUESTION 6

- (Exam Topic 2)

You need to design the image processing solution to meet the optimization requirements for image tag data. What should you configure? To answer, drag the appropriate setting to the correct drop targets.

Each source 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.

Configurations	Location	Configuration
<div>Write region</div> <div>Read region</div>	New York	<input type="text"/>
	Manchester	<input type="text"/>
	Singapore	<input type="text"/>
	Melbourne	<input type="text"/>

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Tagging data must be uploaded to the cloud from the New York office location.

Tagging data must be replicated to regions that are geographically close to company office locations.

NEW QUESTION 7

- (Exam Topic 2)

You need to design the solution for analyzing customer data. What should you recommend?

- A. Azure Databricks
- B. Azure Data Lake Storage
- C. Azure SQL Data Warehouse
- D. Azure Cognitive Services
- E. Azure Batch

Answer: A

Explanation:

Customer data must be analyzed using managed Spark clusters. You create spark clusters through Azure Databricks. References:
<https://docs.microsoft.com/en-us/azure/azure-databricks/quickstart-create-databricks-workspace-portal>

NEW QUESTION 8

- (Exam Topic 2)

You need to design the image processing and storage solutions.

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

Answer Area

Solution component	Tool
Image processing	<div> <input type="checkbox"/> Azure HDInsight <input checked="" type="checkbox"/> Azure Databricks <input type="checkbox"/> Azure Batch <input type="checkbox"/> Azure Cognitive Services </div>
data storage for tagging data	<div> <input type="checkbox"/> Azure Blob Storage <input type="checkbox"/> Azure Table Storage <input type="checkbox"/> Azure Cosmos DB <input type="checkbox"/> Azure SQL Database </div>

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

References:

<https://docs.microsoft.com/en-us/azure/architecture/data-guide/technology-choices/batch-processing> <https://docs.microsoft.com/en-us/azure/sql-database/sql-database-service-tier-hyperscale>

NEW QUESTION 9

- (Exam Topic 3)

You need to design the disaster recovery solution for customer sales data analytics.

Which three actions should you recommend? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Provision multiple Azure Databricks workspaces in separate Azure regions.
- B. Migrate users, notebooks, and cluster configurations from one workspace to another in the same region.
- C. Use zone redundant storage.
- D. Migrate users, notebooks, and cluster configurations from one region to another.
- E. Use Geo-redundant storage.
- F. Provision a second Azure Databricks workspace in the same region.

Answer: ADE

Explanation:

Scenario: The analytics solution for customer sales data must be available during a regional outage. To create your own regional disaster recovery topology for databricks, follow these requirements:

1. Provision multiple Azure Databricks workspaces in separate Azure regions
2. Use Geo-redundant storage.
3. Once the secondary region is created, you must migrate the users, user folders, notebooks, cluster configuration, jobs configuration, libraries, storage, init scripts, and reconfigure access control.

Note: Geo-redundant storage (GRS) is designed to provide at least 99.99999999999999% (16 9's) durability of objects over a given year by replicating your data to a secondary region that is hundreds of miles away from the primary region. If your storage account has GRS enabled, then your data is durable even in the case of a complete regional outage or a disaster in which the primary region isn't recoverable.

References:

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

NEW QUESTION 10

- (Exam Topic 4)

A company purchases IoT devices to monitor manufacturing machinery. The company uses an IoT appliance to communicate with the IoT devices.

The company must be able to monitor the devices in real-time. You need to design the solution.

What should you recommend?

- A. Azure Stream Analytics cloud job using Azure PowerShell
- B. Azure Analysis Services using Azure Portal
- C. Azure Data Factory instance using Azure Portal
- D. Azure Analysis Services using Azure PowerShell

Answer: D

NEW QUESTION 10

- (Exam Topic 4)

You design data engineering solutions for a company.

You must integrate on-premises SQL Server data into an Azure solution that performs Extract-Transform-Load (ETL) operations have the following requirements:

- ▶ Develop a pipeline that can integrate data and run notebooks.
- ▶ Develop notebooks to transform the data.
- ▶ Load the data into a massively parallel processing database for later analysis. You need to recommend a solution.

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

NOTE: Each correct selection is worth one point.

Requirement	Service
Integrate the on-premises data into the cloud.	<div><div></div><div>Azure Databricks</div><div>Azure Data Factory</div><div>Azure SQL Data Warehouse</div><div>Azure Batch</div></div>
Develop notebooks to transform the data.	<div><div></div><div>Azure Databricks</div><div>Azure Data Factory</div><div>Azure SQL Data Warehouse</div><div>Azure Batch</div></div>
Run notebooks.	<div><div></div><div>Azure Databricks</div><div>Azure Data Factory</div><div>Azure SQL Data Warehouse</div><div>Azure Batch</div></div>
Load the data.	<div><div></div><div>Azure Databricks</div><div>Azure Data Factory</div><div>Azure SQL Data Warehouse</div><div>Azure Batch</div></div>
Store the transformed data.	<div><div></div><div>Azure Databricks</div><div>Azure Data Factory</div><div>Azure SQL Data Warehouse</div><div>Azure Batch</div></div>

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Requirement	Service
Integrate the on-premises data into the cloud.	<div>▼</div> <div> Azure Databricks Azure Data Factory Azure SQL Data Warehouse Azure Batch </div>
Develop notebooks to transform the data.	<div>▼</div> <div> Azure Databricks Azure Data Factory Azure SQL Data Warehouse Azure Batch </div>
Run notebooks.	<div>▼</div> <div> Azure Databricks Azure Data Factory Azure SQL Data Warehouse Azure Batch </div>
Load the data.	<div>▼</div> <div> Azure Databricks Azure Data Factory Azure SQL Data Warehouse Azure Batch </div>
Store the transformed data.	<div>▼</div> <div> Azure Databricks Azure Data Factory Azure SQL Data Warehouse Azure Batch </div>

NEW QUESTION 15

- (Exam Topic 4)

You plan to migrate data to Azure SQL Database.

The database must remain synchronized with updates to Microsoft Azure and SQL Server. You need to set up the database as a subscriber.

What should you recommend?

- A. Azure Data Factory
- B. SQL Server Data Tools
- C. Data Migration Assistant
- D. SQL Server Agent for SQL Server 2017 or later
- E. SQL Server Management Studio 17.9.1 or later

Answer: E

Explanation:

To set up the database as a subscriber we need to configure database replication. You can use SQL Server Management Studio to configure replication. Use the latest versions of SQL Server Management Studio in order to be able to use all the features of Azure SQL Database.

References:

<https://www.sqlshack.com/sql-server-database-migration-to-azure-sql-database-using-sql-server-transactionalrep>

NEW QUESTION 17

- (Exam Topic 4)

You are designing a solution for a company. The solution will use model training for objective classification. You need to design the solution.

What should you recommend?

- A. an Azure Cognitive Services application
- B. a Spark Streaming job
- C. interactive Spark queries
- D. Power BI models
- E. a Spark application that uses Spark MLlib.

Answer: E

Explanation:

Spark in SQL Server big data cluster enables AI and machine learning.

You can use Apache Spark MLlib to create a machine learning application to do simple predictive analysis on an open dataset.

MLlib is a core Spark library that provides many utilities useful for machine learning tasks, including utilities that are suitable for:

- ▶ Classification
- ▶ Regression
- ▶ Clustering
- ▶ Topic modeling

- ▶ Singular value decomposition (SVD) and principal component analysis (PCA)
- ▶ Hypothesis testing and calculating sample statistics

References:

<https://docs.microsoft.com/en-us/azure/hdinsight/spark/apache-spark-machine-learning-mllib-ipython>

NEW QUESTION 22

- (Exam Topic 4)

You have an on-premises MySQL database that is 800 GB in size.

You need to migrate a MySQL database to Azure Database for MySQL. You must minimize service interruption to live sites or applications that use the database. What should you recommend?

- A. Azure Database Migration Service
- B. Dump and restore
- C. Import and export
- D. MySQL Workbench

Answer: A

Explanation:

You can perform MySQL migrations to Azure Database for MySQL with minimal downtime by using the newly introduced continuous sync capability for the Azure Database Migration Service (DMS). This functionality limits the amount of downtime that is incurred by the application. References:

<https://docs.microsoft.com/en-us/azure/mysql/howto-migrate-online>

NEW QUESTION 27

- (Exam Topic 4)

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 HDInsight/Hadoop cluster solution that uses Azure Data Lake Gen1 Storage. The solution requires POSIX permissions and enables diagnostics logging for auditing.

You need to recommend solutions that optimize storage.

Proposed Solution: Implement compaction jobs to combine small files into larger files. Does the solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

Depending on what services and workloads are using the data, a good size to consider for files is 256 MB or greater. If the file sizes cannot be batched when landing in Data Lake Storage Gen1, you can have a separate compaction job that combines these files into larger ones.

Note: POSIX permissions and auditing in Data Lake Storage Gen1 comes with an overhead that becomes apparent when working with numerous small files. As a best practice, you must batch your data into larger files versus writing thousands or millions of small files to Data Lake Storage Gen1. Avoiding small file sizes can have multiple benefits, such as:

Lowering the authentication checks across multiple files Reduced open file connections

Faster copying/replication

Fewer files to process when updating Data Lake Storage Gen1 POSIX permissions References:

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

NEW QUESTION 28

- (Exam Topic 4)

A company is designing a solution that uses Azure Databricks.

The solution must be resilient to regional Azure datacenter outages. You need to recommend the redundancy type for the solution. What should you recommend?

- A. Read-access geo-redundant storage
- B. Locally-redundant storage
- C. Geo-redundant storage
- D. Zone-redundant storage

Answer: C

Explanation:

If your storage account has GRS enabled, then your data is durable even in the case of a complete regional outage or a disaster in which the primary region isn't recoverable.

References:

<https://medium.com/microsoftazure/data-durability-fault-tolerance-resilience-in-azure-databricks-95392982bac7>

NEW QUESTION 31

- (Exam Topic 4)

You are designing an application. You plan to use Azure SQL Database to support the application.

The application will extract data from the Azure SQL Database and create text documents. The text documents will be placed into a cloud-based storage solution.

The text storage solution must be accessible from an SMB network share.

You need to recommend a data storage solution for the text documents. Which Azure data storage type should you recommend?

- A. Queue
- B. Files
- C. Blob
- D. Table

Answer: B

Explanation:

Azure Files enables you to set up highly available network file shares that can be accessed by using the standard Server Message Block (SMB) protocol.

References:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-introduction> <https://docs.microsoft.com/en-us/azure/storage/tables/table-storage-overview>

NEW QUESTION 34

- (Exam Topic 4)

You are designing an Azure Data Factory pipeline for processing data. The pipeline will process data that is stored in general-purpose standard Azure storage.

You need to ensure that the compute environment is created on-demand and removed when the process is completed.

Which type of activity should you recommend?

- A. Databricks Python activity
- B. Data Lake Analytics U-SQL activity
- C. HDInsight Pig activity
- D. Databricks Jar activity

Answer: C

Explanation:

The HDInsight Pig activity in a Data Factory pipeline executes Pig queries on your own or on-demand HDInsight cluster.

References:

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

NEW QUESTION 38

- (Exam Topic 4)

A company is developing a mission-critical line of business app that uses Azure SQL Database Managed Instance. You must design a disaster recovery strategy for the solution.

You need to ensure that the database automatically recovers when full or partial loss of the Azure SQL Database service occurs in the primary region.

What should you recommend?

- A. Failover-group
- B. Azure SQL Data Sync
- C. SQL Replication
- D. Active geo-replication

Answer: A

Explanation:

Auto-failover groups is a SQL Database feature that allows you to manage replication and failover of a group of databases on a SQL Database server or all databases in a Managed Instance to another region (currently in public preview for Managed Instance). It uses the same underlying technology as active geo-replication. You can initiate failover manually or you can delegate it to the SQL Database service based on a user-defined policy.

References:

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-auto-failover-group>

NEW QUESTION 42

- (Exam Topic 4)

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 SQL Database that will use elastic pools. You plan to store data about customers in a table. Each record uses a value for CustomerID.

You need to recommend a strategy to partition data based on values in CustomerID. Proposed Solution: Separate data into shards by using horizontal partitioning.

Does the solution meet the goal?

- A. Yes
- B. No

Answer: A

Explanation:

Horizontal Partitioning - Sharding: Data is partitioned horizontally to distribute rows across a scaled out data

tier. With this approach, the schema is identical on all participating databases. This approach is also called “sharding”. Sharding can be performed and managed using (1) the elastic database tools libraries or (2) selfsharding.

An elastic query is used to query or compile reports across many shards. References:

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-elastic-query-overview>

NEW QUESTION 46

- (Exam Topic 4)

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 SQL Database that will use elastic pools. You plan to store data about customers in a table. Each record uses a value for CustomerID.

You need to recommend a strategy to partition data based on values in CustomerID. Proposed Solution: Separate data into customer regions by using vertical partitioning. Does the solution meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

Vertical partitioning is used for cross-database queries. Instead we should use Horizontal Partitioning, which also is called charding.

References:

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-elastic-query-overview>

NEW QUESTION 50

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