Atmic Networks

CERTIFICATION EXAM SUPPORT

# EXAM PREPARATION MATERIAL

Practice files designed to help you understand exam patterns, question styles and the overall assessment format.

**IMPORTANT NOTE**

> **Please note that these files may not be up to date. However, the questions will help you understand the exam format and typical question patterns.**

**Stay connected with our support team**
for the latest file updates and exam-related information.

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Knowledge that moves beyond memorization.

Topic 1, Litware

## Existing Environment

### Network Environment

The manufacturing and research datacenters connect to the primary datacenter by using a VPN.

The primary datacenter has an ExpressRoute connection that uses both Microsoft peering and private peering. The private peering connects to an Azure virtual network named HubVNet.

### Identity Environment

Litware has a hybrid Azure Active Directory (Azure AD) deployment that uses a domain named litwareinc.com. All Azure subscriptions are associated to the litwareinc.com Azure AD tenant.

### Database Environment

The sales department has the following database workload:
An on-premises named SERVER1 hosts an instance of Microsoft SQL Server 2012 and two 1-TB databases.

A logical server named SalesSrv01A contains a geo-replicated Azure SQL database named SalesSQLDb1. SalesSQLDb1 is in an elastic pool named SalesSQLDb1Pool. SalesSQLDb1 uses database firewall rules and contained database users.

An application named SalesSQLDb1App1 uses SalesSQLDb1.

The manufacturing office contains two on-premises SQL Server 2016 servers named SERVER2 and SERVER3. The servers are nodes in the same Always On availability group. The availability group contains a database named ManufacturingSQLDb1

Database administrators have two Azure virtual machines in HubVnet named VM1 and VM2 that run Windows Server 2019 and are used to manage all the Azure databases.

Licensing Agreement

Litware is a Microsoft Volume Licensing customer that has License Mobility through Software Assurance.

Current Problems

SalesSQLDb1 experiences performance issues that are likely due to out-of-date statistics and frequent blocking queries.

Requirements

Planned Changes
Litware plans to implement the following changes:

Implement 30 new databases in Azure, which will be used by time-sensitive manufacturing apps that have varying usage patterns. Each database will be approximately 20 GB.

Create a new Azure SQL database named ResearchDB1 on a logical server named ResearchSrv01. ResearchDB1 will contain Personally Identifiable Information (PII) data.

Develop an app named ResearchApp1 that will be used by the research department to populate and access ResearchDB1.

Migrate ManufacturingSQLDb1 to the Azure virtual machine platform.

Migrate the SERVER1 databases to the Azure SQL Database platform.

Technical Requirements

Litware identifies the following technical requirements:

Maintenance tasks must be automated.

The 30 new databases must scale automatically.

The use of an on-premises infrastructure must be minimized.

Azure Hybrid Use Benefits must be leveraged for Azure SQL Database deployments.

All SQL Server and Azure SQL Database metrics related to CPU and storage usage and limits must be analyzed by using Azure built-in functionality.

Security and Compliance Requirements

Litware identifies the following security and compliance requirements:

Store encryption keys in Azure Key Vault.

Retain backups of the PII data for two months.

Encrypt the PII data at rest, in transit, and in use.

Use the principle of least privilege whenever possible.

Authenticate database users by using Active Directory credentials.

Protect Azure SQL Database instances by using database-level firewall rules.

Ensure that all databases hosted in Azure are accessible from VM1 and VM2 without relying on public endpoints.

Business Requirements

Litware identifies the following business requirements:

Meet an SLA of 99.99% availability for all Azure deployments.

Minimize downtime during the migration of the SERVER1 databases.

Use the Azure Hybrid Use Benefits when migrating workloads to Azure.

Once all requirements are met, minimize costs whenever possible.

Question: 1

HOTSPOT

You are planning the migration of the SERVER1 databases. The solution must meet the business requirements.

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

NOTE: Each correct selection is worth one point.

Azure Database Migration Service pricing tier:

Standard 2-vCore
Standard 4-vCore
Premium 4-vCore

Required Azure resource:

A virtual network that has service endpoints
A VPN gateway
An Azure Logic app

Answer:

Azure Database Migration Service pricing tier:

Standard 2-vCore
Standard 4-vCore
Premium 4-vCore

Required Azure resource:

A virtual network that has service endpoints
A VPN gateway
An Azure Logic app

Azure Database Migration service

Box 1: Premium 4-VCore

Scenario: Migrate the SERVER1 databases to the Azure SQL Database platform.

Minimize downtime during the migration of the SERVER1 databases.

Premimum 4-vCore is for large or business critical workloads. It supports online migrations, ofline migrations, and faster migration speeds.

Incorrect Answers:

The Standard pricing tier suits most small- to medium- business workloads, but it supports ofline migration only.

Box 2: A VPN gateway

You need to create a Microsoft Azure Virtual Network for the Azure Database Migration Service by using the Azure Resource Manager deployment model, which provides site-to-site connectivity to your on-premises source servers by using either ExpressRoute or VPN.

Reference:

https://azure.microsoft.com/pricing/details/database-migration/

https://docs.microsoft.com/en-us/azure/dms/tutorial-sql-server-azure-sql-online

Question: 2

DRAG DROP

You need to configure user authentication for the SERVER1 databases. The solution must meet the security and compliance requirements.

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.

| Actions | Answer Area |
| --- | --- |
| Create a user in the master database | |
| Modify the Azure SQL server administrator account | |
| Create contained database users | |
| Connect to the databases by using an Azure AD account | |
| Enable the contained database authentication option | |
| Create an Azure AD administrator for the logical server | |

Answer:

Explanation:

Create an Azure AD administrator for the logical server

Create contained database users

Connect to the databases by using an Azure AD account

Scenario: Authenticate database users by using Active Directory credentials.

The configuration steps include the following procedures to configure and use Azure Active Directory authentication.

Create and populate Azure AD.

Optional: Associate or change the active directory that is currently associated with your Azure Subscription.

Create an Azure Active Directory administrator. (Step 1)

Configure your client computers.

Create contained database users in your database mapped to Azure AD identities. (Step 2)

Connect to your database by using Azure AD identities. (Step 3)

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/authentication-aad-overview

Question: 3

HOTSPOT

You need to implement the monitoring of SalesSQLDb1. The solution must meet the technical requirements.

How should you collect and stream metrics? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Collect metrics from:

- The database only
- The elastic pool and the database
- The elastic pool only
- The server, the elastic pool, and the database

Stream metrics to:

- Azure Event Hubs
- Azure Log Analytics
- Azure Storage

Answer:

Explanation:

Collect metrics from:

- The database only
- The elastic pool and the database
- The elastic pool only
- The server, the elastic pool, and the database

Stream metrics to:

Azure Event Hubs Azure Log Analytics Azure Storage

Box 1: The server, the elastic pool, and the database

Senario:

SalesSQLDb1 is in an elastic pool named SalesSQLDb1Pool.

Litware technical requirements include: all SQL Server and Azure SQL Database metrics related to CPU and storage usage and limits must be analyzed by using Azure built-in functionality.

Box 2: Azure Event hubs

Scenario: Migrate ManufacturingSQLDb1 to the Azure virtual machine platform.

Event hubs are able to handle custom metrics.

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Incorrect Answers:

Azure Log Analytics

Azure metric and log data are sent to Azure Monitor Logs, previously known as Azure Log Analytics, directly by Azure. Azure SQL Analytics is a cloud only monitoring solution supporting streaming of diagnostics telemetry for all of your Azure SQL databases.

However, because Azure SQL Analytics does not use agents to connect to Azure Monitor, it does not support monitoring of SQL Server hosted on-premises or in virtual machines.

Question: 4

You need to identify the cause of the performance issues on SalesSQLDb1.

Which two dynamic management views should you use? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. sys.dm_pdw_nodes_tran_locks

B. sys.dm_exec_compute_node_errors

C. sys.dm_exec_requests

D. sys.dm_cdc_errors

E. sys.dm_pdw_nodes_os_wait_stats

F. sys.dm_tran_locks

Answer: AE

Explanation:

SalesSQLDb1 experiences performance issues that are likely due to out-of-date statistics and frequent blocking queries.

A: Use sys.dm_pdw_nodes_tran_locks instead of sys.dm_tran_locks from Azure Synapse Analytics (SQL

Data Warehouse) or Parallel Data Warehouse.

E: Example:

The following query will show blocking information.

```
SELECT
    t1.resource_type,
    t1.resource_database_id,
    t1.resource_associated_entity_id,
    t1.request_mode,
    t1.request_session_id,
    t2.blocking_session_id
  FROM sys.dm_tran_locks as t1
  INNER JOIN sys.dm_os_waiting_tasks as t2
    ON t1.lock_owner_address = t2.resource_address;
```

Note: Depending on the system you're working with you can access these wait statistics from one of three locations:

sys.dm_os_wait_stats: for SQL Server

sys.dm_db_wait_stats: for Azure SQL Database

sys.dm_pdw_nodes_os_wait_stats: for Azure SQL Data Warehouse

Incorrect Answers:

F: sys.dm_tran_locks returns information about currently active lock manager resources in SQL Server 2019 (15.x). Each row represents a currently active request to the lock manager for a lock that has been granted or is waiting to be granted.

Instead use sys.dm_pdw_nodes_tran_locks.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/system-dynamic-management- views/sys-dm-tran-locks-transact-sql

Question: 5
HOTSPOT

You need to recommend a configuration for ManufacturingSQLDb1 after the migration to Azure. The solution must meet the business requirements.

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.

Quorum model: ▼

- Cloud witness
- Disk witness
- File share witness

Answer:

Azure resource for the availability group listener: ▼

- Azure Application Gateway Azure Basic Load Balancer

Explanation:

Quorum model: ▼

- Cloud witness
- Disk witness
- File share witness

Azure resource for the availability group listener: ▼

- Azure Application Gateway
- Azure Basic Load Balancer

Scenario: Business Requirements

Litware identifies business requirements include: meet an SLA of 99.99% availability for all Azure deployments.

Box 1: Cloud witness

If you have a Failover Cluster deployment, where all nodes can reach the internet (by extension of Azure), it is recommended that you configure a Cloud Witness as your quorum witness resource.

Box 2: Azure Basic Load Balancer

Microsoft guarantees that a Load Balanced Endpoint using Azure Standard Load Balancer, serving two or more Healthy Virtual Machine Instances, will be available 99.99% of the time.

Note: There are two main options for setting up your listener: external (public) or internal. The external (public) listener uses an internet facing load balancer and is associated with a public Virtual IP (VIP) that is

accessible over the internet. An internal listener uses an internal load balancer and only supports clients within the same Virtual Network.

Reference:

https://technet.microsoft.com/windows-server-docs/failover-clustering/deploy-cloud-witness

https://azure.microsoft.com/en-us/support/legal/sla/load-balancer/v1_0/

Question: 6

You need to implement authentication for ResearchDB1. The solution must meet the security and compliance requirements.

What should you run as part of the implementation?

A. CREATE LOGIN and the FROM WINDOWS clause

B. CREATE USER and the FROM CERTIFICATE clause

C. CREATE USER and the FROM LOGIN clause

D. CREATE USER and the ASYMMETRIC KEY clause

E. CREATE USER and the FROM EXTERNAL PROVIDER clause

Answer: E

Explanation:

Scenario: Authenticate database users by using Active Directory credentials.

(Create a new Azure SQL database named ResearchDB1 on a logical server named ResearchSrv01.)

Authenticate the user in SQL Database or SQL Data Warehouse based on an Azure Active Directory user:

CREATE USER [Fritz@contoso.com] FROM EXTERNAL PROVIDER;

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/create-user-transact-sql

Question: 7
HOTSPOT

You need to recommend the appropriate purchasing model and deployment option for the 30 new databases. The solution must meet the technical requirements and the business requirements.

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

NOTE: Each correct selection is worth one point.

Purchasing model:
- Azure virtual machine reserved instances
- DTU
- vCore

Deployment option:
- An Azure SQL Database elastic pool
- An Azure SQL Database managed instance
- A SQL Server Always On availability group

Answer:

Explanation:

Purchasing model:
- Azure virtual machine reserved instances
- DTU
- vCore

Deployment option:

An Azure SQL Database elastic pool
An Azure SQL Database managed instance A SQL Server Always On availability group

Box 1: DTU

Scenario:

The 30 new databases must scale automatically.

Once all requirements are met, minimize costs whenever possible.

You can configure resources for the pool based either on the DTU-based purchasing model or the vCore-based purchasing model.

In short, for simplicity, the DTU model has an advantage. Plus, if you're just getting started with Azure SQL Database, the DTU model offers more options at the lower end of performance, so you can get started at a lower price point than with vCore.

Box 2: An Azure SQL database elastic pool

Azure SQL Database elastic pools are a simple, cost-effective solution for managing and scaling multiple databases that have varying and unpredictable usage demands. The databases in an elastic pool are on a single server and share a set number of resources at a set price. Elastic pools in Azure SQL Database enable SaaS developers to optimize the price performance for a group of databases within a prescribed budget while delivering performance elasticity for each database.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/elastic-pool-overview

https://docs.microsoft.com/en-us/azure/azure-sql/database/reserved-capacity-overview

Question: 8

DRAG DROP

You need to implement statistics maintenance for SalesSQLDb1. The solution must meet the technical requirements.

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.

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| Actions | Answer Area |
| --- | --- |
| Create and configure a schedule | |
| Create a SQL Server Agent job | |
| Publish the runbook | |
| Create an Azure Automation account | |
| Import the SqlServer module. | |
| Create a runbook that runs a PowerShell scnpt | |
| Run sp_add_jobserver. | |

Answer:

Explanation:

Create an Azure Automation account.

Import the SqlServer module.

Create a runbook that runs a PowerShell script.

Create and configure a schedule.

Automating Azure SQL DB index and statistics maintenance using Azure Automation:

1. Create Azure automation account (Step 1)

2. Import SQLServer module (Step 2)

3. Add Credentials to access SQL DB

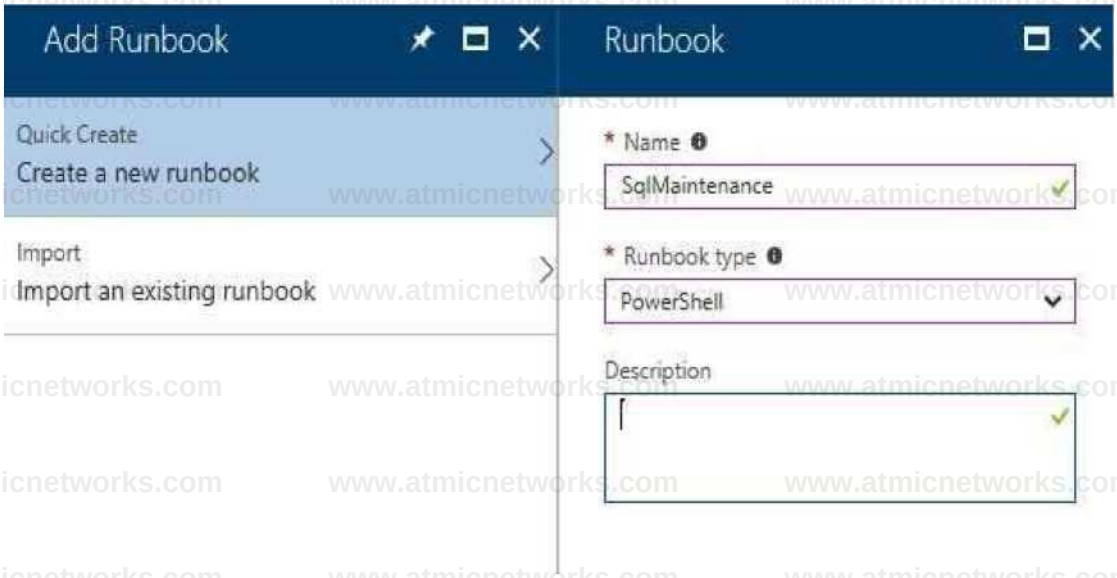
This will use secure way to hold login name and password that will be used to access Azure SQL DB

4. Add a runbook to run the maintenance (Step 3)

Steps:

1. Click on "runbooks" at the left panel and then click "add a runbook"

2. Choose "create a new runbook" and then give it a name and choose "Powershell" as the type of the runbook and then click on "create"




5. Schedule task (Step 4)

Steps:

1. Click on Schedules
2. Click on "Add a schedule" and follow the instructions to choose existing schedule or create a new schedule.

Reference:

https://techcommunity.microsoft.com/t5/azure-database-support-blog/automating-azure-sql-db- index-and-statistics-maintenance-using/ba-p/368974

Question: 9

What should you do after a failover of SalesSQLDb1 to ensure that the database remains accessible to SalesSQLDb1App1?

A. Configure SalesSQLDb1 as writable.

B. Update the connection strings of SalesSQLDb1App1.

C. Update the firewall rules of SalesSQLDb1.

D. Update the users in SalesSQLDb1.

Answer: B

Explanation:

Scenario: SalesSQLDb1 uses database firewall rules and contained database users.

Question: 10

DRAG DROP

You create all of the tables and views for ResearchDB1.

You need to implement security for ResearchDB1. The solution must meet the security and compliance requirements.

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.

| Actions | Answer Area |
|---|---|
| Run the Always Encrypted wizard | |
| Create an Azure Key Vault instance and generate a secret | |
| Create an Azure Key Vault instance and configure an access policy. | |
| Create an Azure AD managed identity | |
| Register ResearchAppI to Azure AD | |

Answer:

Explanation:

Register ResearchApp! to Azure AD

Create an Azure Key Vault instance and configure an access policy

Run the Always Encrypted wizard

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/always-encrypted-azure-key-vault-configure?tabs=azure-powershell

Question: 11

You need to recommend a solution to ensure that the customers can create the database objects.
The solution must meet the business goals.
What should you include in the recommendation?

A. For each customer, grant the customer ddl_admin to the existing schema.

B. For each customer, create an additional schema and grant the customer ddl_admin to the new schema.

C. For each customer, create an additional schema and grant the customer db_writerto the new schema.

D. For each customer, grant the customer db_writerto the existing schema.

Answer: B

Explanation:

Question: 12

You are evaluating the business goals.

Which feature should you use to provide customers with the required level of access based on their service agreement?

A. dynamic data masking

B. Conditional Access in Azure

C. service principals

D. row-level security (RLS)

Answer: D

Explanation:

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/security/row-level-security?view=sql- server-ver15

Question: 13

You need to provide an implementation plan to configure data retention for ResearchDB1. The solution must meet the security and compliance requirements.

What should you include in the plan?

A. Configure the Deleted databases settings for ResearchSrvOL
B. Deploy and configure an Azure Backup server.
C. Configure the Advanced Data Security settings for ResearchDBL
D. Configure the Manage Backups settings for ResearchSrvOL

Answer: D

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/long-term-backup-retention-configure

Topic 2, Contoso Ltd

Case study

Overview

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must

manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an All Information tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the Question button to return to the question.

Overview

Existing Environment

Contoso, Ltd. is a financial data company that has 100 employees. The company delivers financial data to customers.

Active Directory

Contoso has a hybrid Azure Active Directory (Azure AD) deployment that syncs to on-premises Active Directory.

## Database Environment

Contoso has SQL Server 2017 on Azure virtual machines shown in the following table.

| Name | Role |
|---|---|
| SQL1 | Primary data warehouse |
| SQL2 | Secondary data warehouse |
| SQL3 | Extract, transform, and load (ETL) server |

SQL1 and SQL2 are in an Always On availability group and are actively queried. SQL3 runs jobs, provides historical data, and handles the delivery of data to customers.

The on-premises datacenter contains a PostgreSQL server that has a 50-TB database.

## Current Business Model

Contoso uses Microsoft SQL Server Integration Services (SSIS) to create flat files for customers. The customers receive the files by using FTP.

## Requirements

### Planned Changes

Contoso plans to move to a model in which they deliver data to customer databases that run as platform as a service (PaaS) offerings. When a customer establishes a service agreement with Contoso, a separate resource group that contains an Azure SQL database will be provisioned for the customer. The database will have a complete copy of the financial data. The data to which each customer will have access will depend on the service agreement tier. The customers can change tiers by changing their service agreement.

The estimated size of each PaaS database is 1 TB.

Contoso plans to implement the following changes:

- Move the PostgreSQL database to Azure Database for PostgreSQL during the next six months.
- Upgrade SQL1, SQL2, and SQL3 to SQL Server 2019 during the next few months.
- Start onboarding customers to the new PaaS solution within six months.

Business Goals

Contoso identifies the following business requirements:

- Use built-in Azure features whenever possible.
- Minimize development effort whenever possible.
- Minimize the compute costs of the PaaS solutions.
- Provide all the customers with their own copy of the database by using the PaaS solution.
- Provide the customers with different table and row access based on the customer's service agreement.
- In the event of an Azure regional outage, ensure that the customers can access the PaaS solution with minimal downtime. The solution must provide automatic failover.
- Ensure that users of the PaaS solution can create their own database objects but he prevented from modifying any of the existing database objects supplied by Contoso.

Technical Requirements

Contoso identifies the following technical requirements:

- Users of the PaaS solution must be able to sign in by using their own corporate Azure AD credentials or have Azure AD credentials supplied to them by Contoso. The solution must avoid using the internal Azure AD of Contoso to minimize guest users.
- All customers must have their own resource group, Azure SQL server, and Azure SQL database. The deployment of resources for each customer must be done in a consistent fashion.

- Users must be able to review the queries issued against the PaaS databases and identify any new objects created.
- Downtime during the PostgreSQL database migration must be minimized.

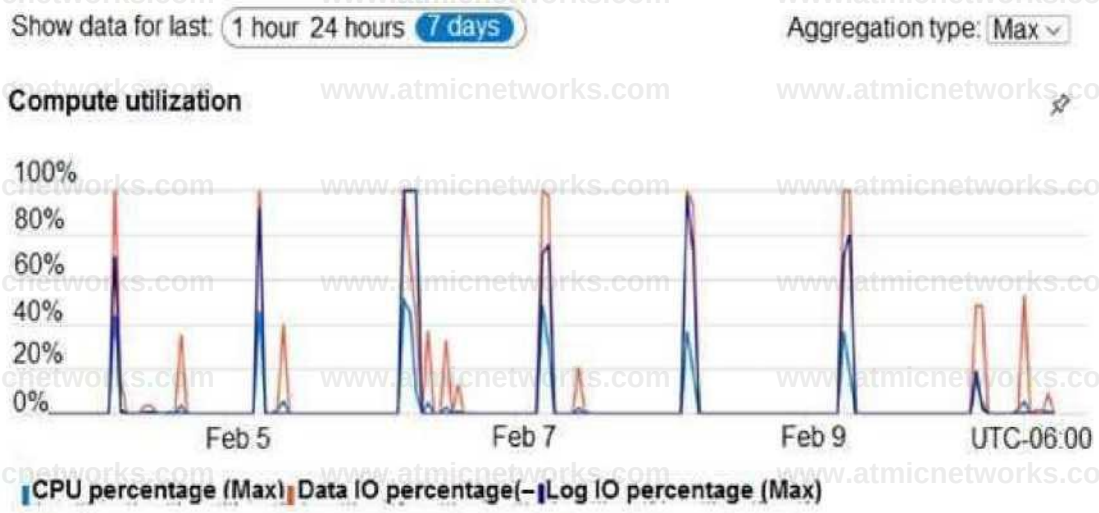
## Monitoring Requirements

Contoso identifies the following monitoring requirements:

- Notify administrators when a PaaS database has a higher than average CPU usage.
- Use a single dashboard to review security and audit data for all the PaaS databases.
- Use a single dashboard to monitor query performance and bottlenecks across all the PaaS databases.
- Monitor the PaaS databases to identify poorly performing queries and resolve query performance issues automatically whenever possible.

## PaaS Prototype

During prototyping of the PaaS solution in Azure, you record the compute utilization of a customer's Azure SQL database as shown in the following exhibit.




## Role Assignments

For each customer's Azure SQL Database server, you plan to assign the roles shown in the following exhibit.

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+ Add sr Q Refresh 0 V Got feedback?

Check access Role assortments Deny assortments Classic administrators Roles

Manage access to Azure resources for users groups service principals and managed identities at this scope by creating role assignments. Learn more B

Number of role assignments for this subscription

116 2000

| Name • | Type 0 | Role o | Scope • |
|---|---|---|---|
| SwdiiyMM»tro< \| \|Groups | v \| i2 selected | v \| All scopes | |

Group t o

Role v ]

Q Showing a filtered set of results Total number of role assignments 15

2 items (2 Groups)

| LJ Name | Type | Role | Scope |
|---|---|---|---|
| DBAGroup! | Group | Contributor 0 | This resource |
| DBAGroup2 | Group | QL DB Contributor © | This resource |

Contributor

SQL DB Contributor

## Question: 14

HOTSPOT

You are evaluating the role assignments.

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 |
|---|---|---|
| DBAGroup1 will be able to sign in to each customer's Azure SQL database by using Azure Data Studio. | O | O |
| DBAGroup1 will be able to assign the SQL DB Contributor role to other users. | O | O |
| DBAGroup2 will be able to create a new Azure SQL database on each customer's Azure SQL Database server. | O | O |

**Answer:**

Explanation:

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Answer Area

| Statements | Yas No |
|---|---|
| DBAGra jp1 will be sh e to sign in to each customer's Azure SQL database by using Azure Data Studio | |
| DEAGrojpl will be abe to assign the SQL D8 Contributor role to other users. | |
| DBAGroup? will be aba to create a new Azure SQL database on each customer's Azure SQL Database server | |

Box 1: Yes

DBAGroup1 is member of the Contributor role.

The Contributor role grants full access to manage all resources, but does not allow you to assign roles in Azure RBAC, manage assignments in Azure Blueprints, or share image galleries.

Box 2: No

Box 3: Yes

DBAGroup2 is member of the SQL DB Contributor role.

The SQL DB Contributor role lets you manage SQL databases, but not access to them. Also, you can't manage their security-related policies or their parent SQL servers. As a member of this role you can create and manage SQL databases.

Reference:

https://docs.microsoft.com/en-us/azure/role-based-access-control/built-in-roles

Question: 15

Based on the PaaS prototype, which Azure SQL Database compute tier should you use?

A. Business Critical 4-vCore

B. Hyperscale

C. General Purpose v-vCore

D. Serverless

Answer: A

Explanation:

There are CPU and Data I/O spikes for the PaaS prototype. Business Critical 4-vCore is needed.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/reserved-capacity-overview

Question: 16

Which audit log destination should you use to meet the monitoring requirements?

A. Azure Storage

B. Azure Event Hubs

C. Azure Log Analytics

Answer: C

Explanation:

Scenario: Use a single dashboard to review security and audit data for all the PaaS databases.

With dashboards can bring together operational data that is most important to IT across all your Azure resources, including telemetry from Azure Log Analytics.

Note: Auditing for Azure SQL Database and Azure Synapse Analytics tracks database events and writes them to an audit log in your Azure storage account, Log Analytics workspace, or Event Hubs.

Reference:

https://docs.microsoft.com/en-us/azure/azure-monitor/visualize/tutorial-logs-dashboards

Question: 17

What should you implement to meet the disaster recovery requirements for the PaaS solution?

A. Availability Zones
B. failover groups
C. Always On availability groups
D. geo-replication

Answer: B

Explanation:

Scenario: In the event of an Azure regional outage, ensure that the customers can access the PaaS solution with minimal downtime. The solution must provide automatic failover.

The auto-failover groups feature allows you to manage the replication and failover of a group of databases on a server or all databases in a managed instance to another region. It is a declarative abstraction on top of the existing active geo-replication feature, designed to simplify deployment and management of geo-replicated databases at scale. You can initiate failover manually or you can delegate it to the Azure service based on a user-defined policy.

The latter option allows you to automatically recover multiple related databases in a secondary region after a catastrophic failure or other unplanned event that results in full or partial loss of the SQL Database or SQL Managed Instance availability in the primary region.

Reference:

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

Question: 18

What should you use to migrate the PostgreSQL database?

A. Azure Data Box
B. AzCopy
C. Azure Database Migration Service
D. Azure Site Recovery

Answer: C

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/dms/dms-overview

Question: 19

You need to implement a solution to notify the administrators. The solution must meet the monitoring requirements.

What should you do?

A. Create an Azure Monitor alert rule that has a static threshold and assign the alert rule to an action group.

B. Add a diagnostic setting that logs QueryStoreRuntimeStatistics and streams to an Azure event hub.

C. Add a diagnostic setting that logs Timeouts and streams to an Azure event hub.

D. Create an Azure Monitor alert rule that has a dynamic threshold and assign the alert rule to an action group.

Answer: D

Explanation:

Reference:

https://azure.microsoft.com/en-gb/blog/announcing-azure-monitor-aiops-alerts-with-dynamic- thresholds/

Topic 3, ADatum Corporation

Overview

This is a case study. Case studies are not timed separately. You can use as much exam time as you would like to complete each case. However, there may be additional case studies and sections on this exam. You must manage your time to ensure that you are able to complete all questions included on this exam in the time provided.

To answer the questions included in a case study, you will need to reference information that is provided in the case study. Case studies might contain exhibits and other resources that provide more information about the scenario that is described in the case study. Each question is independent of the other questions in this case study.

At the end of this case study, a review screen will appear. This screen allows you to review your answers and to make changes before you move to the next section of the exam. After you begin a new section, you cannot return to this section.

To start the case study

To display the first question in this case study, click the Next button. Use the buttons in the left pane to explore

the content of the case study before you answer the questions. Clicking these buttons displays information such as business requirements, existing environment, and problem statements. If the case study has an All Information tab, note that the information displayed is identical to the information displayed on the subsequent tabs. When you are ready to answer a question, click the Question button to return to the question.

## Overview

ADatum Corporation is a retailer that sells products through two sales channels: retail stores and a website.

## Existing Environment

ADatum has one database server that has Microsoft SQL Server 2016 installed. The server hosts three mission-critical databases named SALESDB, DOCDB, and REPORTINGDB.

SALESDB collects data from the stores and the website.

DOCDB stores documents that connect to the sales data in SALESDB. The documents are stored in two different JSON formats based on the sales channel.

REPORTINGDB stores reporting data and contains several columnstore indexes. A daily process creates reporting data in REPORTINGDB from the data in SALESDB. The process is implemented as a SQL Server Integration Services (SSIS) package that runs a stored procedure from SALESDB.

## Requirements

### Planned Changes

ADatum plans to move the current data infrastructure to Azure. The new infrastructure has the following requirements:

Migrate SALESDB and REPORTINGDB to an Azure SQL database.

Migrate DOCDB to Azure Cosmos DB.

The sales data, including the documents in JSON format, must be gathered as it arrives and analyzed online by using Azure Stream Analytics. The analytics process will perform aggregations that must be done continuously, without gaps, and without overlapping.

As they arrive, all the sales documents in JSON format must be transformed into one consistent format.

Azure Data Factory will replace the SSIS process of copying the data from SALESDB to REPORTINGDB.

Technical Requirements

The new Azure data infrastructure must meet the following technical requirements:

Data in SALESDB must encrypted by using Transparent Data Encryption (TDE). The encryption must use your own key.

SALESDB must be restorable to any given minute within the past three weeks.

Real-time processing must be monitored to ensure that workloads are sized properly based on actual usage patterns.

Missing indexes must be created automatically for REPORTINGDB.

Disk IO, CPU, and memory usage must be monitored for SALESDB.

Question: 20

Which windowing function should you use to perform the streaming aggregation of the sales data?

A. Sliding

B. Hopping

C. Session

D. Tumbling

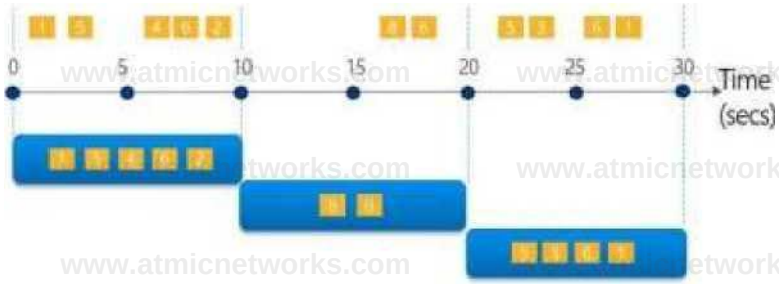
Answer: D

Explanation:

Scenario: The sales data, including the documents in JSON format, must be gathered as it arrives and analyzed online by using Azure Stream Analytics. The analytics process will perform aggregations that must be done continuously, without gaps, and without overlapping.

Tumbling window functions are used to segment a data stream into distinct time segments and perform a function against them, such as the example below. The key differentiators of a Tumbling window are that they repeat, do not overlap, and an event cannot belong to more than one tumbling window.

Fell me the count of Tweets per time zone every 10 seconds




```
SELECT Timezone, COUNT(*) AS Count
FROM TwitterStream TIMESTAMP BY CreatedAt
GROUP BY TimeZone, TumblingWindow(second,10)
```

Reference:

https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/stream-analytics/stream- analytics-window-functions.md

Question: 21

Which counter should you monitor for real-time processing to meet the technical requirements?

A. SU% Utilization
B. CPU% utilization
C. Concurrent users
D. Data Conversion Errors

Explanation:

Answer: B

Scenario: Real-time processing must be monitored to ensure that workloads are sized properly based on actual usage patterns.

To monitor the performance of a database in Azure SQL Database and Azure SQL Managed Instance, start by monitoring the CPU and IO resources used by your workload relative to the level of database performance you chose in selecting a particular service tier and performance level.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/monitor-tune-overview

Question: 22

HOTSPOT

You plan to deploy Instance1 by using the following script.

```
"type*. 'Microsoft-Sql 'managedinstances*j “apiVersion": "2019 -06-
01-preview’, “name’: "(parameters(*instancehame¹ ]"» "location":
"[resource6roup().location]", -.ku': {
    'nan#': *[parameters('skuHame')]",
    "tier*: "[parameters('skuEdition')]"

"dependaOn": [
    "Microsoft.Resources/deploynents/BuildHIMetworking’
"properties*: (                                                    ^
    "administratorlogin": "(parameters(‘adminlogin’)]", "administratorloginPasswordb": "(parameters('admlnPassword*)]", "subnetId"r "
(resourceId('Microsoft.Network/virtueiMetworkt/subnets',parasters('neThame').parameters

                                                                    subaetMame'))]%
```

You need to specify the licenseType and storagenedundancy parameters. The deployment must meet the availability requirements and the business requirements for DB1 and DB2.

To what should you set each parameter? To answer, select the appropriate options in the answer area.

Answer:

Explanation:

Answer Area

T

LicemseType j cense indudec

storagefledundincy: GeoRedundantStorage

Question: 23

You need to recommend a backup solution to restore DB3. The solution must meet the availability requirements.

Which type of backup should you use?

A. transaction log

B. point-in-time restore (PITR)

C. differential

D. long-term retention (LTR)

Answer: C

Explanation:

Question: 24

You need to recommend which configuration to perform twice to enable access to the primary and secondary replicas of DB3. The solution must meet the availability requirements.

What should you recommend?

A. Configure virtual network service endpoints.

B. Enable database firewall rules.

C. Create database-scoped credentials.

D. Configure connection strings that reference the read-write listener.

Answer: D

Explanation:

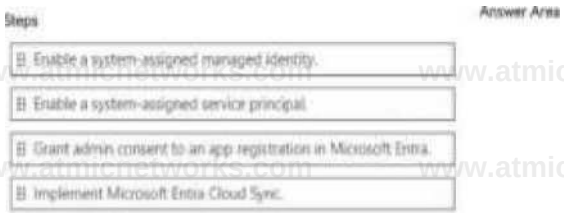
Question: 25

DRAG DROP

You need to recommend an authentication solution for App1 access to DB1 and DB2 after their migration to Instance1. The solution must meet the availability requirements.

Which actions should you perform in sequence? To answer, drag the appropriate actions to the correct order. Each action 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.




Answer:

Explanation:

Question: 26

HOTSPOT

You need to recommend a service tier and a method to ofload analytical workloads for the databases migrated from SVR1. The solution must meet the availability and business requirements.

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

NOTE: Each correct selection is worth one point.

**Answer Area**

Service tier I Premium

Business Critical

General Purpose

Premium

Method: Read scaie-out _____

A failover group read-only listener Geo-replicated secondary replicas

Answer:

Explanation:

Answer Area

Service tier: Premium

Method: Read scale-out

Question: 27

You need to recommend a process to automate the management of DB3. The solution must meet the management requirements. What should be the first step of the process?

A. Configure Microsoft Entra authentication for the logical server that hosts DB3.

B. Create a database that has database-scoped credentials.

C. Configure a private endpoint for connectivity to DB3.

D. Create data base-scoped credentials in DB3.

Answer: C

Explanation:

Question: 28

You need to identify the event_flle target for monitonng DB3 after the migration to Azure SQL Database. The solution must meet the management requirements,

What should you use as the event_file target?

A. an Azure SQL database

B. an Azure Blob Storage container

C. a SQL Server filegroup

D. an Azure Files share

Answer: B

Explanation:

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Question: 29

You need to identify the event_file target for monitonng DB3 after the migration to Azure SQL Database. The solution must meet the management requirements.

What should you use as the event_file target?

A. an Azure SQL database

B. an Azure Blob Storage container

C. a SQL Server filegroup

D. an Azure Files share

Answer: B

Explanation:

Question: 30

HOTSPOT

You need to recommend which service and target endpoint to use when migrating the databases from SVR1 to Instance1.

The solution must meet the availability requirements.

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

NOTE Each correct selection is worth one point.

**Answer Area**

Migration service: | Managed instance link"" Log Replay Service (IRS)

Managed Instance link

I SQL Data Sync J

Target endpoint |AVNet-locai endpoint ~j A pnvate endpoint

A public endpoint

A VNet local endpoint

Answer:

Explanation:

**Answer Area**

Migration service Managed instance link *

Target endpoint A VNet-local endpoint

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Question: 31

You need to recommend a solution that will enable remote developers to access DB1 and DB2. The solution must support the planned changes and meet the secunty requirements.

What should you include in the recommendation?

A. a public endpoint via a database-level firewall rule

B. a private endpoint

C. a public endpoint via a server-level firewall rule

D. a Point-to-Site (P2S) VPN

Answer: B

Explanation:

Question: 32

You need to recommend a solution to ensure that the performance of DB3 is optimized after the migration to Azure SQL Database. The solution must meet availability requirements.

What should you include in the recommendation?

A. Resource Governor

B. a custom resource pool

C. vertical scaling

D. horizontal scaling

Answer: C

Explanation:

Question: 33

You need to recommend a solution to meet the security requirements and the business requirements for DB3. What should you recommend as the first step of the solution?

A. Run the sys.5p_cdc_en«ble_db stored procedure.

B. Run the alter table statement and specify the enable chahgc_tracking clause.

C. Run the alter database statement and specify the set cmange_trackinc> - on clause.

D. Run the sp_addarticle stored procedure.

Answer: C

Explanation:

Topic 4, Contoso Ltd Clothing Store

Question: 34

You need to design a data retention solution for the Twitter feed data records. The solution must meet the customer sentiment analytics requirements.

Which Azure Storage functionality should you include in the solution?

A. time-based retention

B. change feed

C. lifecycle management

D. soft delete

Answer: C

Explanation:

The lifecycle management policy lets you:

Delete blobs, blob versions, and blob snapshots at the end of their lifecycles

Reference:

https://docs.microsoft.com/en-us/azure/storage/blobs/storage-lifecycle-management-concepts

Question: 35

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

What should you create?

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

Answer: B

Explanation:

Scenario: Contoso requirements for the sales transaction dataset include:

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

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

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse- tablesidentity

Question: 36
HOTSPOT

You need to design an analytical storage solution for the transactional data. The solution must meet the sales transaction dataset requirements.

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

NOTE: Each correct selection is worth one point.

Table type to store retail store data:

Hash
Replicated
Round-robin

Table type to store promotional data:

Hash
Replicated
Round-robin

Box 1: Hash

Answer:

Explanation:

Table type to store retail store data:

Hash
Replicated
Round-robin

Table type to store promotional data:

Hash
Replicated
Round-robin

Scenario:

Ensure that queries joining and filtering sales transaction records based on product ID complete as quickly as possible.

A hash distributed table can deliver the highest query performance for joins and aggregations on large tables.

Box 2: Round-robin

Scenario:

You plan to create a promotional table that will contain a promotion ID. The promotion ID will be associated to a specific product. The product will be identified by a product ID. The table will be approximately 5 GB.

A round-robin table is the most straightforward table to create and delivers fast performance when used as a staging table

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for loads. These are some scenarios where you should choose Round robin distribution:

When you cannot identify a single key to distribute your data.

If your data doesn't frequently join with data from other tables.

When there are no obvious keys to join.

Incorrect Answers:

Replicated: Replicated tables eliminate the need to transfer data across compute nodes by replicating a full copy of the data of the specified table to each compute node. The best candidates for repzlicated tables are tables with sizes less than 2 GB compressed and small dimension tables.

Reference:

https://rajanieshkaushikk.com/2020/09/09/how-to-choose-right-data-distribution-strategy-for- azure-synapse/

Topic 5, Lab / Simulation Tasks

Question: 37
SIMULATION

Task 1

In an Azure SQL database named db1, you need to enable page compression on the PK_SalesOrderHeader_SalesOrderID clustered index of the SalesLT.SalesOrderHeader table.

Answer: See the explanation part for the complete Solution.

Explanation:

To enable page compression on the PK_SalesOrderHeader_SalesOrderID clustered index of the SalesLT.SalesOrderHeader table in db1, you can use the following Transact-SQL script:

```
-- Connect to the Azure SQL database named db1
USE db1;
GO

-- Enable page compression on the clustered index
ALTER INDEX PK_SalesOrderHeader_SalesOrderID ON SalesLT.SalesOrderHeader
REBUILD WITH (DATA_COMPRESSION = PAGE);
GO
```

This script will rebuild the clustered index with page compression, which can reduce the storage space and improve the query performance

The script solution consists of three parts:

The first part is USE db1; GO. This part connects to the Azure SQL database named db1, where the SalesLT.SalesOrderHeader table is located. The GO command separates the batches of Transact-SQL statements and sends them to the server.

The second part is ALTER INDEX PK_SalesOrderHeader_SalesOrderID ON SalesLT.SalesOrderHeader REBUILD WITH (DATA_COMPRESSION = PAGE); GO. This part enables page compression on the clustered index named PK_SalesOrderHeader_SalesOrderID, which is defined on the SalesLT.SalesOrderHeader table. The ALTER INDEX statement modifies the properties of an existing index. The REBUILD option rebuilds the index from scratch, which is required to change the compression setting. The DATA_COMPRESSION = PAGE option specifies that page compression is applied to the index, which means that both row and prefix compression are used. Page compression can reduce the storage space and improve the query performance by compressing the data at the

page level. The GO command ends the batch of statements.

The third part is optional, but it can be useful to verify the compression status of the index. It is SELECT name, index_id, data_compression_desc FROM sys.indexes WHERE object_id = OBJECT_ID('SalesLT.SalesOrderHeader');. This part queries the sys.indexes catalog view, which contains information about the indexes in the database. The SELECT statement returns the name, index_id, and data_compression_desc columns for the indexes that belong to the SalesLT.SalesOrderHeader table. The OBJECT_ID function returns the object identification number for the table name. The data_compression_desc column shows the compression type of the index, which should be PAGE for the clustered index after the script is executed.

These are the steps of the script solution for enabling page compression on the clustered index of the SalesLT.SalesOrderHeader table in db1.

Question: 38
SIMULATION

Task 2

You need to configure your user account as the Azure AD admin for the server named sql3700689S.

Answer: See the explanation part for the complete Solution.

Explanation:

To configure your user account as the Azure AD admin for the server named sql3700689S, you can use the Azure portal or the Azure CLI. Here are the steps for both methods:

Using the Azure portal:

Go to the Azure portal and select SQL Server – Azure Arc.

Select the server named sql3700689S and click on Active Directory admin.

Click on Set admin and choose your user account from the list of Azure AD users.

Click on Select and then Save to confirm the change.

You can verify the Azure AD admin by clicking on Active Directory admin again and checking the current admin.

Using the Azure CLI:

Install the Azure CLI and log in with your Azure account.

Run the following command to get the object ID of your user account: az ad user show --id <your- user-name> --query objectId -o tsv

Run the following command to set your user account as the Azure AD admin for the server: az sql server ad-admin create --server sql3700689S --object-id <your-object-id> --display-name <your-user- name>

You can verify the Azure AD admin by running the following command: az sql server ad-admin show - -server sql3700689S

These are the steps to configure your user account as the Azure AD admin for the server named sql3700689S.

Question: 39
SIMULATION

Task 3

You need to ensure that all queries executed against dbl are captured in the Query Store.

Answer: See the explanation part for the complete Solution.

Explanation:

To ensure that all queries executed against dbl are captured in the Query Store, you need to enable the Query Store feature for the database and set the query capture mode to ALL. The Query Store feature provides you with insight on query plan choice and performance for Azure SQL Database1. The query capture mode controls whether all queries or only a subset of queries are tracked2.

Here are the steps to enable the Query Store and set the query capture mode to ALL for the database dbl:

Using the Azure portal:

Go to the Azure portal and select your Azure SQL Database server.

Select the database dbl and click on Query Performance Insight in the left menu.

Click on Configure Query Store and turn on the Query Store switch.

In the Query Capture Mode dropdown, select All and click on Save.

Using Transact-SQL statements:

Connect to the Azure SQL Database server and the database dbl using SQL Server Management Studio or Azure Data Studio.

Run the following command to enable the Query Store for the database: ALTER DATABASE dbl SET QUERY_STORE = ON;

Run the following command to set the query capture mode to ALL for the database: ALTER DATABASE dbl SET QUERY_STORE (QUERY_CAPTURE_MODE = ALL);

These are the steps to ensure that all queries executed against dbl are captured in the Query Store.

Question: 40
SIMULATION

Task 4

You need to enable change data capture (CDC) for db1.

Answer: See the explanation part for the complete Solution.

Explanation:

To enable change data capture (CDC) for db1, you need to run the stored procedure

sys.sp_cdc_enable_db in the database context. CDC is a feature that records activity on a database when tables and rows have been modified1. CDC can be used for various scenarios, such as data synchronization, auditing, or ETL processes2.

Here are the steps to enable CDC for db1:

Connect to db1 using SQL Server Management Studio, Azure Data Studio, or any other tool that supports Transact-SQL statements.

Open a new query window and run the following command: EXEC sys.sp_cdc_enable_db; GO

This command will enable CDC for the database and create the cdc schema, cdc user, metadata tables, and other system objects for the database3.

To verify that CDC is enabled for db1, you can query the is_cdc_enabled column in the sys.databases catalog view. The value should be 1 for db1.

These are the steps to enable CDC for db1

Question: 41
SIMULATION

Task 5

You need to configure a disaster recovery solution for db1. When a failover occurs, the connection strings to the

database must remain the same. The secondary server must be in the West US 3 Azure region.

Answer: See the explanation part for the complete Solution.

Explanation:

To configure a disaster recovery solution for db1, you can use the failover groups feature of Azure SQL Database. Failover groups allow you to manage the replication and failover of a group of databases across different regions with the same connection strings1. You can also use active georeplication as an alternative, but you will need to update the connection strings manually after a failover2.

Here are the steps to create a failover group for db1 with the secondary server in the West US 3 region:

Using the Azure portal:

Go to the Azure portal and select your Azure SQL Database server that hosts db1.

Select Failover groups in the left menu and click on Add group.

Enter a name for the failover group and select West US 3 as the secondary region.

Click on Create a new server and enter the details for the secondary server, such as server name, admin login, password, and subscription.

Click on Select existing database(s) and choose db1 from the list of databases on the primary server.

Click on Configure failover policy and select the failover mode, grace period, and read-write failover endpoint mode according to your preferences.

Click on Create to create the failover group and start the replication of db1 to the secondary server.

Using PowerShell commands:

Install the Azure PowerShell module and log in with your Azure account.

Run the following command to create a new server in the West US 3 region: New-AzSqlServer - ResourceGroupName <your-resource-group-name> -ServerName <your-secondary-server-name> - Location "West US 3" - SqlAdministratorCredentials $(New-Object -TypeName System.Management.Automation.PSCredential -ArgumentList "<your-admin-login>", $(ConvertTo- SecureString -String "<your-password>" -AsPlainText -Force))

Run the following command to create a new failover group with db1: New-AzSqlDatabaseFailoverGroup -ResourceGroupName <your-resource-group-name> -ServerName <your-primary-server-name> -PartnerResourceGroupName <your-resource-group-name> - PartnerServerName <your-secondary-server-name> -FailoverGroupName <your-failover-group- name> -Database db1 -FailoverPolicy Manual -GracePeriodWithDataLossHours 1 - ReadWriteFailoverEndpoint "Enabled"

You can modify the parameters of the command according to your preferences, such as the failover policy, grace period, and read-write failover endpoint mode.

These are the steps to create a failover group for db1 with the secondary server in the West US 3 region.

Question: 42
SIMULATION

Task 6

You need to ensure that any enhancements made to the Query Optimizer through patches are available to dbl and db2 on sql37006895.

Answer: See the explanation part for the complete Solution.

Explanation:

To ensure that any enhancements made to the Query Optimizer through patches are available to dbl and db2 on sql37006895, you need to enable the query optimizer hotfixes option for each database. This option allows you to use the latest query optimization improvements that are not enabled by default1. You can enable this option by using the ALTER DATABASE SCOPED CONFIGURATION statement2.

Here are the steps to enable the query optimizer hotfixes option for dbl and db2 on sql37006895:

Connect to sql37006895 using SQL Server Management Studio, Azure Data Studio, or any other tool that supports Transact-SQL statements.

Open a new query window and run the following commands for each database:

-- Switch to the database context

USE dbl;

GO

-- Enable the query optimizer hotfixes option

ALTER DATABASE SCOPED CONFIGURATION SET QUERY_OPTIMIZER_HOTFIXES = ON;

GO

Repeat the same commands for db2, replacing dbl with db2 in the USE statement.

To verify that the query optimizer hotfixes option is enabled for each database, you can query the sys.database_scoped_configurations catalog view. The value of the query_optimizer_hotfixes column should be 1 for both databases.

These are the steps to enable the query optimizer hotfixes option for dbl and db2 on sql37006895.

Question: 43
SIMULATION

Task 7

You plan to create an automation runbook that will create database users in db1 from Azure AD identities. You need to configure sq1370O6895 to support the creation of new database users.

Answer: See the explanation part for the complete Solution.

Explanation:

To configure sq1370O6895 to support the creation of new database users from Azure AD identities, you need to do the following steps:

Set up a Microsoft Entra tenant and associate it with your Azure subscription. You can use the Microsoft Entra portal or the Azure portal to create and manage your Microsoft Entra users and groups12.

Configure a Microsoft Entra admin for sq1370O6895. You can use the Azure portal or the Azure CLI to set a Microsoft Entra user as the admin for the server34. The Microsoft Entra admin can create other database users from Microsoft Entra identities5.

Connect to db1 using the Microsoft Entra admin account and run the following Transact-SQL statement to create a new database user from a Microsoft Entra identity: CREATE USER [Microsoft Entra user name] FROM EXTERNAL PROVIDER;6

You can replace the Microsoft Entra user name with the name of the user or group that you want to create in the database.

Grant the appropriate permissions to the new database user by adding them to a database role or granting them specific privileges. For example, you can run the following Transact-SQL statement to add the new user to the db_datareader role: ALTER ROLE db_datareader ADD MEMBER [Microsoft Entra user name];

These are the steps to configure sq1370O6895 to support the creation of new database users from Azure AD identities.

Question: 44
SIMULATION

Task 8

You plan to perform performance testing of db1.

You need prevent db1 from reverting to the last known good query plan.

Answer: See the explanation part for the complete Solution.

Explanation:

To prevent db1 from reverting to the last known good query plan, you need to disable the automatic plan correction feature for the database. This feature is enabled by default and allows the Query Store to detect and fix plan performance regressions by forcing the last good plan1. However, if you want to test the performance of different plans without interference from the Query Store, you can turn off this feature by using the ALTER DATABASE SCOPED CONFIGURATION statement2.

Here are the steps to disable the automatic plan correction feature for db1:

Connect to db1 using SQL Server Management Studio, Azure Data Studio, or any other tool that supports Transact-SQL statements.

Open a new query window and run the following command: ALTER DATABASE SCOPED CONFIGURATION SET AUTOMATIC_TUNING (FORCE_LAST_GOOD_PLAN = OFF); GO

This command will disable the automatic plan correction feature for db1 and allow the Query Optimizer to choose the best plan based on the current statistics and parameters3.

To verify that the automatic plan correction feature is disabled for db1, you can query the sys.database_scoped_configurations catalog view. The value of the force_last_good_plan column should be 0 for

db1.

These are the steps to disable the automatic plan correction feature for db1.

Question: 45

SIMULATION

Task 9

You need to generate an email alert to admin@contoso.com when CPU percentage utilization for db1 is higher than average.

Answer: See the explanation part for the complete Solution.

Explanation:

To generate an email alert to admin@contoso.com when CPU percentage utilization for db1 is higher than average, you can use the Azure portal to create an alert rule based on the CPU percentage metric. Here are the steps to do that:

Go to the Azure portal and select your Azure SQL Database server that hosts db1.

Select Alerts in the Monitoring section and click on New alert rule.

In the Condition section, click Add and select the CPU percentage metric.

In the Configure signal logic page, set the threshold type to Dynamic. This will compare the current metric value to the historical average and trigger the alert when it deviates significantly1.

Set the operator to Greater than, the aggregation type to Average, the aggregation granularity to 1 minute, and the frequency of evaluation to 5 minutes.

Click Done to save the condition.

In the Action group section, click Create and enter a name and a short name for the action group.

In the Notifications section, click Add and select Email/SMS message/Push/Voice.

Enter admin@contoso.com in the Email field and click OK.

Click OK to save the action group.

In the Alert rule details section, enter a name and a description for the alert rule, choose a severity level, and make sure the rule is enabled.

Click Create alert rule to create the alert rule.

This alert rule will send an email to admin@contoso.com when the CPU percentage utilization for

db1 is higher than average. You can also add other actions to the alert rule, such as calling a webhook or running an automation script

Question: 46
SIMULATION

Task 10

You need to protect all the databases on sql37006S95 from SQL injection attacks.

Answer: See the explanation part for the complete Solution.

Explanation:

SQL injection attacks are a type of cyberattack that exploit a vulnerability in the application code that interacts with the database. An attacker can inject malicious SQL statements into the user input, such as a form field or a URL parameter, and execute them on the database server, resulting in data theft, corruption, or unauthorized access1.

To protect all the databases on sql37006S95 from SQL injection attacks, you need to follow some best practices for securing your application and database layers. Here are some of the recommended steps:

Use parameterized queries or stored procedures to separate the SQL code from the user input. This will prevent the user input from being interpreted as part of the SQL statement and avoid SQL injection23.

Validate and sanitize the user input before passing it to the database. This will ensure that the input conforms to the expected format and type, and remove any potentially harmful characters or keywords4.

Implement least privilege access for the database users and roles. This will limit the permissions and actions that the application can perform on the database, and reduce the impact of a successful SQL injection attack5.

Enable Advanced Threat Protection for Azure SQL Database. This is a feature that detects and alerts you of anomalous

activities and potential threats on your database, such as SQL injection, brute force attacks, or unusual access patterns. You can configure the alert settings and notifications using the

Azure portal or PowerShell.

These are some of the steps to protect all the databases on sql37006S95 from SQL injection attacks.

Question: 47
SIMULATION

Task 11

You have a legacy application written for Microsoft SQL Server 2012. The application will be the only application that accesses db1 You need to ensure that db1 is compatible with all the features and syntax of SQL Server 2012.

Answer: See the explanation part for the complete Solution.

Explanation:

To ensure that db1 is compatible with all the features and syntax of SQL Server 2012, you need to set the compatibility level of the database to 110, which is the compatibility level for SQL Server 20121. The compatibility level affects the behavior of certain Transact-SQL statements and features, and determines how the database engine interprets the SQL code2.

You can set the compatibility level of db1 by using the Azure portal or Transact-SQL statements. Here are the steps for both methods:

Using the Azure portal:

Go to the Azure portal and select your Azure SQL Database server that hosts db1.

Select the database db1 and click on Query Performance Insight in the left menu.

Click on Configure Query Store and select 110 from the Compatibility level dropdown list.

Click on Save to apply the change.

Using Transact-SQL statements:

Connect to db1 using SQL Server Management Studio, Azure Data Studio, or any other tool that supports Transact-SQL statements.

Open a new query window and run the following command: ALTER DATABASE db1 SET COMPATIBILITY_LEVEL = 110; GO

This command will set the compatibility level of db1 to 110, which is equivalent to SQL Server 2012.

These are the steps to set the compatibility level of db1 to 110.

Question: 48
SIMULATION

Task 12

You need to configure high availability for dbl. The solution must tolerate the loss of an Azure datacenter without data loss or the need to modify application connection strings.

Answer: See the explanation part for the complete Solution.

Explanation:

To configure high availability for dbl, you can use the failover groups feature of Azure SQL Database. Failover groups allow you to manage the replication and failover of a group of databases across different regions with the same connection strings1. You can choose all, or a subset of, user databases in a logical server to be replicated to another logical server in a different region. You can also specify the failover policy, such as manual or automatic, and the grace period for data loss.

Here are the steps to create a failover group for dbl:

Using the Azure portal:

Go to the Azure portal and select your Azure SQL Database server that hosts dbl.

Select Failover groups in the left menu and click on Add group.

Enter a name for the failover group and select a secondary region that is different from the primary region.

Click on Create a new server and enter the details for the secondary server, such as server name, admin login, password, and subscription.

Click on Select existing database(s) and choose dbl from the list of databases on the primary server.

Click on Configure failover policy and select the failover mode, grace period, and read-write failover endpoint mode according to your preferences.

Click on Create to create the failover group and start the replication of dbl to the secondary server.

Using PowerShell commands:

Install the Azure PowerShell module and log in with your Azure account.

Run the following command to create a new server in the secondary region: New-AzSqlServer - ResourceGroupName <your-resource-group-name> -ServerName <your-secondary-server-name> - Location "<secondary-region-name>" - SqlAdministratorCredentials $(New-Object -TypeName System.Management.Automation.PSCredential -ArgumentList "<your-admin-login>", $(ConvertTo- SecureString -String "<your-password>" -AsPlainText -Force))

Run the following command to create a new failover group with dbl: New-AzSqlDatabaseFailoverGroup -ResourceGroupName <your-resource-group-name> -ServerName <your-primary-server-name> -PartnerResourceGroupName <your-resource-group-name> - PartnerServerName <your-secondary-server-name> -FailoverGroupName <your-failover-group- name> -Database dbl -FailoverPolicy <manual-or-automatic> -GracePeriodWithDataLossHours <grace-period-in-hours> -ReadWriteFailoverEndpoint "<enabled-or-disabled>"

You can modify the parameters of the command according to your preferences, such as the failover policy, grace period, and read-write failover endpoint mode.

These are the steps to create a failover group for dbl

Topic 6, Misc. Questions

Question: 49

You have an Azure SQL database that contains a table named factSales. FactSales contains the columns shown in the following table.

| Name | Data type |
|---|---|
| SalesID | Int |
| Product | Int |
| Total Number | Numeric(8.4) |
| Tax Number | Numeric(8.4) |
| SalesRep | Varchar(30) |

FactSales has 6 billion rows and is loaded nightly by using a batch process.

Which type of compression provides the greatest space reduction for the database?

A. page compression

B. row compression

C. columnstore compression

D. columnstore archival compression

Answer: D

Explanation:

Columnstore tables and indexes are always stored with columnstore compression. You can further reduce the size of columnstore data by configuring an additional compression called archival compression.

Note: Columnstore — The columnstore index is also logically organized as a table with rows and columns, but the data is physically stored in a column-wise data format.

Incorrect Answers:

B: Rowstore — The rowstore index is the traditional style that has been around since the initial release of SQL Server.

For rowstore tables and indexes, use the data compression feature to help reduce the size of the database.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/data-compression/data-compression

Question: 50

You have a Microsoft SQL Server 2019 instance in an on-premises datacenter. The instance contains a 4-TB database named DB1.

You plan to migrate DB1 to an Azure SQL Database managed instance.

What should you use to minimize downtime and data loss during the migration?

A. distributed availability groups

B. database mirroring

C. log shipping

D. Database Migration Assistant

Answer: D

Explanation:

Ref: https://docs.microsoft.com/en-us/azure/dms/tutorial-sql-server-to-azure-sql

Question: 51

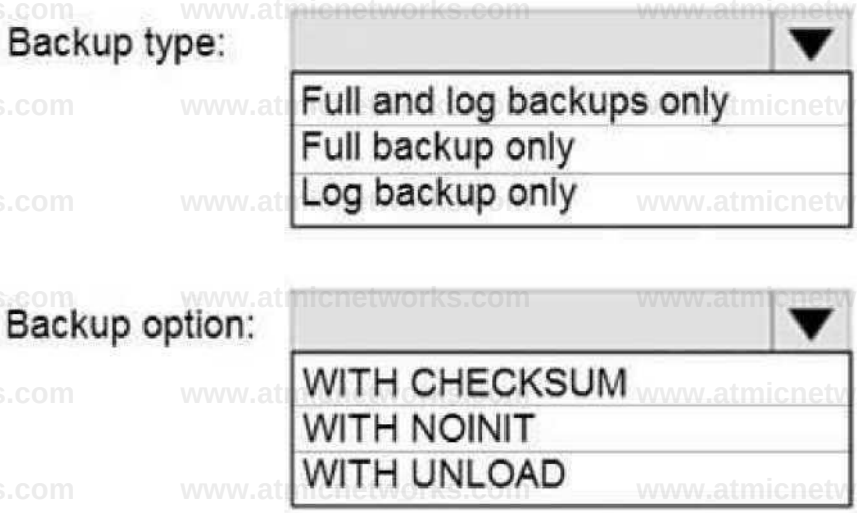
HOTSPOT

You have an on-premises Microsoft SQL Server 2016 server named Server1 that contains a database named DB1.

You need to perform an online migration of DB1 to an Azure SQL Database managed instance by using Azure Database Migration Service.

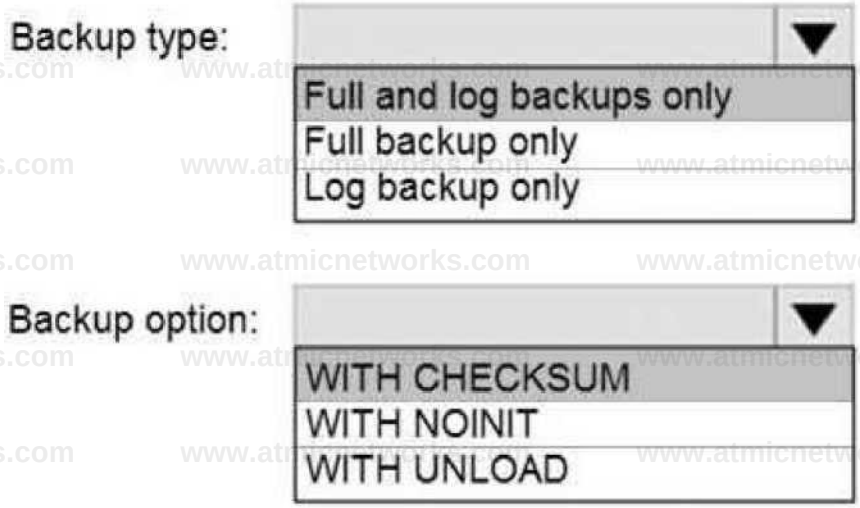
How should you configure the backup of DB1? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.




Answer:

Explanation:




Box 1: Full and log backups only

Make sure to take every backup on a separate backup media (backup files). Azure Database Migration Service doesn't support backups that are appended to a single backup file. Take full backup and log backups to separate backup files.

Box 2: WITH CHECKSUM

Azure Database Migration Service uses the backup and restore method to migrate your on-premises databases to SQL Managed Instance. Azure Database Migration Service only supports backups created using checksum.

Incorrect Answers:

NOINIT Indicates that the backup set is appended to the specified media set, preserving existing backup sets. If a media password is defined for the media set, the password must be supplied. NOINIT is the default.

UNLOAD

Specifies that the tape is automatically rewound and unloaded when the backup is finished. UNLOAD is the default when a session begins.

Reference:

https://docs.microsoft.com/en-us/azure/dms/known-issues-azure-sql-db-managed-instance-online

Question: 52

DRAG DROP

You have a resource group named App1Dev that contains an Azure SQL Database server named DevServer1. DevServer1 contains an Azure SQL database named DB1. The schema and permissions for DB1 are saved in a Microsoft SQL Server Data Tools (SSDT) database project.

You need to populate a new resource group named App1Test with the DB1 database and an Azure SQL Server named TestServer1. The resources in App1Test must have the same configurations as the resources in App1Dev.

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.

| Actions | Answer Area |
|---|---|
| Change the Active Directory Admin on TestServerl | |
| Change the server name and related variables in the templates | |
| From the database project, deploy the database schema and permissions | |
| Add IP addresses to the firewall | |
| From the Azure portal, export the Azure Resource Manager templates | |
| From the Azure portal, deploy the templates. | |

Answer:

Explanation:

From the Azure portal, export the Azure Resource Manager templates

Change the server name and related variables in the templates

From the Azure portal, deploy the templates.

From the database project, deploy the database schema and permissions

Question: 53

You have 20 Azure SQL databases provisioned by using the vCore purchasing model.
You plan to create an Azure SQL Database elastic pool and add the 20 databases.
Which three metrics should you use to size the elastic pool to meet the demands of your workload?
Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. total size of all the databases
B. geo-replication support
C. number of concurrently peaking databases * peak CPU utilization per database
D. maximum number of concurrent sessions for all the databases
E. total number of databases * average CPU utilization per database

Answer: ACE

Explanation:

CE: Estimate the vCores needed for the pool as follows:

For vCore-based purchasing model: MAX(<Total number of DBs X average vCore utilization per DB>, <Number of concurrently peaking DBs X Peak vCore utilization per DB)

A: Estimate the storage space needed for the pool by adding the number of bytes needed for all the databases in the pool.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/elastic-pool-overview

Question: 54

DRAG DROP

You have SQL Server 2019 on an Azure virtual machine that contains an SSISDB database.

A recent failure causes the master database to be lost.

You discover that all Microsoft SQL Server integration Services (SSIS) packages fail to run on the virtual machine.

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

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Answer:

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Explanation:

Attach the SSISDB database

Turn on the TRUSTWORTHY property and the CLR property

Open the master key for the SSISDB
) database

l Encrypt a copy of the master key by
l using the service master key

Step 1: Attach the SSISDB database

Step 2: Turn on the TRUSTWORTHY property and the CLR property

If you are restoring the SSISDB database to an SQL Server instance where the SSISDB catalog was never created, enable common language runtime (clr)

Step 3: Open the master key for the SSISDB database

Restore the master key by this method if you have the original password that was used to create SSISDB.

open master key decryption by password = 'LS1Setup!' --'Password used when creating SSISDB'

Alter Master Key Add encryption by Service Master Key

Step 4: Encrypt a copy of the mater key by using the service master key

Reference:

https://docs.microsoft.com/en-us/sql/integration-services/backup-restore-and-move-the-ssis- catalog

Question: 55

You have a new Azure SQL database. The database contains a column that stores confidential information.

You need to track each time values from the column are returned in a query. The tracking information must be

stored for 365 days from the date the query was executed.

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

NOTE: Each correct selection is worth one point.

A. Turn on auditing and write audit logs to an Azure Storage account.

B. Add extended properties to the column.

C. Turn on Advanced Data Security for the Azure SQL server.

D. Apply sensitivity labels named Highly Confidential to the column.

E. Turn on Azure Advanced Threat Protection (ATP).

Answer: ACD

Explanation:

C: Advanced Data Security (ADS) is a unified package for advanced SQL security capabilities. ADS is available for Azure SQL Database, Azure SQL Managed Instance, and Azure Synapse Analytics. It includes functionality for discovering and classifying sensitive data

D: You can apply sensitivity-classification labels persistently to columns by using new metadata attributes that have been added to the SQL Server database engine. This metadata can then be used for advanced, sensitivity-based auditing and protection scenarios.

A: 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:

| d | client_ip | application_name | duration_milliseconds | response_rows | affected_rows | connection_id | data_sensitivity_information |
|---|---|---|---|---|---|---|---|
| | [redacted]7.125 | Microsoft SQL Server Management Studio - Query | 1 | 847 | 847 | C244A066-2271-... | Confidential - GDPR |
| | [redacted]7.125 | Microsoft SQL Server Management Studio - Query | 2 | 32 | 32 | C244A066-2271-... | Confidential |
| | [redacted]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

Question: 56

You have an Azure virtual machine named VM1 on a virtual network named VNet1. Outbound traffic from VM1 to the internet is blocked.

You have an Azure SQL database named SqlDb1 on a logical server named SqlSrv1.

You need to implement connectivity between VM1 and SqlDb1 to meet the following requirements:

Ensure that all traffic to the public endpoint of SqlSrv1 is blocked.

Minimize the possibility of VM1 exfiltrating data stored in SqlDb1.

What should you create on VNet1?

A. a VPN gateway

B. a service endpoint

C. a private link

D. an ExpressRoute gateway

Answer: C

Explanation:

Azure Private Link enables you to access Azure PaaS Services (for example, Azure Storage and SQL Database) and Azure hosted customer-owned/partner services over a private endpoint in your virtual network.

Traffic between your virtual network and the service travels the Microsoft backbone network. Exposing your service to the public internet is no longer necessary.

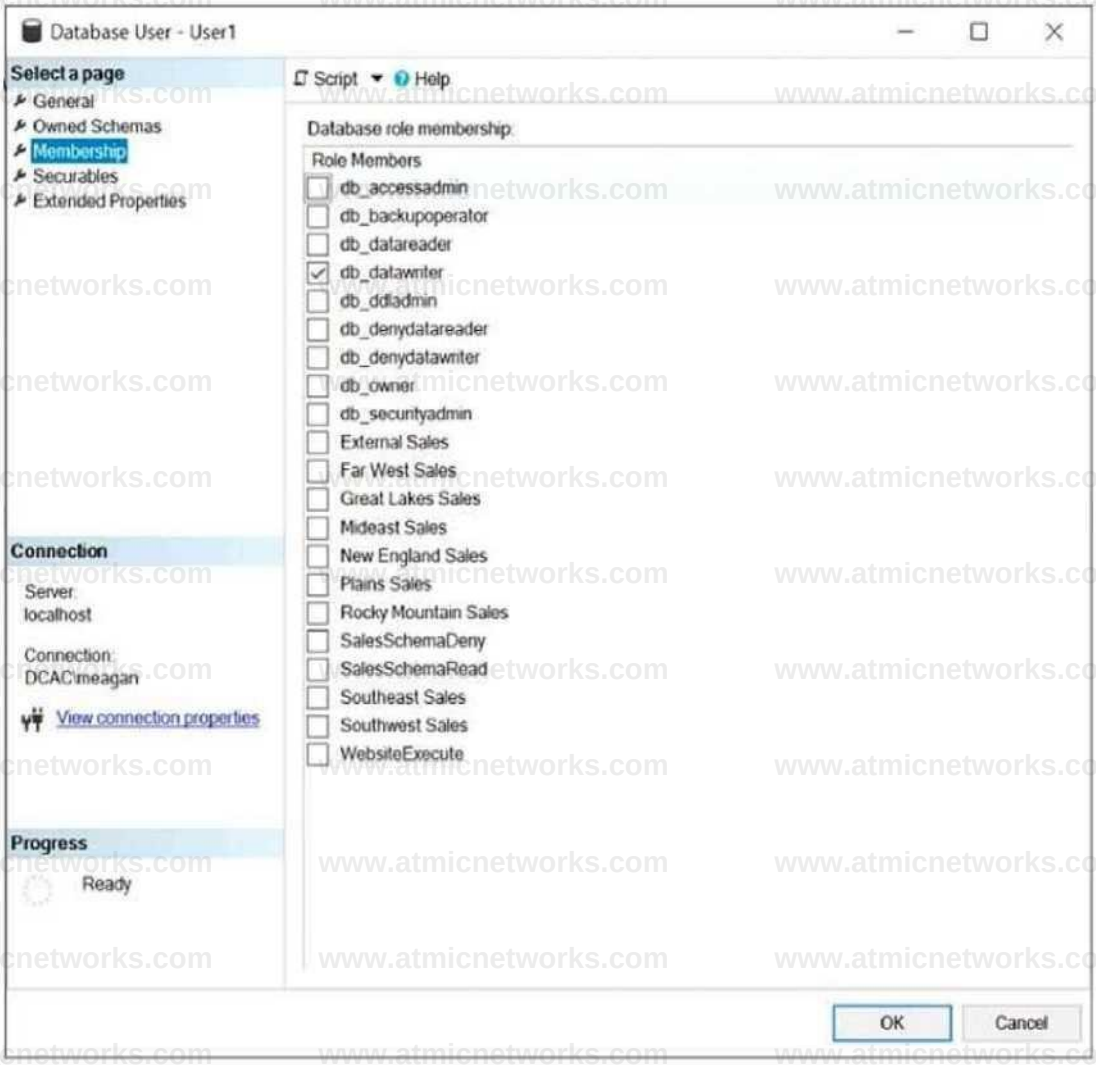
Reference:

https://docs.microsoft.com/en-us/azure/private-link/private-link-overview

Question: 57
HOTSPOT

You have a Microsoft SQL Server database named DB1 that contains a table named Table1.

The database role membership for a user named User1 is shown in the following exhibit.




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

NOTE: Each correct selection is worth one point.

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User1 can **[answer choice].**

- add a column to Table1
- delete a row from Table1
- delete Table1

To ensure that User1 can run queries to retrieve data from DB1, you must assign User1 the **[answer choice]** database role.

- db_datareader
- db_ddladmin
- db_denydatareader
- db_denydatawriter

Answer:

Explanation:

Userl can [answer choice].

- add a column to Tablel
- delete a row from Tablel
- delete Tablel

To ensure that Userl can run queries to retrieve data from DB1, you must assign User! the [answer choice] database role.

- db_datareader
- db_ddladmin
- db_denydatareader
- db_denydatawriter

Box 1: delete a row from Table1

Members of the db_datawriter fixed database role can add, delete, or change data in all user tables.

Box 2: db_datareader

Members of the db_datareader fixed database role can read all data from all user tables.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/security/authentication-

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access/database-level-roles

Question: 58

DRAG DROP

You have a new Azure SQL database named DB1 on an Azure SQL server named AzSQL1.

The only user who was created is the server administrator.

You need to create a contained database user in DB1 who will use Azure Active Directory (Azure AD) for authentication.

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.

| Actions | Answer Area |
| --- | --- |
| Connect to DB1 by using the Active Directory admin account. | |
| Create a user by using the FROM EXTERNAL PROVIDER clause. | |
| Connect to DB1 by using the server administrator account. | |
| Set the Active Directory Admin for AzSQLI. | |
| From the Azure portal, assign the SQL DB Contributor role to the user. | |
| Create a login in the master database. | |

Answer:

Explanation:

Set the Active Directory Admin for AzSQLI.

Connect to DB1 by using the Active Directory admin account.

Create a user by using the FROM EXTERNAL PROVIDER clause.

Step 1: Set up the Active Directory Admin for AzSQL1.

Step 2: Connect to DB1 by using the server administrator.

Sign into your managed instance with an Azure AD login granted with the sysadmin role.

Step 3: Create a user by using the FROM EXTERNAL PROVIDER clause.

FROM EXTERNAL PROVIDER is available for creating server-level Azure AD logins in SQL Database managed instance. Azure AD logins allow database-level Azure AD principals to be mapped to serverlevel Azure AD logins. To create an Azure AD user from an Azure AD login use the following syntax:

CREATE USER [AAD_principal] FROM LOGIN [Azure AD login]

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/create-user-transact-sql

Question: 59

HOTSPOT

You have an Azure SQL database that contains a table named Customer. Customer has the columns shown in the following table.

| CustomerJD | Customer_Name | Customer_Phone |
|---|---|---|
| 11001 | Contoso, Ltd. | 555-555-0173 |
| 11002 | Litware, Inc. | 555-505-3124 |
| 11003 | ADatum Corporation | 555-689-4312 |

You plan to implement a dynamic data mask for the Customer_Phone column. The mask must meet the following requirements:

The first six numerals of each customer's phone number must be masked.

The last four digits of each customer's phone number must be visible.

Hyphens must be preserved and displayed.

How should you configure the dynamic data mask? To answer, select the appropriate options in the answer area.

Exposed Prefix:

- 0
- 1
- 3
- 5

Padding String:

- x
- xxxxxx
- xxx-xxx
- xxx-xxx-
- x[3]-x[3]

Exposed Suffix:

- 0
- 1
- 3
- 5

Explanation:

Answer:

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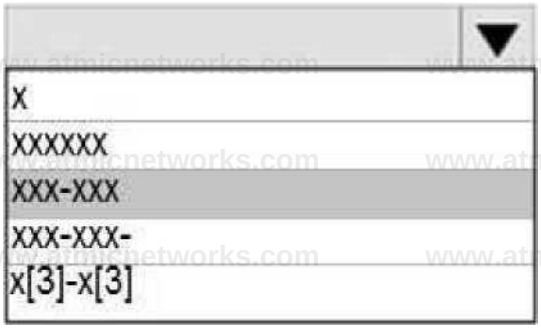
Exposed Prefix:

Padding String:




Exposed Suffix:

Box 1: 0

Custom String : Masking method that exposes the first and last letters and adds a custom padding string in the middle. prefix,[padding],suffix

Box 2: xxx-xxx

Box 3: 5

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/security/dynamic-data-masking

Question: 60

DRAG DROP

You have an Azure SQL database that contains a table named Employees. Employees contains a column named Salary.

You need to encrypt the Salary column. The solution must prevent database administrators from reading the data in the Salary column and must provide the most secure encryption.

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.

| Actions | Answer Area |
| --- | --- |
| Encrypt the Salary column by using the randomized encryption type. | |
| Create a column encryption key. | |
| Enable Transparent Data Encryption (TDE). | |
| Encrypt the Salary column by using the deterministic encryption type. | |
| Apply a dynamic data mask to the Salary column. | |
| Create a column master key. | |

Answer:

Explanation:

Create a column master key.

Create a column encryption key

Encrypt the Salary column by using the randomized encryption type.

Step 1: Create a column master key

Create a column master key metadata entry before you create a column encryption key metadata entry in

the database and before any column in the database can be encrypted using Always Encrypted.

Step 2: Create a column encryption key.

Step 3: Encrypt the Salary column by using the randomized encryption type.

Randomized encryption uses a method that encrypts data in a less predictable manner. Randomized encryption is more secure, but prevents searching, grouping, indexing, and joining on encrypted columns.

Note: A column encryption key metadata object contains one or two encrypted values of a column encryption key that is used to encrypt data in a column. Each value is encrypted using a column master key.

Incorrect Answers:

Deterministic encryption.

Deterministic encryption always generates the same encrypted value for any given plain text value. Using deterministic encryption allows point lookups, equality joins, grouping and indexing on encrypted columns. However, it may also allow unauthorized users to guess information about encrypted values by examining patterns in the encrypted column, especially if there's a small set of possible encrypted values, such as True/False, or North/South/East/West region.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/always-encrypted-database-engine

Question: 61

You have SQL Server on an Azure virtual machine that contains a database named DB1. DB1 contains a table named CustomerPII.

You need to record whenever users query the CustomerPII table.

Which two options should you enable? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. server audit specification

B. SQL Server audit

C. database audit specification

D. a server principal

Answer: AC

Explanation:

An auditing policy can be defined for a specific database or as a default server policy in Azure (which hosts SQL Database or Azure Synapse):

A server policy applies to all existing and newly created databases on the server.

If server auditing is enabled, it always applies to the database. The database will be audited, regardless of the database auditing settings.

Enabling auditing on the database, in addition to enabling it on the server, does not override or change any of the settings of the server auditing. Both audits will exist side by side.

Note:

The Server Audit Specification object belongs to an audit.

A Database Audit Specification defines which Audit Action Groups will be audited for the specific database in which the specification is created.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/auditing-overview

Question: 62

You have an Azure virtual machine based on a custom image named VM1.

VM1 hosts an instance of Microsoft SQL Server 2019 Standard.

You need to automate the maintenance of VM1 to meet the following requirements:

Automate the patching of SQL Server and Windows Server.

Automate full database backups and transaction log backups of the databases on VM1.

Minimize administrative effort.

What should you do first?

A. Enable a system-assigned managed identity for VM1

B. Register VM1 to the Microsoft.Sql resource provider

C. Install an Azure virtual machine Desired State Configuration (DSC) extension on VM1

D. Register VM1 to the Microsoft.SqlVirtualMachine resource provider

Answer: D

Explanation:

Automated Patching depends on the SQL Server infrastructure as a service (IaaS) Agent Extension. The SQL Server IaaS Agent Extension (SqlIaasExtension) runs on Azure virtual machines to automate administration tasks. The SQL Server IaaS extension is installed when you register your SQL Server

VM with the SQL Server VM resource provider.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/virtual-machines/windows/sql-server-iaas-agent-extensionautomate-management

Question: 63

You receive numerous alerts from Azure Monitor for an Azure SQL database.

You need to reduce the number of alerts. You must only receive alerts if there is a significant change in usage patterns for an extended period.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Set Threshold Sensitivity to High

B. Set the Alert logic threshold to Dynamic

C. Set the Alert logic threshold to Static

D. Set Threshold Sensitivity to Low

E. Set Force Plan to On

Answer: BD

Explanation:

8: Dynamic Thresholds continuously learns the data of the metric series and tries to model it using a set of algorithms and methods. It detects patterns in the data such as seasonality (Hourly / Daily / Weekly), and is able to handle noisy metrics (such as machine CPU or memory) as well as metrics with low dispersion (such as availability and error rate).

D: Alert threshold sensitivity is a high-level concept that controls the amount of deviation from metric behavior required to trigger an alert.

Low – The thresholds will be loose with more distance from metric series pattern. An alert rule will only trigger on large deviations, resulting in fewer alerts.

Incorrect Answers:

A: High – The thresholds will be tight and close to the metric series pattern. An alert rule will be triggered on the smallest deviation, resulting in more alerts.

Reference:

https://docs.microsoft.com/en-us/azure/azure-monitor/platform/alerts-dynamic-thresholds

Question: 64

You have an Azure SQL database named sqldb1.

You need to minimize the amount of space by the data and log files of sqldb1.

What should you run?

A. DBCC SHRINKDATABASE

B. sp_clean_db_free_space

C. sp_clean_db_file_free_space

D. DBCC SHRINKFILE

Answer: D

Explanation:

DBCC SHRINKDATABASE shrinks the size of the data and log files in the specified database.

Incorrect Answers:

D: To shrink one data or log file at a time for a specific database, execute the DBCC SHRINKFILE command.

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/database-console-commands/dbcc-shrinkdatabase- transact-sql

Question: 65

You have an Azure SQL Database server named sqlsrv1 that hosts 10 Azure SQL databases.

The databases perform slower than expected.

You need to identify whether the performance issue relates to the use of tempdb on sqlsrv1.

What should you do?

A. Run Query Store-based queries

B. Review information provided by SQL Server Profiler-based traces

C. Review information provided by Query Performance Insight

D. Run dynamic management view-based queries

Answer: D

Explanation:

The diagnostics log outputs tempDB contention details. You can use the information as the starting point for troubleshooting.

You can use the Intelligent Insights performance diagnostics log of Azure SQL Database to troubleshoot performance issues.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/intelligent-insights-troubleshoot-performance#tempdb-contention

https://docs.microsoft.com/en-us/azure/azure-sql/database/intelligent-insights-use-diagnostics-log

Question: 66

DRAG DROP

You are building an Azure virtual machine.

You allocate two 1-TiB, P30 premium storage disks to the virtual machine. Each disk provides 5,000 IOPS.

You plan to migrate an on-premises instance of Microsoft SQL Server to the virtual machine. The instance has a database that contains a 1.2-TiB data file. The database requires 10,000 IOPS.

You need to configure storage for the virtual machine to support the database.

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

| Actions | Answer Area |
|---|---|
| a virtual disk that uses the stripe layout | |
| a virtual disk that uses the mirror layout | |
| a volume | |
| a virtual disk that uses the simple layout | |
| a storage pool | |

Answer:

Explanation:

a storage pool

a virtual disk that uses the stripe layout

a volume

Follow these same steps to create striped virtual disk:

Create Log Storage Pool.

Create Virtual Disk

Create Volume

Box 1: a storage pool

Box 2: a virtual disk that uses stripe layout

Disk Striping: Use multiple disks and stripe them together to get a combined higher IOPS and Throughput limit. The combined limit per VM should be higher than the combined limits of attached premium disks.

Box 3: a volume

Reference:

https://hanu.com/hanu-how-to-striping-of-disks-for-azure-sql-server/

Question: 67

You have an Azure SQL database named sqldb1.

You need to minimize the possibility of Query Store transitioning to a read-only state.
What should you do?

A. Halve the value of Data Flush Interval.

B. Double the value of Statistics Collection Interval.

C. Halve the value of Statistics Collection Interval.

D. Double the value of Data Flush Interval.

Answer: B

Explanation:

The Max Size (MB) limit isn't strictly enforced. Storage size is checked only when Query Store writes data to disk. This interval is set by the Data Flush Interval (Minutes) option. If Query Store has breached the maximum size limit between storage size checks, it transitions to read-only mode.

Incorrect Answers:

C: Statistics Collection Interval: Defines the level of granularity for the collected runtime statistic, expressed in minutes. The default is 60 minutes. Consider using a lower value if you require finer granularity or less time to detect and mitigate issues. Keep in mind that the value directly affects the size of Query Store data.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/performance/best-practice-with-the- query-store

Question: 68

You have SQL Server 2019 on an Azure virtual machine that runs Windows Server 2019. The virtual machine has 4 vCPUs and 28 GB of memory.

You scale up the virtual machine to 16 vCPUSs and 64 GB of memory.

You need to provide the lowest latency for tempdb.

What is the total number of data files that tempdb should contain?

A. 2

B. 4

C. 8

D. 64

Answer: D

Explanation:

The number of files depends on the number of (logical) processors on the machine. As a general rule, if the number of logical processors is less than or equal to eight, use the same number of data files as logical processors. If the number of logical processors is greater than eight, use eight data files and then if contention

continues, increase the number of data files by multiples of 4 until the contention is reduced to acceptable levels or make changes to the workload/code.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/databases/tempdb-database

Question: 69
HOTSPOT

You have an Azure SQL database named db1.

You need to retrieve the resource usage of db1 from the last week.

How should you complete the statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
SELECT *

FROM          sys.dm_db_resource_stats sys.dm_exec_requests
              sys.dm_user_db_resource_governance sys.resource_stats

WHERE database_name = 'db1' AND

        startjime >                                V (day, -7, GETDATE())
                        DATEADD DATEDIFF DATEPART TODATETIMEOFFSET

ORDER BY startjime DESC;
```

Answer:

Explanation:

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```
SELECT *
FROM        sys.dm_db_resource_stats sys.dm_exec_requests
            sys.dm_user_db_resource_governance sys.resource_stats
WHERE database_name = 'db1' AND
        startJime >                                V (day, -7, GETDATE())
                        DATEADD DATEDIFF DATEPART
                        TODATETIMEOFFSET
ORDER BY startjime DESC;
```

Box 1: sys.resource_stats

sys.resource_stats returns CPU usage and storage data for an Azure SQL Database. It has database_name and start_time columns.

Box 2: DateAdd

The following example returns all databases that are averaging at least 80% of compute utilization over the last one week.

```
DECLARE @s datetime;
DECLARE @e datetime;
SET @s= DateAdd(d,-7,GetUTCDate());
SET @e= GETUTCDATE();
SELECT database_name, AVG(avg_cpu_percent) AS Average_Compute_Utilization
FROM sys.resource_stats
WHERE start_time BETWEEN @s AND @e
GROUP BY database_name
HAVING AVG(avg_cpu_percent) >= 80
```

Incorrect Answers:

sys.dm_exec_requests:

sys.dm_exec_requests returns information about each request that is executing in SQL Server. It does not have a column named database_name.

sys.dm_db_resource_stats:

sys.dm_db_resource_stats does not have any start_time column.

Note: sys.dm_db_resource_stats returns CPU, I/O, and memory consumption for an Azure SQL Database database. One row exists for every 15 seconds, even if there is no activity in the database. Historical data is maintained for approximately one hour.

Sys.dm_user_db_resource_governance returns actual configuration and capacity settings used by resource governance mechanisms in the current database or elastic pool. It does not have any start_time column.

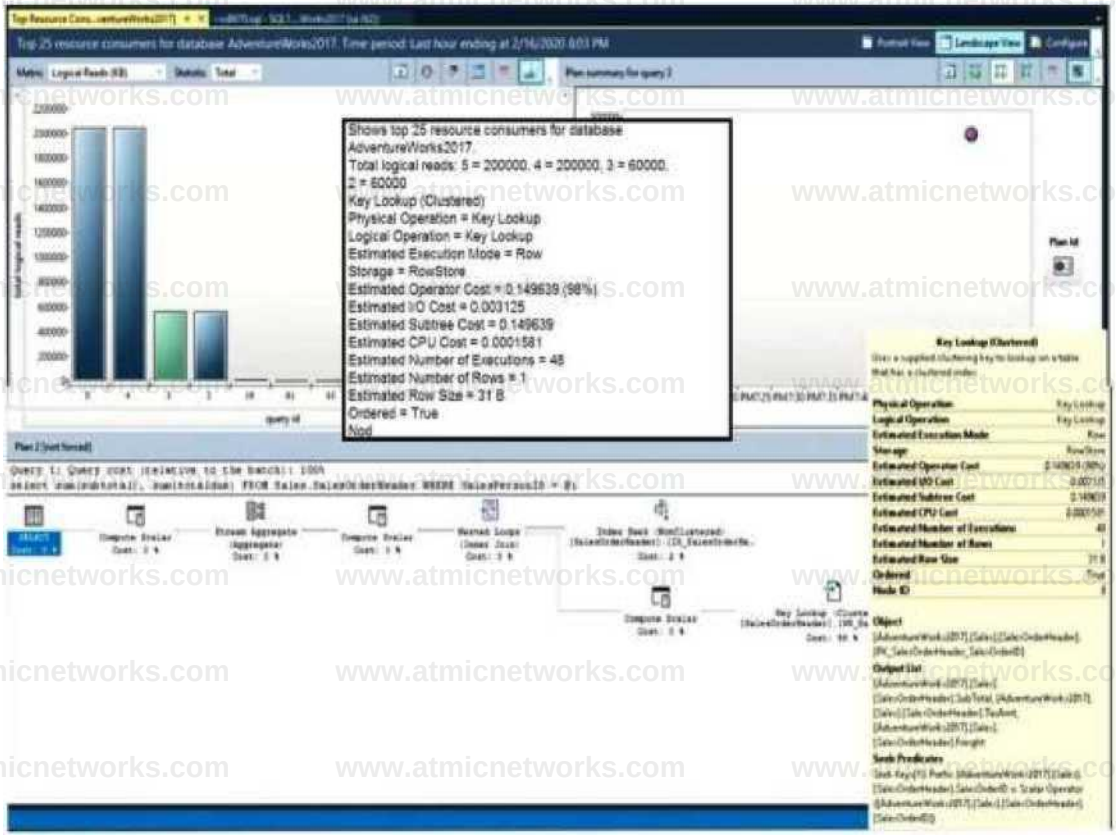
Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/system-catalog-views/sys-resource-stats-azure-sql-database

Question: 70
HOTSPOT

You have SQL Server on an Azure virtual machine.

You review the query plan shown in the following exhibit.




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 |
|---|---|---|
| You will reduce the I/O usage and the query execution time if you force the query plan. | 0 | 0 |
| You will increase the I/O usage and the query execution time if you create a new index on the SalesOrderHeader table. | 0 | O |
| You will reduce the I/O usage and the query execution time if you include the SubTotal. TaxAmt, and Freight columns in the PK SalesOrderHeader SalesOrderID index. | O | |

Answer:

Explanation:

| Statements | Yes | No |
|---|---|---|
| You will reduce the I/O usage and the query execution time if you force the query plan. | 0 | 0 |
| You will increase the I/O usage and the query execution time if you create a new index on the SalesOrderHeader table. | 0 | 0 |
| You will reduce the I/O usage and the query execution time if you include the SubTotal, TaxAmt, and Freight columns in the PK_SalesOrderHeader_SalesOrderID index. | 0 | 0 |

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/performance/monitoring-performance- by-using-the-query-store

Question: 71

A data engineer creates a table to store employee information for a new application. All employee names are in the US English alphabet. All addresses are locations in the United States. The data engineer uses the following statement to create the table.

```
CREATE TABLE dbo.Employee (
    EmployeeID      INT IDENTITY(1.1) PRIMARY KEY CLUSTERED NOT NULL
    FirstName       VARCHAR(IOO) NOT NULL,
    LastName        VARCHAR(IOO) NOT NULL,
    Title           VARCHAR(100)NULL
    LastHireDate    DATETIME NULL.
    StreetAddressl  VARCHAR(500) NOT NULL,
    StreetAddress2  VARCHAR(500) NOT NULL,
    StreetAddress3  VARCHAR(500) NOT NULL,
    City            VARCHAR(200) NOT NULL,
    StateName       VARCHAR(20) NOT NULL,
    Salary          VARCHAR(20) NULL.
    PhoneNumber     VARCHAR(20) NOT NULL
```

You need to recommend changes to the data types to reduce storage and improve performance.
Which two actions should you recommend? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Change Salary to the money data type.

B. Change PhoneNumber to the float data type.

C. Change LastHireDate to the datetime2(7) data type.

D. Change PhoneNumber to the bigint data type.

E. Change LastHireDate to the date data type.

Answer: AE

Explanation:

Question: 72

You have an Azure SQL database.

You identify a long running query.

You need to identify which operation in the query is causing the performance issue.

What should you use to display the query execution plan in Microsoft SQL Server Management Studio (SSMS)?

A. Live Query Statistics

B. an estimated execution plan

C. an actual execution plan

D. Client Statistics

Answer: A

Explanation:

https://www.mssqltips.com/sqlservertip/3685/live-query-statistics-in-sql-server-2016/

Question: 73

You have a version-8.0 Azure Database for MySQL database.

You need to identify which database queries consume the most resources.

Which tool should you use?

A. Query Store

B. Metrics

C. Query Performance Insight

D. Alerts

Answer: A

Explanation:

The Query Store feature in Azure Database for MySQL provides a way to track query performance over time.

Query Store simplifies performance troubleshooting by helping you quickly find the longest running and most resource-intensive queries. Query Store automatically captures a history of queries and runtime statistics, and it retains them for your review. It separates data by time windows so that you can see database usage patterns. Data for all users, databases, and queries is stored in the mysql schema database in the Azure Database for MySQL instance.

Reference:

https://docs.microsoft.com/en-us/azure/mysql/concepts-query-store

Question: 74

You have SQL Server on an Azure virtual machine that contains a database named DB1.

You have an application that queries DB1 to generate a sales report.

You need to see the parameter values from the last time the query was executed.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Enable Last_Query_Plan_Stats in the master database

B. Enable Lightweight_Query_Profiling in DB1

C. Enable Last_Query_Plan_Stats in DB1

D. Enable Lightweight_Query_Profiling in the master database

E. Enable PARAMETER_SNIFFING in DB1

Answer: B, E

Explanation:

Last_Query_Plan_Stats allows you to enable or disable collection of the last query plan statistics (equivalent to an actual execution plan) in sys.dm_exec_query_plan_stats.

Lightweight profiling can be disabled at the database level using the LIGHTWEIGHT_QUERY_PROFILING database scoped configuration: ALTER DATABASE SCOPED CONFIGURATION SET LIGHTWEIGHT_QUERY_PROFILING = OFF;.

Incorrect Answers:

E: Parameter sensitivity, also known as "parameter sniffing", refers to a process whereby SQL Server "sniffs" the current parameter values during compilation or recompilation, and passes it along to the Query Optimizer so that they can be used to generate potentially more efficient query execution plans.

Parameter values are sniffed during compilation or recompilation for the following types of batches:

Stored procedures

Queries submitted via sp_executesql

Prepared queries

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/performance/query-profiling-infrastructure

Question: 75

HOTSPOT

You have SQL Server on an Azure virtual machine that contains a database named Db1.

You need to enable automatic tuning for Db1.

How should you complete the statements? To answer, select the appropriate answer in the answer area.

NOTE: Each correct selection is worth one point.

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```
ALTER DATABASE [Db1]

SET AUTOMATIC-TUNING (FORCE LAST GOOD PLAN=OFF)
SET AUTOMATIC-TUNING (FORCE_LAST_GOOD_PLANDON)
SET AUTOMATIC_TUNING=AUTO
SET QUERY.STORE^OFF
SETQUERY_STORE=ON(OPERATION_MODE=READ_ONLY)
SETQUERY_STORE=ON(OPERATION_MODE=READ_WRITE)
GO
ALTER DATABASE [Db1]

SET AUTOMATIC-TUNING (FORCE_LAST_GOOD_PLAN=OFF)
SET AUTOMATIC-TUNING (FORCE_LAST_GOOD_PLAN=ON)
SET AUTOMATIC_TUNING=AUTO
SETQUERY_STORE=OFF
SETQUERY_STORE=ON(OPERATION_MODE=READ_ONLY)
SETQUERY_STORE=ON(OPERATION_MODE=READ_WRITE)
GO
```

Answer:

Explanation:

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```
ALTER DATABASE [Db1]

SET AUTOMATIC-TUNING (FORCE LAST GOOD PLAN=OFF)
SET AUTOMATIC-TUNING (FORCE LAST GOOD PLANDON)
SET AUTOMATICTUN I NG=AUTO
SET QUERY_STORE=OFF
SETQUERY_STORE=ON(OPERATION_MODE=READ_ONLY)
SETQUERY_STORE=ON(OPERATION_MODE=READ_WRITE)

GO
ALTER DATABASE [Db1]

SET AUTOMATIC-TUNING (FORCE_LAST_GOOD_PLAN=OFF)
SET AUTOMATIC-TUNING (FORCE_LAST_GOOD_PLAN=ON)
SET AUTOMATIC_TUNING=AUTO
SETQUERY_STORE=OFF
SETQUERY_STORE=ON(OPERATION_MODE=READ_ONLY)
SETQUERY_STORE=ON(OPERATION_MODE=READ_WRITE)

GO
```

Box 1: SET AUTOMATIC_TUNING = AUTO

To enable automatic tuning on a single database via T-SQL, connect to the database and execute the following query:

```
ALTER DATABASE current SET AUTOMATIC_TUNING = AUTO
```

Setting automatic tuning to AUTO will apply Azure Defaults.

Box 2: SET AUTOMATIC_TUNING (FORCE_LAST_GOOD_PLAN = ON)

To configure individual automatic tuning options via T-SQL, connect to the database and execute the query such as this one:

```
ALTER DATABASE current SET AUTOMATIC_TUNING (FORCE_LAST_GOOD_PLAN = ON)
```

Setting the individual tuning option to ON will override any setting that database inherited and enable the tuning option. Setting it to OFF will also override any setting that database inherited and disable the tuning option.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/automatic-tuning-enable

Question: 76

You deploy a database to an Azure SQL Database managed instance.

You need to prevent read queries from blocking queries that are trying to write to the database.

Which database option should set?

A. PARAMETERIZATION to FORCED

B. PARAMETERIZATION to SIMPLE

C. Delayed Durability to Forced

D. READ_COMMITTED_SNAPSHOT to ON

Answer: D

Explanation:

In SQL Server, you can also minimize locking contention while protecting transactions from dirty reads of uncommitted data modifications using either:

The READ COMMITTED isolation level with the READ_COMMITTED_SNAPSHOT database option set to ON.
The SNAPSHOT isolation level.
If READ_COMMITTED_SNAPSHOT is set to ON (the default on SQL Azure Database), the Database Engine uses row versioning to present each statement with a transactionally consistent snapshot of the data as it existed at the start of the statement. Locks are not used to protect the data from updates by other transactions.

Incorrect Answers:

A: When the PARAMETERIZATION database option is set to SIMPLE, the SQL Server query optimizer may choose to parameterize the queries. This means that any literal values that are contained in a query are substituted with parameters. This process is referred to as simple parameterization. When SIMPLE parameterization is in effect, you cannot control which queries are parameterized and which queries are not.

B: You can specify that all queries in a database be parameterized by setting the PARAMETERIZATION database option to FORCED. This process is referred to as forced parameterization.

C: Delayed transaction durability is accomplished using asynchronous log writes to disk. Transaction log records are kept in a buffer and written to disk when the buffer fills or a buffer flushing event takes place. Delayed transaction durability reduces both latency and contention within the system.
Some of the cases in which you could benefit from using delayed transaction durability are:
You can tolerate some data loss.
You are experiencing a bottleneck on transaction log writes.
Your workloads have a high contention rate.
Reference:
https://docs.microsoft.com/en-us/sql/t-sql/statements/set-transaction-isolation-level-transact-sql

## Question: 77

You have an Azure SQL database.
You discover that the plan cache is full of compiled plans that were used only once.

You run the select * from sys.database_scoped_configurations Transact-SQL command and receive the results shown in the following table.

| configuralionid | name | value | is value default |
|---|---|---|---|
| 1 | LEGACY CARDINALITY ESTIMATION | 0 | 1 |
| 2 | QUERY OPTIMIZER HOTFIXES | 0 | 1 |
| 3 | OPTIMIZE_FOR_AD_HOC_ WORKLOADS | 0 | 1 |
| 4 | ACCELERATED_PLAN_FORCING | I | 1 |

You need relieve the memory pressure.

What should you configure?

A. LEGACY_CARDINALITY_ESTIMATION

B. QUERY_OPTIMIZER_HOTFIXES

C. OPTIMIZE_FOR_AD_HOC_WORKLOADS

D. ACCELERATED_PLAN_FORCING

Answer: C

Explanation:

OPTIMIZE_FOR_AD_HOC_WORKLOADS = { ON | OFF }

Enables or disables a compiled plan stub to be stored in cache when a batch is compiled for the first time. The default is OFF. Once the database scoped configuration OPTIMIZE_FOR_AD_HOC_WORKLOADS is enabled for a database, a compiled plan stub will be stored in cache when a batch is compiled for the first time. Plan stubs have a smaller memory footprint compared to the size of the full compiled plan.

Incorrect Answers:

A: LEGACY_CARDINALITY_ESTIMATION = { ON | OFF | PRIMARY }

Enables you to set the query optimizer cardinality estimation model to the SQL Server 2012 and earlier version independent of the compatibility level of the database. The default is OFF, which sets the query optimizer cardinality estimation model based on the compatibility level of the database.

B: QUERY_OPTIMIZER_HOTFIXES = { ON | OFF | PRIMARY }

Enables or disables query optimization hotfixes regardless of the compatibility level of the database. The default is OFF, which disables query optimization hotfixes that were released after the highest available compatibility level was introduced for a specific version (post-RTM).

Reference:

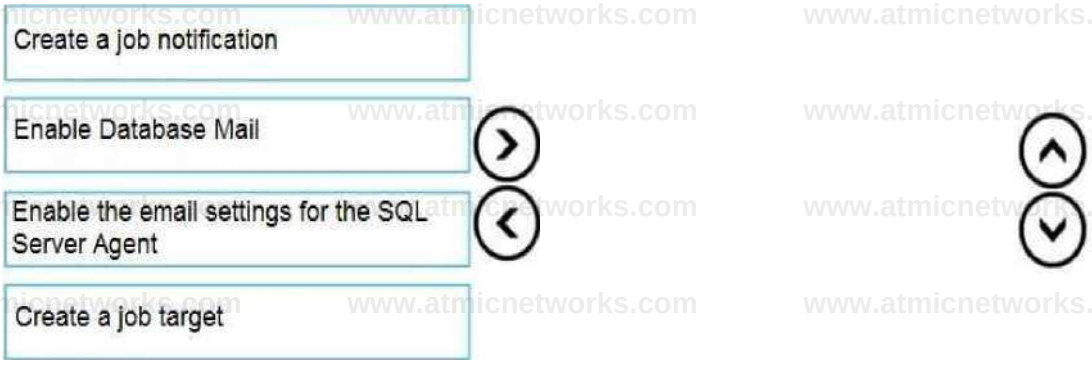
https://docs.microsoft.com/en-us/sql/t-sql/statements/alter-database-scoped-configuration- transact-sql

Question: 78

DRAG DROP

You have SQL Server on an Azure virtual machine named SQL1.

Create a job alert




SQL1 has an agent job to back up all databases.

You add a user named dbadmin1 as a SQL Server Agent operator.

You need to ensure that dbadmin1 receives an email alert if a job fails.

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.

Actions

Answer Area

Answer:

Explanation:

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# Enable the email settings for the SQL Server Agent

# Create a job alert

# Create a job notification

Step 1: Enable the email settings for the SQL Server Agent.

To send a notification in response to an alert, you must first configure SQL Server Agent to send mail.

Step 2: Create a job alert

Step 3: Create a job notification

Example:

```
- - adds an e-mail notification for the specified alert (Test Alert)

-   - This example assumes that Test Alert already exists
-   - and that François Ajenstat is a valid operator name.

USE msdb ;

GO

EXEC dbo.sp_add_notification
@alert_name = N'Test Alert',

@operator_name = N'François Ajenstat',

@notification_method = 1 ;

GO
```

Reference:

https://docs.microsoft.com/en-us/sql/ssms/agent/notify-an-operator-of-job-status

https://docs.microsoft.com/en-us/sql/ssms/agent/assign-alerts-to-an-operator

Question: 79

DRAG DROP

You need to apply 20 built-in Azure Policy definitions to all new and existing Azure SQL Database deployments in an Azure subscription. The solution must minimize administrative effort. 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.

Actions

Duplicate Azure Policy definitions

Run Azure Policy remediation tasks

Create an Azure Blueprints assignment

Create an Azure Policy initiative

Create an Azure Policy initiative assignment

Answer Area

Answer:

Explanation:

Create an Azure Policy initiative

Create an Azure Policy initiative assignment

Run Azure Policy remediation tasks

Step 1: Create an Azure Policy Initiative

The first step in enforcing compliance with Azure Policy is to assign a policy definition. A policy definition defines under what condition a policy is enforced and what effect to take.

With an initiative definition, you can group several policy definitions to achieve one overarching goal. An initiative evaluates resources within scope of the assignment for compliance to the included policies.

Step 2: Create an Azure Policy Initiative assignment

Assign the initiative definition you created in the previous step.

Step 3: Run Azure Policy remediation tasks

To apply the Policy Initiative to the existing SQL databases.

Reference:

https://docs.microsoft.com/en-us/azure/governance/policy/tutorials/create-and-manage

Question: 80

You have an Azure SQL Database managed instance named SQLMI1. A Microsoft SQL Server Agent job runs on SQLMI1.

You need to ensure that an automatic email notification is sent once the job completes.

What should you include in the solution?

A. From SQL Server Configuration Manager (SSMS), enable SQL Server Agent

B. From SQL Server Management Studio (SSMS), run sp_set_sqlagent_properties

C. From SQL Server Management Studio (SSMS), create a Database Mail profile

D. From the Azure portal, create an Azure Monitor action group that has an Email/SMS/Push/Voice action

Answer: C

Explanation:

To send a notification in response to an alert, you must first configure SQL Server Agent to send mail.

Using SQL Server Management Studio; to configure SQL Server Agent to use Database Mail:

In Object Explorer, expand a SQL Server instance.

Right-click SQL Server Agent, and then click Properties.

Click Alert System.

Select Enable Mail Profile.

In the Mail system list, select Database Mail.

In the Mail profile list, select a mail profile for Database Mail.

Restart SQL Server Agent.

Note: Prerequisites include:

Enable Database Mail.

Create a Database Mail account for the SQL Server Agent service account to use.

Create a Database Mail profile for the SQL Server Agent service account to use and add the user to the DatabaseMailUserRole in the msdb database.

Set the profile as the default profile for the msdb database.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/database-mail/configure-sql-server- agent-mail-to-use-database-mail

Question: 81

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 have an Azure SQL database named Sales.

You need to implement disaster recovery for Sales to meet the following requirements:

During normal operations, provide at least two readable copies of Sales.

Ensure that Sales remains available if a datacenter fails.

Solution: You deploy an Azure SQL database that uses the Business Critical service tier and Availability Zones.

Does this meet the goal?

A. Yes

B. No

Answer: A

Explanation:

Premium and Business Critical service tiers leverage the Premium availability model, which integrates compute resources (sqlservr.exe process) and storage (locally attached SSD) on a single node. High availability is achieved by replicating both compute and storage to additional nodes creating a three to four-node cluster.

By default, the cluster of nodes for the premium availability model is created in the same datacenter. With the introduction of Azure Availability Zones, SQL Database can place different replicas of the Business Critical database to different availability zones in the same region. To eliminate a single point of failure, the control ring is also duplicated across multiple zones as three gateway rings (GW).

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/high-availability-sla

Question: 82

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 have an Azure SQL database named Sales.

You need to implement disaster recovery for Sales to meet the following requirements:

During normal operations, provide at least two readable copies of Sales.

Ensure that Sales remains available if a datacenter fails.

Solution: You deploy an Azure SQL database that uses the General Purpose service tier and failover groups.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead deploy an Azure SQL database that uses the Business Critical service tier and Availability Zones.

Note: Premium and Business Critical service tiers leverage the Premium availability model, which integrates compute resources (sqlservr.exe process) and storage (locally attached SSD) on a single node. High availability is achieved by replicating both compute and storage to additional nodes creating a three to four-node cluster.

By default, the cluster of nodes for the premium availability model is created in the same datacenter. With the introduction of Azure Availability Zones, SQL Database can place different replicas of the Business Critical database to different availability zones in the same region. To eliminate a single point of failure, the control

ring is also duplicated across multiple zones as three gateway rings (GW).

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/high-availability-sla

Question: 83

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 have two Azure SQL Database servers named Server1 and Server2. Each server contains an Azure SQL database named Database1

You need to restore Database1 from Server1 to Server2. The solution must replace the existing Database1 on Server2.

Solution: From the Azure portal, you delete Database1 from Server2, and then you create a new database on Server2 by using the backup of Database1 from Server1.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead restore Database1 from Server1 to the Server2 by using the RESTORE Transact-SQL command and the REPLACE option.

Note: REPLACE should be used rarely and only after careful consideration. Restore normally prevents accidentally overwriting a database with a different database. If the database specified in a RESTORE statement already exists on the current server and the specified database family GUID differs from the database family GUID recorded in the backup set, the database is not restored. This is an important safeguard.

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/restore-statements-transact-sql

Question: 84

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 have two Azure SQL Database servers named Server1 and Server2. Each server contains an Azure SQL database named Database1.

You need to restore Database1 from Server1 to Server2. The solution must replace the existing Database1 on Server2.

Solution: You run the Remove-AzSqlDatabase PowerShell cmdlet for Database1 on Server2. You run the Restore-AzSqlDatabase PowerShell cmdlet for Database1 on Server2.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead restore Database1 from Server1 to the Server2 by using the RESTORE Transact-SQL command and the REPLACE option.

Note: REPLACE should be used rarely and only after careful consideration. Restore normally prevents accidentally overwriting a database with a different database. If the database specified in a RESTORE statement already exists on the current server and the specified database family GUID differs from the database family GUID recorded in the backup set, the database is not restored. This is an important safeguard.

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/restore-statements-transact-sql

Question: 85

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 have two Azure SQL Database servers named Server1 and Server2. Each server contains an Azure SQL database named Database1.

You need to restore Database1 from Server1 to Server2. The solution must replace the existing Database1 on Server2.

Solution: You restore Database1 from Server1 to the Server2 by using the RESTORE Transact-SQL command and the REPLACE option.

Does this meet the goal?

A. Yes

B. No

Answer: A

Explanation:

The REPLACE option overrides several important safety checks that restore normally performs. The overridden checks are as follows:

Restoring over an existing database with a backup taken of another database.

With the REPLACE option, restore allows you to overwrite an existing database with whatever database is in the backup set, even if the specified database name differs from the database name recorded in the backup set. This can result in accidentally overwriting a database by a different database.

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/restore-statements-transact-sql

Question: 86

You have an Always On availability group deployed to Azure virtual machines. The availability group contains a database named DB1 and has two nodes named SQL1 and SQL2. SQL1 is the primary replica.

You need to initiate a full backup of DB1 on SQL2.

Which statement should you run?

A. BACKUP DATABASE DB1 TO URL='https://mystorageaccount.blob.core.windows.net/

mycontainer/DB1.bak' with (Differential, STATS=5, COMPRESSION);

B. BACKUP DATABASE DB1 TO URL='https://mystorageaccount.blob.core.windows.net/

mycontainer/DB1.bak' with (COPY_ONLY, STATS=5, COMPRESSION);

C. BACKUP DATABASE DB1 TO URL='https://mystorageaccount.blob.core.windows.net/

mycontainer/DB1.bak' with (File_Snapshot, STATS=5, COMPRESSION);

D. BACKUP DATABASE DB1 TO URL='https://mystorageaccount.blob.core.windows.net/

mycontainer/DB1.bak' with (NoInit, STATS=5, COMPRESSION);

Answer: B

Explanation:

BACKUP DATABASE supports only copy-only full backups of databases, files, or filegroups when it's executed on secondary replicas. Copy-only backups don't impact the log chain or clear the differential bitmap.

Incorrect Answers:

A: Differential backups are not supported on secondary replicas. The software displays this error because the secondary replicas support copy-only database backups.

Reference:

https://docs.microsoft.com/en-us/sql/database-engine/availability-groups/windows/active- secondaries-backup-on-secondary-replicas-always-on-availability-groups

Question: 87

You plan to move two 100-GB databases to Azure.

You need to dynamically scale resources consumption based on workloads. The solution must minimize downtime during scaling operations.

What should you use?

A. An Azure SQL Database elastic pool

B. SQL Server on Azure virtual machines

C. an Azure SQL Database managed instance

D. Azure SQL databases

Answer: A

Explanation:

Azure SQL Database elastic pools are a simple, cost-effective solution for managing and scaling multiple databases that have varying and unpredictable usage demands. The databases in an elastic pool are on a single server and share a set number of resources at a set price.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/elastic-pool-overview

Question: 88

You have 10 Azure virtual machines that have SQL Server installed.

You need to implement a backup strategy to ensure that you can restore specific databases to other SQL Server instances. The solution must provide centralized management of the backups.

What should you include in the backup strategy?

A. Automated Backup in the SQL virtual machine settings

B. Azure Backup

C. Azure Site Recovery

D. SQL Server Agent jobs

Answer: B

Explanation:

Azure Backup provides an Enterprise class backup capability for SQL Server on Azure VMs. All backups are stored and managed in a Recovery Services vault. There are several advantages that this solution

provides, especially for Enterprises.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/virtual-machines/windows/backup- restore#azbackup

Question: 89

You need to recommend an availability strategy for an Azure SQL database. The strategy must meet the following requirements:

Support failovers that do not require client applications to change their connection strings.

Replicate the database to a secondary Azure region.

Support failover to the secondary region.

What should you include in the recommendation?

A. failover groups

B. transactional replication

C. Availability Zones

D. geo-replication

Answer: A

Explanation:

Active geo-replication is an Azure SQL Database feature that allows you to create readable secondary databases of individual databases on a server in the same or different data center (region).

Incorrect Answers:

C: Availability Zones are unique physical locations within a region. Each zone is made up of one or more datacenters equipped with independent power, cooling, and networking.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/active-geo-replication-overview

Question: 90

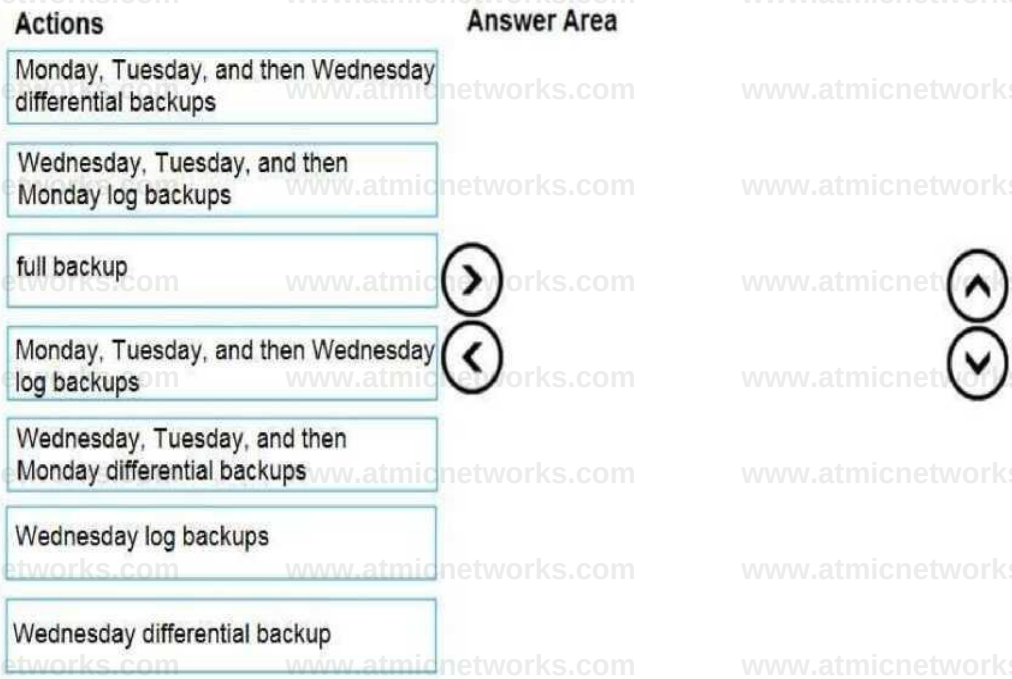
DRAG DROP

You have SQL Server on an Azure virtual machine that contains a database named DB1. DB1 is 30 TB and has a 1-GB daily rate of change.

You back up the database by using a Microsoft SQL Server Agent job that runs Transact-SQL commands. You perform a weekly full backup on Sunday, daily differential backups at 01:00, and transaction log backups every five minutes.

The database fails on Wednesday at 10:00.

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

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Answer:

Explanation:

full backup

Wednesday differential backup

Wednesday log backups

Question: 91

You are building a database backup solution for a SQL Server database hosted on an Azure virtual machine.

In the event of an Azure regional outage, you need to be able to restore the database backups. The solution must minimize costs.

Which type of storage accounts should you use for the backups?

A. locally-redundant storage (LRS)

B. read-access geo-redundant storage (RA-GRS)

C. zone-redundant storage (ZRS)

D. geo-redundant storage

Answer: B

Explanation:

Geo-redundant storage (with GRS or GZRS) replicates your data to another physical location in the secondary region to protect against regional outages. However, that data is available to be read only if the customer or Microsoft initiates a failover from the primary to secondary region. When you enable read access to the secondary region, your data is available to be read if the primary region becomes

unavailable. For read access to the secondary region, enable read-access geo-redundant storage (RA-GRS) or read-access geo-zone-redundant storage (RA-GZRS).

Incorrect Answers:

A: Locally redundant storage (LRS) copies your data synchronously three times within a single physical location in the primary region. LRS is the least expensive replication option, but is not recommended for applications requiring high availability.

C: Zone-redundant storage (ZRS) copies your data synchronously across three Azure availability zones in the primary region.

D: Geo-redundant storage (with GRS or GZRS) replicates your data to another physical location in the secondary region to protect against regional outages. However, that data is available to be read only if the customer or Microsoft initiates a failover from the primary to secondary region.

Reference:

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

Question: 92

You have SQL Server on Azure virtual machines in an availability group.

You have a database named DB1 that is NOT in the availability group.

You create a full database backup of DB1.

You need to add DB1 to the availability group.

Which restore option should you use on the secondary replica?

A. Restore with Recovery

B. Restore with Norecovery

C. Restore with Standby

Answer: B

Explanation:

Prepare a secondary database for an Always On availability group requires two steps:

1. Restore a recent database backup of the primary database and subsequent log backups onto each server instance that hosts the secondary replica, using RESTORE WITH NORECOVERY
2. Join the restored database to the availability group.

Reference:

https://docs.microsoft.com/en-us/sql/database-engine/availability-groups/windows/manually- prepare-asecondary-database-for-an-availability-group-sql-server

Question: 93

You are planning disaster recovery for the failover group of an Azure SQL Database managed instance.

Your company's SLA requires that the database in the failover group become available as quickly as possible if a major outage occurs.

You set the Read/Write failover policy to Automatic.

What are two results of the configuration? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. In the event of a datacenter or Azure regional outage, the databases will fail over automatically.

B. In the event of an outage, the databases in the primary instance will fail over immediately.

C. In the event of an outage, you can selectively fail over individual databases.

D. In the event of an outage, you can set a different grace period to fail over each database.

E. In the event of an outage, the minimum delay for the databases to fail over in the primary instance will be one hour.

Answer: AE

Explanation:

A: Auto-failover groups allow you to manage replication and failover of a group of databases on a server or all

databases in a managed instance to another region.

E: Because verification of the scale of the outage and how quickly it can be mitigated involves human actions

by the operations team, the grace period cannot be set below one hour. This limitation applies to all databases

in the failover group regardless of their data synchronization state.

Incorrect Answers:

C: individual SQL Managed Instance databases cannot be added to or removed from a failover group.

Reference:

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

Question: 94

You have an Azure SQL database named DB1.

You need to ensure that DB1 will support automatic failover without data loss if a datacenter fails. The solution must minimize costs.

Which deployment option and pricing tier should you configure?

A. Azure SQL Database Hyperscale

B. Azure SQL Database managed instance General Purpose

C. Azure SQL Database Premium

D. Azure SQL Database Basic

Answer: C

Explanation:

By default, the cluster of nodes for the premium availability model is created in the same datacenter. With the introduction of Azure Availability Zones, SQL Database can place different replicas of the Business Critical database to different availability zones in the same region. To eliminate a single point of failure, the control ring is also duplicated across multiple zones as three gateway rings (GW). The routing to a specific gateway ring is controlled by Azure Traffic Manager (ATM). Because the zone redundant configuration in the Premium or Business Critical service tiers does not create additional database redundancy, you can enable it at no extra cost. By selecting a zone redundant configuration, you can make your Premium or Business Critical databases resilient to a much larger set of failures, including catastrophic datacenter outages, without any changes to the application logic. You can also convert any existing Premium or Business Critical databases or pools to the zone redundant configuration.

Incorrect Answers:

C. This feature is not available in SQL Managed Instance.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/high-availability-sla

Question: 95

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 have an Azure SQL database named Sales.
You need to implement disaster recovery for Sales to meet the following requirements:

During normal operations, provide at least two readable copies of Sales.

Ensure that Sales remains available if a datacenter fails.

Solution: You deploy an Azure SQL database that uses the General Purpose service tier and georeplication.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead deploy an Azure SQL database that uses the Business Critical service tier and Availability Zones.

Note: Premium and Business Critical service tiers leverage the Premium availability model, which integrates compute resources (sqlservr.exe process) and storage (locally attached SSD) on a single node. High availability is achieved by replicating both compute and storage to additional nodes creating a three to four-node cluster.

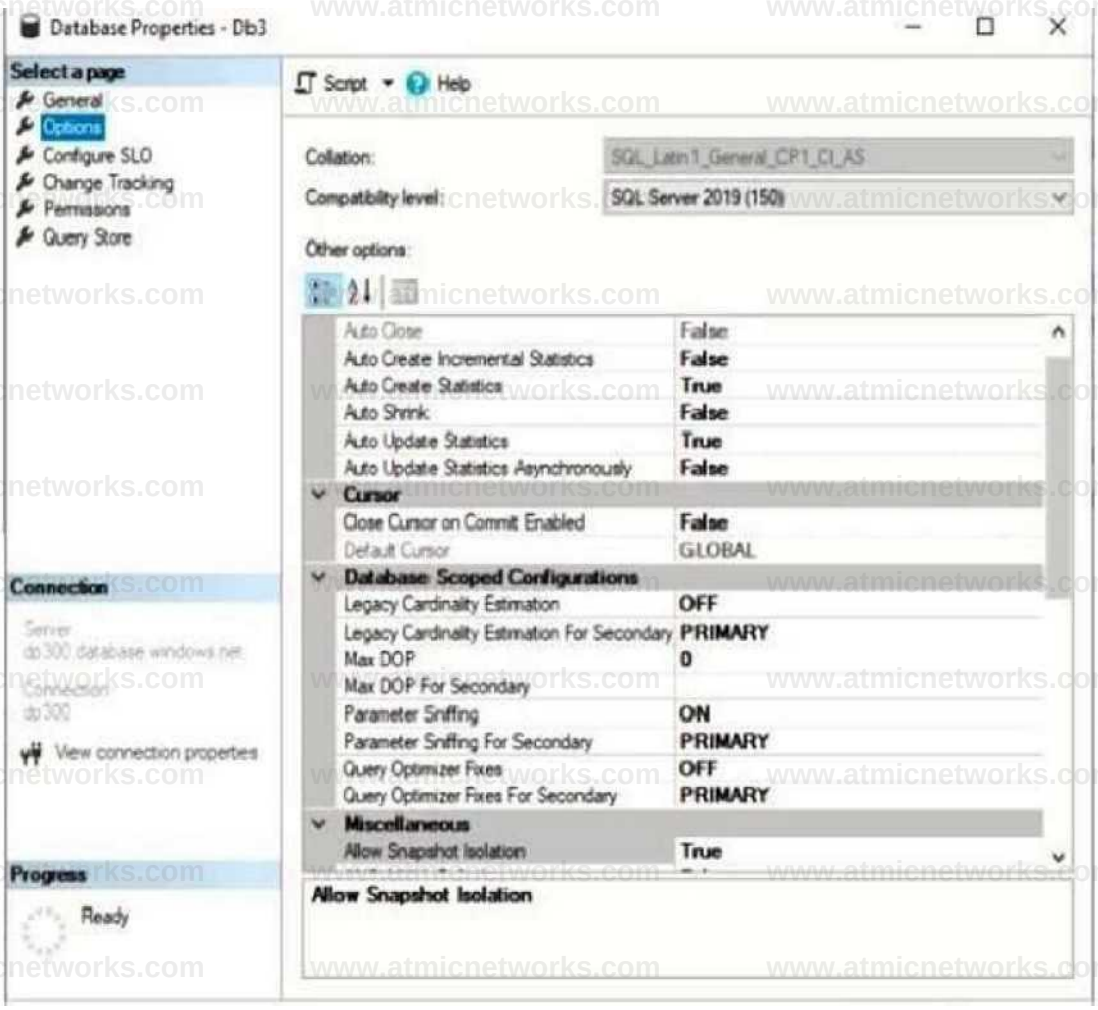
By default, the cluster of nodes for the premium availability model is created in the same datacenter. With the introduction of Azure Availability Zones, SQL Database can place different replicas of the Business Critical database to different availability zones in the same region. To eliminate a single point of failure, the control ring is also duplicated across multiple zones as three gateway rings (GW).

Reference:
https://docs.microsoft.com/en-us/azure/azure-sql/database/high-availability-sla

Question: 96

You have an Azure SQL database named DB3.

You need to provide a user named DevUser with the ability to view the properties of DB3 from Microsoft SQL Server Management Studio (SSMS) as shown in the exhibit. (Click the Exhibit tab.)




Which Transact-SQL command should you run?

A. GRANT SHOWPLAN TO DevUser
B. GRANT VIEW DEFINITION TO DevUser
C. GRANT VIEW DATABASE STATE TO DevUser
D. GRANT SELECT TO DevUser

Answer: C

Explanation:

The exhibits displays Database [State] properties.

To query a dynamic management view or function requires SELECT permission on object and VIEW SERVER STATE or VIEW DATABASE STATE permission.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/databases/database-properties-options- page

Question: 97

HOTSPOT

You have SQL Server on an Azure virtual machine that contains a database named DB1.

The database reports a CHECKSUM error.

You need to recover the database.

How should you complete the statements? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
USE master;
ALTER DATABASE [DB1] SET [ ▼ ] WITH ROLLBACK IMMEDIATE;
GO
```

- OFFLINE
- ONLINE
- SINGLE_USER
- TRUSTWORTHY

```
DBCC CHECKDB ('DB1', [ ▼ ] WITH NO_INFOMSGS;
GO
```

- MOINDEX
- PHYSICAL_ONLY
- REPAIR_ALLOW_DATA_LOSS
- REPAIR_FAST

```
ALTER DATABASE [DB1] SET [ ▼ ]
GO
```

- MULTI_USER;
- ONLINE;
- OPEN;
- TRUSTWORTHY;

Answer:

Explanation:

```
USE master;
ALTER DATABASE [DB1] SET [ ▼ ] WITH ROLLBACK IMMEDIATE;
GO
```

- OFFLINE
- ONLINE
- SINGLE_USER
- TRUSTWORTHY

```
DBCC CHECKDB ('DB1', [ ▼ ] WITH NO_INFOMSGS;
GO
```

- MOINDEX
- PHYSICAL_ONLY
- REPAIR_ALLOW_DATA_LOSS
- REPAIR_FAST

```
ALTER DATABASE [DB1] SET [ ▼ ]
GO
```

- MULTI_USER;
- ONLINE;
- OPEN;
- TRUSTWORTHY;

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Box 1: SINGLE_USER

The specified database must be in single-user mode to use one of the following repair options.

Box 2: REPAIR_ALLOW_DATA_LOSS

REPAIR_ALLOW_DATA_LOSS tries to repair all reported errors. These repairs can cause some data loss.

Note: The REPAIR_ALLOW_DATA_LOSS option is a supported feature but it may not always be the best option for bringing a database to a physically consistent state. If successful, the REPAIR_ALLOW_DATA_LOSS option may result in some data loss. In fact, it may result in more data lost than if a user were to restore the database from the last known good backup.

Incorrect Answers:

REPAIR_FAST

Maintains syntax for backward compatibility only. No repair actions are performed.

Box 3: MULTI_USER

MULTI_USER

All users that have the appropriate permissions to connect to the database are allowed.

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/database-console-commands/dbcc-checkdb-transact-sql

Question: 98

HOTSPOT

You have an Azure SQL Database managed instance named sqldbmi1 that contains a database name Sales.

You need to initiate a backup of Sales.

How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

BACKUP DATABASE Sales

TO DISK = \\BackupSystem\BackupDisk1\Sales.bak'
TO DISK = 'X:\BAK\Sales.bak'
TO 'Sales_Backup'
TO URL = 'https://storage1.blob.core.windows.net/blob1/Sales.bak'

WITH STATS = 5,

WITH COPY ONLY;
WITH ENCRYPTION;
WITH FILE SNAPSHOT;
WITH NO TRUNCATE

Answer:

Explanation:

BACKUP DATABASE Sales

TO DISK = \\BackupSystem\BackupDisk1\Sales.bak[1]
TO DISK = 'X:\BAK\Sales.bak'
TO 'Sales_Backup'
TO URL = 'https://storage1.blob.core.windows.net/blob1/Sales.bak'

WITH STATS = 5.

WITH COPY_ONLY;
WITH ENCRYPTION;
WITH FILE_SNAPSHOT;
WITH NO TRUNCATE

Box 1: TO URL = 'https://storage1.blob.core.windows.net/blob1/Sales.bak'

Native database backup in Azure SQL Managed Instance.

You can backup any database using standard BACKUP T-SQL command:

BACKUP DATABASE tpcc2501

TO URL = 'https://myacc.blob.core.windows.net/testcontainer/tpcc2501.bak'

WITH COPY_ONLY

Box 2: WITH COPY_ONLY

Reference:

https://techcommunity.microsoft.com/t5/azure-sql-database/native-database-backup-in-azure-sql-managed-instance/ba-p/386154

Question: 99

You have a Microsoft SQL Server 2019 database named DB1 that uses the following database-level and instance-level features.

Clustered columnstore indexes

Automatic tuning

Change tracking

PolyBase

You plan to migrate DB1 to an Azure SQL database.

What feature should be removed or replaced before DB1 can be migrated?

A. Clustered columnstore indexes

B. PolyBase

C. Change tracking

D. Automatic tuning

Answer: B

Explanation:

This table lists the key features for PolyBase and the products in which they're available.

| Feature | SQL Server (Beginning with 20161 | Azure SQL Database | Azure Synapse Analytics | Parallel Data Warehouse |
|---|---|---|---|---|
| Query Hadoop data with Transact' SQL | Yes | No | No | Yes |
| Import data from Hadoop | Yes | No | No | Yes |
| Export data to Hadoop | Yes | No | No | Yes |
| Query, import from, export to Azure H Dinsigh: | No | No | No | No |
| Push down query computations to Hadoop | Yes | No | No | Yes |
| Import data from Azure Blob storage | Yes | Yes' | Yes | Yes |
| Export data to Azure Blob storage | Yes | No | Yes | Yes |
| Import data from Azure Data Late Store | No | No | Yes | No |
| Export data to Azure Data Lake Store | No | No | Yes | No |
| Run PolyBase queries from Microsoft BI tools | Yes | 1 No 1 | Yes | Yes |

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/polybase/polybase-versioned-feature- summary

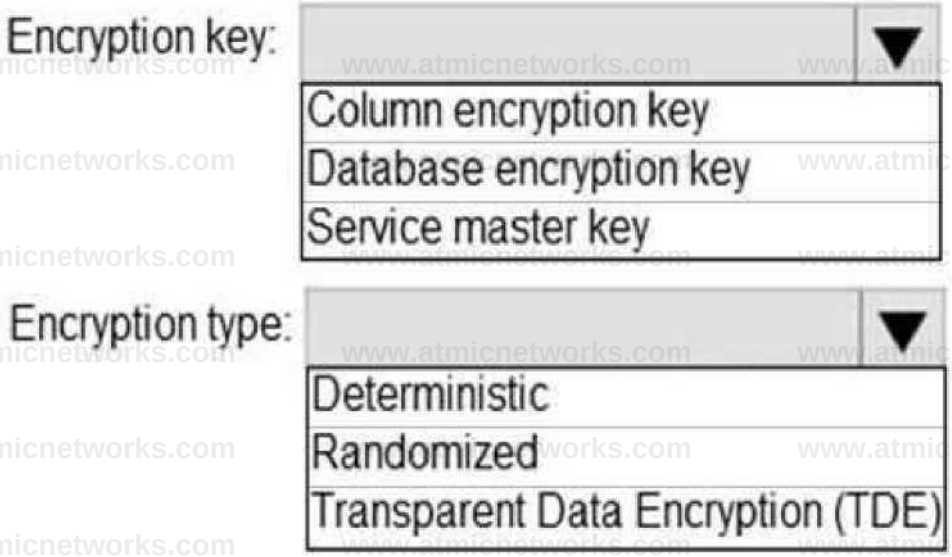
Question: 100
HOTSPOT

You have an Azure SQL database named DB1 that contains two tables named Table1 and Table2. Both tables contain a column named a Column1. Column1 is used for joins by an application named App1.

You need to protect the contents of Column1 at rest, in transit, and in use.
How should you protect the contents of Column1? To answer, select the appropriate options in the

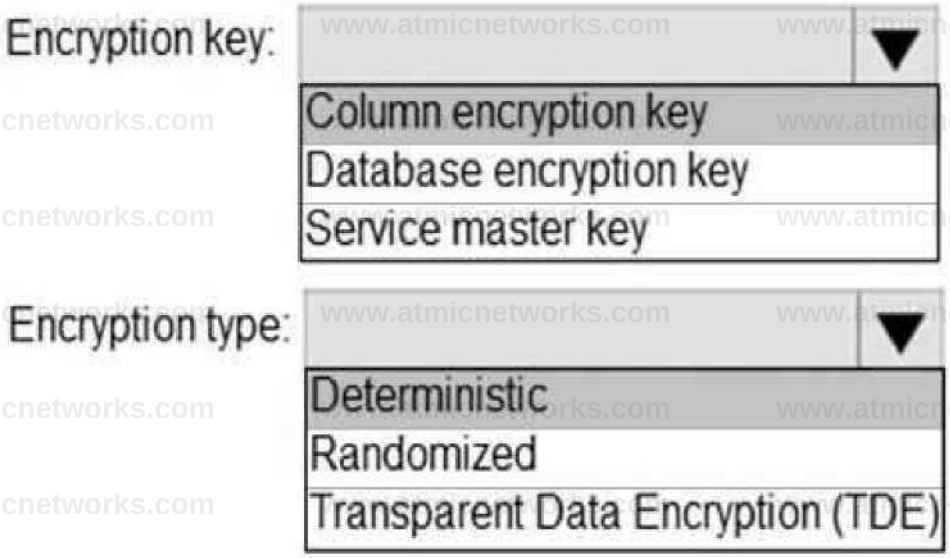
answer area.

NOTE: Each correct selection is worth one point.




Answer:

Explanation:



Box 1: Column encryption Key

Always Encrypted uses two types of keys: column encryption keys and column master keys. A column encryption key is used to encrypt data in an encrypted column. A column master key is a keyprotecting key that encrypts one or more column encryption keys.

Incorrect Answers:

TDE encrypts the storage of an entire database by using a symmetric key called the Database Encryption Key (DEK).

Box 2: Deterministic

Always Encrypted is a feature designed to protect sensitive data, such as credit card numbers or national identification numbers (for example, U.S. social security numbers), stored in Azure SQL Database or SQL Server databases. Always Encrypted allows clients to encrypt sensitive data inside client applications and never reveal the encryption keys to the Database Engine (SQL Database or SQL Server).

Always Encrypted supports two types of encryption: randomized encryption and deterministic encryption.

Deterministic encryption always generates the same encrypted value for any given plain text value. Using deterministic encryption allows point lookups, equality joins, grouping and indexing on encrypted columns.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/always-encrypted-database-engine

Question: 101

You have 40 Azure SQL databases, each for a different customer. All the databases reside on the same Azure SQL Database server.

You need to ensure that each customer can only connect to and access their respective database.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Implement row-level security (RLS).

B. Create users in each database.

C. Configure the database firewall.

D. Configure the server firewall.

E. Create logins in the master database.

F. Implement Always Encrypted.

Answer: B, E

Explanation:

Manage database access by adding users to the database, or allowing user access with secure connection strings.

Database-level firewall rules only apply to individual databases.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/secure-database-tutorial

Question: 102

DRAG DROP

You have an Azure SQL Database instance named DatabaseA on a server named Server1.

You plan to add a new user named App1 to DatabaseA and grant App1 db_datacenter permissions.

App1 will use SQL Server Authentication.

You need to create App1. The solution must ensure that App1 can be given access to other databases by using the same credentials.

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.

Actions

On the master database, run CREATE LOGIN [APP1] FROM EXTERNAL PROVIDER,

On DatabaseA, run CREATE USER [APPI] WITH PASSWORD = 'P@SSWOrd!';

db_datareader ADD MEMBER [Appi];

On the master database, run CREATE LOGIN [Appl] WITH PASSWORD = 'P@aaW0rd!';

On DatabaseA, run CREATE USER [Appl] FROM LOGIN [Appl];

Answer Area

Answer:

Explanation:

On the master database, run CREATE LOGIN [App1] WITH PASSWORD = 'P@aaW0rd!';

On DatabaseA, run CREATE USER [App1] FROM LOGIN [App1];

On DatabaseA, run ALTER ROLE db_datareader ADD MEMBER [App1];

Step 1: On the master database, run CREATE LOGIN [App1] WITH PASSWORD = 'p@aaW0rd!'

Logins are server wide login and password pairs, where the login has the same password across all databases. Here is some sample Transact-SQL that creates a login:

CREATE LOGIN readonlylogin WITH password='1231!#ASDF!a';

You must be connected to the master database on SQL Azure with the administrative login (which you get from the SQL Azure portal) to execute the CREATE LOGIN command.

Step 2: On DatabaseA, run CREATE USER [App1] FROM LOGIN [App1]

Users are created per database and are associated with logins. You must be connected to the database in where you want to create the user. In most cases, this is not the master database. Here is some sample Transact-SQL that creates a user:

```
CREATE USER readonlyuser FROM LOGIN readonlylogin;
```

Step 3: On DatabaseA run ALTER ROLE db_datareader ADD Member [App1]

Just creating the user does not give them permissions to the database. You have to grant them access. In the Transact-SQL example below the readonlyuser is given read only permissions to the database via the db_datareader role.

```
EXEC sp_addrolemember 'db_datareader', 'readonlyuser';
```

Reference:

https://azure.microsoft.com/en-us/blog/adding-users-to-your-sql-azure-database/

## Question: 103

You have an Azure virtual machine named VM1 on a virtual network named VNet1. Outbound traffic from VM1

to the internet is blocked.

You have an Azure SQL database named SqlDb1 on a logical server named SqlSrv1.

You need to implement connectivity between VM1 and SqlDb1 to meet the following requirements:

Ensure that VM1 cannot connect to any Azure SQL Server other than SqlSrv1.

Restrict network connectivity to SqlSrv1.

What should you create on VNet1?

A. a VPN gateway

B. a service endpoint

C. a private link

D. an ExpressRoute gateway

Answer: B

Explanation:

Azure Private Link enables you to access Azure PaaS Services (for example, Azure Storage and SQL Database) and Azure hosted customer-owned/partner services over a private endpoint in your virtual network.

Traffic between your virtual network and the service travels the Microsoft backbone network.

Exposing your service to the public internet is no longer necessary.

Reference:

https://docs.microsoft.com/en-us/azure/private-link/private-link-overview

Question: 104

You have 50 Azure SQL databases.

You need to notify the database owner when the database settings, such as the database size and pricing tier, are modified in Azure.

What should you do?

A. Create a diagnostic setting for the activity log that has the Security log enabled.

B. For the database, create a diagnostic setting that has the InstanceAndAppAdvanced metric enabled.

C. Create an alert rule that uses a Metric signal type.

D. Create an alert rule that uses an Activity Log signal type.

Answer: D

Explanation:

Activity log events - An alert can trigger on every event, or, only when a certain number of events occur.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/alerts-insights-configure-portal

Question: 105

You have several Azure SQL databases on the same Azure SQL Database server in a resource group named ResourceGroup1.

You must be alerted when CPU usage exceeds 80 percent for any database. The solution must apply to any additional databases that are created on the Azure SQL server.

Which resource type should you use to create the alert?

A. Resource Groups
B. SQL Servers
C. SQL Databases
D. SQL Virtual Machines

Answer: C

Explanation:

There are resource types related to application code, compute infrastructure, networking, storage + databases.

You can deploy up to 800 instances of a resource type in each resource group.

Some resources can exist outside of a resource group. These resources are deployed to the subscription, management group, or tenant. Only specific resource types are supported at these scopes.

Reference:

https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/resource-providers- and-types

Question: 106

You have SQL Server 2019 on an Azure virtual machine that runs Windows Server 2019. The virtual machine has 4 vCPUs and 28 GB of memory.

You scale up the virtual machine to 8 vCPUSs and 64 GB of memory.

You need to provide the lowest latency for tempdb.

What is the total number of data files that tempdb should contain?

A. 2

B. 4

C. 8

D. 64

Answer: C

Explanation:

The number of files depends on the number of (logical) processors on the machine. As a general rule, if the number of logical processors is less than or equal to eight, use the same number of data files as logical processors. If the number of logical processors is greater than eight, use eight data files and then if contention continues, increase the number of data files by multiples of 4 until the contention is reduced to acceptable levels or make changes to the workload/code.

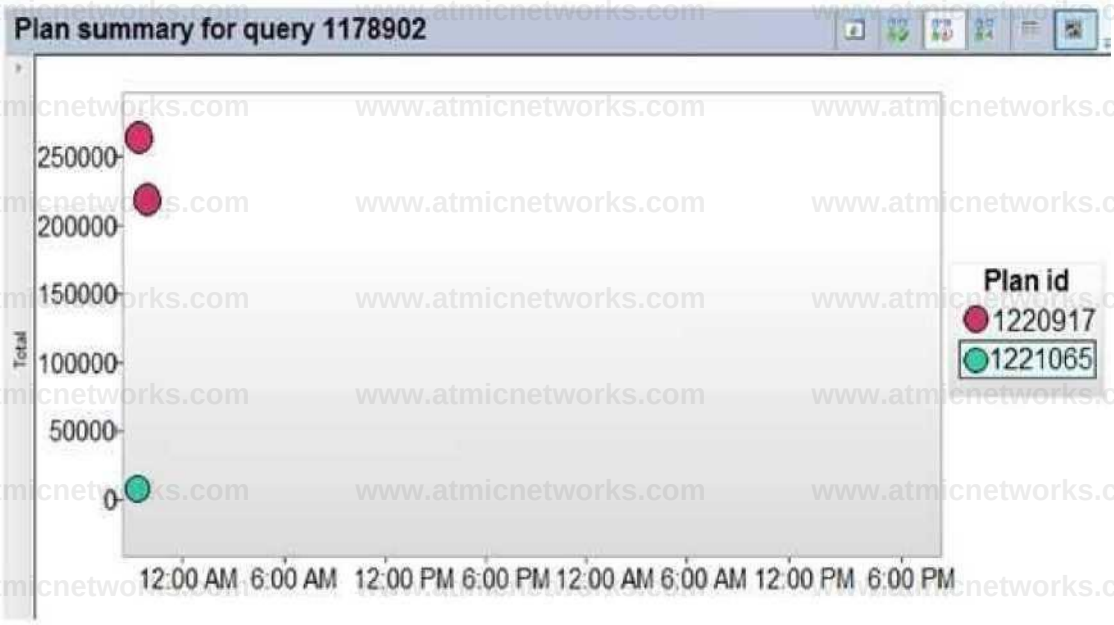
Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/databases/tempdb-database

Question: 107

You have SQL Server on an Azure virtual machine that contains a database named DB1.

You view a plan summary that shows the duration in milliseconds of each execution of query 1178902 as shown in the following exhibit:




What should you do to ensure that the query uses the execution plan which executes in the least amount of time?

A. Force the query execution plan for plan 1221065.
B. Run the DBCC FREEPROCCACHE command.
C. Force the query execution plan for plan 1220917.
D. Disable parameter sniffing.

Explanation:

Answer: C

Reference:
https://docs.microsoft.com/en-us/sql/relational-databases/performance/query-store-usage- scenarios

Question: 108
HOTSPOT

You have an Azure SQL database named DB1. The automatic tuning options for DB1 are configured as shown in the following exhibit.

J Azure SQL Database built-in intelligence automatically tunes your databases to optimize performance. Click here to learn more about ' automatic tuning

Inherit from: 0

Azure defaults

O The database is inheriting automatic tuning configuration from Azure defaults.

Configure the automatic tuning options 0

| OPTION | DESIRED STATE | CURRENT STATE |
|---|---|---|
| •'► FORCE PLAN | ON / Off / INHERIT | ON<br>Auto-configured by Azure |
| f "j CREATE INDEX | ON / INHERIT | ON<br>Auto-configured by Azure |
| \|"3 DROP INDEX | ON / OFf / INHERIT | ON<br>Forced by user |

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 |
| --- | --- | --- |
| Nonclustered indexes will be added to tables to improve performance | | |
| Columns will be added to existing indexes automatically. | | |
| The query execution plan will revert to a previous plan if query performance degrades. | | |

Answer:

Explanation:

| Statements | Yes | No |
| --- | --- | --- |
| Nonclustered indexes will be added to tables to improve performance. | | O |
| Columns will be added to existing indexes automatically. | O | o |
| The query execution plan will revert to a previous plan if query performance degrades. | | o |

Box 1: Yes

We see: Tuning option: Create index ON

CREATE INDEX - Identifies indexes that may improve performance of your workload, creates indexes, and automatically verifies that performance of queries has improved.

Box 2: No

Box 3: Yes

FORCE LAST GOOD PLAN (automatic plan correction) - Identifies Azure SQL queries using an execution plan that is slower than the previous good plan, and queries using the last known good plan instead of the regressed plan.

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## Question: 109

You have an Azure SQL database named DB1. You run a query while connected to DB1.

You review the actual execution plan for the query, and you add an index to a table referenced by the query.

You need to compare the previous actual execution plan for the query to the Live Query Statistics.

What should you do first in Microsoft SQL Server Management Studio (SSMS)?

A. For DB1, set QUERY_CAPTURE_MODE of Query Store to All.

B. Run the SET SHOWPLAN_ALL Transact-SQL statement.

C. Save the actual execution plan.

D. Enable Query Store for DB1.

Answer: C

Explanation:

The Plan Comparison menu option allows side-by-side comparison of two different execution plans, for easier identification of similarities and changes that explain the different behaviors for all the reasons stated above. This option can compare between:

Two previously saved execution plan files (.sqlplan extension).

One active execution plan and one previously saved query execution plan.

Two selected query plans in Query Store.

## Question: 110

You have an Azure SQL database.

Users report that the executions of a stored procedure are slower than usual. You suspect that a regressed query is causing the performance issue.

You need to view the query execution plan to verify whether a regressed query is causing the issue. The solution must minimize effort.

What should you use?

A. Performance Recommendations in the Azure portal

B. Extended Events in Microsoft SQL Server Management Studio (SSMS)

C. Query Store in Microsoft SQL Server Management Studio (SSMS)

D. Query Performance Insight in the Azure portal

Answer: C

Explanation:

Use the Query Store Page in SQL Server Management Studio.

Query performance regressions caused by execution plan changes can be non-trivial and time consuming to resolve.

Since the Query Store retains multiple execution plans per query, it can enforce policies to direct the Query Processor to use a specific execution plan for a query. This is referred to as plan forcing. Plan forcing in Query Store is provided by using a mechanism similar to the USE PLAN query hint, but it does not require any change in user applications. Plan forcing can resolve a query performance regression caused by a plan change in a very short period of time.

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/performance/monitoring-performance- by-using-the-query-store

Question: 111

You have an Azure SQL database. The database contains a table that uses a columnstore index and is accessed infrequently.

You enable columnstore archival compression.

What are two possible results of the configuration? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. Queries that use the index will consume more disk I/O.

B. Queries that use the index will retrieve fewer data pages.

C. The index will consume more disk space.

D. The index will consume more memory.

E. Queries that use the index will consume more CPU resources.

Answer: BE

Explanation:

For rowstore tables and indexes, use the data compression feature to help reduce the size of the database. In addition to saving space, data compression can help improve performance of I/O intensive workloads because the data is stored in fewer pages and queries need to read fewer pages from disk.

Use columnstore archival compression to further reduce the data size for situations when you can afford extra time and CPU resources to store and retrieve the data.

Question: 112

You plan to move two 100-GB databases to Azure.

You need to dynamically scale resources consumption based on workloads. The solution must minimize downtime during scaling operations.

What should you use?

A. two Azure SQL Databases in an elastic pool

B. two databases hosted in SQL Server on an Azure virtual machine

C. two databases in an Azure SQL Managed instance

D. two single Azure SQL databases

Answer: A

Explanation:

Azure SQL Database elastic pools are a simple, cost-effective solution for managing and scaling multiple databases that have varying and unpredictable usage demands. The databases in an elastic pool are on a single server and share a set number of resources at a set price.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/elastic-pool-overview

Question: 113

You have an on-premises app named App1 that stores data in an on-premises Microsoft SQL Server 2016 database named DB1.

You plan to deploy additional instances of App1 to separate Azure regions. Each region will have a separate instance of App1 and DB1. The separate instances of DB1 will sync by using Azure SQL Data Sync.

You need to recommend a database service for the deployment. The solution must minimize administrative effort.

What should you include in the recommendation?

A. Azure SQL Managed instance

B. Azure SQL Database single database

C. Azure Database for PostgreSQL

D. SQL Server on Azure virtual machines

Answer: B

Explanation:

Azure SQL Database single database supports Data Sync.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/features-comparison

Question: 114

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 have two Azure SQL Database servers named Server1 and Server2. Each server contains an Azure SQL database named Database1.

You need to restore Database1 from Server1 to Server2. The solution must replace the existing Database1 on Server2.

Solution: From Microsoft SQL Server Management Studio (SSMS), you rename Database1 on Server2 as Database2. From the Azure portal, you create a new database on Server2 by restoring the backup of Database1 from Server1, and then you delete Database2.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead restore Database1 from Server1 to the Server2 by using the RESTORE Transact-SQL command and the REPLACE option.

Note: REPLACE should be used rarely and only after careful consideration. Restore normally prevents accidentally overwriting a database with a different database. If the database specified in a RESTORE statement already exists on the current server and the specified database family GUID differs from the database family GUID recorded in the backup set, the database is not restored. This is an important safeguard.

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/restore-statements-transact-sql

## Question: 115

You have the following Transact-SQL query.

```
SELECT
      [file_id] AS [File ID],
      [type] AS [File Type],
      substring([physical_name], 1,1) AS [Drive],
      [name] AS [Logical Name],
      [physical_name] AS [Physical Name],
      CAST([size] as DECIMAL(38,0))/128.0 AS [ColumnA],
      CAST(FILEPROPERTY([name], 'SpaceUsed') AS DECIMAL(38,0))/128.0 AS
[Columns], (CAST([size] AS DECIMAL(38,0)J/128.0) - (CAST(FILEPROPERTY([name]
'SpaceUsed') AS DECIMAL (38,0))/128.0) AS [ColumnC], [max_size] AS [ColumnD],
[is_percent_growth] AS [Percent Growth Enabled], [growth] AS [Growth Rate],
SYSDATETIME() AS [Current Date]
FROM sys.database_files;
```

Which column returned by the query represents the free space in each file?

A. ColumnA

B. ColumnB

C. ColumnC

D. ColumnD

Answer: C

Explanation:

Example:

Free space for the file in the below query result set will be returned by the FreeSpaceMB column.

```
SELECT DB_NAME() AS DbName,
    name AS FileName,
    type_desc,
    size/128.0 AS CurrentSizeMB,
    size/128.0 - CAST(FILEPROPERTY(name, 'SpaceUsed') AS INT)/128.0 AS FreeSpaceMB
FROM sys.database_files
WHERE type IN (0,1);
```

Reference:

https://www.sqlshack.com/how-to-determine-free-space-and-file-size-for-sql-server-databases/

Question: 116
HOTSPOT

You have an Azure Synapse Analytics dedicated SQL pool named Pool1 and an Azure Data Lake Storage Gen2 account named Account1.

You plan to access the files in Account1 by using an external table.

You need to create a data source in Pool1 that you can reference when you create the external table.

How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
CREATE EXTERNAL DATA SOURCE sourcel

WITH

      ( LOCATION = 'https://account1.        ▼ .core.windows.net',
                                        blob dfs table

      PUSHDOWN = ON TYPE = BLOB STORAGE TYPE = HADOOP
```

Answer:

Explanation:

```
CREATE EXTERNAL DATA SOURCE sourcel

WITH

      ( LOCATION = 'https://account1.        ▼ .core.windows.net'
                                        blob dfs table

      PUSHDOWN = ON TYPE = BLOB_STORAGE TYPE = HADOOP
```

Box 1: blob

The following example creates an external data source for Azure Data Lake Gen2

CREATE EXTERNAL DATA SOURCE YellowTaxi

WITH ( LOCATION = 'https://azureopendatastorage.blob.core.windows.net/nyctlc/yellow/',

TYPE = HADOOP)

Box 2: HADOOP

Reference:

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

Question: 117
HOTSPOT

You plan to develop a dataset named Purchases by using Azure Databricks. Purchases will contain the following columns:

ProductID

ItemPrice

LineTotal

Quantity

StoreID

Minute

Month

Hour

Year

Day

You need to store the data to support hourly incremental load pipelines that will vary for each StoreID. The solution must minimize storage costs.

How should you complete the code? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

df.write

| | | |
|---|---|---|
| .bucketBy | | |
| .partitionBy | | (“StoreID", “Hour") |
| range | | (“StoreID", “Year", “Month", “Day", “Hour") |
| .sortBy | | (“Year", “Month", “Day", “Hour" “StoreID") |

.mode("append")

.csv(7Purchases”)

.json(7Purchases") parquetf/Purchases") .saveAsT able(7Purchases")

Answer:

Explanation:

df.write

| | |
|---|---|
| .bucketBy | (“*") |
| .partitionBy | (“StoreID", “Hour") |
| .range | (“StoreID", “Year", “Month", “Day", “Hour") |
| .sortBy | (“Year", “Month", “Day", “Hour" “StoreID") |

.mode (“append”)

.csv( “/Purchases") Json(7Purchases") .parquet(7Purchases") saveAsTablef/Purchases")

Box 1: .partitionBy

Example:

df.write.partitionBy("y","m","d")

.mode(SaveMode.Append)

.parquet("/data/hive/warehouse/db_name.db/" + tableName)

Box 2: ("Year","Month","Day","Hour","StoreID")

Box 3: .parquet("/Purchases")

Reference:

https://intellipaat.com/community/11744/how-to-partition-and-write-dataframe-in-spark-without-deleting-partitions-with-no-new-data

Question: 118

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 Standard

B. Azure Stream Analytics

C. Azure Data Factory

D. Azure Event Hubs Dedicated

Answer: D

Explanation:

The partition count for an event hub in a dedicated Event Hubs cluster can be increased after the event hub has been created.

Reference:

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

Question: 119

HOTSPOT

You are building a database in an Azure Synapse Analytics serverless SQL pool.

You have data stored in Parquet files in an Azure Data Lake Storage Gen2 container.

Records are structured as shown in the following sample.

"id":123, "address_housenumber": "19c", "address_linel": "Memory Lane", "applicantl_name": "Jane", "applicant2_name": "Dev"

The records contain two applicants at most.

You need to build a table that includes only the address fields.

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

CROSS APPLY
OPENJSON
OPENROWSET applications

FORMAT PARQUET') AS [r]

GO

CREATE EXTERNAL TABLE
CREATE TABLE
CREATE VIEW

```
WITH (
    LOCATION = 'applications/',
    DATA_SOURCE = applications_ds,
    FILE_FORMAT = applications_file_format )
AS
SELECT id, [addres s_housenuiriber ] as addressnumber, [address_linel] as addresslinel
FROM
(BULK 'https://contosol.dfs.core.windows.net/ applications/year=*/*.parquet' ,
```

Answer:

Explanation:

```
w applications
CREATE EXTERNAL TABLE
CREATE TABLE
CREATE VIEW
WITH {
    LOCATION = 'applications/',
    DATA_SOURCE = applications_ds,
    FILE_FORMAT = applications_file_format }
AS
SELECT id, [address_housenuinber] as addressnumber, [address_linel] as addresslinel
FROM
(BULK 'https://contosol. df s .core.windows.net/ applications/year=>7t .parquet' ,
CROSS APPLY
OPENJSON
OPENROWSET
FORMAT = 'PARQUET') AS [r]
GO
```

Box 1: CREATE EXTERNAL TABLE

An external table points to data located in Hadoop, Azure Storage blob, or Azure Data Lake Storage. External tables are used to read data from files or write data to files in Azure Storage. With Synapse SQL, you can use external tables to read external data using dedicated SQL pool or serverless SQL pool.

Syntax:

CREATE EXTERNAL TABLE { database_name.schema_name.table_name | schema_name.table_name | table_name }

( <column_definition> [ ,...n ] )

WITH (

LOCATION = 'folder_or_filepath',

DATA_SOURCE = external_data_source_name,

FILE_FORMAT = external_file_format_name

Box 2. OPENROWSET

When using serverless SQL pool, CETAS is used to create an external table and export query results to Azure Storage Blob or Azure Data Lake Storage Gen2.

Example:

```
AS

SELECT decennialTime, stateName, SUM(population) AS population
FROM
    OPENROWSET(BULK
'https://azureopendatastorage.blob.core.windows.net/censusdatacontainer/release/us_population_county/year=*/*.parquet',
    FORMAT='PARQUET') AS [r]
GROUP BY decennialTime, stateName
GO
```

Reference:

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

Question: 120

You have an Azure Synapse Analytics Apache Spark pool named Pool1.

You plan to load JSON files from an Azure Data Lake Storage Gen2 container into the tables in Pool1. The structure and data types vary by file.

You need to load the files into the tables. The solution must maintain the source data types.

What should you do?

A. Load the data by using PySpark.

B. Load the data by using the OPENROWSET Transact-SQL command in an Azure Synapse Analytics serverless SQL pool.

C. Use a Get Metadata activity in Azure Data Factory.

D. Use a Conditional Split transformation in an Azure Synapse data flow.

Answer: B

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.

Serverless SQL pool enables you to query data in your data lake. It offers a T-SQL query surface area that accommodates semi-structured and unstructured data queries.

To support a smooth experience for in place querying of data that's located in Azure Storage files, serverless SQL pool uses the OPENROWSET function with additional capabilities.

The easiest way to see to the content of your JSON file is to provide the file URL to the OPENROWSET function, specify csv FORMAT.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/query-json-files

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/query-data-storage

Question: 121

You are designing a date dimension table in an Azure Synapse Analytics dedicated SQL pool. The date dimension table will be used by all the fact tables.

Which distribution type should you recommend to minimize data movement?

A. HASH

B. REPLICATE

C. ROUND_ROBIN

Answer: B

Explanation:

A replicated table has a full copy of the table available on every Compute node. Queries run fast on replicated tables since joins on replicated tables don't require data movement. Replication requires extra storage, though, and isn't practical for large tables.

Incorrect Answers:

D. A round-robin distributed table distributes table rows evenly across all distributions. The assignment of rows to distributions is random. Unlike hash-distributed tables, rows with equal values are not guaranteed to be assigned to the same distribution.

As a result, the system sometimes needs to invoke a data movement operation to better organize your data before it can resolve a query.

Reference:

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

Question: 122

HOTSPOT

From a website analytics system, you receive data extracts about user interactions such as downloads, link clicks, form submissions, and video plays.

The data contains the following columns:

| Name | Sample value |
|---|---|
| Date | 15 Jan 2021 |
| EventCategory | Videos |
| EventAction | Play |
| EventLabel | Contoso Promotional |
| ChannelGrouping | Social |
| TotalEvents | 150 |
| UniqueEvents | 120 |
| SessionsWithEvents | 99 |

You need to design a star schema to support analytical queries of the data. The star schema will contain four tables including a date dimension.

To which table should you add each column? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Eventcategory:

DimChannel DimDate DimEvent FactEvents

ChannelGrouping:

DimChannel DimDate DimEvent FactEvents

TotalEvents:

DimChannel DimDate DimEvent FactEvents

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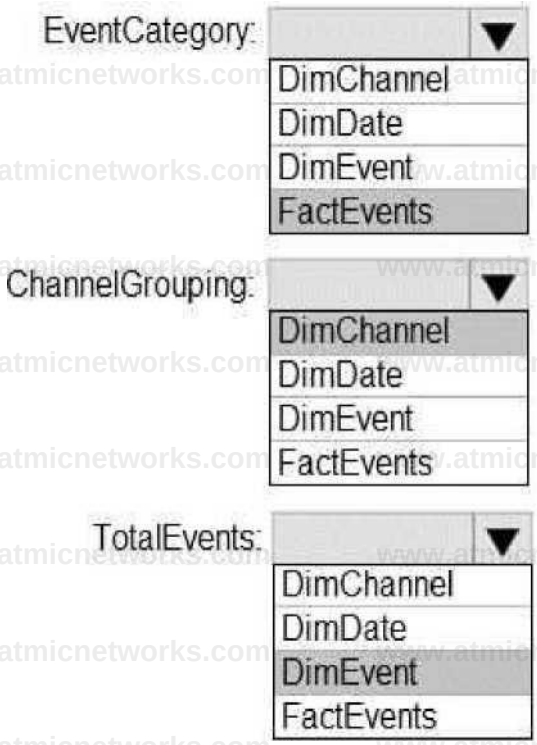
Answer:

Explanation:




Box 1: FactEvents

Fact tables store observations or events, and can be sales orders, stock balances, exchange rates, temperatures, etc.

Box 2: DimChannel

Dimension tables describe business entities – the things you model. Entities can include products, people, places, and concepts including time itself. The most consistent table you'll find in a star schema is a date dimension table. A dimension table contains a key column (or columns) that acts as a unique identifier, and descriptive columns.

Box 3: DimEvent

Reference:

https://docs.microsoft.com/en-us/power-bi/guidance/star-schema

Question: 123

DRAG DROP

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

Data in the table will be retained for five years. Once a year, data that is older than five years will be deleted.

You need to ensure that the data is distributed evenly across partitions. The solutions must minimize the amount of time required to delete old data.

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

CustomerKey

HASH

ROUND_ROBIN

REPLICATE

OrderDateKey

SalesOrderNumber

Answer Area

```
CREATE TABLE [dbo].[FactSales]

    [ProductKey] int      NOT NULL
    [OrderDateKey] int    NOT NULL
    [CustomerKey] int     NOT NULL
    [SalesOrderNumber]    nvarchar  ( 20 ) NOT NULL
    [OrderQuantity]       smallint  NOT NULL NOT
    [UnitPrice]           money         NULL

WITH
(          CLUSTERED      COLUMNSTORE    INDEX
      DISTRIBUTION =                  22| ([ProductKey])
                                      ]] RANGE RIGHT FOR VALUES
    PARTITION ( [[
```

(20170101, 20180101, 20190101, 20200101, 20210101)

Answer

Explanation:

```
CREATE TABLE    [dbo] . [FactSales]

    [ProductKey] int          NOT  NULL
    [OrderDateKey] int        NOT  NULL
    [CustomerKey] int         NOT  NULL
    [SalesOrderNumber]        nvarchar    { 20      NOT NULL
    [OrderQuantity] [UnitPrice]  smallint    NOT  NULL
                              money              NOT NULL

WITH
        CLUSTERED        COLUMNSTORE      INDEX
    DISTRIBUTION              HASH          ([ProductKey])
    PARTITION          OrderDateKey        RANGE RIGHT FOR VALUES
```

(20170101, 20180101, 20190101, 20200101, 20210101)

Box 1: HASH

Box 2: OrderDateKey

In most cases, table partitions are created on a date column.

A way to eliminate rollbacks is to use Metadata Only operations like partition switching for data management. For example, rather than execute a DELETE statement to delete all rows in a table where the order_date was in October of 2001, you could partition your data early. Then you can switch out the partition with data for an empty partition from another table.

Reference:

https://docs.microsoft.com/en-us/sql/t-sql/statements/create-table-azure-sql-data-warehouse

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

Question: 124

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 pool.

Which format should you use for the tables in DB1?

A. JSON

B. CSV

C. Parquet

D. ORC

Answer: C

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 and located in Azure Storage, an external table is created in a serverless SQL pool database. As such, you can shut down your Spark pools and still query Spark external tables from serverless SQL pool.

Reference:

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

Question: 125

You are designing an anomaly detection solution for streaming data from an Azure IoT hub. The solution must meet the following requirements:

Send the output to an Azure Synapse.

Identify spikes and dips in time series data.

Minimize development and configuration effort.

Which should you include in the solution?

A. Azure SQL Database

B. Azure Databricks

C. Azure Stream Analytics

Answer: C

Explanation:

Anomalies can be identified by routing data via IoT Hub to a built-in ML model in Azure Stream Analytics

Reference:

https://docs.microsoft.com/en-us/learn/modules/data-anomaly-detection-using-azure-iot-hub/

https://docs.microsoft.com/en-us/azure/stream-analytics/azure-synapse-analytics-output

Question: 126

You are creating a new notebook in Azure Databricks that will support R as the primary language but will also support Scala and SQL.

Which switch should you use to switch between languages?

A. \\[<language>]

B. %<language>

C. \\[<language>]

D. @<language>

Answer: B

Explanation:

Explanation/Reference:

You can override the default language by specifying the language magic command %<language> at the beginning of a cell. The supported magic commands are: %python, %r, %scala, and %sql.

Reference:

https://docs.microsoft.com/en-us/azure/databricks/notebooks/notebooks-use

Question: 127

DRAG DROP

You are creating a managed data warehouse solution on Microsoft Azure.

You must use PolyBase to retrieve data from Azure Blob storage that resides in parquet format and load the data into a large table called FactSalesOrderDetails.

You need to configure Azure Synapse Analytics to receive the data.

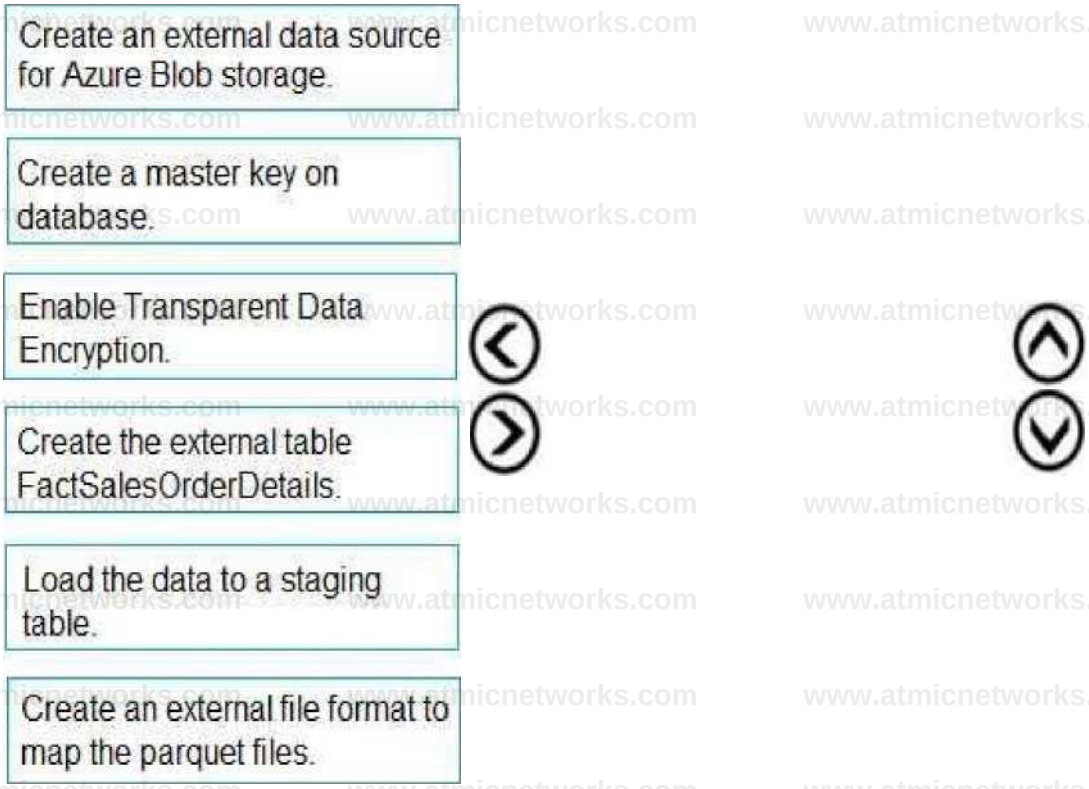
Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions

Answer Area

Answer:

Explanation:




Create a master key on database.

Create an external data source for Azure Blob storage.

Create an external file format to map the parquet files.

Create the external table FactSalesOrderDetails.

To query the data in your Hadoop data source, you must define an external table to use in Transact- SQL queries. The following steps describe how to configure the external table.

Step 1: Create a master key on database.

1. Create a master key on the database. The master key is required to encrypt the credential secret.

(Create a database scoped credential for Azure blob storage.)

Step 2: Create an external data source for Azure Blob storage.

2. Create an external data source with CREATE EXTERNAL DATA SOURCE..

Step 3: Create an external file format to map the parquet files.

3. Create an external file format with CREATE EXTERNAL FILE FORMAT.

Step 4. Create an external table FactSalesOrderDetails

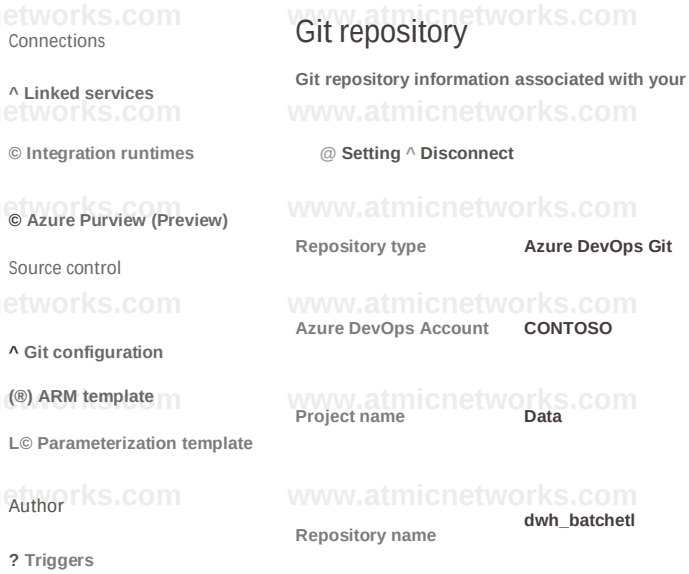
4. Create an external table pointing to data stored in Azure storage with CREATE EXTERNAL TABLE.

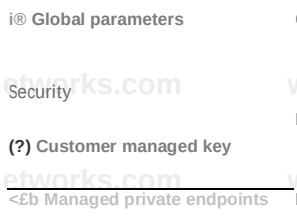
Reference:[https://docs.microsoft.com/en-us/sql/relational-databases/polybase/polybase-configure-azure-blob-storage](https://docs.microsoft.com/en-us/sql/relational-databases/polybase/polybase-configure-azure-blob-storage)

## Question: 128

HOTSPOT

You configure version control for an Azure Data Factory instance as shown in the following exhibit.






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

NOTE: Each correct selection is worth one point.

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Azure Resource Manager (ARM) templates for the pipeline assets as stored in

- /
- adf_publish
- main
- Parameterization template

A Data Factory Azure Resource Manager (ARM) template named contososales can be found in

- /contososales
- /dwh_batchetl/adf_publish/contososales
- /main

Answer:

Explanation:

Azure Resource Manager (ARM) templates for the pipeline assets as stored in

- /
- adf_publish
- main
- Parameterization template

A Data Factory Azure Resource Manager (ARM) template named contososales can be found in

/contososales
/dwh_batchetl/adf_publish/contososales
/main

Box 1: adf_publish

By default, data factory generates the Resource Manager templates of the published factory and saves them into a branch called adf_publish. To configure a custom publish branch, add a publish_config.json file to the root folder in the collaboration branch. When publishing, ADF reads this file, looks for the field publishBranch, and saves all Resource Manager templates to the specified location. If the branch doesn't exist, data factory will automatically create it. And example of what this file looks like is below:

```
{
  "publishBranch": "factory/adf_publish"
}
```

Box 2: /dwh_barchlet/ adf_publish/contososales

RepositoryName: Your Azure Repos code repository name. Azure Repos projects contain Git repositories to manage your source code as your project grows. You can create a new repository or use an existing repository that's already in your project.

Reference:

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

Question: 129

You plan to build a structured streaming solution in Azure Databricks. The solution will count new events in five minute intervals and report only events that arrive during the interval.

The output will be sent to a Delta Lake table.

Which output mode should you use?

A. complete

B. append

C. update

Answer: A

Explanation:

Complete mode: You can use Structured Streaming to replace the entire table with every batch.

Incorrect Answers:

8: By default, streams run in append mode, which adds new records to the table.

Reference:

https://docs.databricks.com/delta/delta-streaming.html

Question: 130

HOTSPOT

You are performing exploratory analysis of 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;
```

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

The query results include only **[answer choice]** in the csv/busfare folder.

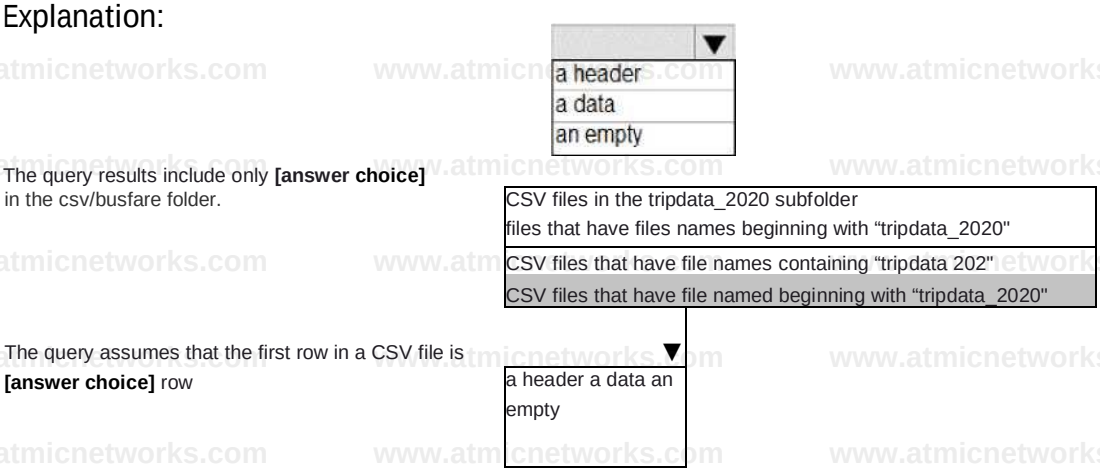
CSV files in the tripdata_2020 subfolder
files that have files names beginning with "tripdata_2020" CSV files that have file names containing "tripdata_202"

CSV files that have file named beginning with "tripdata 2Q20

The query assumes that the first row in a CSV file is **[answer choice]** row.

Answer:

Explanation:




Box 1: CSV files that have file named beginning with "tripdata_2020"

Box 2: a header

FIRSTROW = 'first_row'

Specifies the number of the first row to load. The default is 1 and indicates the first row in the specified data file. The row numbers are determined by counting the row terminators. FIRSTROW is 1-based.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/develop-openrowset

Question: 131

You have a SQL pool in Azure Synapse that contains a table named dbo.Customers. The table contains a column name 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 the Azure portal, set a mask on the Email column.

B. From the Azure portal, set a sensitivity classification of Confidential for the Email column.

C. From Microsoft SQL Server Management Studio, set an email mask on the Email column.

D. From Microsoft SQL Server Management Studio, grant the SELECT permission to the users for all the columns in the dbo.Customers table except Email.

Answer: B

Explanation:

The Email masking method, which exposes the first letter and replaces the domain with XXX.com using a constant string prefix in the form of an email address.

Example: aXX@XXXX.com

Question: 132

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 cluster1 to start and scale up. The solution must minimize costs.

What should you do first?

A. Upgrade workspace1 to the Premium pricing tier.

B. Configure a global init script for workspace1.

C. Create a pool in workspace1.

D. Create a cluster policy in 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

Question: 133

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 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 transform the data. Each row of data in the files will produce one row in the serving layer of Table1.

You need to ensure that when the source data files are loaded to container1, the DateTime is stored as an additional column in Table1.

Solution: In an Azure Synapse Analytics pipeline, you use a Get Metadata activity that retrieves the DateTime of the files.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Instead use a serverless SQL pool to create an external table with the extra column.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/create-use-external-tables

Question: 134

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.

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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 an Azure Synapse Analytics serverless SQL pool to create an external table that has an additional DateTime column.

Does this meet the goal?

A. Yes

B. No

Answer: A

Explanation:

In dedicated SQL pools you can only use Parquet native external tables. Native external tables are generally available in serverless SQL pools.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/create-use-external-tables

Question: 135

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 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.

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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: B

Explanation:

Instead use a serverless SQL pool to create an external table with the extra column.

Note: In dedicated SQL pools you can only use Parquet native external tables. Native external tables are generally available in serverless SQL pools.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql/create-use-external-tables

Question: 136

You are developing an application that uses Azure Data Lake Storage Gen 2.

You need to recommend a solution to grant permissions to a specific application for a limited time period.

What should you include in the recommendation?

A. role assignments

B. account keys

C. shared access signatures (SAS)

D. Azure Active Directory (Azure AD) identities

Answer: C

Explanation:

A shared access signature (SAS) provides secure delegated access to resources in your storage account. With a SAS, you have granular control over how a client can access your data. For example:

What resources the client may access.

What permissions they have to those resources.

How long the SAS is valid.

Note: Data Lake Storage Gen2 supports the following authorization mechanisms:

Shared Key authorization

Shared access signature (SAS) authorization

Role-based access control (Azure RBAC)

Access control lists (ACL) Data Lake Storage Gen2 supports the following authorization mechanisms:

Shared Key authorization

Shared access signature (SAS) authorization

Role-based access control (Azure RBAC)

Access control lists (ACL)

Reference:

https://docs.microsoft.com/en-us/azure/storage/common/storage-sas-overview

Question: 137

You are designing an enterprise data warehouse in Azure Synapse Analytics that will contain a table named Customers. Customers will contain credit card information.

You need to recommend a solution to provide salespeople with the ability to view all the entries in Customers.

The solution must prevent all the salespeople from viewing or inferring the credit card information.

What should you include in the recommendation?

A. row-level security

B. data masking

C. Always Encrypted

D. column-level security

Answer: B

Explanation:

Azure SQL Database, Azure SQL Managed Instance, and Azure Synapse Analytics support dynamic data masking. Dynamic data masking limits sensitive data exposure by masking it to non-privileged users.

The Credit card masking method exposes the last four digits of the designated fields and adds a constant string as a prefix in the form of a credit card.

Example:

XXXX-XXXX-XXXX-1234

Question: 138
HOTSPOT

You have an Azure subscription that is linked to a hybrid Azure Active Directory (Azure AD) tenant.
The subscription contains an Azure Synapse Analytics SQL pool named Pool1.

You need to recommend an authentication solution for Pool1. The solution must support multi-factor authentication (MFA) and database-level authentication.

Which authentication solution or solutions should you include in the recommendation? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

MFA:

Azure AD authentication
Microsoft SQL Server authentication
Passwordless authentication
Windows authentication

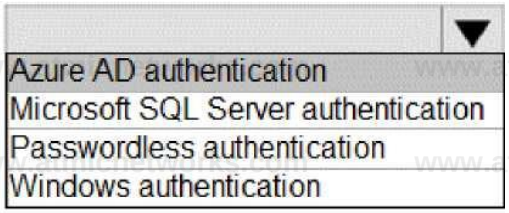
Database-level authentication:

Application roles
Contained database users
Database roles
Microsoft SQL Server logins

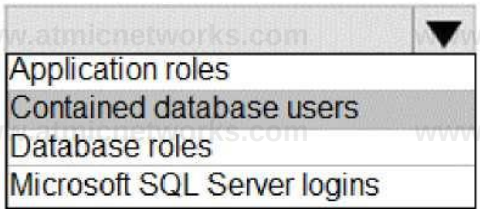
Answer:

Explanation:

MFA:




Database-level authentication:




Box 1: Azure AD authentication

Azure Active Directory authentication supports Multi-Factor authentication through Active Directory Universal Authentication.

Box 2: Contained database users

Azure Active Directory Uses contained database users to authenticate identities at the database level.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-authentication

Question: 139

You have a data warehouse in Azure Synapse Analytics.

You need to ensure that the data in the data warehouse is encrypted at rest.

What should you enable?

A. Transparent Data Encryption (TDE)

B. Advanced Data Security for this database

C. Always Encrypted for all columns

D. Secure transfer required

Answer: A

Explanation:

Transparent data encryption (TDE) helps protect Azure SQL Database, Azure SQL Managed Instance, and Azure Synapse Analytics against the threat of malicious ofline activity by encrypting data at rest.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/transparent-data-encryption-tde- overview

Question: 140

You are designing a security model for an Azure Synapse Analytics dedicated SQL pool that will support multiple companies.

You need to ensure that users from each company can view only the data of their respective company.

Which two objects should you include in the solution? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. a column encryption key

B. asymmetric keys

C. a function

D. a custom role-based access control (RBAC) role

E. a security policy

Answer: DE

Explanation:

Azure RBAC is used to manage who can create, update, or delete the Synapse workspace and its SQL pools, Apache Spark pools, and Integration runtimes.

Define and implement network security configurations for resources related to your dedicated SQL pool

with Azure Policy.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/security/synapse-workspace-synapse- rbac

https://docs.microsoft.com/en-us/security/benchmark/azure/baselines/synapse-analytics-security- baseline

Question: 141

You have an Azure subscription that contains an Azure Data Factory version 2 (V2) data factory named df1.

DF1 contains a linked service.

You have an Azure Key vault named vault1 that contains an encryption kay named key1.

You need to encrypt df1 by using key1.

What should you do first?

A. Disable purge protection on vault1.

B. Remove the linked service from df1.

C. Create a self-hosted integration runtime.

D. Disable soft delete on vault1.

Answer: B

Explanation:

A customer-managed key can only be configured on an empty data Factory. The data factory can't contain any resources such as linked services, pipelines and data flows. It is recommended to enable customer-managed key right after factory creation.

Note: Azure Data Factory encrypts data at rest, including entity definitions and any data cached while runs are in progress. By default, data is encrypted with a randomly generated Microsoft-managed key that is uniquely assigned to your data factory.

Reference:

https://docs.microsoft.com/en-us/azure/data-factory/enable-customer-managed-key

Question: 142
HOTSPOT

You are building an Azure Stream Analytics job to retrieve game data.

You need to ensure that the job returns the highest scoring record for each five-minute time interval of each game.

How should you complete the Stream Analytics query? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

SELECT ▼ as HighestScore

Collects core)
CollectTop(1)OVER(ORDER BY Score Desc)
Game, MAX(Score)
TopOneQ OVERfPARTITION BY Game ORDER BY Score Desc)

FROM input TIMESTAMP BY CreatedAt

GROUP BY ▼

Game
Hopping(minute, 5)
Tumbling(minute, 5)
Windows(TumblingWindow(minute, 5), Hopping (mi note, 5))

Answer:

Explanation:

```
SELECT [Collect(Score) | CollectTop(1)OVER(ORDER BY Score Desc) | Game, MAX(Score) | TopOne() OVER(PARTITION BY Game ORDER BY Score Desc)] as HighestScore
FROM input TIMESTAMP BY CreatedAt
GROUP BY [Game | Hopping(minute, 5) | Tumbling(minute, 5) | Windows(TumblingWindow(minute, 5), Hopping(minute, 5))]
```

Box 1: TopOne() OVER(PARTITION BY Game ORDER BY Score Desc)

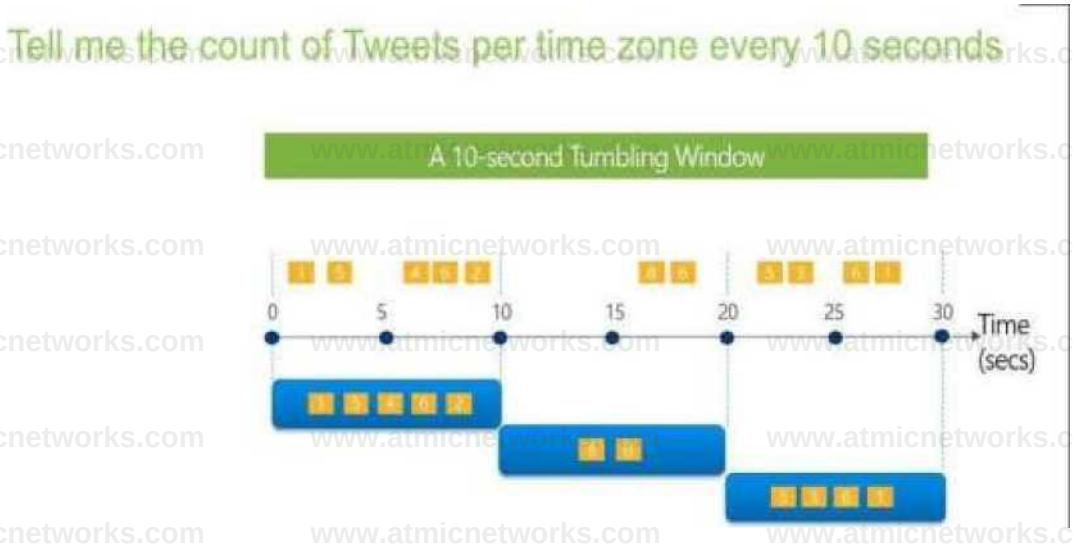
TopOne returns the top-rank record, where rank defines the ranking position of the event in the window according to the specified ordering. Ordering/ranking is based on event columns and can be specified in ORDER BY clause.

Analytic Function Syntax:

TopOne() OVER ([<PARTITION BY clause>] ORDER BY (<column name> [ASC |DESC])+ <LIMIT DURATION clause> [<WHEN clause>])

Box 2: Tumbling(minute 5)

Tumbling window functions are used to segment a data stream into distinct time segments and perform a function against them, such as the example below. The key differentiators of a Tumbling window are that they repeat, do not overlap, and an event cannot belong to more than one tumbling window.




```
SELECT Timezone, COUNT(*) AS Count
```

```
FROM TwitterStream TIMESTAMP BY CreatedAt GROUP BY
TimeZone, TumblingWindow(second,10)
```

Reference:

https://docs.microsoft.com/en-us/stream-analytics-query/topone-azure-stream-analytics

https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/stream-analytics/stream- analytics-window-functions.md

Question: 143

A company plans to use Apache Spark analytics to analyze intrusion detection data.

You need to recommend a solution to analyze network and system activity data for malicious activities and policy violations. The solution must minimize administrative efforts.

What should you recommend?

A. Azure Data Lake Storage

B. Azure Databricks

C. Azure HDInsight

D. Azure Data Factory

Answer: C

Explanation:

Azure HDInsight offers pre-made, monitoring dashboards in the form of solutions that can be used to monitor the workloads running on your clusters. There are solutions for Apache Spark, Hadoop, Apache Kafka, live long and process (LLAP), Apache HBase, and Apache Storm available in the Azure Marketplace.

Note: With Azure HDInsight you can set up Azure Monitor alerts that will trigger when the value of a metric or the results of a query meet certain conditions. You can condition on a query returning a record with a value that is greater than or less than a certain threshold, or even on the number of results

returned by a query. For example, you could create an alert to send an email if a Spark job fails or if a Kafka disk usage becomes over 90 percent full.

Reference:

https://azure.microsoft.com/en-us/blog/monitoring-on-azure-hdinsight-part-4-workload-metrics- and-logs/

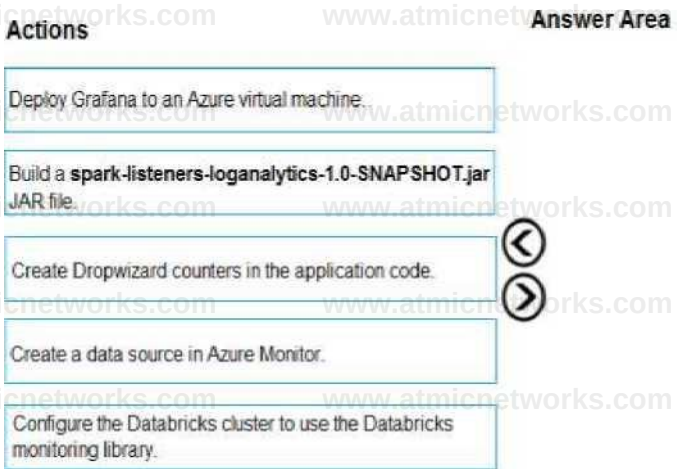
Question: 144

DRAG DROP

Your company analyzes images from security cameras and sends alerts to security teams that respond to unusual activity. The solution uses Azure Databricks.

You need to send Apache Spark level events, Spark Structured Streaming metrics, and application metrics to Azure Monitor.

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




Answer:

Explanation:

Configure the Databricks cluster to use the Databricks monitoring library.

Build a **spark-listeners-loganalytics-1.0-SNAPSHOT.jar** JAR file.

Create Dropwizard counters in the application code

Send application metrics using Dropwizard.

Spark uses a configurable metrics system based on the Dropwizard Metrics Library.

To send application metrics from Azure Databricks application code to Azure Monitor, follow these steps:

Step 1: Configure your Azure Databricks cluster to use the Databricksmonitoring library.

Prerequisite: Configure your Azure Databricks cluster to use the monitoring library.

Step 2: Build the spark-listeners-loganalytics-1.0-SNAPSHOT.jar JAR file

Step 3: Create Dropwizard counters in your application code

Create Dropwizard gauges or counters in your application code

Question: 145

You have an Azure data solution that contains an enterprise data warehouse in Azure Synapse Analytics named DW1.

Several users execute adhoc queries to DW1 concurrently.

You regularly perform automated data loads to DW1.

You need to ensure that the automated data loads have enough memory available to complete quickly and successfully when the adhoc queries run.

What should you do?

A. Assign a smaller resource class to the automated data load queries.

B. Create sampled statistics to every column in each table of DW1.

C. Assign a larger resource class to the automated data load queries.

D. Hash distribute the large fact tables in DW1 before performing the automated data loads.

Answer: C

Explanation:

The performance capacity of a query is determined by the user's resource class.

Smaller resource classes reduce the maximum memory per query, but increase concurrency.

Larger resource classes increase the maximum memory per query, but reduce concurrency.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/resource-classes-for-workloadmanagement

Question: 146

You are monitoring an Azure Stream Analytics job.

You discover that the Backlogged input Events metric is increasing slowly and is consistently nonzero.

You need to ensure that the job can handle all the events.

What should you do?

A. Remove any named consumer groups from the connection and use $default.

B. Change the compatibility level of the Stream Analytics job.

C. Create an additional output stream for the existing input stream.

D. Increase the number of streaming units (SUs).

Answer: D

Explanation:

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

Question: 147

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. Late Input Events

B. Out of order Events

C. Backlogged Input Events

D. Watermark Delay

E. Function Events

Answer: CD

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

www.atmicnetworks.com

Question: 148

You have an Azure Databricks resource.
You need to log actions that relate to changes in compute for the Databricks resource.
Which Databricks services should you log?

A. clusters
B. jobs
C. DBFS
D. SSH
E. workspace

Answer: E

Explanation:

Cloud Provider Infrastructure Logs.

Databricks logging allows security and admin teams to demonstrate conformance to data governance standards within or from a Databricks workspace. Customers, especially in the regulated industries, also need records on activities like:

User access control to cloud data storage

Cloud Identity and Access Management roles

User access to cloud network and compute

Azure Databricks offers three distinct workloads on several VM Instances tailored for your data analytics workflow—the Jobs Compute and Jobs Light Compute workloads make it easy for data engineers to build and execute jobs, and the All-Purpose Compute workload makes it easy for data scientists to explore, visualize, manipulate, and share data and insights interactively.

Reference:

https://databricks.com/blog/2020/03/25/trust-but-verify-with-databricks.html

Question: 149

Your company uses Azure Stream Analytics to monitor devices.

The company plans to double the number of devices that are monitored.

You need to monitor a Stream Analytics job to ensure that there are enough processing resources to handle the

additional load.

Which metric should you monitor?

A. Input Deserialization Errors

B. Late Input Events

C. Early Input Events

D. Watermark delay

Answer: D

Explanation:

The Watermark delay metric is computed as the wall clock time of the processing node minus the largest watermark it has seen so far.

The watermark delay metric can rise due to:

1. Not enough processing resources in Stream Analytics to handle the volume of input events.
2. Not enough throughput within the input event brokers, so they are throttled.
3. Output sinks are not provisioned with enough capacity, so they are throttled.

Reference:

https://docs.microsoft.com/en-us/azure/stream-analytics/stream-analytics-time-handling

Question: 150

You manage an enterprise data warehouse in Azure Synapse Analytics.

Users report slow performance when they run commonly used queries. Users do not report performance changes for infrequently used queries.

You need to monitor resource utilization to determine the source of the performance issues.

Which metric should you monitor?

A. Local tempdb percentage

B. DWU percentage

C. Data Warehouse Units (DWU) used

D. Cache hit percentage

Answer: A

Explanation:

Tempdb is used to hold intermediate results during query execution. High utilization of the tempdb database can lead to slow query performance.

Note: If you have a query that is consuming a large amount of memory or have received an error message related to allocation of tempdb, it could be due to a very large CREATE TABLE AS SELECT (CTAS) or INSERT SELECT statement running that is failing in the final data movement operation.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-managemonitor#monitor-tempdb

Question: 151

You have an Azure Synapse Analytics dedicated SQL pool named Pool1 and a database named DB1. DB1 contains a fact table named Table.

You need to identify the extent of the data skew in Table1.

What should you do in Synapse Studio?

A. Connect to Pool1 and query sys.dm_pdw_nodes_db_partition_stats.

B. Connect to the built-in pool and run DBCC CHECKALLOC.

C. Connect to Pool1 and run DBCC CHECKALLOC.

D. Connect to the built-in pool and query sys.dm_pdw_nodes_db_partition_stats.

Answer: D

Explanation:

Use sys.dm_pdw_nodes_db_partition_stats to analyze any skewness in the data.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/cheat-sheet

www.atmicnetworks.com

Question: 152

You have an Azure Synapse Analytics dedicated SQL pool.

You run PDW_SHOWSPACEUSED('dbo.FactInternetSales'); and get the results shown in the following table.

| ROWS | RESERVED_SPACE | DATA_SPACE | INDEX_SPACE | UNUSED_SPACE | PDW_NODE_ID | DISTRIBUTION_ID |
|---|---|---|---|---|---|---|
| 694 | 2776 | 616 | 48 | 2112 | 1 | 1 |
| 407 | 2704 | 576 | 48 | 2080 | 1 | 2 |
| 53 | 2376 | 512 | 16 | 1848 | 1 | 3 |
| 58 | 2376 | 512 | 16 | 1848 | 1 | 4 |
| 168 | 2632 | 528 | 32 | 2072 | 1 | 5 |
| 195 | 2696 | 536 | 32 | 2128 | 1 | 6 |
| 5995 | 3464 | 1424 | 32 | 2008 | 1 | 7 |
| 0 | 2232 | 49€ | 0 | 1736 | 1 | 8 |
| 264 | 2576 | 544 | 40 | 1992 | 1 | 9 |
| 3008 | 3016 | 960 | 32 | 2024 | 1 | 10 |
| ... | | ... | | | ... | ... |
| 1550 | 2832 | 752 | 48 | 2032 | 1 | 50 |
| 1238 | 2832 | 696 | 40 | 2096 | 1 | 51 |
| 192 | 2632 | 528 | 32 | 2072 | 1 | 52 |
| 1127 | 2768 | 680 | 48 | 2040 | 1 | 53 |
| 1244 | 3032 | 704 | 64 | 2264 | 1 | 54 |
| 409 | 2632 | 568 | 32 | 2032 | 1 | 55 |
| 0 | 2232 | 49€ | 0 | 1736 | 1 | 56 |
| 1437 | 2832 | 728 | 40 | 2064 | 1 | 57 |
| 0 | 2232 | 496 | 0 | 1736 | 1 | 58 |
| 384 | 2632 | 560 | 32 | 2040 | 1 | 59 |
| 225 | 2768 | 544 | 40 | 2184 | 1 | 60 |

Which statement accurately describes the dbo.FactInternetSales table?

A. The table contains less than 10,000 rows.

B. All distributions contain data.

C. The table uses round-robin distribution

D. The table is skewed.

Answer: D

Explanation:

The rows per distribution can vary up to 10% without a noticeable impact on performance. Here the distribution varies more than 10%. It is skewed.

Note: SHOWSPACEUSED displays the number of rows, disk space reserved, and disk space used for a specific table, or for all tables in a Azure Synapse Analytics or Parallel Data Warehouse database.

This is a very quick and simple way to see the number of table rows that are stored in each of the 60 distributions of your database. Remember that for the most balanced performance, the rows in your distributed table should be spread evenly across all the distributions.

ROUND_ROBIN distributed tables should not be skewed. Data is distributed evenly across the nodes by design.

Reference:

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

https://github.com/rgl/azure-content/blob/master/articles/sql-data-warehouse/sql-data-warehouse-manage-distributed-data-skew.md

Question: 153

You are designing a dimension table in an Azure Synapse Analytics dedicated SQL pool.

You need to create a surrogate key for the table. The solution must provide the fastest query performance.

What should you use for the surrogate key?

A. an IDENTITY column

B. a GUID column

C. a sequence object

Answer: A

Explanation:

Dedicated SQL pool supports many, but not all, of the table features offered by other databases.

Surrogate keys are not supported. Implement it with an Identity column.

Reference:

https://docs.microsoft.com/en-us/azure/synapse-analytics/sql-data-warehouse/sql-data-warehouse-tablesoverview

Question: 154

You are designing a star schema for a dataset that contains records of online orders. Each record includes an order date, an order due date, and an order ship date.

You need to ensure that the design provides the fastest query times of the records when querying for arbitrary date ranges and aggregating by fiscal calendar attributes.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. Create a date dimension table that has a DateTime key.
B. Create a date dimension table that has an integer key in the format of YYYYMMDD.
C. Use built-in SQL functions to extract date attributes.
D. Use integer columns for the date fields.
E. Use DateTime columns for the date fields.

Answer: BD

Explanation:

Reference:

https://community.idera.com/database-tools/blog/b/community_blog/posts/why-use-a-date- dimension-table-ina-data-warehouse

Question: 155

HOTSPOT

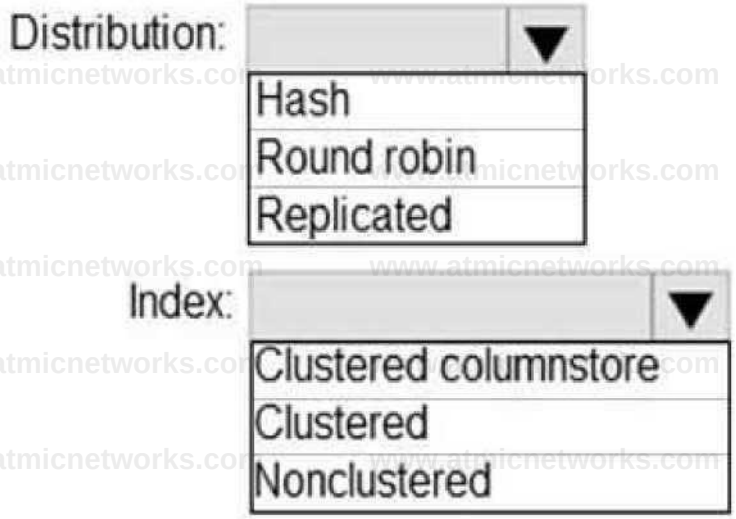
You are designing an enterprise data warehouse in Azure Synapse Analytics that will store website traffic analytics in a star schema.

You plan to have a fact table for website visits. The table will be approximately 5 GB.

You need to recommend which distribution type and index type to use for the table. The solution must provide the fastest query performance.

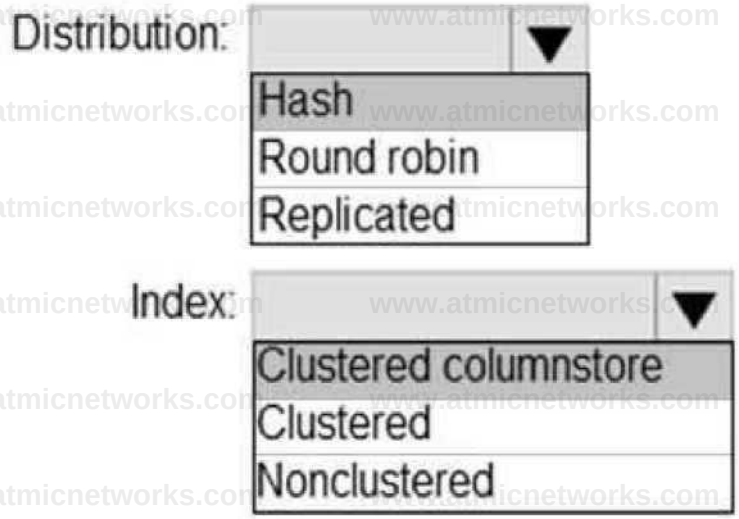
What should you recommend? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.




Answer:

Explanation:




Box 1: Hash

Consider using a hash-distributed table when:

The table size on disk is more than 2 GB.

The table has frequent insert, update, and delete operations.

Box 2: Clustered columnstore

Clustered columnstore tables offer both the highest level of data compression and the best overall query performance.

Reference:

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

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

Question: 156

You have an Azure Data Factory pipeline that is triggered hourly.

The pipeline has had 100% success for the past seven days.

The pipeline execution fails, and two retries that occur 15 minutes apart also fail. The third failure returns the following error.

```
ErrorCode=VserErrorFileNotFound,
'Type=Microso ft.DataTransfer.Common.Shared.HybridDeliveryExcept ion,Me ssage=ADLS
Gen2 operation failed for: Operation returned an invalid status code
'NotFound'. Account: 'contosoproduksouth' Filesystem: wwi.Path:
'BIKES/CARBON/year=2021/month=01/day=10/hour=06'. ErrorCode:
'PathNotFound'.Message: 'The specified path does not exist.'. Requestld:
'6d269b78-901f-001b-4924-e7a7bc00OOOO'. TimeStamp: 'Sun, 10 Jan 2021 07:45:05
```

What is a possible cause of the error?

A. From 06:00 to 07:00 on January 10, 2021, there was no data in wwi/BIKES/CARBON.

B. The parameter used to generate year=2021/month=01/day=10/hour=06 was incorrect.

C. From 06:00 to 07:00 on January 10, 2021, the file format of data in wwi/BIKES/CARBON was incorrect.

D. The pipeline was triggered too early.

Answer: B

Explanation:

Question: 157

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.EventHub

B. Microsoft.EventGrid

C. Microsoft.Sql

D. Microsoft.Automation

Answer: B

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

Question: 158
HOTSPOT

You have an Azure Data Factory instance named ADF1 and two Azure Synapse Analytics workspaces named WS1 and WS2.

ADF1 contains the following pipelines:

P1:Uses a copy activity to copy data from a nonpartitioned table in a dedicated SQL pool of WS1 to an Azure Data Lake Storage Gen2 account

P2:Uses a copy activity to copy data from text-delimited files in an Azure Data Lake Storage Gen2 account to a nonpartitioned table in a dedicated SQL pool of WS2

You need to configure P1 and P2 to maximize parallelism and performance.

Which dataset settings should you configure for the copy activity of each pipeline? To answer, select the appropriate options in the answer area.

P1: i

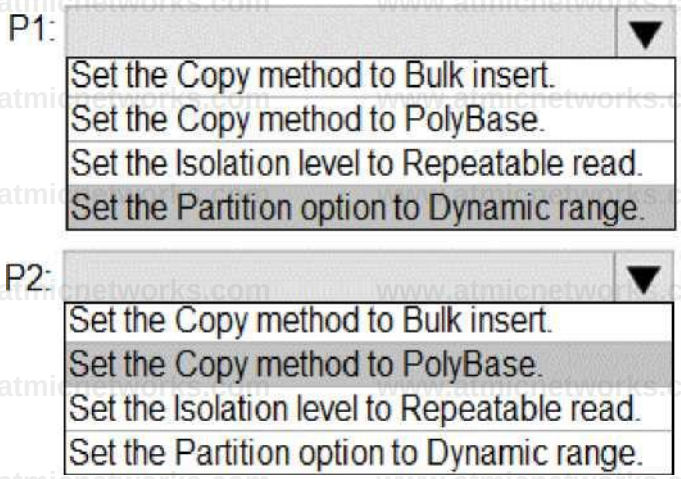
Set the Copy method to Bulk insert.
Set the Copy method to PolyBase.
Set the Isolation level to Repeatable read.
Set the Partition option to Dynamic range

-■2 _____]i

Set the Copy method to Bulk insert.
Set the Copy method to PolyBase.
Set the Isolation level to Repeatable read. Set the Partition option to Dynamic range.

Answer:

Explanation:




P1: Set the Partition option to Dynamic Range.
The SQL Server connector in copy activity provides built-in data partitioning to copy data in parallel.

P2: Set the Copy method to PolyBase

Polybase is the most efficient way to move data into Azure Synapse Analytics. Use the staging blob feature to achieve high load speeds from all types of data stores, including Azure Blob storage and Data Lake Store. (Polybase supports Azure Blob storage and Azure Data Lake Store by default.)

Reference:

https://docs.microsoft.com/en-us/azure/data-factory/connector-azure-sql-data-warehouse

https://docs.microsoft.com/en-us/azure/data-factory/load-azure-sql-data-warehouse

## Question: 159

You have the following Azure Data Factory pipelines:

Ingest Data from System1

Ingest Data from System2

Populate Dimensions

Populate Facts

Ingest Data from System1 and Ingest Data from System2 have no dependencies. Populate Dimensions must execute after Ingest Data from System1 and Ingest Data from System2. Populate Facts must execute after the

Populate Dimensions pipeline. All the pipelines must execute every eight hours.

What should you do to schedule the pipelines for execution?

A. Add a schedule trigger to all four pipelines.

B. Add an event trigger to all four pipelines.

C. Create a parent pipeline that contains the four pipelines and use an event trigger.

D. Create a parent pipeline that contains the four pipelines and use a schedule trigger.

Answer: D

Explanation:

Reference:

https://www.mssqltips.com/sqlservertip/6137/azure-data-factory-control-flow-activities-overview/

Question: 160

You have an Azure Data Factory pipeline that performs an incremental load of source data to an Azure Data Lake Storage Gen2 account.

Data to be loaded is identified by a column named LastUpdatedDate in the source table.

You plan to execute the pipeline every four hours.

You need to ensure that the pipeline execution meets the following requirements:

Automatically retries the execution when the pipeline run fails due to concurrency or throttling limits.

Supports backfilling existing data in the table.

Which type of trigger should you use?

A. tumbling window

B. on-demand

C. event

D. schedule

Answer: A

Explanation:

The Tumbling window trigger supports backfill scenarios. Pipeline runs can be scheduled for windows in the past.

Reference:

https://docs.microsoft.com/en-us/azure/data-factory/concepts-pipeline-execution-triggers

Question: 161

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. an annotation

B. a resource tag

C. a run group ID

D. a user property

E. a correlation ID

Answer: A

Explanation:

Azure Data Factory annotations help you easily filter different Azure Data Factory objects based on a tag. You can define tags so you can see their performance or find errors faster.

Reference:

https://www.techtalkcorner.com/monitor-azure-data-factory-annotations/

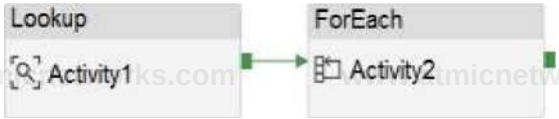
Question: 162

HOTSPOT

You have an Azure data factory that has two pipelines named PipelineA and PipelineB.

PipelineA has four activities as shown in the following exhibit.

PipelineB has two activities as shown in the following exhibit.




You create an alert for the data factory that uses Failed pipeline runs metrics for both pipelines and all failure types. The metric has the following settings:

Operator: Greater than

Aggregation type: Total

Threshold value: 2

Aggregation granularity (Period): 5 minutes

Frequency of evaluation: Every 5 minutes

Data Factory monitoring records the failures shown in the following table.

| Pipeline | Activity | Time |
|---|---|---|
| PipelineA | Activityl | 31-Jan-202010 44 00 |
| PipelineA | Activity3 | 31-Jan-202010:47:00 |
| PipelineB | Activityl | 31-Jan-202010 50 00 |

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 |
|---|---|---|
| An alert notification was sent after the failure of Activityl in PipelineA. | O | O |
| An alert notification was sent after the failure of Activity3 in PipelineA | 0 | O |
| An alert notification was sent after the failure of Activityl in PipelineB. | O | O |

Answer:

Explanation:

| Statements | yes | No |
|---|---|---|
| An alert notification was sent after the failure of Activityl in PipelineA. | O | |
| An alert notification was sent after the failure of Activity3 in PipelineA. | O | |
| An alert notification was sent after the failure of Activityl in PipelineB. | O | O |

Box 1: No

Just one failure within the 5-minute interval.

Box 2: No

Just two failures within the 5-minute interval.

Box 3: No

Just two failures within the 5-minute interval.

Reference:

https://docs.microsoft.com/en-us/azure/azure-monitor/alerts/alerts-metric-overview

Question: 163

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 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,5 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

Question: 164

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 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 schedule an Azure Databricks job that executes an R notebook, and then inserts the data into the data warehouse.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Must use an Azure Data Factory, not an Azure Databricks job.

Reference:

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

Question: 165

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 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 an Azure Databricks notebook, and then inserts the data into the data warehouse.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Question: 166

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 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 copies the data to a staging table in the data warehouse, and then uses a stored procedure to execute the R script.

Does this meet the goal?

A. Yes

B. No

Answer: A

Explanation:

If you need to transform data in a way that is not supported by Data Factory, you can create a custom activity 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

Question: 167
HOTSPOT

You have an Azure Data Lake Storage Gen2 account named account1 that stores logs as shown in the following table.

| Type | Designated retention period |
|---|---|
| Application | 360 days |
| Infrastructure | 60 days |

You do not expect that the logs will be accessed during the retention periods.

You need to recommend a solution for account1 that meets the following requirements:

Automatically deletes the logs at the end of each retention period

Minimizes storage costs

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 nwrwrmze storage costs _____

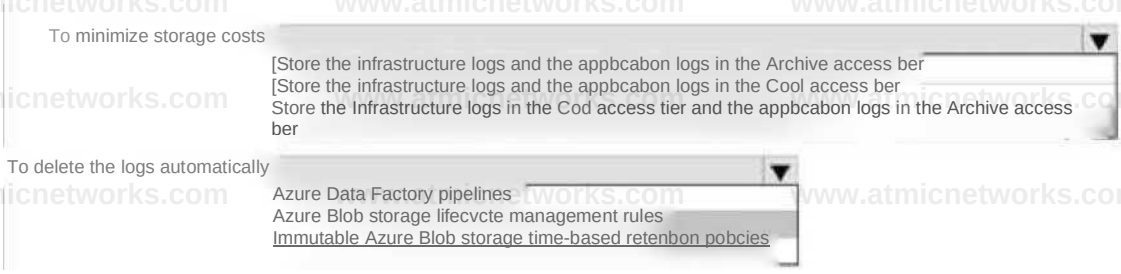
Store the infrastructure togs and the application Jogs in the Archive access tier Store the infrastructure togs and the application logs in the Cool access ber Store 1he infrastructure togs in the Cool access ber and the appbcabon logs in lhe Archive access tier

To delete the logs automatically v

Azure Data Factory pipelines Azure Blob storage lifecycle management rules Immutable Azure Blob storage fane-based retention policies

Answer:

Explanation:




Box 1: Store the infrastructure logs in the Cool access tier the application logs in the Archive access tier

Hot - Optimized for storing data that is accessed frequently.

Cool - Optimized for storing data that is infrequently accessed and stored for at least 30 days.

Archive - Optimized for storing data that is rarely accessed and stored for at least 180 days with flexible latency requirements, on the order of hours.

Box 2: Azure Blob storage lifecycle management rules

Blob storage lifecycle management offers a rich, rule-based policy that you can use to transition your data to the best access tier and to expire data at the end of its lifecycle.

Reference:

https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers

Question: 168

HOTSPOT

You have an Azure Data Lake Storage Gen2 container.

Data is ingested into the container, and then transformed by a data integration application. The data is NOT modified after that. Users can read files in the container but cannot modify the files.

You need to design a data archiving solution that meets the following requirements:

New data is accessed frequently and must be available as quickly as possible.

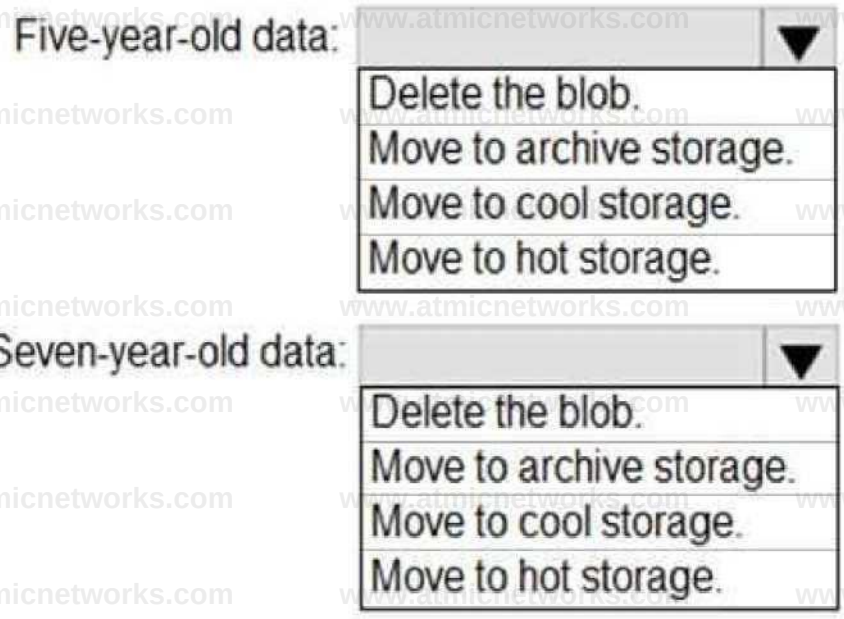
Data that is older than five years is accessed infrequently but must be available within one second when requested.

Data that us older than seven years is NOT accessed. After seven years, the data must be persisted at the lowest cost possible.

Costs must be minimized while maintaining the required availability.

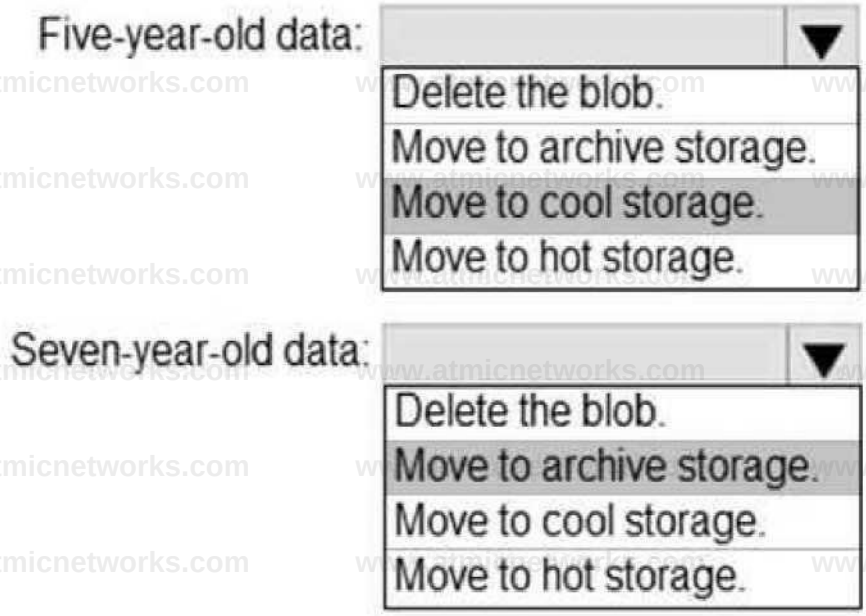
How should you manage the data? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.




Answer:

Explanation:




Box 1: Move to cool storage

The cool access tier has lower storage costs and higher access costs compared to hot storage. This tier is intended for data that will remain in the cool tier for at least 30 days. Example usage scenarios for the cool access tier include:

Short-term backup and disaster recovery

Older data not used frequently but expected to be available immediately when accessed

Large data sets that need to be stored cost effectively, while more data is being gathered for future processing

Note: Hot - Optimized for storing data that is accessed frequently.

Cool - Optimized for storing data that is infrequently accessed and stored for at least 30 days.

Archive - Optimized for storing data that is rarely accessed and stored for at least 180 days with flexible latency requirements, on the order of hours.

Box 2: Move to archive storage

Example usage scenarios for the archive access tier include:

Long-term backup, secondary backup, and archival datasets

Original (raw) data that must be preserved, even after it has been processed into final usable form

Compliance and archival data that needs to be stored for a long time and is hardly ever accessed

Reference:

https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers

Question: 169

You plan to perform batch processing in Azure Databricks once daily.

Which type of Databricks cluster should you use?

A. automated

B. interactive

C. High Concurrency

Answer: A

Explanation:

Azure Databricks makes a distinction between all-purpose clusters and job clusters. You use allpurpose clusters to analyze data collaboratively using interactive notebooks. You use job clusters to run fast and robust automated jobs.

The Azure Databricks job scheduler creates a job cluster when you run a job on a new job cluster and terminates the cluster when the job is complete.

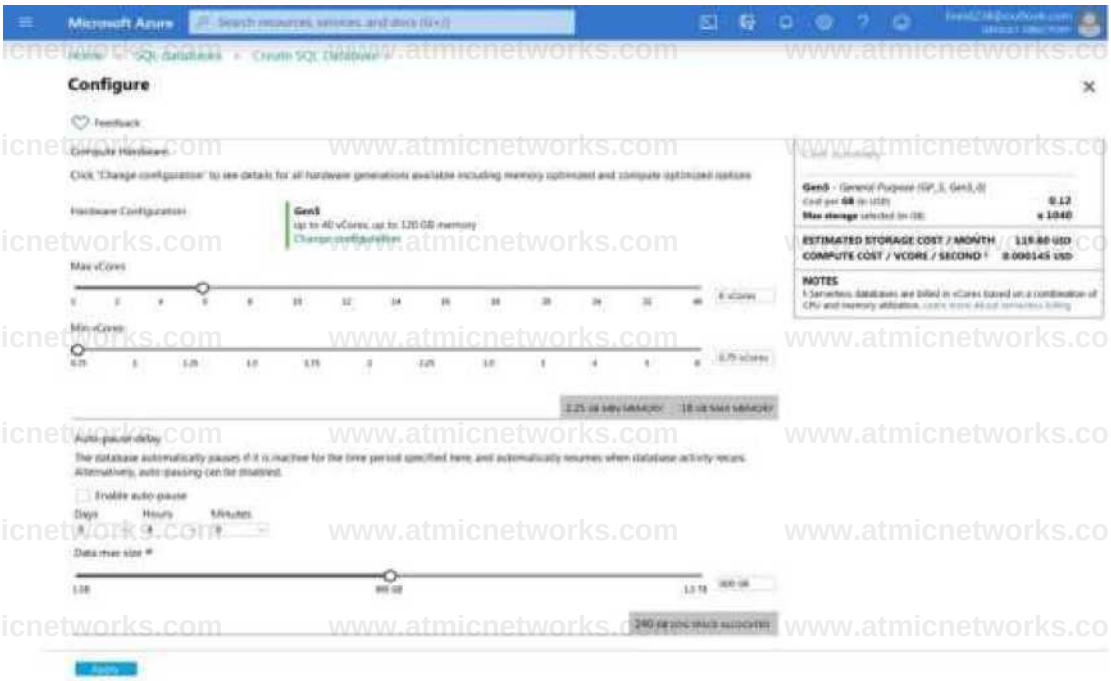
Reference:

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

Question: 170

HOTSPOT

You are provisioning an Azure SQL database in the Azure portal as shown in the following exhibit.




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

NOTE: Each correct selection is worth one point.

After four hours of inactivity, the database requires **[answer choice]** to resume operations for new activities

- no extra time
- up to 10 minutes
- up to one minute

The database configuration reduces the cost of **[answer choice]** usage patterns

- intermittent and unpredictable
- regular and high
- steady and low

Answer:

Explanation:

After four hours of inactivity, the database requires **[answer choice]** to resume operations for new activities.

- no extra time
- up to 10 minutes
- up to one minute

The database configuration reduces the cost of **[answer choice]** usage patterns.

- intermittent and unpredictable
- regular and high
- steady and low

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/serverless-tier-overview

## Question: 171

You plan to deploy an app that includes an Azure SQL database and an Azure web app. The app has the following requirements:

The web app must be hosted on an Azure virtual network.

The Azure SQL database must be assigned a private IP address.

The Azure SQL database must allow connections only from the virtual network.

You need to recommend a solution that meets the requirements.

What should you include in the recommendation?

A. Azure Private Link

B. a network security group (NSG)

C. a database-level firewall

D. a server-level firewall

Answer: A

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/private-endpoint-overview

## Question: 172

You are planning a solution that will use Azure SQL Database. Usage of the solution will peak from October 1 to January 1 each year.

During peak usage, the database will require the following:

24 cores

500 GB of storage

124 GB of memory

More than 50,000 IOPS

During periods of off-peak usage, the service tier of Azure SQL Database will be set to Standard.
Which service tier should you use during peak usage?

A. Business Critical
B. Premium
C. Hyperscale

Answer: A

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/resource-limits-vcore-single-databases#business-critical---provisioned-compute---gen4

Question: 173

HOTSPOT

You have an Azure subscription.

You need to deploy an Azure SQL resource that will support cross database queries by using an Azure Resource Manager (ARM) template.

How should you complete the ARM template? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

'resources*i [

"type": _____ 2

Microsoft Sqt'servers
Microsoft SqLservers'databases
Microsoft SqlmanagedInsiances

'name": '[parameters;'targetHame' >]"» "location*i '[parameterst'location')]", 'sku': {
'Mae*: '[par.meters!'skiAame')]*

'OependsOn": (

[parameters'largetName jf.

[parameters! wtualNetwortcName )f
I '[variables! networkSecurityGroupMarne)]'

"properties": (
"adeiinistratonogln'i *(parMeters('ad»i»iistratoriogln'))',
"adnlnlstratorloginPassuord'1 '[parameters! 'admlnistratarlogln Pnssuord' )J",
"suboetld": "[resoureeld('i1icrosef t .iSetworVvlrtualHetworks/subnets', parameters('vlrtualNetuortfiame'), parameters(' virtualHetuorMrame I,
parameters!'sutnetNane'))]".
'storageSiulnW': '[parameters(' storageslielnW )J',*Korea": "[parameters! 'vCores')]',
"licensetype": '[parameters! "liceeiseType*JJ*

Answer:

Explanation:

"resources": [

_____ 2
Microsoft Sqt'servers
Microsoft Sqtserversldalabases
Microsoft SqtTnariagedlnstances

"neat*: '[parameters("targetWame")]', 'location': '[parameters('location')]', 'Stat (
"na«e": "[p*rMKter&('skuHaew') ]"
• e •
"dependsOn": [

'|parameter$( targetName')]'
[parameters! wtuafhetworkHame')]'
, '[variables! networkSectnlvGroupName')]'
"properties": (
"adeinistratorlogin': '[parameters!'adainistratorlogin')]',
"adainistratcrLoglnPassnord"] "(parameters{'administratorLogirePastMord*)]"♦
"subnet Id ": " [ resourceld ' 'Microsoft .Network/virtualNetworics/subnets', parameters^ ' virtue 1 Ne tworkNase*)
para«e*ers( 'virtuelNetMorkNaiae')» para«eterj('suboetName' ))]*#
Mstora<eSiieInG6H: M[parMeters(*storeieSi£ftlnGl*)]*#MvCores*: "(paraaetersf'vttres*)l*4
'lUenjeType*: M(pa<aweters( *liceni«Type')]"

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/managed-instance/create-template-quickstart?tabs=azure-powershell

Question: 174
HOTSPOT

You have the following Azure Resource Manager template.

"variable": {
"serverName": "azsqldbserverOOOl"

```
"resources": [ (
    "name": "[variables( 'serverName') j", "type": "Microsoft.Sql/servers", "apiVersion": "2019-06-01-preview", "location": "(parameters
    ('location')]", "properties": {
        "administratorLogin": "[parameters('administratorLogin*)]", "administratorLoginPassword":
    "[parameters('administratorLoginPassword'>]", "version": "12.0" }, "resources": [ {
        "name": "(concat (variables( 'serverName'),'/'.parameters('databaseName'))1 "type": "Microsoft.Sql/servers/databases",
        "apiVersion": "2020-08-01-preview", "location": "(parameters('location' )]", "kind": "vl2.0" "sku": {
            "name": "Standard", "tier":
            "Standard", "capacity": 10

        "dependsOn": ( "(concat('Microsoft.Sql/servers/*, variables('serverName'))]" ], "properties": { b "resources": [ 1

    J
```

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 template deploys a serverless Azure SQL database. | O | O |
| The template deploys adatabase to an Azure SQL Database managed instance. | o | O |
| The pricing tier of the database deployment is based on DTUs | 0 | O |

Answer:

Explanation:

| Statements | Yes | No |
|---|---|---|
| The template deploys a serverless Azure SQL database | O | O |
| The template deploys a database to an Azure SQL Database managed instance | o | O |
| The pncing tier of the database deployment is based on DTUs | O | O |

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/purchasing-models

https://docs.microsoft.com/en-us/azure/azure-sql/database/single-database-create-arm-template-quickstart

Question: 175
HOTSPOT

You have an on-premises Microsoft SQL Server 2019 instance that hosts a database named DB1.
You plan to perform an online migration of DB1 to an Azure SQL managed instance by using the Azure Database Migration Service.
You need to create a backup of DB1 that is accessible to the Azure Database Migration Service.
What should you run for the backup and where should you store the backup? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Run

A full backup and a log backup appended Io the same file by using the WITH CHECKSUM option
A full backup and a log backup to separate files by using the WITH CHECKSUM option
A full backup and a log backup to separate files by using (he WITH F1LE_SNAPSHOT option

Store the backup in

A Recovery Services vault
An Azure Blob storage account An SMB file share

Answer:

Explanation:

Run ▼

A full backup and a log backup appended to the same file by using the WITH CHECKSUM option A full backup and a log backup to separate files by using the WITH CHECKSUM option A full backup and a log backup to separate files by using the WITH FIE_SNAPSHOT option

Store the backup in

A Recovery Services vauk An Azure Blob storage account
An SMB file share

Reference:

https://docs.microsoft.com/en-us/azure/dms/tutorial-sql-server-managed-instance-online

Question: 176

You have an Azure subscription that contains a server named Server1. Server1 hosts two Azure SQL databases named DB1 and DB2.

You plan to deploy a Windows app named App1 that will authenticate to DB2 by using SQL authentication.

You need to ensure that App1 can access DB2. The solution must meet the following requirements:

App1 must be able to view only DB2.

Administrative effort must be minimized.

What should you create?

A. a contained database user for App1 on DB2

B. a login for App1 on Server1

C. a contained database user from an external provider for App1 on DB2

D. a contained database user from a Windows login for App1 on DB2

Answer: D

Explanation:

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/security/contained-database-users- making-your-database-portable?view=sql-server-ver15

Question: 177

You create five Azure SQL Database instances on the same logical server.

In each database, you create a user for an Azure Active Directory (Azure AD) user named User1.

User1 attempts to connect to the logical server by using Azure Data Studio and receives a login error.

You need to ensure that when User1 connects to the logical server by using Azure Data Studio, User1 can see all the databases.

What should you do?

A. Create User1 in the master database.

B. Assign User1 the db_datareader role for the master database.

C. Assign User1 the db_datareader role for the databases that Userl creates.

D. Grant select on sys.databases to public in the master database.

Answer: A

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/logins-create-manage

Question: 178
DRAG DROP

You have an Azure SQL managed instance named SQLMI1 that has Resource Governor enabled and is used by two apps named App1 and App2.

You need to configure SQLMI1 to limit the CPU and memory resources that can be allocated to App1.

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.

| Actions | Answer Area |
|---|---|
| Create a workload group. | |
| Create a user-defined classifier function. | |
| Modify Resource Governor. | |
| Create a contained database user. | |
| Create a resource pool. | |

Answer:

Explanation:

Create a resource pool

Create a workload group

Create a user-defined classifier function

Modify Resource Governor

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/resource-governor/resource-governor?view=sql-server-ver15

https://docs.microsoft.com/en-us/sql/relational-databases/resource-governor/create-and-test-a- classifier-user-defined-function?view=sql-server-ver15

Question: 179

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 have SQL Server 2019 on an Azure virtual machine.

You are troubleshooting performance issues for a query in a SQL Server instance.

To gather more information, you query sys.dm_exec_requests and discover that the wait type is PAGELATCH_UP and the wait_resource is 2:3:905856.

You need to improve system performance.

Solution: You shrink the transaction log file.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Reference:

https://docs.microsoft.com/en-US/troubleshoot/sql/performance/recommendations-reduce- allocation-contention

Question: 180

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 have SQL Server 2019 on an Azure virtual machine.

You are troubleshooting performance issues for a query in a SQL Server instance.

To gather more information, you query sys.dm_exec_requests and discover that the wait type is PAGELATCH_UP and the wait_resource is 2:3:905856.

You need to improve system performance.

Solution: You change the data file for the master database to autogrow by 10 percent.

Does this meet the goal?

A. Yes

B. No

Answer: B

Explanation:

Reference:

https://docs.microsoft.com/en-US/troubleshoot/sql/performance/recommendations-reduce- allocation-contention

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## Question: 181

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 have SQL Server 2019 on an Azure virtual machine.

You are troubleshooting performance issues for a query in a SQL Server instance.
To gather more information, you query sys.dm_exec_requests and discover that the wait type is PAGELATCH_UP and the wait_resource is 2:3:905856.

You need to improve system performance.
Solution: You reduce the use of table variables and temporary tables.
Does this meet the goal?

A. Yes
B. No

Answer: A

Explanation:

Reference:

https://docs.microsoft.com/en-US/troubleshoot/sql/performance/recommendations-reduce- allocation-contention

## Question: 182

You have an Azure SQL database named db1 on a server named server1.

You need to modify the MAXDOP settings for db1.

What should you do?

A. Connect to db1 and run the sp_configure command.
B. Connect to the master database of server1 and run the sp_configure command.
C. Configure the extended properties of db1.
D. Modify of db1.

Answer: D

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/configure-max-degree-of-parallelism

www.atmicnetworks.com

Question: 183

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 have SQL Server 2019 on an Azure virtual machine.
You are troubleshooting performance issues for a query in a SQL Server instance.
To gather more information, you query sys.dm_exec_requests and discover that the wait type is PAGELATCH_UP and the wait_resource is 2:3:905856.

You need to improve system performance.

Solution: You create additional tempdb files.

Does this meet the goal?

A. Yes

B. No

Answer: A

Explanation:

Reference:

https://docs.microsoft.com/en-US/troubleshoot/sql/performance/recommendations-reduce- allocation-contention

Question: 184

You have SQL Server on an Azure virtual machine.

You need to add a 4-TB volume that meets the following requirements:
Maximizes IOPs
Uses premium solid state drives (SSDs)

What should you do?

A. Attach two mirrored 4-TB SSDs.

B. Attach a stripe set that contains four 1-TB SSDs.

C. Attach a RAID-5 array that contains five 1-TB SSDs.

D. Attach a single 4-TB SSD.

Answer: B

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/virtual-machines/windows/storage-configuration?tabs=windows2016

Question: 185

You have an Azure SQL database named db1 on a server named server1.

The Intelligent Insights diagnostics log identifies that several tables are missing indexes.

You need to ensure that indexes are created for the tables.

What should you do?

A. RuntheDBCC SQLPERF command.

B. Run the dbcc dbreindex command.

C. Modify the automatic tuning settings for db1.

D. Modify the Query Store settings for db1.

Answer: C

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/automatic-tuning-overview

Question: 186

You have an Azure SQL managed instance named SQL1 and two Azure web apps named App1 and App2.

You need to limit the number of IOPs that App2 queries generate on SQL1.

Which two actions should you perform on SQL1? Each correct answer presents part of the solution.
NOTE: Each correct selection is worth one point.

A. Enable query optimizer fixes.
B. Enable Resource Governor.
C. Enable parameter sniffing.
D. Create a workload group.
E. Configure In-memory OLTP.
F. Run the Database Engine Tuning Advisor.
G. Reduce the Max Degree of Parallelism value.

Answer: B, D

Explanation:

Reference:

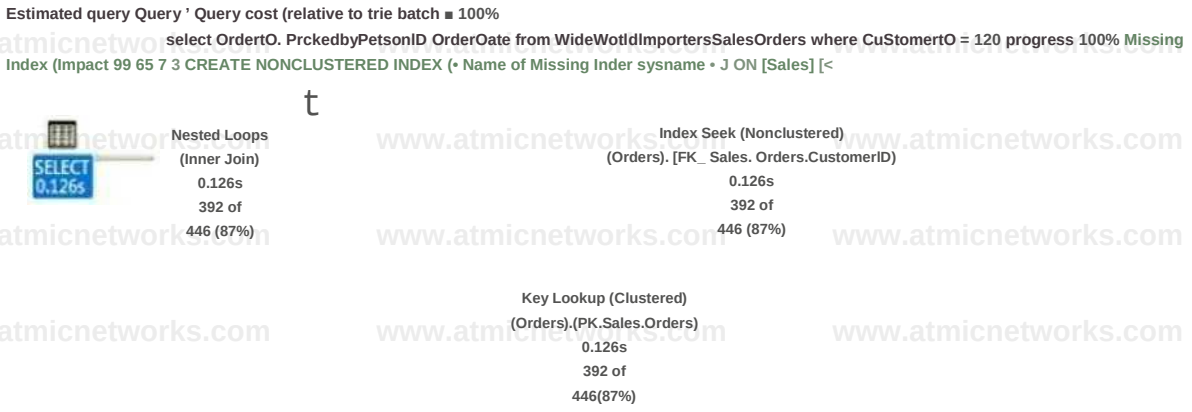
https://docs.microsoft.com/en-us/sql/relational-databases/resource-governor/resource-governor?view=sql-server-ver15

## Question: 187

HOTSPOT

You have an Azure SQL database.

You are reviewing a slow performing query as shown in the following exhibit.




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

NOTE: Each correct selection is worth one point.

The exhibit shows **[answer choice]**.

- an actual execution plan
- an estimated execution plan
- Live Query Statistics

The **[answer choice]** operator in the execution plan indicates that the query would benefit from performance tuning.

- Index Seek
- Key Lookup
- Nested Loops

Answer:

Explanation:

The exhibit shows **[answer choice]** ,

an actual execution plan an estimated execution plan Live Query Statistics

The **[answer choice]** operator in the execution plan that the query would benefit from performance tuning

- Index Seek
- Key Lookup
- Nested Loops

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/performance/live-query- statistics?view=sql-server-ver15

Question: 188

You have an Azure SQL managed instance.

You need to gather the last execution of a query plan and its runtime statistics. The solution must minimize the impact on currently running queries.

What should you do?

A. Generate an estimated execution plan.

B. Generate an actual execution plan.

C. Run sys.dm_exec_query_plan_stats.

D. Generate Live Query Statistics.

Answer: C

Explanation:

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/system-dynamic-management- views/sys-dm-exec-query-plan-stats-transact-sql?view=sql-server-ver15

Question: 189

HOTSPOT

You have an Azure SQL database named db1 on a server named server1.

You use Query Performance Insight to monitor db1.

You need to modify the Query Store configuration to ensure that performance monitoring data is available as soon as possible.

Which configuration setting should you modify and which value should you configure? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Configuration setting: ▼

DATA_FLUSHJNTERVAL_SECONDS

INTERVAL_LENGTH_MINUTES MAX PLANS

PER_QUERY QUERY CAPTURE MODE

Value: ▼

1

60

CUSTOM ON

Answer:

Explanation:

Configuration setting: ▼

DATATLUSHJNTERVAL SECONDS

INTERVAL_LENGTH_MINUTES

MAX_PLANS_PER_QUERY QUERY CAPTURE MODE

Value: ▼

| |
|---|
| 1 |
| 60 |
| CUSTOM |
| ON |

Question: 190

You have an Azure SQL Database managed instance.
The instance starts experiencing performance issues.
You need to identify which query is causing the issue and retrieve the execution plan for the query.
The solution must minimize administrative effort.
What should you use?

A. the Azure portal

B. Extended Events

C. Query Store

D. dynamic management views

Answer: D

Explanation:

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/performance/monitoring-performance- by-using-the-query-store?view=sql-server-ver15

Question: 191

You have an Azure SQL database named DB1.

You need to display the estimated execution plan of a query by using the query editor in the Azure portal.

What should you do first?

A. Run the set showplan_all Transact-SQL statement.
B. For DB1, set QUERY_CAPTURE_MODE of Query Store to All.
C. Run the set forceplan Transact-SQL statement.
D. Enable Query Store for DB1.

Answer: A

Explanation:

Reference:

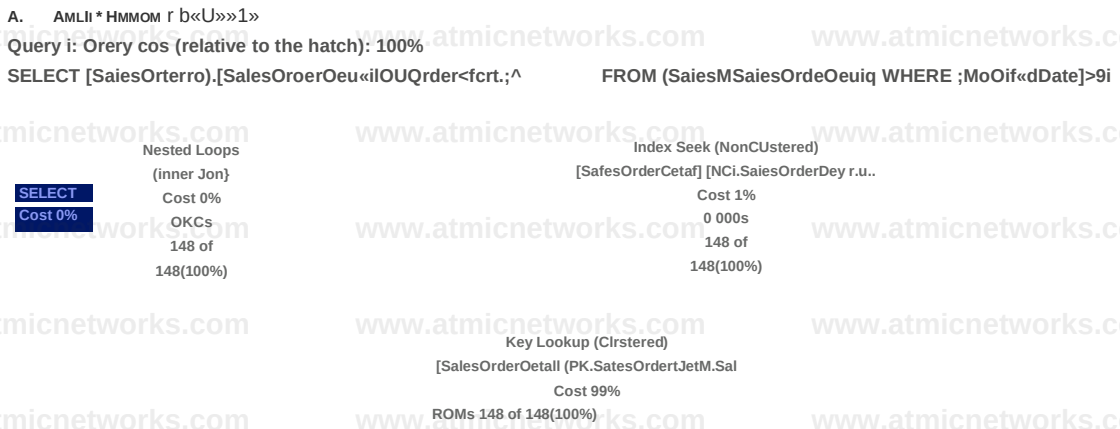
https://docs.microsoft.com/en-us/sql/t-sql/statements/set-showplan-all-transact-sql?view=sql- server-ver15

Question: 192

HOTSPOT

You have an Azure SQL database.

You have a query and the associated execution plan as shown in the following exhibit.




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

NOTE: Each correct selection is worth one point.

The performance issue stems from the [answer choice]

Select
Index Seek
Key Lookup
Nested Loops

The performance issue can be resolved by adding include columns to the [answer choice]

heap
clustered index
nonclustered index

Answer:

Explanation:

The performance issue stems from the [answer choice] operator ▼

Select
Index Seek
Key Lookup

Nested Loops

The performance issue can be resolved by adding include columns to the [answer choice]

heap
clustered index
nonclustered index

Box 1: Key Lookup

The Key Lookup cost is 99% so that is the performance bottleneck.

Box 2: nonclustered index

The key lookup on the clustered index is used because the nonclustered index does not include the required columns to resolve the query. If you add the required columns to the nonclustered index, the key lookup will not be required.

Question: 193

DRAG DROP

You have an Azure subscription that contains an Azure SQL managed instance named SQLMi1 and a SQL Agent job named Backupdb. Backupdb performs a daily backup of the databases hosted on SQLMi1.

You need to be notified by email if the job fails.

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**

Create a SQL Server Agent alert.

**Answer Area**

Create an operator

Create an extended event

Enable Database Mail.

Add a failure notification to the job

Answer:

Explanation:

Enable Database Mail.

Create an operator.

Add a failure notification to the job.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/managed-instance/job-automation-managed-instance

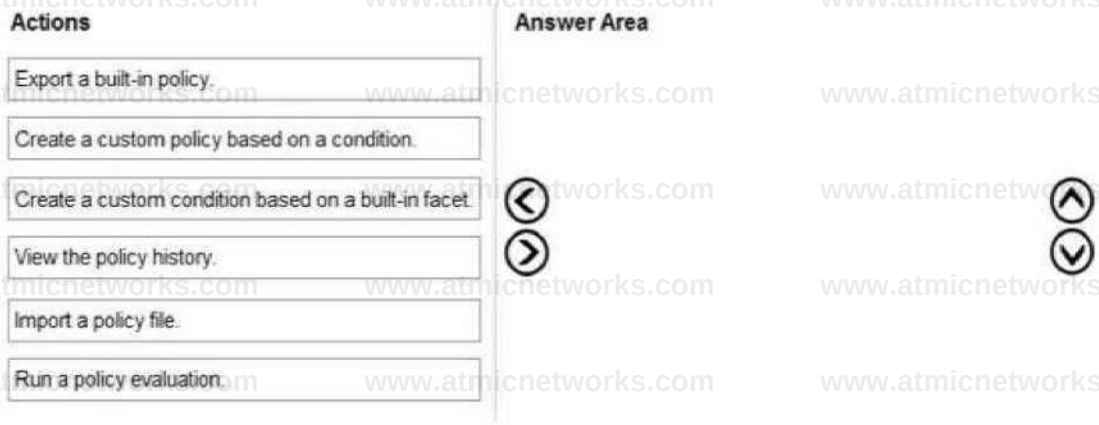
Question: 194

DRAG DROP

You have SQL Server on an Azure virtual machine.

You need to use Policy-Based Management in Microsoft SQL Server to identify stored procedures that do not comply with your naming conventions.

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.




Answer:

Explanation:

Create a custom condition based on a built-in facet
Create a custom policy based on a condition
Run a policy evaluation

Reference:

https://www.mssqltips.com/sqlservertip/2298/enforce-sql-server-database-naming-conventions- using-policy-based-management/

Question: 195

You have an Azure SQL managed instance named SQLMI1 that hosts 10 databases.
You need to implement alerts by using Azure Monitor. The solution must meet the following requirements:
Minimize costs.
Aggregate Intelligent Insights telemetry from each database.
What should you do?

A. From the Diagnostic settings of each database, select Send to Log Analytics.

B. From the Diagnostic settings of each database,select Stream to an event hub.

C. From the Diagnostic settings of SQLMI1. select Send to Log Analytics.

D. From the Diagnostic settings of SQLMI1. select Stream to an event hub.

Answer: A

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/metrics-diagnostic-telemetry-logging-streaming-export-configure?tabs=azure-portal#configure-the-streaming-export-of-diagnostic- telemetry

Question: 196

You have an Azure SQL managed instance that hosts multiple databases.

You need to configure alerts for each database based on the diagnostics telemetry of the database.
What should you use?

A. Azure SQL Analytics alerts based on metrics
B. SQL Health Check alerts based on diagnostics logs
C. SQL Health Check alerts based on metrics
D. Azure SQL Analytics alerts based on diagnostics logs

Answer: D

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/metrics-diagnostic-telemetry-logging-streaming-export-configure?tabs=azure-portal#configure-the-streaming-export-of-diagnostic- telemetry

Question: 197

You have an Azure subscription that uses a domain named contoso.com.

You have two Azure VMs named DBServer1 and DBServer2. Each of them hosts a default SQL Server instance.

DBServer1 is in the East US Azure region and contains a database named DatabaseA. DBServer2 is in the West US Azure region.

DBServer1 has a high volume of data changes and low latency requirements for data writes.
You need to configure a new availability group for DatabaseA. The secondary replica will reside on DBServer2.

What should you do?

A. Configure the primary endpoint as TCP://DBServer1.contoso.com:445, configure the secondary endpoint as TCP://DBServer2.contoso.com:445, and set the availability mode to Asynchronous.

B. Configure the primary endpoint as TCP://DBServer1.contoso.com:445, configure the secondary endpoint as TCP://DBServer2.contoso.com:445, and set the availability mode to Synchronous.

C. Configure the primary endpoint as TCP://DBServer1.contoso.com:5022, configure the secondary endpoint as TCP://DBServer2.contoso.com:5022, and set the availability mode to Asynchronous.

D. Configure the primary endpoint as TCP://DBServer1.contoso.com:5022, configure the secondary endpoint as TCP://DBServer2.contoso.com:5022, and set the availability mode to Synchronous.

Answer: C

Explanation:

Reference:

https://docs.microsoft.com/en-us/sql/database-engine/availability-groups/windows/availability- modes-always-on-availability-groups?view=sql-server-ver15

Question: 198

You have an on-premises multi-tier application named App1 that includes a web tier, an application tier, and a Microsoft SQL Server tier. All the tiers run on Hyper-V virtual machines.

Your new disaster recovery plan requires that all business-critical applications can be recovered to Azure.

You need to recommend a solution to fail over the database tier of App1 to Azure. The solution must provide the ability to test failover to Azure without affecting the current environment.

What should you include in the recommendation?

A. Azure Backup

B. Azure Information Protection

C. Windows Server Failover Cluster

D. Azure Site Recovery

Answer: D

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/site-recovery/site-recovery-test-failover-to-azure

Question: 199
HOTSPOT

You have two Azure virtual machines named VM1 and VM2 that run Windows Server 2019. VM1 and VM2 each host a default Microsoft SQL Server 2019 instance. VM1 contains a database named DB1 that is backed up to a file named D:\DB1.bak.

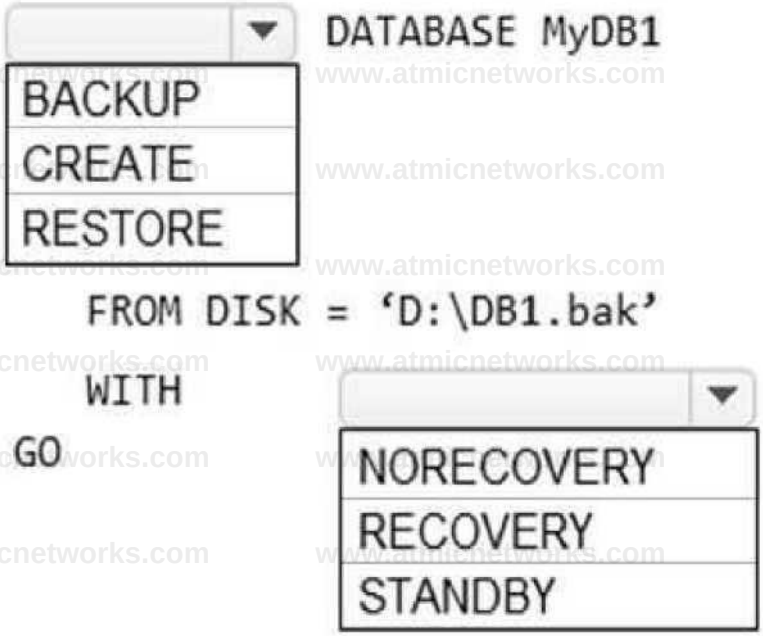
You plan to deploy an Always On availability group that will have the following configurations:

VM1 will host the primary replica of DB1.

VM2 will host a secondary replica of DB1.

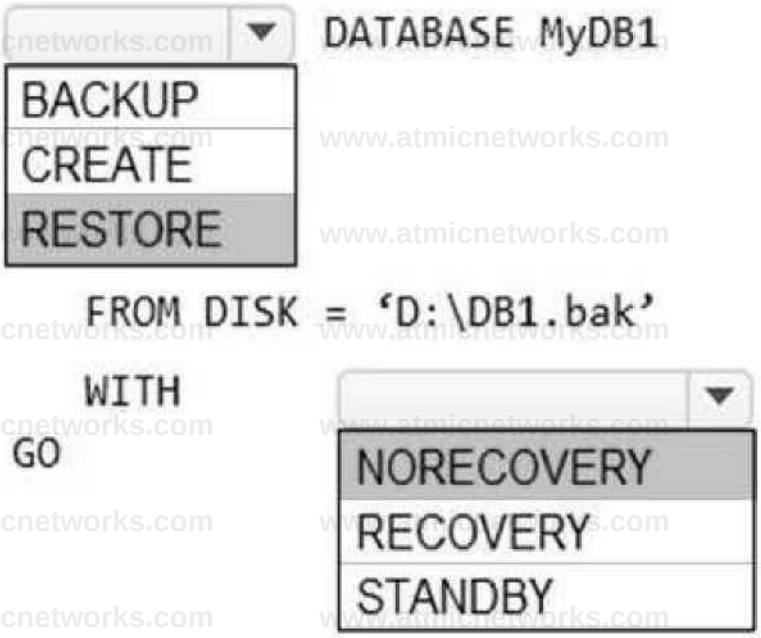
You need to prepare the secondary database on VM2 for the availability group.

How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.




Answer:

Explanation:




Reference:

https://docs.microsoft.com/en-us/sql/database-engine/availability-groups/windows/manually-

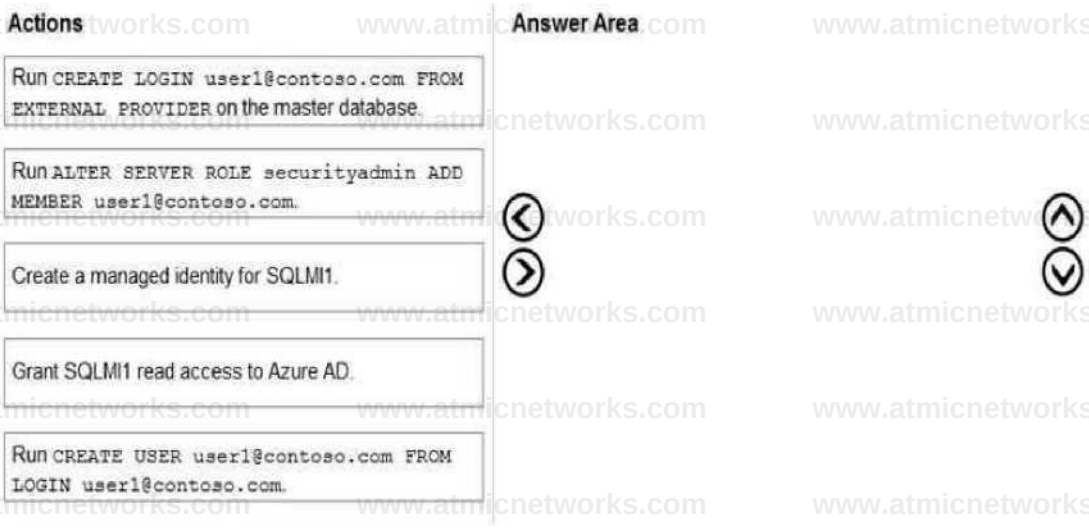
prepare-a-secondary-database-for-an-availability-group-sql-server?view=sql-server-ver15

Question: 200
DRAG DROP

You have an Azure Active Directory (Azure AD) tenant named contoso.com that contains a user named user1@contoso.com and an Azure SQL managed instance named SQLMI1.

You need to ensure that user1@contoso.com can create logins in SQLMI1 that map to Azure AD service principals.

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.



Answer:

Explanation:

Grant SQLMI1 read access to Azure AD

Run `CREATE LOGIN userl8contoao.com FROM` EXTERNAL PROVIDER on the master database

**Run `ALTER SERVER ROLE securityadmin ADD | MEMBER userlgcontoso.com.`**

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/managed-instance/aad-security-configure-tutorial

Question: 201

HOTSPOT

You have an Azure subscription.

You plan to deploy an Azure SQL database by using an Azure Resource Manager template.

How should you complete the template? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

```
"resources": [

    "type":
```

'Microsoft SqVservers*

'Microsoft SqlVirtualMachinesj'sqlVirtualMa chines'

'Microsoft Synapse/workspaces/sqldatabases*

```
"apiVersion": "2020-02-02-preview",
"name": "[parameters('namel')]", "location": "[parameters('location*|)",

"resources": [

   "type": "databases",
   "apiversion": "2020-02-02-preview",
```

dependsOn' [
properties" [
tags' |

```
"[resourceId('Microsoft.Sql/servers*,concat(parameters('namel*)) H w
```

Answer:

Explanation:

```
"type":
```

▼

“Microsoft Sql/servers"
Microsoft SqlVirtualMachines sqlVirtualMachines “
Mi crosoft Synapse/workspaces/sqldatabases"

```
"apiVersion": "2020-02-02-preview", "name":
"[parameters('namel')]", "location":
"[parameters('location*)]",
"resources": [ {
   "type": "databases",
   "apiVersion": "2020-02-02-preview",
```

"dependsOn":[ properties [
"tags':[

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/single-database-create-arm-template-quickstart

Question: 202

You have an on-premises Microsoft SQL Server 2019 server that hosts a database named DB1.

You have an Azure subscription that contains an Azure SQL managed instance named SQLMI1 and a virtual network named VNET1. SQLMI1 resides on VNET1. The on-premises network connects to VNET1 by using an ExpressRoute connection.

You plan to migrate DB1 to SQLMI1 by using Azure Database Migration Service.
You need to configure VNET1 to support the migration.

What should you do?

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A. Configure service endpoints.

B. Configure virtual network peering.

C. Deploy an Azure firewall.

D. Configure network security groups (NSGs).

Answer: A

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/dms/tutorial-sql-server-to-managed-instance

Question: 203

You have an on-premises Microsoft SQL server that uses the FileTables and Filestream features.

You plan to migrate to Azure SQL.

Which service should you use?

A. Azure SQL Database

B. SQL Server on an Azure Virtual Machine

C. Azure SQL Managed Instance

D. Azure Database for MySQL

Answer: B

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/migration-guides/database/sql-server-to-sql- database-overview

## Question: 204

You need to migrate an on-premises Microsoft SQL Server database to Azure SQL Database. The solution must minimize downtime.

What should you do?

A. Configure Transaction Log Shipping.

B. Implement Always On availability groups.

C. Configure transactional replication.

D. Import a BACPAC.

Answer: C

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/migrate-to-database-from-sql-server#method-1-migration-with-downtime-during-the-migration

## Question: 205

You have an Azure SQL database named DB1.

You have a table name Table1 that has 20 columns of type CHAR(400). Row compression for Table1 is enabled.

During a database audit, you discover that none of the fields contain more than 150 characters.

You need to ensure that you can apply page compression to Table1.

What should you do?

A. Configure the columns as sparse.

B. Change the column type to nvarchar (MAX).

C. Change the column type to varchar (MAX).

D. Change the column type to varchar (200).

Answer: D

Explanation:

Reference:

https://www.sqlshack.com/sql-varchar-data-type-deep-dive/

https://36chambers.wordpress.com/2020/06/18/nvarchar-everywhere-a-thought-experiment/

Question: 206

You have an Azure virtual machine named VM1 on a virtual network named VNet1. Outbound traffic from VM1

to the internet is blocked.

You have an Azure SQL database named SqlDb1 on a logical server named SqlSrv1.

You need to implement connectivity between VM1 and SqlDb1 to meet the following requirements:

Ensure that VM1 cannot connect to any Azure SQL Server other than SqlSrv1.

Restrict network connectivity to SqlSrv1.

What should you create on VNet1?

A. a VPN gateway

B. a service endpoint

C. a private endpoint

D. an ExpressRoute gateway

Answer: C

Explanation:

A private endpoint is a network interface that uses a private IP address from your virtual network. This network interface connects you privately and securely to a service powered by Azure Private Link. By enabling a private endpoint, you're bringing the service into your virtual network.

The service could be an Azure service such as:

Azure Storage

Azure Cosmos DB

Azure SQL Database

Your own service using a Private Link Service.

Reference:

https://docs.microsoft.com/en-us/azure/private-link/private-endpoint-overview

Question: 207
HOTSPOT

You have an Azure SQL database named db1 that contains an Azure Active Directory (Azure AD) user named user1.

You need to test impersonation of user1 in db1 by running a SELECT statement and returning to the original execution context.

How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
EXECUTE AS [ ▼ ] = 'user1@contoso.com'
```

- CALLER
- LOGIN
- OWNER
- USER

```
GO

SELECT SUSER_SNAME()
```

[ ▼ ]

- REVERT
- REVOKE
- ROLLBACK

```
GO
```

Answer:

Explanation:

```
EXECUTE AS [ ▼ ] = 'user1@contoso.com'
```

- CALLER
- LOGIN
- OWNER
- USER

```
GO

SELECT SUSER_SNAME()
```

- REVERT
- REVOKE ROLLBACK

```
GO
```

Reference:

www.atmicnetworks.com

https://docs.microsoft.com/en-us/sql/t-sql/statements/execute-as-transact-sql?view=sql-server- ver15

https://docs.microsoft.com/en-us/sql/t-sql/functions/suser-sname-transact-sql?view=sql-server- ver15

Question: 208

DRAG DROP

You have an Azure SQL database named DB1. DB1 contains a table that has a column named Col1.

You need to encrypt the data in Col1.

Which four actions should you perform for DB1 in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

| Actions | Answer Area |
|---|---|
| Create a database master key. | |
| Create a column master key. | |
| Update Coll | |
| Open the symmetnc key. | |
| Create a certificate | |
| Create a symmetnc key. | |

Answer:

Explanation:

Create a database master key

Create a certificate.

Create a symmetnc key.

Open the symmetric key.

Reference:

https://www.sqlshack.com/an-overview-of-the-column-level-sql-server-encryption/

Question: 209

You have an Azure SQL database named db1 on a server named server1.

The Intelligent Insights diagnostics log identifies queries that cause performance issues due to tempDB contention.

You need to resolve the performance issues.

What should you do?

A. Implement memory-optimized tables.

B. Run the dbcc flushprocindB command.

C. Replace the sequential index keys with nonsequential keys.

D. Run the dbcc dbreindex command.

Answer: A

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/intelligent-insights-troubleshoot-performance#tempdb-contention

Question: 210

HOTSPOT

You have an Azure subscription that contains an Azure SQL database.

The database fails to respond to queries in a timely manner.

You need to identify whether the issue relates to resource_semaphore waits.

How should you complete the Transact-SQL query? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

```
SELECT                    ^
          is_user_process wait_time wait type
     SUM(wait_time) AS total_wait_time_ms
FROM sys.                   ^
          dm_exec_query_stats dm_exec_requests
          query_store_query
      JOIN sys.dm_exec_sessions AS dmv2
     ON dmvl.session_id = dmv2.session_id
WHERE is_user_process = 1
GROUP BY wait_type
ORDER BY SUM(wait time) DESC;
```

Answer:

Explanation:

```
SELECT                    ▼
          is_user_process waitjime waitjype
   SUM (wait_time) AS total_wait_time_ms
FROM sys.                   ▼
          dm_exec_query_stats dm_exec_requests
          query_store_query
      JOIN sys.dm_exec_sessions AS dmv2
     ON dmvl.session_id = dmv2.session_id
WHERE is_user_process = 1
GROUP BY wait_type
ORDER BY SUM(wait time) DESC;
```

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/monitoring-with-dmvs

Question: 211

You have an instance of SQL Server on Azure Virtual Machines that has a database named DB1.
You plan to implement Azure SQL Data Sync for DB1.
Which isolation level should you configure?

A. SERIALIZABLE
B. SNAPSHOT
C. READ UNCOMMITTED
D. READ COMMITTED

Answer: B

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/sql-data-sync-data-sql-server-sql- database

Question: 212

You have an Azure SQL managed instance.

You need to enable SQL Agent Job email notifications.
What should you do?

A. Use the Agent XPs option.

B. Enable the SQL Server Agent.

C. Run the sp_configure command.

D. Run the sp set_agent properties command.

Answer: C

Explanation:

Question: 213

You have four Azure subscriptions. Each subscription contains multiple Azure SQL databases.
You need to update the column and index statistics for the databases.

What should you use?

A. an Azure Automation runbook

B. a SQL Agent job

C. Azure SQL Analytics

D. automatic tuning in Azure SQL Database

Answer: A

Explanation:

Reference:

https://www.sqlshack.com/automate-azure-sql-database-indexes-and-statistics-maintenance/

Question: 214
HOTSPOT

You plan to migrate on-premises Microsoft SQL Server databases to Azure.

You need to identify which deployment and resiliency options meet the following requirements:

Support user-initiated backups.

Support multiple automatically replicated instances across Azure regions.

Minimize administrative effort to implement and maintain business continuity.

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

Deployment option:

- Azure SQL Managed Instance
- SQL Server on Azure Virtual Machines
- An Azure SQL Database single database

Resiliency option:

- Auto-failover group
- Active geo-replication
- Zone-redundant deployment

Answer:

Explanation:

Box 1: SQL Server on Azure VMs

SQL Server on Azure Virtual Machines can take advantage of Automated Backup, which regularly creates backups of your database to blob storage. You can also manually use this technique.

Box 2: Active geo-replication

Geo-replication for services such as Azure SQL Database and Cosmos DB will create secondary replicas of your data across multiple regions. While both services will automatically replicate data within the same region, geo-replication protects you against a regional outage by enabling you to fail over to a secondary region.

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/virtual-machines/windows/sql-server-on-azure-vm-iaas-what-is-overview

www.atmicnetworks.com

https://docs.microsoft.com/en-us/dotnet/architecture/cloud-native/infrastructure-resiliency-azure

Question: 215
HOTSPOT

You configure a long-term retention policy for an Azure SQL database as shown in the exhibit. (Click the Exhibit tab.)

**Configure policies** X

SQL server

**Point in Time Restore Configuration**

| Configure PiTR backup retention v | Days |
|---|---|

**Long-term Retention Configurations**

Q Weekly LTR Backups 0

How long would you like weekly backups to be kept?

| 6 y | Week(s) xz |
|---|---|

Q Monthly LTR Backups 0

How long would you like the first backup of each month to be kept?

| 12 | Month(s) xz |
|---|---|

Q Yearly LTR Backups

Which weekly backup of the year would you like to retain?

| Week 2 v | |
|---|---|

How long would you like this annual backup to be kept?

| 10 ^ | Year(s) xz |
|---|---|

The first weekly backup occurred on January 4, 2020. The dates for the first 10 weekly backups are:

January 4, 2020

January 11, 2020

January 18, 2020

January 25, 2020

February 1, 2020

February 8, 2020

February 15, 2020

February 22, 2020

February 29, 2020

March 7, 2020

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.

The backup saved to tong-term retention on January 4,2020. will be retained for ▼
6 weeks
12 months
10 years

The backup saved to long-term retention on January 11,2020 will be retained for ▼
6 weeks
12 months
10 years

Answer:

Explanation:

The backup saved to long-term retention on January 4,2020, will be retained for

The backup saved to long-term retention on January 11.2020 will be retained for

Question: 216

You have a new Azure subscription.

You create an Azure SQL Database instance named DB1 on an Azure SQL Database server named Server1.

You need to ensure that users can connect to DB1 in the event of an Azure regional outage. In the event of an outage, applications that connect to DB1 must be able to connect without having to update the connection strings.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. From the properties of DB1. configure geo-replication.

B. From the properties of Server1 add a failover group.

C. Create a new Azure SQL Database server named Server2.

D. From the properties of Server1 configure retention for DB1

E. Create a new Azure SQL Database instance named DB2.

Answer: B, C

Explanation:

Reference:

https://docs.microsoft.com/en-us/azure/azure-sql/database/auto-failover-group- overview?tabs=azure-powershell#best-practices-for-sql-database

https://docs.microsoft.com/en-us/azure/azure-sql/database/failover-group-add-single-database-tutorial?tabs=azure-portal

## Question: 217

HOTSPOT

You have an Azure SQL database.

You run the following PowerShell script.

```
SserverName = "SERVERI"
SresourceGroup = "RG1"
SdbName = "DB1"

Connect-AzAccount
Sserver = Get-AzSqlServer -ServerName SserverName -ResourceGroupName
SresourceGroup
Set-AzSqlDatabaseBackupShortTermReter.tionPolicy -ResourceGroupName SresourceGroup
-ServerName Sserver '
      -DatabaseName SdbName -RetentionDays 21

Set-AzSqlDatabaseBackupLongTemRetentionPolicy -ServerName SserverName - DatabaseName SdbName
'
      -ResourceGroupName SresourceGroup -WeeklyRetention P52W -YearlyRetention PSY
-WeekOfYear 52
```

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 |
|---|---|---|

| | | |
|---|---|---|
| DB1 can be restored to a specific point in time 30 days ago | o | O |
| DB1 can be restored from a weekly backup performed six monthsago | o | O |
| DB1 can be restored from a yearly backup performed six years ago | O | O |

Answer:

Explanation:

| Statements | Yes | No |
|---|---|---|
| DB1 can be restored to a specific point in time 30 days ago | o | O |
| DB1 can be restored from a weekly backup performed six months ago | O | O |
| DB1 can be restored from a yearly backup performed six years ago | O | O |

Reference:

https://docs.microsoft.com/en-us/powershell/module/az.sql/set-azsqldatabasebackupshorttermretentionpolicy?view=azps-7.2.0

https://docs.microsoft.com/en-us/powershell/module/az.sql/set-azsqldatabasebackuplongtermretentionpolicy?view=azps-7.2.0

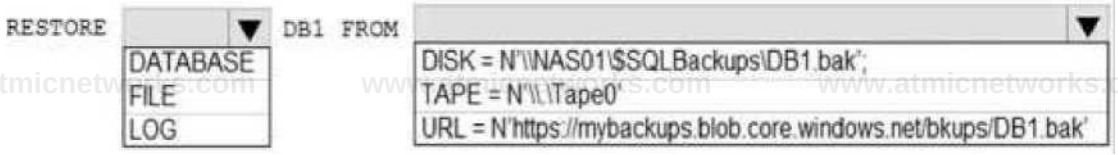
Question: 218

HOTSPOT

You have an Azure SQL managed instance.

You need to restore a database named DB1 by using Transact-SQL.

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




Answer:

Explanation:

RESTORE DB1 FROM 1 DISK-N .NAS01SSQLBackupsDB1 bak TAPE =
DATABASE URL = N'https Mnybackups blob core windows neVbkups/PBi bak'
RLE LOG

Question: 219

DRAG DROP

You have an Azure subscription that contains the resources shown in the following table.

| Name | type | Description |
|---|---|---|
| SQL1 | SQL Server on Azure Virtual Machines | Not applicable |
| dbl | Microsoft SQL Server database | Hosted on SQL1 |
| mysqlbackups | General purpose v2 storage account | Not applicable |

You need to back up db1 to mysqlbackups, and then restore the backup to a new database named db2 that is hosted on SQL1. The solution must ensure that db1 is backed up to a stripe set.

Which three Transact-SQL statements should you execute in sequence? To answer, move the appropriate statements from the list of statements to the answer area and arrange them in the correct order.

**Statements** **Answer Area**

```
M3TWF DATABASE db3 FROM UM, = CM =
'https://myaqlbackup#.blob.core.wlndowa.net
/backups/dbl_l.bak*
, URL •
* https://aysqlbackups. bl ob.core .windows . net
/ backups / db l _2. ba V
,URL -
'https : / /mysqlbackups. blob, core .windows .net
/ backups / dbi-3 - ba V
. URL ■
'http# i/Zayaqlbackupa.blob.core.windows.net
/backups/db1_4.bak*
WITH CREDENTIAL - 'sqlbackup*, RECOVERY, NOVE *dbl_mdf'
        TO
Dt\Data\c£b2_Bdf .mdf*,
        MOVE 'dbl_Log* TO
'D:\Loqs\dto2 log.ldf*
```

```
BACKUP DATABASE dbl TO URL •
'httpst//mysqlbackups.blob.core.windows.net
/bactups/dbl_l.bak* , URL =
'https://aysqLbackupa.blob,core.windows.net
/beckups/dbl 2.bak* ,URL =
'ht tp#; //ay sqlbackup#. blob. core. window#. ne t
/backups/dbl_3.bak' , URL •
'https://aysqlbackupa.blob.core.windows.net
/backup#/dbl_4.bak'
WITH CREDENTIAL - 'sqlbackup*; GO
```

```
RESTORE DATABASE db2 FROM URL *
'https://nysqlbackups.blob.core.windows.net
/backups/db*_X.baV , URL «
'ht tps 1 Z/ary sqlbackup ■. blob. core. windows. net /bac
kups/dbl_2.bak* ,URL -
'http#://nysqlbackup#.blob,core.window*.net /backup®/ dbl_3.
baV , URL -
'https: //nysqlbackupr.blob, core .windows. not
/backup#/dbl_4.bak* WITH RECOVERY, MOVE 'dbl_adf' TO
'O: \Data\db2_adf .ndf * , MOVE 'dbl_lcg' TO
'D:\Log#\dbZ_log.ld£'
```

```
CREATE CREDENTIAL
(https://myaglbacKups,blofc.core-windows.not /backup#l
WITH IDENTITY - 'SHARED ACCESS SIGNATURE', SECRET -
'<KAS TCXEN>*
GO
```

```
aAck'JP DATABASE dbl
TO URL ■
• h t tpa: //»ysq lbac kups. b 1 ob, cor«. wi ndews. net
/backups/dbl_l .baV
, URL -
' ht tps i / /nysqlbac kups. blob. core. windows. net
/backupa/dbl-2 ,bak*
, URL -
'https://nyeqlbackups.blob.core.windows.net /backups/dbl-
3.bak*
, URL =
'http#://nysqlbackup8.blob.core.window#.net
/backup#/dbl_4.bak'

GO
```

```
CREATE CREDENTIAL [sqlbackup! WITH IDENTITY
=
'sqlsamp1ebackup'
, SECRET * '<jnystorageaccountacce»sksy>* / CO
```

Answer:

Explanation:

```
CREATE CREDENTIAL
[https://mysqlbackups.blob.core.windows.net /backups]
WITH IDENTITY = 'SHARED ACCESS SIGNATURE', SECRET =
'<SAS_TOKEN>' GO

BACKUP DATABASE dbl
TO URL =
'https://mysqlbackups.blob.core.windows.net /backups/dbl_l.ba k' , URL =
'https://mysqlbackups.blob.core.windows.net /backups/dbl_2.ba k'
, URL =
'https://mysqlbackups.blob.core.windows.net /backups/dbl 3.bak' , URL =
'https://mysqlbackups.blob.core.windows.net /backups/dbl_4.bak'

GO
RESTORE DATABASE db2 FROM URL =
'https://mysqlbackups.blob.core.windows.net
/backups/dbl_l.bak'
, URL =
'https://mysqlbackups.blob.core.windows.net
/backups/dbl_2.bak'
, URL =
'https://mysqlbackups.blob.core.windows.net
/backups/dbl_3.bak*
, URL =
'https://mysqlbackups.blob.core.windows.net
/backups/dbl_4.bak*
WITH RECOVERY,
     MOVE 'dbl_mdf* TO
'D:\Data\db2_mdf.mdf*, MOVE 'dbl_log* TO
'D:\Logs\db2_log.idf*
```

Reference:

https://docs.microsoft.com/en-us/sql/relational-databases/backup-restore/sql-server-backup-to-url?view=sql-server-ver15

Question: 220

HOTSPOT

You have an Azure subscription that contains the resources shown in the following table.

| Name | Type | Configuration |
|---|---|---|
| DB1 | Azure SQL Database | Hyperscale service tier No secondary replicas |
| Appl | Azure Web Apps | Appl has read-only access to DB1 There are multiple instances of Appl |

You need to create a read-only replica of DB1 and configure the App1 instances to use the replica.

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

**Answer Area**

To add read-only replicas of DB1:

- Create a replica on the same logical server.
- Create a new logical server and configure geo-replication.
- Create a new logical server and configure an auto-failover group.

To configure App1 instances to access the read-only replica:

- Add an ApplicationIntent entry to the connection string.
- Add a MultiSubnetFailover entry to the App1 connection string.
- Create a dedicated endpoint and configure the App1 connection string to point to the endpoint.

Answer:

Explanation:

To add read-only repicas of OBI

5

Create a replica on the same logical server
Create a new logical server and configure georeplication
Create a new logical server and configure an auto-failover group

To configure App1 Instances to access the read-only replica

Add an Appicati ontntent entry to the connection stung
Add a MultiSubnetFailover entry to the Appt connection string
Create a dedicated endpoint and configure the Appl connection string to point to the

Reference:

https://sqlserverguides.com/read-only-replica-azure-sql/

www.atmicnetworks.com

Question: 221

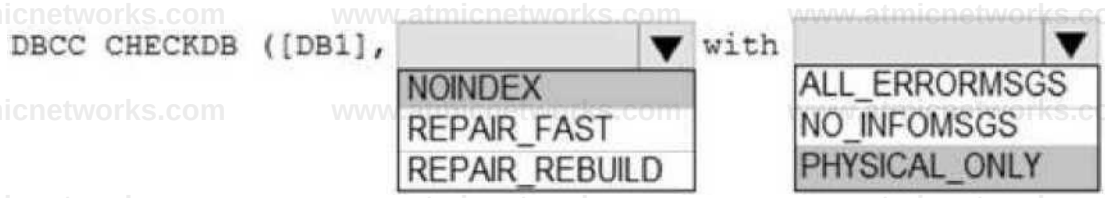
HOTSPOT

You have a 50-TB Microsoft SQL Server database named DB1.

You need to reduce the time it takes to perform database consistency checks of DB1.
Which Transact-SQL command should you run? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer:

Explanation:




Reference:

https://docs.microsoft.com/en-us/sql/t-sql/database-console-commands/dbcc-checkdb-transact-sql?view=sql-server-ver15

Question: 222

You have an instance of SQL Server on Azure Virtual Machine named SQL1.

You need to monitor SQL1 and query the metrics by using Kusto query language. The solution must minimize administrative effort.

Where should you store the metrics?

A. a Log Analytics workspace
B. Azure Event Hubs
C. Azure SQL Database
D. an Azure Blob storage container

Explanation:

Answer: C

Question: 223

HOTSPOT

You have a database on a SQL Server on Azure Virtual Machines instance.

The current state of Query Store for the database is shown in the following exhibit.

Answer Area

Query Store will retain [answer choice] queries for evaluation.

To change Operation Mode (Actual) to Read write without losing any data, you must modify the [answer choice] setting.

Io change Operation Mode Actual! to Read write without losing any data, you must modify the **(answer choice)** jetting.

Mar $« IMB)
Query Store Capture
Mode Size Based Cleanup

Query Store will retain **[answer choke)** queries for evaluation

all
none of the
a selective set

Answer:

Explanation:

Query Store will retain **(answer choice)** queries for evaluation, a selective set of

To change Operation Mode (Actual) to Read write without losing any data you must modify Max Sue (MB) the **[answer choice)** setting.

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Question: 224

You have an Azure SQL managed instance named MI1.

You need to implement automatic tuning for the databases of MI1.

What should you do?

A. Use the REST API to call the patch operation and modify the AutomaticTuningServerMode property.
B. Use Transact-SQL to enable the force_last_good_plan option.
C. From the Azure portal, configure automatic tuning.

Answer: B

Explanation:

Question: 225

You have an Azure subscription that contains a logical SQL server named Server1. The master database of Server1 contains a user named User1. You need to ensure that User1 can create databases on Server1. Which database role should you assign to User1?

A. db_owner
B. dbmanager
C. dbo
D. db_ddladmin

Answer: B

Explanation:

Question: 226

HOTSPOT

You have a SQL Server on Azure Virtual Machines instance named VM1 . You run the following query.

```
BACKUP LOG OBI TO DISK '\\Filel\SQLBackups\DBI.trn'
WITH NORECOVERY COPYONLY CONTINUE_AFTER_ERROR. GO
```

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

Answer Area

| Statements | Yes | No |
|---|---|---|
| The log rile will be truncated. | O | |
| 061 will be placed >n an offline state | O | |
| You are performing a tail log backup | O | |

Answer:

Explanation:

Answer Area

| Statements | Yes | No |
|---|---|---|
| the log tile will be truncated | ◉ | ○ |
| 061 will be placed in an offline state | ○ | ◉ |
| You are performing a tail-log backup. | ○ | ◉ |

Question: 227

You have a on-premises Microsoft SQL Server named SQL1 that hosts five databases.

You need to migrate the databases to an Azure SQL managed instance. The solution must minimize downtime and prevent data loss.

What should you use?

A. log shipping

B. Always On availability groups

C. Database Migration Assistant

D. Backup and Restore

Answer: C

Explanation:

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## Question: 228

You have an Azure subscription that contains the resources shown in the following table.

| Name | Type | Azure region |
|---|---|---|
| VM1 | Azure virtual machine | West US 2 |
| MI1 | Azure SQL Managed Instance | East US |

You need to configure a connection between VM1 and MIL The solution must meet the following requirements:

- The connection must be encrypted.
- Network latency must be minimized.

What should you implement?

A. virtual network peering

B. private endpoints

C. service endpoints

D. a site-to-site VPN

Answer: B

Explanation:

## Question: 229

You have an Azure SQL database named DB1 that contains a private certificate named Sales. The private key for Sales is encrypted with a password. You need to change the password for the private key. Which Transact-SQL statement should you run?

A)

**ALTER CERTIFICATE Sales**

**WITH PRIVATE KEY (DECRYPTION BY PASSWORD - 'MbA6BK&*w%', ENCRYPTION BY PASSWORD - ' 6YY9YcD!pV1);**

B)

**' ALTER CERTIFICATE Sales**

**WITH PRIVATE KEY (ENCRYPTION BY PASSWORD - ' 6YY9YCDIpV');**

C)

**AITM CHUHUIt Sales WW MIVUtf *1* (♦let • Di Maporthey« SalesAea. OecWTIOft BY rasswow • *♦ *-«» 4* κ% ) j**

D)

```
ALTER CERTIFICATE Sales          WITH PRIVATE KEY (DECRYPTION BY PASSWORD - ' EWYx9Xk+$#');
```

A. Option A

B. Option B

C. Option C

D. Option D

Answer: C

Explanation:

Question: 230

You have two on-premises servers that run Windows Server 2019 and host a Microsoft SQL Server 2017 Always On availability group named AG1. AG1 contains a single database named DB1.

You have an Azure subscription. The subscription contains a virtual machine named VM1 that runs Linux.

You need to migrate DB1 to a SQL Server 2019 instance on VM1. The solution must minimize the downtime of DB1 during the migration.

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

NOTE: Each correct selection is worth one point.

Am w»» Arw

To prepare for the mqevhon •

To pen lo IF nu mtgratton LOT *

Answer: see the answer below in explanation.

Explanation:

Answer as in image below.

Ana war Axa ■

To txware <o* We mgutKrt Create ■ SOL Server 20'9 AAwyi On *v»4aM«ty grout) on VM1

* Minimize the impact on IO Of the virtual machine.

Which type of disk should you use for each workload? To answer. drag the appropriate disk types to the correct workloads. Each disk type may be used once, at all. You may need to drag the split bar between panes or scroll to view content.

To perform the n^ratKin war AJUFV Migi J»

Question: 231

DRAG DROP

You have an Azure subscription.

You plan to deploy a new Azure virtual machine that will host a Microsoft SQL Server instance.

You need to configure the disks on the virtual machine. The solution must meet the following requirements:

• Minimize latency for transaction logs.

Disk Types

Answer Arfa

Lots

TtmpO# '_____ Disk type

I JMrtwxn SSD

L _____ _ _____ I

•

^anwcBon logs Oik type

: SuwUrdHDO

I StintUrdSW

Answer:

Explanation:

NOTE: Each correct selection is worth one point.

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Question: 232

Your on-premises network contains a Microsoft SQL Server 2016 server that hosts a database named db1.

You have an Azure subscription.

You plan to migrate db1 to an Azure SQL managed instance.

You need to create the SQL managed instance. The solution must minimize the disk latency of the instance.

Which service tier should you use?

A. Hyperscale

B. General Purpose

C. Premium

D. Business Critical

Answer: D

Explanation:

Question: 233

You have an Azure subscription that contains the resources shown in the following table.

| Name | Type |
|---|---|
| App1 | Azure web app |
| db! | Azure SQL database in the sei vet less tier |

App1 experiences transient connection errors and timeouts when it attempts to access db1 after extended periods of inactivity. You need to modify db1 to resolve the issues experienced by App1 as soon as possible, without considering immediate costs. What should you do?

A. Increase the number Of vCores allocated to db1.

B. Disable auto-pause delay for dbl.

C. Decrease the auto-pause delay for db1.

D. Enable automatic tuning for db1.

Answer: D

Explanation:

Question: 234

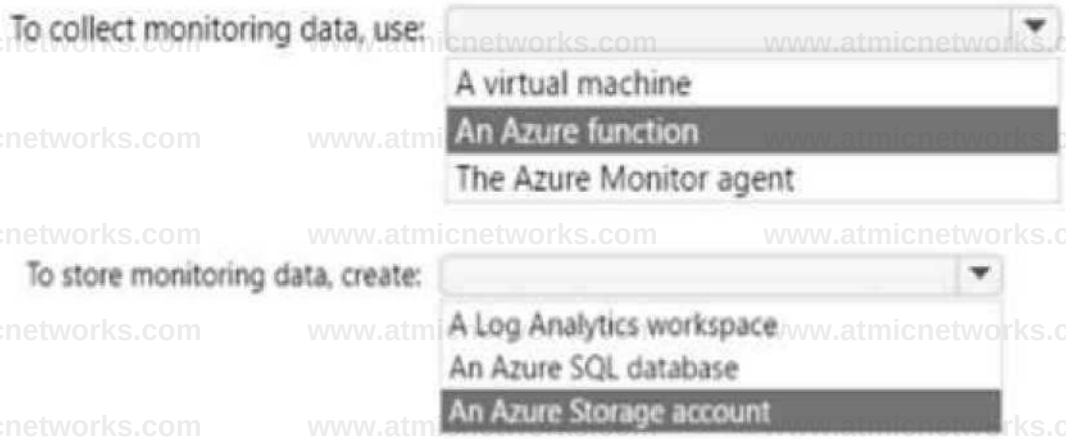
HOTSPOT

You have an Azure SQL database named DB 1 in the General Purpose service tier.

You need to monitor DB 1 by using SQL Insights.

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:

Explanation:

Box 1 = Azure Monitor Agent

Box 2 = An Azure SQL database

https://docs.microsoft.com/en-us/azure/azure-sql/database/sql-database-paas- overview?view=azuresql

Question: 235

You have an Azure subscription that contains an Azure SQL database named SQL1.
SQL1 is in an Azure region that does not support availability zones.
You need to ensure that you have a secondary replica of SQLI in the same region.
What should you use?

A. log shipping
B. auto-failover groups
C. active geo-replication
D. Microsoft SQL Server failover clusters

Answer: C

Explanation:

Question: 236

Your on-premises network contains a server that hosts a 60-TB database named DB 1. The network has a 10-Mbps internet connection.

You need to migrate DB 1 to Azure. The solution must minimize how long it takes to migrate the database.

What should you use?

A. Azure Migrate

B. Data Migration Assistant (DMA)

C. Azure Data BOX

D. Azure Database Migration Service

Answer: C

Explanation:

https://www.techtarget.com/searchitoperations/tip/Easily-transfer-VMs-to-the-cloud-with-Microsoft-Azure-Migrate

Question: 237

DRAG DROP

You create a new Azure SQL managed instance named SQL1 and enable Database Mail extended stored

You need to ensure that SQ Server Agent jobs running on SQL 1 can notify when a failure Occurs

Which three actions should you perform in sequence 7 TO answer. move the appropriate actions from the list Of actions to answer area and arrange them in correct order.

Answer:

Explanation:

Answer Area

**Create a Database Mail account**

**Create a profile named Arurtilwilltdlnitince^iibMil^prgfik**

**Enable email notifications upon failure**

Question: 238

DRAG DROP

You have an Azure subscription that contains an Azure SQL database named SQLDb1. SQLDb1 contains a table named Table1.

You plan to deploy an Azure web app named webapp1 that will export rows in Table1 that have changed.

You need to ensure that webapp1 can identity the changes to Table'. The solution must meet the following requirements:

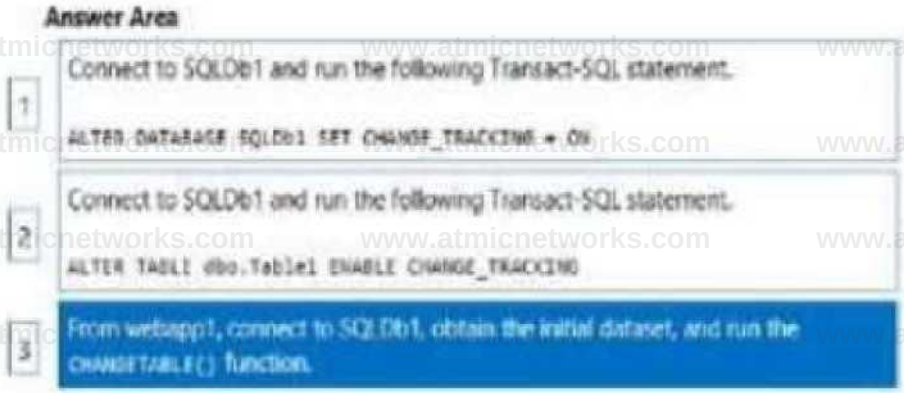
- Minimize compute times.
- Minimize storage.

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.

Answer:

Explanation:




Question: 239

You have an Azure SQL database named DBI that contains a nonclustered index named index1.

End users report slow queries when they use index1.

You need to identify the operations that are being performed on the index.

Which dynamic management view should you use?

**A. sys.dm_exec_queryjplan_$tats**

**B. Sy$.dm_db_index_phy$ical_$tat$**

**C. Sys .dm_db_ind«x_operational_stats**

**D. Sys.dm_db_index_useage_stats**

A. Option A

B. Option B

C. Option C

D. Option D

Answer: D

Explanation:

Question: 240

You have a Microsoft SQL Server 2017 server.

You need to migrate the server to Azure. The solution must meet the following requirements:

- Ensure that the latest version of SQL Server is used.
- Support the SQL Server Agent service.

Minimize administrative effort.

What should you use?

A. SQL Server on Azure Virtual Machines
B. Azure SQL Database
C. an Azure SQL Database elastic pool
D. Azure SQL Managed Instance

Answer: A

Explanation:

Question: 241

You have two on-premises Microsoft SQL Server 2019 instances named SQL1 and SQL2.

You need to migrate the databases hosted on SQL 1 to Azure. The solution must meet the following requirements:

The service that hosts the migrated databases must be able to communicate with SQL2 by using linked server connections.

Administrative effort must be minimized.

What should you use to host the databases?

A. a single Azure SQL database
B. an Azure SQL Database elastic pool
C. SQL Server on Azure Virtual Machines
D. Azure SQL Managed Instance

Answer: D

Explanation:

Question: 242

HOTSPOT

You have an Azure SQL database named DB1 that contains a table named Orders. The Orders table contains a row for each sales order. Each sales order includes the name of the user who placed the order.

You need to implement row-level security (RLS). The solution must ensure that the users can view only their respective sales orders.

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.

Create: ▼

A materialized view in DB1

Database scoped credentials in DB1

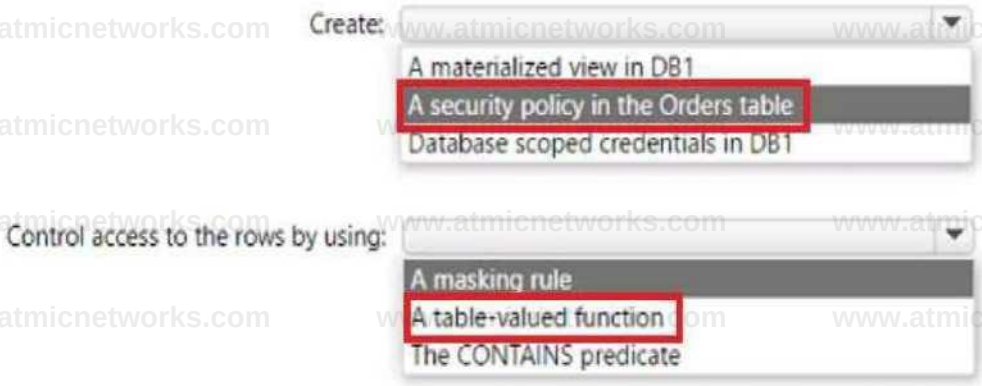
Control access to the rows by using: ▼

A table-valued function

The CONTAINS piedicate

Answer:

Explanation:




Question: 243

HOTSPOT

You have a SQL Server on Azure Virtual Machines instance that hosts a database named Db1.
You need to configure the autogrow and autoshrink settings for DB1.
Which statements should you use? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Autogrow:

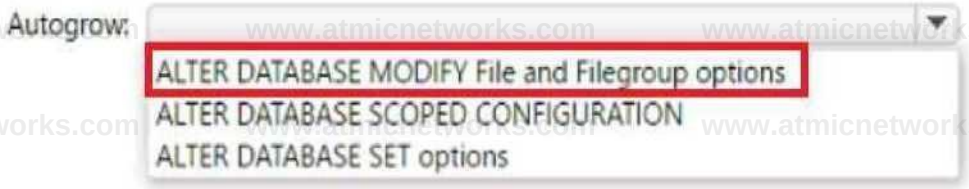
ALTER DATABASE MODIFY File and Filegroup options
ALTER DATABASE SCOPED CONFIGURATION
ALTER DATABASE SET options

Autoshrinfc

ALTER DATABASE MODIFY File and Filegroup options
ALTER DATABASE SCOPED CONFIGURATION
ALTER DATABASE SET options

Answer:

Explanation:



https://learn.microsoft.com/en-us/troubleshoot/sql/admin/considerations-autogrow-autoshrink

Question: 244

HOTSPOT

You have an Azure SQL logical server.

You run the following script.

```
CREATE DATABASE Sales
GO
CREATE TABLE [dbo].[Orders] (
    [OrderID] INT NOT NULL,
    [OrderDescription] NVARCHAR (MAX) NOT NULL, [Tiaestaap] Datetine2 NOT HULL
  )
  WITH (
    SY5TEH_VERSICNING = ON, LEDGER • ON );
GO
```

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 orders table will allow only rows to be inserted. | | |
| To create additional tables in the Sales database, the LEDGER • on parameter must be used. | | |
| To ensure that a timestamp ts added to each row in the orders table, the SENS RAT to ALWAYS | | |

Answer:

Explanation:

Yes

No

No

Question: 245

HOTSPOT

You have an Azure subscription that is linked to an Azure AD tenant named contoso.com. The subscription contains an Azure SQL database named SQL 1 and an Azure web

named app1. App1 has the managed identity feature enabled.

You need to create a new database user for app1.

How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

CREATE USER ˅ FROM

[Appl]
(Contoso\app1)
[App1@contoso.com]

login
Windows
EXTERNAL PROVIDER

Answer:

Explanation:

https://learn.microsoft.com/en-us/azure/app-service/tutorial-connect-msi-sql-database?tabs=windowsclient%2Cef%2Cdotnet

Question: 246

HOTSPOT

You need to use an Azure Resource Manager ARM) template to deploy an Azure virtual machine that will host a Microsoft SQL Server instance. The solution must maximize disk I/O performance for the SQL Server database and log files

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

Answer:

Explanation:
Read only ReadWrite

Question: 247

You manage 100 Azure SQL managed instances located across 10 Azure regions.

You need to receive voice message notifications when a maintenance event affects any of the 10 regions. The solution must minimize administrative effort.

What should you do?

A. From the Azure portal, create a service health alert.
B. From the Azure portal, create an Azure Advisor operational excellence alert.
C. From Microsoft SQL Server Management Studio (SSMS), configure a SQL Server agent job.

D. From the Azure portal, configure an activity log alert.

Answer: C

Explanation:

Question: 248

DRAG DROP

You have an Azure subscription that contains an Azure SQL managed instance, a database named db1, and an Azure web app named Appl. Appl uses db1.

You need to enable Resource Governor for a App1. The solution must meet the following requirements:

App1 must be able to consume all available CPU resources.

App1 must have at least half of the available CPU resources always available.

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.

Answer:

Explanation:

**Answer Area**

Create a resource pool that has the following configurations.

^X_CPU_PERCENT - ICO
MIN_CW_PERC£NT - 50

Create a workload group.

Create a classifier function in the master database.

Question: 249
HOTSPOT

You have an Azure SQL database named that contains a table named Table1.

You run a query to bad data into Table1.

The performance Of Table1 during the load operation are shown in exhibit.

To reduce how long it takes to complete the query you mutt [answer choice] scale the resource

use an elastic pool I perform query tuning

To reduce the log IO load of the operation, the query must be updated to use

(answer choice) table. a temporary

an In-Memory OTLP durable

an In-Memory OTLP non durable

Answer:

Explanation:

To reduce how tong it takes to complete the query you must [answer choice]

scale the resource

e an elastic r 1

perform query tuning

To reduce the tog IO toad of the operation, the query must be updated to use

(answer choice] table. | a temporary I

an In-Memory OTLP durable

an In-Memory OTLP non durable

Question: 250

You have an Azure subscription that contains the resources shown in the following table.

| Name | Type |
|---|---|
| Appl | Azure web app |
| db! | Azure SQL database in the serverless tier |

App1 experiences transient connection errors and timeouts when it attempts to access db1 after extended periods of inactivity.

You need to modify db1 to resolve the issues experienced by Appl as soon as possible, without considering immediate costs

What you do?

A. Increase the number of vCores allocated to db1.

B. Decrease the auto-pause delay for db1.

C. Disable auto-pause delay for db1.

D. Enable automatic tuning for db1.

Answer: D

Explanation:

Question: 251

DRAG DROP

You have a database named db1.

The log for db1 contains the following entry.

**Date je/vien 10:57:08 AH**
**Log SQL Server (Current • 10/5/2021 11:26:00 AH)**

**Source 5pldl595**

**Message**
**The transection log for database 'dbl' is full due to 'AYAILABILITY_REPLICA***

You need to ensure That db1 can process transactions.

Answer:

Explanation:

Remove ddb1 from the availability group.

Shrink the transaction log file.

Add db1 back to the availability group.

Question: 252

HOTSPOT

You have a Microsoft SQL Server 2017 server that hosts five databases.

You Plan to migrate the databases to Azure.

You need to recommend a solution that meets the following requirements:

Automatically scales compute based on the workload demand

Provides per-second billing

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

Azure service:

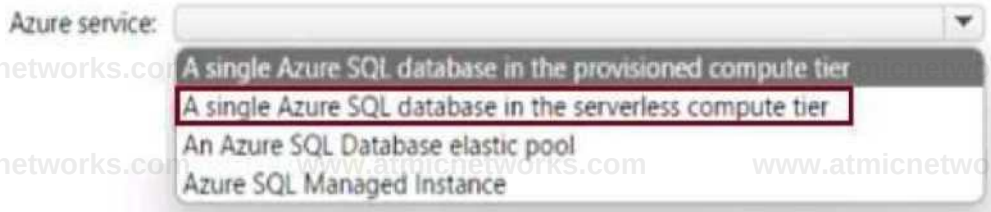
i A single Azure SQL database in the serveriess compute tier An Azure SQL Database elastic pool
Azure SQL Managed Instance

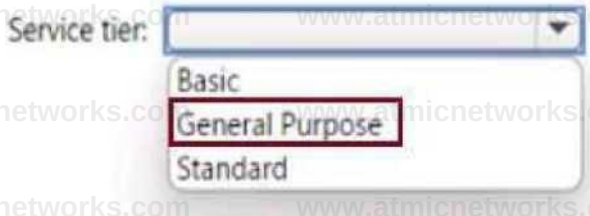
Service tier [ T ]

Basic
General Purpose
Standard

Answer:

Explanation:




Question: 253

You have an Azure subscription that contains a SQL Server on Azure Virtual Machines instance named SQLVMI.

SQLVMI hosts a database named OBI.

You need to retrieve query plans from the Query Store on DBI.

What should you do first?

A. On SQLVM1, install the SQL Server IaaS Agent extension.

B. From Microsoft SQL Server Management Studio, modify the properties of the SQL Server instance.

C. From Microsoft SQL Server Management Studio, modify the properties of DB 1.

D. On SQLVM1, install the Azure Monitor agent for Windows.

Answer: B

Explanation:

Question: 254

DRAG DROP

You have a burstable Azure virtual machine named VMI that hosts an instance of Microsoft SQL Server.

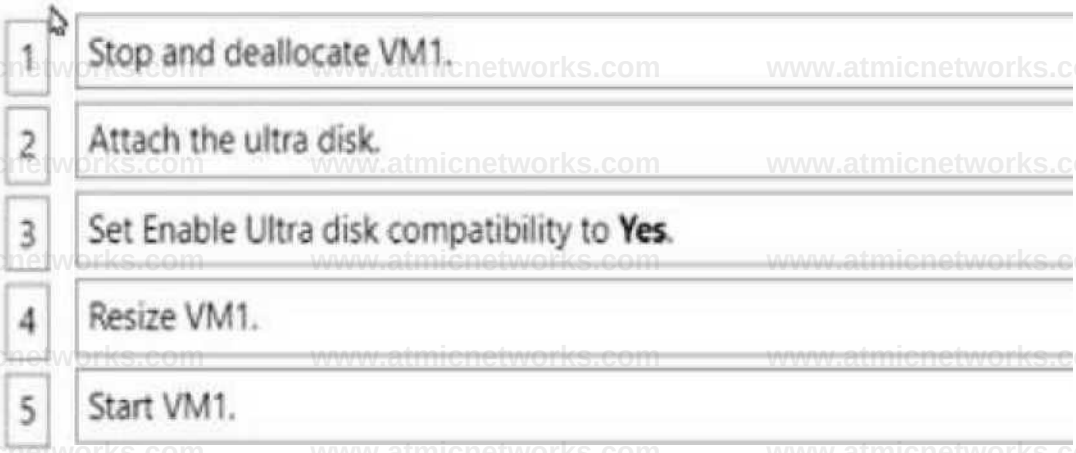
You need to attach an Azure ultra disk to VMI. The solution must minimize downtime on VMI.

In which order should you perform the actions? To answer, move all actions from the list of actions to the answer area and arrange them in the correct order.

Explanation:

Answer:

**Answer Area**




Question: 255

DRAG DROP

You have an Azure subscription.

You need to deploy an Azure SQL managed instance by using an Azure Resource Manager (ARM) template.

The solution must meet the following requirements:

The SQL managed instance must be assigned a unique identity.

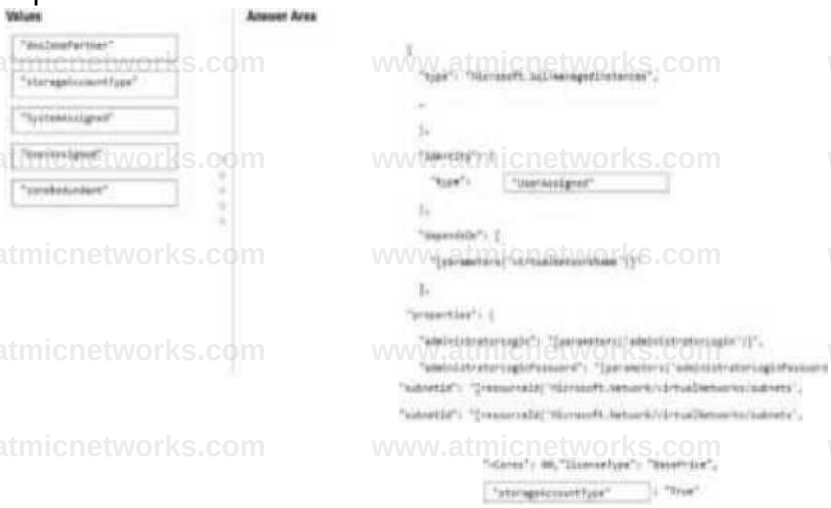
The SQL managed instance must be available in the event of an Azure datacenter outage.

How should you complete the template? 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.

Answer:

Explanation:



Question: 256
HOTSPOT

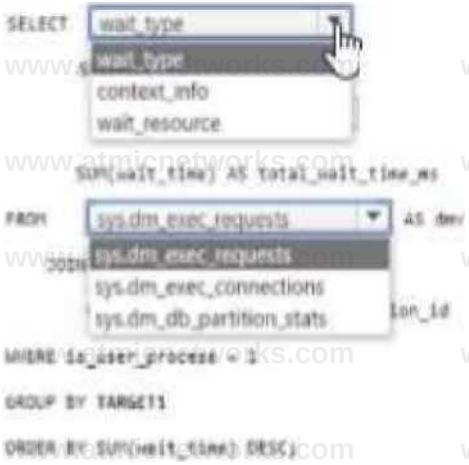
You have an Azure SQL database.

You need to identify whether a delayed query execution is associated to a RESOURCE wait.

How should you complete the Transact –SQL statement? To answer, select the appropriate option in the answer area.

NOTE: Each correct selection is worth one point.

**Anwrat** ATM




Answer:

Explanation:

**Answer Area**

Question: 257

You have an Azure subscription that contains two Azure SQL managed instances named SQLMI1 and SQLMI2 . SQLM2 contains a database named DB1 and a user named User1.

User1 drops DB1.

You need to perform a point-in-time restore of DB1 to SQLMI2.

A. Azure CLI

B. Transact-SQL

C. The Azure portal

D. Azure PowerShell

Answer: C

Explanation:

Question: 258

You have an Azure subscription that contain an Azure SQL managed instance named SQLMI1 and a Log Analytics workspace named Workspace1.

You need to collect performance metrics for SQLMI1 and stream the metrics to Workspace1.

A. Create the private endpoint connection on SQLMI1.

B. Configure Azure SQL Analytics to use Workspace1.

C. Modify the Computer + storage settings for SQLMI1.

D. Modify the diagnostic settings for SQLMI1.

Answer: D

Explanation:

Question: 259

DRAG DROP

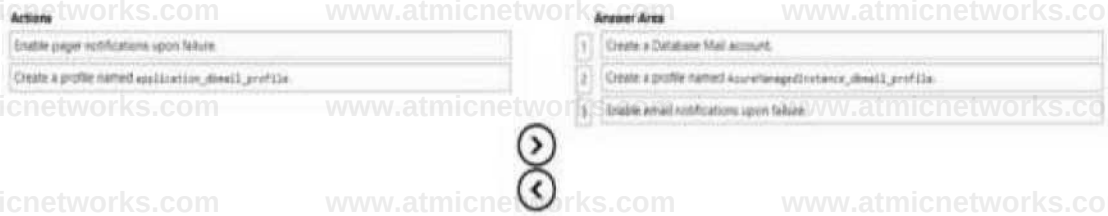
You create a new Azure SQL managed instance named SQL1 and enable Database Mail extended stored procedures.

You need to ensure that SOL Server Agent jobs running on SQL 1 can notify administrators when a failure occurs.

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.

Answer:

Explanation:




Question: 260

You have An Azure SQL managed instance.

You need to configure the SQL Server Agent service to email job notifications.

Which statement should you execute?

A)

```
EXECUTE msdb.dbo.sysmail_add_profile_sp @profile_name = 'sysadmin_dbmail_profile';
```

B)

tXtCUTE »ft.ft».iyM«iij«J<'dlli_i, fproOlt nM* • i;pUcttlM_ft«!l jrt*Lit';

C)

UKUTI •ldt.dtS lyi#tll_tdd_p^O<lt_m l^O^ilt^AMM • 'AfureHAAtfedlMt^Cedba^LIjXOf lit

D)

```
EXECUTE msdb.dbo.sysmail_add_profile_sp @profile_name = 'sys_dbmail_profile';
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer: B

Explanation:

Question: 261

HOTSPOT

You have an Azure SQL database named D61.

You need to identify how much unused space in megabytes was allocated to DB1.

How should you complete the Transact-SQL query? To answer select the appropriate options m the answer area.

NOTE: Each correct selection is worth one point.

**Answer Are#**

*•0* [ tyvd^trtw.fiih
fWRF^Bil
ip rewurce.sUtf
MAVIN6 'Jsysdm.db.moutw.sUb

Answer:

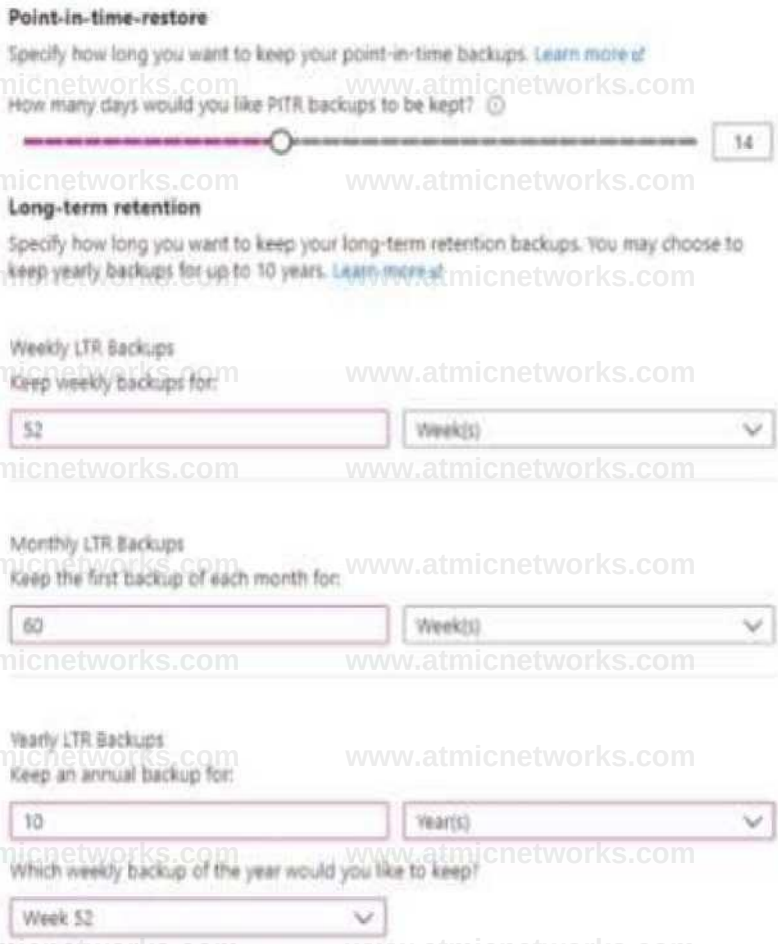
Explanation:

**Answer Arce**

HLKT MK»U«/ 128.0 * - aiT(F!U«OM«TV(Mwt, '(HceUseT) AS 1M)/1N.A) AI BetabMeAMeIHceMtocHettMsWM
PMN $yi aatjtwe Jiws *
aeoue tv trM>«*«
MVIM typejteM • ■Ort ;

Question: 262
HOTSPOT

You configure backup for an Azure SQL database as shown in the following exhibit.




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

NOTE: Each correct selection is worth one point.

**Answer Area**

To restore from 4 failure that occurred two days ago and caused nwumal data toes, you must [pc use a **lanswer choke!**

yearly long term retention iiTR) backup weekly tong term retention (LTRi backup monthly long-term retention (UR) backup

After the 52nd weetoy backup rum there wk Or **(answer choke)** in tong term retention Q?

backup a t backup copy 52 backup copies M backup copies

B!

Answer:

Explanation:

Answer Area

To restore from a failure that occurred two days ago and caused minimal data toss you must use - (answer choke) point time restore (At Rj backup

After the 52nd weekly backup rum there wi be (answer choke) m long term retention 65 backup copes

Question: 263

HOTSPOT

You have an Azure subscription that contains a group named Group1 and an Azure SQL managed instance that hosts a database named 081. You need to ensure that Group 1 has read access to new tables created m 06I The solution must use the principle of least privilege How should you complete the Transact-SQL statement' To answer, select the appropriate options in the answer area. NOTE: Each correct selection is worth one point.

Answer Area

Answer:

Explanation:

Answer Area

tjaant SELECT * Schema * it (table) TO [Contcsogrowpi

Question: 264

You have an Azure SQL database named DB1.

A user named User 1 has an Azure AD account.

You need to provide User1 with the ability to add and remove columns from the tables inDBV The solution must use the principle of least privilege.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point

A. Assign the database user the db.ddladmm role.

B. Assign the database user the db.owner role.

C. Create a contained database user.

D. Create a login and an associated database user.

Answer: A, D

Explanation:

Question: 265

You have an on-premises Microsoft SQL Server 2019 instance named SQL1 that hosts a database named db1.

You have an Azure subscription that contains an Azure SQL managed instance named MI1 and an Azure Storage account named storage1.

You need to ensure that you can back up db1 to storage1. The solution must meet the following requirements:

* Use block blob storage.

* Maximize security.

A. Generate a shared access signature (SAS)

B. Enable infrastructure encryption.

C. Create an access policy.

D. Rotate the storage keys

Answer: B

Explanation:

Question: 266

You have an Azure AD tenant and a logical Microsoft SQL server named SQL1 that hosts several Azure SQL databases.

You plan to assign Azure AD users permissions to the databases automatically by using Azure Automation.

You need to create the required Automation accounts.

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

NOTE: Each correct selection is worth one point.

A. From the Azure Active Directory admin center, create a service principal.

B. From the Azure Active Directory admin center, create a user-assigned managed identity for SQL1.

C. On SQL1. create a SQL user in the databases.

D. On SQL1, create a SQL login.

E. From the Azure Active Directory admin center, create an external identity.

Answer: A, C

Explanation:

Question: 267

You have an Azure SQL database named DB1.

You need to encrypt DB1. The solution must meet the following requirements;

- Encrypt data in motion.
- Support comparison operators.
- Provide randomized encryption.

What should you include in the solution?

A. Always Encrypted

B. column-level encryption

C. Transparent Data Encryption (TDE)

D. Always Encrypted with secure enclaves

Answer: D

Explanation:

Question: 268

HOTSPOT

You have an on-premises Microsoft SQL Server 2016 instance that hosts a database named db1. You have an Azure subscription that contains an Azure SQL managed instance named Mil.

You plan to perform an online migration of db1 to MM by using Azure Database Migration Service.

You need to create the backups for the migration. The solution must minimize the number of backup files created.

Which type of backups should you create, and how should you store the backups? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

Backup type: J Full only

9

FuH only

Full and differential Full and transaction log Transaction log only

To store the backups: [ Append each backup to a separate file. |

Append all the backups to a single file.

Append each backup to a separate file

Write each backup to a separate file.

Answer:

Explanation:

**Answer Area**

Backup type: Full only

To store the backups: Append each backup to a separate file.

Question: 269

You have a SQL Server on Azure Virtual Machines instance named SQLVM1 that was deployed by using an Azure Marketplace SQL Server 2019 Enterprise image.

You need to change the Microsoft SQL Server instance on SQLVM1 to the Standard edition. The solution must ensure licensing compliance.

What should you do first?

A. From the SQL Server Installation Center on SQLVM1. run the Edition Upgrade wizard.

B. From SQLVM1, uninstall the SQL Server instance.

C. From the SQL Server Installation Center on SQLVM1. run the Repair wizard.

D. From the Azure portal, reconfigure SQLVM1.

Answer: B

Explanation:

Question: 270

You have a Microsoft SQL Server 2019 instance in an on-premises datacenter. The instance contains a 4-TB database named DB1.

You plan to migrate DB1 to an Azure SQL Database managed instance.

What should you use to minimize downtime and data loss during the migration?

A. database mirroring

B. distributed availability groups

C. Always On Availability Group

D. Azure Database Migration Service

Answer: D

Explanation:

Question: 271

You have an Azure subscription.

You need to deploy an Azure SQL database. The solution must meet the following requirements:

- Dynamically scale CPU resources.
- Ensure that the database can be paused to reduce costs.

What should you use?

A. the Business Critical service tier

B. the serverless compute tier

C. an elastic pool

D. the General Purpose service tier

Answer: B

Explanation:

Question: 272

You need to recommend a disaster recovery solution for an on-premises Microsoft SQL Server database.

The solution must meet the following requirements:

- Support real-time data replication to a different geographic region.
- Use Azure as a disaster recovery target.
- Minimize costs and administrative effort.

Answer: A

What should you include in the recommendation?

A. database mirroring on an instance of SQL Server on Azure Virtual Machines

B. availability groups for SQL Server on Azure Virtual Machines

C. an Azure SQL Managed Instance link

D. transactional replication to an Azure SQL Managed Instance

Answer: D

Explanation:

Question: 273

You have a Microsoft SQL Server 2019 database named DB1 and an Azure SQL managed instance named SQLMI1. You need to move a SQL Server Agent job from DB1 to SQLMI1. Which job attribute is unsupported in SQLMI1?

A. log to table

B. email notifications

C. schedules

D. output files

Answer: D

Explanation:

Question: 274

You have an instance of SQL Server on Azure Virtual Machines.

You need to ensure that a user named User1 can configure proxy accounts for SQL Server Agent jobs.

The solution must use the principle of least privilege.

Which role should you assign to User1?

A. sysadmin

B. SQLAgentUserRole

C. SQLAgentReaderRole

D. SQLAgentOperatorRole

Explanation:

Question: 275
HOTSPOT

You have an Azure subscription that contains a resource group named RG1. RG1 contains an instance of SQL Server on Azure Virtual Machines named SQL

You need to use PowerShell to enable and configure automated patching for SQL The solution must include both SQL Server and Windows security updates.

How should you complete the command? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

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-NoAgent

Answer

Explanation:

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**Answer Area**

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Question: 276

You have an Azure SQL database named DB1. DB1 has a table named Table1 that contains the following columns.

| Name | Type |
|---|---|
| Column1 | Ntext |
| Column2 | Geometry |
| Column3 | Image |
| Column4 | Varchar |
| Column5 | Datetime2 |

You plan to enable Always Encrypted for Table1.
Which two columns support encryption? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point

A. Column1
B. Column2
C. Column3
D. Column4
E. Column5

Answer: A, D

Explanation:

Question: 277

You have a single availability set that contains two SQL Server on Azure Virtual Machines instances.

The instances were deployed by using an Azure Marketplace SQL Server 2019 Enterprise image that has the latest cumulative updates applied. The instances are configured as the nodes of a failover cluster instance (FCI) named FCI1.

You need to ensure that client applications can connect to FCI1. The solution must meet the following

requirements:

- Provide an availability SLA
- Minimize costs.

What should you create?

A. a virtual network name (VNN) resource

B. a Basic Azure Load Balancer

C. a distributed network name (DNN) resource

D. an Azure Standard Load Balancer

Answer: C

Explanation:

Question: 278

You plan to deploy two instances of SQL Server on Azure virtual machines in a highly available configuration that will use an Always On availability group.

You need to recommend a deployment solution that meets the following requirements:

- Provides a Service Level Agreement (SLA) of at least 99.95%
- Replicates databases in the same group synchronously
- Minimizes the latency of database writes

What should you recommend?

A. Create a proximity group and an availability set. Deploy each virtual machine to the availability set Add both virtual machines to the proximity group.

B. Create two proximity groups and a single availability set. Deploy both virtual machines to the availability set. Add one virtual machine to each proximity group.

C. Create two proximity groups and two availability sets. Deploy each virtual machine to a unique availability set. Add one virtual machine to each proximity group.

D. Create a proximity group and two availability sets. Deploy each virtual machine to a unique availability set. Add both virtual machines to the proximity group.

Answer: A

Explanation:

Question: 279

You have an on-premises Microsoft SQL Server 2019 database named SQL1 that uses merge replication. You need to migrate SQL1 to Azure. Which service should you use?

A. Azure SQL Edge

B. Azure SQL Database

C. SQL Server on Azure Virtual Machines

D. Azure SQL Managed instance

Answer: C

Explanation:

Question: 280

You have an Azure virtual machine named VM1 that runs Windows Server 2022 and hosts a Microsoft SQL Server 2019 instance named SQL1. You need to configure SQL! to use mixed mode authentication. Which procedure should you run?

A. sp_addremotelogin

B. xp_instance_regwrite

C. sp_cnarge_users_login

D. xp_grant_login

Answer: B

Explanation:

Question: 281

You have SQL Server 2019 or an Azure virtual machine that runs Windows Server 2019. The virtual machine has 4 vCPUs and 28 GB of memory.

Vou scale up the virtual machine to 8 vCPUs and 64 GB of memory.

You need to reduce tempdb contention without regatively affecting server performance.

What is the number of secondary data files that you should configure for tempdb?

A. 2

B. 4

C. 8

D. 64

Answer: C

Explanation:

Question: 282

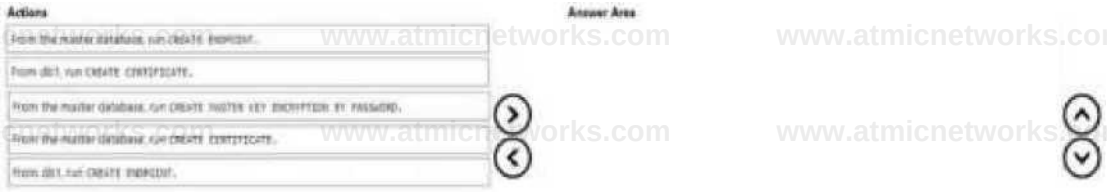
DRAG DROP

You have two instances of SQL Server on Azure virtual Machines named VM1 and VM2. VM1 hosts a database named dbl.

You plan to create a database availability group (DAG) for dbl. The solution must use certificate authentication between VM1 and VM2.

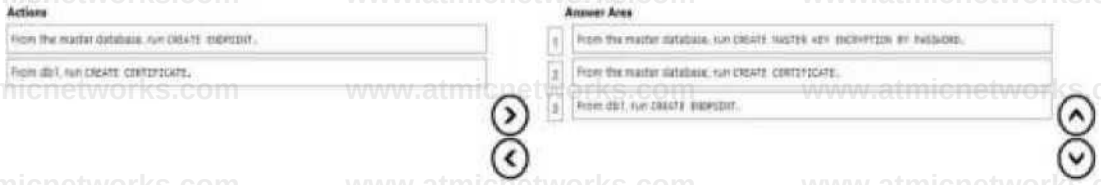
You need to configure authentication for the outbound connections of VM1.

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.




Answer:

Explanation:




Question: 283
HOTSPOT

You have a SQL Server on Azure Virtual Machines instance that hosts a 10-TB SQL database named DB1.

You need to identify and repair any physical or logical corruption in DB1. The solution must meet the following requirements:

- Minimize how long it takes to complete the procedure.
- Minimize data loss.

How should you complete the command? To answer, select the appropriate options in the answer area

NOTE: Each correct selection is worth one point.

Answer Atw

Answer:

Explanation:

Anmr Aral

DKC oca W}» fl.RflVID ) MTW

Question: 284

You have an Azure subscription.

Vou need to deploy two instances of SQL Server on Azure virtual machines in a highly available configuration that will use an Always On availability group. The solution must meet the following requirements:

- Minimize how long it takes to fail over.
- Maintain existing connections to the primary replica during a failover.

What should you do?

A. Connect each virtual machine to a single subnet on a single virtual network.

B. Connect each virtual machine to a single subnet on a virtual network. Deploy a standard Azure load balancer.

C. Connect each virtual machine to a different subnet on a single virtual network.

D. Connect each virtual machine to a different subnet on a virtual network. Deploy a basic Azure load balancer.

Answer: C

Explanation:

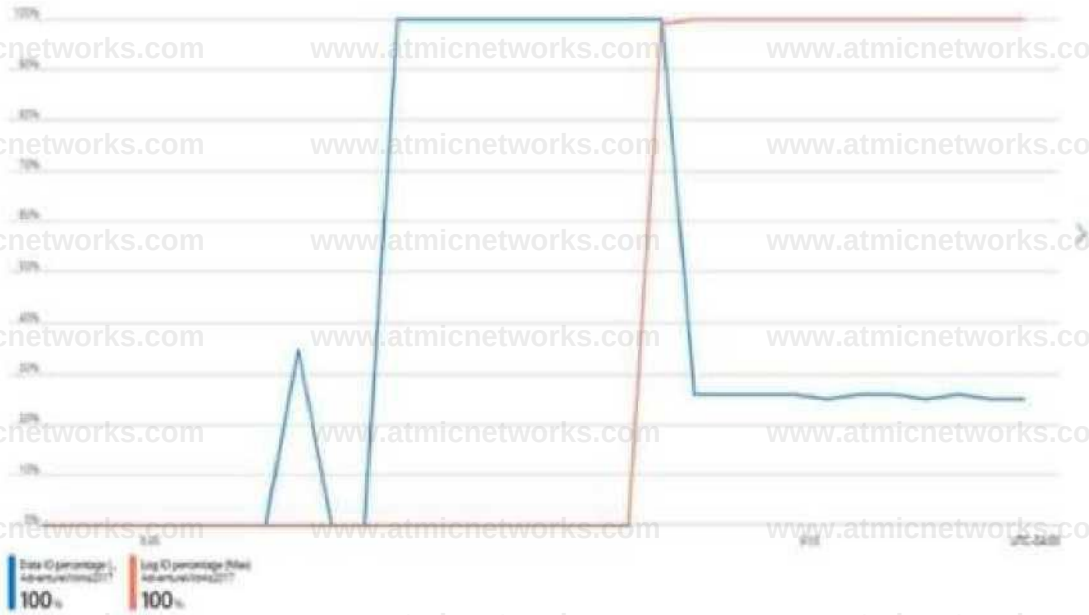
Question: 285

HOTSPOT

You have an Azure SQL database named DB1 that contains a table named Table 1.

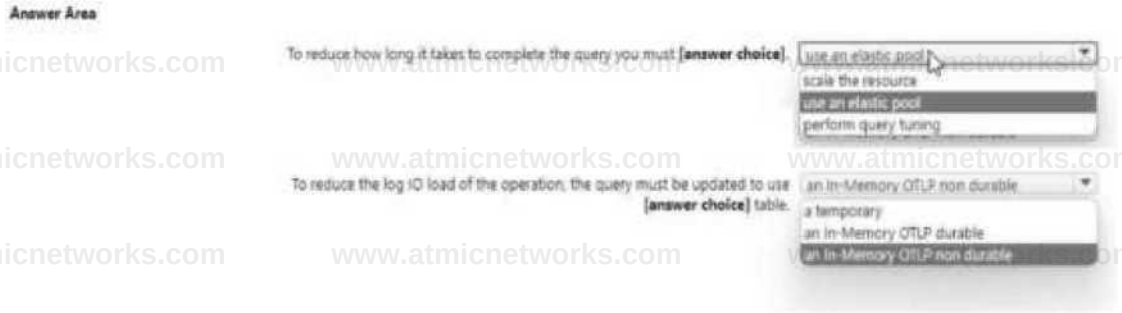
You run a query to load data into Table1.

The performance metrics of Table1 during the load operation are shown in the following exhibit.




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

information presented in the graphic. NOTE: Each correct selection is worth one point.




Answer:

Explanation:

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Question: 286
HOTSPOT

You have an Azure SQL database named DB1 in the General Purpose service tier.

You need to monitor D81 by using SQL insights.

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:

Explanation:

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## Question: 287

HOTSPOT

You have an Azure subscription that contains an instance of SQL Server on Azure Virtual Machines. The virtual machine hosts a database named DB1. You need to monitor DB1 by using Extended Events. The solution must meet the following requirements:

- Capture raw event data and store the data in Azure Storage.
- Minimize the performance impact of capturing extended events.

How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

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Explanation:

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## Question: 288

You have an Azure SQL database.

You need to implement a disaster recovery solution that meets the following requirements:

- Minimizes how long it takes to recover the database if a datacenter fails
- Minimizes administrative effort

What should you include in the solution?

A. Azure Backup

B. active geo-replication

C. Azure Site Recovery

D. auto-failover groups

Answer: D

Explanation:

## Question: 289

HOTSPOT

You have an Azure subscription.

You plan to migrate 10 on-premises Microsoft SQL Server instances to Azure.

You need to ensure that the migrated environment can be managed by using multiserver administration and supports master/target (MSX/TSX) jobs. The solution must minimize administrative effort.

Which SQL deployment options should you select as the master server (MSX) and the target server (TSX)?

To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

Answer:

Explanation:

**Answer Area**

a

MSX SQL managed instances .

TSX SQL managed instances *

Question: 290

You have an Azure subscription that contains an instance of SQL Server on an Azure virtual machine named SQLVM1 and a user named User1. SQLVM1 hosts a database named DB1.

You need to ensure that User! can create a scheduled task to perform a full backup of DB1. The solution must use the principle of least privilege.

Which built-in database role should you assign to User1?

A. SQLAgentReaderRole

B. db.owner

C. SQLAgentOperatorRole

D. SQLAgentUserRole

Answer: C

Explanation:

Question: 291

You have an on-premises datacenter that contains a 2-TB Microsoft SQL Server 2019 database named DB1.

You need to recommend a solution to migrate DB1 to an Azure SQL managed instance. The solution must minimize downtime and administrative effort.

What should you include in the recommendation?

A. Log Replay Service (LRS)

B. log shipping

C. transactional replication

D. SQL Data Sync

Answer: B

Explanation:

Question: 292

You have an Azure subscription that contains 50 instances of SQL Server on Azure Virtual Machines. The instances host 500 Azure SQL databases. You need to ensure that all the databases have the same configuration. The solution must meet the following requirements:

- Auditing must be enabled.
- Azure Defender must be enabled.
- Public network access must be disabled.

- Administrative effort must be minimized.

Which two resources should you create in the subscription? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. an Azure Policy assignment

B. an Azure Automation account

C. an Azure Policy initiative

D. an Azure Automation runbook

E. an Azure Policy definition

Answer: C, E

Explanation:

Question: 293

HOTSPOT

You have an Azure subscription that contains a logical SQL server. The server hosts two databases named db1 and db2 and an Azure AD sen/ice principal named appl.

You need to ensure that appl can access db1. The solution must use the principle of least privilege.

How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Ares

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CKDMVU FOR LOGIN app 1

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FROM LOGIN W t WITHOUT LOW!

Answer:

Explanation:

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Answer Area

mm [appl] FROM EXTERNAL PROVIDER

Question: 294
HOTSPOT

You have an Azure subscription.

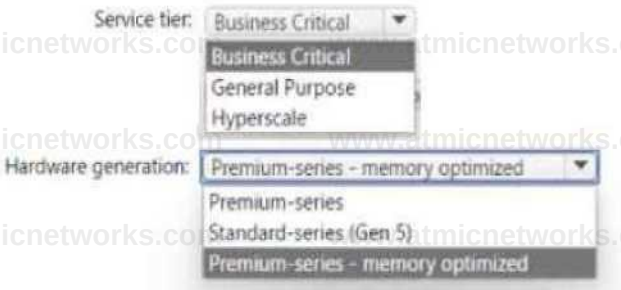
You need to deploy an Azure SQL managed instance that meets the following requirements:

- Optimize latency.
- Maximize the memory-to-vCore ratio.

Which service tier and hardware generation should you use? To answer, select the apocopate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area




Answer:

Explanation:

Answer Area

Service tier Business Critical ᵀ

Hardware generation Premium-senes • memory optimized

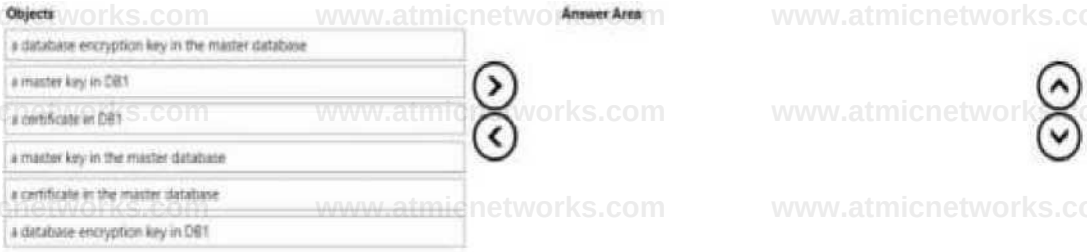
Question: 295
DRAG DROP

You have an instance of SQL Server on Azure Virtual Machines named SQL1. SQL1 contains a database

named DB1.

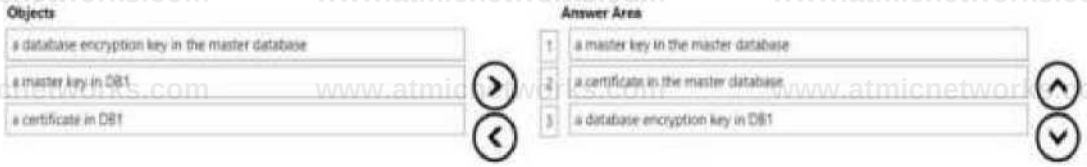
You need to enable Transparent Data Encryption (TDE) for DB1.

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




Answer:

Explanation:




Question: 296

You have an Azure SQL database named DB1 in the General Purpose service tier.

The performance metrics for DB1 are shown in the following exhibit.

You need to reduce the Log 10 percentage. The solution must minimize costs.

What should you do?

A. Increase the number of vCores.

B. Change Recovery model to Simple.

C. Perform a checkpoint operation.

D. Change Service tier to Business Critical.

Answer: D

Explanation:

Question: 297

You have an Azure SQL Database elastic pool that contains 10 databases.

You receive the following alert.

Msg 1132, Level 16, State 1, Line 1

The elastic pool has reached its storage limit. The storage used for the elastic pool cannot exceed (76800) MBs.

You need to resolve the alert. The solution must minimize administrative effort.

Which three actions can you perform? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

A. Delete data from a database.

B. Remove a database from the pool.

C. Increase the maximum storage of the elastic pool.

D. Shrink individual databases.

E. Enable data compression.

Answer: B, C, D

Explanation:

Question: 298

HOTSPOT

You configure backups for an Azure SQL database as shown in the following exhibit.

Point-in-time-restore

Specify how long you want to keep your point-in-time backups. Learr r

How many days would you like PITR backups to be kept? 0

14

Long-term retention

Specify how long you want to keep your long-term retention backups. You may choose to keep yearly backups for up to 10 years, .earn more ^

Weekly LTR Backups

Keep weekly backups for:

52 [week(s)

Monthly LTR Backups

Keep the first backup of each month for

60 | Week(s)

Yearly LTR Backups

Keep an annual backup for.

10 veans}

Which weekly backup of the year would you like to keep?

Week 52

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.

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Answer:

Explanation:

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**Answer Are***

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## Question: 299

You have an Azure subscription that contains two instances of SQL Server on Azure Virtual Machines named VM1 and VM2. Both instances run Microsoft SQL Server 2019 CU8. You need to deploy a failover cluster instance (FCI) to VM1 and VM2. The solution must eliminate the need for the following:

- A distributed network name (DNN)
- A load balancer

What should you do?

A. Deploy VM1 and VM2 to a single proximity placement group.

B. Deploy VM1 and VM2 to different proximity placement groups in the same Azure region.

C. Connect VM1 and VM2 to a single subnet.

D. Connect VM1 and VM2 to different subnets on a single virtual network.

Answer: D

Explanation:

## Question: 300

HOTSPOT

You have an Azure subscription that contains a storage account named databasebackups.

You have an Azure SQL managed instance named DB1.

You need to back up DB1 to databasebackups.

How should you complete the commands? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

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DatabaseSackups

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B«CKU* DATABASE OBI

TO URL •

'https://databasebackups.blob.core.windows.net/Beckvps/dbl.bak'

ww ICOPY,ONO ^
'CHECKSUM

COMPRESSION

COPY ONIY
[DIF^NTIAL]

Answer:

Explanation:

Answer Area

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BACKUP DATABASE OBI

W UP I •
'https://detabaseb(Chaps.blob.core.wlndows.net/Beckups/dbl.bak*

WITH COPY ONLY '

Question: 301
HOTSPOT

You have an Azure subscription.

You need to deploy a logical SQL server by using PowerShell. The solution must ensure that the logical SQL server can create Azure AD users and provide Transparent Data Encryption (TDE} with a customer-managed key.

How should you complete the command? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Amwer Area**

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Answer:

Explanation:

"Assigned Identity" and "Key id" https://learn.microsoft.com/en-us/powershell/module/az.sql/new-azsqlserver?view=azps-10.2.0#code-try-3

## Question: 302

You have an Azure subscription.

You plan to deploy an instance of SQL Sevier on Azure Virtual Machines that supports Write Accelerator.

Which virtual machine series should you use?

A. H-series

B. G -series

C. M-series

D. E-series

Answer: C

Explanation:

## Question: 303

You have an Azure subscription that contains the following resources:

- 10 Azure SQL databases
- Five Azure SQL managed instances
- Five instances of SQL Server on Azure Virtual Machines

You need to implement a centralized monitoring solution for all the Azure SQL resources. The solution must minimize administrative effort. What should you include in the solution?

A. Log Analytics

B. Azure SQL Analytics

C. Query Performance Insight

D. SQL Insights

Answer: B

Explanation:

Question: 304

You have an instance of SQL Server on Azure Virtual Machines named SQL1.

SQL1 contains an Extended Events session named session! that captures Microsoft SQL Server events.

You need to correlate the session events with events captured by Event Tracing for Windows (ETW).

What should you do for session1?

A. Modify the Set Session Event Filters settings.

B. Add a target.

C. Add an action.

D. Modify the Specify Session Data Storage settings.

Answer: B

Explanation:

Question: 305

You have an on-premises datacenter that contains a 14-TB Microsoft SQL Server database.

You plan to create an Azure SQL managed instance and migrate the on-premises database to the new instance.

Which three service tiers support the SQL managed instance? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

A. General Purpose Standard

B. Business Critical Premium

C. Business Critical Memory Optimized Premium

D. General Purpose Premium

E. Business Critical Standard

Answer: A, C, D

Explanation:

Question: 306
HOTSPOT

You have an Azure subscription that contains an instance of SQL Server on Azure Virtual Machines named SQLVM1 and a user named User1. SQLVM1 hosts a database named DB1.

You need to ensure that User1 can perform the following tasks on DB1:

- Create jobs.
- View all jobs.
- Modify, delete, and disable the jobs the user created.

The solution must use the principle of least privilege.

Which built-in database role should you assign to User1, and where is the role defined? To answer, select the appropriate options in the answer area.

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NOTE: Each correct selection is worth one point.

Answer:

Explanation:

https://learn.microsoft.com/en-us/sql/ssms/agent/sql-server-agent-fixed-database-roles?view=sql- server-ver16#sqlagentreaderrole-permissions

Question: 307

You plan to deploy two instances of SQL Server on Azure virtual machines in a highly available configuration that will use an Always On availability group.

You need to recommend a deployment solution that meets the following requirements:

- Provides a Service Level Agreement (SLA) of at least 99.95%
- Replicates databases in the same group synchronously
- Minimizes the latency of database writes

What should you recommend?

A. Create a proximity group and an availability set. Deploy each virtual machine to the availability set Add both virtual machines to the proximity group.

B. Create two proximity groups and a single availability set. Deploy both virtual machines to the availability set. Add one virtual machine to each proximity group.

C. Create two proximity groups and two availability sets. Deploy each virtual machine to a unique availability set. Add one virtual machine to each proximity group.

D. Create a proximity group and two availability sets. Deploy each virtual machine to a unique availability set. Add both virtual machines to the proximity group.

Answer: A

Explanation:

To get VMs as close as possible, achieving the lowest possible latency, you should deploy them within a proximity placement group. https://learn.microsoft.com/en-us/azure/virtual-machines/co- location

Question: 308

You have an Azure subscription that contains an Azure SQL database. The database contains a table named tablet.

You execute the following Transact-SQL statements.

```
CREATE CLUSTERED INDEX PK_indexl ON [dbo].[tablel] ([Columnl])
CREATE NONCLUSTERED INDEX [NCI_index2] ON [dbo].[tablel] ([Columnl]) ASC
```

You need to reduce the time it takes to perform analytic queries on the database.

Which configuration should you enable?

A. ROW_ MODE_MEMORY GRANT_FEEDBACK

B. BATCH MODE_MEMORY GRAIJT_FEEDBACK

C. BATCH_MODE_ADAPTIVE_TOIMS

D. BATC H_MODE_ON_ROWSTOR E

Answer: D

Explanation:

Question: 309

You have an instance of SQL Server on Azure Virtual Machines named VM1.

You need to implement a disaster recovery solution that meets the following requirements:

- Returns the solution to an operational state within 15 minutes of a failure
- Can perform disaster recovery testing in an isolated environment
- Minimizes administrative effort

What should you include in the solution?

A. Azure Site Recovery

B. a failover cluster instance (FCI)

C. auto-failover groups

D. active geo-replication

Answer: A

Explanation:

https://learn.microsoft.com/en-us/azure/site-recovery/site-recovery-sql#combining-bcdr- technologies-with-site-recovery

Question: 310

You deploy an instance of SQL Server on Azure Virtual Machines named SQL1 that hosts multiple databases.

You configure the full recovery model for all the databases.

You perform a full backup of the master database on SQL1.

You need to a perform an additional backup of the master database on SQL1. The solution must minimize how long it takes to perform the backup.

Which type of backup should you perform?

A. tail-log

B. differential

C. full

D. log

Answer: B

Explanation:

Question: 311
HOTSPOT

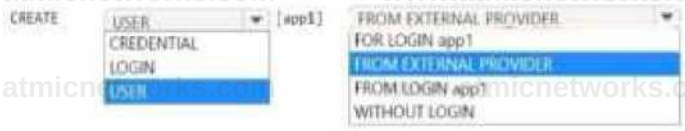
You have an Azure subscription that contains a logical SQL server. The server hosts two databases named db1 and db2 and an Azure AD service principal named app1.

You need to ensure that app1 can access db1. The solution must use the principle of least privilege.

How should you complete the Transact-SQL statement? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area




Answer:

Explanation:

Anawer Are*

OtRH UW' * I well FKMEXTHUMLHWOfN

https://learn.microsoft.com/en-us/azure/azure-sql/database/authentication-aad-service-principal-tutorial?view=azuresql

Question: 312

HOTSPOT

You have an instance of SQL Server on Azure Virtual Machines named VM1.

You need to use an Azure Automation runbook to initiate a SQL Server database backup on VM1.

How should you complete the command? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Answer:

Explanation:

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SJH MAutriM(«,»AunB<xA • "*• *B«kwW »»»wir<««r»««M« "wr

AutomitKi'UlccCUntNAn* * 'IKWI' -Milt

Question: 313

You have an Azure SQL database named SOL1.

You need to implement a disaster recovery solution for SQL1. The solution must minimize the following:

- The recovery point objective JRPO)
- The recovery time objective (RTO)

A. auto failover groups

† Administrative effort

What should you include in the solution?

B. Azure Site Recovery

C. availability groups

D. active geo - replication

Answer: A

Explanation:

Question: 314

You have an Azure subscription that contains the resources shown in the following table.

| Name | Type | Description |
|---|---|---|
| 5QLSVP | Logical SQL server | Hosts one Azure SQL database |
| SQLDB11 | Azure SQL database | Is hosted by SQLSVR1 |
| SQLSVR2 | Logical SQ_ server | Hosts two Azure SQL databases |
| SQLDB21 | Azure SQL database | ts Mstec by SOLSVR2 |
| SQLDB22 | Azure SQL database | Is hasten by SQLSVR2 |

You plan louse SQLDB11 as an elastic job database to run jobs on SQlDb11 andSOtDB22. What is the minimum number of database scoped credentials required tor the elastic jobs?

A. 1

B. 2

C. 3

D. 4

Answer: A

Explanation:

Question: 315

You have an Azure subscription.

You need to deploy an Instance of SQL Server on Azure Virtual Machines. The solution must meet the following 'requirements:

- Custom performance configuration. such as ICPS. capacity, and throughout, must be supported.

- Costs must be minimized

Which type of disk should you include in the solution?

A. Premium SSD v2

B. Premium SSD

C. Ultra SSD

D. Standard SSD

Answer: A

Explanation:

Question: 316

You have an Azure subscription.

You create a logical SQL server that hosts four databases Each database will be used by a separate customer.

You need to ensure that each customer can access only its own database. The solution must minimize administrative effort

Which two actions should you perform? Each correct answer presents part of the solution

NOTE: Each correct selection is worth one point.

A. Create a network security group (NSG)

B. Create a server-level firewall rule

C. Create a private endpoint

D. Create a database-level firewall rule.

E. Deny public access.

Answer: C, D

Explanation:

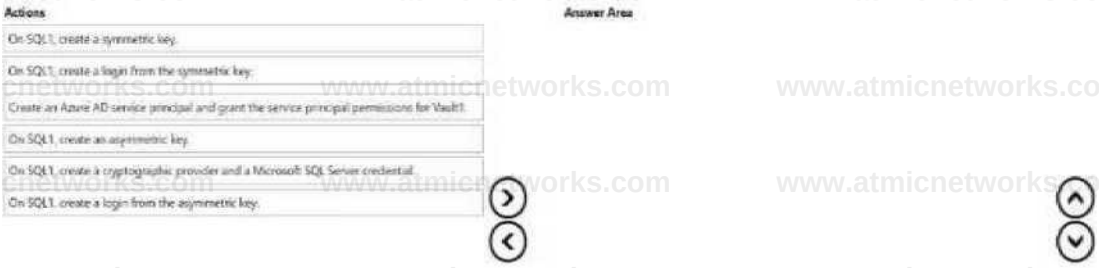
Question: 317

DRAG DROP

You have an Azure key vault named Vault1 and a SQL Server on Azure Virtual Machines instance named SQL1 SQL 1 hosts a database named DB1.

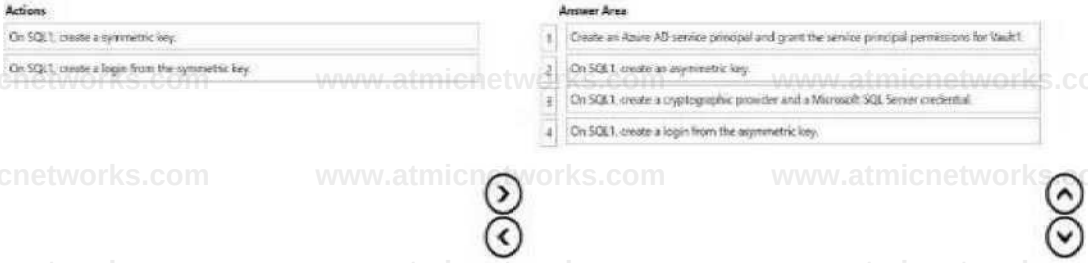
You need to configure Transparent Data Encryption (TDE) on D61 to use a key in Vault1

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.




Answer:

Explanation:




Question: 318

You Save an Azure SCX database named DB1.

You need to query the fragmentation information of data and indexes for the tables in D61.

Which command should you run?

A.

**syEadn^db^index^physical^stits**

B.

oect wowconna

C.

□etc o««*uoc

D.

sy5.cn_dt_: ndex_us agc_:t ats

Answer: A

Explanation:

Question: 319

You have an on-premises Microsoft SQL Server 2019 instance that hosts a database named DB1.

You have an Azure subscription that contains an Azure SQL database named SQLDB1.

You need to replicate DB1 to SQlDC1.

Which type of replication should you use?

A. peer-to-pec

B. merge

C. transactional

D. snapshot

Answer: C

Explanation:

Question: 320

HOTSPOT

You have an Azure subscription.

You need to deploy a logical SQL server by using an Azure Resource Manager (ARM) template. The solution must ensure that the server will allow inbound connectivity from any Azure resource.

How should you complete the template? To answer, select the appropriate options in the answer area

NOTE: Each correct selection is worth one point.

**Answer Area**

"resources"! [

"type": 'Microsoft.Sql/servers",

"type*: "Microsoft.SqlZMrYeet/fireNillRules*,

"eplVer Hon" • " 2921 -«- 01 - preview",

"nene": *[coocrt(parametere<'4ervert_e4aR«ieM2_Mne')# '/AIIPMAllwincobsAzureips')]

"dependsOr" *

"[rescurceld('Microsoft.Sql/s«rvers', paraTete-s( 5«rvors_o4dewlPL02_^inc'))]'

"properties": {

"startIpAddress": "0.0.0.0"

"0.0.0.0"

"255.255.255.255"

"endIpAddress": "0.0.0.0"

"0.0.0.0"

"255.255.255.255"

}

Answer:

Explanation:

Answer Arta

```
"resources": [
    "type": 'Micro»oft.SQl/servers".
        'type" Were»oft.Sql/Mrver5/^ir«HBllliul«s
    "epiVeri Lon' "2021-W-©1 preview",
    "nATe": •(cMK«(pMameter*('server*_ettW01M_M«e'), '/All^ttAllNinMta9AzureIps' )]\
  "dependsOr" (
    ■ [rescurc«Zd( Micraxort.Scl; : e-.e': ', parewters( servers_a400nl0102_nene') J ] '
    "properties": (
        $t«rtlpWdre«"          •aaoxr
        'AAiiipWdre;?*         •oaotfr
```

## Question: 321

You have an Azure subscription that contains 20 Azure SQL databases.

You create a Transact-SQL statement to perform index maintenance on a database.

You need to schedule the statement to run once daily against each database by using Transact-SQL commands.

What should you use to schedule the statement?

A. Azure Automation

B. an elastic job

C. a SQL Server Agent job

D. an Azure function

Answer: A

Explanation:

## Question: 322

You have two Azure virtual machines named Server 1 and Server2 that run Windows Server 2022 and are joined to an Active Directory Domain Services (AD DS) domain named contoso.com.

Both virtual machines have a default instance of Microsoft SQL Server 2019 installed. Server1 is configured as a master server, and Server2 is configured as a target server.

On Server1, you create a proxy account named contoso\sqlproxy.

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You need to ensure that the SQL Server Agent job steps can be downloaded from Server1 and run on Server2.

Which two actions should you perform? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

A. On Server2, grant the contoso\sqlproxy account the Impersonate a client after authentication user right.

B. On Server2, grant the contoso\sqlproxy account the Access this computer from the network user right.

C. On Server2. create a proxy account.

D. On Server1. set the AllowDownloadedDobsTonatehProxyName registry entry to 1.

E. On Server2. set the AllowDownloadedJobsToNatchProxyName registry entry to 1.

Answer: D, E

Explanation:

Question: 323

HOTSPOT

You plan to deploy an Always On failover cluster instance (FCI) on Azure virtual machines.

You need to provision an Azure Storage account to host a cloud witness for the deployment.

How should you configure the storage account? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

**Type: , peiwiiblockbbS I Premium file shares**

**Standard general-purpose tf**

**Replication Locally-redundant storage lLR$! | Geo redundant storage (GRS'**

**| Read access geo redundant storage I RA GRS)**

**Locally redundant storage (IRS)**

Answer:

Explanation:

**Answer Area**

**Type: v.. ; ht .I qenetal purpose vi ly**

**Replication: Locally-redundant storage (IRS)**

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Question: 324

You have an Azure virtual machine named VM1 that runs Windows Server 2022 and hosts a Microsoft SQL Server 2019 instance named SQL1.

You need to configure SQL1 to use mixed mode authentication.

Which procedure should you run?

A. sp_eddremotelogin

B. xp_grant_login

C. sp_change_users_login

D. xp_instance_regwrite

Answer: D

Explanation:

Question: 325

You have an Azure subscription.

You need to deploy a new Azure SQL database by using Azure Command-Line Interface (CLI).

Which three parameters are required?

A)

--name, "edition, and --capacity

B)

■•name --tier, and • ■min-capacity

C)

--name, --resource-group, and --server

D)

--name, --licence-type, and --capacity

A. Option A

B. Option B

C. Option C

D. Option D

Answer: C

Explanation:

## Question: 326

You have an Azure virtual machine named Server1 that runs Windows Server 2022. Server! contains an instance of Microsoft SQL Server 2022 named SQL1 and a database named DB1.

You create a master key in the master database of SQL1.

You need to create an encrypted backup of DB1.

What should you do?

A. Create a symmetric key in DB1.

B. Enable visualization-based security (VBS) on Server1.

C. Create a certificate in DB1.

D. Create a certificate in the master database of SQLI.

Answer: D

Explanation:

## Question: 327

You have an Azure subscription that contains three instances of SQL Server on Azure Virtual Machines.

You plan to implement a disaster recovery solution.

You need to be able to perform disaster recovery drills regularly. The solution must meet the following requirements:

- Minimize administrative effort for the recovery drills.
- Isolate the recovery environment from the production environment.

What should you use?

A. Recovery Services vaults

B. Azure Site Recovery

C. Azure Backup

D. native Microsoft SQL Server backup

Answer: B

Explanation:

Question: 328

You have an Azure subscription that contains an instance of SQL Server on an Azure virtual machine named VM1 and a Microsoft Entra Domain Services domain that contains two users named User1 and User2.

On the default instance of SQL Server on VM1, you create a credential named Credentiall for User1.

You need to ensure that User2 can create a SQL Server Agent proxy that will use Credential1. The solution must use the principle of least privilege.

Which role should you assign to User2?

A. sysadmin

B. SQLAgentUserRole

C. SQLAgentOperatorRole

D. SQLAgentReaderRole

Answer: A

Explanation:

Question: 329

HOTSPOT

You have an Azure SQL managed instance named Server1 and an Azure Blob Storage account named storage1 that contains Microsoft SQL Server database backup files.

You plan to use Log Replay Service to migrate the backup files from storage1 to Server1. The solution must use the highest level of security when connecting to storage1.

Which PowerShell cmdlet should you run, and which parameter should you specify to secure the connection?

To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Cmdlet Start-AzSqlInstanceDataOaseLoqReplay

Complete-AzSqlInstanceDatabaseLogRep lay Get-

AiSqlInstanceDatabaseLog Replay

Parameter

SharedAccessSignature

StotageAccountKey

Answer:

Explanation:

Answer Area

Cmdlet Start-AzSqlInstanceDatabaseLogReplay

Parameter: Managediaenjl^

Question: 330

You have an Azure subscription that contains an Azure SQL database named db1.

You need to implement SQL insights for db1.

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

NOTE: Each correct selection is worth one point

A. an Azure logic app

B. a virtual machine

C. an Azure function

D. a Log Analytics workspace

E. a storage account

Answer: B, D

Explanation:

Question: 331

You have an Azure subscription.

You plan to deploy an instance of SQL Server on Azure Virtual Machines by using an Azure Marketplace image

You need to register the SQL Server IaaS Agent extension (SqlIaasExtension). The solution must meet the following requirements:

- Install critical updates for SQL Server automatically.
- Minimize performance impact on the virtual machine.

Which management mode should you select?

A. full

B. lightweight

C. NoAgent

Answer: A

Explanation:

Question: 332

DRAG DROP

You have an Azure subscription that contains an instance of SQL Server on Azure Virtual Machines named SQLVM1 and a virtual machine named Server! that runs Windows Server. SQLVM1 and Serverl are joined to an Active Directory Domain Services (AD DS) domain. Serverl hosts a file share named Sharel.

You need to ensure that a SQL Server Agent job step on SQLVM1 can access the files in Share1. 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.

Answer

Explanation:

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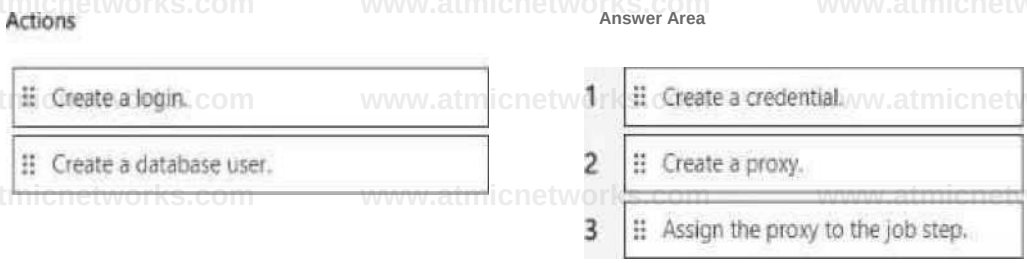
Actions

- Create a login.
- Create a database user.

Answer Area

1. Create a credential.
2. Create a proxy.
3. Assign the proxy to the job step.



Question: 333
HOTSPOT

You have an Azure virtual machine named Server1 that has Microsoft SQL Server installed. Server1 contains a database named DB1.

You have a logical SQL server named ASVR1 that contains an Azure SQL database named ADB1.

You plan to use SQL Data Sync to migrate DB1 from Server! to ASVR1.

You need to prepare the environment for the migration. The solution must ensure that the connection from Server1 to ADB1 does NOT use a public endpoint.

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

NOTE: Each correct selection is worth one point.

Answer Area

Sync data by using Azure Private Link IA
service endpoint
C332253E^^^H
The SQL Data Sync private link

Set the database isolation level to SNAPSHOT ISOLATION REPEATABLE READ SERIALIZABLE

Answer:

Explanation:

Answer Area

Sync data by'usmg: Azure Private link

Set the database isolation level to: SNAPSHOT ISOLATION

Question: 334

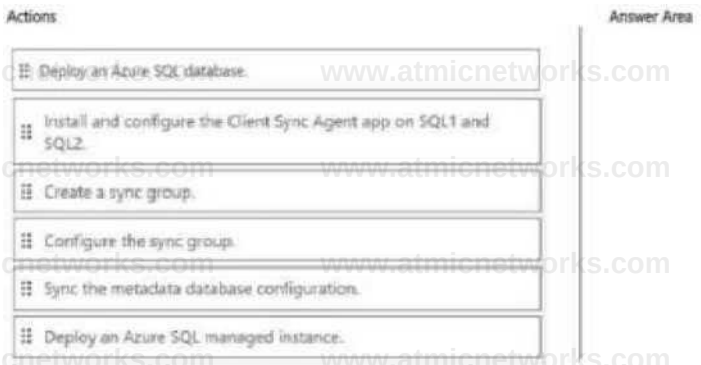
DRAG DROP

You have two on-premises Microsoft SQL Server instances named SQL1 and SQL2.

You have an Azure subscription

You need to sync a subset of tables between the databases hosted on SQL1 and SQL2 by using SQL Data Sync.

Which five 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.




Answer:

Explanation:

Question: 335

You have 25 Azure SQL databases.

You need to implement a centralized database management solution that uses Transact-SQL What should you include in the solution?

A. elastic jobs

B. an Azure Automation runbook

C. Azure Functions

D. Azure Logic Apps

Answer: B

Explanation:

Question: 336

HOTSPOT

Vou have an Azure SQL database named DB1.

You have 10 Azure virtual machines that connect to a virtual network subnet named Subnet 1.

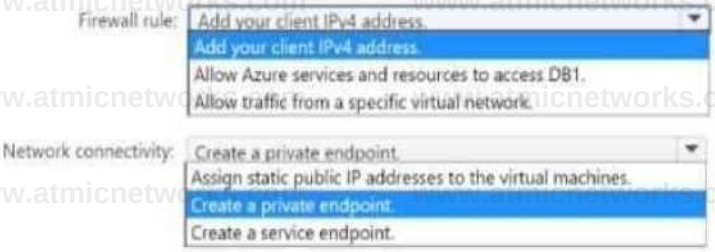
You need to implement a database-level firewall that meets the following requirements:

- Ensures that only the 10 virtual machines can access DB1
- Follows the principle of least privilege

How should you configure the firewall rule, and how should you establish network connectivity from the virtual machines to DB1? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area




Answer:

Explanation:

Answer Area

Firewall rule | Add yom client IPv4 address

Network connectivity Create a private endpoint

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## Question: 337

HOTSPOT

You have a SQL Server on Azure Virtual Machines instance named SQLVM1 that contains two databases named DB1 and DB2. The database and log files for DB1 and DB2 are hosted on managed disks.

You need to perform a snapshot backup of DB1 and DB2

How should you complete the I SQL statements? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

Mid SERVER* CDNHGURATIOH

DATABASE

SEI ^^^H^H (GROUP - I WORKLOAD GROUP

BACKUP GROUP (fol, dM

10 DISK • ■T:\backup\db.bka'

WITH FILE SNAPSHOT I , FORMAT;

COPV.ONIV

METADATA.ONLV

## Answer:

## Explanation:

**Answer Area**

AI TER SERVER tj CtWIGUHATIOH

SEI SUSPEHO rW SHAPSHOI PMKUP - OR

(GROUP • (dbl, <&}));

BACKUP GROUP dbl, db?

W DISK • *f;\b»ckupVdb.bka'

WITH RLE SNAPSHOT • , roAMAT;

## Question: 338

HOTSPOT

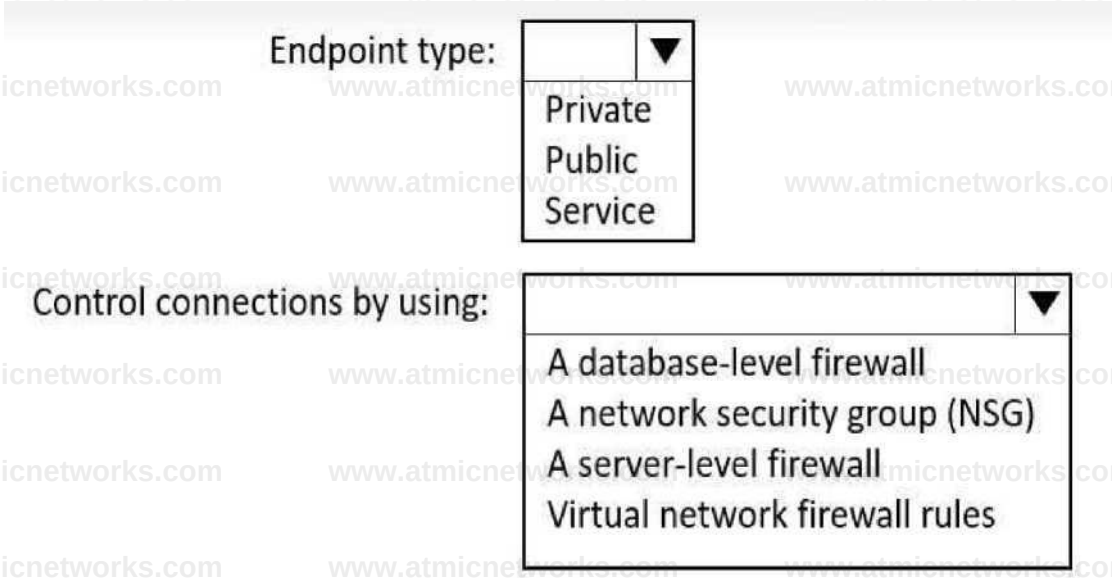
You have an Azure subscription that contains an Azure SQL managed instance named SQL1.

You use the Microsoft Power B1 service.

You need to configure connectivity from the Power B1 service to SQL1. The solution must ensure that only the Power B1 service can initiate connections to SQL1.

Which type of endpoint should you use for SQL1, and what should you use to control the connections to SQL1? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.




Answer:

Explanation:

**Answer Area**

Endpoint type: Public

Control connections by using: A network security group (NSG)

Question: 339

You have an Azure subscription that contains an Azure SQL database named DB1.

You need to host elastic jobs by using DB1. DB1 will also be configured as a job target. The solution must support the use of location-based Conditional Access policies.

What should the elastic jobs use to access DB1?

A. a system-assigned managed identity

B. Azure SQL sign-in credentials

C. database-scoped credentials

D. a user-assigned managed identity

Answer: A

Explanation:

Question: 340

You have an on-premises Microsoft SQL Server 2022 instance that hosts a 60-TB production database named DB1.

You plan to migrate DB1 to Azure.

You need to recommend a hosting solution for DB1.

Which Azure SQL Database service tier should you use to host DB1?

A. Hyperscale

B. Business Critical

C. General Purpose

Answer: A

Explanation:

Question: 341

You have an Azure subscription that contains a SQL Server on Azure Virtual Machines instance named SQLVM1. SQLVM1 has the following configurations:

- Automated patching is enabled.
- The SQL Server IaaS Agent extension is installed.
- The Microsoft SQL Server instance on SQLVM1 is managed by using the Azuie portal.

You need to automate the deployment of cumulative updates to SQLVM1 by using Azure Update Manager. The solution must ensure that the SQL Server instance on SQLVM1 can be managed by using the Azure portal.

What should you do first on SQLVM1?

A. Install the Azure Monitor Agent.

B. Uninstall the SQL Server IaaS Agent extension.

C. Install the Log Analytics agent.

D. Set Automated patching to Disable

Answer: B