

Microsoft AZ-305 Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

This is a sample study guide. To access the full version with hundreds of questions,

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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. Don't worry about getting everything right, 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, and take breaks to retain information better.

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.

7. Use Other Tools

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!

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Questions

- 1. For a stateless application that needs access to the full .NET framework, which solution provides necessary OS-level access?**
 - A. Container Instances**
 - B. Azure Virtual Machines**
 - C. Azure App Service**
 - D. Azure Functions**
- 2. How are Azure Resource Locks primarily utilized?**
 - A. To increase resource capacity**
 - B. To enhance security protocols**
 - C. To prevent accidental deletion or modification**
 - D. To manage user permissions**
- 3. Which Azure service provides a platform for running containers?**
 - A. Azure Functions**
 - B. Azure Kubernetes Service**
 - C. Azure Batch**
 - D. Azure Logic Apps**
- 4. You plan to migrate two on-premises SQL Server databases requiring server-side transactions. What Azure solution should you choose?**
 - A. Two Azure SQL databases in an elastic pool**
 - B. Two databases on the same Azure SQL managed instance**
 - C. Two databases on the same SQL Server instance on an Azure virtual machine**
 - D. Two Azure SQL databases on different Azure SQL Database servers**
- 5. What is the maximum number of private IP addresses a single Azure VNet can have?**
 - A. Over 100,000**
 - B. Over 65,000 private IP addresses**
 - C. Over 500,000**
 - D. Over 1 million**

- 6. What resource type is primarily focused on compute resources in Azure?**
- A. Azure Blob Storage**
 - B. Azure Virtual Machines**
 - C. Azure SQL Database**
 - D. Azure App Services**
- 7. When designing a highly available Azure SQL database, which feature ensures that failover occurs without data loss?**
- A. Replication**
 - B. Geo-replication**
 - C. Automatic failover groups**
 - D. Read-scale replicas**
- 8. Which Azure service facilitates direct, low-latency connections between on-premises networks and Azure?**
- A. Azure VPN Gateway**
 - B. Azure ExpressRoute**
 - C. Azure Site Recovery**
 - D. Azure Virtual Network**
- 9. What strategy would best optimize costs while maintaining performance for Azure SQL database deployments?**
- A. Use the Basic Tier**
 - B. Utilize reserved capacity pricing**
 - C. Monitor and scale up storage dynamically**
 - D. Implement a serverless tier**
- 10. Why is tagging important in Azure?**
- A. It decreases latency for virtual machines**
 - B. It aids in resource management, organization, and cost tracking**
 - C. It improves the performance of Azure services**
 - D. It restricts access to resources based on user roles**

Answers

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

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Explanations

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1. For a stateless application that needs access to the full .NET framework, which solution provides necessary OS-level access?

A. Container Instances

B. Azure Virtual Machines

C. Azure App Service

D. Azure Functions

The most suitable solution for a stateless application that requires access to the full .NET framework and OS-level access is Azure Virtual Machines. This is primarily because Azure Virtual Machines provide a complete virtualized environment that allows you to run any operating system and install any software, including applications dependent on the full .NET framework. With Azure Virtual Machines, you gain total control over the operating system, enabling you to customize settings, install middleware, and use necessary libraries and frameworks that are critical for your application. Since the .NET framework often requires specific configurations and dependencies that might not be supported by more abstracted services, utilizing a virtual machine ensures full compatibility and operational flexibility. In contrast, other options like Container Instances, Azure App Service, and Azure Functions abstract away the underlying infrastructure to various extents. While they provide platforms for running applications, they don't offer the same degree of OS-level access or customization capabilities as virtual machines, which makes them less suitable for scenarios needing full .NET framework support.

2. How are Azure Resource Locks primarily utilized?

A. To increase resource capacity

B. To enhance security protocols

C. To prevent accidental deletion or modification

D. To manage user permissions

Azure Resource Locks are primarily utilized to prevent accidental deletion or modification of Azure resources. By applying locks to resources, administrators add a layer of protection that ensures critical resources remain intact even in environments where multiple users or automated processes have permission to manage them. Resource locks can be set at different scopes, such as at the subscription, resource group, or resource level, providing flexibility in how they are applied. Two types of locks exist: "CanNotDelete," which prevents the resource from being deleted, and "ReadOnly," which allows the resource to be viewed but not modified or deleted. This feature is especially crucial in production scenarios where unintended changes or deletions could lead to significant downtime or loss of data. The other options, while important aspects of Azure management, do not align with the fundamental purpose of resource locks. Increasing resource capacity pertains to scaling resources, enhancing security protocols involves measures like encryption and firewalls, and managing user permissions relates to role-based access control and identity management. None of these directly relate to the primary function of Resource Locks.

3. Which Azure service provides a platform for running containers?

- A. Azure Functions
- B. Azure Kubernetes Service**
- C. Azure Batch
- D. Azure Logic Apps

Azure Kubernetes Service (AKS) is the correct answer because it is specifically designed to simplify the process of deploying, managing, and scaling containerized applications using Kubernetes. As a fully managed service, AKS provides built-in capabilities for orchestrating containers, which allows developers to focus on their applications without having to manage the underlying infrastructure. With AKS, users can effectively manage containerized applications in production, take advantage of Kubernetes features like automatic scaling, load balancing, and rolling updates, and benefit from high availability and security features. In contrast, Azure Functions is primarily a serverless computing service that runs event-driven code in response to various triggers and does not focus specifically on container orchestration. Azure Batch provides a platform for running large-scale parallel and high-performance computing applications, but it is not centered around container management. Azure Logic Apps offers a way to automate workflows and integrate apps and services, but it is not intended for running containers.

4. You plan to migrate two on-premises SQL Server databases requiring server-side transactions. What Azure solution should you choose?

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

Choosing to migrate the two on-premises SQL Server databases to two databases on the same Azure SQL Managed Instance is the optimal solution for several key reasons. Firstly, Azure SQL Managed Instance provides compatibility with SQL Server features and functionalities, including support for server-side transactions. This is particularly beneficial for applications that rely on these features, as it minimizes the need for any modifications to the existing codebase when transitioning from on-premises to the cloud. In addition, utilizing a managed instance allows for simplified administration and maintenance compared to managing individual virtual machines. Azure handles many of the routine management tasks, such as backups, patching, and monitoring. Moreover, running both databases on the same managed instance means they can take advantage of features like cross-database transactions and linked servers, which are critical for applications that depend on atomic, reliable operations across multiple databases. This approach also optimizes costs, as Azure SQL Managed Instances are billed based on the resources you provision, potentially offering a more economical solution when compared to running separate instances on an Azure virtual machine or individual databases in elastic pools or different servers, which might require additional management overhead. Therefore, selecting two databases on the same Azure SQL Managed Instance is aligned with the requirements for maintaining server-side transactions while also leveraging the

5. What is the maximum number of private IP addresses a single Azure VNet can have?

- A. Over 100,000**
- B. Over 65,000 private IP addresses**
- C. Over 500,000**
- D. Over 1 million**

The correct answer reflects the inherent scalability and design of Azure Virtual Networks (VNets), where a single VNet can support a substantial number of private IP addresses. Specifically, within a single Azure VNet, you can configure multiple subnets, and the total number of usable private IP addresses comes from the CIDR block associated with the VNet. When using a common subnet size, such as a /16 CIDR block, this allows for 65,536 addresses, but only 65,534 are usable for hosts (due to two reserved IPs). As such, the architectural design of Azure unexpectedly scales to support a sizable number of private IPs, which is represented in choice B. This design enables a robust infrastructure for applications that necessitate numerous instances or services communicating over private IPs, while also maintaining efficient resource management. Other options significantly exceed the operational constraints and design considerations within Azure VNets, which further justifies why the correct choice accurately reflects the capabilities of Azure's networking.

6. What resource type is primarily focused on compute resources in Azure?

- A. Azure Blob Storage**
- B. Azure Virtual Machines**
- C. Azure SQL Database**
- D. Azure App Services**

The resource type that is primarily focused on compute resources in Azure is Azure Virtual Machines. Azure Virtual Machines provide the fundamental infrastructure needed for running operating systems and applications in the cloud, which allows users to deploy scalable and customizable computing environments. This service gives the ability to execute a wide array of workloads, including both traditional applications and cloud-native applications. Virtual Machines support various operating systems and can be tailored to specific resource requirements, such as CPU, memory, and storage, making them suitable for diverse use cases ranging from development and testing to production environments. They offer more granular control over the computing resources compared to other Azure services. This makes Azure Virtual Machines an essential component when designing solutions that require direct control and customization over compute environments. In contrast, the other options are more specialized: Azure Blob Storage is primarily used for unstructured data storage, Azure SQL Database focuses on database services, and Azure App Services offer a platform for building and hosting web applications without managing infrastructure explicitly, which does not primarily emphasize raw compute resources.

7. When designing a highly available Azure SQL database, which feature ensures that failover occurs without data loss?

- A. Replication**
- B. Geo-replication**
- C. Automatic failover groups**
- D. Read-scale replicas**

The feature that ensures failover without data loss in a highly available Azure SQL database is automatic failover groups. This feature allows for the automatic management of failover of multiple databases in a SQL Managed Instance or SQL database to a secondary region. It enables seamless failover between primary and secondary databases, ensuring that transactions are not lost in the event of a failure. Automatic failover groups maintain data synchronization using a mechanism designed to achieve minimal data loss, often allowing read and write operations on the primary database to be replicated to the secondary database, thus ensuring data consistency during the failover process. Other features, while they provide high availability or scalability, do not guarantee zero data loss during failover scenarios. Replication, for instance, refers to the copying and distribution of data across different databases but can involve delays or lag that may lead to data loss. Geo-replication allows for asynchronous replication to a secondary database in a different geographical region; however, it does not inherently ensure that data is immediately consistent, potentially leading to some data loss. Read-scale replicas are designed to support read operations but do not address the concern of failover for write operations or guarantee no data loss during a failover event. Therefore, automatic failover groups are critical for ensuring continuous

8. Which Azure service facilitates direct, low-latency connections between on-premises networks and Azure?

- A. Azure VPN Gateway**
- B. Azure ExpressRoute**
- C. Azure Site Recovery**
- D. Azure Virtual Network**

Azure ExpressRoute is the service that facilitates direct, low-latency connections between on-premises networks and Azure. This service is designed specifically to create private connections that do not traverse the public internet, resulting in higher reliability, faster speeds, and lower latencies compared to traditional internet-based connections. ExpressRoute provides an Ethernet connection that can scale up to 100 Gbps, making it ideal for organizations that have significant data transfer needs or require consistent performance for critical applications. Organizations often leverage this service to enhance their hybrid cloud configurations, allowing them to extend their on-premises networks seamlessly into the Azure cloud while maintaining the integrity of their network structure. Although Azure VPN Gateway provides secure site-to-site connections via an encrypted tunnel over the public internet, it does not match the performance and reliability characteristics of ExpressRoute. Other options like Azure Site Recovery and Azure Virtual Network serve different use cases entirely—disaster recovery and network segmentation respectively. Thus, for the purpose of establishing a robust and performant link between on-premises infrastructure and Azure, Azure ExpressRoute is the clear and appropriate choice.

9. What strategy would best optimize costs while maintaining performance for Azure SQL database deployments?

- A. Use the Basic Tier**
- B. Utilize reserved capacity pricing**
- C. Monitor and scale up storage dynamically**
- D. Implement a serverless tier**

Utilizing reserved capacity pricing is a cost-effective strategy for optimizing expenses in Azure SQL database deployments while ensuring performance remains robust. This approach allows organizations to commit to a one- or three-year term for database resources, and in return, they benefit from significant discounts compared to pay-as-you-go pricing. This strategy is particularly advantageous for workloads with consistent and predictable usage patterns, as organizations can plan their capacity in advance, thereby locking in lower expenses over time. By opting for reserved capacity, businesses can align their investments with long-term operational needs, ultimately leading to better budget management while still maintaining the performance levels required for their applications. In contrast, while the Basic Tier might offer some initial savings, it often lacks the performance and feature set required for more demanding applications. Monitoring and dynamically scaling up storage can help manage performance but does not address cost optimization effectively and may lead to unexpected costs if not managed carefully. Implementing a serverless tier is beneficial for cost efficiency in situations with variable consumption, but it may not always deliver the stable performance needed for high-transaction applications, making reserved capacity a more reliable option for many organizations.

10. Why is tagging important in Azure?

- A. It decreases latency for virtual machines**
- B. It aids in resource management, organization, and cost tracking**
- C. It improves the performance of Azure services**
- D. It restricts access to resources based on user roles**

Tagging in Azure plays a crucial role in resource management, organization, and cost tracking. By applying tags—key-value pairs—to Azure resources, organizations can classify and categorize those resources according to various attributes, such as department, project, environment (e.g., production or development), or owner. This categorization simplifies the management of resources by allowing teams to easily search, filter, and organize them based on specific criteria. For cost tracking, tagging allows organizations to allocate costs and track spending on resources according to the defined categories. This is particularly useful for identifying which departments or projects are consuming the most resources and thereby incurring higher costs. With insights derived from tags, organizations can make informed decisions on resource optimization and budgeting. This capability contributes significantly to an effective governance strategy, enabling a clearer overview of resource utilization and facilitating compliance with organizational policies regarding resource management. Consequently, tagging enhances visibility, control, and accountability over Azure resources, streamlining both administrative tasks and financial management.

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.

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

<https://designingmicrosoftazureinfrastructuresolutions-az305.examzify.com>

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