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# Microsoft

**AZ-305**

Exam Name:

**Designing Microsoft Azure Infrastructure Solutions**



**Questions & Answers  
(Retail Version - Full Questions Set)**

# Product Questions: 246

## Version: 13.1<sub>1</sub>

### **Topic 1, Litware, Inc**

#### **Case Study**

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

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

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

#### **To start the case study**

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

#### **Overview. General Overview**

Litware, Inc. is a medium-sized finance company.

#### **Overview. Physical Locations**

Litware has a main office in Boston.

#### **Existing Environment. Identity Environment**

The network contains an Active Directory forest named Litware.com that is linked to an Azure Active Directory (Azure AD) tenant named Litware.com. All users have Azure Active Directory Premium P2 licenses.

Litware has a second Azure AD tenant named dev.Litware.com that is used as a development environment.

The Litware.com tenant has a conditional access policy named capolicy1. Capolicy1 requires that



when users manage the Azure subscription for a production environment by using the Azure portal, they must connect from a hybrid Azure AD-joined device.

#### **Existing Environment. Azure Environment**

Litware has 10 Azure subscriptions that are linked to the Litware.com tenant and five Azure subscriptions that are linked to the dev.Litware.com tenant. All the subscriptions are in an Enterprise Agreement (EA).

The Litware.com tenant contains a custom Azure role-based access control (Azure RBAC) role named Role1 that grants the DataActions read permission to the blobs and files in Azure Storage.

#### **Existing Environment. On-premises Environment**

The on-premises network of Litware contains the resources shown in the following table.

Name	Type	Configuration
SERVER1 SERVER2 SERVER3	Ubuntu 18.04 virtual machines hosted on Hyper-V	The virtual machines host a third-party app named App1. App1 uses an external storage solution that provides Apache Hadoop-compatible data storage. The data storage supports POSIX access control list (ACL) file-level permissions.
SERVER10	Server that runs Windows Server 2016	The server contains a Microsoft SQL Server instance that hosts two databases named DB1 and DB2.

#### **Existing Environment. Network Environment**

Litware has ExpressRoute connectivity to Azure.

#### **Planned Changes and Requirements. Planned Changes**

Litware plans to implement the following changes:

Migrate DB1 and DB2 to Azure.

Migrate App1 to Azure virtual machines.

Deploy the Azure virtual machines that will host App1 to Azure dedicated hosts.

#### **Planned Changes and Requirements. Authentication and Authorization Requirements**

Litware identifies the following authentication and authorization requirements:

Users that manage the production environment by using the Azure portal must connect from a hybrid Azure AD-joined device and authenticate by using Azure Multi-Factor Authentication (MFA). The Network Contributor built-in RBAC role must be used to grant permission to all the virtual networks in all the Azure subscriptions.

To access the resources in Azure, App1 must use the managed identity of the virtual machines that will host the app.

Role1 must be used to assign permissions to the storage accounts of all the Azure subscriptions. RBAC roles must be applied at the highest level possible.

#### **Planned Changes and Requirements. Resiliency Requirements**

Litware identifies the following resiliency requirements:



Once migrated to Azure, DB1 and DB2 must meet the following requirements:

- Maintain availability if two availability zones in the local Azure region fail.
- Fail over automatically.
- Minimize I/O latency.

App1 must meet the following requirements:

- Be hosted in an Azure region that supports availability zones.
- Be hosted on Azure virtual machines that support automatic scaling.
- Maintain availability if two availability zones in the local Azure region fail.

### **Planned Changes and Requirements. Security and Compliance Requirements**

Litware identifies the following security and compliance requirements:

Once App1 is migrated to Azure, you must ensure that new data can be written to the app, and the modification of new and existing data is prevented for a period of three years.

On-premises users and services must be able to access the Azure Storage account that will host the data in App1.

Access to the public endpoint of the Azure Storage account that will host the App1 data must be prevented.

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

App1 must not share physical hardware with other workloads.

### **Planned Changes and Requirements. Business Requirements**

Litware identifies the following business requirements:

Minimize administrative effort.

Minimize costs.

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### **Question: 1**

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#### HOTSPOT

You need to ensure that users managing the production environment are registered for Azure MFA and must authenticate by using Azure MFA when they sign in to the Azure portal. The solution must meet the authentication and authorization requirements.

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

NOTE: Each correct selection is worth one point.

To register the users for Azure MFA, use:

Azure AD Identity Protection
Security defaults in Azure AD
Per-user MFA in the MFA management UI

To enforce Azure MFA authentication, configure:

Grant control in capolicy1
Session control in capolicy1
Sign-in risk policy in Azure AD Identity Protection for the Litware.com tenant

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### **Answer:**

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Explanation:

To register the users for Azure MFA, use:

Azure AD Identity Protection
Security defaults in Azure AD
Per-user MFA in the MFA management UI

To enforce Azure MFA authentication, configure:

Grant control in capolicy1
Session control in capolicy1
Sign-in risk policy in Azure AD Identity Protection for the Litware.com tenant

#### Box 1: Azure AD Identity Protection

Azure AD Identity Protection helps you manage the roll-out of Azure AD Multi-Factor Authentication (MFA) registration by configuring a Conditional Access policy to require MFA registration no matter what modern authentication app you are signing in to.

Scenario: Users that manage the production environment by using the Azure portal must connect from a hybrid Azure AD-joined device and authenticate by using Azure Multi-Factor Authentication (MFA).

#### Box 2: Sign-in risk policy...

Scenario: The Litware.com tenant has a conditional access policy named capolicy1. Capolicy1 requires that when users manage the Azure subscription for a production environment by using the Azure portal, they must connect from a hybrid Azure AD-joined device.

Identity Protection policies we have two risk policies that we can enable in our directory.

Sign-in risk policy

User risk policy

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/identity-protection/howto-identity-protection-configure-mfa-policy>

<https://docs.microsoft.com/en-us/azure/active-directory/identity-protection/howto-identity-protection-configure-risk-policies>

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## Question: 2

You plan to migrate App1 to Azure.

You need to recommend a network connectivity solution for the Azure Storage account that will host the App1 dat

- The solution must meet the security and compliance requirements.

What should you include in the recommendation?

- a private endpoint
- a service endpoint that has a service endpoint policy
- Azure public peering for an ExpressRoute circuit
- Microsoft peering for an ExpressRoute circuit

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## Answer: A

Explanation:

Private Endpoint securely connect to storage accounts from on-premises networks that connect to



the VNet using VPN or ExpressRoutes with private-peering.

Private Endpoint also secure your storage account by configuring the storage firewall to block all connections on the public endpoint for the storage service.

<https://docs.microsoft.com/en-us/azure/expressroute/expressroute-faqs#microsoft-peering>

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### Question: 3

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You plan to migrate App1 to Azure. The solution must meet the authentication and authorization requirements.

Which type of endpoint should App1 use to obtain an access token?

- A. Azure Instance Metadata Service (IMDS)
- B. Azure AD
- C. Azure Service Management
- D. Microsoft identity platform

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### Answer: D

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Explanation:

Scenario: To access the resources in Azure, App1 must use the managed identity of the virtual machines that will host the app.

Managed identities provide an identity for applications to use when connecting to resources that support Azure Active Directory (Azure AD) authentication. Applications may use the managed identity to obtain Azure AD tokens.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/overview>

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### Question: 4

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DRAG DROP

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.



**Actions**

Create an Azure policy definition that uses the deployIfNotExists effect.

Create a user-assigned managed identity.

Invoke a remediation task.

Create an Azure policy assignment.

Create an Azure policy definition that uses the Modify effect.

**Answer Area**



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**Answer:**

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**Explanation:**

Create an Azure policy definition that uses the deployIfNotExists effect.

Create an Azure policy assignment.

Invoke a remediation task.

**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>



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**Question: 5**

HOTSPOT

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.

Number of host groups:

1
2
3
6

Number of virtual machine scale sets:

0
1
3

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**Answer:**

Explanation:

Number of host groups:

1
2
3
6

Number of virtual machine scale sets:

0
1
3

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>

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### Question: 6

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HOTSPOT

You plan to migrate App1 to Azure.

You need to estimate the compute costs for App1 in Azure. The solution must meet the security and compliance requirements.

What should you use to estimate the costs, and what should you implement to minimize the costs?  
To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

To estimate the costs, use:

- Azure Advisor
- The Azure Cost Management Power BI app
- The Azure Total Cost of Ownership (TCO) calculator

Implement:

- Azure Reservations
- Azure Hybrid Benefit
- Azure Spot Virtual Machine pricing

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**Answer:**

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Explanation:



To estimate the costs, use:

Azure Advisor
The Azure Cost Management Power BI app
The Azure Total Cost of Ownership (TCO) calculator

Implement:

Azure Reservations
Azure Hybrid Benefit
Azure Spot Virtual Machine pricing

#### Box 1: The Azure Total Cost of Ownership (TCO) Calculator

The Total Cost of Ownership (TCO) Calculator estimates the cost savings you can realize by migrating your workloads to Azure.

Note: The TCO Calculator recommends a set of equivalent services in Azure that will support your applications. Our analysis will show each cost area with an estimate of your on-premises spend versus your spend in Azure. There are several cost categories that either decrease or go away completely when you move workloads to the cloud.

#### Box 2: Azure Hybrid Benefit

Azure Hybrid Benefit is a licensing benefit that helps you to significantly reduce the costs of running your workloads in the cloud. It works by letting you use your on-premises Software Assurance-enabled Windows Server and SQL Server licenses on Azure. And now, this benefit applies to RedHat and SUSE Linux subscriptions, too.

Scenario:

Litware identifies the following security and compliance requirements:

Once App1 is migrated to Azure, you must ensure that new data can be written to the app, and the modification of new and existing data is prevented for a period of three years.

On-premises users and services must be able to access the Azure Storage account that will host the data in App1.

Access to the public endpoint of the Azure Storage account that will host the App1 data must be prevented.

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

App1 must not share physical hardware with other workloads.

Reference:

<https://azure.microsoft.com/en-us/pricing/tco/>

<https://azure.microsoft.com/en-us/pricing/hybrid-benefit/>

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#### Question: 7

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HOTSPOT

You plan to migrate App1 to Azure.

You need to recommend a storage solution for App1 that meets the security and compliance requirements.

Which type of storage should you recommend, and how should you recommend configuring the



storage? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Storage account type:

Premium page blobs
Premium file shares
Standard general-purpose v2

Configuration:

NFSv3
Large file shares
Hierarchical namespace

**Answer:**

Explanation:

Storage account type:

Premium page blobs
Premium file shares
Standard general-purpose v2

Configuration:

NFSv3
Large file shares
Hierarchical namespace

Box 1: Standard general-purpose v2

Standard general-purpose v2 supports Blob Storage.

Azure Storage provides data protection for Blob Storage and Azure Data Lake Storage Gen2.

Scenario:

Litware identifies the following security and compliance requirements:

Once App1 is migrated to Azure, you must ensure that new data can be written to the app, and the modification of new and existing data is prevented for a period of three years.

On-premises users and services must be able to access the Azure Storage account that will host the data in App1.

Access to the public endpoint of the Azure Storage account that will host the App1 data must be prevented.

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



enabled.

App1 must NOT share physical hardware with other workloads.

Box 2: NFSv3

Scenario: Plan: Migrate App1 to Azure virtual machines.

Blob storage now supports the Network File System (NFS) 3.0 protocol. This support provides Linux file system compatibility at object storage scale and prices and enables Linux clients to mount a container in Blob storage from an Azure Virtual Machine (VM) or a computer on-premises.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/blobs/data-protection-overview>

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### Question: 8

You migrate App1 to Azure. You need to ensure that the data storage for App1 meets the security and compliance requirement

What should you do?

- A. Create an access policy for the blob
- B. Modify the access level of the blob service.
- C. Implement Azure resource locks.
- D. Create Azure RBAC assignments.

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### Answer: A

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Explanation:

Scenario: Once App1 is migrated to Azure, you must ensure that new data can be written to the app, and the modification of new and existing data is prevented for a period of three years.

As an administrator, you can lock a subscription, resource group, or resource to prevent other users in your organization from accidentally deleting or modifying critical resources. The lock overrides any permissions the user might have.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/lock-resources>

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### Question: 9

HOTSPOT

How should the migrated databases DB1 and DB2 be implemented in Azure?



Database:

A single Azure SQL database
Azure SQL Managed Instance
An Azure SQL Database elastic pool

Service tier:

Hyperscale
Business Critical
General Purpose

Answer:

Explanation:

Database:

A single Azure SQL database
Azure SQL Managed Instance
An Azure SQL Database elastic pool

Service tier:

Hyperscale
Business Critical
General Purpose

Box 1: SQL Managed Instance

Scenario: Once migrated to Azure, DB1 and DB2 must meet the following requirements:

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

Fail over automatically.

Minimize I/O latency.

The auto-failover groups feature allows you to manage the replication and failover of a group of databases on a server or all databases in a managed instance to another region. It is a declarative abstraction on top of the existing active geo-replication feature, designed to simplify deployment and management of geo-replicated databases at scale. You can initiate a geo-failover manually or you can delegate it to the Azure service based on a user-defined policy. The latter option allows you to automatically recover multiple related databases in a secondary region after a catastrophic failure or other unplanned event that results in full or partial loss of the SQL Database or SQL Managed



Instance availability in the primary region.

Box 2: Business critical

SQL Managed Instance is available in two service tiers:

General purpose: Designed for applications with typical performance and I/O latency requirements.

Business critical: Designed for applications with low I/O latency requirements and minimal impact of underlying maintenance operations on the workload.

Reference:

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

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

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### Question: 10

You need to implement the Azure RBAC role assignments for the Network Contributor role. The solution must meet the authentication and authorization requirements.

What is the minimum number of assignments that you must use?

- A. 1
- B. 2
- C. 5
- D. 10
- E. 15

---

### Answer: A

Explanation:

Scenario: The Network Contributor built-in RBAC role must be used to grant permissions to the network administrators for all the virtual networks in all the Azure subscriptions.

RBAC roles must be applied at the highest level possible.

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### Question: 11

HOTSPOT

You plan to migrate DB1 and DB2 to Azure.

You need to ensure that the Azure database and the service tier meet the resiliency and business requirements.

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

NOTE: Each correct selection is worth one point.

Answer Area

Database:	<input type="checkbox"/> A single Azure SQL database <input type="checkbox"/> Azure SQL Managed Instance <input type="checkbox"/> An Azure SQL Database elastic pool
Service tier:	<input type="checkbox"/> Hyperscale <input type="checkbox"/> Business Critical <input type="checkbox"/> General Purpose

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### Answer:

Explanation:

Database: Azure SQL Managed Instance ▾

Service tier: General Purpose ▾

## Topic 2, Fabrikam, inc Case Study A

### Overview:

#### Existing Environment

Fabrikam, Inc. is an engineering company that has offices throughout Europe. The company has a main office in London and three branch offices in Amsterdam, Berlin, and Rome.

#### Active Directory Environment:

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. The R&D department is restricted to using on-premises resources only.

#### Network Infrastructure:

Each office contains at least one domain controller from the corp.fabrikam.com domain. The main office contains all the domain controllers for the rd.fabrikam.com forest.

All the offices have a high-speed connection to the Internet.

An existing application named WebApp1 is hosted in the data center of the London office. WebApp1 is used by customers to place and track orders. 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.

The IT department currently uses a separate Hyper-V environment to test updates to WebApp1. Fabrikam purchases all Microsoft licenses through a Microsoft Enterprise Agreement that includes Software Assurance.

#### Problem Statement:

The use of Web App1 is unpredictable. At peak times, users often report delays. At other times, many resources for WebApp1 are underutilized.

#### Requirements:

##### Planned Changes:

Fabrikam plans to move most of its production workloads to Azure during the next few years.

As one of its first projects, the company plans to establish a hybrid identity model, facilitating an upcoming Microsoft Office 365 deployment.

All R&D operations will remain on-premises.

Fabrikam plans to migrate the production and test instances of WebApp1 to Azure.

#### Technical Requirements:

Fabrikam identifies the following technical requirements:

- Web site content must be easily updated from a single point.
- User input must be minimized when provisioning new app instances.
- Whenever possible, existing on-premises licenses must be used to reduce cost.
- Users must always authenticate by using their corp.fabrikam.com UPN identity.
- Any new deployments to Azure must be redundant in case an Azure region fails.
- Whenever possible, solutions must be deployed to Azure by using platform as a service (PaaS).
- An email distribution group named IT Support must be notified of any issues relating to the



directory synchronization services.

- 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.

**Database Requirements:**

Fabrikam identifies the following database requirements:

- Database metrics for the production instance of WebApp1 must be available for analysis so that database administrators can optimize the performance settings.
- To avoid disrupting customer access, database downtime must be minimized when databases are migrated.
- Database backups must be retained for a minimum of seven years to meet compliance requirement

**Security Requirements:**

Fabrikam identifies the following security requirements:

- \*Company information including policies, templates, and data must be inaccessible to anyone outside the company
- \*Users on the on-premises network must be able to authenticate to corp.fabrikam.com if an Internet link fails.
- \*Administrators must be able 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.
- \*The testing of WebApp1 updates must not be visible to anyone outside the company.

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**Question: 12**

HOTSPOT

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.



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

---

**Answer:**

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Explanation:

1  
1  
0

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**Question: 13**

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You need to recommend a data storage strategy for WebApp1.

What should you include 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.

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**Answer: B**

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Explanation:

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**Question: 14**

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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

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**Answer: D**

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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>

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**Question: 15**

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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.

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**Answer: A**

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Explanation:

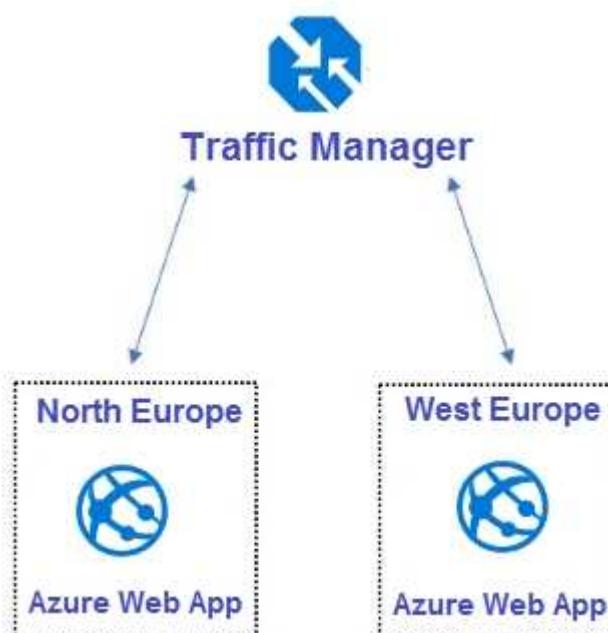
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**Question: 16**

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HOTSPOT

You design a solution for the web tier of WebApp1 as shown in the exhibit.



For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Statements	Yes	No
The design supports the technical requirements for redundancy.	<input type="radio"/>	<input type="radio"/>
The design supports autoscaling.	<input type="radio"/>	<input type="radio"/>
The design requires a manual configuration if an Azure region fails.	<input type="radio"/>	<input type="radio"/>

---

**Answer:**

Explanation:

Statements	Yes	No
The design supports the technical requirements for redundancy.	<input type="radio"/>	<input type="radio"/>
The design supports autoscaling.	<input type="radio"/>	<input type="radio"/>
The design requires a manual configuration if an Azure region fails.	<input type="radio"/>	<input type="radio"/>

Box 1: Yes

Any new deployments to Azure must be redundant in case an Azure region fails.

Traffic Manager uses DNS to direct client requests to the most appropriate service endpoint based on a traffic-routing method and the health of the endpoints. An endpoint is any Internet-facing service hosted inside or outside of Azure. Traffic Manager provides a range of traffic-routing methods and endpoint monitoring options to suit different application needs and automatic failover models. Traffic Manager is resilient to failure, including the failure of an entire Azure region.

Box 2: Yes

Recent changes in Azure brought some significant changes in autoscaling options for Azure Web Apps (i.e. Azure App Service to be precise as scaling happens on App Service plan level and has effect on all Web Apps running in that App Service plan).

Box 3: No

Traffic Manager provides a range of traffic-routing methods and endpoint monitoring options to suit different application needs and automatic failover models. Traffic Manager is resilient to failure, including the failure of an entire Azure region.

Reference:

<https://docs.microsoft.com/en-us/azure/traffic-manager/traffic-manager-overview>

<https://blogs.msdn.microsoft.com/hsirtl/2017/07/03/autoscaling-azure-web-apps/>

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### Question: 17

You need to recommend a solution to meet the database retention requirement. What should you recommend?

- A. Configure a long-term retention policy for the database.
- B. Configure Azure Site Recovery.
- C. Configure geo replication of the database.
- D. Use automatic Azure SQL Database backups.

---

### Answer: A

Explanation:

<https://docs.microsoft.com/en-us/azure/azure-sql/database/long-term-retention-overview>

In Azure SQL Database, you can configure a database with a long-term backup retention policy (LTR) to automatically retain the database backups in separate Azure Blob storage containers for up to 10 years

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### Question: 18

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)



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**Question: 19**

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HOTSPOT

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.

<b>Statements</b>	<b>Yes</b>	<b>No</b>
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"/>

---

**Answer:**

---

Explanation:

<b>Statements</b>	<b>Yes</b>	<b>No</b>
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"/>

---

**Question: 20**

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:

Reference:

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

**Topic 3, Contoso**

## Case Study

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

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

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

### To start the case study

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

### Existing Environment: Technical Environment

The on-premises network contains a single Active Directory domain named contoso.com. Contoso has a single Azure subscription.

### Existing Environment: Business Partnerships

Contoso has a business partnership with Fabrikam, Inc. Fabrikam users access some Contoso applications over the internet by using Azure Active Directory (Azure AD) guest accounts.

### Requirements: Planned Changes

Contoso plans to deploy two applications named App1 and App2 to Azure.

### Requirements: App1

App1 will be a Python web app hosted in Azure App Service that requires a Linux runtime. Users from Contoso and Fabrikam will access App1.

App1 will access several services that require third-party credentials and access strings. The credentials and access strings are stored in Azure Key Vault.

App1 will have six instances: three in the East US Azure region and three in the West Europe Azure region.

App1 has the following data requirements:

Each instance will write data to a data store in the same availability zone as the instance.



Data written by any App1 instance must be visible to all App1 instances.

App1 will only be accessible from the internet. App1 has the following connection requirements:

Connections to App1 must pass through a web application firewall (WAF).

Connections to App1 must be active-active load balanced between instances.

All connections to App1 from North America must be directed to the East US region. All other connections must be directed to the West Europe region.

Every hour, you will run a maintenance task by invoking a PowerShell script that copies files from all the App1 instances. The PowerShell script will run from a central location.

### Requirements: App2

App2 will be a .NET app hosted in App Service that requires a Windows runtime. App2 has the following file storage requirements:

Save files to an Azure Storage account.

Replicate files to an on-premises location.

Ensure that on-premises clients can read the files over the LAN by using the SMB protocol.

You need to monitor App2 to analyze how long it takes to perform different transactions within the application. The solution must not require changes to the application code.

### Application Development Requirements

Application developers will constantly develop new versions of App1 and App2. The development process must meet the following requirements:

A staging instance of a new application version must be deployed to the application host before the new version is used in production.

After testing the new version, the staging version of the application will replace the production version.

The switch to the new application version from staging to production must occur without any downtime of the application.

### Identity Requirements

Contoso identifies the following requirements for managing Fabrikam access to resources:

Every month, an account manager at Fabrikam must review which Fabrikam users have access permissions to App1. Accounts that no longer need permissions must be removed as guests. The solution must minimize development effort.

### 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.

---

### Question: 21

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HOTSPOT



What should you implement to meet the identity requirements? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Service:

Azure AD Identity Governance
Azure AD Identity Protection
Azure AD Privilege Access Management (PIM)
Azure Automation

Feature:

Access packages
Access reviews
Approvals
Runbooks

**Answer:**

Explanation:

Requirements: Identity Requirements

Contoso identifies the following requirements for managing Fabrikam access to resources:

Every month, an account manager at Fabrikam must review which Fabrikam users have access permissions to App1. Accounts that no longer need permissions must be removed as guests.

The solution must minimize development effort.

Box 1: The Azure AD Privileged Identity Management (PIM)

When should you use access reviews?

Too many users in privileged roles: It's a good idea to check how many users have administrative access, how many of them are Global Administrators, and if there are any invited guests or partners that have not been removed after being assigned to do an administrative task. You can recertify the role assignment users in Azure AD roles such as Global Administrators, or Azure resources roles such as User Access Administrator in the Azure AD Privileged Identity Management (PIM) experience.

Box 2: Access reviews

Azure Active Directory (Azure AD) access reviews enable organizations to efficiently manage group memberships, access to enterprise applications, and role assignments. User's access can be reviewed on a regular basis to make sure only the right people have continued access.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/governance/access-reviews-overview>

---

## Question: 22

DRAG DROP

You need to recommend a solution that meets the file storage requirements for App2.



What should you deploy to the Azure subscription and the on-premises network? To answer, drag the appropriate services to the correct locations. Each service 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.

Services	Answer Area
Azure Blob Storage	Azure subscription: <input type="text"/> Service
Azure Data Box	On-premises network: <input type="text"/> Service
Azure Data Box Gateway	
Azure Data Lake Storage	
Azure File Sync	
Azure Files	

---

### Answer:

---

Explanation:

Azure subscription:	<input type="text"/> Azure Files
On-premises network:	<input type="text"/> Azure File Sync

Box 1: Azure Files

Scenario: App2 has the following file storage requirements:

Save files to an Azure Storage account.

Replicate files to an on-premises location.

Ensure that on-premises clients can read the files over the LAN by using the SMB protocol.

Box 2: Azure File Sync

Use Azure File Sync to centralize your organization's file shares in Azure Files, while keeping the flexibility, performance, and compatibility of an on-premises file server. Azure File Sync transforms Windows Server into a quick cache of your Azure file share. You can use any protocol that's available on Windows Server to access your data locally, including SMB, NFS, and FTPS. You can have as many caches as you need across the world.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/file-sync/file-sync-deployment-guide>



---

### Question: 23

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 Data Lake store that uses geo-zone-redundant storage (GZRS)
- C. an Azure SQL database that uses active geo-replication
- D. an Azure Storage account that uses geo-zone-redundant storage (GZRS)

---

### Answer: A

Explanation:

Scenario: App1 has the following data requirements:

Each instance will write data to a data store in the same availability zone as the instance.

Data written by any App1 instance must be visible to all App1 instances.

Azure Cosmos DB: Each partition across all the regions is replicated. Each region contains all the data partitions of an Azure Cosmos container and can serve reads as well as serve writes when multi-region writes is enabled.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/high-availability>

---

### Question: 24

HOTSPOT

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.

Authenticate App1 by using:

<input type="checkbox"/>
A certificate
A service principal
A system-assigned managed identity
A user-assigned managed identity

Authorize App1 to retrieve Key Vault secrets by using:

<input type="checkbox"/>
An access policy
A connected service
A private link
A role assignment



---

**Answer:**

---

Explanation:

Authenticate App1 by using:

A certificate
A service principal
A system-assigned managed identity
A user-assigned managed identity

Authorize App1 to retrieve Key Vault secrets by using:

An access policy
A connected service
A private link
A role assignment

#### 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>

---

### Question: 25

You need to recommend an App Service architecture that meets the requirements for App1. The solution must minimize costs.

What should few recommend?

- A. one App Service Environment (ASE) per availability zone
- B. one App Service plan per availability zone
- C. one App Service plan per region
- D. one App Service Environment (ASE) per region

---

**Answer: A**

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Explanation:

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### Question: 26

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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

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Explanation:

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### Question: 27

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#### HOTSPOT

You are evaluating whether to use Azure Traffic Manager and Azure Application Gateway to meet the connection requirements for App1.

What is the minimum numbers of instances required for each service? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

Azure Traffic Manager:

1
2
3
6

Azure Application Gateway:

1
2
3
6

---

### Answer:

---

Explanation:

**Answer Area**

Azure Traffic Manager: 

2	▼
---	---

Azure Application Gateway: 

1	▼
---	---

### Topic 4, HABInsurance

#### Case Study

An insurance company, HABInsurance, operates in three states and provides home, auto, and boat insurance. Besides the head office, HABInsurance has three regional offices.

#### Current environment

##### General

An insurance company, HABInsurance, operates in three states and provides home, auto, and boat insurance. Besides the head office, HABInsurance has three regional offices.

##### Technology assessment

The company has two Active Directory forests: main.habinsurance.com and



region.habinsurance.com. HABInsurance's primary internal system is Insurance Processing System (IPS). It is an ASP.Net/C# application running on IIS/Windows Servers hosted in a data center. IPS has three tiers: web, business logic API, and a datastore on a back end. The company uses Microsoft SQL Server and MongoDB for the backend. The system has two parts: Customer data and Insurance forms and documents. Customer data is stored in Microsoft SQL Server and Insurance forms and documents — in MongoDB. The company also has 10 TB of Human Resources (HR) data stored on **NAS at the head office location.** Requirements

#### General

HABInsurance plans to migrate its workloads to Azure. They purchased an Azure subscription.

#### Changes

During a transition period, HABInsurance wants to create a hybrid identity model along with a Microsoft Office 365 deployment. The company intends to sync its AD forests to Azure AD and benefit from Azure AD administrative units functionality.

HABInsurance needs to migrate the current IPSCustomers SQL database to a new fully managed SQL database in Azure that would be budget-oriented, balanced with scalable compute and storage options. The management team expects the Azure database service to scale the database resources dynamically with minimal downtime. The technical team proposes implementing a DTU-based purchasing model for the new database.

HABInsurance wants to migrate Insurance forms and documents to Azure database service.

HABInsurance plans to move IPS first two tiers to Azure without any modifications. The technology team discusses the possibility of running IPS tiers on a set of virtual machines instances. The number of instances should be adjusted automatically based on the CPU utilization. An SLA of 99.95% must be guaranteed for the compute infrastructure.

The company needs to move HR data to Azure File shares.

In their new Azure ecosystem, HABInsurance plans to use internal and third-party applications. The company considers adding user consent for data access to the registered applications

Later, the technology team contemplates adding a customer self-service portal to IPS and deploying a new IPS to multi-region ASK. But the management team is worried about performance and availability of the multi-region AKS deployments during regional outages.

---

### Question: 28

A company has an on-premises file server cbflserver that runs Windows Server 2019. Windows Admin Center manages this server. The company owns an Azure subscription. You need to provide an Azure solution to prevent data loss if the file server fails.

Solution: You decide to create an Azure Recovery Services vault. You then decide to install the Azure Backup agent and then schedule the backup. Would this meet the requirement?

- A. Yes
- B. No

---

### Answer: A

Explanation:

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### Question: 29

A company is planning on deploying an application onto Azure. The application will be based on the .Net core programming language. The application would be hosted using Azure Web apps. Below is part of the various requirements for the application

Give the ability to correlate Azure resource usage and the performance data with the actual application configuration and performance data

Give the ability to visualize the relationships between application components

Give the ability to track requests and exceptions to specific lines of code from within the application

Give the ability to actually analyse how users return to an application and see how often they only select a particular drop-down value



Which of the following service would be best suited for fulfilling the requirement of “Give the ability to correlate Azure resource usage and the performance data with the actual application configuration and performance data”

- A. Azure Application Insights
- B. Azure Service Map
- C. Azure Log Analytics
- D. Azure Activity Log

---

**Answer: C**

---

Explanation:

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### Question: 30

A company has an on-premises file server cbflserver that runs Windows Server 2019. Windows Admin Center manages this server. The company owns an Azure subscription. You need to provide an Azure solution to prevent data loss if the file server fails.

Solution: You decide to register Windows Admin Center in Azure and then configure Azure Backup. Would this meet the requirement?

- A. Yes
- B. No

---

**Answer: A**

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Explanation:

### Topic 5, Misc. Questions

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### Question: 31

You have an Azure subscription that contains a custom application named Application was developed by an external company named fabric, Ltd. Developers at Fabrikam were assigned role-based access control (RBAC) permissions to the Application components. All users are licensed for the Microsoft 365 E5 plan.

You need to recommends a solution to verify whether the Faricak developers still require permissions to Application1. The solution must the following requirements.

- \* To the manager of the developers, send a monthly email message that lists the access permissions to Application1.
- \* If the manager does not verify access permission, automatically revoke that permission.
- \* Minimize development effort.

What should you recommend?

- A. In Azure Active Directory (AD) Privileged Identity Management, create a custom role assignment for the Application1 resources
- B. Create an Azure Automation runbook that runs the Get-AzureADUserAppRoleAssignment cmdlet
- C. Create an Azure Automation runbook that runs the Get-AzureRmRoleAssignment cmdlet
- D. In Azure Active Directory (Azure AD), create an access review of Application1

---

**Answer: D**

---

Explanation:

<https://docs.microsoft.com/en-us/azure/active-directory/governance/manage-user-access-with-access-reviews>

Azure Active Directory (Azure AD) access reviews enable organizations to efficiently manage group memberships, access to enterprise applications, and role assignments. User's access can be reviewed on a regular basis to make sure only the right people have continued access. Have reviews recur



periodically: You can set up recurring access reviews of users at set frequencies such as weekly, monthly, quarterly or annually, and the reviewers will be notified at the start of each review. Reviewers can approve or deny access with a friendly interface and with the help of smart recommendations.

Why are access reviews important?

"Azure AD enables you to collaborate with users from inside your organization and with external users. Users can join groups, invite guests, connect to cloud apps, and work remotely from their work or personal devices. The convenience of using self-service has led to a need for better access management capabilities."

---

### Question: 32

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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

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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.

---

### Question: 33

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You have an Azure Active Directory (Azure AD) tenant that syncs with an on-premises Active Directory domain.

You have an internal web app named WebApp1 that is hosted on-premises. WebApp1 uses Integrated Windows authentication.

Some users work remotely and do NOT have VPN access to the on-premises network.

You need to provide the remote users with single sign-on (SSO) access to WebApp1.

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 AD Application Proxy



- B. Azure AD Privileged Identity Management (PIM)
- C. Conditional Access policies
- D. Azure Arc
- E. Azure AD enterprise applications
- F. Azure Application Gateway

---

**Answer: AC**

---

Explanation:

A: Application Proxy is a feature of Azure AD that enables users to access on-premises web applications from a remote client. Application Proxy includes both the Application Proxy service which runs in the cloud, and the Application Proxy connector which runs on an on-premises server. You can configure single sign-on to an Application Proxy application.

C: Microsoft recommends using Application Proxy with pre-authentication and Conditional Access policies for remote access from the internet. An approach to provide Conditional Access for intranet use is to modernize applications so they can directly authenticate with AAD.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/app-proxy/application-proxy-config-sso-how-to>

<https://docs.microsoft.com/en-us/azure/active-directory/app-proxy/application-proxy-deployment-plan>

---

**Question: 34**

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You have an Azure Active Directory (Azure AD) tenant named contoso.com that has a security group named Group1. Group1 is configured for assigned membership. Group1 has 50 members, including 20 guest users.

You need to recommend a solution for evaluating the membership of Group1. The solution must meet the following requirements:

- The evaluation must be repeated automatically every three months
- Every member must be able to report whether they need to be in Group1
- Users who report that they do not need to be in Group1 must be removed from Group1 automatically
- Users who do not report whether they need to be in Group1 must be removed from Group1 automatically.

What should you include in my recommendation?

- A. Implement Azure AD Identity Protection.
- B. Change the Membership type of Group1 to Dynamic User.
- C. Implement Azure AD Privileged Identity Management.
- D. Create an access review.

---

**Answer: D**

---

Explanation:

<https://docs.microsoft.com/en-us/azure/active-directory/governance/access-reviews-overview#learn-about-access-reviews>

Have reviews recur periodically: You can set up recurring access reviews of users at set frequencies such as weekly, monthly, quarterly or annually, and the reviewers will be notified at the start of each

review. Reviewers can approve or deny access with a friendly interface and with the help of smart recommendations.

An administrator creates an access review of Group C with 50 member users and 25 guest users. Makes it a self-review. 50 licenses for each user as self-reviewers.\* <https://docs.microsoft.com/en-us/azure/active-directory/governance/access-reviews-overview#example-license-scenarios>

There are 4 requirements and every single one is only met by access reviews.

<https://docs.microsoft.com/en-us/azure/active-directory/governance/access-reviews-overview#when-should-you-use-access-reviews>

Dynamic User is needed if a user must be automatically granted access on base of its attributes (department, jobtitle, location, etc.) <https://techcommunity.microsoft.com/t5/itops-talk-blog/dynamic-groups-in-azure-ad-and-microsoft-365/ba-p/2267494>

Implementing Azure AD PIM is no solution and absolutely not necessary for access reviews.  
<https://docs.microsoft.com/en-us/azure/active-directory/governance/access-reviews-overview#where-do-you-create-reviews>

---

### Question: 35

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#### HOTSPOT

You plan to deploy Azure Databricks to support a machine learning application. Data engineers will mount an Azure Data Lake Storage account to the Databricks file system. Permissions to folders are granted directly to the data engineers.

You need to recommend a design for the planned Databrick deployment. The solution must meet the following requirements:

Ensure that the data engineers can only access folders to which they have permissions.

Minimize development effort.

Minimize costs.

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

NOTE: Each correct selection is worth one point.

Databricks SKU:

Premium
Standard

Cluster configuration:

Credential passthrough
Managed identities
MLflow
A runtime that contains Photon
Secret scope

---

**Answer:**

---

Explanation:

Box 1: Standard

Choose Standard to minimize costs.

Box 2: Credential passthrough

Authenticate automatically to Azure Data Lake Storage Gen1 (ADLS Gen1) and Azure Data Lake Storage Gen2 (ADLS Gen2) from Azure Databricks clusters using the same Azure Active Directory (Azure AD) identity that you use to log into Azure Databricks. When you enable Azure Data Lake Storage credential passthrough for your cluster, commands that you run on that cluster can read and write data in Azure Data Lake Storage without requiring you to configure service principal credentials for access to storage.

Reference:

<https://docs.microsoft.com/en-us/azure/databricks/security/credential-passthrough/adls-passthrough>

---

**Question: 36**

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HOTSPOT

You plan to deploy an Azure web app named App1 that will use Azure Active Directory (Azure AD) authentication.

App1 will be accessed from the internet by the users at your company. All the users have computers that run Windows 10 and are joined to Azure AD.

You need to recommend a solution to ensure that the users can connect to App1 without being prompted for authentication and can access App1 only from company-owned computers.

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

NOTE: Each correct selection is worth one point.

The users can connect to App1 without being prompted for authentication:

- An Azure AD app registration
- An Azure AD managed identity
- Azure AD Application Proxy

The users can access App1 only from company-owned computers:

- A conditional access policy
- An Azure AD administrative unit
- Azure Application Gateway
- Azure Blueprints
- Azure Policy

---

**Answer:**

---

Explanation:



The users can connect to App1 without being prompted for authentication:

An Azure AD app registration
An Azure AD managed identity
Azure AD Application Proxy

The users can access App1 only from company-owned computers:

A conditional access policy
An Azure AD administrative unit
Azure Application Gateway
Azure Blueprints
Azure Policy

#### Box 1: An Azure AD app registration

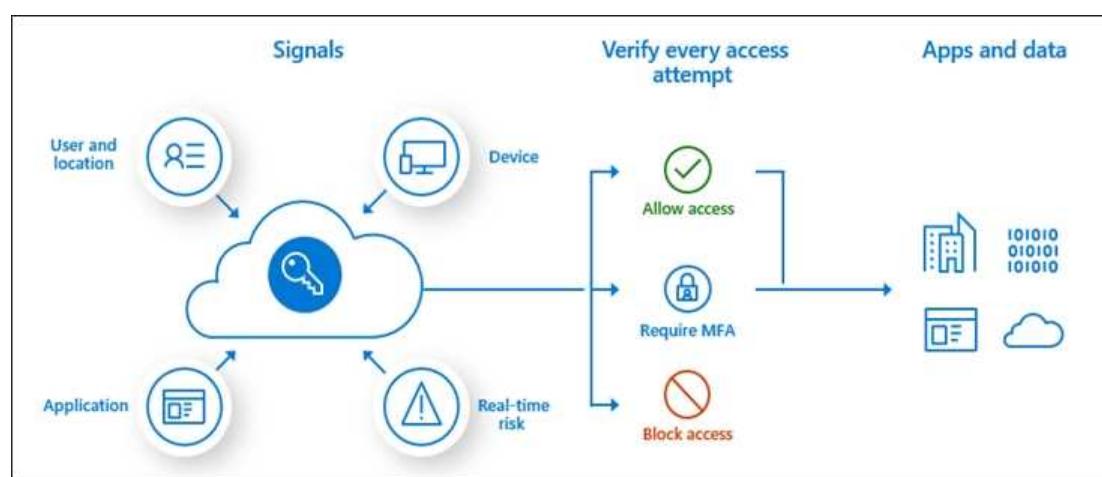
Azure active directory (AD) provides cloud based directory and identity management services. You can use azure AD to manage users of your application and authenticate access to your applications using azure active directory.

You register your application with Azure active directory tenant.

#### Box 2: A conditional access policy

Conditional Access policies at their simplest are if-then statements, if a user wants to access a resource, then they must complete an action.

By using Conditional Access policies, you can apply the right access controls when needed to keep your organization secure and stay out of your user's way when not needed.



Reference:

<https://codingcanvas.com/using-azure-active-directory-authentication-in-your-web-application/>

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

<https://docs.microsoft.com/en-us/powerapps/developer/data-platform/walkthrough-register-app-azure-active-directory#:~:text=Create%20an%20application%20registration%20Create%20an%20application,the%20options%20and%20click%20on%20Add%20permissions.%20>

"After consenting to use their Dataverse account with the ISV's application, end users can connect to Dataverse environment from external application. The consent form is not displayed again to other users after the first user who has already consented to use the ISV's app. Apps registered in Azure Active Directory are multi-tenant, which implies that other Dataverse users from other tenant can connect to their environment using the ISV's app."

---

### Question: 37

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 deploys several virtual machines on-premises and to Azure. ExpressRoute is being deployed and configured for on-premises to Azure connectivity.

Several virtual machines exhibit network connectivity issues.

You need to analyze the network traffic to identify whether packets are being allowed or denied to the virtual machines.

Solution: Use Azure Traffic Analytics in Azure Network Watcher to analyze the network traffic.

Does this meet the goal?

- A. Yes
- B. No

---

### Answer: B

---

Explanation:

Instead use Azure Network Watcher IP Flow Verify, which allows you to detect traffic filtering issues at a VM level.

Note: IP flow verify checks if a packet is allowed or denied to or from a virtual machine. The information consists of direction, protocol, local IP, remote IP, local port, and remote port. If the packet is denied by a security group, the name of the rule that denied the packet is returned. While any source or destination IP can be chosen, IP flow verify helps administrators quickly diagnose connectivity issues from or to the internet and from or to the on-premises environment.

Reference:

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

<https://docs.microsoft.com/en-us/azure/network-watcher/traffic-analytics>

---

### Question: 38

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: Use the Azure Advisor 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: Advisor is a personalized cloud consultant that helps you follow best practices to optimize your Azure deployments. It analyzes your resource configuration and usage telemetry and then recommends solutions that can help you improve the cost effectiveness, performance, high availability, and security of your Azure resources.

With Advisor, you can:

Get proactive, actionable, and personalized best practices recommendations.

Improve the performance, security, and high availability of your resources, as you identify opportunities to reduce your overall Azure spend.

Get recommendations with proposed actions inline.

Reference:

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

---

### Question: 39

---

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: Use Azure Network Watcher to run IP flow verify to analyze the network traffic

Does the solution meet the goal?

A. Yes

B. No

---

### Answer: A

---

Explanation:



The Network Watcher Network performance monitor is a cloud-based hybrid network monitoring solution that helps you monitor network performance between various points in your network infrastructure. It also helps you monitor network connectivity to service and application endpoints and monitor the performance of Azure ExpressRoute.

Note:

IP flow verify checks if a packet is allowed or denied to or from a virtual machine. The information consists of direction, protocol, local IP, remote IP, local port, and remote port. If the packet is denied by a security group, the name of the rule that denied the packet is returned. While any source or destination IP can be chosen, IP flow verify helps administrators quickly diagnose connectivity issues from or to the internet and from or to the on-premises environment.

IP flow verify looks at the rules for all Network Security Groups (NSGs) applied to the network interface, such as a subnet or virtual machine NIC. Traffic flow is then verified based on the configured settings to or from that network interface. IP flow verify is useful in confirming if a rule in a Network Security Group is blocking ingress or egress traffic to or from a virtual machine.

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>

---

### Question: 40

DRAG DROP

You have an Azure subscription. The subscription contains Azure virtual machines that run Windows Server 2016 and Linux.

You need to use Azure Log Analytics design an alerting strategy for security-related events.

Which Log Analytics tables should you query? To answer, drag the appropriate tables to the correct log types. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

#### Tables

AzureActivity

AzureDiagnostics

Event

Syslog

#### Answer Area

Events from Windows event logs:

Table

Events from Linux system logging:

Table

---

#### Answer:

Explanation:



Events from Windows event logs:

Event

Events from Linux system logging:

Syslog

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/log-analytics-agent>

Windows Event logs --> Information sent to the Windows event logging system. Syslog --> Information sent to the Linux event logging system.

---

### Question: 41

You are designing a large Azure environment that will contain many subscriptions.

You plan to use Azure Policy as part of a governance solution.

To which three scopes can you assign Azure Policy definitions? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. management groups
- B. subscriptions
- C. Azure Active Directory (Azure AD) tenants
- D. resource groups
- E. Azure Active Directory (Azure AD) administrative units
- F. compute resources

---

### Answer: ABD

Explanation:

Azure Policy evaluates resources in Azure by comparing the properties of those resources to business rules.

Once your business rules have been formed, the policy definition or initiative is assigned to any scope of resources that Azure supports, such as management groups, subscriptions, resource groups, or individual resources.

Reference:

<https://docs.microsoft.com/en-us/azure/governance/policy/overview>

---

### Question: 42

DRAG DROP

Your on-premises network contains a server named Server1 that runs an ASP.NET application named App1.

You have a hybrid deployment of Azure Active Directory (Azure AD).

You need to recommend a solution to ensure that users sign in by using their Azure AD account and Azure Multi-Factor Authentication (MFA) when they connect to App1 from the internet.

Which three Azure services should you recommend be deployed and configured in sequence? To answer, move the appropriate services from the list of services to the answer area and arrange them in the correct order.



Services

Answer Area

- an internal Azure Load Balancer
- an Azure AD conditional access policy
- Azure AD Application Proxy
- an Azure AD managed identity
- a public Azure Load Balancer
- an Azure AD enterprise application
- an App Service plan



---

**Answer:**

---

Explanation:

AD Application Proxy  
AD Enterprise Application  
AD Conditional access policy  
<https://thesleepyadmins.com/2019/02/>

---

**Question: 43**

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

- A. Azure Activity Log
- B. Azure Monitor action groups
- C. Azure Advisor
- D. Azure Monitor metrics

---

**Answer: A**

---

Explanation:

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.

Through activity logs, you can determine:

what operations were taken on the resources in your subscription  
who started the operation  
when the operation occurred  
the status of the operation  
the values of other properties that might help you research the operation

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/view-activity-logs>

<https://docs.microsoft.com/en-us/azure/automation/change-tracking>

---

**Question: 44**

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:

Reference:

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

SQL Managed Instance allows existing SQL Server customers to lift and shift their on-premises applications to the cloud with minimal application and database changes. At the same time, SQL Managed Instance preserves all PaaS capabilities (automatic patching and version updates, automated backups, high availability) that drastically reduce management overhead and TCO.  
<https://docs.microsoft.com/en-us/azure/azure-sql/managed-instance/transact-sql-tsql-differences-sql-server#clr>

<https://docs.microsoft.com/en-gb/azure/azure-sql/database/transact-sql-tsql-differences-sql-server#transact-sql-syntax-not-supported-in-azure-sql-database>

---

### **Question: 45**

---

You have an Azure subscription that contains an Azure Blob storage account named store1. You have an on-premises file server named Setver1 that runs Windows Server 2016. Server1 stores 500 GB of company files.

You need to store a copy of the company files from Server 1 in store1.

Which two possible Azure services achieve this goal? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point

- A. an Azure Batch account
- B. an integration account
- C. an On-premises data gateway
- D. an Azure Import/Export job



E. Azure Data factory

---

**Answer: D, E**

---

Explanation:

<https://docs.microsoft.com/en-us/azure/storage/common/storage-import-export-data-from-blobs>  
<https://docs.microsoft.com/en-us/answers/questions/31113/fastest-method-to-copy-500gb-table-from-on-premises.html>

---

### Question: 46

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You have an Azure subscription that contains two applications named App1 and App2. App1 is a sales processing application. When a transaction in App1 requires shipping, a message is added to an Azure Storage account queue, and then App2 listens to the queue for relevant transactions. In the future, additional applications will be added that will process some of the shipping requests based on the specific details of the transactions.

You need to recommend a replacement for the storage account queue to ensure that each additional application will be able to read the relevant transactions.

What should you recommend?

- A. one Azure Service Bus queue
- B. one Azure Service Bus topic
- C. one Azure Data Factory pipeline
- D. multiple storage account queues

---

**Answer: B**

---

Explanation:

A queue allows processing of a message by a single consumer. In contrast to queues, topics and subscriptions provide a one-to-many form of communication in a publish and subscribe pattern. It's useful for scaling to large numbers of recipients. Each published message is made available to each subscription registered with the topic. Publisher sends a message to a topic and one or more subscribers receive a copy of the message, depending on filter rules set on these subscriptions.

Reference:

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

---

### Question: 47

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HOTSPOT

You need to design a storage solution for an app that will store large amounts of frequently used data. The solution must meet the following requirements:

- Maximize data throughput.
- Prevent the modification of data for one year.
- Minimize latency for read and write operations.

Which Azure Storage account type and storage service should you recommend? To answer, select the appropriate options in the answer area.



NOTE: Each correct selection is worth one point.

Storage account type:

BlobStorage
BlockBlobStorage
FileStorage
StorageV2 with Premium performance
StorageV2 with Standard performance

Storage service:

Blob
File
Table

---

**Answer:**

---

Explanation:

Box 1: BlockBlobStorage

Block Blob is a premium storage account type for block blobs and append blobs. Recommended for scenarios with high transaction rates, or scenarios that use smaller objects or require consistently low storage latency.

Box 2: Blob

The Archive tier is an offline tier for storing blob data that is rarely accessed. The Archive tier offers the lowest storage costs, but higher data retrieval costs and latency compared to the online tiers (Hot and Cool). Data must remain in the Archive tier for at least 180 days or be subject to an early deletion charge.

Reference:

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

---

**Question: 48**

---

HOTSPOT

You have an Azure subscription that contains the storage accounts shown in the following table.

Name	Type	Performance
storage1	StorageV2	Standard
storage2	SrorageV2	Premium
storage3	BlobStorage	Standard
storage4	FileStorage	Premium

You plan to implement two new apps that have the requirements shown in the following table.



Name	Requirement
App1	Use lifecycle management to migrate app data between storage tiers
App2	Store app data in an Azure file share

Which storage accounts should you recommend using for each app? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

App1:

- Storage1 and storage2 only
- Storage1 and storage3 only
- Storage1, storage2, and storage3 only
- Storage1, storage2, storage3, and storage4

App2:

- Storage4 only
- Storage1 and storage4 only
- Storage1, storage2, and storage4 only
- Storage1, storage2, storage3, and storage4

---

**Answer:**

---

Explanation:

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

<https://www.edureka.co/community/40011/different-storage-accounts-there-major-difference-between>

<https://insidemstech.com/tag/general-purpose-v2/>

In conclusion the correct answers are:

Box1 --> Storage1 and Storage3 only

Box2 --> Storage1 and Storage4 only

<https://docs.microsoft.com/en-us/azure/storage/files/storage-how-to-create-file-share?tabs=azure-portal#basics>

---

**Question: 49**

---

The application will host video files that range from 50 MB to 12 GB. The application will use certificate-based authentication and will be available to users on the internet.

You need to recommend a storage option for the video files. The solution must provide the fastest read performance and must minimize storage costs.



What should you recommend?

- A. Azure Files
- B. Azure Data Lake Storage Gen2
- C. Azure Blob Storage
- D. Azure SQL Database

---

**Answer: C**

---

Explanation:

**Blob Storage:** Stores large amounts of unstructured data, such as text or binary data, that can be accessed from anywhere in the world via HTTP or HTTPS. You can use Blob storage to expose data publicly to the world, or to store application data privately.

Max file in Blob Storage. 4.77 TB.

Reference:

<https://docs.microsoft.com/en-us/azure/architecture/solution-ideas/articles/digital-media-video>

---

**Question: 50**

---

You are designing a SQL database solution. The solution will include 20 databases that will be 20 GB each and have varying usage patterns. You need to recommend a database platform to host the databases. The solution must meet the following requirements:

- The compute resources allocated to the databases must scale dynamically.
- The solution must meet an SLA of 99.99% uptime.
- The solution must have reserved capacity.
- Compute charges must be minimized.

What should you include in the recommendation?

- A. 20 databases on a Microsoft SQL server that runs on an Azure virtual machine
- B. 20 instances of Azure SQL Database serverless
- C. 20 databases on a Microsoft SQL server that runs on an Azure virtual machine in an availability set
- D. an elastic pool that contains 20 Azure SQL databases

---

**Answer: D**

---

Explanation:

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

Guaranteed 99.995 percent uptime for SQL Database

Reference:

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

<https://azure.microsoft.com/en-us/pricing/details/sql-database/elastic/>

<https://www.azure.cn/en-us/support/sla/virtual-machines/>



<https://techcommunity.microsoft.com/t5/azure-sql/optimize-price-performance-with-compute-auto-scaling-in-azure/ba-p/966149>

---

**Question: 51**

---

HOTSPOT

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.

Service:

Azure SQL Database
Azure SQL Managed Instance
Azure Synapse Analytics
SQL Server on Azure Virtual Machines

Service tier:

Basic
Business Critical
General Purpose
Hyperscale
Premium
Standard

---

**Answer:**

---

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-comparison-azure-sql-vs-sql-server-vm-cf02578a1188>

---

### Question: 52

You are planning an Azure IoT Hub solution that will include 50,000 IoT devices.

Each device will stream data, including temperature, device ID, and time dat

- a. Approximately 50,000 records will be written every second. The data will be visualized in near real time.

You need to recommend a service to store and query the data.

Which two services can you recommend? Each correct answer presents a complete solution.

NOTE: Each correct selection is worth one point.

- A. Azure Table Storage
- B. Azure Event Grid
- C. Azure Cosmos DB SQL API
- D. Azure Time Series Insights

---

### Answer: CD

Explanation:

D: Time Series Insights is a fully managed service for time series data. In this architecture, Time Series Insights performs the roles of stream processing, data store, and analytics and reporting. It accepts streaming data from either IoT Hub or Event Hubs and stores, processes, analyzes, and displays the data in near real time.

C: The processed data is stored in an analytical data store, such as Azure Data Explorer, HBase, Azure Cosmos DB, Azure Data Lake, or Blob Storage.

Reference:

<https://docs.microsoft.com/en-us/azure/architecture/data-guide/scenarios/time-series>

---

### Question: 53

You are designing an application that will aggregate content for users.

You need to recommend a database solution for the application. The solution must meet the



following requirements:

- Support SQL commands.
- Support multi-master writes.
- Guarantee low latency read operations.

What should you include in the recommendation?

- A. Azure Cosmos DB SQL API
- B. Azure SQL Database that uses active geo-replication
- C. Azure SQL Database Hyperscale
- D. Azure Database for PostgreSQL

---

**Answer: A**

---

Explanation:

With Cosmos DB's novel multi-region (multi-master) writes replication protocol, every region supports both writes and reads. The multi-region writes capability also enables:

- Unlimited elastic write and read scalability.
- 99.999% read and write availability all around the world.
- Guaranteed reads and writes served in less than 10 milliseconds at the 99th percentile.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/distribute-data-globally>

---

**Question: 54**

---

HOTSPOT

You have an Azure subscription that contains the SQL servers shown in the following table.

Name	Resource group	Location
SQLsvr1	RG1	East US
SQLsvr2	RG2	West US

The subscription contains the storage accounts shown in the following table.

Name	Resource group	Location	Account kind
storage1	RG1	East US	StorageV2 (general purpose v2)
storage2	RG2	Central US	BlobStorage

You create the Azure SQL databases shown in the following table.

Name	Resource group	Server	Pricing tier
SQLdb1	RG1	SQLsvr1	Standard
SQLdb2	RG1	SQLsvr1	Standard
SQLdb3	RG2	SQLsvr2	Premium



Answer Area

Statements	Yes	No
When you enable auditing for SQLdb1, you can store the audit information to storage1.	<input type="radio"/>	<input checked="" type="radio"/>
When you enable auditing for SQLdb2, you can store the audit information to storage2.	<input checked="" type="radio"/>	<input type="radio"/>
When you enable auditing for SQLdb3, you can store the audit information to storage2.	<input type="radio"/>	<input checked="" type="radio"/>

---

**Answer:**

---

Explanation:

Box 1: Yes

Be sure that the destination is in the same region as your database and server.

Box 2: No

Box 3: Yes

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

Reference:

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

[https://docs.microsoft.com/en-us/previous-versions/azure/dn741340\(v=azure.100\)?redirectedfrom=MSDN](https://docs.microsoft.com/en-us/previous-versions/azure/dn741340(v=azure.100)?redirectedfrom=MSDN)

---

**Question: 55**

---

You have SQL Server on an Azure virtual machine. The databases are written to nightly as part of a batch process.

You need to recommend a disaster recovery solution for the dat

a. The solution must meet the following requirements:

Provide the ability to recover in the event of a regional outage.

Support a recovery time objective (RTO) of 15 minutes.

Support a recovery point objective (RPO) of 24 hours.

Support automated recovery.

Minimize costs.

What should you include in the recommendation?

- A. Azure virtual machine availability sets
- B. Azure Disk Backup
- C. an Always On availability group
- D. Azure Site Recovery

---

**Answer: D**

---

Explanation:

Replication with Azure Site Recover:

RTO is typically less than 15 minutes.

RPO: One hour for application consistency and five minutes for crash consistency.



Reference:

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

### Question: 56

HOTSPOT

You plan to deploy the backup policy shown in the following exhibit.

**Policy1**

Associated items    Delete    Save    Discard

Backup frequency

Daily    6:00 PM    (UTC) Coordinated Universal Time

**Retention range**

Retention of daily backup point.

\* At 6:00 PM    For 90 Day(s)

Retention of weekly backup point.

\* On Sunday    \* At 6:00 PM    For 26 Week(s)

Retention of monthly backup point.

**Week Based**    **Day Based**

\* On First    \* Day Sunday    \* At 6:00 PM    For 36 Month(s)

Retention of yearly backup point.

Not Configured

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.



Virtual machines that are backed up using the policy can be recovered for up to a maximum of [answer choice].

90 days
26 weeks
36 months
45 months

The minimum recovery point objective (RPO) for virtual machines that are backed up by using the policy is [answer choice].

1 hour
1 day
1 week
1 month
1 year

---

**Answer:**

---

Explanation:

Virtual machines that are backed up using the policy can be recovered for up to a maximum of [answer choice].

90 days
26 weeks
36 months
45 months

The minimum recovery point objective (RPO) for virtual machines that are backed up by using the policy is [answer choice].

1 hour
1 day
1 week
1 month
1 year

<https://docs.microsoft.com/en-us/azure/backup/backup-azure-vm-backup-faq#what-s-the-minimum-rpo-and-rto-for-vm-backups-in-azure-backup>

---

**Question: 57**

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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 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 two Azure virtual machines to two Azure regions, and you create a Traffic Manager profile.

Does this meet the goal?

A. Yes

B. No

---

**Answer: A**

---

Explanation:

Azure Traffic Manager is a DNS-based traffic load balancer that enables you to distribute traffic optimally to services across global Azure regions, while providing high availability and responsiveness.

<https://docs.microsoft.com/en-us/azure/traffic-manager/traffic-manager-overview>

---

### **Question: 58**

---

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.

---

### **Question: 59**

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#### **HOTSPOT**

You plan to create an Azure Storage account that will host file shares. The shares will be accessed from on-premises applications that are transaction-intensive.

You need to recommend a solution to minimize latency when accessing the file shares. The solution must provide the highest-level of resiliency for the selected storage tier.



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.

Storage tier:

- Hot
- Premium
- Transaction optimized

Resiliency:

- Geo-redundant storage (GRS)
- Zone-redundant storage (ZRS)
- Locally-redundant storage (LRS)

---

**Answer:**

---

Explanation:

Box 1: Premium

Premium: Premium file shares are backed by solid-state drives (SSDs) and provide consistent high performance and low latency, within single-digit milliseconds for most IO operations, for IO-intensive workloads.

Box 2: Zone-redundant storage (ZRS):

Premium Azure file shares only support LRS and ZRS.

Zone-redundant storage (ZRS): With ZRS, three copies of each file stored, however these copies are physically isolated in three distinct storage clusters in different Azure availability zones.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-files-planning>

---

**Question: 60**

---

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 a Azure virtual machine scale set that uses autoscaling.

Does this meet the goal?

- A. Yes
- B. No

---

**Answer: B**

---

Explanation:

Instead, you should deploy two Azure virtual machines to two Azure regions, and you create a Traffic Manager profile.



---

## Question: 61

---

You plan to move a web application named App1 from an on-premises data center to Azure.

App1 depends on a custom COM component that is installed on the host server.

You need to recommend a solution to host App1 in Azure. The solution must meet the following requirements:

App1 must be available to users if an Azure data center becomes unavailable.  
Costs must be minimized.

What should you include in the recommendation?

- A. In two Azure regions, deploy a load balancer and a virtual machine scale set.
- B. In two Azure regions, deploy a Traffic Manager profile and a web app.
- C. In two Azure regions, deploy a load balancer and a web app.
- D. Deploy a load balancer and a virtual machine scale set across two availability zones.

---

## Answer: D

---

Explanation:

(<https://docs.microsoft.com/en-us/dotnet/azure/migration/app-service#com-and-com-components>)  
Azure App Service does not allow the registration of COM components on the platform. If your app makes use of any COM components, these need to be rewritten in managed code and deployed with the site or application. <https://docs.microsoft.com/en-us/dotnet/azure/migration/app-service>  
"Azure App Service with Windows Containers If your app cannot be migrated directly to App Service, consider App Service using Windows Containers, which enables usage of the GAC, COM components, MSIs, full access to .NET FX APIs, DirectX, and more."

---

## Question: 62

---

You have an Azure subscription that contains a Basic Azure virtual WAN named VirtualWAN1 and the virtual hubs shown in the following table.

Name	Azure region
Hub1	US East
Hub2	US West

You have an ExpressRoute circuit in the US East region.

You need to create an ExpressRoute association to VirtualWAN1.

What should you do first?

- A. Upgrade VirtualWAN1 to Standard.
- B. Create a gateway on Hub1.
- C. Create a hub virtual network in US East.
- D. Enable the ExpressRoute premium add-on.

---

## Answer: A

---

Explanation:

US East and US West are in the same geopolitical region so there is no need for enabling ExpressRoute premium add-on <https://docs.microsoft.com/en-us/azure/virtual-wan/virtual-wan-about#basicstandard>

The current config of virtual WAN is only Basic as given, so it can connect to only site to site VPN, to connect to express route it needs to be upgraded from basic to standard.

<https://docs.microsoft.com/en-us/azure/virtual-wan/virtual-wan-about>

<https://docs.microsoft.com/en-us/azure/virtual-wan/virtual-wan-about>

---

### **Question: 63**

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

Sends an email notification to the operations manager requesting approval to delete the duplicate files

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>

---

### **Question: 64**

Your company has the infrastructure shown in the following table.



Location	Resource
Azure	<ul style="list-style-type: none"><li>• Azure subscription named Subscription1</li><li>• 20 Azure web apps</li></ul>
On-premises datacenter	<ul style="list-style-type: none"><li>• Active Directory domain</li><li>• Server running Azure AD Connect</li><li>• Linux computer named Server1</li></ul>

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>

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### Question: 65

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You need to design a solution that will execute custom C# code in response to an event routed to Azure Event Grid. The solution must meet the following requirements:

The executed code must be able to access the private IP address of a Microsoft SQL Server instance that runs on an Azure virtual machine.

Costs must be minimized.

What should you include in the solution?

- A. Azure Logic Apps in the integrated service environment

- B. Azure Functions in the Dedicated plan and the Basic Azure App Service plan
- C. Azure Logic Apps in the Consumption plan
- D. Azure Functions in the Consumption plan

---

**Answer: D**

---

Explanation:

When you create a function app in Azure, you must choose a hosting plan for your app. There are three basic hosting plans available for Azure Functions: Consumption plan, Premium plan, and Dedicated (App Service) plan.

For the Consumption plan, you don't have to pay for idle VMs or reserve capacity in advance.

Connect to private endpoints with Azure Functions

As enterprises continue to adopt serverless (and Platform-as-a-Service, or PaaS) solutions, they often need a way to integrate with existing resources on a virtual network. These existing resources could be databases, file storage, message queues or event streams, or REST APIs.

Reference:

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

<https://techcommunity.microsoft.com/t5/azure-functions/connect-to-private-endpoints-with-azure-functions/ba-p/1426615>

Reference:

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-scale#hosting-plans-comparison>

---

**Question: 66**

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You have an on-premises network and an Azure subscription. The on-premises network has several branch offices.

A branch office in Toronto contains a virtual machine named VM1 that is configured as a file server. Users access the shared files on VM1 from all the offices.

You need to recommend a solution to ensure that the users can access the shares files as quickly as possible if the Toronto branch office is inaccessible.

What should you include in the recommendation?

- A. a Recovery Services vault and Azure Backup
- B. an Azure file share and Azure File Sync
- C. Azure blob containers and Azure File Sync
- D. a Recovery Services vault and Windows Server Backup

---

**Answer: B**

---

Explanation:

Use Azure File Sync to centralize your organization's file shares in Azure Files, while keeping the flexibility, performance, and compatibility of an on-premises file server. Azure File Sync transforms Windows Server into a quick cache of your Azure file share.

You need an Azure file share in the same region that you want to deploy Azure File Sync.



Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-deployment-guide>

---

### Question: 67

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HOTSPOT

You have an Azure subscription named Subscription1 that is linked to a hybrid Azure Active Directory (Azure AD) tenant.

You have an on-premises datacenter that does NOT have a VPN connection to Subscription1. The datacenter contains a computer named Server1 that has Microsoft SQL Server 2016 installed. Server1 is prevented from accessing the internet.

An Azure logic app named LogicApp1 requires write access to a database on Server1.

You need to recommend a solution to provide LogicApp1 with the ability to access Server1.

What should you recommend deploying on-premises and in Azure? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

On-premises:

- A Web Application Proxy for Windows Server
- An Azure AD Application Proxy connector
- An On-premises data gateway
- Hybrid Connection Manager

Azure:

- A connection gateway resource
- An Azure Application Gateway
- An Azure Event Grid domain
- An enterprise application

---

**Answer:**

---

Explanation:



On-premises:

- A Web Application Proxy for Windows Server
- An Azure AD Application Proxy connector
- An On-premises data gateway
- Hybrid Connection Manager

Azure:

- A connection gateway resource
- An Azure Application Gateway
- An Azure Event Grid domain
- An enterprise application

Box 1: An on-premises data gateway

For logic apps in global, multi-tenant Azure that connect to on-premises SQL Server, you need to have the on-premises data gateway installed on a local computer and a data gateway resource that's already created in Azure.

Box 2: A connection gateway resource

Reference:

<https://docs.microsoft.com/en-us/azure/connectors/connectors-create-api-sqlazure>

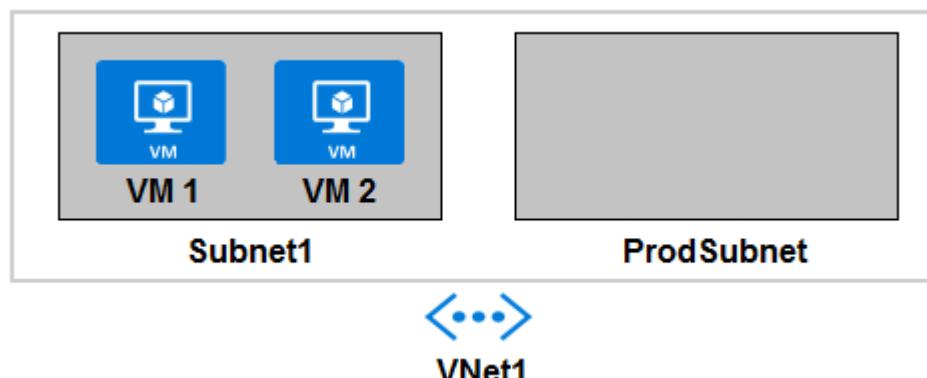
---

### Question: 68

HOTSPOT

Your company develops a web service that is deployed to an Azure virtual machine named VM1. The web service allows an API to access real-time data from VM1.

The current virtual machine deployment is shown in the Deployment exhibit. (Click the Deployment tab).



The chief technology officer (CTO) sends you the following email message: "Our developers have deployed the web service to a virtual machine named VM1. Testing has shown that the API is accessible from VM1 and VM2. Our partners must be able to connect to the API over the Internet. Partners will use this data in applications that they develop."



You deploy an Azure API Management (APIM) service. The relevant API Management configuration is shown in the API exhibit. (Click the API tab.)

Virtual network Off External Internal

LOCATION	VIRTUAL NETWORK	SUBNET
West Europe	VNet1	ProdSubnet

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

Statements	Yes	No
The API is available to partners over the Internet.	<input type="radio"/>	<input type="radio"/>
The APIM instance can access real-time data from VM1.	<input checked="" type="radio"/>	<input type="radio"/>
A VPN gateway is required for partner access.	<input type="radio"/>	<input type="radio"/>

---

**Answer:**

Explanation:

Statements	Yes	No
The API is available to partners over the Internet.	<input type="radio"/>	<input checked="" type="radio"/>
The APIM instance can access real-time data from VM1.	<input checked="" type="radio"/>	<input type="radio"/>
A VPN gateway is required for partner access.	<input type="radio"/>	<input checked="" type="radio"/>

Reference:

<https://docs.microsoft.com/en-us/azure/api-management/api-management-using-with-vnet>

---

**Question: 69**

DRAG DROP

A company has an existing web application that runs on virtual machines (VMs) in Azure.

You need to ensure that the application is protected from SQL injection attempts and uses a layer-7 load balancer. The solution must minimize disruption to the code for the existing web application.



What should you recommend? To answer, drag the appropriate values to the correct items. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.

NOTE: Each correct selection is worth one point.

### Values

- Web Application Firewall (WAF)
- Azure Application Gateway
- Azure Load Balancer
- Azure Traffic Manager
- SSL offloading
- URL-based content routing

### Answer Area

Item	Value
Azure service	
Feature	

---

### Answer:

---

Explanation:

### Item Value

Azure service Azure Application Gateway

Feature Web Application Firewall (WAF)

#### Box 1: Azure Application Gateway

Azure Application Gateway provides an application delivery controller (ADC) as a service. It offers various layer 7 load-balancing capabilities for your applications.

#### Box 2: Web Application Firewall (WAF)

Application Gateway web application firewall (WAF) protects web applications from common vulnerabilities and exploits.

This is done through rules that are defined based on the OWASP core rule sets 3.0 or 2.2.9.

There are rules that detect SQL injection attacks.

Reference:

<https://docs.microsoft.com/en-us/azure/application-gateway/application-gateway-faq>

<https://docs.microsoft.com/en-us/azure/application-gateway/waf-overview>

---

### Question: 70

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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>

---

### Question: 71

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You have .NET web service named service1 that has the following requirements.

Must read and write to the local file system.

Must write to the Windows Application event log.

You need to recommend a solution to host Service1 in Azure. The solution must meet the following requirements:

Minimize maintenance overhead.

Minimize costs.

What should you include in the recommendation?

- A. an Azure App Service web app
- B. an Azure virtual machine scale set
- C. an App Service Environment (ASE)
- D. an Azure Functions app

---

### Answer: A

---

Explanation:

<https://social.msdn.microsoft.com/Forums/vstudio/en-US/294b9e3e-e89c-4095-b8d0->



[ee1646e77268/writing-to-local-file-system-from-web-app-in-azure?forum=windowsazuresitespreview](https://www.braindumpsschool.com/forum/ee1646e77268/writing-to-local-file-system-from-web-app-in-azure?forum=windowsazuresitespreview)

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### Question: 72

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You have the Azure resources shown in the following table.

Name	Type	Location
US-Central-Firewall-policy	Azure Firewall policy	Central US
US-East-Firewall-policy	Azure Firewall policy	East US
EU-Firewall-policy	Azure Firewall policy	West Europe
USEastfirewall	Azure Firewall	Central US
USWestfirewall	Azure Firewall	East US
EUFirewall	Azure Firewall	West Europe

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. 0
- B. 1
- C. 2
- D. 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>

---

### Question: 73

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Your company has an app named App1 that uses data from the on-premises Microsoft SQL Server databases shown in the following table.



Name	Size
DB1	450 GB
DB2	250 GB
DB3	300 GB
DB4	50 GB

App1 and the data are used on the first day of the month only. The data is not expected to grow more than 3% each year.

The company is rewriting App1 as an Azure web app and plans to migrate all the data to Azure.

You need to migrate the data to Azure SQL Database. The solution must minimize costs.

Which service tier should you use?

- A. vCore-based Business Critical
- B. vCore-based General Purpose
- C. DTU-based Standard
- D. DTU-based Basic

---

**Answer: C**

---

Explanation:

DTU-based Standard supports databases up to 1 TB in size.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-sql/database/service-tiers-dtu>

---

**Question: 74**

---

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>

---

### Question: 75

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Your company has 300 virtual machines hosted in a VMware environment. The virtual machines vary in size and have various utilization levels.

You plan to move all the virtual machines to Azure.

You need to recommend how many and what size Azure virtual machines will be required to move the current workloads to Azure. The solution must minimize administrative effort.

What should you use to make the recommendation?

- A. Azure Cost Management
- B. Azure Pricing calculator
- C. Azure Migrate
- D. Azure Advisor

---

### Answer: C

---

Explanation:

<https://docs.microsoft.com/en-us/azure/migrate/migrate-appliance#collected-data---vmware>

"Metadata discovered by the Azure Migrate appliance helps you to figure out whether servers are ready for migration to Azure, right-size servers, plans costs, and analyze application dependencies".

<https://docs.microsoft.com/en-us/learn/modules/design-your-migration-to-azure/2-plan-your-azure-migration>

---

### Question: 76

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You plan provision a High Performance Computing (HPC) cluster in Azure that will use a third-party scheduler.

You need to recommend a solution to provision and manage the HPC cluster node.

What should you include in the recommendation?

- A. Azure Lighthouse
- B. Azure CycleCloud
- C. Azure Purview
- D. Azure Automation

---

### Answer: B

---

Explanation:



You can dynamically provision Azure HPC clusters with Azure CycleCloud. Azure CycleCloud is the simplest way to manage HPC workloads.

Note: Azure CycleCloud is an enterprise-friendly tool for orchestrating and managing High Performance Computing (HPC) environments on Azure. With CycleCloud, users can provision infrastructure for HPC systems, deploy familiar HPC schedulers, and automatically scale the infrastructure to run jobs efficiently at any scale. Through CycleCloud, users can create different types of file systems and mount them to the compute cluster nodes to support HPC workloads.

Reference:

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

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### Question: 77

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HOTSPOT

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.

Request routing method:

A Traffic Manager profile
Azure Application Gateway
Azure Load Balancer

Request routing configuration:

Cookie-based session affinity
Performance traffic routing
Priority traffic routing
Weighted traffic routing

---

Answer:

---

Explanation:



Request routing method:

- A Traffic Manager profile
- Azure Application Gateway
- Azure Load Balancer

Request routing configuration:

- Cookie-based session affinity
- Performance traffic routing
- Priority traffic routing
- Weighted traffic routing

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

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### Question: 78

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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: Use the Azure Traffic Analytics solution in Azure Log Analytics 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.

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>



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## Question: 79

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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>

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## Question: 80

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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 a web app in an Isolated App Service plan.

Does this meet the goal?

A. Yes

B. No

---

## Answer: B

---

Explanation:

Instead, you should deploy an Azure virtual machine to two Azure regions, and you create a Traffic Manager profile.



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### Question: 81

---

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

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

Your company plans to deploy various Azure App Service instances that will use Azure SQL databases. The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region.

You need to recommend a solution to meet the regulatory requirement.

Solution: You recommend using an Azure policy initiative to enforce the location.

Does this meet the goal?

- A. Yes
- B. No

---

### Answer: A

---

Explanation:

Azure Resource Policy Definitions can be used which can be applied to a specific Resource Group with the App Service instances.

Reference:

<https://docs.microsoft.com/en-us/azure/governance/policy/overview>

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### Question: 82

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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 plans to deploy various Azure App Service instances that will use Azure SQL databases. The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region.

You need to recommend a solution to meet the regulatory requirement.



Solution: You recommend using the Regulatory compliance dashboard in Azure Security Center.

Does this meet the goal?

- A. Yes
- B. No

---

**Answer: B**

Explanation:

The Regulatory compliance dashboard in Azure Security Center is not used for regional compliance.

Note: Instead Azure Resource Policy Definitions can be used which can be applied to a specific Resource Group with the App Service instances.

Note 2: In the Azure Security Center regulatory compliance blade, you can get an overview of key portions of your compliance posture with respect to a set of supported standards. Currently supported standards are Azure CIS, PCI DSS 3.2, ISO 27001, and SOC TSP.

Reference:

<https://docs.microsoft.com/en-us/azure/governance/policy/overview>

<https://azure.microsoft.com/en-us/blog/regulatory-compliance-dashboard-in-azure-security-center-now-available/>

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### Question: 83

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

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

Your company plans to deploy various Azure App Service instances that will use Azure SQL databases. The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region.

You need to recommend a solution to meet the regulatory requirement.

Solution: You recommend using an Azure policy to enforce the resource group location.

Does this meet the goal?

- A. Yes
- B. No

---

**Answer: A**

Explanation:

Azure Resource Policy Definitions can be used which can be applied to a specific Resource Group with the App Service instances.

Reference:

<https://docs.microsoft.com/en-us/azure/governance/policy/overview>

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### Question: 84

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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 plans to deploy various Azure App Service instances that will use Azure SQL databases. The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region.

You need to recommend a solution to meet the regulatory requirement.

Solution: You recommend creating resource groups based on locations and implementing resource locks on the resource groups.

Does this meet the goal?

- A. Yes
- B. No

---

### Answer: B

---

Explanation:

Resource locks are not used for compliance purposes. Resource locks prevent changes from being made to resources.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/lock-resources>

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### Question: 85

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HOTSPOT

You are planning an Azure Storage solution for sensitive data.

- a. The data will be accessed daily. The data set is less than 10 GB.

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

- All the data written to storage must be retained for five years.
- Once the data is written, the data can only be read. Modifications and deletion must be prevented.
- After five years, the data can be deleted, but never modified.
- Data access charges must be minimized

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



NOTE: Each correct selection is worth one point.

Storage account type:

- General purpose v2 with Archive access tier for blobs
- General purpose v2 with Cool access tier for blobs
- General purpose v2 with Hot access tier for blobs

Configuration to prevent modifications and deletions:

- Container access level
- Container access policy
- Storage account resource lock

---

### Answer:

---

Explanation:

Storage account type:

- General purpose v2 with Archive access tier for blobs
- General purpose v2 with Cool access tier for blobs
- General purpose v2 with Hot access tier for blobs

Configuration to prevent modifications and deletions:

- Container access level
- Container access policy
- Storage account resource lock

Box 1: General purpose v2 with Archive access tier for blobs

Archive - Optimized for storing data that is rarely accessed and stored for at least 180 days with flexible latency requirements, on the order of hours.

Cool - Optimized for storing data that is infrequently accessed and stored for at least 30 days.

Hot - Optimized for storing data that is accessed frequently.

Box 2: Storage account resource lock

As an administrator, you can lock a subscription, resource group, or resource to prevent other users in your organization from accidentally deleting or modifying critical resources. The lock overrides any permissions the user might have.

Note: You can set the lock level to CanNotDelete or ReadOnly. In the portal, the locks are called Delete and Read-only respectively.

CanNotDelete means authorized users can still read and modify a resource, but they can't delete the resource.

ReadOnly means authorized users can read a resource, but they can't delete or update the resource. Applying this lock is similar to restricting all authorized users to the permissions granted by the Reader role.

Reference:

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



---

### Question: 86

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#### HOTSPOT

You have an Azure subscription that contains a virtual network named VNET1 and 10 virtual machines. The virtual machines are connected to VNET1.

You need to design a solution to manage the virtual machines from the internet. The solution must meet the following requirements:

- Incoming connections to the virtual machines must be authenticated by using Azure Multi-Factor Authentication (MFA) before network connectivity is allowed.
- Incoming connections must use TLS and connect to TCP port 443.
- The solution must support RDP and SSH.

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

To provide access to virtual machines on VNET1, use:

- Azure Bastion  
Just-in-time (JIT) VM access  
Azure Web Application Firewall (WAF) in Azure Front Door

To enforce Azure MFA, use:

- An Azure Identity Governance access package  
A Conditional Access policy that has the Cloud apps assignment set to Azure Windows VM Sign-In  
A Conditional Access policy that has the Cloud apps assignment set to Microsoft Azure Management

---

### Answer:

---

Explanation:

To provide access to virtual machines on VNET1, use: Just-in-time (JIT) VM access

To enforce Azure MFA, use: An Azure Identity Governance access package

---

### Question: 87

---

#### HOTSPOT

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.



**Topic**

Allowed authentication methods

**Value**

- All methods
- GET only
- GET and POST only
- GET, POST, and OPTIONS only

Authorization level

- Function
- Anonymous
- Admin

**Answer:** \_\_\_\_\_

Explanation:

**Topic**

Allowed authentication methods

**Value**

- All methods
- GET only
- GET and POST only
- GET, POST, and OPTIONS only

Authorization level

- Function
- Anonymous
- Admin

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.

Reference:

<https://docs.microsoft.com/en-us/azure/app-service/overview-authentication-authorization>

---

**Question: 88**

DRAG DROP

You plan to import data from your on-premises environment to Azure. The data is shown in the following table.



On-premises source	Azure target
A Microsoft SQL Server 2012 database	An Azure SQL database
A table in a Microsoft SQL Server 2014 database	An Azure Cosmos DB account that uses the SQL API

What should you recommend using to migrate the data? To answer, drag the appropriate tools to the correct data sources. Each tool 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.

**Tools**

AzCopy  
Azure Cosmos DB Data Migration Tool  
Data Management Gateway  
Data Migration Assistant

**Answer Area**

From the SQL Server 2012 database:  Tool

From the table in the SQL Server 2014 database:  Tool

---

**Answer:**

Explanation:

**Answer Area**

From the SQL Server 2012 database:  Data Migration Assistant

From the table in the SQL Server 2014 database:  Azure Cosmos DB Data Migration Tool

Reference:

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

<https://docs.microsoft.com/en-us/azure/cosmos-db/import-data>

---

### Question: 89

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, Inc.

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#enable-oauth-20-user-authorization-in-the-developer-console>

---

### Question: 90

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DRAG DROP

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 named 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 subnets. 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**

172.16.0.0/16
172.16.1.0/27
192.168.0.0/24
192.168.1.0/27

**Answer Area**

Subnet1:

Gateway subnet:

---

### Answer:

---

Explanation:

**Answer Area**

Subnet1:  192.168.0.0/24

Gateway subnet:  192.168.1.0/27

---

### Question: 91

---

You have an Azure subscription.

You need to recommend an Azure Kubernetes service (AKS) solution that will use Linux nodes. The solution must meet the following requirements:

- Minimize the time it takes to provision compute resources during scale-out operations.
- Support autoscaling of Linux containers.
- Minimize administrative effort.

Which scaling option should you recommend?

- A. Virtual Kubelet
- B. cluster autoscaler
- C. virtual nodes
- D. horizontal pod autoscaler

---

**Answer: B**

---

Explanation:

<https://docs.microsoft.com/en-us/azure/aks/virtual-nodes>

---

**Question: 92**

---

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>

---

**Question: 93**

---

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>

---

**Question: 94**

---

You plan to deploy 10 applications to Azure. The applications will be deployed to two Azure Kubernetes Service (AKS) clusters. Each cluster will be deployed to a separate Azure region.

The application deployment must meet the following requirements:

- Ensure that the applications remain available if a single AKS cluster fails.
- Ensure that the connection traffic over the internet is encrypted by using SSL without having to configure SSL on each container.

Which service should you include in the recommendation?

- A. AKS ingress controller
- B. Azure Traffic Manager
- C. Azure Front Door
- D. Azure Load Balancer

---

**Answer: C**

---

Explanation:

"Azure Front Door, which focuses on global load-balancing and site acceleration, and Azure CDN Standard, which offers static content caching and acceleration. The new Azure Front Door brings together security with CDN technology for a cloud-based CDN with threat protection and additional capabilities."

---

**Question: 95**

---

HOTSPOT

You have an Azure web app named App1 and an Azure key vault named KV1.

App1 stores database connection strings in KV1.



App1 performs the following types of requests to KV1:

- Get
- List
- Wrap
- Delete
- Unwrap
- Backup
- Decrypt
- Encrypt

You are evaluating the continuity of service for App1.

You need to identify the following if the Azure region that hosts KV1 becomes unavailable:

To where will KV1 fail over?

During the failover, which request type will be unavailable?

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

NOTE: Each correct selection is worth one point.

To where will KV1 fail over?

A server in the same Availability Set
A server in the same fault domain
A server in the same paired region
A virtual machine in a scale set

During the failover, which request type will be unavailable?

Backup
Decrypt
Delete
Encrypt
Get
List
Unwrap
Wrap

---

**Answer:**

Explanation:



To where will KV1 fail over?

A server in the same Availability Set
A server in the same fault domain
A server in the same paired region
A virtual machine in a scale set

During the failover, which request type will be unavailable?

Backup
Decrypt
Delete
Encrypt
Get
List
Unwrap
Wrap

Box 1: A server in the same paired region

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 to maintain high durability of your keys and secrets.

Box 2: Delete

During failover, your key vault is in read-only mode. Requests that are supported in this mode are:

List certificates

Get certificates

List secrets

Get secrets

List keys

Get (properties of) keys

Encrypt

Decrypt

Wrap

Unwrap

Verify

Sign

Backup

Reference:

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

## Question: 96

HOTSPOT

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.

**Answer Area**

Storage Account type:

- Premium block blobs
- Standard general-purpose v1
- Standard general-purpose v2

Redundancy:

- Geo-redundant storage (GRS)
- Zone-redundant storage (ZRS)
- Locally-redundant storage (LRS)
- Read-access geo-redundant storage (RA-GRS)

---

**Answer:**

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>

---

**Question: 97**

HOTSPOT

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.



Routing from the virtual networks to the on-premises locations must be configured by using:

- Azure default routes
- Border Gateway Protocol (BGP)
- User-defined routes

The automatic routing configuration following a failover must be handled by using:

- Border Gateway Protocol (BGP)
- Hot Standby Routing Protocol (HSRP)
- Virtual Router Redundancy Protocol (VRRP)

---

**Answer:**

---

Explanation:

Routing from the virtual networks to the on-premises locations must be configured by using:

- Azure default routes
- Border Gateway Protocol (BGP)
- User-defined routes

The automatic routing configuration following a failover must be handled by using:

- Border Gateway Protocol (BGP)
- Hot Standby Routing Protocol (HSRP)
- Virtual Router Redundancy Protocol (VRRP)

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-privatepeering>

<https://docs.microsoft.com/en-us/azure/expressroute/expressroute-optimize-routing#suboptimal-routing-from-customer-to-microsoft>

---

**Question: 98**

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HOTSPOT

You deploy several Azure SQL Database instances.

You plan to configure the Diagnostics settings on the databases as shown in the following exhibit.



Diagnostics settings □ X

Save Discard Delete

**Diagnostics**

Archive to a storage account

Storage account >  
**csa14d260928e42x4ea7xb77**

Stream to an event hub

Send to Log Analytics

Log Analytics >  
**fabrikamproductionworkspace**

LOG:

<input checked="" type="checkbox"/> SQLInsights	Retention (days) <input type="range" value="90"/> 90
<input checked="" type="checkbox"/> AutomaticTuning	Retention (days) <input type="range" value="30"/> 30
<input type="checkbox"/> QueryStoreRuntimeStatistics	Retention (days) <input type="range" value="0"/> 0
<input type="checkbox"/> QueryStoreWaitStatistics	Retention (days) <input type="range" value="0"/> 0

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

NOTE: Each correct selection is worth one point.



The amount of time that SQLInsights data will be stored in blob storage is [answer choice].

▼
30 days
90 days
730 days
indefinite

The maximum amount of time that SQLInsights data can be stored in Azure Log Analytics is [answer choice].

▼
30 days
90 days
730 days
indefinite

---

**Answer:**

---

Explanation:

The amount of time that SQLInsights data will be stored in blob storage is [answer choice].

▼
30 days
90 days
730 days
indefinite

The maximum amount of time that SQLInsights data can be stored in Azure Log Analytics is [answer choice].

▼
30 days
90 days
730 days
indefinite

In the exhibit, the SQLInsights data is configured to be stored in Azure Log Analytics for 90 days. However, the question is asking for the “maximum” amount of time that the data can be stored which is 730 days.

---

**Question: 99**

---

You have an Azure subscription.

You need to recommend a solution to provide developers with the ability to provision Azure virtual machines. The solution must meet the following requirements:

- Only allow the creation of the virtual machines in specific regions.
- Only allow the creation of specific sizes of virtual machines.

What should you include in the recommendation?

- A. Conditional Access policies
- B. role-based access control (RBAC)
- C. Azure Resource Manager (ARM) templates
- D. Azure Policy

---

**Answer: B**

---

Explanation:

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

<https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/manage/azure-server-management/common-policies#restrict-vm-size>

---

**Question: 100**

---

HOTSPOT

You have an Azure App Service web app that uses a system-assigned managed identity. You need to recommend a solution to store their settings of the web app as secrets in an Azure key vault. The solution must meet the following requirements:

- Minimize changes to the app code,
- Use the principle of least privilege.

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

**Answer Area**

Key Vault integration method:

Key Vault references in Application settings  
Key Vault references in Appsettings.json  
Key Vault references in Web.config  
Key Vault SDK

Key Vault permissions for the managed identity:

Keys: Get  
Keys: List and Get  
Secrets: Get  
Secrets: List and Get

---

**Answer:**

---

Explanation:

**Answer Area**

Key Vault integration method:

Key Vault permissions for the managed identity:

---

**Question: 101**

---

HOTSPOT

You need to design an Azure policy that will implement the following functionality:

- For new resources, assign tags and values that match the tags and values of the resource group to which the resources are deployed.
- For existing resources, identify whether the tags and values match the tags and values of the resource group that contains the resources.
- For any non-compliant resources, trigger auto-generated remediation tasks to create missing tags and values.

The solution must use the principle of least privilege.

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.



Azure Policy effect to use:

Append
EnforceOPAConstraint
EnforceRegoPolicy
Modify

Azure Active Directory (Azure AD) object and RBAC role to use for the remediation tasks:

A managed identity with the Contributor role
A managed identity with the User Access Administrator role
A service principal with the Contributor role
A service principal with the User Access Administrator role

---

### Answer:

---

Explanation:

Azure Policy effect to use:

Append
EnforceOPAConstraint
EnforceRegoPolicy
Modify

Azure Active Directory (Azure AD) object and RBAC role to use for the remediation tasks:

A managed identity with the Contributor role
A managed identity with the User Access Administrator role
A service principal with the Contributor role
A service principal with the User Access Administrator role

#### Box 1: Modify

Modify is used to add, update, or remove properties or tags on a resource during creation or update. A common example is updating tags on resources such as costCenter. Existing non-compliant resources can be remediated with a remediation task. A single Modify rule can have any number of operations.

#### Box 2: A managed identity with the Contributor role

##### Managed identity

How remediation security works: When Azure Policy runs the template in the deployIfNotExists policy definition, it does so using a managed identity. Azure Policy creates a managed identity for each assignment, but must have details about what roles to grant the managed identity.

##### Contributor role

The Contributor role grants the required access to apply tags to any entity.

#### Reference:

<https://docs.microsoft.com/en-us/azure/governance/policy/concepts/effects>

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

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/tag-resources>

<https://docs.microsoft.com/en-us/azure/governance/policy/concepts/effects#modify>

---

### Question: 102

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#### HOTSPOT

You have an Azure subscription that contains the resources shown in the following table.



Name	Type	Kind	Location
storage1	Azure Storage account	Storage	East US
storage2	Azure Storage account	StorageV2	East US
Workspace1	Azure Log Analytics workspace	<i>Not applicable</i>	East US
Workspace2	Azure Log Analytics workspace	<i>Not applicable</i>	East US
Hub1	Azure event hub	<i>Not applicable</i>	East US

You create an Azure SQL database named DB1 that is hosted in the East US region.

To DB1, you add a diagnostic setting named Settings1. Settings1 archives SQLInsights to storage1 and sends SQLInsights to Workspace1.

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 can add a new diagnostic setting that archives SQLInsights logs to storage2.	<input type="radio"/>	<input type="radio"/>
You can add a new diagnostic setting that sends SQLInsights logs to Workspace2.	<input type="radio"/>	<input type="radio"/>
You can add a new diagnostic setting that sends SQLInsights logs to Hub1.	<input type="radio"/>	<input type="radio"/>

---

### Answer:

---

Explanation:

Box 1: Yes

Box 2: Yes

Box 3: Yes

For more information on Azure SQL diagnostics , you can visit the below link

<https://docs.microsoft.com/en-us/azure/azure-sql/database/metrics-diagnostic-telemetry-logging-streaming-export-configure>

---

### Question: 103

You plan to deploy an application named App1 that will run on five Azure virtual machines.

Additional virtual machines will be deployed later to run App1.

You need to recommend a solution to meet the following requirements for the virtual machines that will run App1:

Ensure that the virtual machines can authenticate to Azure Active Directory (Azure AD) to gain access to

an Azure key vault, Azure Logic Apps instances, and an Azure SQL database.

Avoid assigning new roles and permissions for Azure services when you deploy additional virtual machines.



Avoid storing secrets and certificates on the virtual machines.  
Which type of identity should you include in the recommendation?

- A. a service principal that is configured to use a certificate
- B. a system-assigned managed identity
- C. a service principal that is configured to use a client secret
- D. a user-assigned managed identity

---

**Answer: D**

---

Explanation:

Managed identities for Azure resources is a feature of Azure Active Directory. User-assigned managed identity can be shared. The same user-assigned managed identity can be associated with more than one Azure resource.

Incorrect Answers:

B: System-assigned managed identity cannot be shared. It can only be associated with a single Azure resource.

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/overview>

---

**Question: 104**

---

HOTSPOT

Your company has the divisions shown in the following table.

Division	Azure subscription	Azure Active Directory (Azure AD) tenant
East	Sub1, Sub2	East.contoso.com
West	Sub3, Sub4	West.contoso.com

You plan to deploy a custom application to each subscription. The application will contain the following:

- A resource group
- An Azure web app
- Custom role assignments
- An Azure Cosmos DB account

You need to use Azure Blueprints to deploy the application to each subscription.

What is the minimum number of objects required to deploy the application? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.



Management groups:

1
2
3
4

Blueprint definitions:

1
2
3
4

Blueprint assignments:

1
2
3
4

---

### Answer:

---

Explanation:

Box 1: 2

One management group for East, and one for West.

When creating a blueprint definition, you'll define where the blueprint is saved. Blueprints can be saved to a management group or subscription that you have Contributor access to. If the location is a management group, the blueprint is available to assign to any child subscription of that management group.

Box 2: 2

Box 3: 4

One assignment for each subscription.

"Assigning a blueprint definition to a management group means the assignment object exists at the management group. The deployment of artifacts still targets a subscription. To perform a management group assignment, the Create Or Update REST API must be used and the request body must include a value for properties.scope to define the target subscription."

<https://docs.microsoft.com/en-us/azure/governance/blueprints/overview#blueprint-assignment>

---

### Question: 105

---

HOTSPOT

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.

Resource to create in Azure:

An event hub
A Log Analytics workspace
A search service
A storage account

Configuration to perform on the virtual machines:

Create event subscriptions
Configure Continuous delivery
Install the Microsoft Monitoring Agent
Modify the membership of the Event Log Readers Groups

---

**Answer:**

---

Explanation:

Resource to create in Azure:

An event hub
A Log Analytics workspace
A search service
A storage account

Configuration to perform on the virtual machines:

Create event subscriptions
Configure Continuous delivery
Install the Microsoft Monitoring Agent
Modify the membership of the Event Log Readers Groups

Reference:

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/data-sources-windows-events>  
<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/agent-windows>

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**Question: 106**

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HOTSPOT

Your organization has developed and deployed several Azure App Service Web and API applications. The applications use Azure Key Vault to store several authentication, storage account, and data encryption keys. Several departments have the following requests to support the applications:



Department	Request
Security	<ul style="list-style-type: none"><li>Review membership of administrative roles and require to provide a justification for continued membership.</li><li>Get alerts about changes in administrator assignments.</li><li>See a history of administrator activation, including which changes administrators made to Azure resources.</li></ul>
Development	<ul style="list-style-type: none"><li>Enable the applications to access Azure Key Vault and retrieve keys for use in code.</li></ul>
Quality Assurance	<ul style="list-style-type: none"><li>Receive temporary administrator access to create and configure additional Web and API applications in the test environment.</li></ul>

You need to recommend the appropriate Azure service for each department request.

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.

Department	Azure Service
Security	<div style="border: 1px solid black; padding: 5px;"><ul style="list-style-type: none"><li>Azure AD Privileged Identity Management</li><li>Azure AD Managed Service Identity</li><li>Azure AD Connect</li><li>Azure AD Identity Protection</li></ul></div>
Development	<div style="border: 1px solid black; padding: 5px;"><ul style="list-style-type: none"><li>Azure AD Privileged Identity Management</li><li>Azure AD Managed Service Identity</li><li>Azure AD Connect</li><li>Azure AD Identity Protection</li></ul></div>
Quality Assurance	<div style="border: 1px solid black; padding: 5px;"><ul style="list-style-type: none"><li>Azure AD Privileged Identity Management</li><li>Azure AD Managed Service Identity</li><li>Azure AD Connect</li><li>Azure AD Identity Protection</li></ul></div>

---

**Answer:**

---

Explanation:



## Department

## Azure Service

Security

- Azure AD Privileged Identity Management
- Azure AD Managed Service Identity
- Azure AD Connect
- Azure AD Identity Protection

Development

- Azure AD Privileged Identity Management
- Azure AD Managed Service Identity
- Azure AD Connect
- Azure AD Identity Protection

Quality Assurance

- Azure AD Privileged Identity Management
- Azure AD Managed Service Identity
- Azure AD Connect
- Azure AD Identity Protection

<https://docs.microsoft.com/en-us/azure/active-directory/managed-identities-azure-resources/overview>

---

### Question: 107

You have an application that is used by 6,000 users to validate their vacation requests. The application manages its own credential

Users must enter a username and password to access the application. The application does NOT support identity providers.

You plan to upgrade the application to use single sign-on (SSO) authentication by using an Azure Active Directory (Azure AD) application registration.

Which SSO method should you use?

- A. password-based
- B. OpenID Connect
- C. header-based
- D. SAML

---

### Answer: A

Explanation:

---

### Question: 108

DRAG DROP

You need to design an architecture to capture the creation of users and the assignment of roles. The



captured data must be stored in Azure Cosmos DB.

Which Azure services should you include in the design? To answer, drag the appropriate services to the correct targets. Each service 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.

## Azure Services

Azure Event Grid

Azure Event Hubs

Azure Functions

Azure Log Analytics

Azure Notification Hubs

## Answer Area



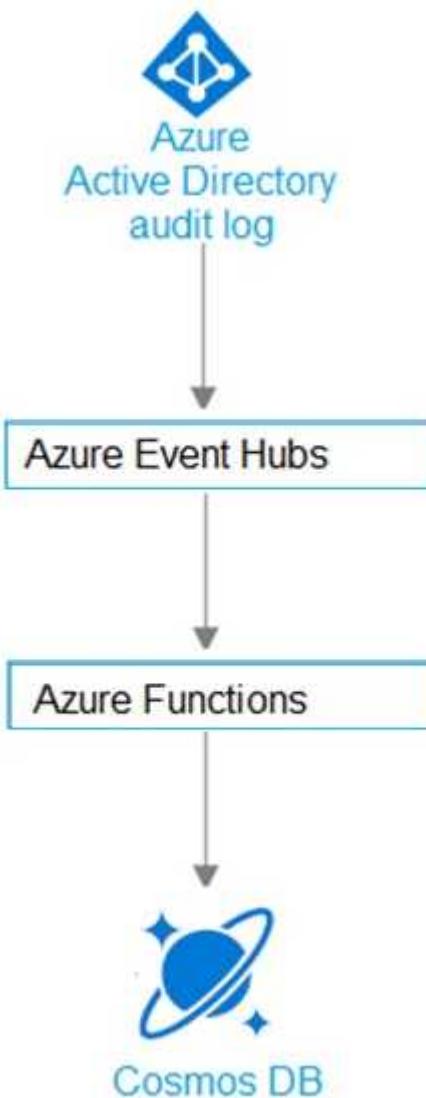
Cosmos DB

---

**Answer:**

---

Explanation:



1. AAD audit log -> Event Hub (other two choices, LAW, storage, but not available in this question)  
<https://docs.microsoft.com/en-us/azure/active-directory/reports-monitoring/tutorial-azure-monitor-stream-logs-to-event-hub>

2. Azure function has the Event hub trigger and Cosmos output binding

a. Event Hub trigger for function

<https://docs.microsoft.com/en-us/azure/azure-functions/functions-bindings-event-hubs-trigger?tabs=csharp>

### Question: 109

#### HOTSPOT

You are designing an application that will use Azure Linux virtual machines to analyze video files. The files will be uploaded from corporate offices that connect to Azure by using ExpressRoute.

You plan to provision an Azure Storage account to host the files.

You need to ensure that the storage account meets the following requirements:

- Supports video files of up to 7 TB
- Provides the highest availability possible
- Ensures that storage is optimized for the large video files
- Ensures that files from the on-premises network are uploaded by using ExpressRoute

How should you configure the storage account? To answer, select the appropriate options in the answer area.



NOTE: Each correct selection is worth one point.

**Answer Area**

Storage account type:	Premium file shares Premium page blobs Standard general-purpose v2
Data redundancy:	Geo-redundant storage (GRS) Locally-redundant storage (LRS) Zone-redundant storage (ZRS)
Networking:	Azure Route Server A private endpoint A service endpoint

These are the selections for Data redundancy

---

**Answer:**

Explanation:

**Answer Area**

Storage account type: Premium file shares

Data redundancy: Locally-redundant storage (LRS)

Networking: Azure Route Server

---

**Question: 110**

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>

---

**Question: 111**

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**

---

Explanation:

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### Question: 112

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You plan to deploy an Azure SQL database that will store Personally Identifiable Information (PII). You need to ensure that only privileged users can view the PII.

What should you include in the solution?

- A. Transparent Data Encryption (TDE)
- B. Data Discovery & Classification
- C. dynamic data masking
- D. role-based access control (RBAC)

---

**Answer: C**

---

Explanation:

---

### Question: 113

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#### HOTSPOT

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



## Answer Area

### Application1:

BlobStorage with Standard performance, Hot access tier, and Read-access geo-redundant storage (RA-GRS) replication  
BlockBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication  
General purpose v1 with Premium performance and Locally-redundant storage (LRS) replication  
General purpose v2 with Standard performance, Hot access tier, and Locally-redundant storage (LRS) replication

### Application2:

BlobStorage with Standard performance, Cool access tier, and Geo-redundant storage (GRS) replication  
BlockBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication  
General purpose v1 with Standard performance and Read-access geo-redundant storage (RA-GRS) replication  
General purpose v2 with Standard performance, Cool access tier, and Read-access geo-redundant storage (RA-GRS) replication

---

### Answer:

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Explanation:



Application1:

- BlobStorage with Standard performance, Hot access tier, and Read-access geo-redundant storage (RA-GRS) replication
- BlockBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication
- General purpose v1 with Premium performance and Locally-redundant storage (LRS) replication
- General purpose v2 with Standard performance, Hot access tier, and Locally-redundant storage (LRS) replication

Application2:

- BlobStorage with Standard performance, Cool access tier, and Geo-redundant storage (GRS) replication
- BlockBlobStorage with Premium performance and Zone-redundant storage (ZRS) replication
- General purpose v1 with Standard performance and Read-access geo-redundant storage (RA-GRS) replication
- General purpose v2 with Standard performance, Cool access tier, and Read-access geo-redundant storage (RA-GRS) replication

Box 1: BlobStorage with Standard performance, Cool access tier, and Geo-redundant storage (GRS) replication.  
BlockBlobStorage accounts: Storage accounts with standard performance characteristics for block blobs and append blobs. Recommended for scenarios with high transaction 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>

**Question: 114**

You have the resources shown in the following table.

Name	Type
AS1	Azure Synapse Analytics instance
CDB1	Azure Cosmos DB SQL API account

CDB1 hosts a container that stores continuously updated operational data.



You are designing a solution that will use ASI to analyze the operational data daily. You need to recommend a solution to analyze the data without affecting the performance of the operational data store. What should you include in the recommendation?

- A. Azure Cosmos DB change feed
- B. Azure Data Factory with Azure Cosmos DB and Azure Synapse Analytics connectors
- C. Azure Synapse Analytics with PolyBase data loading
- D. Azure Synapse Link for Azure Cosmos DB

---

**Answer: D**

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Explanation:

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### Question: 115

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#### HOTSPOT

You plan to develop a new app that will store business critical data.

a. 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.

**Answer Area**

Storage Account type:	<ul style="list-style-type: none"><li>Standard general-purpose v1</li><li>Standard general-purpose v2</li><li>Premium block blobs</li></ul> <small>This are the selections for Storage Account type.</small>
Redundancy:	<ul style="list-style-type: none"><li>Zone-redundant storage (ZRS)</li><li>Locally-redundant storage (LRS)</li><li>Read-access geo-redundant storage (RA-GRS)</li></ul>

---

**Answer:**

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Explanation:

**Answer Area**

Storage Account type:	Standard general-purpose v2
Redundancy:	Read-access geo-redundant storage (RA-GRS)

---

### Question: 116

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#### HOTSPOT

Your on-premises network contains a file server named Server1 that stores 500 GB of data.

You need to use Azure Data Factory to copy the data from Server1 to Azure Storage.

You add a new data factory.

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



NOTE: Each correct selection is worth one point.

From Server1:	<ul style="list-style-type: none"><li>Install an Azure File Sync agent</li><li>Install a self-hosted integration runtime</li><li>Install the File Server Resource Manager role service</li></ul>
From the data factory:	<ul style="list-style-type: none"><li>Create a pipeline</li><li>Create an import/export job</li><li>Provision an Azure-SQL Server Integration Services (SSIS) integration runtime</li></ul>

---

**Answer:**

---

Explanation:

From Server1:	<ul style="list-style-type: none"><li>Install an Azure File Sync agent</li><li>Install a self-hosted integration runtime</li><li>Install the File Server Resource Manager role service</li></ul>
From the data factory:	<ul style="list-style-type: none"><li>Create a pipeline</li><li>Create an import/export job</li><li>Provision an Azure-SQL Server Integration Services (SSIS) integration runtime</li></ul>

**Box 1: Install a self-hosted integration runtime**

The Integration Runtime is a customer-managed data integration infrastructure used by Azure Data Factory to provide data integration capabilities across different network environments.

**Box 2: Create a pipeline**

With ADF, existing data processing services can be composed into data pipelines that are highly available and managed in the cloud. These data pipelines can be scheduled to ingest, prepare, transform, analyze, and publish data, and ADF manages and orchestrates the complex data and processing dependencies

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/team-data-science-process/move-sql-azure-adf>

<https://docs.microsoft.com/pl-pl/azure/data-factory/tutorial-hybrid-copy-data-tool>

syu31svc 3 months, 4 weeks ago

<https://docs.microsoft.com/en-us/azure/data-factory/create-self-hosted-integration-runtime?tabs=data-factory>

"A self-hosted integration runtime can run copy activities between a cloud data store and a data store in a private network"

<https://docs.microsoft.com/en-us/azure/data-factory/introduction>



"With Data Factory, you can use the Copy Activity in a data pipeline to move data from both on-premises and cloud source data stores to a centralization data store in the cloud for further analysis"

---

### Question: 117

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You store web access logs data in Azure Blob storage.  
You plan to generate monthly reports from the access logs.  
You need to recommend an automated process to upload the data to Azure SQL Database every month.  
What should you include in the recommendation?

- A. Azure Data Factory
- B. Data Migration Assistant
- C. Microsoft SQL Server Migration Assistant (SSMA)
- D. AzCopy

---

### Answer: A

---

Explanation:

Azure Data Factory is the platform that solves such data scenarios. It is the cloud-based ETL and data integration service that allows you to create data-driven workflows for orchestrating data movement and transforming data at scale. Using Azure Data Factory, you can create and schedule data-driven workflows (called pipelines) that can ingest data from disparate data stores. You can build complex ETL processes that transform data visually with data flows or by using compute services such as Azure HDInsight Hadoop, Azure Databricks, and Azure SQL Database.

Reference:

<https://docs.microsoft.com/en-gb/azure/data-factory/introduction>

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### Question: 118

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Your company has an Azure Web App that runs via the Premium App Service Plan. A development team will be using the Azure Web App. You have to configure the Azure Web app so that it can fulfil the below requirements.

Provide the ability to switch the web app from the current version to a newer version  
Provide developers with the ability to test newer versions of the application before the switch to the newer version occurs  
Ensure that the application version can be rolled back  
Minimize downtime  
Which of the following can be used for this requirement?

- A. Create a new App Service Plan
- B. Make use of deployment slots
- C. Map a custom domain
- D. Backup the Azure Web App

---

### Answer: B

---

Explanation:

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### Question: 119

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You have to deploy an Azure SQL database named db1 for your company. The databases must meet



the following security requirements

When IT help desk supervisors query a database table named customers, they must be able to see the full number of each credit card

When IT help desk operators query a database table named customers, they must only see the last four digits of each credit card number

A column named Credit Card rating in the customers table must never appear in plain text in the database system. Only client applications must be able to decrypt the information that is stored in this column

Which of the following can be implemented for the Credit Card rating column security requirement?

- A. Always Encrypted
- B. Azure Advanced Threat Protection
- C. Transparent Data Encryption
- D. Dynamic Data Masking

---

**Answer: A**

---

Explanation:

<https://docs.microsoft.com/en-us/sql/relational-databases/security/encryption/always-encrypted-database-engine?view=sql-server-ver15>

---

**Question: 120**

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You have an Azure Active Directory (Azure AD) tenant that syncs with an on-premises Active Directory domain.

Your company has a line-of-business (LOB) application that was developed internally.

You need to implement SAML single sign-on (SSO) and enforce multi-factor authentication (MFA) when users attempt to access the application from an unknown location.

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 AD enterprise applications
- B. Azure AD Identity Protection
- C. Azure Application Gateway
- D. Conditional Access policies
- E. Azure AD Privileged Identity Management (PIM)

---

**Answer: AD**

---

Explanation:

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**Question: 121**

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You are designing an Azure governance solution.

All Azure resources must be easily identifiable based on the following operational information environment, owner, department and cost center

You need to ensure that you can use the operational information when you generate reports for the Azure resources.

What should you include in the solution?

- A. Azure Active Directory (Azure AD) administrative units
- B. an Azure data catalog that uses the Azure REST API as a data source
- C. an Azure policy that enforces tagging rules
- D. an Azure management group that uses parent groups to create a hierarchy

---

## Answer: C

---

Explanation:

You use Azure Policy to enforce tagging rules and conventions. By creating a policy, you avoid the scenario of resources being deployed to your subscription that don't have the expected tags for your organization. Instead of manually applying tags or searching for resources that aren't compliant, you create a policy that automatically applies the needed tags during deployment.

Note: Organizing cloud-based resources is a crucial task for IT, unless you only have simple deployments. Use naming and tagging standards to organize your resources for these reasons:

Resource management: Your IT teams will need to quickly locate resources associated with specific workloads, environments, ownership groups, or other important information. Organizing resources is critical to assigning organizational roles and access permissions for resource management.

Reference:

<https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/decision-guides/resource-tagging>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/tag-policies>

---

## Question: 122

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You plan to automate the deployment of resources to Azure subscriptions.

What is a difference between using Azure Blueprints and Azure Resource Manager (ARM) templates?

- A. ARM templates remain connected to the deployed resources.
- B. Only ARM templates can contain policy definitions.
- C. Blueprints remain connected to the deployed resources.
- D. Only Blueprints can contain policy definitions.

---

## Answer: C

---

Explanation:

With Azure Blueprints, the relationship between the blueprint definition (what should be deployed) and the blueprint assignment (what was deployed) is preserved. This connection supports improved tracking and auditing of deployments. Azure Blueprints can also upgrade several subscriptions at once that are governed by the same blueprint.

Reference:

<https://docs.microsoft.com/en-us/answers/questions/26851/how-is-azure-blue-prints-different-from-resource-m.html>

---

## Question: 123

---

A company named Contoso, Ltd. has an Azure Active Directory (Azure AD) tenant that is integrated with Microsoft Office 365 and an Azure subscription.

Contoso has an on-premises identity infrastructure. The infrastructure includes servers that run



Active Directory Domain Services (AD DS), and Azure AD Connect

Contoso has a partnership with a company named Fabrikam, Inc. Fabrikam has an Active Directory forest and an Office 365 tenant. Fabrikam has the same on-premises identity infrastructure as Contoso.

A team of 10 developers from Fabrikam will work on an Azure solution that will be hosted in the Azure subscription of Contoso. The developers must be added to the Contributor role for a resource in the Contoso subscription.

You need to recommend a solution to ensure that Contoso can assign the role to the 10 Fabrikam developers. The solution must ensure that the Fabrikam developers use their existing credentials to access resources.

What should you recommend?

- A. Configure a forest trust between the on-premises Active Directory forests of Contoso and Fabrikam.
- B. Configure an organization relationship between the Office 365 tenants of Fabrikam and Contoso.
- C. In the Azure AD tenant of Contoso, use MIM to create guest accounts for the Fabrikam developers.
- D. Configure an AD FS relying party trust between the fabrikam and Contoso AD FS infrastructures.

---

### Answer: A

Explanation:

Trust configurations - Configure trust from managed forest(s) or domain(s) to the administrative forest

A one-way trust is required from production environment to the admin forest.

Selective authentication should be used to restrict accounts in the admin forest to only logging on to the appropriate production hosts.

Reference:

<https://docs.microsoft.com/en-us/windows-server/identity/securing-privileged-access/securing-privileged-access-reference-material>

---

### Question: 124

You are designing a microservices architecture that will support a web application.

The solution must meet the following requirements:

Allow independent upgrades to each microservice

Deploy the solution on-premises and to Azure

Set policies for performing automatic repairs to the microservices

Support low-latency and hyper-scale operations

You need to recommend a technology.

What should you recommend?

- A. Azure Service Fabric
- B. Azure Container Service
- C. Azure Container Instance
- D. Azure Virtual Machine Scale Set

---

### Answer: A

Explanation:

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

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### Question: 125

---

You plan to deploy an Azure App Service web app that will have multiple instances across multiple Azure regions.

You need to recommend a load balancing service for the planned deployment. The solution must meet the following requirements:

- Maintain access to the app in the event of a regional outage.
- Support Azure Web Application Firewall (WAF).
- Support cookie-based affinity.
- Support URL routing.

What should you include in the recommendation?

- A. Azure Front Door
- B. Azure Load Balancer
- C. Azure Traffic Manager
- D. Azure Application Gateway

---

### Answer: A

---

Explanation:

Azure Traffic Manager performs the global load balancing of web traffic across Azure regions, which have a regional load balancer based on Azure Application Gateway. This combination gets you the benefits of Traffic Manager many routing rules and Application Gateway's capabilities such as WAF, TLS termination, path-based routing, cookie-based session affinity among others.

Reference:

<https://docs.microsoft.com/en-us/azure/application-gateway/features>

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### Question: 126

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You have an Azure subscription.

Your on-premises network contains a file server named Server1. Server 1 stores 5 TB of company files that are accessed rarely.

You plan to copy the files to Azure Storage.

You need to implement a storage solution for the files that meets the following requirements:

- The files must be available within 24 hours of being requested.
- Storage costs must be minimized.

Which two possible storage solutions achieve this goal? Each correct answer presents a complete solution. NOTE: Each correct selection is worth one point.

- A. Create a general-purpose v1 storage account. Create a blob container and copy the files to the blob container.
- B. Create a general-purpose v2 storage account that is configured for the Hot default access tier. Create a blob container, copy the files to the blob container, and set each file to the Archive access tier.
- C. Create a general-purpose v1 storage account. Create a file share in the storage account and copy



the files to the file share.

D. Create a general-purpose v2 storage account that is configured for the Cool default access tier.

Create a file share in the storage account and copy the files to the file share.

E. Create an Azure Blob storage account that is configured for the Cool default access tier. Create a blob container, copy the files to the blob container, and set each file to the Archive access tier.

---

**Answer: BE**

---

Explanation:

<https://docs.microsoft.com/en-us/azure/storage/blobs/manage-access-tier?tabs=portal>

---

**Question: 127**

---

You have 100 Microsoft SQL Server integration Services (SSIS) packages that are configured to use 10 on-premises SQL Server databases as their destinations.

You plan to migrate the 10 on-premises databases to Azure SQL Database

You need to recommend a solution to host the SSIS packages in Azure. The solution must ensure that the packages can target the SQL Database instances as their destinations.

What should you include in the recommendation?

A. SQL Server Migration Assistant (SSMA)

B. Azure Data Catalog

C. Data Migration Assistant

D. Azure Data Factory

---

**Answer: D**

---

Explanation:

<https://docs.microsoft.com/bs-cyrl-ba/azure/sql-database/sql-database-managed-instance-migrate>

Quote from that page "Azure SQL Database and SQL Server databases in an Azure Virtual Machine. DMS is the recommended method of migration for your enterprise workloads.

If you use SQL Server Integration Services (SSIS) on your SQL Server on premises, DMS does not yet support migrating SSIS catalog (SSISDB) that stores SSIS packages, but you can provision Azure-SSIS Integration Runtime (IR) in Azure Data Factory (ADF) that will create a new SSISDB in a managed instance and then you can redeploy your packages to it, see Create Azure-SSIS IR in ADF.

To learn more about this scenario and configuration steps for DMS, see Migrate your on-premises database to managed instance using DMS."

<https://docs.microsoft.com/en-us/azure/data-factory/how-to-migrate-ssis-job-ssms>

---

**Question: 128**

---

You have an app named App1 that uses two on-premises Microsoft SQL Server databases named DB1 and DB2.

You plan to migrate DB1 and DB2 to Azure.

You need to recommend an Azure solution to host DB1 and DB2. The solution must meet the following requirements:

- Support server-side transactions across DB1 and DB2.
- Minimize administrative effort to update the solution.



What should you recommend?

- A. two SQL Server databases on an Azure virtual machine
- B. two Azure SQL databases on different Azure SQL Database servers
- C. two Azure SQL databases in an elastic pool
- D. two Azure SQL databases on the same Azure SQL Database managed instance

---

**Answer: D**

---

Explanation:

When both the database management system and client are under the same ownership (e.g. when SQL Server is deployed to a virtual machine), transactions are available and the lock duration can be controlled. Reference: <https://docs.particular.net/nservicebus/azure/understanding-transactionality-in-azure>

---

**Question: 129**

---

HOTSPOT

You have the resources shown in the following table.

Name	Type	Resource group
VM1	Azure virtual machine	RG1
VM2	On-premises virtual machine	<i>Not applicable</i>

You create a new resource group in Azure named RG2.

You need to move the virtual machines to RG2.

What should you use to move each virtual machine? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

VM1:  Azure Arc  
 Azure Lighthouse  
 Azure Migrate  
 Azure Resource Mover  
 The Data Migration Assistant (DMA)

VM2:  Azure Arc  
 Azure Lighthouse  
 Azure Migrate  
 Azure Resource Mover  
 The Data Migration Assistant (DMA)

---

**Answer:**

---

Explanation:



VM1: Azure Lighthouse

VM2: Azure Migrate

---

### Question: 130

HOTSPOT

You have the Azure resources shown in the following table.

Name	Type	Description
VNET1	Virtual network	Connected to an on-premises network by using ExpressRoute
VM1	Virtual machine	Configured as a DNS server
SQLDB1	Azure SQL Database	Single instance
PE1	Private endpoint	Provides connectivity to SQLDB1
contoso.com	Private DNS zone	Linked to VNET1 and contains an A record for PE1
contoso.com	Public DNS zone	Contains a CNAME record for SQLDB1

You need to design a solution that provides on-premises network connectivity to SQLDB1 through PE1. How should you configure name resolution? To answer, select the appropriate options in the answer area.

Azure configuration:

Configure VM1 to forward contoso.com to the public DNS zone.  
Configure VM1 to forward contoso.com to the Azure-provided DNS at 168.63.129.16.  
In VNet1, configure a custom DNS server set to the Azure-provided DNS at 168.63.129.16.

On-premises DNS configuration:

Forward contoso.com to VM1.  
Forward contoso.com to the public DNS zone.  
Forward contoso.com to the Azure-provided DNS at 168.63.129.16.

---

### Answer:

Explanation:

---

### Question: 131

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: Use the Azure Traffic Analytics solution in Azure Log Analytics 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.

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>

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### **Question: 132**

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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 account that contains two 1-GB data files named File1 and File2. The data files are set to use the archive access tier.

You need to ensure that File1 is accessible immediately when a retrieval request is initiated.

Solution: For File1, you set Access tier to Cool.

Does this meet the goal?

- A. Yes
- B. No

---

**Answer: A**

---

Explanation:

The data in the cool tier is "considered / intended to be stored for 30 days". But this is not a must. You can store data indefinitely in the cool tier. The mentioned reference (see below) even gives an example of large scientific or otherwise large data which is stored for long duration in the cool tier.

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

---

### **Question: 133**

---

HOTSPOT



You plan to create an Azure Storage account that will host file shares. The shares will be accessed from on-premises applications that are transaction-intensive.

You need to recommend a solution to minimize latency when accessing the file shares. The solution must provide the highest-level of resiliency for the selected storage tier.

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.

Storage tier:

- Hot
- Premium
- Transaction optimized

Resiliency:

- Geo-redundant storage (GRS)
- Zone-redundant storage (ZRS)
- Locally-redundant storage (LRS)

---

### Answer:

---

Explanation:

Box 1: Premium

Premium: Premium file shares are backed by solid-state drives (SSDs) and provide consistent high performance and low latency, within single-digit milliseconds for most IO operations, for IO-intensive workloads.

Box 2: Zone-redundant storage (ZRS):

Premium Azure file shares only support LRS and ZRS.

Zone-redundant storage (ZRS): With ZRS, three copies of each file stored, however these copies are physically isolated in three distinct storage clusters in different Azure availability zones.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-files-planning>

---

### Question: 134

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HOTSPOT

You plan to migrate on-premises Microsoft SQL Server databases to Azure.

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

Supports user-initiated backups

Supports multiple automatically replicated instances across Azure regions

Minimizes administrative effort to implement and maintain business continuity

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

NOTE: Each correct selection is worth one point.



Deployment solution:

- Azure SQL Managed Instance
- SQL Server on Azure Virtual Machines
- An Azure SQL Database single database

Resiliency solution:

- Auto-failover group
- Active geo-replication
- Zone-redundant deployment

---

**Answer:**

---

Explanation:

Deployment solution:

- Azure SQL Managed Instance
- SQL Server on Azure Virtual Machines
- An Azure SQL Database single database

Resiliency solution:

- Auto-failover group
- Active geo-replication
- Zone-redundant deployment

Box 1: An Azure SQL Database single database.

SQL Server Managed instance versus SQL Server Virtual Machines

Active geo-replication is not supported by Azure SQL Managed Instance.

Box 2: Active geo-replication

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.

Reference:

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

---

**Question: 135**

---

HOTSPOT

You have an Azure subscription that is linked to an Azure Active Directory Premium Plan 2 tenant. The tenant has multi-factor authentication (MFA) enabled for all users.

You have the named locations shown in the following table.



Name	IP address range	Trusted
NY	192.168.2.0/27	Yes
DC	192.168.1.0/27	No
LA	192.168.3.0/27	No

You have the users shown in the following table.

Name	Device operating system	User-risk level	Matching compliance policies
User1	Windows 10	High	<b>None</b>
User2	Windows 10	Medium	<b>None</b>
User3	macOS	Low	<b>None</b>

You plan to deploy the Conditional Access policies shown in the following table.

Name	Assignment	Conditions: Locations	Conditions: User risk	Conditions: Sign-in risk	Access Control: Grant
CA1	All users	Trusted locations	High, Medium	<b>None</b>	Block access
CA2	All users	NY	<b>None</b>	High, Medium	Block access
CA3	All users	LA	<b>None</b>	<b>None</b>	Grant access: Require device to marked as compliant

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                    |
|---|-----------------------|-----------------------|
| To ensure that the conditions in CA1 can be evaluated, you must enforce an Azure Active Directory (Azure AD) Identity Protection user risk policy.    | <input type="radio"/> | <input type="radio"/> |
| To ensure that the conditions in CA2 can be evaluated, you must enforce an Azure Active Directory (Azure AD) Identity Protection sign-in risk policy. | <input type="radio"/> | <input type="radio"/> |
| To ensure that the conditions in CA3 can be evaluated, you must deploy Microsoft Endpoint Manager.  | <input type="radio"/> | <input type="radio"/> |

---

### Answer:

---

Explanation:

- | Statements  | Yes                                 | No                                  |
|---|-------------------------------------|-------------------------------------|
| To ensure that the conditions in CA1 can be evaluated, you must enforce an Azure Active Directory (Azure AD) Identity Protection user risk policy.    | <input type="radio"/>               | <input checked="" type="checkbox"/> |
| To ensure that the conditions in CA2 can be evaluated, you must enforce an Azure Active Directory (Azure AD) Identity Protection sign-in risk policy. | <input type="radio"/>               | <input checked="" type="checkbox"/> |
| To ensure that the conditions in CA3 can be evaluated, you must deploy Microsoft Endpoint Manager.  | <input checked="" type="checkbox"/> | <input type="radio"/>               |

---

### Question: 136

You plan provision a High Performance Computing (HPC) cluster in Azure that will use a third-party scheduler.

You need to recommend a solution to provision and manage the HPC cluster node.

What should you include in the recommendation?



- A. Azure Lighthouse
- B. Azure CycleCloud
- C. Azure Purview
- D. Azure Automation

---

**Answer: B**

Explanation:

You can dynamically provision Azure HPC clusters with Azure CycleCloud. Azure CycleCloud is the simplest way to manage HPC workloads.

Note: Azure CycleCloud is an enterprise-friendly tool for orchestrating and managing High Performance Computing (HPC) environments on Azure. With CycleCloud, users can provision infrastructure for HPC systems, deploy familiar HPC schedulers, and automatically scale the infrastructure to run jobs efficiently at any scale. Through CycleCloud, users can create different types of file systems and mount them to the compute cluster nodes to support HPC workloads.

Reference:

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

---

### Question: 137

You have an Azure Data Lake Storage account that contains 1,000 10-MB CSV files and an Azure Synapse Analytics dedicated SQL pool named sql1. You need to load the files to sql1. The solution must meet the following requirements:

Maximize data load performance.

Eliminate the need to define external tables before the data loads.

What should you use?

- A. the copy statement
- B. PolyBase
- C. BCP
- D. the sqlBulkcopy object

---

**Answer: B**

Explanation:

---

### Question: 138

HOTSPOT

You have an Azure Load Balancer named LB1 that balances requests to five Azure virtual machines.

You need to develop a monitoring solution for LB1. The solution must generate an alert when any of the following conditions are met:

A virtual machine is unavailable.

Connection attempts exceed 50,000 per minute.

Which signal should you include in the solution for each condition? To answer, select the appropriate options in the answer area.



NOTE: Each correct selection is worth one point.

An unavailable virtual machine:

Byte Count
Data Path Availability
Health Probe Status
Packet Count
SYN Count

More than 50,000 connection attempts per minute:

Byte Count
Data Path Availability
Health Probe Status
Packet Count
SYN Count

---

**Answer:**

---

Explanation:

An unavailable virtual machine:

Byte Count
Data Path Availability
Health Probe Status
Packet Count
SYN Count

More than 50,000 connection attempts per minute:

Byte Count
Data Path Availability
Health Probe Status
Packet Count
SYN Count

#### Box 1: Data path availability

Standard Load Balancer continuously exercises the data path from within a region to the load balancer front end, all the way to the SDN stack that supports your VM. As long as healthy instances remain, the measurement follows the same path as your application's load-balanced traffic. The data path that your customers use is also validated. The measurement is invisible to your application and does not interfere with other operations.

Note: Load balancer distributes inbound flows that arrive at the load balancer's front end to backend pool instances. These flows are according to configured load-balancing rules and health probes. The backend pool instances can be Azure Virtual Machines or instances in a virtual machine scale set.

#### Box 2: SYN count

SYN (synchronize) count: Standard Load Balancer does not terminate Transmission Control Protocol (TCP) connections or interact with TCP or UDP packet flows. Flows and their handshakes are always between the source and the VM instance. To better troubleshoot your TCP protocol scenarios, you



can make use of SYN packets counters to understand how many TCP connection attempts are made. The metric reports the number of TCP SYN packets that were received.

Reference:

<https://docs.microsoft.com/en-us/azure/load-balancer/load-balancer-standard-diagnostics>

---

### Question: 139

HOTSPOT

Your company deploys several Linux and Windows virtual machines (VMs) to Azure. The VMs are deployed with the Microsoft Dependency Agent and the Microsoft Monitoring Agent installed by using Azure VM extensions. On-premises connectivity has been enabled by using Azure ExpressRoute.

You need to design a solution to monitor the VMs.

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
Analyze Network Security Group (NSG) flow logs for VMs attempting internet access.	<div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> Azure Network Watcher <input type="checkbox"/> Azure ExpressRoute Monitor <input type="checkbox"/> Azure Service Endpoint Monitor <input type="checkbox"/> Azure DNS Analytics</div>
Visualize the VMs with their different processes and dependencies on other computers and external processes.	<div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> Azure Service Map <input type="checkbox"/> Azure Activity Log <input type="checkbox"/> Azure Service Health <input type="checkbox"/> Azure Advisor</div>

---

### Answer:

Explanation:

Scenario	Azure Monitoring Service
Analyze Network Security Group (NSG) flow logs for VMs attempting internet access.	<div style="border: 1px solid black; padding: 5px;"><input checked="" type="checkbox"/> Azure Network Watcher <input type="checkbox"/> Azure ExpressRoute Monitor <input type="checkbox"/> Azure Service Endpoint Monitor <input type="checkbox"/> Azure DNS Analytics</div>
Visualize the VMs with their different processes and dependencies on other computers and external processes.	<div style="border: 1px solid black; padding: 5px;"><input checked="" type="checkbox"/> Azure Service Map <input type="checkbox"/> Azure Activity Log <input type="checkbox"/> Azure Service Health <input type="checkbox"/> Azure Advisor</div>

Box 1: Azure Network Watcher

Traffic Analytics is a cloud-based solution that provides visibility into user and application activity in cloud networks. Traffic analytics analyzes Network Watcher network security group (NSG) flow logs



to provide insights into traffic flow in your Azure cloud. With traffic analytics, you can:

- Identify security threats to, and secure your network, with information such as open-ports, applications attempting internet access, and virtual machines (VM) connecting to rogue networks.
- Visualize network activity across your Azure subscriptions and identify hot spots.
- Understand traffic flow patterns across Azure regions and the internet to optimize your network deployment for performance and capacity.
- Pinpoint network misconfigurations leading to failed connections in your network.

#### Box 2: Azure Service Map

Service Map automatically discovers application components on Windows and Linux systems and maps the communication between services. With Service Map, you can view your servers in the way that you think of them: as interconnected systems that deliver critical services. Service Map shows connections between servers, processes, inbound and outbound connection latency, and ports across any TCP-connected architecture, with no configuration required other than the installation of an agent.

Reference:

<https://docs.microsoft.com/en-us/azure/network-watcher/traffic-analytics>

<https://docs.microsoft.com/en-us/azure/azure-monitor/insights/service-map>

---

#### Question: 140

---

You plan to deploy an Azure Databricks Data Science & Engineering workspace and ingest data into the workspace.

Where should you persist the ingested data?

- A. Azure Files
- B. Azure Data Lake
- C. Azure SQL Database
- D. Azure Cosmos DB

---

**Answer: B**

---

Explanation:

The Azure Databricks Data Science & Engineering data lands in a data lake for long term persisted storage, in Azure Blob Storage or Azure Data Lake Storage.

Reference:

<https://docs.microsoft.com/en-us/azure/databricks/scenarios/what-is-azure-databricks-ws>

---

#### Question: 141

---

You plan to migrate data to Azure.

The IT department at your company identifies the following requirements:

- The storage must support 1 PB of data.
- The data must be stored in blob storage.
- The storage must support three levels of subfolders.
- The storage must support access control lists (ACLs).



You need to meet the requirements.

What should you use?

- A. a premium storage account that is configured for block blobs
- B. a general purpose v2 storage account that has hierarchical namespace enabled
- C. a premium storage account that is configured for page blobs
- D. a premium storage account that is configured for files shares and supports large file shares

---

**Answer: B**

---

Explanation:

Microsoft recommends that you use a GPv2 storage account for most scenarios. It supports up to 5 PB, and blob storage including Data Lake storage.

Note: A key mechanism that allows Azure Data Lake Storage Gen2 to provide file system performance at object storage scale and prices is the addition of a hierarchical namespace. This allows the collection of objects/files within an account to be organized into a hierarchy of directories and nested subdirectories in the same way that the file system on your computer is organized. With a hierarchical namespace enabled, a storage account becomes capable of providing the scalability and cost-effectiveness of object storage, with file system semantics that are familiar to analytics engines and frameworks.

Reference:

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

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

---

**Question: 142**

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Your company has an app named App1 that uses data from the on-premises Microsoft SQL Server databases shown in the following table.

Name	Size
DB1	450 GB
DB2	250 GB
DB3	300 GB
DB4	50 GB

App1 and the data are used on the first day of the month only. The data is not expected to grow more than 3% each year.

The company is rewriting App1 as an Azure web app and plans to migrate all the data to Azure.

You need to migrate the data to Azure SQL Database. The solution must minimize costs.



Which service tier should you use?

- A. vCore-based Business Critical
- B. vCore-based General Purpose
- C. DTU-based Standard
- D. DTU-based Basic

---

**Answer: C**

---

Explanation:

DTU-based Standard supports databases up to 1 TB in size.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-sql/database/service-tiers-dtu>

---

### Question: 143

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HOTSPOT

You manage a database environment for a Microsoft Volume Licensing customer named Contoso, Ltd. Contoso uses License Mobility through Software Assurance.

You need to deploy 50 databases. The solution must meet the following requirements:

Support automatic scaling.

Minimize Microsoft SQL Server licensing costs.

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.

Purchase model:

DTU
vCore
Azure reserved virtual machine instances

Deployment option:

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

---

**Answer:**

---

Explanation:



Purchase model:

DTU
vCore
Azure reserved virtual machine instances

Deployment option:

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

**Box 1: vCore**

Virtual core (vCore)-based purchasing model (recommended). This purchasing model provides a choice between a provisioned compute tier and a serverless compute tier. With the provisioned compute tier, you choose the exact amount of compute resources that are always provisioned for your workload. With the serverless compute tier, you specify the autoscaling of the compute resources over a configurable compute range

**Box 2: An Azure SQL Database Elastic pool**

Azure SQL Database provides the following deployment options for a database:

Single database represents a fully managed, isolated database.

Elastic pool is a collection of single databases with a shared set of resources, such as CPU or memory. Single databases can be moved into and out of an elastic pool.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-sql/database/purchasing-models>

---

**Question: 144**

---

Your company develops Azure applications.

You need to recommend a solution for the deployment of Azure subscriptions. The solution must meet the following requirements:

- A. Provision resource groups.
- B. Support deployments across all Azure regions.
- C. Create custom role-based access control (RBAC) roles.
- D. Provide consistent virtual machine and virtual network configurations.

What should you include in the recommendation?

---

**Answer: D**

---

Explanation:

Resource groups: You can scope your deployment to a resource group. You use an Azure Resource Manager template (ARM template) for the deployment.

Regions: If you have a template spec in one region and want to move it to new region, you can export the template spec and redeploy it.

RBAC: Azure role-based access control (Azure RBAC) is the authorization system you use to manage access to Azure resources. To grant access, you assign roles to users, groups, service principals, or

managed identities at a particular scope. In addition to using Azure PowerShell or the Azure CLI, you can assign roles using Azure Resource Manager templates. Templates can be helpful if you need to deploy resources consistently and repeatedly.

You can setup Virtual machines and virtual network configurations in an Azure Resource Manager template.

Reference:

<https://docs.microsoft.com/en-us/azure/governance/blueprints/overview>

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/microsoft-resources-move-regions>

<https://docs.microsoft.com/en-us/azure/role-based-access-control/role-assignments-template>

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/template-description>

---

### Question: 145

HOTSPOT

You plan to deploy a custom database solution that will have multiple instances as shown in the following table.

Host virtual machine	Azure Availability Zone	Azure region
USDB1	1	US East
USDB2	2	US East
USDB3	3	US East
EUDB1	1	West Europe
EUDB2	2	West Europe
EUDB3	3	West Europe

Client applications will access database servers by using db.contoso.com.

You need to recommend load balancing services for the planned deployment. The solution must meet the following requirements:

Access to at least one database server must be maintained in the event of a regional outage. The virtual machines must not connect to the internet directly.

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.



Global load balancing service:

Azure Application Gateway
Azure Front Door
Azure Load Balancer
Azure Traffic Manager

Availability Zone load balancing service:

Azure Application Gateway
Azure Front Door
Azure Load Balancer
Azure Traffic Manager

---

**Answer:**

---

Explanation:

Global load balancing service:

Azure Application Gateway
Azure Front Door
Azure Load Balancer
Azure Traffic Manager

Availability Zone load balancing service:

Azure Application Gateway
Azure Front Door
Azure Load Balancer
Azure Traffic Manager

Box 1: Azure Traffic Manager

Traffic Manager is a DNS-based traffic load balancer that enables you to distribute traffic optimally to services across global Azure regions, while providing high availability and responsiveness. Because Traffic Manager is a DNS-based load-balancing service, it load balances only at the domain level. For that reason, it can't fail over as quickly as Front Door, because of common challenges around DNS caching and systems not honoring DNS TTLs.

Service	Global/regional	Recommended traffic
Azure Front Door	Global	HTTP(S)
Traffic Manager	Global	non-HTTP(S)
Application Gateway	Regional	HTTP(S)
Azure Load Balancer	Regional	non-HTTP(S)



Reference:

<https://docs.microsoft.com/en-us/azure/architecture/guide/technology-choices/load-balancing-overview>

### Question: 146

HOTSPOT

You have a resource group named RG1 that contains the objects shown in the following table.

Name	Type	Location
ASP-RG1	App Service plan	East US
KV1	Azure Key Vault	East US
KV2	Azure Key Vault	West Europe
App1	Azure Logic Apps	West US

You need to configure permissions so that App1 can copy all the secrets from KV1 to KV2. App1 currently has the Get permission for the secrets in KV1.

Which additional permissions should you assign to App1? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Permission to assign so that App1 can copy the secrets from KV1:

- Add
- Backup
- Create
- List
- Unwrap Key

Permission to assign so that App1 can copy the secrets to KV2:

- Create
- Import
- List
- Wrap Key

Answer:

Explanation:



Permission to assign so that App1 can copy the secrets from KV1:

Add
Backup
Create
List
Unwrap Key

Permission to assign so that App1 can copy the secrets to KV2:

Create
Import
List
Wrap Key

Box 1: List

Get: Gets the specified Azure key vault.

List: The List operation gets information about the vaults associated with the subscription.

Box 2: Create

Create Or Update: Create or update a key vault in the specified subscription.

Reference:

<https://docs.microsoft.com/en-us/rest/api/keyvault/>

---

### Question: 147

HOTSPOT

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

You plan to use Azure Monitor to monitor user sign-ins and generate alerts based on specific user sign-in events.

You need to recommend a solution to trigger the alerts based on the events.

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.



Send Azure AD logs to:

An Azure event hub
An Azure Log Analytics workspace
An Azure Storage account

Signal type to use for triggering the alerts:

Activity log
Log
Metric

---

### Answer:

---

Explanation:

Send Azure AD logs to:

An Azure event hub
An Azure Log Analytics workspace
An Azure Storage account

Signal type to use for triggering the alerts:

Activity log
Log
Metric

Box 1: An Azure Log Analytics workspace

To be able to create an alert we send the Azure AD logs to An Azure Log Analytics workspace.

Note: You can forward your AAD logs and events to either an Azure Storage Account, an Azure Event Hub, Log Analytics, or a combination of all of these.

Box 2: Log

Ensure Resource Type is an analytics source like Log Analytics or Application Insights and signal type as Log.

Reference:

<https://4sysops.com/archives/how-to-create-an-azure-ad-admin-login-alert/>

<https://docs.microsoft.com/en-us/azure/azure-monitor/platform/alerts-log>

---

### Question: 148

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HOTSPOT

You configure OAuth2 authorization in API Management as shown in the following exhibit.



### Add OAuth2 service

API Management service

**Display name \***  
Unique name used to reference this authorization server on t...

**Id \*** ✓

**Description**  
Authorization server description

**Client registration page URL \***  
 ✓

**Authorization grant types**

Authorization code

Implicit

Resource owner password

Client credentials

**Authorization endpoint URL \***  
 ✓

Support state parameter

**Authorization request method**

GET

POST

**Token endpoint URL \***  
Token endpoint is used by clients to obtain access tokens in ...

**Create**

Use the drop-down menus to select the answer choice that completes each statement based on the



information presented in the graphic.

NOTE: Each correct selection is worth one point.

The selected authorization grant type is for [answer choice].

Background services
Headless device authentication
Web applications

To enable custom data in the grant flow, select [answer choice].

Client credentials
Resource owner password
Support state parameter

---

### Answer:

---

Explanation:

The selected authorization grant type is for [answer choice].

Background services
Headless device authentication
Web applications

To enable custom data in the grant flow, select [answer choice].

Client credentials
Resource owner password
Support state parameter

#### Box 1: Web applications

The Authorization Code Grant Type is used by both web apps and native apps to get an access token after a user authorizes an app.

Note: The Authorization Code grant type is used by confidential and public clients to exchange an authorization code for an access token.

After the user returns to the client via the redirect URL, the application will get the authorization code from the URL and use it to request an access token.

Incorrect Answers:

Not Headless device authentication:

A headless system is a computer that operates without a monitor, graphical user interface (GUI) or peripheral devices, such as keyboard and mouse.

Headless computers are usually embedded systems in various devices or servers in multi-server data center environments. Industrial machines, automobiles, medical equipment, cameras, household appliances, airplanes, vending machines and toys are among the myriad possible hosts of embedded systems.

#### Box 2: Client Credentials

How to include additional client data

In case you need to store additional details about a client that don't fit into the standard parameter set the custom data parameter comes to help:

POST /c2id/clients HTTP/1.1

Host: demo.c2id.com

Content-Type: application/json  
Authorization: Bearer ztucZS1ZyFKgh0tUEruUiSTXhnexmd6

```
{  
  "redirect_uris" : [ "https://myapp.example.com/callback" ],  
  "data" : { "reg_type" : "3rd-party",  
            "approved" : true,  
            "author_id" : 792440 }  
}
```

The data parameter permits arbitrary content packaged in a JSON object. To set it you will need the master registration token or a one-time access token with a client-reg:data scope.

Incorrect Answers:

Authorization protocols provide a state parameter that allows you to restore the previous state of your application. The state parameter preserves some state object set by the client in the Authorization request and makes it available to the client in the response.

Reference:

<https://developer.okta.com/blog/2018/04/10/oauth-authorization-code-grant-type>

<https://connect2id.com/products/server/docs/guides/client-registration>

---

### Question: 149

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 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 that displays cost broken down by department.

Solution: Create a separate resource group for each department. Place the resources for each department in its respective resource group.

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 group.

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.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-using-tags>

---

### Question: 150

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You are designing a solution that will include containerized applications running in an Azure Kubernetes Service (AKS) cluster.

You need to recommend a load balancing solution for HTTPS traffic. The solution must meet the following requirements:

- Automatically configure load balancing rules as the applications are deployed to the cluster.
- Support Azure Web Application Firewall (WAF).
- Support cookie-based affinity.
- Support URL routing.

What should you include the recommendation?

- A. an NGINX ingress controller
- B. Application Gateway Ingress Controller (AGIC)
- C. an HTTP application routing ingress controller
- D. the Kubernetes load balancer service

---

### Answer: B

---

Explanation:

Much like the most popular Kubernetes Ingress Controllers, the Application Gateway Ingress Controller provides several features, leveraging Azure's native Application Gateway L7 load balancer.

To name a few:

- URL routing
- Cookie-based affinity
- Secure Sockets Layer (SSL) termination
- End-to-end SSL
- Support for public, private, and hybrid web sites
- Integrated support of Azure web application firewall

Application Gateway redirection support isn't limited to HTTP to HTTPS redirection alone. This is a generic redirection mechanism, so you can redirect from and to any port you define using rules. It also supports redirection to an external site as well.

Reference:

<https://docs.microsoft.com/en-us/azure/application-gateway/features>

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### Question: 151

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You plan to deploy an Azure App Service web app that will have multiple instances across multiple Azure regions.

You need to recommend a load balancing service for the planned deployment. The solution must meet the following requirements:



- Maintain access to the app in the event of a regional outage.
- Support Azure Web Application Firewall (WAF).
- Support cookie-based affinity.
- Support URL routing.

What should you include in the recommendation?

- A. Azure Front Door
- B. Azure Load Balancer
- C. Azure Traffic Manager
- D. Azure Application Gateway

---

**Answer: B**

---

Explanation:

Azure Traffic Manager performs the global load balancing of web traffic across Azure regions, which have a regional load balancer based on Azure Application Gateway. This combination gets you the benefits of Traffic Manager's many routing rules and Application Gateway's capabilities such as WAF, TLS termination, path-based routing, cookie-based session affinity among others.

Reference:

<https://docs.microsoft.com/en-us/azure/application-gateway/features>

---

### Question: 152

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HOTSPOT

You plan to develop a new app that will store business critical data.

a. The app must meet the following requirements:

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

You need to recommend a storage solution for the app.

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

Azure Storage account kind:

StorageV2
BlobStorage
BlockBlobStorage

Replication:

Zone-redundant storage (ZRS)
Locally-redundant storage (LRS)
Read-access geo-redundant storage (RA-GRS)

---

**Answer:**

---

Explanation:



Azure Storage account kind:

StorageV2
BlobStorage
BlockBlobStorage

Replication:

Zone-redundant storage (ZRS)
Locally-redundant storage (LRS)
Read-access geo-redundant storage (RA-GRS)

Reference:

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

<https://docs.microsoft.com/en-us/azure/storage/common/storage-redundancy?toc=/azure/storage/blobs/toc.json>

---

### Question: 153

---

You have an application named App1. App1 generates log files that must be archived for five years. The log files must be readable by App1 but must not be modified.

Which storage solution should you recommend for archiving?

- A. Ingest the log files into an Azure Log Analytics workspace
- B. Use an Azure Blob storage account and a time-based retention policy
- C. Use an Azure Blob storage account configured to use the Archive access tier
- D. Use an Azure file share that has access control enabled

---

### Answer: B

---

Explanation:

Immutable storage for Azure Blob storage enables users to store business-critical data objects in a WORM (Write Once, Read Many) state.

Immutable storage supports:

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.

Reference:

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

---

### Question: 154

---

You have an Azure subscription that contains a Windows Virtual Desktop tenant.

You need to recommend a solution to meet the following requirements:

Start and stop Windows Virtual Desktop session hosts based on business hours.  
Scale out Windows Virtual Desktop session hosts when required.  
Minimize compute costs.

What should you include in the recommendation?

- A. Microsoft Intune
- B. a Windows Virtual Desktop automation task
- C. Azure Automation
- D. Azure Service Health

---

**Answer: C**

---

Explanation:

Reference:

<https://www.ciraltos.com/automatically-start-and-stop-wvd-vms-with-azure-automation/>

<https://wvdlogix.net/windows-virtual-desktop-host-pool-automation-2>

<https://getnerd.io/academy/how-to-optimize-windows-virtual-desktop-wvd-azure-costs-with-event-based-autoscaling-and-azure-vm-scale-sets/>

---

### **Question: 155**

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HOTSPOT

You have the Free edition of a hybrid Azure Active Directory (Azure AD) tenant. The tenant uses password hash synchronization.

You need to recommend a solution to meet the following requirements:

Prevent Active Directory domain user accounts from being locked out as the result of brute force attacks targeting Azure AD user accounts.

Block legacy authentication attempts to Azure AD integrated apps.

Minimize costs.

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

NOTE: Each correct selection is worth one point.



To protect against brute force attacks:

Azure AD Password Protection
Conditional access policies
Pass-through authentication
Smart lockout

To block legacy authentication attempts:

Azure AD Application Proxy
Azure AD Password Protection
Conditional access policies
Enable Security defaults

---

### Answer:

---

Explanation:

To protect against brute force attacks:

Azure AD Password Protection
Conditional access policies
Pass-through authentication
Smart lockout

To block legacy authentication attempts:

Azure AD Application Proxy
Azure AD Password Protection
Conditional access policies
Enable Security defaults

#### Box 1: Smart lockout

Smart lockout helps lock out bad actors that try to guess your users' passwords or use brute-force methods to get in. Smart lockout can recognize sign-ins that come from valid users and treat them differently than ones of attackers and other unknown sources. Attackers get locked out, while your users continue to access their accounts and be productive.

#### Box 2: Conditional access policies

If your environment is ready to block legacy authentication to improve your tenant's protection, you can accomplish this goal with Conditional Access.

How can you prevent apps using legacy authentication from accessing your tenant's resources? The recommendation is to just block them with a Conditional Access policy. If necessary, you allow only certain users and specific network locations to use apps that are based on legacy authentication.

#### Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/authentication/howto-password-smart-lockout>

<https://docs.microsoft.com/en-us/azure/active-directory/conditional-access/block-legacy->



---

### Question: 156

---

You have an Azure subscription. The subscription contains an app that is hosted in the East US, Central Europe, and East Asia regions.

You need to recommend a data-tier solution for the app. The solution must meet the following requirements:

Support multiple consistency levels.

Be able to store at least 1 TB of data.

Be able to perform read and write operations in the Azure region that is local to the app instance.

What should you include in the recommendation?

- A. an Azure Cosmos DB database
- B. a Microsoft SQL Server Always On availability group on Azure virtual machines
- C. an Azure SQL database in an elastic pool
- D. Azure Table storage that uses geo-redundant storage (GRS) replication

---

### Answer: A

---

Explanation:

Azure Cosmos DB approaches data consistency as a spectrum of choices. This approach includes more

options than the two extremes of strong and eventual consistency. You can choose from five well-defined levels on the consistency spectrum.

With Cosmos DB any write into any region must be replicated and committed to all configured regions within the account.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/consistency-levels-tradeoffs>

---

### Question: 157

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The accounting department at your company migrates to a new financial accounting software. The accounting department must keep file-based database backups for seven years for compliance purposes. It is unlikely that the backups will be used to recover data.

You need to move the backups to Azure. The solution must minimize costs.

Where should you store the backups?

- A. Azure Blob storage that uses the Archive tier
- B. Azure SQL Database
- C. Azure Blob storage that uses the Cool tier
- D. a Recovery Services vault

---

### Answer: A

---

Explanation:

Azure Front Door enables you to define, manage, and monitor the global routing for your web traffic by optimizing for best performance and instant global failover for high availability. With Front Door, you can transform your global (multi-region) consumer and enterprise applications into robust, high-performance personalized modern applications, APIs, and content that reaches a global audience with Azure.



Front Door works at Layer 7 or HTTP/HTTPS layer and uses anycast protocol with split TCP and Microsoft's global network for improving global connectivity.

Reference:

<https://docs.microsoft.com/en-us/azure/frontdoor/front-door-overview>

## Question: 158

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?

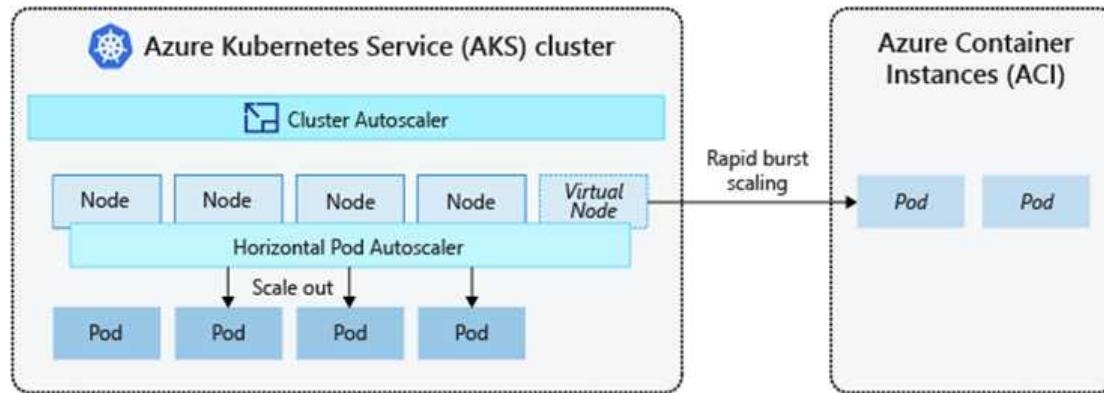
- A. cluster autoscaler
- B. horizontal pod autoscaler
- C. Kubernetes version 1.20.2 or newer
- D. Virtual nodes with Virtual Kubelet ACI

## Answer: D

Explanation:

Azure Container Instances (ACI) lets you quickly deploy container instances without additional infrastructure overhead. When you connect with AKS, ACI becomes a secured, logical extension of your AKS cluster. The virtual nodes component, which is based on Virtual Kubelet, is installed in your AKS cluster that presents ACI as a virtual Kubernetes node. Kubernetes can then schedule pods that run as ACI instances through virtual nodes, not as pods on VM nodes directly in your AKS cluster.

Your application requires no modification to use virtual nodes. Deployments can scale across AKS and ACI and with no delay as cluster autoscaler deploys new nodes in your AKS cluster.



Note: AKS clusters can scale in one of two ways:

The cluster autoscaler watches for pods that can't be scheduled on nodes because of resource constraints. The cluster then automatically increases the number of nodes.

The horizontal pod autoscaler uses the Metrics Server in a Kubernetes cluster to monitor the resource demand of pods. If an application needs more resources, the number of pods is automatically increased to meet the demand.



Reference:

<https://docs.microsoft.com/en-us/azure/aks/concepts-scale5>

---

**Question: 159**

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HOTSPOT

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.

Request routing method:

A Traffic Manager profile
Azure Application Gateway
Azure Load Balancer

Request routing configuration:

Cookie-based session affinity
Performance traffic routing
Priority traffic routing
Weighted traffic routing

---

**Answer:**

---

Explanation:



Request routing method:

A Traffic Manager profile
Azure Application Gateway
Azure Load Balancer

Request routing configuration:

Cookie-based session affinity
Performance traffic routing
Priority traffic routing
Weighted traffic routing

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

---

### Question: 160

You have the resources shown in the following table.

Name	Type
AS1	Azure Synapse Analytics instance
CDB1	Azure Cosmos DB SQL API account

CDB1 hosts a container that stores continuously updated operational data

You are designing a solution that will use AS1 to analyze the operational data dairy.

You need to recommend a solution to analyze the data without affecting the performance of the operational data store.

What should you include in the recommendation?

- A. Azure Data Factory with Azure Cosmos DB and Azure Synapse Analytics connectors
- B. Azure Synapse Analytics with PolyBase data loading
- C. Azure Cosmos DB change feed

---

**Answer: B**

Explanation:

---

### Question: 161

You have an Azure subscription that contains a Basic Azure virtual WAN named VirtualWAN1 and the virtual hubs shown in the following table.

Name	Azure region
Hub1	US East
Hub2	US West

You have an ExpressRoute circuit in the US East region.

You need to create an ExpressRoute association to VirtualWAN1.

What should you do first?

- A. Upgrade VirtualWAN1 to Standard.



- B. Create a gateway on Hub1.
- C. Create a hub virtual network in US East.
- D. Enable the ExpressRoute premium add-on.

---

**Answer: A**

---

Explanation:

US East and US West are in the same geopolitical region so there is no need for enabling ExpressRoute premium add-on <https://docs.microsoft.com/en-us/azure/virtual-wan/virtual-wan-about#basicstandard>

The current config of virtual WAN is only Basic as given, so it can connect to only site to site VPN, to connect to express route it needs to be upgraded from basic to standard.

<https://docs.microsoft.com/en-us/azure/virtual-wan/virtual-wan-about>

<https://docs.microsoft.com/en-us/azure/virtual-wan/virtual-wan-about>

---

### Question: 162

---

You plan to migrate App1 to Azure. The solution must meet the authentication and authorization requirements.

Which of the endpoint should App1 use to obtain an access token?

- A. Microsoft identify platform
- B. Azure AD
- C. Azure instance Service (IMDS)
- D. Azure Service management

---

**Answer: A**

---

Explanation:

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### Question: 163

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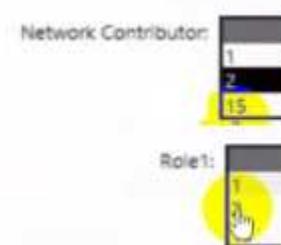
HOTSPOT

You need to implement the Azure RBAC role assignment. The solution must meet the authentication and authorization requirements.

How many assignment should you configure for the Network Contributor role for Role1? To answer, select appropriate in the answer area.

NOTE:

Answer Area



---

**Answer:**

---



Explanation:

Answer Area

Network Contributor: 2

Role1: 2

---

### Question: 164

You plan to automate the deployment of resources to Azure subscriptions.

What is a difference between using Azure Blueprints and Azure Resource Manager templates?

- A. Azure Resource Manager templates remain connected to the deployed resources.
- B. Only Azure Resource Manager templates can contain policy definitions.
- C. Azure Blueprints remain connected to the deployed resources.
- D. Only Azure Blueprints can contain policy definitions.

---

### Answer: C

Explanation:

With Azure Blueprints, the relationship between the blueprint definition (what should be deployed) and the blueprint assignment (what was deployed) is preserved. This connection supports improved tracking and auditing of deployments. Azure Blueprints can also upgrade several subscriptions at once that are governed by the same blueprint.

Reference:

<https://docs.microsoft.com/en-us/answers/questions/26851/how-is-azure-blue-prints-different-from-resource-m.html>

---

### Question: 165

You have an Azure subscription that contains an Azure SQL database.

You are evaluating whether to use Azure reservations on the Azure SQL database.

Which tool should you use to estimate the potential savings?

- A. The Purchase reservations blade in the Azure portal
- B. The Advisor blade in the Azure portal
- C. The SQL database blade in the Azure portal

---

### Answer: A

Explanation:

Buy reserved capacity

Sign in to the Azure portal.

Select All services > Reservations.

Select Add and then in the Purchase Reservations pane, select SQL Database to purchase a new



reservation for SQL Database.

Fill in the required fields. Existing databases in SQL Database and SQL Managed Instance that match the attributes you select qualify to get the reserved capacity discount. The actual number of databases or managed instances that get the discount depends on the scope and quantity selected.

Select the product you want to purchase

SQL Reserved vCores provide a significant discount over pay-as-you-go prices by allowing you to pre-pay for the future use of compute capacity for your Azure SQL Database (PaaS) deployments. Additional software costs will still apply. For SQL Server on Azure VMs (IaaS), purchase Reserved Virtual Machines Instances. Learn More

\* Scope  \* Subscription  \* Resource Group

Filter by name... Region : West US 2 Term : One Year Add Filter Reset filters

PERFORMANCE TIER	REGION	TERM	DEPLOYMENT TYPE
SQL Database Managed Instance Business Critical - Compute Gen4	West US 2	One Year	SQL Database Managed Instance
SQL Database Managed Instance Business Critical - Compute Gen5	West US 2	One Year	SQL Database Managed Instance
SQL Database Managed Instance General Purpose - Compute Gen4	West US 2	One Year	SQL Database Managed Instance
SQL Database Managed Instance General Purpose - Compute Gen5	West US 2	One Year	SQL Database Managed Instance
SQL Database Single/Elastic Pool Business Critical - Compute Gen4	West US 2	One Year	SQL Database Single/Elastic Pool
SQL Database Single/Elastic Pool Business Critical - Compute Gen5	West US 2	One Year	SQL Database Single/Elastic Pool
SQL Database Single/Elastic Pool General Purpose - Compute Gen4	West US 2	One Year	SQL Database Single/Elastic Pool
SQL Database Single/Elastic Pool General Purpose - Compute Gen5	West US 2	One Year	SQL Database Single/Elastic Pool

Select Cancel Price per unit: <UnitPrice>  
34% Estimated savings

Review the cost of the capacity reservation in the Costs section.

Select Purchase.

Select View this Reservation to see the status of your purchase.

Reference:

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

### Question: 166

HOTSPOT

You have an Azure subscription that contains the storage accounts shown in the following table.

Name	Type	Performance
storage1	StorageV2	Standard
storage2	SrorageV2	Premium
storage3	BlobStorage	Standard
storage4	FileStorage	Premium

You plan to implement two new apps that have the requirements shown in the following table.

Name	Requirement
App1	Use lifecycle management to migrate app data between storage tiers
App2	Store app data in an Azure file share

Which storage accounts should you recommend using for each app? To answer, select the



appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

App1:

- Storage1 and storage2 only
- Storage1 and storage3 only
- Storage1, storage2, and storage3 only
- Storage1, storage2, storage3, and storage4

App2:

- Storage4 only
- Storage1 and storage4 only
- Storage1, storage2, and storage4 only
- Storage1, storage2, storage3, and storage4

---

**Answer:**

Explanation:

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

<https://www.edureka.co/community/40011/different-storage-accounts-there-major-difference-between>

<https://insidemstech.com/tag/general-purpose-v2/>

In conclusion the correct answers are:

Box1 --> Storage1 and Storage3 only

Box2 --> Storage1 and Storage4 only

<https://docs.microsoft.com/en-us/azure/storage/files/storage-how-to-create-file-share?tabs=azure-portal#basics>

---

### Question: 167

You have an Azure subscription that contains an Azure SQL database.

You plan to use Azure reservations on the Azure SQL database.

To which resource type will the reservation discount be applied?

- A. vCore compute
- B. DTU compute
- C. Storage
- D. License

---

**Answer: A**

Explanation:



Quantity: The amount of compute resources being purchased within the capacity reservation. The quantity is a number of vCores in the selected Azure region and Performance tier that are being reserved and will get the billing discount. For example, if you run or plan to run multiple databases with the total compute capacity of Gen5 16 vCores in the East US region, then you would specify the quantity as 16 to maximize the benefit for all the databases.

Reference:

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

---

### Question: 168

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You are designing an Azure Cosmos DB solution that will host multiple writable replicas in multiple Azure regions.

You need to recommend the strongest database consistency level for the design. The solution must meet the following requirements:

- Provide a latency-based Service Level Agreement (SLA) for writes.
- Support multiple regions.

Which consistency level should you recommend?

- A. bounded staleness
- B. strong
- C. session
- D. consistent prefix

---

### Answer: A

---

Explanation:

Each level provides availability and performance tradeoffs. The following image shows the different consistency levels as a spectrum.



Note: The service offers comprehensive 99.99% SLAs which covers the guarantees for throughput, consistency, availability and latency for the Azure Cosmos DB Database Accounts scoped to a single Azure region configured with any of the five Consistency Levels or Database Accounts spanning multiple Azure regions, configured with any of the four relaxed Consistency Levels.

Reference:

[https://azure.microsoft.com/en-us/support/legal/sla/cosmos-db/v1\\_3/](https://azure.microsoft.com/en-us/support/legal/sla/cosmos-db/v1_3/)

<https://docs.microsoft.com/en-us/azure/cosmos-db/consistency-levels#consistency-levels-and->



[latency](#)

---

### Question: 169

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Your company has offices in the United States, Europe, Asia, and Australia.

You have an on-premises app named App1 that uses Azure Table storage. Each office hosts a local instance of App1.

You need to upgrade the storage for App1. The solution must meet the following requirements:

Enable simultaneous write operations in multiple Azure regions.

Ensure that write latency is less than 10 ms.

Support indexing on all columns.

Minimize development effort.

Which data platform should you use?

- A. Azure SQL Database
- B. Azure SQL Managed Instance
- C. Azure Cosmos DB
- D. Table storage that uses geo-zone-redundant storage (GZRS) replication

---

### Answer: D

---

Explanation:

Azure Cosmos DB Table API has

Single-digit millisecond latency for reads and writes, backed with <10-ms latency reads and <15-ms latency writes at the 99th percentile, at any scale, anywhere in the world.

Automatic and complete indexing on all properties, no index management.

Turnkey global distribution from one to 30+ regions. Support for automatic and manual failovers at any time, anywhere in the world.

Reference:

<https://docs.microsoft.com/en-us/azure/cosmos-db/table-support>

---

### Question: 170

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You plan to archive 10 TB of on-premises data files to Azure.

You need to recommend a data archival solution. The solution must minimize the cost of storing the data files.

Which Azure Storage account type should you include in the recommendation?

- A. Standard StorageV2 (general purpose v2)
- B. Standard Storage (general purpose v1)
- C. Premium StorageV2 (general purpose v2)
- D. Premium Storage (general purpose v1)

---

**Answer: A**

---

Explanation:

Standard StorageV2 supports the Archive access tier, which would be the cheapest solution.

Reference:

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

---

**Question: 171**

---

You plan to move a web application named App1 from an on-premises data center to Azure.

App1 depends on a custom COM component that is installed on the host server.

You need to recommend a solution to host App1 in Azure. The solution must meet the following requirements:

App1 must be available to users if an Azure data center becomes unavailable.  
Costs must be minimized.

What should you include in the recommendation?

- A. In two Azure regions, deploy a load balancer and a virtual machine scale set.
- B. In two Azure regions, deploy a Traffic Manager profile and a web app.
- C. In two Azure regions, deploy a load balancer and a web app.
- D. Deploy a load balancer and a virtual machine scale set across two availability zones.

---

**Answer: D**

---

Explanation:

(<https://docs.microsoft.com/en-us/dotnet/azure/migration/app-service#com-and-com-components>)

Azure App Service does not allow the registration of COM components on the platform. If your app makes use of any COM components, these need to be rewritten in managed code and deployed with the site or application. <https://docs.microsoft.com/en-us/dotnet/azure/migration/app-service>  
"Azure App Service with Windows Containers If your app cannot be migrated directly to App Service, consider App Service using Windows Containers, which enables usage of the GAC, COM components, MSIs, full access to .NET FX APIs, DirectX, and more."

---

**Question: 172**

---

You have an Azure subscription.

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

Minimize the time it takes to provision compute resources during scale-out operations.  
Support autoscaling of Linux containers.  
Minimize administrative effort.

Which scaling option should you recommend?

- A. Virtual Kubelet
- B. cluster autoscaler
- C. horizontal pod autoscaler
- D. AKS virtual nodes

---

**Answer: D**

---

Explanation:

<https://docs.microsoft.com/en-us/azure/aks/virtual-nodes>

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### **Question: 173**

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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 plan to deploy multiple instances of an Azure web app across several Azure regions.

You need to design an access solution for the app. The solution must meet the following replication requirements:

- Support rate limiting.
- Balance requests between all instances.
- Ensure that users can access the app in the event of a regional outage.

Solution: You use Azure Application Gateway to provide access to the app.

Does this meet the goal?

- A. Yes
- B. No

---

**Answer: B**

---

Explanation:

---

### **Question: 174**

---

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
- D. Azure Container registries

---

**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>

---

**Question: 175**

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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**

---



Explanation:

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### Question: 176

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Your company plans to publish APIs for its services by using Azure API Management.  
You discover that service responses include the AspNet-Version header.  
You need to recommend a solution to remove AspNet-Version from the response of the published APIs.

What should you include in the recommendation?

- A. a new product
- B. a modification to the URL scheme
- C. a new policy
- D. a new revision

---

### Answer: C

---

Explanation:

Reference:

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

---

### Question: 177

---

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  
Sends an email notification to the operations manager requesting approval to delete the duplicate files  
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>

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### Question: 178

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DRAG DROP

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

172.16.0.0/16

172.16.1.0/28

192.168.0.0/24

192.168.1.0/28

#### Answer Area

Subnet1:

Network address

Gateway subnet:

Network address

Explanation:

---

#### Answer:

---

Subnet1:

192.168.0.0/24

Gateway subnet:

192.168.1.0/28

---

### Question: 179

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You are designing an Azure solution.

The network traffic for the solution must be securely distributed by providing the following features:

HTTPS protocol

Round robin routing

SSL offloading

You need to recommend a load balancing option.



What should you recommend?

- A. Azure Load Balancer
- B. Azure Traffic Manager
- C. Azure Internal Load Balancer (ILB)
- D. Azure Application Gateway

---

**Answer: D**

---

Explanation:

If you are looking for Transport Layer Security (TLS) protocol termination ("SSL offload") or per-HTTP/HTTPS

request, application-layer processing, review Application Gateway.

Application Gateway is a layer 7 load balancer, which means it works only with web traffic (HTTP, HTTPS, WebSocket, and HTTP/2). It supports capabilities such as SSL termination, cookie-based session affinity, and round robin for load-balancing traffic. Load Balancer load-balances traffic at layer 4 (TCP or UDP).

Reference:

<https://docs.microsoft.com/en-us/azure/application-gateway/application-gateway-faq>

---

**Question: 180**

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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, Inc.

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.

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 Front Door
- C. Azure API Management
- D. Azure AD Application Proxy

---

**Answer: C**

---

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#enable-oauth-20-user-authorization-in-the-developer-console>

---

### Question: 181

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You need to design a solution that will execute custom C# code in response to an event routed to Azure Event Grid. The solution must meet the following requirements:

The executed code must be able to access the private IP address of a Microsoft SQL Server instance that runs on an Azure virtual machine.

Costs must be minimized.

What should you include in the solution?

- A. Azure Logic Apps in the integrated service environment
- B. Azure Functions in the Dedicated plan and the Basic Azure App Service plan
- C. Azure Logic Apps in the Consumption plan
- D. Azure Functions in the Consumption plan

---

### Answer: D

---

Explanation:

When you create a function app in Azure, you must choose a hosting plan for your app. There are three basic hosting plans available for Azure Functions: Consumption plan, Premium plan, and Dedicated (App Service) plan.

For the Consumption plan, you don't have to pay for idle VMs or reserve capacity in advance.

Connect to private endpoints with Azure Functions

As enterprises continue to adopt serverless (and Platform-as-a-Service, or PaaS) solutions, they often need a way to integrate with existing resources on a virtual network. These existing resources could be databases, file storage, message queues or event streams, or REST APIs.

Reference:

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

<https://techcommunity.microsoft.com/t5/azure-functions/connect-to-private-endpoints-with-azure-functions/ba-p/1426615>

---

### Question: 182

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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>

---

**Question: 183**

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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>

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### **Question: 184**

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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>

---

### **Question: 185**

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HOTSPOT

You plan to deploy the backup policy shown in the following exhibit.



## Policy1

Associated items   Delete   Save   Discard

### Backup frequency

Daily   6:00 PM   (UTC) Coordinated Universal Time  

### Retention range

Retention of daily backup point.

\* At                          For  
6:00 PM   90 Day(s)

Retention of weekly backup point.

\* On                          \* At                          For  
Sunday   6:00 PM   26 Week(s)

Retention of monthly backup point.

**Week Based**   **Day Based**

\* On                          \* Day                          \* At                          For  
First   Sunday   6:00 PM   36 Month(s)

Retention of yearly backup point.

Not Configured

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.



Virtual machines that are backed up using the policy can be recovered for up to a maximum of [answer choice].

90 days
26 weeks
36 months
45 months

The minimum recovery point objective (RPO) for virtual machines that are backed up by using the policy is [answer choice].

1 hour
1 day
1 week
1 month
1 year

---

**Answer:**

---

Explanation:

Virtual machines that are backed up using the policy can be recovered for up to a maximum of [answer choice].

90 days
26 weeks
36 months
45 months

The minimum recovery point objective (RPO) for virtual machines that are backed up by using the policy is [answer choice].

1 hour
1 day
1 week
1 month
1 year

---

**Question: 186**

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DRAG DROP

Your company identifies the following business continuity and disaster recovery objectives for virtual machines that host sales, finance, and reporting application in the company's on-premises data center.

- The finance application requires that data be retained for seven years. In the event of a disaster, the application must be able to run from Azure. The recovery in objective (RTO) is 10 minutes,
- The reporting application must be able to recover point in-time data at a daily granularity. The RTO is eight hours.
- The sales application must be able to fail over to second on-premises data center.

You need to recommend which Azure services meet the business continuity and disaster recovery objectives. The solution must minimize costs.

What should you recommend for each application? To answer, drag the appropriate services to the correct application. Each service may be used once or not at all. You may need to drag



the spin bar between panes or scroll 10 view content.

### Actions

Azure Backup only

Azure Site Recovery only

Azure Site Recovery and  
Azure Backup

### Answer Area



Sales:

Service or Services

Finance:

Service or Services

Reporting:

Service or Services

---

### Answer:

---

Explanation:

- 1) Sales: Azure Site Recovery only
- 2) Finance: Azure Site Recovery and Azure Backup
- 3) Reporting: Azure Backup only

---

### Question: 187

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You need to design a highly available Azure SQL database that meets the following requirements:

- \* Failover between replicas of the database must occur without any data loss.
- \* The database must remain available in the event of a zone outage.
- \* Costs must be minimized.

Which deployment option should you use?

- A. Azure SQL Database Business Critical
- B. Azure SQL Database Managed Instance Business Critical
- C. Azure SQL Database Hyperscale
- D. Azure SQL Database Standard

---

### Answer: A

---

Explanation:

General Purpose / Standard prevents data loss through high available storage

<https://docs.microsoft.com/en-us/azure/azure-sql/database/service-tier-general-purpose?view=azuresql>. This architectural model relies on high availability and reliability of Azure Blob storage that transparently replicates database files and guarantees no data loss if underlying infrastructure failure happens. General Purpose / Standard support Zone Redundancy For General Purpose tier the zone-redundant configuration is Generally Available in the following regions:  
<https://docs.microsoft.com/en-us/azure/azure-sql/database/high-availability-sla?view=azuresql&tabs=azure-powershell> Without any information regarding the usage pattern, serverless is possible. Other option is D <https://docs.microsoft.com/en-us/azure/azure-sql/database/serverless-tier-overview?view=azuresql>

---

### Question: 188

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#### HOTSPOT

Your company deploys an Azure App Service Web App.

During testing the application fails under load. The application cannot handle more than 100



concurrent user sessions. You enable the Always On feature. You also configure auto-scaling to increase counts from two to 10 based on HTTP queue length.

You need to improve the performance of the application.

Which solution should you use for each application scenario? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Scenario****Solution**

Store content close to end users.

Azure Redis Cache
Azure Traffic Manager
Azure Content Delivery Network
Azure Application Gateway

Store content close to the application.

Azure Redis Cache
Azure Traffic Manager
Azure Content Delivery Network
Azure Application Gateway

---

**Answer:**

---

Explanation:

**Scenario****Solution**

Store content close to end users.

Azure Redis Cache
Azure Traffic Manager
Azure Content Delivery Network
Azure Application Gateway

Store content close to the application.

Azure Redis Cache
Azure Traffic Manager
Azure Content Delivery Network
Azure Application Gateway



A content delivery network (CDN) is a distributed network of servers that can efficiently deliver web content to users. CDNs store cached content on edge servers in point-of-presence (POP) locations that are close to end users, to minimize latency.

Azure Content Delivery Network (CDN) offers developers a global solution for rapidly delivering high-bandwidth content to users by caching their content at strategically placed physical nodes across the world. Azure CDN can also accelerate dynamic content, which cannot be cached, by leveraging various network optimizations using CDN POPs. For example, route optimization to bypass Border Gateway Protocol (BGP).

**Box 2: Azure Redis Cache**

Azure Cache for Redis is based on the popular software Redis. It is typically used as a cache to improve the performance and scalability of systems that rely heavily on backend data-stores. Performance is improved by temporarily copying frequently accessed data to fast storage located close to the application. With Azure Cache for Redis, this fast storage is located in-memory with Azure Cache for Redis instead of being loaded from disk by a database.

Reference:

<https://docs.microsoft.com/en-us/azure/azure-cache-for-redis/cache-overview>

---

**Question: 189**

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.

Reference:

<https://cloud.netapp.com/blog/low-cost-storage-options-on-azure>

---

**Question: 190**

HOTSPOT



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 Central Europe 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.

Account type:

Blob storage
Storage (general purpose v1)
StorageV2 (general purpose v2)

Replication solution:

Geo-redundant storage (GRS)
Zone-redundant storage (ZRS)
Locally-redundant storage (LRS)
Read-access geo-redundant storage (RA-GRS)

Answer:

Explanation:

Account type:

Blob storage
Storage (general purpose v1)
StorageV2 (general purpose v2)

Replication solution:

Geo-redundant storage (GRS)
Zone-redundant storage (ZRS)
Locally-redundant storage (LRS)
Read-access geo-redundant storage (RA-GRS)

Account Type: StorageV2



Replication solution: Zone-redundant storage (ZRS)

---

**Question: 191**

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HOTSPOT

Your company deploys several Linux and Windows virtual machines (VMs) to Azure. The VMs are deployed with the Microsoft Dependency Agent and the Log Analytics Agent installed by using Azure VM extensions. On-premises connectivity has been enabled by using Azure ExpressRoute.

You need to design a solution to monitor the VMs.

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**

Analyze Network Security Group (NSG) flow logs for VMs attempting Internet access.

**Azure Monitoring Service**

Azure Traffic Analytics
Azure ExpressRoute Monitor
Azure Service Endpoint Monitor
Azure DNS Analytics

Visualize the VMs with their different processes and dependencies on other computers and external processes.

Azure Service Map
Azure Activity Log
Azure Service Health
Azure Advisor

---

**Answer:**

---

Explanation:

**Scenario**

Analyze Network Security Group (NSG) flow logs for VMs attempting Internet access.

**Azure Monitoring Service**

Azure Traffic Analytics
Azure ExpressRoute Monitor
Azure Service Endpoint Monitor
Azure DNS Analytics

Visualize the VMs with their different processes and dependencies on other computers and external processes.

Azure Service Map
Azure Activity Log
Azure Service Health
Azure Advisor

Box 1: Azure Traffic Analytics

Traffic Analytics is a cloud-based solution that provides visibility into user and application activity in cloud networks. Traffic analytics analyzes Network Watcher network security group (NSG) flow logs to provide insights into traffic flow in your Azure cloud. With traffic analytics, you can:



Identify security threats to, and secure your network, with information such as open-ports, applications attempting internet access, and virtual machines (VM) connecting to rogue networks. Visualize network activity across your Azure subscriptions and identify hot spots. Understand traffic flow patterns across Azure regions and the internet to optimize your network deployment for performance and capacity. Pinpoint network misconfigurations leading to failed connections in your network.

#### Box 2: Azure Service Map

Service Map automatically discovers application components on Windows and Linux systems and maps the communication between services. With Service Map, you can view your servers in the way that you think of them: as interconnected systems that deliver critical services. Service Map shows connections between servers, processes, inbound and outbound connection latency, and ports across any TCP-connected architecture, with no configuration required other than the installation of an agent.

#### Reference:

<https://docs.microsoft.com/en-us/azure/network-watcher/traffic-analytics>

<https://docs.microsoft.com/en-us/azure/azure-monitor/insights/service-map>

---

### Question: 192

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DRAG DROP

You are designing a virtual machine that will run Microsoft SQL Server and will contain two data disks. The first data disk will store log files, and the second data disk will store data. Both disks are P40 managed disks.

You need to recommend a caching policy for each disk. The policy must provide the best overall performance for the virtual machine.

Which caching policy should you recommend for each disk? To answer, drag the appropriate policies to the correct disks. Each policy 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.

#### Policies

None

ReadOnly

ReadWrite

#### Answer Area

Log:

Policy

Data:

Policy



---

#### Answer:

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Explanation:



Log:

Data:

Reference:

<https://docs.microsoft.com/en-us/azure/virtual-machines/windows/sql/virtual-machines-windows-sql-performance>

### Question: 193

DRAG DROP

You are planning an Azure solution that will host production databases for a high-performance application. The solution will include the following components:

Two virtual machines that will run Microsoft SQL Server 2016, will be deployed to different data centers in the same Azure region, and will be part of an Always On availability group.

SQL Server data that will be backed up by using the Automated Backup feature of the SQL Server IaaS Agent Extension (SQLIaaSExtension)

You identify the storage priorities for various data types as shown in the following table.

Data type	Storage priority
Operating system	Speed and availability
Databases and logs	Speed and availability
Backups	Lowest cost

Which storage type should you recommend for each data type? To answer, drag the appropriate storage types to the correct data types. Each storage type 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.

#### Storage Types

A geo-redundant storage (GRS) account

A locally-redundant storage (LRS) account

A premium managed disk

A standard managed disk

#### Answer Area

Operating system:

Databases and logs:

Backups:

**Answer:**

Explanation:



Operating system: A premium managed disk

Databases and logs: A premium managed disk

Backups: A locally-redundant storage (LRS) account

---

**Question: 194**

HOTSPOT

Your on-premises network contains a file server named Server1 that stores 500 GB of data.

You need to use Azure Data Factory to copy the data from Server1 to Azure Storage.

You add a new data factory.

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

NOTE: Each correct selection is worth one point.

From Server1:

- Install an Azure File Sync agent
- Install a self-hosted integration runtime
- Install the File Server Resource Manager role service

From the data factory:

- Create a pipeline
- Create an import/export job
- Provision an Azure-SQL Server Integration Services (SSIS) integration runtime

---

**Answer:**

Explanation:

From Server1:

- Install an Azure File Sync agent
- Install a self-hosted integration runtime
- Install the File Server Resource Manager role service

From the data factory:

- Create a pipeline
- Create an import/export job
- Provision an Azure-SQL Server Integration Services (SSIS) integration runtime

Box 1: Install a self-hosted integration runtime

The Integration Runtime is a customer-managed data integration infrastructure used by Azure Data Factory to provide data integration capabilities across different network environments.



Box 2: Create a pipeline

With ADF, existing data processing services can be composed into data pipelines that are highly available and managed in the cloud. These data pipelines can be scheduled to ingest, prepare, transform, analyze, and publish data, and ADF manages and orchestrates the complex data and processing dependencies

Reference:

<https://docs.microsoft.com/en-us/azure/machine-learning/team-data-science-process/move-sql-azure-adf>

---

**Question: 195**

You use Azure virtual machines to run a custom application that uses an Azure SQL database on the back end.

The IT department at your company recently enabled forced tunneling, Since the configuration change, developers have noticed degraded performance when they access the database

You need to recommend a solution to minimize latency when accessing the database. The solution must minimize costs

What should you include in the recommendation?

- A. Azure SQL Database Managed instance
- B. Azure virtual machines that run Microsoft SQL Server servers
- C. Always On availability groups
- D. virtual network (VNET) service endpoint

---

**Answer: D**

Explanation:

<https://docs.microsoft.com/en-us/azure/virtual-network/virtual-network-service-endpoints-overview>

---

**Question: 196**

You have an app named App1 that uses two on-premises Microsoft SQL Server databases named DB1 and DB2.

You plan to migrate DB1 and DB2 to Azure.

You need to recommend an Azure solution to host DB1 and DB2. The solution must meet the following requirements:

- Support server-side transactions across DB1 and DB2.
- Minimize administrative effort to update the solution.

What should you recommend?

- A. two SQL Server databases on an Azure virtual machine
- B. two Azure SQL databases on different Azure SQL Database servers
- C. two Azure SQL databases in an elastic pool
- D. two Azure SQL databases on the same Azure SQL Database managed instance

---

**Answer: A**

Explanation:

When both the database management system and client are under the same ownership (e.g. when SQL Server is deployed to a virtual machine), transactions are available and the lock duration can be



controlled. Reference: <https://docs.particular.net/nservicebus/azure/understanding-transactionality-in-azure>

---

### Question: 197

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You are designing a SQL database solution. The solution will include 20 databases that will be 20 GB each and have varying usage patterns. You need to recommend a database platform to host the databases. The solution must meet the following requirements:

- The compute resources allocated to the databases must scale dynamically.
- The solution must meet an SLA of 99.99% uptime.
- The solution must have reserved capacity.
- Compute charges must be minimized.

What should you include in the recommendation?

- A. 20 databases on a Microsoft SQL server that runs on an Azure virtual machine
- B. 20 instances of Azure SQL Database serverless
- C. 20 databases on a Microsoft SQL server that runs on an Azure virtual machine in an availability set
- D. an elastic pool that contains 20 Azure SQL databases

---

### Answer: D

---

Explanation:

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

Guaranteed 99.995 percent uptime for SQL Database

Reference:

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

<https://azure.microsoft.com/en-us/pricing/details/sql-database/elastic/>

<https://www.azure.cn/en-us/support/sla/virtual-machines/>

<https://techcommunity.microsoft.com/t5/azure-sql/optimize-price-performance-with-compute-auto-scaling-in-azure/ba-p/966149>

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### Question: 198

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Your network contains an on-premises Active Directory forest.

You discover that when users change jobs within your company, the membership of the user groups are not being updated. As a result, the users can access resources that are no longer relevant to their job.

You plan to integrate Active Directory and Azure Active Directory (Azure AD) by using Azure AD Connect.

You need to recommend a solution to ensure that group owners are emailed monthly about the group memberships they manage.

What should you include in the recommendation?

- A. conditional access policies
- B. Tenant Restrictions
- C. Azure AD access reviews
- D. Azure AD Identity Protection

---

**Answer: C**

---

Explanation:

Reference:

<https://docs.microsoft.com/en-us/azure/active-directory/governance/access-reviews-overview>

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### **Question: 199**

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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>

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### **Question: 200**

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#### HOTSPOT

You plan to create an Azure environment that will contain a root management group and 10 child management groups. Each child management group will contain five Azure subscriptions. You plan to have between 10 and 30 resource groups in each subscription.

You need to design an Azure governance solution. The solution must meet the following requirements:

- Use Azure Blueprints to control governance across all the subscriptions and resource groups.
- Ensure that Blueprints-based configurations are consistent across all the subscriptions and resource groups.
- Minimize the number of blueprint definitions and assignments.

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



Level at which to define the blueprints:

- The child management groups
- The root management group
- The subscriptions

Level at which to create the blueprint assignments:

- The child management groups
- The root management group
- The subscriptions

---

### Answer:

---

Explanation:

1. Root management group
2. The subscriptions

Reference: <https://docs.microsoft.com/en-us/azure/governance/blueprints/create-blueprint-portal>

Assign a blueprint After a blueprint has been published, it can be assigned to a subscription. Assign the blueprint that you created to one of the subscriptions under your management group hierarchy. If the blueprint is saved to a subscription, it can only be assigned to that subscription.

---

### Question: 201

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HOTSPOT

You have five .NET Core applications that run on 10 Azure virtual machines in the same subscription.

You need to recommend a solution to ensure that the applications can authenticate by using the same Azure Active Directory (Azure AD) identity. The solution must meet the following requirements:

Ensure that the applications can authenticate only when running on the 10 virtual machines.  
Minimize administrative effort.

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

NOTE: Each correct selection is worth one point.

To provision the Azure AD identity:

- Create a system-assigned Managed Service Identity
- Create a user-assigned Managed Service Identity
- Register each application in Azure AD

To authenticate request a token by using:

- An Azure AD v1.0 endpoint
- An Azure AD v2.0 endpoint
- An Azure Instance Metadata Service Identity
- OAuth2 endpoint

---

### Answer:

---

Explanation:



To provision the Azure AD identity:

- Create a system-assigned Managed Service Identity
- Create a user-assigned Managed Service Identity
- Register each application in Azure AD

To authenticate request a token by using:

- An Azure AD v1.0 endpoint
- An Azure AD v2.0 endpoint
- An Azure Instance Metadata Service Identity
- OAuth2 endpoint

---

### Question: 202

HOTSPOT

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)

---

Answer:

Explanation:



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)

Reference:

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

---

### Question: 203

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You have an on-premises network and an Azure subscription. The on-premises network has several branch offices.

A branch office in Toronto contains a virtual machine named VM1 that is configured as a file server. Users access the shared files on VM1 from all the offices.

You need to recommend a solution to ensure that the users can access the shares files as quickly as possible if the Toronto branch office is inaccessible.

What should you include in the recommendation?

- A. a Recovery Services vault and Azure Backup
- B. an Azure file share and Azure File Sync
- C. Azure blob containers and Azure File Sync
- D. a Recovery Services vault and Windows Server Backup

---

### Answer: B

---

Explanation:

Use Azure File Sync to centralize your organization's file shares in Azure Files, while keeping the flexibility, performance, and compatibility of an on-premises file server. Azure File Sync transforms Windows Server into a quick cache of your Azure file share.

You need an Azure file share in the same region that you want to deploy Azure File Sync.

Incorrect Answers:

A: Backups would be a slower solution.

Reference:

<https://docs.microsoft.com/en-us/azure/storage/files/storage-sync-files-deployment-guide>

---

### Question: 204

---



You deploy two instances of an Azure web app. One instance is in the East US Azure region and the other instance is in the West US Azure region. The web app uses Azure Blob storage to deliver large files to end users.

You need to recommend a solution for delivering the files to the users. The solution must meet the following requirements:

- Ensure that the users receive files from the same region as the web app that they access.
- Ensure that the files only need to be updated once.
- Minimize costs.

What should you include in the recommendation?

- A. Azure File Sync
- B. Distributed File System (DFS)
- C. read-access geo-redundant storage (RA-GRS)
- D. geo-redundant storage (GRS)

---

**Answer: C**

---

Explanation:

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**Question: 205**

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A company needs a datastore created in Azure for an application. Below are the key requirements for the data store.

- Ability to store JSON based items
  - Ability to use SQL like queries on the datastore
  - Ability to provide low latency access to data items
- Which of the following would you consider as the data store?
- A. Azure BLOB storage
  - B. Azure CosmosDB
  - C. Azure HDInsight
  - D. Azure Redis

---

**Answer: B**

---

Explanation:

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**Question: 206**

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You have to design a Data Engineering solution for your company. The company currently has an Azure subscription. They also have application data hosted in a database on a Microsoft SQL Server hosted in their on-premises data center server. They want to implement the following requirements Transfer transactional data from the on-premises SQL server onto a data warehouse in Azure. Data needs to be transferred every day in the night as a scheduled job

A managed Spark cluster needs to be in place for data engineers to perform analysis on the data stored in the SQL data warehouse. Here the data engineers should have the ability to develop notebooks in Scale, R and Python.

They also need to have a data lake store in place for the ingestion of data from multiple data sources Which of the following would the use for hosting the data warehouse in Azure?

- A. Azure Data Factory
- B. Azure Databricks
- C. Azure Data Lake Gen2 Storage accounts



D. Azure Synapse Analytics

---

**Answer: D**

---

Explanation:

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**Question: 207**

---

Your company currently has an application that is hosted on their on-premises environment. The application currently connects to two databases in the on-premises environment. The databases are named whizlabdb1 and whizlabdb2.

You have to move the databases onto Azure. The databases have to support server-side transactions across both of the databases.

Solution: You decide to deploy the databases to an Azure SQL database-managed instance.

Would this fulfill the requirement?

- A. Yes
- B. No

---

**Answer: A**

---

Explanation:

---

**Question: 208**

---

Your company has an on-premises Hyper-V cluster that contains 20 virtual machines. Some of the virtual machines are based on Windows and some in Linux. You have to migrate the virtual machines onto Azure.

You have to recommend a solution that would be used to replicate the disks of the virtual machines to Azure. The solution needs to ensure that the virtual machines remain available when the migration of the disks is in progress.

You decide to create an Azure storage account and then run AzCopy

Would this fulfill the requirement?

- A. Yes
- B. No

---

**Answer: B**

---

Explanation:

---

**Question: 209**

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You have an Azure virtual machine named VM1 that runs Windows Server 2019 and contains 500 GB of data files.

You are designing a solution that will use Azure Data Factory to transform the data files, and then load the files to Azure Data Lake Storage

What should you deploy on VM1 to support the design?

- A. the self-hosted integration runtime
- B. the Azure Pipelines agent
- C. the On-premises data gateway
- D. the Azure File Sync agent

---

**Answer: A**

---

Explanation:

---

**Question: 210**

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You plan to deploy multiple instances of an Azure web app across several Azure regions. You need to design an access solution for the app. The solution must meet the following replication requirements:

- Support rate limiting.
- Balance requests between all instances.
- Ensure that users can access the app in the event of a regional outage.

Solution: You use Azure Traffic Manager to provide access to the app.

Does this meet the goal?

- A. Yes  
B. No

---

**Answer: A**

---

Explanation:

---

### Question: 211

---

You plan to deploy multiple instances of an Azure web app across several Azure regions.

You need to design an access solution for the app. The solution must meet the following replication requirements:

- Support rate limiting
- Balance requests between all instances.
- Ensure that users can access the app in the event of a regional outage

Solution: You use Azure Load Balancer to provide access to the app.

Does this meet the goal?

- A. Yes  
B. No

---

**Answer: B**

---

Explanation:

---

### Question: 212

---

You are developing a system application that will contain several Azure cloud services and 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 XML messages.

What should you include in the recommendation?

- A. Azure Data Lake  
B. Azure Notification Hubs  
C. Azure Queue Storage  
D. Azure Service Fabric

---

**Answer: C**

---

Explanation:

---

### Question: 213

---



Your company has the divisions shown in the following table.

Division	Azure subscription	Azure AD tenant
East	Sub1	Contoso.com
West	Sub2	Fabrikam.com

Sub1 contains an Azure App Service web app named App1. App1 uses Azure AD for single-tenant user authentication. Users from contoso.com can authenticate to App1. You need to recommend a solution to enable users in the fabrikam.com tenant to authenticate to App1. What should you recommend?

- A. Enable Azure AD pass-through authentication and update the sign-in endpoint
- B. Configure the Azure AD provisioning service.
- C. Configure assignments for the fabrikam.com users by using Azure AD Privileged Identity Management (PIM).
- D. Use Azure AD entitlement management to govern external users.

---

**Answer: A**

---

Explanation:

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**Question: 214**

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You need to design a highly available Azure SQL database that meets the following requirements:

- \* Failover between replicas of the database must occur without any data loss.
- \* The database must remain available in the event of a zone outage.
- \* Costs must be minimized.

Which deployment option should you use?

- A. Azure SQL Database Premium
- B. Azure SQL Database Hyperscale
- C. Azure SQL Database Basic
- D. Azure SQL Managed Instance Business Critical

---

**Answer: D**

---

Explanation:

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**Question: 215**

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DRAG DROP

You have an on-premises named App 1.

Customers App1 to manage digital images.

You plan to migrate App1 to Azure.

You need to recommend a data storage solution for App1. The solution must meet the following image storage requirements:



Encrypt images at rest.

Allow files up to 50M

Services
Azure Blob storage
Azure Cosmos DB
Azure SQL Database
Azure Table storage

Answer Area

Image storage:  Service

Customer accounts:  Service

---

**Answer:**

---

Explanation:

Image storage:  Azure Blob storage

Customer accounts:  Azure SQL Database

---

**Question: 216**

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You have a multi-tier app named Appl and an Azure SQL database named SQL 1. The backend service Of Appl writes data to Users use the Appl client to read the data from SQL 1.

During periods of high utilization the users experience delays retrieving the dat  
a.

You need to minimize how long it takes for data requests.

What should you include in the solution?

- A. Azure Synapse Analytics
- B. Azure Content Delivery Network (CON)
- C. Azure Data Factory
- D. Azure Cache for Redis

---

**Answer: D**

---

Explanation:

---

**Question: 217**

---

You need to design a highly available Azure SQL database that meets the following requirements:

Failover between replicas of the database must occur without any data loss.

The database must remain available in the event of a zone outage.



Costs must be minimized

Which deployment option should you use?

- A. Azure SQL Database Standard
- B. Azure SQL Database Serverless
- C. Azure SQL Managed Instance General Purpose
- D. Azure SQL Database Premium

---

**Answer: C**

Explanation:

---

### **Question: 218**

You have an on-premises Microsoft SQL server named SQL1 that hosts 50 databases.

You plan to migrate SQL 1 to Azure SQL Managed Instance.

You need to perform an offline migration of SQL 1. The solution must minimize administrative effort.

What should you include in the solution?

- A. SQL Server Migration Assistant (SSMA)
- B. Azure Migrate
- C. Data Migration Assistant (DMA)
- D. Azure Database Migration Service

---

**Answer: D**

Explanation:

This Azure service supports migration in the offline mode for applications that can afford downtime during the migration process. Unlike the continuous migration in online mode, offline mode migration runs a one-time restore of a full database backup from the source to the target  
<https://learn.microsoft.com/en-us/azure/azure-sql/migration-guides/managed-instance/sql-server-to-managed-instance-overview?view=azuresql#compare-migration-options>

---

### **Question: 219**

HOTSPOT

You have an app that generates 50,000 events daily.



You plan to Stream the events to an Azure event hub and use Event Hubs Capture to implement cold path processing Of the events Output Of Event Hubs Capture will be consumed by a reporting system.

You need to identify which type of Azure storage must be provisioned to support Event Hubs Capture, and which inbound data format the reporting system must support.

What should you identity? To answer. select the appropriate options in the answer are  
a.

NOTE: Each correct selection is worth one point.

Storage type:

- Azure Data Lake Storage Gen2
- Premium block blobs
- Premium file shares

Data format:

- Apache Parquet
- Avro
- JSON

---

**Answer:**

---

Explanation:

Storage type:

- Azure Data Lake Storage Gen2
- Premium block blobs
- Premium file shares

Data format:

- Apache Parquet
- Avro
- JSON

---

**Question: 220**

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You are designing an app that will include two components. The components will communicate by sending messages via a queue. You need to recommend a solution to process the messages by using a First in. First out (FIFO) pattern. What should you include in the recommendation?



- A. storage queues with a custom metadata setting
- B. Azure Service Bus queues with sessions enabled
- C. Azure Service Bus queues with partitioning enabled
- D. storage queues with a stored access policy

---

**Answer: B**

Explanation:

---

### Question: 221

---

You plan 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 to ensure that updated container images are replicated automatically to all the Azure regions hosting the AKS clusters. Which storage solution should you recommend?

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

---

**Answer: B**

Explanation:

---

### Question: 222

---

#### HOTSPOT

You have an on-premises Microsoft SQL Server database named SQL1.

You plan to migrate SQL1 to Azure.

You need to recommend a hosting solution for SQL1. The solution must meet the following requirements:

- Support the deployment of multiple secondary, read-only replicas.
- Support automatic replication between primary and secondary replicas.
- Support failover between primary and secondary replicas within a 15-minute recovery time objective (RTO).

Answer Area

Azure service or service tier:

Replication mechanism:

---

**Answer:**

Explanation:

Answer Area

Azure service or service tier:

Replication mechanism:



---

### Question: 223

Your company deploys several virtual machines on-premises and to Azure. ExpressRoute is deployed and configured for on-premises to Azure connectivity.

Several virtual machines exhibit network connectivity issues.

You need to analyze the network traffic to identify whether packets are being allowed or denied from Azure to the virtual machines.

Solution: Install and configure the Azure Monitoring agent and the Dependency Agent on all the virtual machines. Use VM insights in Azure Monitor to analyze the network traffic.

Does this meet the goal?

- A. Yes
- B. No

---

### Answer: B

Explanation:

---

### Question: 224

You need to recommend a solution for the App1 maintenance task. The solution must minimize costs.

What should you include in the recommendation?

- A. an Azure logic app
- B. an Azure function
- C. an Azure virtual machine
- D. an App Service WebJob

---

### Answer: B

Explanation:

<https://learn.microsoft.com/en-us/azure/azure-functions/functions-reference-powershell?tabs=portal>  
<https://learn.microsoft.com/en-us/azure/azure-functions/functions-create-scheduled-function#create-a-timer-triggered-function>

---

### Question: 225

You have an on-premises storage solution.

You need to migrate the solution to Azure. The solution must support Hadoop Distributed File System (HDFS).

What should you use?

- A. Azure Data Lake Storage Gen2
- B. Azure NetApp Files
- C. Azure Data Share
- D. Azure Table storage

---

### Answer: A

Explanation:

---

### Question: 226



### HOTSPOT

You need to deploy an instance of SQL Server on Azure Virtual Machines. The solution must meet the following requirements:

- Support 15.000 disk IOPS.
- Support SR-IOV.
- Minimize costs.

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

a. NOTE: Each correct selection is worth one point.

**Answer Area**

Virtual machine series: NC

DS

NC

NV

Disk type: Premium SSD

Standard SSD

Premium SSD

Ultra Disk

---

### Answer:

---

Explanation:

**Answer Area**

Virtual machine series: NC

Disk type: Premium SSD

---

### Question: 227

---

Your company plans to deploy various Azure App Service instances that will use Azure SQL databases. The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region.

You need to recommend a solution to meet the regulatory requirement.

Solution: You recommend using the Regulatory compliance dashboard in Microsoft Defender for Cloud.

Does this meet the goal?

- A. Yes
- B. No

---

### Answer: B

---

Explanation:

---

### Question: 228

---

You plan to deploy multiple instances of an Azure web app across several Azure regions.

You need to design an access solution for the app. The solution must meet the following replication requirements:

- Support rate limiting.
- Balance requests between all instances.
- Ensure that users can access the app in the event of a regional outage.

Solution: You use Azure Front Door to provide access to the app.

Does this meet the goal?

- A. Yes  
B. No

---

**Answer: A**

Explanation:

---

**Question: 229**

You are developing an app that will use Azure Functions to process Azure Event Hubs events. Request processing is estimated to take between five and 20 minutes. You need to recommend a hosting solution that meets the following requirements:

- Supports estimates of request processing runtimes
- Supports event-driven autoscaling for the app

Which hosting plan should you recommend?

- A. Consumption  
B. App Service  
C. Dedicated  
D. Premium

---

**Answer: B**

Explanation:

---

**Question: 230**

**HOTSPOT**

You are designing a data storage solution to support reporting.

The solution will ingest high volumes of data in the JSON format by using Azure Event Hubs. As the data arrives, Event Hubs will write the data to storage. The solution must meet the following requirements:

- Organize data in directories by date and time.
- Allow stored data to be queried directly, transformed into summarized tables, and then stored in a data warehouse.
- Ensure that the data warehouse can store 50 TB of relational data and support between 200 and 300 concurrent read operations.

Which service should you recommend for each type of data store? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

Data store for the ingested data:  

Azure Blob Storage  
**Azure Data Lake Storage Gen2**  
Azure Files  
Azure NetApp Files

Data store for the data warehouse:  

Azure Cosmos DB for Apache Cassandra  
Azure Cosmos DB for NoSQL  
**Azure SQL Database Hyperscale**  
Azure Synapse Analytics dedicated SQL pools

---

**Answer:**

Explanation:



Answer Area

Data store for the ingested data: Azure Data Lake Storage Gen2

Data store for the data warehouse: Azure SQL Database Hyperscale

---

### Question: 231

You have an on-premises application named App1 that uses an Oracle database.

You plan to use Azure Databricks to transform and load data from App1 to an Azure Synapse Analytics instance.

You need to ensure that the App1 data is available to Databricks.

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

NOTE: Each correct selection is worth one point.

- A. Azure Data Box Edge
- B. Azure Data Lake Storage
- C. Azure Data Factory
- D. Azure Data Box Gateway
- E. Azure Import/Export service

---

**Answer: C, E**

Explanation:

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### Question: 232

HOTSPOT

You are designing a cost-optimized solution that uses Azure Batch to run two types of jobs on Linux nodes. The first job type will consist of short-running tasks for a development environment. The second job type will consist of long-running Message Passing Interface (MPI) applications for a production environment that requires timely job completion.

You need to recommend the pool type and node type for each job type. The solution must minimize compute charges and leverage Azure Hybrid Benefit whenever possible.

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

NOTE: Each correct selection is worth one point.

Answer Area

First job:	<input type="button" value="User subscription and low-priority virtual machines"/>
	Batch service and dedicated virtual machines
	User subscription and dedicated virtual machines
	<input checked="" type="button" value="User subscription and low-priority virtual machines"/>
Second job:	<input type="button" value="Batch service and dedicated virtual machines"/>
	<input checked="" type="button" value="Batch service and dedicated virtual machines"/>
	User subscription and dedicated virtual machines
	<input type="button" value="User subscription and low-priority virtual machines"/>

---

**Answer:**

Explanation:

Answer Area

First job:

Second job:

---

### Question: 233

HOTSPOT



Your company has 20 web APIs that were developed in-house.

The company is developing 10 web apps that will use the web APIs. The web apps and the APIs are registered in the company's Azure AD tenant. The web APIs are published by using Azure API Management.

You need to recommend a solution to block unauthorized requests originating from the web apps from reaching the web APIs. The solution must meet the following requirements:

- Use Azure AD-generated claims.
- Minimize configuration and management effort

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

a. NOTE: Each correct selection is worth one point.

NOTE: Each correct selection is worth one point.

**Answer Area**

Grant permissions to allow the web apps to access the web APIs by using:   Azure AD  Azure API Management  The web APIs

Configure a JSON Web Token (JWT) validation policy by using:   Azure API Management  Azure AD  Azure API Management  The web APIs

---

**Answer:**

---

Explanation:

**Answer Area**

Grant permissions to allow the web apps to access the web APIs by using:   Azure AD

Configure a JSON Web Token (JWT) validation policy by using:   Azure API Management

---

**Question: 234**

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You have an 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. certificates and Azure Key Vault
- C. master keys and Azure Information Protection policies
- D. shared access signatures (SAS) and Conditional Access policies

---

**Answer: A**

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Explanation:

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**Question: 235**

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**HOTSPOT**

You have several Azure App Service web apps that use Azure Key Vault to store data encryption keys. Several departments have the following requests to support the web app:



Department	Request
Security	<ul style="list-style-type: none"><li>Review the membership of administrative roles and require users to provide a justification for continued membership.</li><li>Get alerts about changes in administrator assignments.</li><li>See a history of administrator activation, including which changes administrators made to Azure resources.</li></ul>
Development	<ul style="list-style-type: none"><li>Enable the applications to access Key Vault and retrieve keys for use in code.</li></ul>

Which service should you recommend for each department's request? To answer, configure the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

Security:

Development:

Quality Assurance:

---

**Answer:**

---

Explanation:

**Answer Area**

Security:

Development:

Quality Assurance:

---

**Question: 236**

You have an Azure Functions microservice app named App1 that is hosted in the Consumption plan. App1 uses an Azure Queue Storage trigger.

You plan to migrate App1 to an Azure Kubernetes Service (AKS) cluster.

You need to prepare the AKS cluster to support App1. The solution must meet the following requirements:

- Use the same scaling mechanism as the current deployment.
- Support kubenet and Azure Container Networking Interface (CNI) networking.

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

- A. Configure the horizontal pod autoscaler.
- B. Install Virtual Kubelet.
- C. Configure the AKS cluster autoscaler.
- D. Configure the virtual node add-on.
- E. Install Kubernetes-based Event Driven Autoscaling (KEDA).

---

**Answer: A, C**

---

Explanation:

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**Question: 237**



You plan to migrate on-premises MySQL databases to Azure Database for MySQL Flexible Server. You need to recommend a solution for the Azure Database for MySQL Flexible Server configuration. The solution must meet the following requirements:

- The databases must be accessible if a datacenter fails.
- Costs must be minimized.

Which compute tier should you recommend?

- A. Burstable
- B. General Purpose
- C. Memory Optimized

---

**Answer: C**

---

Explanation:

---

### Question: 238

---

You have an app named App1 that uses an on-premises Microsoft SQL Server database named DB1. You plan to migrate DB1 to an Azure SQL managed instance.

You need to enable customer-managed Transparent Data Encryption (TDE) for the instance. The solution must maximize encryption strength.

Which type of encryption algorithm and key length should you use for the TDE protector?

- A. AES256
- B. RSA4096
- C. RSA2048
- D. RSA3072

---

**Answer: D**

---

Explanation:

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### Question: 239

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#### HOTSPOT

You have an Azure subscription named Sub1 that is linked to an Azure AD tenant named contoso.com.

You plan to implement two ASP.NET Core apps named App1 and App2 that will be deployed to 100 virtual machines in Sub1. Users will sign in to App1 and App2 by using their contoso.com credentials. App1 requires read permissions to access the calendar of the signed-in user. App2 requires write permissions to access the calendar of the signed-in user.

You need to recommend an authentication and authorization solution for the apps. The solution must meet the following requirements:

- Use the principle of least privilege.
- Minimize administrative effort

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

Authentication: Application registration in Azure AD

Application registration in Azure AD  
A system-assigned managed identity  
A user-assigned managed identity

Authorization: Azure role-based access control (Azure RBAC)

Azure role-based access control (Azure RBAC)  
Application permissions  
Delegated permissions

---

**Answer:**

---

Explanation:

Answer Area

Authentication: Application registration in Azure AD

Authorization: Azure role-based access control (Azure RBAC)

---

**Question: 240**

You are designing an app that will use Azure Cosmos DB to collate sales data from multiple countries. You need to recommend an API for the app. The solution must meet the following requirements:

- Support SQL queries.
- Support geo-replication.
- Store and access data relationally.

Which API should you recommend?

- A. PostgreSQL
- B. NoSQL
- C. Apache Cassandra
- D. MongoDB

---

**Answer: A**

---

Explanation:

---

**Question: 241**

HOTSPOT

You have an Azure AD tenant that contains a management group named MG1. You have the Azure subscriptions shown in the following table.

Name	Management group
Sub1	MG1
Sub2	MG1
Sub3	Tenant Root Group

The subscriptions contain the resource groups shown in the following table.



Name	Subscription
RG1	Sub1
RG2	Sub2
RG3	Sub3

The subscription contains the Azure AD security groups shown in the following table.

Name	Member of
Group1	Group3
Group2	Group3
Group3	None

The subscription contains the user accounts shown in the following table.

Name	Member of
User1	Group1
User2	Group2
User3	Group1, Group2

You perform the following actions:

- Assign User3 the Contributor role for Sub1.
- Assign Group1 the Virtual Machine Contributor role for MG1.
- Assign Group3 the Contributor role for the Tenant Root Group.

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

NOTE: Each correct selection is worth one point.

**Answer Area**

Statements	Yes	No
User1 can create a new virtual machine in RG1.	<input type="radio"/>	<input type="radio"/>
User2 can grant permissions to Group2.	<input type="radio"/>	<input type="radio"/>
User3 can create a storage account in RG2.	<input type="radio"/>	<input type="radio"/>

---

**Answer:**

---

Explanation:

**Answer Area**

Statements	Yes	No
User1 can create a new virtual machine in RG1.	<input type="radio"/>	<input checked="" type="radio"/>
User2 can grant permissions to Group2.	<input checked="" type="radio"/>	<input type="radio"/>
User3 can create a storage account in RG2.	<input checked="" type="radio"/>	<input type="radio"/>

---

**Question: 242**

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**HOTSPOT**

You are designing an app that will be hosted on Azure virtual machines that run Ubuntu. The app will use a third-party email service to send email messages to users. The third-party email service requires that the app authenticate by using an API key.

You need to recommend an Azure Key Vault solution for storing and accessing the API key. The solution must minimize administrative effort.



What should you recommend using to store and access the key? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

**Answer Area**

Storage:

Access:

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**Answer:**

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Explanation:

**Answer Area**

Storage:

Access:

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**Question: 243**

Your company deploys several virtual machines on-premises and to Azure. ExpressRoute is deployed and configured for on-premises to Azure connectivity.

Several virtual machines exhibit network connectivity issues.

You need to analyze the network traffic to identify whether packets are being allowed or denied from the Azure virtual machines to the on-premises virtual machines.

Solution: Use Azure Advisor.

Does this meet the goal?

- A. Yes
- B. No

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**Answer: B**

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Explanation:

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**Question: 244**

Your company plans to deploy various Azure App Service instances that will use Azure SQL databases. The App Service instances will be deployed at the same time as the Azure SQL databases.

The company has a regulatory requirement to deploy the App Service instances only to specific Azure regions. The resources for the App Service instances must reside in the same region.

You need to recommend a solution to meet the regulatory requirement.

Solution: You recommend using an Azure policy to enforce the location of resource groups.

Does this meet the goal?

- A. Yes
- B. No



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**Answer: B**

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Explanation:

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**Question: 245**

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**DRAG DROP**

You have two app registrations named App1 and App2 in Azure AD. App1 supports role-based access control (RBAC) and includes a role named Writer.

You need to ensure that when App2 authenticates to access App1, the tokens issued by Azure AD include the Writer role claim.

Which blade should you use to modify each app registration? To answer, drag the appropriate blades to the correct app registrations. Each blade 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.

Blades	Answer Area
API permissions	App1: <input type="text"/>
App roles	App2: <input type="text"/>
Token configuration	

---

**Answer:**

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Explanation:

Blades	Answer Area
API permissions	App1: <input type="text"/> App roles
App roles	App2: <input type="text"/> API permissions
Token configuration	

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**Question: 246**

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What two parameters would you recommend set up to ensure that the new IPSCustomers database will scale to meet the workload demands?

- A. Define the maximum of CPU cores
- B. Define the maximum resource limit per group of databases
- C. Define the maximum of Database Transaction Units
- D. Define the maximum of the allocated storage
- E. Define the maximum size for a database

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**Answer: C,E**

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Explanation:

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