

# Microsoft

## Exam Questions AZ-304

Microsoft Azure Architect Design (beta)



#### NEW QUESTION 1

- (Exam Topic 1)

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 2

- (Exam Topic 1)

You need to recommend a strategy for the web tier of WebApp1. The solution must minimize What should you recommend?

- A. Create a runbook that resizes virtual machines automatically to a smaller size outside of business hours.
- B. Configure the Scale Up settings for a web app.
- C. Deploy a virtual machine scale set that scales out on a 75 percent CPU threshold.
- D. Configure the Scale Out settings for a web app.

**Answer: D**

#### NEW QUESTION 3

- (Exam Topic 1)

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 BACPAC file that contains the Azure SQL database file to Azure Blob storage.
- D. Copy the VHD that contains the Azure SQL database files to Azure Blob storage

**Answer: D**

#### Explanation:

Before you upload a Windows virtual machine (VM) from on-premises to Azure, you must prepare the virtual hard disk (VHD or VHDX).

Scenario: WebApp1 has a web tier that uses Microsoft Internet Information Services (IIS) and a database tier that runs Microsoft SQL Server 2016. The web tier and the database tier are deployed to virtual machines that run on Hyper-V. Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/prepare-for-upload-vhd-image>

#### NEW QUESTION 4

- (Exam Topic 1)

You need to recommend a data storage strategy for WebApp1. What should you include in in the recommendation?

- A. an Azure SQL Database elastic pool
- B. a vCore-based Azure SQL database
- C. an Azure virtual machine that runs SQL Server
- D. a fixed-size DTU AzureSQL database.

**Answer: B**

#### NEW QUESTION 5

- (Exam Topic 1)

What should you include in the identity management strategy to support the planned changes?

- A. Move all the domain controllers from corp.fabrikam.com to virtual networks in Azure.
- B. Deploy domain controllers for corp.fabrikam.com to virtual networks in Azure.
- C. Deploy a new Azure AD tenant for the authentication of new R&D projects.
- D. Deploy domain controllers for the rd.fabrikam.com forest to virtual networks in Azure.

**Answer: B**

#### Explanation:

Directory synchronization between Azure Active Directory (Azure AD) and corp.fabrikam.com must not be affected by a link failure between Azure and the on-premises network. (This requires domain controllers in Azure)

Users on the on-premises network must be able to authenticate to corp.fabrikam.com if an Internet link fails. (This requires domain controllers on-premises)

#### NEW QUESTION 6

- (Exam Topic 1)

To meet the authentication requirements of Fabrikam, what should you include in the solution? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

## Answer Area

Minimum number of Azure AD tenants:

0
1
2
3
4

Minimum number of custom domains to add:

0
1
2
3
4

Minimum number of conditional access policies to create:

0
1
2
3
4

- A. Mastered
- B. Not Mastered

**Answer:** A

### Explanation:

Box 1: 2

The network contains two Active Directory forests named corp.fabrikam.com and rd.fabrikam.com. There are no trust relationships between the forests.

Box 2: 1

Box 3: 1

Scenario:

Users on the on-premises network must be able to authenticate to corp.fabrikam.com if an Internet link fails.

Administrators must be able to authenticate to the Azure portal by using their corp.fabrikam.com credentials. All administrative access to the Azure portal must be secured by using multi-factor authentication.

Note:

Users must always authenticate by using their corp.fabrikam.com UPN identity.

The network contains two Active Directory forests named corp.fabrikam.com and rd.fabrikam.com. There are no trust relationships between the forests.

Corp.fabrikam.com is a production forest that contains identities used for internal user and computer authentication.

Rd.fabrikam.com is used by the research and development (R&D) department only.

### NEW QUESTION 7

- (Exam Topic 3)

You have an Azure Active Directory (Azure AD) tenant.

You plan to deploy Azure Cosmos DB databases that will use the SQL API.

You need to recommend a solution to provide specific Azure AD user accounts with read access to the Cosmos DB databases.

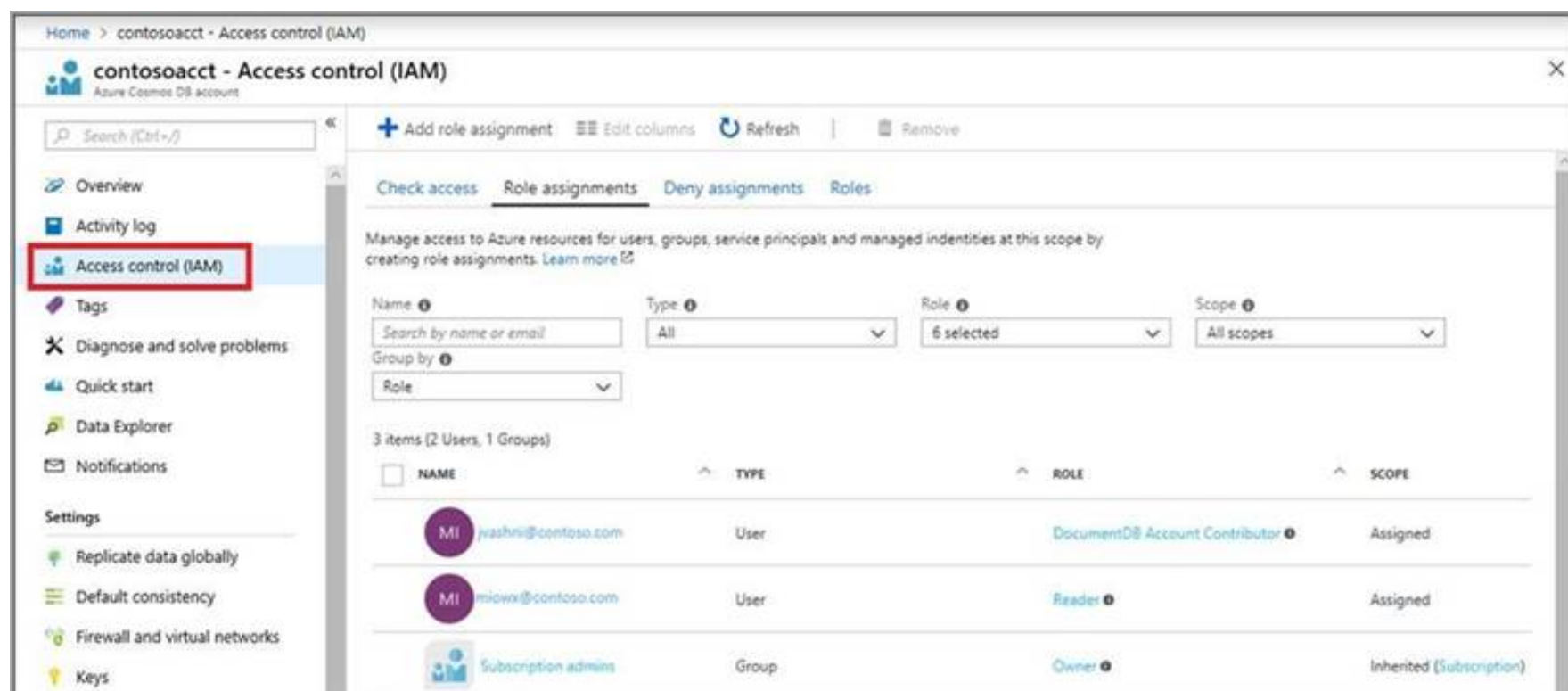
What should you include in the recommendation?

- A. a resource token and an Access control (IAM) role assignment
- B. shared access signatures (SAS) and conditional access policies
- C. master keys and Azure Information Protection policies
- D. certificates and Azure Key Vault

**Answer:** A

### Explanation:

The Access control (IAM) pane in the Azure portal is used to configure role-based access control on Azure Cosmos resources. The roles are applied to users, groups, service principals, and managed identities in Active Directory. You can use built-in roles or custom roles for individuals and groups. The following screenshot shows Active Directory integration (RBAC) using access control (IAM) in the Azure portal:



Reference:  
<https://docs.microsoft.com/en-us/azure/cosmos-db/role-based-access-control>

### NEW QUESTION 8

- (Exam Topic 3)

You have an Azure App Service Web App that includes Azure Blob storage and an Azure SQL Database instance. The application is instrumented by using the Application Insights SDK.

You need to design a monitoring solution for the web app.

Which Azure monitoring services should you use? To answer, select the appropriate Azure monitoring services in the answer area.

NOTE: Each correct selection is worth one point.

Scenario	Azure monitoring service
Correlate Azure resource usage and performance data with application configuration and performance data.	<div> <div></div> <div> Azure Application Insights Azure Service Map Azure Monitor Logs Azure Activity Log </div> </div>
Visualize the relationships between application components.	<div> <div></div> <div> Azure Application Insights Azure Service Map Azure Monitor Logs Azure Activity Log </div> </div>
Track requests and exceptions to a specific line of code within the application.	<div> <div></div> <div> Azure Application Insights Azure Service Map Azure Monitor Logs Azure Activity Log </div> </div>
Analyze how many users return to the application and how often they select a particular dropdown value.	<div> <div></div> <div> Azure Application Insights Azure Service Map Azure Monitor Logs Azure Activity Log </div> </div>

- A. Mastered  
 B. Not Mastered

**Answer: A**

**Explanation:**

- \* 1. Azure Monitor Log
- \* 2. Azure Application Insights (application map in App insights)

- \* 3. Azure Application Insights
- \* 4. Azure Application insights

<https://docs.microsoft.com/en-us/azure/azure-monitor/app/app-map?tabs=net> <https://docs.microsoft.com/en-us/azure/azure-monitor/insights/service-map>

#### NEW QUESTION 9

- (Exam Topic 3)

You have an on-premises network to which you deploy a virtual appliance.

You plan to deploy several Azure virtual machines and connect the on-premises network to Azure by using a Site-to-Site connection.

All network traffic that will be directed from the Azure virtual machines to a specific subnet must flow through the virtual appliance.

You need to recommend solutions to manage network traffic.

Which two options should you recommend? Each correct answer presents a complete solution.

- A. Configure Azure Traffic Manager.
- B. Implement an Azure virtual network.
- C. Implement Azure ExpressRoute.
- D. Configure a routing table.

**Answer:** CD

#### Explanation:

Connectivity can be from an any-to-any (IP VPN) network, a point-to-point Ethernet network, or a virtual cross-connection through a connectivity provider at a co-location facility. ExpressRoute connections do not go over the public Internet. This allows ExpressRoute connections to offer more reliability, faster speeds, lower latencies, and higher security than typical connections over the Internet.

Reference:

<https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-forced-tunneling-rm> <https://docs.microsoft.com/en-us/azure/expressroute/expressroute-introduction>

#### NEW QUESTION 10

- (Exam Topic 3)

You architect a solution that calculates 3D geometry from height-map data. You have the following requirements:

Perform calculations in Azure.

Each node must communicate data to every other node.

Maximize the number of nodes to calculate multiple scenes as fast as possible. Require the least amount of effort to implement.

You need to recommend a solution.

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

- A. Create a render farm that uses Azure Batch.
- B. Enable parallel file systems on Azure.
- C. Enable parallel task execution on compute nodes.
- D. Create a render farm that uses virtual machine (VM) scale sets.
- E. Create a render farm that uses virtual machines (VMs).

**Answer:** AC

#### NEW QUESTION 10

- (Exam Topic 3)

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

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

You have an on-premises Hyper-V cluster that hosts 20 virtual machines. Some virtual machines run Windows Server 2016 and some run Linux.

You plan to migrate the virtual machines to an Azure subscription.

You need to recommend a solution to replicate the disks of the virtual machines to Azure. The solution must ensure that the virtual machines remain available during the migration of the disks.

Solution: You recommend implementing an Azure Storage account that has a file service and a blob service, and then using the Data Migration Assistant. Does this meet the goal?

- A. Yes
- B. No

**Answer:** B

#### Explanation:

Data Migration Assistant is used to migrate SQL databases. Instead use Azure Site Recovery.

References:

<https://docs.microsoft.com/en-us/azure/site-recovery/site-recovery-overview>

#### NEW QUESTION 11

- (Exam Topic 3)

You need to deploy resources to host a stateless web app in an Azure subscription. The solution must meet the following requirements:

- Provide access to the full .NET framework.
  - Provide redundancy if an Azure region fails.
  - Grant administrators access to the operating system to install custom application dependencies.
- Solution: You deploy an Azure virtual machine to two Azure regions, and you deploy an Azure Application Gateway.

Does this meet the goal?

- A. Yes
- B. No

**Answer:** B



**Explanation:**

You need to deploy two Azure virtual machines to two Azure regions, but also create a Traffic Manager profile.

**NEW QUESTION 15**

- (Exam Topic 3)

You have an on-premises network that uses an IP address space of 172.16.0.0/16. You plan to deploy 25 virtual machines to a new Azure subscription.

You identify the following technical requirements.

- All Azure virtual machines must be placed on the same subnet, subnet1.
- All the Azure virtual machines must be able to communicate with all on-premises servers.
- The servers must be able to communicate between the on-premises network and Azure by using a site-to-site VPN.

You need to recommend a subnet design that meets the technical requirements.

What should you include in the recommendation? To answer, drag the appropriate network addresses to the correct subnet. Each network address 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.

Network Addresses	Answer Area
172.16.0.0/16	Subnet1: <input type="text" value="Network address"/>
172.16.1.0/28	Gateway subnet: <input type="text" value="Network address"/>
192.168.0.0/24	
192.168.1.0/28	

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Network Addresses	Answer Area
172.16.0.0/16	Subnet1: <input type="text" value="192.168.0.0/24"/>
172.16.1.0/28	Gateway subnet: <input type="text" value="192.168.1.0/28"/>
192.168.0.0/24	
192.168.1.0/28	

**NEW QUESTION 16**

- (Exam Topic 3)

You have an Azure subscription that is linked to an Azure Active Directory (Azure AD) tenant. The subscription contains 10 resource groups, one for each department at your company. Each department has a specific spending limit for its Azure resources.

You need to ensure that when a department reaches its spending limit, the compute resources of the department shut down automatically.

Which two features should you include in the solution? Each correct answer presents part of the solution.

NOTE: Each correct selection is worth one point.

- A. Azure Logic Apps
- B. Azure Monitor alerts
- C. the spending limit of an Azure account
- D. Cost Management budgets
- E. Azure Log Analytics alerts

**Answer:** CD

**Explanation:**

C: The spending limit in Azure prevents spending over your credit amount. All new customers who sign up for an Azure free account or subscription types that include credits over multiple months have the spending limit turned on by default. The spending limit is equal to the amount of credit and it can't be changed.

D: Turn on the spending limit after removing

This feature is available only when the spending limit has been removed indefinitely for subscription types that include credits over multiple months. You can use this feature to turn on your spending limit automatically at the start of the next billing period.

- Sign in to the Azure portal as the Account Administrator.
- Search for Cost Management + Billing.
- Etc.

Reference:

<https://docs.microsoft.com/en-us/azure/cost-management-billing/manage/spending-limit>

**NEW QUESTION 19**

- (Exam Topic 3)

Your company purchases an app named App1.  
 You plan to tun App1 on seven Azure virtual machines In an Availability Set. The number of fault domains is set to 3. The number of update domains is set to 20.  
 You need to identity how many App1 instances will remain available during a period of planned maintenance. How many Appl instances should you identify?

- A. 1
- B. 2
- C. 6
- D. 7

**Answer:** C

**Explanation:**

Only one update domain is rebooted at a time. Here there are 7 update domain with one VM each (and 13 update domain with no VM).  
 Reference:  
<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/manage-availability>

**NEW QUESTION 23**

- (Exam Topic 3)

Your company has users who work remotely from laptops.  
 You plan to move some of the applications accessed by the remote users to Azure virtual machines. The users will access the applications in Azure by using a point-to-site VPN connection. You will use certificates generated from an on-premises-based certification authority (CA).  
 You need to recommend which certificates are required for the deployment.  
 What should you include in the recommendation? To answer, drag the appropriate certificates to the correct targets. Each certificate 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.

### Certificates

- A root CA certificate that has the private key
- A root CA certificate that has the public key
- A user certificate that has the private key
- A user certificate that has the public key

### Answer Area

Trusted Root Certification Authorities certificate store on each laptop:

Certificate

The users' Personal store on each laptop:

Certificate

The Azure VPN gateway:

Certificate

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

### Certificates

- A root CA certificate that has the private key
- A root CA certificate that has the public key
- A user certificate that has the private key
- A user certificate that has the public key

### Answer Area

Trusted Root Certification Authorities certificate store on each laptop:

A root CA certificate that has the public key

The users' Personal store on each laptop:

A user certificate that has the private key

The Azure VPN gateway:

A root CA certificate that has the public key

**NEW QUESTION 25**

- (Exam Topic 3)

You are designing an order processing system in Azure that will contain the Azure resources shown in the following table.

Name	Type	Purpose
App1	Web app	Processes customer orders
Function1	Function	Check product availability at vendor 1
Function2	Function	Check product availability at vendor 2
storage1	Storage account	Stores order processing logs

The order processing system will have the following transaction flow:

- > A customer will place an order by using App1.
- > When the order is received, App1 will generate a message to check for product availability at vendor 1 and vendor 2.
- > An integration component will process the message, and then trigger either Function1 or Function2 depending on the type of order.
- > Once a vendor confirms the product availability, a status message for App1 will be generated by Function1 or Function2.
- > All the steps of the transaction will be logged to storage1.

Which type of resource should you recommend for the integration component? D18912E1457D5D1DDCBD40AB3BF70D5D

Which type of resource should you recommend for the integration component?

- A. an Azure Data Factory pipeline
- B. an Azure Service Bus queue
- C. an Azure Event Grid domain
- D. an Azure Event Hubs capture

**Answer:** A

**Explanation:**

A data factory can have one or more pipelines. A pipeline is a logical grouping of activities that together perform a task.

The activities in a pipeline define actions to perform on your data.

Data Factory has three groupings of activities: data movement activities, data transformation activities, and control activities.

Azure Functions is now integrated with Azure Data Factory, allowing you to run an Azure function as a step in your data factory pipelines.

Reference:

<https://docs.microsoft.com/en-us/azure/data-factory/concepts-pipelines-activities>

**NEW QUESTION 27**

- (Exam Topic 3)

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

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

You have an Azure Storage v2 account named Storage1. You plan to archive data to Storage1.

You need to ensure that the archived data cannot be deleted for five years. The solution must prevent administrators from deleting the data.

Solution: You create a file share, and you configure an access policy. Does this meet the goal?

- A. Yes
- B. No

**Answer:** B

**Explanation:**

Instead of a file share, an immutable Blob storage is required.

Time-based retention policy support: Users can set policies to store data for a specified interval. When a time-based retention policy is set, blobs can be created and read, but not modified or deleted. After the retention period has expired, blobs can be deleted but not overwritten.

Note: Set retention policies and legal holds

\* 1. Create a new container or select an existing container to store the blobs that need to be kept in the immutable state. The container must be in a general-purpose v2 or Blob storage account.

\* 2. Select Access policy in the container settings. Then select Add policy under Immutable blob storage.

\* 3. To enable time-based retention, select Time-based retention from the drop-down menu.

\* 4. Enter the retention interval in days (acceptable values are 1 to 146000 days). References:

<https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-immutable-storage> <https://docs.microsoft.com/en-us/azure/storage/blobs/storage-blob-immutability-policies-manage>

**NEW QUESTION 28**

- (Exam Topic 3)

You plan to deploy a network-intensive application to several Azure virtual machines. You need to recommend a solution that meets the following requirements:

- > Minimizes the use of the virtual machine processors to transfer data
- > Minimizes network latency

Which virtual machine size and feature should you use? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Virtual machine size:

▼

Compute optimized Standard\_F8s

General purpose Standard\_B8ms

High performance compute Standard\_H16r

Memory optimized Standard\_E16s\_v3

Feature:

▼

Receive side scaling (RSS)

Remote Direct Memory Access (RDMA)

Single root I/O virtualization (SR-IOV)

Virtual Machine Multi-Queue (VMMQ)



- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

References:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/sizes-hpc#h-series>

**NEW QUESTION 30**

- (Exam Topic 3)

You are designing a message application that will run on an on-premises Ubuntu virtual machine. The application will use Azure Storage queues.

You need to recommend a processing solution for the application to interact with the storage queues. The solution must meet the following requirements:

- Create and delete queues daily.
- Be scheduled by using a CRON job.
- Upload messages every five minutes.

What should developers use to interact with the queues?

- A. Azure CLI
- B. AzCopy
- C. Azure Data Factory
- D. .NET Core

**Answer:** D

**Explanation:**

Reference:

<https://docs.microsoft.com/en-us/azure/storage/queues/storage-tutorial-queues>

**NEW QUESTION 35**

- (Exam Topic 3)

The developers at your company are building a containerized Python Django app.

You need to recommend platform to host the app. The solution must meet the following requirements:

- Support autoscaling.
- Support continuous deployment from an Azure Container Registry.
- Provide built-in functionality to authenticate app users by using Azure Active Directory (Azure AD). Which platform should you include in the recommendation?

- A. Azure Container instances
- B. an Azure App Service instance that uses containers
- C. Azure Kubernetes Service (AKS)

**Answer:** C

**Explanation:**

To keep up with application demands in Azure Kubernetes Service (AKS), you may need to adjust the number of nodes that run your workloads. The cluster autoscaler component can watch for pods in your cluster that can't be scheduled because of resource constraints. When issues are detected, the number of nodes in a node pool is increased to meet the application demand.

Azure Container Registry is a private registry for hosting container images. It integrates well with orchestrators like Azure Container Service, including Docker Swarm, DC/OS, and the new Azure Kubernetes service.

Moreover, ACR provides capabilities such as Azure Active Directory-based authentication, webhook support, and delete operations.

Reference:

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

[https://medium.com/velotio-perspectives/continuous-deployment-with-azure-kubernetes-service-azurecontainer- registry-jenkins-ca337940151b](https://medium.com/velotio-perspectives/continuous-deployment-with-azure-kubernetes-service-azurecontainer-registry-jenkins-ca337940151b)

**NEW QUESTION 37**

- (Exam Topic 3)

You need to recommend a solution to deploy containers that run an application. The application has two tiers.

Each tier is implemented as a separate Docker Linux-based image. The solution must meet the following requirements:

- The front-end tier must be accessible by using a public IP address on port 80.
- The backend tier must be accessible by using port 8080 from the front-end tier only.
- Both containers must be able to access the same Azure file share.
- If a container fails, the application must restart automatically.
- Costs must be minimized.

What should you recommend using to host the application?

- A. Azure Kubernetes Service (AKS)
- B. Azure Service Fabric
- C. Azure Container instances

**Answer:** C

**Explanation:**

Azure Container Instances enables a layered approach to orchestration, providing all of the scheduling and management capabilities required to run a single container, while allowing orchestrator platforms to manage multi-container tasks on top of it.

Because the underlying infrastructure for container instances is managed by Azure, an orchestrator platform does not need to concern itself with finding an appropriate host machine on which to run a single container.

Azure Container Instances can schedule both Windows and Linux containers with the same API. Orchestration of container instances exclusively Because they start quickly and bill by the second, an environment based exclusively on Azure Container Instances offers the fastest way to get started and to deal with highly variable workloads.

Reference:

<https://docs.microsoft.com/en-us/azure/container-instances/container-instances-overview> <https://docs.microsoft.com/en-us/azure/container-instances/container-instances-orchestrator-relationship>

#### **NEW QUESTION 41**

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