



## **Microsoft**

### **Exam Questions AZ-304**

Microsoft Azure Architect Design (beta)

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**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 are evaluating the components of the migration to Azure that require you to provision an Azure Storage account.

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 must provision an Azure Storage account for the SQL Server database migration.	<input type="radio"/>	<input type="radio"/>
You must provision an Azure Storage account for the Web site content storage.	<input type="radio"/>	<input type="radio"/>
You must provision an Azure Storage account for the Database metric monitoring.	<input type="radio"/>	<input type="radio"/>

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Statements	Yes	No
You must provision an Azure Storage account for the SQL Server database migration.	<input checked="" type="radio"/>	<input type="radio"/>
You must provision an Azure Storage account for the Web site content storage.	<input type="radio"/>	<input checked="" type="radio"/>
You must provision an Azure Storage account for the Database metric monitoring.	<input checked="" type="radio"/>	<input type="radio"/>

**NEW QUESTION 3**

- (Exam Topic 2)

You need to recommend a solution for protecting the content of the payment processing system. What should you include in the recommendation?

- A. Transparent Data Encryption (TDE)
- B. Azure Storage Service Encryption
- C. Always Encrypted with randomized encryption
- D. Always Encrypted with deterministic encryption

**Answer:** D

**NEW QUESTION 4**

- (Exam Topic 2)

You need to recommend a solution for data of the historical transaction query system.

What should you include in the recommendation? To answer, Select the appropriate or options in the answer area.

NOTE: Each correct selection is worth one point

## Answer Area

Sizing requirements:

- A table that has unlimited capacity
- A table that has a fixed capacity
- Multiple tables that have unlimited capacity
- Multiple tables that have fixed capacity

Resiliency:

- An additional read region
- An availability set
- An availability zone

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

## Answer Area

Sizing requirements:

- A table that has unlimited capacity
- A table that has a fixed capacity
- Multiple tables that have unlimited capacity
- Multiple tables that have fixed capacity

Resiliency:

- An additional read region
- An availability set
- An availability zone

### NEW QUESTION 5

- (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 6

- (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 7**

- (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 8**

- (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 and then running AzCopy. Does this meet the goal?

- A. Yes
- B. NO

**Answer: B**

**Explanation:**

AzCopy only copy files, not the disks. Instead use Azure Site Recovery. References:

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

**NEW QUESTION 9**

- (Exam Topic 3)

You are planning to deploy an application named App1 that will run in containers on Azure Kubernetes Service (AKS) clusters. The AKS clusters will be distributed across four Azure regions.

You need to recommend a storage solution for App1. Updated container images must be replicated automatically to all the AKS clusters.

Which storage solution should you recommend?

- A. Premium SKU Azure Container Registry
- B. Azure Content Delivery Network (CDN)
- C. geo redundant storage (GRS) accounts
- D. Azure Cache for Redis

**Answer: A**

**Explanation:**

Enable geo-replication for container images.

Best practice: Store your container images in Azure Container Registry and geo-replicate the registry to each AKS region.

To deploy and run your applications in AKS, you need a way to store and pull the container images. Container Registry integrates with AKS, so it can securely store your container images or Helm charts. Container Registry supports multimaster geo-replication to automatically replicate your images to Azure regions around the world.

Geo-replication is a feature of Premium SKU container registries. Note:

When you use Container Registry geo-replication to pull images from the same region, the results are: Faster: You pull images from high-speed, low-latency network connections within the same Azure region.

More reliable: If a region is unavailable, your AKS cluster pulls the images from an available container registry.

Cheaper: There's no network egress charge between datacenters. Reference:

<https://docs.microsoft.com/en-us/azure/aks/operator-best-practices-multi-region>

**NEW QUESTION 10**

- (Exam Topic 3)

You have an existing implementation of Microsoft SQL Server Integration Services (SSIS) packages stored in an SSISDB catalog on your on-premises network. The on-premises network does not have hybrid connectivity to Azure by using Site-to-Site VPN or ExpressRoute. You want to migrate the packages to Azure Data Factory. You need to recommend a solution that facilitates the migration while minimizing changes to the existing packages. The solution must minimize costs. What should you recommend? To answer, select the appropriate options in the answer area.  
 NOTE: Each correct selection is worth one point.

Store the SSISDB catalog by using:

Azure SQL Database
Azure Synapse Analytics
SQL Server on an Azure virtual machine
SQL Server on an on-premises computer

Implement a runtime engine for package execution by using:

Self-hosted integration runtime only
Azure-SQL Server Integration Services Integration Runtime (IR) only
Azure-SQL Server Integration Services Integration Runtime and self-hosted integration runtime

- A. Mastered
- B. Not Mastered

**Answer: A**

**Explanation:**

Box 1: Azure SQL database

You can't create the SSISDB Catalog database on Azure SQL Database at this time independently of creating the Azure-SSIS Integration Runtime in Azure Data Factory. The Azure-SSIS IR is the runtime environment that runs SSIS packages on Azure.

Box 2: Azure-SQL Server Integration Service Integration Runtime and self-hosted integration runtime The Integration Runtime (IR) is the compute infrastructure used by Azure Data Factory to provide data

integration capabilities across different network environments. Azure-SSIS Integration Runtime (IR) in Azure Data Factory (ADF) supports running SSIS packages. Self-hosted integration runtime can be used for data movement in this scenario. Reference:

<https://docs.microsoft.com/en-us/azure/data-factory/create-azure-integration-runtime> <https://docs.microsoft.com/en-us/sql/integration-services/lift-shift/ssis-azure-connect-to-catalog-database>

**NEW QUESTION 10**

- (Exam Topic 3)

You have 100 servers that run Windows Server 2012 R2 and host Microsoft SQL Server 2012 R2 instances. The instances host databases that have the following characteristics:

- > The largest database is currently 3 TB. None of the databases will ever exceed 4 TB.
- > Stored procedures are implemented by using CLR.

You plan to move all the data from SQL Server to Azure.

You need to recommend an Azure service to host the databases. The solution must meet the following requirements:

- > Whenever possible, minimize management overhead for the migrated databases.
- > Minimize the number of database changes required to facilitate the migration.
- > Ensure that users can authenticate by using their Active Directory credentials.

What should you include in the recommendation?

- A. Azure SQL Database single databases
- B. Azure SQL Database Managed Instance
- C. Azure SQL Database elastic pools
- D. SQL Server 2016 on Azure virtual machines

**Answer: B**

**Explanation:**

References:

<https://docs.microsoft.com/en-us/azure/sql-database/sql-database-managed-instance>

**NEW QUESTION 15**

- (Exam Topic 3)

You have an Azure subscription that contains resources in three Azure regions. You need to implement Azure Key Vault to meet the following requirements:  
 D18912E1457D5D1DDCBD40AB3BF70D5D

- > In the event of a regional outage, all keys must be readable.
- > All the resources in the subscription must be able to access Key Vault.
- > The number of Key Vault resources to be deployed and managed must be minimized. How many instances of Key Vault should you implement?

- A. 1
- B. 2
- C. 3
- D. 6

**Answer:** A

**Explanation:**

The contents of your key vault are replicated within the region and to a secondary region at least 150 miles away but within the same geography. This maintains high durability of your keys and secrets. See the Azure paired regions document for details on specific region pairs.  
 Example: Secrets that must be shared by your application in both Europe West and Europe North. Minimize these as much as you can. Put these in a key vault in either of the two regions. Use the same URI from both regions. Microsoft will fail over the Key Vault service internally.  
 Reference:  
<https://docs.microsoft.com/en-us/azure/key-vault/general/disaster-recovery-guidance>

**NEW QUESTION 19**

- (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? D18912E1457D5D1DDCDBD40AB3BF70D5D  
 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 21**

- (Exam Topic 3)

Your company is designing a multi-tenant application that will use elastic pools and Azure SQL databases. The application will be used by 30 customers. You need to design a storage solution for the application. The solution must meet the following requirements:

- > Operational costs must be minimized.
- > All customers must have their own database.
- > The customer databases will be in one of the following three Azure regions: East US, North Europe, or South Africa North.

What is the minimum number of elastic pools and Azure SQL Database servers required? To answer, select the appropriate options in the answer area.  
 NOTE: Each correct selection is worth one point.

Elastic pools:

1
3
6
10
30

Azure SQL Database servers:

1
3
6
10
30

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: 3

The server, its pools & databases must be in the same Azure region under the same subscription. Box 2: 3

A server can have up to 5000 databases associated to it.

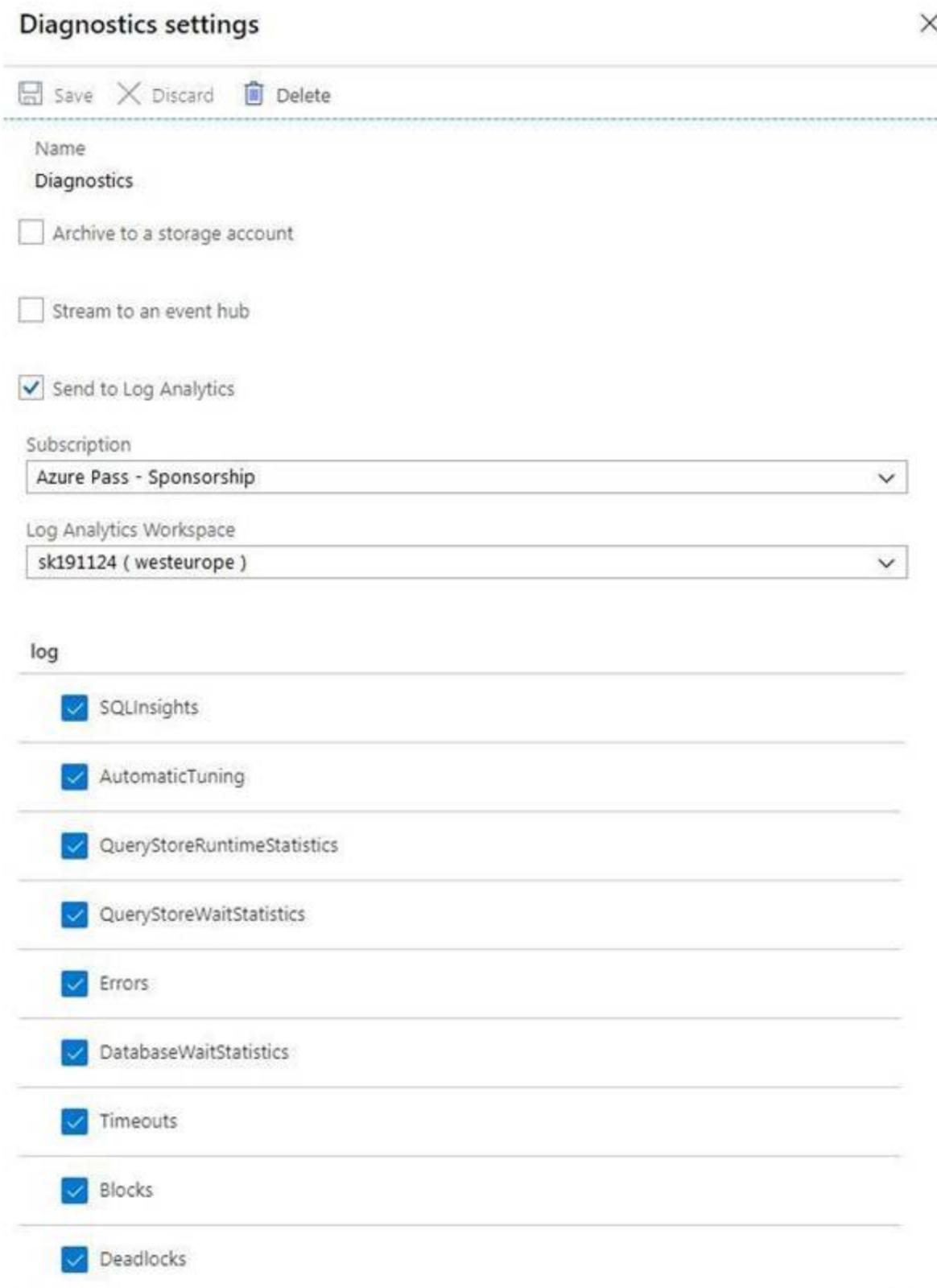
Reference:

<https://vincentlauzon.com/2016/12/18/azure-sql-elastic-pool-overview/>

**NEW QUESTION 24**

- (Exam Topic 3)

You configure the Diagnostics settings for an Azure SQL database as shown in the following exhibit.



The screenshot shows the 'Diagnostics settings' configuration page for an Azure SQL database. At the top, there are three buttons: 'Save', 'Discard', and 'Delete'. Below this, the 'Name' is set to 'Diagnostics'. There are three checkboxes: 'Archive to a storage account' (unchecked), 'Stream to an event hub' (unchecked), and 'Send to Log Analytics' (checked). Under 'Send to Log Analytics', there are two dropdown menus: 'Subscription' is set to 'Azure Pass - Sponsorship' and 'Log Analytics Workspace' is set to 'sk191124 ( westeurope )'. A section titled 'log' contains a list of logging categories, each with a checked checkbox: 'SQLInsights', 'AutomaticTuning', 'QueryStoreRuntimeStatistics', 'QueryStoreWaitStatistics', 'Errors', 'DatabaseWaitStatistics', 'Timeouts', 'Blocks', and 'Deadlocks'.

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.

To perform real-time reporting by using Microsoft Power BI, you must first [answer choice].

	▼
clear Send to Log Analytics	
clear SQLInsights	
select Archive to a storage account	
select Stream to an event hub	

Diagnostics data can be reviewed in [answer choice].

	▼
Azure Analysis Services	
Azure Application Insights	
Azure SQL Analytics	
Microsoft SQL Server Analysis Services (SSAS)	
SQL Health Check	

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

To perform real-time reporting by using Microsoft Power BI, you must first [answer choice].

	▼
clear Send to Log Analytics	
clear SQLInsights	
select Archive to a storage account	
select Stream to an event hub	

Diagnostics data can be reviewed in [answer choice].

	▼
Azure Analysis Services	
Azure Application Insights	
Azure SQL Analytics	
Microsoft SQL Server Analysis Services (SSAS)	
SQL Health Check	

**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 29**

- (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 31**

- (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>

**NEW QUESTION 35**

- (Exam Topic 3)

A company named Contoso, Ltd- has an Azure Active Directory {Azure AD) tenant that uses the Basic license.

You plan to deploy two applications to Azure. The applications have the requirements shown in the following table.

Application name	Requirement
Customer	Users must authenticate by using a personal Microsoft account and multi-factor authentication
Reporting	Users must authenticate by using either Contoso credentials or a personal Microsoft account. You must be able to manage the accounts from Azure AD.

Which authentication strategy should you recommend for each application? To answer, drag the appropriate authentication strategies to the correct applications. Each authentication strategy 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.

Authentication Strategies

Answer Area

An Azure AD B2C tenant	An Azure AD v1.0 endpoint	An Azure AD v2.0 endpoint
------------------------	---------------------------	---------------------------

Customer:	Authentication strategy
Reporting:	Authentication strategy

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Box 1: Azure AD V2.0 endpoint

Microsoft identity platform is an evolution of the Azure Active Directory (Azure AD) developer platform. It allows developers to build applications that sign in all Microsoft identities and get tokens to call Microsoft APIs, such as Microsoft Graph, or APIs that developers have built. The Microsoft identity platform consists of: OAuth 2.0 and OpenID Connect standard-compliant authentication service that enables developers to authenticate any Microsoft identity, including:

Work or school accounts (provisioned through Azure AD)

Personal Microsoft accounts (such as Skype, Xbox, and Outlook.com) Social or local accounts (via Azure AD B2C)

Box 2: Azure AD B2C tenant

Azure Active Directory B2C provides business-to-customer identity as a service. Your customers use their preferred social, enterprise, or local account identities to get single sign-on access to your applications and APIs.

Azure Active Directory B2C (Azure AD B2C) integrates directly with Azure Multi-Factor Authentication so that you can add a second layer of security to sign-up and sign-in experiences in your applications.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory-b2c/active-directory-b2c-reference-mfa> <https://docs.microsoft.com/en-us/azure/active-directory/develop/v2-overview>

**NEW QUESTION 40**

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