

Microsoft

Exam Questions AZ-305

Designing Microsoft Azure Infrastructure Solutions



NEW QUESTION 1

- (Exam Topic 4)

Your company, named Contoso, Ltd., implements several Azure logic apps that have HTTP triggers. The logic apps provide access to an on-premises web service.

Contoso establishes a partnership with another company named Fabrikam. IncL

Fabrikam does not have an existing Azure Active Directory (Azure AD) tenant and uses third-party OAuth 2.0 identity management to authenticate its users.

I Developers at Fabrikam plan to use a subset of the logic apps to build applications that will integrate with the on-premises web service of Contoso.

You need to design a solution to provide the Fabrikam developers with access to the logic apps. The solution must meet the following requirements:

- Requests to the logic apps from the developers must be limited to lower rates than the requests from the users at Contoso.
- The developers must be able to rely on their existing OAuth 2.0 provider to gain access to the logic apps.
- The solution must NOT require changes to the logic apps.
- The solution must NOT use Azure AD guest accounts. What should you include in the solution?

- A. Azure AD business-to-business (B2B)
- B. Azure AD Application Proxy
- C. Azure Front Door
- D. Azure API Management

Answer: D

Explanation:

API Management helps organizations publish APIs to external, partner, and internal developers to unlock the potential of their data and services.

You can secure API Management using the OAuth 2.0 client credentials flow. Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-key-concepts> <https://docs.microsoft.com/en-us/azure/api-management/api-management-features> <https://docs.microsoft.com/en-us/azure/api-management/api-management-howto-protect-backend-with-aad#ena>

NEW QUESTION 2

- (Exam Topic 4)

You are designing an Azure web app.

You plan to deploy the web app to the North Europe Azure region and the West Europe Azure region. You need to recommend a solution for the web app. The solution must meet the following requirements:

Users must always access the web app from the North Europe region, unless the region fails.

The web app must be available to users if an Azure region is unavailable.

Deployment costs must be minimized.

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.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Graphical user interface, text, application, chat or text message Description automatically generated

<https://docs.microsoft.com/en-us/azure/traffic-manager/traffic-manager-routing-methods#priority-traffic-routing>

NEW QUESTION 3

- (Exam Topic 4)

You plan to develop a new app that will store business critical data. The app must meet the following requirements:

- Prevent new data from being modified for one year.
- Maximize data resiliency.
- Minimize read latency.

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

NEW QUESTION 4

- (Exam Topic 4)

You plan to deploy an app that will use an Azure Storage account.

You need to deploy the storage account. The solution must meet the following requirements:

- Store the data of multiple users.
- Encrypt each user's data by using a separate key.
- Encrypt all the data in the storage account by using Microsoft keys or customer-managed keys. What should you deploy?

- A. files in a general purpose v2 storage account.
- B. blobs in an Azure Data Lake Storage Gen2 account.
- C. files in a premium file share storage account.
- D. blobs in a general purpose v2 storage account

Answer: B

NEW QUESTION 5

- (Exam Topic 4)

You have an on-premises file server that stores 2 TB of data files.

You plan to move the data files to Azure Blob Storage In the West Europe Azure region,

You need to recommend a storage account type to store the data files and a replication solution for the storage account. The solution must meet the following requirements:

- Be available if a single Azure datacenter fails.
- Support storage tiers.
- Minimize cost.

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Account Type: StorageV2

Replication solution: Zone-redundant storage (ZRS) <https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy>

<https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy#supported-azure-storage-services> <https://docs.microsoft.com/en-us/azure/storage/common/storage-account-overview#types-of-storage-accounts>

Data must be available if a single Azure datacenter fails. It means the storage account must support ZRS replication. Also, solution should support storage tiers.

Only General-purpose V2 supports ZRS and storage tiers.

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-storage-tiers>

NEW QUESTION 6

- (Exam Topic 4)

Your company has the infrastructure shown in the following table.

The on-premises Active Directory domain syncs to Azure Active Directory (Azure AD).

Server1 runs an application named Appl that uses LDAP queries to verify user identities in the on-premises Active Directory domain.

You plan to migrate Server1 to a virtual machine in Subscription1.

A company security policy states that the virtual machines and services deployed to Subscription1 must be prevented from accessing the on-premises network.

You need to recommend a solution to ensure that Appl continues to function after the migration. The solution must meet the security policy.

What should you include in the recommendation?

- A. Azure AD Domain Services (Azure AD DS)
- B. an Azure VPN gateway
- C. the Active Directory Domain Services role on a virtual machine
- D. Azure AD Application Proxy

Answer: A

Explanation:

<https://docs.microsoft.com/en-us/azure/active-directory-domain-services/overview>

Azure Active Directory Domain Services (Azure AD DS) provides managed domain services such as domain join, group policy, lightweight directory access protocol (LDAP), and Kerberos/NTLM authentication

Azure AD Domain Services (Azure AD DS) - This one could work since AAD DS will bring in the existing accounts from Azure AD which in turn are synchronised from on-premise AD over AD connect. However, you would probably need to reconfigure the app and update the LDAP connection

Azure Active Directory (Azure AD) supports LDAP Authentication via Azure AD Domain Services (AD DS). <https://docs.microsoft.com/en-us/azure/active-directory/fundamentals/auth-ldap>

<https://docs.microsoft.com/en-us/azure/active-directory-domain-services/synchronization>

NEW QUESTION 7

- (Exam Topic 4)

You have an Azure subscription. The subscription has a blob container that contains multiple blobs. Ten users in the finance department of your company plan to access the blobs during the month of April. You need to recommend a solution to enable access to the blobs during the month of April only. Which security solution should you include in the recommendation?

- A. shared access signatures (SAS)
- B. access keys
- C. conditional access policies
- D. certificates

Answer: A

Explanation:

Reference:

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

This allows for limited-time fine grained access control to resources. So you can generate URL, specify duration (for month of April) and disseminate URL to 10 team members. On May 1, the SAS token is automatically invalidated, denying team members continued access.

NEW QUESTION 8

- (Exam Topic 4)

You have data files in Azure Blob Storage.

You plan to transform the files and move them to Azure Data Lake Storage. You need to transform the data by using mapping data flow. Which service should you use?

- A. Azure Data Box Gateway
- B. Azure Databricks
- C. Azure Data Factory
- D. Azure Storage Sync

Answer: C

Explanation:

You can use Copy Activity in Azure Data Factory to copy data from and to Azure Data Lake Storage Gen2, and use Data Flow to transform data in Azure Data Lake Storage Gen2.

Reference:

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

NEW QUESTION 9

- (Exam Topic 4)

You have an on-premises database that you plan to migrate to Azure.

You need to design the database architecture to meet the following requirements:

Support scaling up and down.

Support geo-redundant backups.

Support a database of up to 75 TB.

Be optimized for online transaction processing (OLTP).

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

NOTE: Each correct selection is worth one point.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Box 1: Azure SQL Database Azure SQL Database:

Database size always depends on the underlying service tiers (e.g. Basic, Business Critical, Hyperscale). It supports databases of up to 100 TB with Hyperscale service tier model.

Active geo-replication is a feature that lets you to create a continuously synchronized readable secondary database for a primary database. The readable secondary database may be in the same Azure region as the primary, or, more commonly, in a different region. This kind of readable secondary databases are also known as geo-secondaries, or geo-replicas.

Azure SQL Database and SQL Managed Instance enable you to dynamically add more resources to your database with minimal downtime.

Box 2: Hyperscale Reference:

<https://docs.microsoft.com/en-us/azure/azure-sql/database/active-geo-replication-overview> <https://medium.com/awesome-azure/azure-difference-between-azure-sql-database-and-sql-server-on-vm-compar>

NEW QUESTION 10

- (Exam Topic 4)

Your company has two on-premises sites in New York and Los Angeles and Azure virtual networks in the East US Azure region and the West US Azure region.

Each on-premises site has Azure ExpressRoute circuits to both regions.

You need to recommend a solution that meets the following requirements:

Outbound traffic to the Internet from workloads hosted on the virtual networks must be routed through the closest available on-premises site.

If an on-premises site fails, traffic from the workloads on the virtual networks to the Internet must reroute automatically to the other site.

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.

- A. Mastered
B. Not Mastered

Answer: A

Explanation:

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

An on-premises network gateway can exchange routes with an Azure virtual network gateway using the border gateway protocol (BGP). Using BGP with an Azure virtual network gateway is dependent on the type you selected when you created the gateway. If the type you selected were: ExpressRoute: You must use BGP to advertise on-premises routes to the Microsoft Edge router. You cannot create user-defined routes to force traffic to the ExpressRoute virtual network gateway if you deploy a virtual network gateway deployed as type: ExpressRoute. You can use user-defined routes for forcing traffic from the Express Route to, for example, a Network Virtual Appliance.

<https://docs.microsoft.com/ja-jp/azure/expressroute/designing-for-disaster-recovery-with-expressroute-privatepe> <https://docs.microsoft.com/en-us/azure/expressroute/expressroute-optimize-routing#suboptimal-routing-from-cu>

NEW QUESTION 10

- (Exam Topic 4)

You are developing a sales application that will contain several Azure cloud services and will handle different components of a transaction. Different cloud services will process customer orders, billing, payment, inventory, and shipping.

You need to recommend a solution to enable the cloud services to asynchronously communicate transaction information by using REST messages.

What should you include in the recommendation?

- A. Azure Service Bus
B. Azure Blob storage
C. Azure Notification Hubs
D. Azure Application Gateway

Answer: A

Explanation:

Service Bus is a transactional message broker and ensures transactional integrity for all internal operations against its message stores. All transfers of messages inside of Service Bus, such as moving messages to a dead-letter queue or automatic forwarding of messages between entities, are transactional.

Reference:

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-transactions>

"Service Bus offers a reliable and secure platform for asynchronous transfer of data and state." ... "Service Bus supports standard AMQP 1.0 and HTTP/REST protocols."

<https://docs.microsoft.com/en-us/azure/service-bus-messaging/service-bus-messaging-overview>

NEW QUESTION 14

- (Exam Topic 4)

You have the Azure resources shown in the following table.

You need to deploy a new Azure Firewall policy that will contain mandatory rules for all Azure Firewall deployments. The new policy will be configured as a parent policy for the existing policies.

What is the minimum number of additional Azure Firewall policies you should create?

- A. 1
B. 2
C. 3

Answer: B

Explanation:

Firewall policies work across regions and subscriptions. Place all your global configurations in the parent policy.

Note: Policies can be created in a hierarchy. You can create a parent/global policy that will contain configurations and rules that will apply to all/a number of firewall instances. Then you create a child policy that inherits from the parent; note that rules changes in the parent instantly appear in the child. The child is associated with a firewall and applies configurations/rules from the parent policy and the child policy instantly to the firewall.

Reference: <https://aidanfinn.com/?p=22006>

NEW QUESTION 16

- (Exam Topic 4)

You are designing a microservices architecture that will be hosted in an Azure Kubernetes Service (AKS) cluster. Apps that will consume the microservices will be hosted on Azure virtual machines. The virtual machines and the AKS cluster will reside on the same virtual network.

You need to design a solution to expose the microservices to the consumer apps. The solution must meet the following requirements:

- Ingress access to the microservices must be restricted to a single private IP address and protected by using mutual TLS authentication.
- The number of incoming microservice calls must be rate-limited.
- Costs must be minimized.

What should you include in the solution?

- A. Azure API Management Premium tier with virtual network connection
B. Azure Front Door with Azure Web Application Firewall (WAF)
C. Azure API Management Standard tier with a service endpoint
D. Azure App Gateway with Azure Web Application Firewall (WAF)

Answer: A

Explanation:

One option is to deploy APIM (API Management) inside the cluster VNet.

The AKS cluster and the applications that consume the microservices might reside within the same VNet, hence there is no reason to expose the cluster publicly as all API traffic will remain within the VNet. For these scenarios, you can deploy API Management into the cluster VNet. API Management Premium tier supports

VNet deployment.

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-kubernetes>

NEW QUESTION 20

- (Exam Topic 4)

You have an Azure subscription.

You need to deploy an Azure Kubernetes Service (AKS) solution that will use Windows Server 2019 nodes. The solution must meet the following requirements:

- Minimize the time it takes to provision compute resources during scale-out operations.
- Support autoscaling of Windows Server containers. Which scaling option should you recommend?

- A. horizontal pod autoscaler
- B. Kubernetes version 1.20.2 or newer
- C. cluster autoscaler
- D. Virtual nodes
- E. with Virtual Kubelet ACI

Answer: C

Explanation:

<https://docs.microsoft.com/en-us/azure/aks/cluster-autoscaler#about-the-cluster-autoscaler>

NEW QUESTION 24

- (Exam Topic 4)

Note: This question is part of a series of questions that present the same scenario. Each question in the series contains a unique solution that might meet the stated goals. Some question sets might have more than one correct solution, while others might not have a correct solution.

After you answer a question in this section, you will NOT be able to return to it. As a result, these questions will not appear in the review screen.

Your company has deployed several virtual machines (VMs) on-premises and to Azure. Azure ExpressRoute has been deployed and configured for on-premises to Azure connectivity.

Several VMs are exhibiting network connectivity issues.

You need to analyze the network traffic to determine whether packets are being allowed or denied to the VMs. Solution: Install and configure the Microsoft Monitoring Agent and the Dependency Agent on all VMs. Use the Wire Data solution in Azure Monitor to analyze the network traffic.

Does the solution meet the goal?

- A. Yes
- B. No

Answer: B

Explanation:

Instead use Azure Network Watcher to run IP flow verify to analyze the network traffic.

Note: Wire Data looks at network data at the application level, not down at the TCP transport layer. The solution doesn't look at individual ACKs and SYNs.

Reference:

<https://docs.microsoft.com/en-us/azure/network-watcher/network-watcher-monitoring-overview> <https://docs.microsoft.com/en-us/azure/network-watcher/network-watcher-ip-flow-verify-overview>

NEW QUESTION 25

- (Exam Topic 4)

You need to recommend an Azure Storage Account configuration for two applications named Application1 and Applications. The configuration must meet the following requirements:

- Storage for Application1 must provide the highest possible transaction rates and the lowest possible latency.
- Storage for Application2 must provide the lowest possible storage costs per GB.
- Storage for both applications must be optimized for uploads and downloads.
- Storage for both applications must be available in an event of datacenter failure.

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

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Graphical user interface, text, application Description automatically generated

Box 1: BlobBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication.

BlockBlobStorage accounts: Storage accounts with premium performance characteristics for block blobs and append blobs. Recommended for scenarios with high transactions rates, or scenarios that use smaller objects or require consistently low storage latency.

Premium: optimized for high transaction rates and single-digit consistent storage latency. Box 2: General purpose v2 with Standard performance..

General-purpose v2 accounts: Basic storage account type for blobs, files, queues, and tables. Recommended for most scenarios using Azure Storage.

Reference:

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

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

NEW QUESTION 29

- (Exam Topic 4)

You have an Azure subscription that contains a storage account.

An application sometimes writes duplicate files to the storage account.

You have a PowerShell script that identifies and deletes duplicate files in the storage account. Currently, the script is run manually after approval from the operations manager.

You need to recommend a serverless solution that performs the following actions:

- Runs the script once an hour to identify whether duplicate files exist
 - Processes an email response from the operations manager specifying whether the deletion was approved
 - Runs the script if the deletion was approved
- What should you include in the recommendation?

- A. Azure Logic Apps and Azure Functions
- B. Azure Pipelines and Azure Service Fabric
- C. Azure Logic Apps and Azure Event Grid
- D. Azure Functions and Azure Batch

Answer: A

Explanation:

You can schedule a powershell script with Azure Logic Apps.

When you want to run code that performs a specific job in your logic apps, you can create your own function by using Azure Functions. This service helps you create Node.js, C#, and F# functions so you don't have to build a complete app or infrastructure to run code. You can also call logic apps from inside Azure functions. Azure Functions provides serverless computing in the cloud and is useful for performing tasks such as these examples:

Reference:

<https://docs.microsoft.com/en-us/azure/logic-apps/logic-apps-azure-functions>

NEW QUESTION 31

- (Exam Topic 3)

You need to recommend a solution that meets the data requirements for App1.

What should you recommend deploying to each availability zone that contains an instance of App1?

- A. an Azure Cosmos DB that uses multi-region writes
- B. an Azure Storage account that uses geo-zone-redundant storage (GZRS)
- C. an Azure Data Lake store that uses geo-zone-redundant storage (GZRS)
- D. an Azure SQL database that uses active geo-replication

Answer: A

NEW QUESTION 36

- (Exam Topic 3)

You need to recommend a solution to ensure that App1 can access the third-party credentials and access strings. The solution must meet the security 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.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

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

Scenario: Security Requirement

All secrets used by Azure services must be stored in Azure Key Vault.

Services that require credentials must have the credentials tied to the service instance. The credentials must NOT be shared between services.

Box 1: A service principal

A service principal is a type of security principal that identifies an application or service, which is to say, a piece of code rather than a user or group. A service principal's object ID is known as its client ID and acts like its username. The service principal's client secret acts like its password.

Note: Authentication with Key Vault works in conjunction with Azure Active Directory (Azure AD), which is responsible for authenticating the identity of any given security principal.

A security principal is an object that represents a user, group, service, or application that's requesting access to Azure resources. Azure assigns a unique object ID to every security principal.

Box 2: A role assignment

You can provide access to Key Vault keys, certificates, and secrets with an Azure role-based access control. Reference:

<https://docs.microsoft.com/en-us/azure/key-vault/general/authentication>

NEW QUESTION 38

- (Exam Topic 2)

You need to recommend a notification solution for the IT Support distribution group. What should you include in the recommendation?

- A. Azure Network Watcher
- B. an action group
- C. a SendGrid account with advanced reporting
- D. Azure AD Connect Health

Answer: D

Explanation:

References:

<https://docs.microsoft.com/en-us/azure/active-directory/hybrid/how-to-connect-health-operations>

NEW QUESTION 41

- (Exam Topic 1)

You plan to migrate App1 to Azure.

You need to recommend a high-availability solution for App1. The solution must meet the resiliency 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.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

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

Box 1: 3

Scenario: App1 must meet the following requirements:

Be hosted in an Azure region that supports availability zones.

Maintain availability if two availability zones in the local Azure region fail.

A host group is a resource that represents a collection of dedicated hosts. You create a host group in a region and an availability zone, and add hosts to it.

Use Availability Zones for fault isolation

Availability zones are unique physical locations within an Azure region. Each zone is made up of one or more datacenters equipped with independent power, cooling, and networking. A host group is created in a single availability zone. Once created, all hosts will be placed within that zone. To achieve high availability across zones, you need to create multiple host groups (one per zone) and spread your hosts accordingly.

Box 2: 1

Scenario: App1 must meet the following requirements:

Be hosted on Azure virtual machines that support automatic scaling.

An Azure virtual machine scale set can automatically increase or decrease the number of VM instances that run your application. This automated and elastic behavior reduces the management overhead to monitor and optimize the performance of your application.

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/dedicated-hosts>

<https://docs.microsoft.com/en-us/azure/virtual-machine-scale-sets/virtual-machine-scale-sets-autoscale-overview>

NEW QUESTION 45

- (Exam Topic 1)

You need to configure an Azure policy to ensure that the Azure SQL databases have TDE enabled. 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.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

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Scenario: All Azure SQL databases in the production environment must have Transparent Data Encryption (TDE) enabled.

Step 1: Create an Azure policy definition that uses the deployIfNotExists identity.

The first step is to define the roles that deployIfNotExists and modify needs in the policy definition to successfully deploy the content of your included template.

Step 2: Create an Azure policy assignment

When creating an assignment using the portal, Azure Policy both generates the managed identity and grants it the roles defined in roleDefinitionIds.

Step 3: Invoke a remediation task

Resources that are non-compliant to a deployIfNotExists or modify policy can be put into a compliant state through Remediation. Remediation is accomplished by instructing Azure Policy to run the deployIfNotExists effect or the modify operations of the assigned policy on your existing resources and subscriptions, whether that assignment is to a management group, a subscription, a resource group, or an individual resource.

During evaluation, the policy assignment with deployIfNotExists or modify effects determines if there are non-compliant resources or subscriptions. When non-compliant resources or subscriptions are found, the details are provided on the Remediation page.

Reference:

<https://docs.microsoft.com/en-us/azure/governance/policy/how-to/remediate-resources>

NEW QUESTION 47

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