- **Vendor:** Microsoft
- **Exam Code:** AZ-301
- **Exam Name:** Microsoft Azure Architect Design
- **New Updated Questions from Braindump2go (Updated in May/2020)**

QUESTION 152
Note: This question is part of series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.
After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.
You are designing an Azure solution for a company that has four departments. Each department will deploy several Azure app services and Azure SQL databases.
You need to recommend a solution to report the costs for each department to deploy the app services and the databases. The solution must provide a consolidated view for cost reporting.
Solution: Create a new subscription for each department.
Does this meet the goal?

A. Yes
B. No

Answer: B
Explanation:
Instead, create a resources group for each resource type. Assign tags to each resource Note: Tags enable you to retrieve related resources from different resource groups. This approach is helpful when you need to organize resources for billing or management.
References:
https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-using-tags

QUESTION 153
You plan to store data in Azure Blob storage for many years. The stored data will be accessed rarely.
You need to ensure that the data in Blob storage is always available for immediate access. The solution must minimize storage costs.
Which storage tier should you use?

A. Cool
B. Archive
C. Hot

Answer: A
Explanation:
Azure cool tier is equivalent to the Amazon S3 Infrequent Access (S3-IA) storage in AWS that provides a low cost high performance storage for infrequently access data.
Note: Azure's cool storage tier, also known as Azure cool Blob storage, is for infrequently-accessed data that needs to be stored for a minimum of 30 days. Typical use cases include backing up data before tiering to archival systems, legal data, media files, system audit information, datasets used for big data analysis and more.
The storage cost for this Azure cold storage tier is lower than that of hot storage tier. Since it is expected that the data stored in this tier will be accessed less frequently, the data access charges are high when compared to hot tier. There

are no additional changes required in your applications as these tiers can be accessed using APIs in the same manner that you access Azure storage.
Incorrect Answers:
B: Even though Azure archive storage offers the lowest cost in terms of data storage, its data retrieval charges are higher than that of hot and cool tiers. In fact, the data in the archive tier remains offline until the tier of the data is changed using a process called hydration. The process of hydrating data in the archive storage tier and moving it to either hot or cool tier could take up to 15 hours and, hence, it is only intended for data that can afford that kind of access delay.
C: The storage cost for this Azure cold storage tier is lower than that of hot storage tier.
References:
https://cloud.netapp.com/blog/low-cost-storage-options-on-azure

QUESTION 154
You manage an application instance. The application consumes data from multiple databases. Application code references database tables using a combination of the server, database, and table name.
You need to migrate the application instance to Azure.
What are two possible ways to achieve this goal? Each correct answer presents a complete solution.
NOTE: Each correct selection is worth one point.

A. SQL Server Stretch Database
B. SQL Server in an Azure virtual machine
C. Azure SQL Database
D. SQL Managed Instance

Answer: AD
Explanation:
A: Access your SQL Server data seamlessly regardless of whether it's on-premises or stretched to the cloud. You set the policy that determines where data is stored, and SQL Server handles the data movement in the background. The entire table is always online and queryable. And, Stretch Database doesn't require any changes to existing queries or applications - the location of the data is completely transparent to the application.
D: The managed instance deployment model is designed for customers looking to migrate a large number of apps from on-premises or IaaS, self-built, or ISV provided environment to fully managed PaaS cloud environment, with as low migration effort as possible. Using the fully automated Data Migration Service (DMS) in Azure, customers can lift and shift their on-premises SQL Server to a managed instance that offers compatibility with SQL Server on-premises and complete isolation of customer instances with native VNet support.
References:
https://docs.microsoft.com/en-us/sql/sql-server/stretch-database/stretch-database https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance

QUESTION 155
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You are migrating an on-premises application to Azure. One component of the application is a legacy Windows native executable that performs image processing.
The image processing application must run every hour. During times that the image processing application is not running, it should not be consuming any Azure compute resources.
You need to ensure that the image processing application runs correctly every hour.
Solution: Create an Azure Batch application that runs the image processing application every hour.
Does the solution meet the goal?

A. Yes
B. No

Answer: B
Explanation:
Instead use an Azure Logic Apps, which helps you automate workflows that run on a schedule.

References:
https://docs.microsoft.com/en-us/azure/logic-apps/tutorial-build-schedule-recurring-logic-app-workflow

QUESTION 156
You plan to run an image rendering workload in Azure. The workload uses parallel compute processes.
What is the best service to use to run the workload? More than one answer choice may achieve the goal.
Select the BEST answer.

A. an Azure virtual machine scale set
B. Azure Kubernetes Service (AKS)
C. Azure Batch
D. Azure Container Service

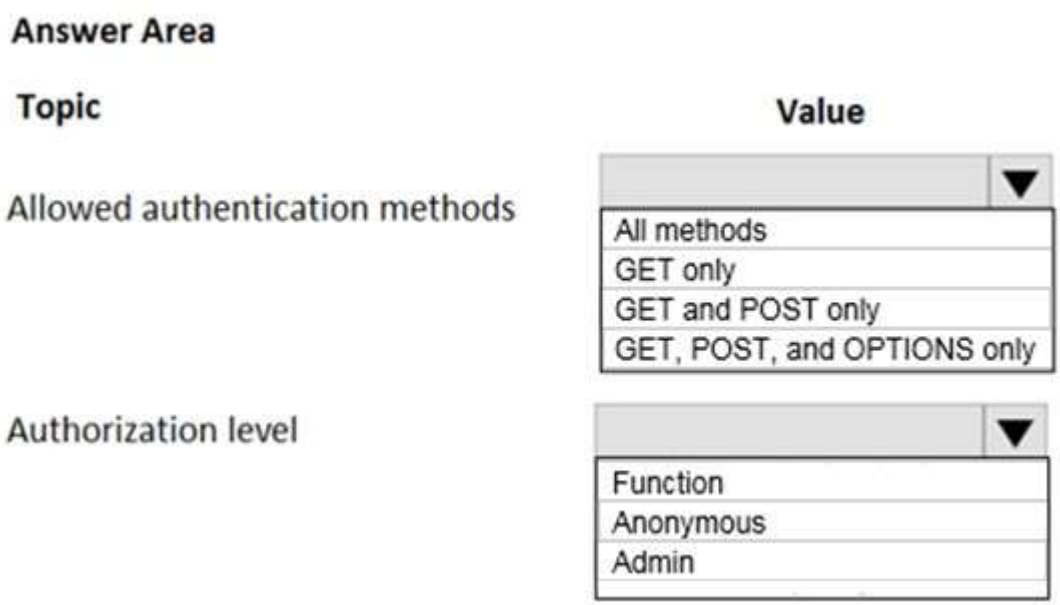
Answer: C
Explanation:
Azure Batch works well with intrinsically parallel (also known as "embarrassingly parallel") workloads.
Intrinsically parallel workloads are those where the applications can run independently, and each instance completes part of the work. When the applications are executing, they might access some common data, but they do not communicate with other instances of the application. Intrinsically parallel workloads can therefore run at a large scale, determined by the amount of compute resources available to run applications simultaneously.
References:
https://docs.microsoft.com/en-us/azure/batch/batch-technical-overview

QUESTION 157
You need to recommend a solution to generate a monthly report of all the new Azure Resource Manager resource deployments in your subscription.
What should you include in the recommendation?

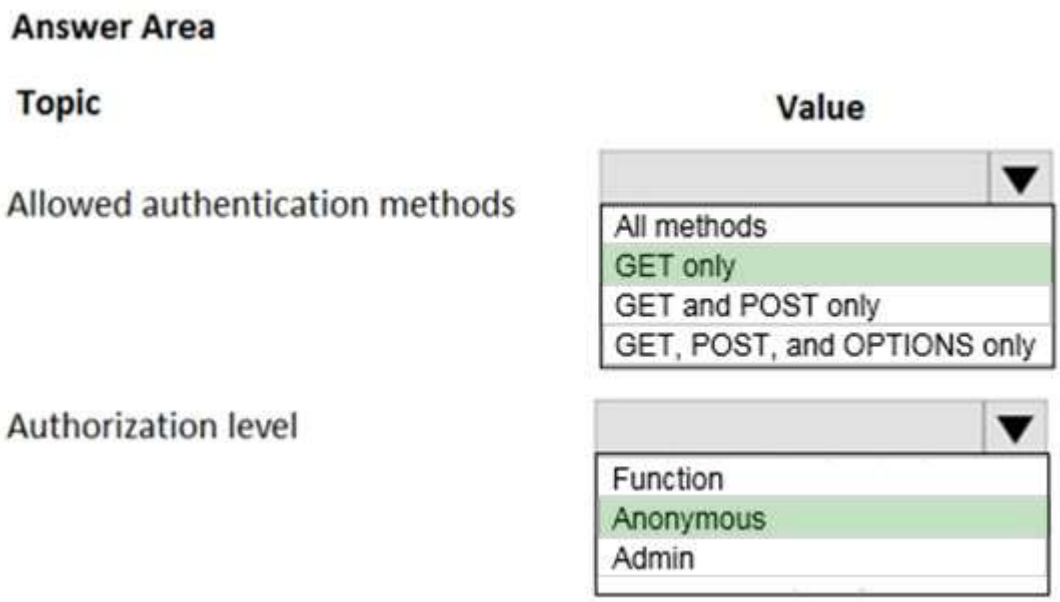
A. the Change Tracking management solution
B. Azure Activity Log
C. Azure Monitor action groups
D. Azure Advisor

Answer: B
Explanation:
The Azure Activity Log provides insight into subscription-level events that have occurred in Azure. This includes a range of data, from Azure Resource Manager operational data to updates on Service Health events.
Activity logs are kept for 90 days. You can query for any range of dates, as long as the starting date isn't more than 90 days in the past.
References:
https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-audit

QUESTION 158
Hotspot Question
A company plans to implement an HTTP-based API to support a web app. The web app allows customers to check the status of their orders.
The API must meet the following requirements:
```
- Implement Azure Functions
- Provide public read-only operations
- Do not allow write operations
```
You need to recommend configuration options.
What should you recommend? To answer, configure the appropriate options in the dialog box in the answer area.
NOTE: Each correct selection is worth one point.



Answer:



Explanation:
Allowed authentication methods: GET only
Authorization level: Anonymous
The option is Allow Anonymous requests. This option turns on authentication and authorization in App Service, but defers authorization decisions to your application code. For authenticated requests, App Service also passes along authentication information in the HTTP headers.
This option provides more flexibility in handling anonymous requests.
References:
https://docs.microsoft.com/en-us/azure/app-service/overview-authentication-authorization

QUESTION 159
Hotspot Question
You have a web application that uses a MongoDB database. You plan to migrate the web application to Azure.
You must migrate to Cosmos DB while minimizing code and configuration changes.
You need to design the Cosmos DB configuration.
What should you recommend? To answer, select the appropriate values in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

Option	Value
MongoDB compatibility	Database API Collection Account
API	Cassandra API DocumentDB API Graph API MongoDB API Table API

Answer:

Answer Area

Option	Value
MongoDB compatibility	Database API Collection Account
API	Cassandra API DocumentDB API Graph API MongoDB API Table API

Explanation:
MongoDB compatibility: API
API: MongoDB API
Azure Cosmos DB comes with multiple APIs:
SQL API, a JSON document database service that supports SQL queries. This is compatible with the former Azure DocumentDB.
MongoDB API, compatible with existing Mongo DB libraries, drivers, tools and applications.
Cassandra API, compatible with existing Apache Cassandra libraries, drivers, tools, and applications.
Azure Table API, a key-value database service compatible with existing Azure Table Storage.
Gremlin (graph) API, a graph database service supporting Apache Tinkerpop's graph traversal language, Gremlin.
References:
https://docs.microsoft.com/en-us/azure/cosmos-db/create-mongodb-dotnet

QUESTION 160
Hotspot Question
You have an Azure subscription that contains 300 Azure virtual machines that run Windows Server 2016.
You need to centrally monitor all warning events in the System logs of the virtual machines.
What should you include in the solutions? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

Answer Area

Resource to create in Azure:

- Resource Agent
- Dependency Agent
- Monitor Agent

Configuration to perform on the virtual machines:

- Virtual Machine Scale Set
- Dependency Agent
- Azure Monitor

Answer:

Answer Area

Resource to create in Azure:

- Resource Agent
- Dependency Agent
- Monitor Agent

Configuration to perform on the virtual machines:

- Virtual Machine Scale Set
- Dependency Agent
- Azure Monitor

Explanation:
Resource to create in Azure: Dependency Agent
The Map feature in Azure Monitor for VMs gets its data from the Microsoft Dependency agent. The Dependency agent relies on the Log Analytics agent for its connection to Log Analytics. So your system must have the Log Analytics agent installed and configured with the Dependency agent.
Whether you enable Azure Monitor for VMs for a single Azure VM or you use the at-scale deployment method, use the Azure VM Dependency agent extension to install the agent as part of the experience.
In a hybrid environment, you can download and install the Dependency agent manually. If your VMs are hosted outside Azure, use an automated deployment method Configuration to perform on the virtual machines: Enable Virtual Machine Scale Set To set up Azure Monitor for VMs:
Enable a single Azure VM or virtual machine scale set by selecting Insights (preview) directly from the VM or virtual machine scale set.
Enable two or more Azure VMs and virtual machine scale sets by using Azure Policy. This method ensures that on existing and new VMs and scale sets, the required dependencies are installed and properly configured. Noncompliant VMs and scale sets are reported, so you can decide whether to enable them and to remediate them.
Enable two or more Azure VMs or virtual machine scale sets across a specified subscription or resource group by using PowerShell.
References:
https://docs.microsoft.com/en-us/azure/azure-monitor/insights/vminsights-enable-overview

QUESTION 161
Case Study 2 - Contoso,Ltd
Overview
Contoso,Ltd is a US-base finance service company that has a main office New York and an office in San Francisco.
Payment Processing Query System

Contoso hosts a business critical payment processing system in its New York data center. The system has three tiers a front-end web app a middle -tier API and a back end data store implemented as a Microsoft SQL Server 2014 database All servers run Windows Server 2012 R2.
The front -end and middle net components are hosted by using Microsoft Internet Inform-non Services (IK) The application rode is written in C# and middle- tier API uses the Entity framework to communicate the SQL Server database. Maintenance of the database e performed by using SQL Server Ago-
The database is currently J IB and is not expected to grow beyond 3 TB.
The payment processing system has the following compliance related requirement
· Encrypt data in transit and at test. Only the front-end and middle-tier components must be able to access the encryption keys that protect the date store.
· Keep backups of the two separate physical locations that are at last 200 miles apart and can be restored for op to seven years.
· Support blocking inbound and outbound traffic based on the source IP address, the description IP address, and the port number
· Collect Windows security logs from all the middle-tier servers and retain the log for a period of seven years,
· Inspect inbound and outbound traffic from the from-end tier by using highly available network appliances.
· Only allow all access to all the tiers from the internal network of Contoso.
Tape backups ate configured by using an on-premises deployment or Microsoft System Center Data protection Manager (DPMX and then shaped ofsite for long term storage

Historical Transaction Query System

Contoso recently migrate a business-Critical workload to Azure. The workload contains a NET web server for querying the historical transaction data residing in azure Table Storage. The NET service is accessible from a client app that was developed in-house and on the client computer in the New Your office. The data in the storage is 50 GB and is not except to increase.

Information Security Requirement

The IT security team wants to ensure that identity management n performed by using Active Directory. Password hashes must be stored on premises only.
Access to all business-critical systems must rely on Active Directory credentials. Any suspicious authentication attempts must trigger multi-factor authentication prompt automatically Legitimate users must be able to authenticate successfully by using multi-factor authentication.

Planned Changes

Contoso plans to implement the following changes:
- Migrate the payment processing system to Azure.
- Migrate the historical transaction data to Azure Cosmos DB to address the performance issues.

Migration Requirements

Contoso identifies the following general migration requirements:
Infrastructure services must remain available if a region or a data center fails. Failover must occur without any administrative intervention
- Whenever possible. Azure managed serves must be used to management overhead
- Whenever possible, costs must be minimized.

Contoso identifies the following requirements for the payment processing system:
- If a data center fails, ensure that the payment processing system remains available without any administrative intervention. The middle-tier and the web front end must continue to operate without any additional configurations-
- If that the number of compute nodes of the from -end and the middle tiers of the payment processing system can increase or decrease automatically based on CPU utilization.
- Ensure that each tier of the payment processing system is subject to a Service level Agreement (SLA) of 9959 percent availability
- Minimize the effort required to modify the middle tier API and the back-end tier of the payment processing system.
- Generate alerts when unauthorized login attempts occur on the middle-tier virtual machines.
- Insure that the payment processing system preserves its current compliance status.
- Host the middle tier of the payment processing system on a virtual machine.

Contoso identifies the following requirements for the historical transaction query system:
- Minimize the use of on-premises infrastructure service.
- Minimize the effort required to modify the .NET web service querying Azure Cosmos DB.

- If a region fails, ensure that the historical transaction query system remains available without any administrative intervention.

Current Issue

The Contoso IT team discovers poor performance of the historical transaction query as the queries frequently cause table scans.

Information Security Requirements

The IT security team wants to ensure that identity management is performed by using Active Directory. Password hashes must be stored on-premises only.

Access to all business-critical systems must rely on Active Directory credentials. Any suspicious authentication attempts must trigger a multi-factor authentication prompt automatically. legitimate users must be able to authenticate successfully by using multi-factor authentication.

You need to recommend a strategy for migrating the database content of WebApp1 to Azure.

What should you include in the recommendation?

A. Use Azure Site Recovery to replicate the SQL servers to Azure
B. Use SQL Server transactional replication
C. Copy the VHD that contains the Azure SQL database files to Azure Blob storage
D. Copy the BACPAC file that contains the Azure SQL database files to Azure Blob storage

Answer: B

QUESTION 162

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Hotspot Question

You need to recommend a solution for the users at Contoso to authenticate to the cloud-based services and the Azure AD-integrated applications.

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.

Answer Area

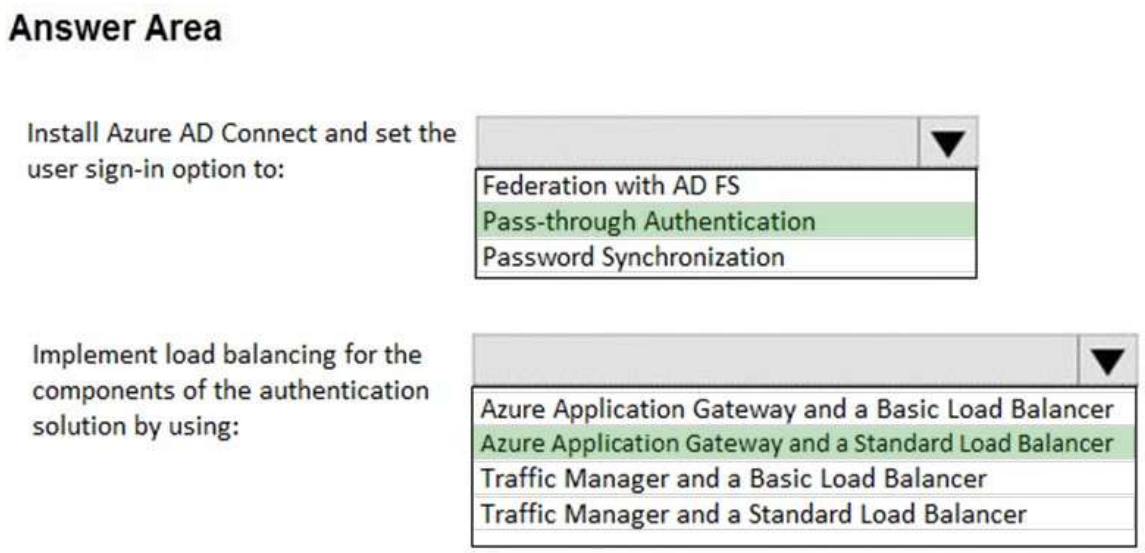
Install Azure AD Connect and set the user sign-in option to:

- Federation with AD FS
- Pass-through Authentication
- Password Synchronization

Implement load balancing for the components of the authentication solution by using:

- Azure Application Gateway and a Basic Load Balancer
- Azure Application Gateway and a Standard Load Balancer
- Traffic Manager and a Basic Load Balancer
- Traffic Manager and a Standard Load Balancer

Answer:



QUESTION 163

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Your company has an on-premises Active Directory Domain Services (AD DS) domain and an established Azure Active Directory (Azure AD) environment.

Your company would like users to be automatically signed in to cloud apps when they are on their corporate desktops that are connected to the corporate network.

You need to enable single sign-on (SSO) for company users.

Solution: Install and configure an Azure AD Connect server to use password hash synchronization and select the Enable single sign-on option.

Does the solution meet the goal?

A. Yes
B. No

Answer: A