

# Microsoft Azure Architect Design (AZ-304) Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

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# Table of Contents

<b>Copyright</b> .....	<b>1</b>
<b>Table of Contents</b> .....	<b>2</b>
<b>Introduction</b> .....	<b>3</b>
<b>How to Use This Guide</b> .....	<b>4</b>
<b>Questions</b> .....	<b>5</b>
<b>Answers</b> .....	<b>8</b>
<b>Explanations</b> .....	<b>10</b>
<b>Next Steps</b> .....	<b>16</b>

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# Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

# How to Use This Guide

**This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:**

## 1. Start with a Diagnostic Review

**Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.**

## 2. Study in Short, Focused Sessions

**Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.**

## 3. Learn from the Explanations

**After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.**

## 4. Track Your Progress

**Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.**

## 5. Simulate the Real Exam

**Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.**

## 6. Repeat and Review

**Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.**

**There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!**

## **Questions**

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- 1. What type of identity should be included in a recommendation for virtual machines that need to access Azure services without assigning new roles and permissions?**
  - 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**
- 2. What is a viable option for hosting a custom ASP.NET application in a containerized Azure environment?**
  - A. Azure Container Instances**
  - B. Azure SQL Database**
  - C. Azure Web App Service**
  - D. Azure Functions**
- 3. For a company working collaboratively with another organization, what role can be assigned to external developers to allow them to manage resources in Azure?**
  - A. Owner role**
  - B. Contributor role**
  - C. Reader role**
  - D. Guest role**
- 4. What role does a Hardware Security Module (HSM) play in cloud environments?**
  - A. Storage for sensitive information**
  - B. As a cryptographic key manager**
  - C. Virtual machine performance optimization**
  - D. Identity synchronization**
- 5. What should you use to execute custom C# code in response to an event routed to Azure Event Grid, minimizing costs?**
  - A. Azure Logic Apps in the integrated service environment**
  - B. Azure Functions in the Dedicated plan**
  - C. Azure Logic Apps in the Consumption plan**
  - D. Azure Functions in the Consumption plan**

**6. To ensure compliance and cost-effectiveness of file-based backups for a financial application, which Azure service is preferable?**

- A. Azure Blob Storage with Archive tier**
- B. Azure SQL Database**
- C. Recovery Services vault**
- D. Azure file share with Cool tier storage**

**7. For long-term storage of rarely accessed data in Azure, what is the most cost-efficient storage tier?**

- A. Cool**
- B. Hot**
- C. Archive**
- D. Premium**

**8. What tool should be recommended to ensure group owners receive alerts about group membership changes monthly?**

- A. Azure AD access reviews**
- B. Tenant Restrictions**
- C. Azure AD Identity Protection**
- D. Conditional access policies**

**9. What strategy should be adopted for minimizing the compute costs of Azure virtual machines when migrating workloads from an on-premises Hyper-V cluster?**

- A. Purchase Azure Reserved Virtual Machine Instances**
- B. Create virtual machine scale sets for autoscaling**
- C. Use only Spot VMs for all workloads**
- D. Deploy Linux-based VMs exclusively**

**10. If you are using Azure Blob storage for infrequently accessed data, which of these scenarios would be inappropriate for the archive access tier?**

- A. Telemetry data to be deleted after two years**
- B. Promotional material to be deleted after 14 days**
- C. Virtual machine audit data to be deleted after 200 days**
- D. Backup data to be deleted after 30 days**

## **Answers**

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1. B
2. A
3. B
4. B
5. D
6. A
7. C
8. A
9. A
10. B

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## **Explanations**

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**1. What type of identity should be included in a recommendation for virtual machines that need to access Azure services without assigning new roles and permissions?**

- 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**

In the context of Azure, a system-assigned managed identity is designed specifically to allow virtual machines (VMs) to securely access Azure services without the need for managing credentials or manually assigning roles. This built-in identity is tied directly to the lifecycle of the VM; when the VM is created, Azure automatically creates an identity for it in Azure Active Directory (AAD). When you use a system-assigned managed identity, Azure handles the authentication with Azure services, eliminating the need for other credential management practices such as creating and storing service principals or managing client secrets. This promotes security and simplifies the management overhead, as Azure assumes responsibility for identity management and access control. The other options, while valid methods of accessing Azure services, involve more complex configurations. For instance, service principals (whether configured to use a certificate or a client secret) require additional setup to manage and secure the credentials associated with them. Similarly, a user-assigned managed identity necessitates separate management and lifecycle considerations since it can be shared across multiple resources but does not have the automatic tie to the VM's lifecycle like a system-assigned identity does. As such, the system-assigned managed identity is the best choice for VMs needing to access Azure services seamlessly and securely.

**2. What is a viable option for hosting a custom ASP.NET application in a containerized Azure environment?**

- A. Azure Container Instances**
- B. Azure SQL Database**
- C. Azure Web App Service**
- D. Azure Functions**

Hosting a custom ASP.NET application in a containerized Azure environment can be effectively achieved through Azure Container Instances. This service allows you to run containers in the cloud without managing virtual machines, making it an excellent option for developers who want to deploy applications quickly and scale them in a flexible manner. Azure Container Instances supports various container images and provides a straightforward way to run your application in isolated environments. This approach is particularly valuable for applications that require easy scaling, quick deployment, and the ability to run in an ephemeral and stateless manner. Container Instances offers a pay-as-you-go pricing model, which is beneficial for applications with variable workloads. The other options, while useful in their respective contexts, are not primarily designed for containerized applications. Azure SQL Database is focused on relational database services, Azure Web App Service is generally used for web applications without containerization unless utilizing a specific configuration, and Azure Functions is tailored for serverless compute scenarios, which may not align with the needs of a custom ASP.NET application specifically designed to run within container environments.

**3. For a company working collaboratively with another organization, what role can be assigned to external developers to allow them to manage resources in Azure?**

- A. Owner role**
- B. Contributor role**
- C. Reader role**
- D. Guest role**

Assigning the Contributor role to external developers enables them to manage resources in Azure without granting full administrative control. This role provides a balanced level of access, allowing users to create and manage all types of Azure resources, but not to assign roles to other users or manage access permissions. It is specifically designed for users who need the ability to manipulate resources as part of their collaborative work while ensuring that sensitive permissions related to access control remain restricted. The other roles serve different purposes that may not align with the need for collaborative management. The Owner role offers full control, including the ability to manage access, which may not be appropriate for external developers who should have limited permissions based solely on their collaborative tasks. The Reader role is too restrictive as it only allows viewing resources without making any changes. Lastly, the Guest role generally is meant for users who need to access resources without contributing to management, and does not allow any resource management capabilities. Therefore, the Contributor role is the most suitable choice for external developers collaborating on resource management in Azure.

**4. What role does a Hardware Security Module (HSM) play in cloud environments?**

- A. Storage for sensitive information**
- B. As a cryptographic key manager**
- C. Virtual machine performance optimization**
- D. Identity synchronization**

A Hardware Security Module (HSM) acts primarily as a cryptographic key manager in cloud environments. It is specifically designed to manage cryptographic keys securely and efficiently, ensuring that sensitive operations such as encryption and decryption are conducted in a secure manner. HSMs provide a physically and logically protected environment for key generation, storage, and management, making them a crucial component for any system that requires a high level of security for cryptographic operations. In cloud architectures, HSMs facilitate compliance with various regulations concerning data protection and cryptography by ensuring that keys are never exposed outside of the HSM. This isolation enhances security, as it minimizes the risk of key compromise. Organizations employing HSMs can manage their encryption keys effectively while maintaining a strong security posture, which is essential for safeguarding sensitive information across services. While HSMs do contribute to security and can be indirectly involved with aspects like identity management through secure key storage, their primary and most critical function remains focused on managing cryptographic keys. This capability sets them apart from other roles like optimizing virtual machine performance or synchronizing identities, which do not directly relate to the core functionalities of an HSM.

**5. What should you use to execute custom C# code in response to an event routed to Azure Event Grid, minimizing costs?**

- A. Azure Logic Apps in the integrated service environment**
- B. Azure Functions in the Dedicated plan**
- C. Azure Logic Apps in the Consumption plan**
- D. Azure Functions in the Consumption plan**

Using Azure Functions in the Consumption plan is an efficient way to execute custom C# code in response to events routed to Azure Event Grid while also minimizing costs. The Consumption plan allows you to pay only for the compute power you consume, which means you are charged based on the number of executions and the resources used during those executions. This model is ideal for event-driven architectures where the frequency and volume of events can vary greatly. Event Grid excels at delivering events from various sources like Azure services or custom applications, and Azure Functions provides a serverless compute option to process those events. By leveraging Azure Functions, you can write your custom C# code to handle the events seamlessly without needing to manage infrastructure, which is also cost-effective since you don't incur running costs when the function is not executing. The other options do not align as well with minimizing costs during event handling. For instance, Azure Functions in the Dedicated plan incurs a consistent cost for dedicated resources regardless of usage, making it less economical in scenarios where function calls may be sporadic. Similarly, Logic Apps, while capable of handling events, tend to introduce a higher operational cost compared to the serverless execution model of Azure Functions in the Consumption plan, particularly for custom processing tasks. The Consumption plan for Logic

**6. To ensure compliance and cost-effectiveness of file-based backups for a financial application, which Azure service is preferable?**

- A. Azure Blob Storage with Archive tier**
- B. Azure SQL Database**
- C. Recovery Services vault**
- D. Azure file share with Cool tier storage**

Choosing Azure Blob Storage with the Archive tier for file-based backups is a sound decision for ensuring compliance and cost-effectiveness, especially for a financial application. The Archive tier in Azure Blob Storage is specifically designed for data that is rarely accessed and is suitable for long-term storage. It provides a lower storage cost compared to other tiers, making it economically advantageous for large volumes of backup data that do not require frequent retrieval. This aligns well with the typical needs of financial applications, which often involve regulations that mandate data retention for extended periods while maintaining cost controls. Additionally, Azure Blob Storage is highly scalable and can seamlessly accommodate varying amounts of data, which is beneficial for evolving backup needs. It also offers robust security features, such as encryption at rest and in transit, supporting compliance requirements that financial institutions must adhere to. In contrast, Azure SQL Database, while a powerful service for relational databases, is not tailored for file-based backups and thus does not provide an appropriate solution in this context. The Recovery Services vault specializes in backup management and recovery, but it might not be cost-effective for simple file-based backups compared to Blob Storage. Lastly, using an Azure file share with Cool tier storage, while suitable for some use cases, generally comes with higher operational costs compared to

**7. For long-term storage of rarely accessed data in Azure, what is the most cost-efficient storage tier?**

- A. Cool**
- B. Hot**
- C. Archive**
- D. Premium**

The Archive storage tier is specifically designed for the long-term storage of data that is rarely accessed, making it the most cost-efficient option for such a use case. This tier offers significantly lower storage costs compared to the other tiers, which is ideal for data that does not need to be readily available or accessed frequently. Data stored in the Archive tier is typically used for compliance and regulation purposes or for data that must be retained for long periods but is not expected to be retrieved often. While there are retrieval costs and a longer wait time for access compared to other tiers, the savings on storage costs make it advantageous for infrequent access scenarios. This is in contrast to other tiers, which are intended for different access patterns. The Cool tier, for instance, is designed for data that is infrequently accessed but may need to be retrieved more quickly than data in the Archive tier. The Hot tier is used for active data that is accessed frequently and has higher storage costs associated with it. Premium storage is designed for high-performance workloads that require low latency, but it comes with higher costs, which doesn't align with the requirement for cost-efficient long-term storage of rare access data.

**8. What tool should be recommended to ensure group owners receive alerts about group membership changes monthly?**

- A. Azure AD access reviews**
- B. Tenant Restrictions**
- C. Azure AD Identity Protection**
- D. Conditional access policies**

The recommendation to use Azure AD access reviews for ensuring that group owners receive alerts about group membership changes monthly is well-founded. Azure AD access reviews provide a systematic way for organizations to review and manage access to resources. This tool empowers administrators and group owners to regularly assess group memberships and verify whether users still require access or if any changes are necessary. With Azure AD access reviews, you can automate notifications and ensure that group owners are alerted on a specified schedule, such as monthly, about changes in group membership. This functionality helps maintain security and compliance, as it allows for timely reviews and responses to any unauthorized or unnecessary access. This approach directly addresses the requirement of keeping group owners informed about changes in group memberships and ensuring that they can take appropriate action when necessary, enhancing governance and reducing security risks. The other options listed, while important for different aspects of Azure AD and security governance, do not specifically provide the capability to alert group owners about changes in group membership on a regular basis. Tenant Restrictions pertain to controlling the applications users can access, Azure AD Identity Protection is focused on identifying and mitigating identity risks, and Conditional access policies enforce real-time access control based on conditions, but none of these tools offer the specific capability of scheduled alerts for group membership changes like

**9. What strategy should be adopted for minimizing the compute costs of Azure virtual machines when migrating workloads from an on-premises Hyper-V cluster?**

- A. Purchase Azure Reserved Virtual Machine Instances**
- B. Create virtual machine scale sets for autoscaling**
- C. Use only Spot VMs for all workloads**
- D. Deploy Linux-based VMs exclusively**

The strategy of purchasing Azure Reserved Virtual Machine Instances is effective in minimizing compute costs for several key reasons. When migrating workloads from an on-premises Hyper-V cluster to Azure, organizations often look for ways to optimize their cloud spending. Reserved Virtual Machine Instances enable organizations to commit to using Azure VMs for a one- or three-year term, which results in significant cost savings compared to pay-as-you-go billing. This commitment allows Azure to offer discounted rates for the reserved capacity, sometimes up to 72% lower than the on-demand pricing. By analyzing workload requirements and selecting the appropriate VM types for the expected duration of use, organizations can efficiently manage their budget and reduce overall expenses. Other strategies, while potentially beneficial in certain scenarios, may not provide the same level of cost efficiency or could introduce complexities. For example, virtual machine scale sets for autoscaling are useful for managing dynamic workloads, but they can lead to fluctuating costs based on usage patterns. Spot VMs offer significant savings but are subject to availability and can be evicted at any time, which may not be suitable for all workloads. Exclusively deploying Linux-based VMs may provide some cost benefits due to lower licensing fees, but this approach could limit flexibility and compatibility with existing applications already running on

**10. If you are using Azure Blob storage for infrequently accessed data, which of these scenarios would be inappropriate for the archive access tier?**

- A. Telemetry data to be deleted after two years**
- B. Promotional material to be deleted after 14 days**
- C. Virtual machine audit data to be deleted after 200 days**
- D. Backup data to be deleted after 30 days**

The archive access tier in Azure Blob storage is designed for data that is infrequently accessed and has a retention period of at least several months. This tier is intended for storing large amounts of data that are rarely accessed but still need to be retained at a low cost. In the scenario of promotional material to be deleted after 14 days, this would be inappropriate for the archive access tier because the primary purpose of this tier is for long-term storage rather than short-term data retention. Data in the archive tier cannot be accessed immediately; it requires rehydration (a process that takes hours) before it can be accessed. Therefore, selecting a storage tier for data that is only needed for a brief period, such as 14 days, would not align with the characteristics and use case of the archive access tier. For the other scenarios: telemetry data intended for deletion after two years, virtual machine audit data due for deletion after 200 days, and backup data to be removed after 30 days, these all suggest retention periods that are more appropriate for the archive tier. They involve longer retention periods for data that does not require immediate access, making them suitable candidates for this storage option.

# Next Steps

**Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.**

**As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.**

**If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at [hello@examzify.com](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://az-304.examzify.com>**

**We wish you the very best on your exam journey. You've got this!**

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