A comprehensive study guide that will provide you with great preparation tools for the AZ-305: Designing Microsoft Azure Infrastructure Solutions exam

AZ-305 Official Course Study Guide

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Introduction

Welcome to the AZ-305 Study Guide. This guide will go over each topic of the skills outline, provided by Microsoft for the AZ-305: Designing Microsoft Azure exam.

Candidates for the Azure Solutions Architect Expert certification should have subject matter expertise in designing cloud and hybrid solutions that run on Microsoft Azure, including compute, network, storage, monitoring, and security.

Responsibilities for this role include advising stakeholders and translating business requirements into designs for secure, scalable, and reliable Azure solutions.
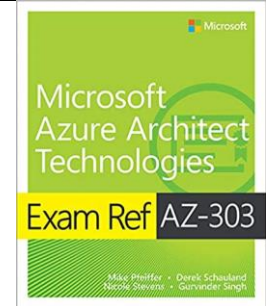An Azure Solutions Architect partners with developers, administrators, and other roles responsible for implementing solutions on Azure.

A candidate for this certification should have advanced experience and knowledge of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platforms, and governance. A professional in this role should manage how decisions in each area affect an overall solution. In addition, they should have experience in Azure administration, Azure development, and DevOps processes.

About the exam:

- Taking the exam will cost you $165 US dollars (Price based on the country or region in which the exam is proctored).
- Microsoft certification exams are scored out of 1000 points. You need 700 points or higher to pass the AZ-305 exam and gain your Microsoft Certified: Azure Solutions Architect Expert Badge if you pass the Microsoft Certified: Azure Administrator Associate certification exam and pass Exam AZ-305.
- Your Microsoft Certified: Azure Solutions Architect Expert badge will need to be renewed every year. Microsoft will from time to time retire certifications, however, and you may also find exam numbers evolve (this is what happened with the previous exam AZ-103 to AZ-104 for example) when Microsoft changes the curriculum substantially for the certification.
- The exam will have 40-60 questions for which you have 120 mins to answer.
- As of this moment of writing, there're no labs.

Book/e-book:

Exam Ref AZ-305 Designing Microsoft Azure Infrastructure Solutions
Prepare for Microsoft Exam AZ-304--and help demonstrate your real-world mastery of architecting high-value Microsoft Azure solutions for your organization or customers. Designed for modern IT professionals, this Exam Ref focuses on the critical thinking and decision-making acumen needed for success at the Microsoft Certified Expert level.

- Amazon.com: Exam ref AZ-305
- Amazon.ca: Exam ref AZ-305
- Amazon.de: Exam ref AZ-305
- Amazon.co.uk: Exam ref AZ-305

	• Amazon.fr: Exam ref AZ-305

Video training:

Udemy	This course goes through all of the skills needed to take and pass the AZ-304 exam: Microsoft Azure Architect Technologies. This course teaches all of the requirements for the exam, one by one. Each of the things that Microsoft tests will be covered in this course. AZ-305 Azure Architect Design Exam Prep 2021 (with AZ-304)	Udemy
PLURALSIGHT	This path is structured to mimic the organization of the exam so you can more easily follow along during your study preparation. Microsoft Azure Architect Technologies (AZ-304) Path	Pluralsight
W	Whizlabs' Microsoft Azure Exam AZ-305 Online Course helps Professionals to prepare themselves for the actual certification exam. Designing Microsoft Azure Infrastructure Solutions: AZ-305 (whizlabs.com)

Microsoft Learn:

Those tutorial/paths have been combined by Microsoft and published for free. They contain a collection of text, videos, and exercises for the exam.

	AZ-305: Design identity, governance, and monitor solutions Design identity, governance, and monitor solutions including authentication. AZ-305: Design identity, governance, and monitor solutions - Learn	Microsoft Docs
	AZ-305: Design business continuity solutions Design business continuity solutions including high availability, backup, and disaster recovery. AZ-305: Design business continuity solutions - Learn	Microsoft Docs
	AZ-305: Design data storage solutions Design data storage solutions including non-relational storage, relational storage, and data integration. AZ-305: Design data storage solutions - Learn	Microsoft Docs

	AZ-305: Design infrastructure solutions Design Infrastructure Solutions including compute, applications, networking and migrations. AZ-305: Design infrastructure solutions - Learn | Microsoft Docs
	Build great solutions with the Microsoft Azure Well-Architected Framework Learn how to design and build secure, scalable, high-performing solutions in Azure using the pillars of the Microsoft Azure Well-Architected Framework. Build great solutions with the Microsoft Azure Well-Architected Framework - Learn | Microsoft Docs
	Accelerate cloud adoption with the Microsoft Cloud Adoption Framework for Azure Do you need a clear path forward for your cloud journey? This learning path includes best practice guidance to help you create a cloud strategy, define a cloud adoption plan, prepare your cloud environment with proper governance, and implement cloud operations in alignment with your organizational needs. Cloud architects and IT professionals will learn and engage with the proven best practices, tools, and documentation in the Cloud Adoption Framework for Azure to build the technical knowledge needed to help your organization successfully adopt the cloud and meet business goals. Accelerate cloud adoption with the Microsoft Cloud Adoption Framework for Azure - Learn | Microsoft Docs

Practice exams

Those are practice exams and not dumps. I do not encourage dumps as they ruin the certification value for everyone.

	Whizlabs – Microsoft Azure Exam AZ-305 Practice Tests AZ-305: Designing Microsoft Azure Infrastructure Solutions exam is intended for the Solution Architects. Prepare with Azure AZ-305 training course and get ready to become a Microsoft Certified Azure Architect.

What's Inside:

- 5 Full-Length Mock Exams (110 Unique Questions)
- 1 Section Test (5 unique questions)
- Objective-based Practice Tests
- Exhaustive Explanation with every question
- Reports to assess strengths & weaknesses
- Unlimited Access

Designing Microsoft Azure Infrastructure Solutions: AZ-305 (whizlabs.com)

This guide is divided up into the following sections and is also part of the exam:

- Design identity, governance, and monitoring solutions (25-30%)
- Design data storage solutions (25-30%)
- Design business continuity solutions (10-15%)
- Design infrastructure solutions (25-30%)

Feel free to join our Facebook Azure Study Group, or check out the Azure courses on Udemy. Errors and suggestions can also be reported in the Azure Group on Facebook.

Thank you,

Get Cloud Skills Team
Jordi Koenderink

Contents

Design business continuity solutions (10-15%)

Design a solution for logging and monitoring

Design a log routing solution

- [Azure Monitor Logs - Azure Monitor | Microsoft Docs](#)
- [Diagnostic logs - Azure Content Delivery Network | Microsoft Docs](#)
- [Enable diagnostics logging - Azure App Service | Microsoft Docs](#)
- [Diagnostic settings in Azure Monitor - Azure Monitor | Microsoft Docs](#)

Recommend an appropriate level of logging

- [Azure security logging and auditing | Microsoft Docs](#)

Recommend monitoring tools for a solution

- [Azure Monitor overview - Azure Monitor | Microsoft Docs](#)
- [Monitoring and diagnostics guidance - Azure Architecture Center | Microsoft Docs](#)
- [What is Microsoft Sentinel? | Microsoft Docs](#)

Design authentication and authorization solutions

Recommend a solution for securing resources with role-based access control

- [Assign Azure roles using the Azure portal - Azure RBAC | Microsoft Docs](#)
- [What is Azure role-based access control (Azure RBAC)? | Microsoft Docs](#)
- [Quickstart - Check access for a user to Azure resources - Azure RBAC | Microsoft Docs](#)

Recommend an identity management solution

- [Managed identities for Azure resources - Microsoft Entra | Microsoft Docs](#)
- [Tutorial`:` Use managed identity to access Azure Resource Manager - Windows - Azure AD - Microsoft Entra | Microsoft Docs](#)

Recommend a solution for securing identities

- [What are access reviews? - Azure Active Directory - Microsoft Entra | Microsoft Docs](#)
- [What is Azure Active Directory Identity Protection? - Microsoft Entra | Microsoft Docs](#)
- [Just-in-time virtual machine access in Microsoft Defender for Cloud | Microsoft Docs](#)
- [What is Privileged Identity Management? - Azure AD - Microsoft Entra | Microsoft Docs](#)

Design governance

Recommend an organizational and hierarchical structure for Azure resources

- [Azure Management Overview - Azure Governance | Microsoft Docs](#)
- [Organize your resources with management groups - Azure Governance - Azure governance | Microsoft Docs](#)

Recommend a solution for enforcing and auditing compliance

- [Overview of Azure Policy - Azure Policy | Microsoft Docs](#)
- [Tutorial: Build policies to enforce compliance - Azure Policy | Microsoft Docs](#)

Design identities and access for applications

Recommend solutions to allow applications to access Azure resources

- [Managed identities for Azure resources - Microsoft Entra | Microsoft Docs](#)
- [Tutorial`:` Use managed identity to access Azure Resource Manager - Windows - Azure AD - Microsoft Entra | Microsoft Docs](#)

Recommend a solution that securely stores passwords and secrets

- [Azure Key Vault Overview - Azure Key Vault | Microsoft Docs](#)
- [Azure Key Vault Keys, Secrets, and Certificates Overview | Microsoft Docs](#)

Recommend a solution for integrating applications into Azure Active Directory (Azure AD)

- [Tutorial: Register a web application in Azure Active Directory B2C - Azure AD B2C | Microsoft Docs](#)

Recommend a user consent solution for applications

- [Configure how users consent to applications - Microsoft Entra | Microsoft Docs](#)

Design Data Storage Solutions (25-30%)

Design a data storage solution for relational data

Recommend database service tier sizing

- [vCore purchasing model - Azure SQL Database & SQL Managed Instance | Microsoft Docs](#)
- [General Purpose service tier - Azure SQL Database & Azure SQL Managed Instance | Microsoft Docs](#)

Recommend a solution for database scalability

- [Scale resources - Azure SQL Database | Microsoft Docs](#)

Recommend a solution for encrypting data at rest, data in transmission, and data in use

- [Azure Data Encryption-at-Rest - Azure Security | Microsoft Docs](#)
- [Azure encryption overview | Microsoft Docs](#)
- [Transparent data encryption - Azure SQL Database & SQL Managed Instance & Azure Synapse Analytics | Microsoft Docs](#)

Design data integration

Recommend a solution for data integration

- [Introduction to Azure Data Factory - Azure Data Factory | Microsoft Docs](#)
- [What is Azure Databricks? | Microsoft Docs](#)
- [What is Azure Data Lake Storage Gen1? | Microsoft Docs](#)
- [Azure Data Lake Storage Gen2 Introduction | Microsoft Docs](#)
- [What is dedicated SQL pool (formerly SQL DW)? - Azure Synapse Analytics | Microsoft Docs](#)

Recommend a solution for data analysis

- [What is Big Data Analytics? | Microsoft Azure](#)
- [Advanced analytics - Azure Solution Ideas | Microsoft Docs](#)

Recommend a data storage solution

Recommend a solution for storing relational data

- [Understand data store models - Azure Application Architecture Guide | Microsoft Docs](#)
- [Overview of SQL Server on Azure Windows Virtual Machines - SQL Server on Azure VMs | Microsoft Docs](#)
- [What is the Azure SQL Database service? - Azure SQL Database | Microsoft Docs](#)
- [What is Azure SQL Managed Instance? - Azure SQL Managed Instance | Microsoft Docs](#)
- [What is Azure Database for PostgreSQL | Microsoft Docs](#)
- [Overview - Azure Database for MariaDB | Microsoft Docs](#)
- [Overview - Azure Database for MySQL | Microsoft Docs](#)
- [Introduction to Azure Cosmos DB | Microsoft Docs](#)

Recommend a solution for storing semi-structured data

- [Understand data store models - Azure Application Architecture Guide | Microsoft Docs](#)
- [Introduction to Azure Cosmos DB | Microsoft Docs](#)

Recommend a solution for storing non-relational data

- [Understand data store models - Azure Application Architecture Guide | Microsoft Docs](#)
- [Non-relational data and NoSQL - Azure Architecture Center | Microsoft Docs](#)
- [Introduction to Azure Cosmos DB | Microsoft Docs](#)
- [What is Apache HBase in Azure HDInsight? | Microsoft Docs](#)
- [Azure Cache for Redis | Microsoft Azure](#)
- [Table storage | Microsoft Azure](#)
- [Time Series Insights | Microsoft Azure](#)
- [Azure Blob Storage | Microsoft Azure](#)
- [Data Lake Storage for Big Data Analytics | Microsoft Azure](#)
- [Azure Files - Managed File Shares and Storage | Microsoft Azure](#)
- [Azure Cognitive Search - Cloud Search Service | Microsoft Azure](#)

Design a data storage solution for non-relational data

Recommend access control solutions to data storage

- [Access control model for Azure Data Lake Storage Gen2 | Microsoft Docs](#)

Recommend a data storage solution to balance features, performance, and cost

- [Non-relational data and NoSQL - Azure Architecture Center | Microsoft Docs](#)
- [Introduction to Azure Storage - Cloud storage on Azure | Microsoft Docs](#)

Design a data solution for protection and durability

- [Data protection overview - Azure Storage | Microsoft Docs](#)

Design Business Continuity Solutions (10-15%)

Design a solution for backup and disaster recovery

Recommend a recovery solution for Azure, hybrid, and on-premises workloads that meets recovery objectives (Recovery Time Objective [RTO], Recovery Level Objective [RLO], Recovery Point Objective [RPO])

- [About Azure Site Recovery - Azure Site Recovery | Microsoft Docs](#)
- [General questions about the Azure Site Recovery service | Microsoft Docs](#)
- [Common questions about VMware disaster recovery with Azure Site Recovery - Azure Site Recovery | Microsoft Docs](#)
- [Common questions for Hyper-V disaster recovery with Azure Site Recovery - Azure Site Recovery | Microsoft Docs](#)
- [What is Azure Backup? - Azure Backup | Microsoft Docs](#)
- [Architecture Overview - Azure Backup | Microsoft Docs](#)
- [MABS (Azure Backup Server) V3 UR1 protection matrix - Azure Backup | Microsoft Docs](#)

Understand the recovery solutions for containers

- [Best practices for AKS business continuity and disaster recovery - Azure Kubernetes Service | Microsoft Docs](#)

Recommend a backup and recovery solution for compute

- [What is Azure Backup? - Azure Backup | Microsoft Docs](#)
- [About Azure VM backup - Azure Backup | Microsoft Docs](#)
- [Architecture Overview - Azure Backup | Microsoft Docs](#)

Recommend a backup and recovery solution for databases

- [What is Azure Backup? - Azure Backup | Microsoft Docs](#)
- [About Azure VM backup - Azure Backup | Microsoft Docs](#)
- [Architecture Overview - Azure Backup | Microsoft Docs](#)
- [About Azure Database for PostgreSQL backup - Azure Backup | Microsoft Docs](#)

Recommend a backup and recovery solution for unstructured data

- [Back up your data to Azure with Veeam - Azure Storage | Microsoft Docs](#)
- [Design a solution for backup and disaster recovery - Learn | Microsoft Docs](#)

Design for high availability

Identify the availability requirements of Azure resources

- [Azure regions and availability zones | Microsoft Docs](#)
- [Azure services that support availability zones | Microsoft Docs](#)

Recommend a high availability solution for compute

- [Availability options for Azure Virtual Machines - Azure Virtual Machines | Microsoft Docs](#)

Recommend a high availability solution for non-relational data storage

- [Build solutions with availability zones - Azure Architecture Center | Microsoft Docs](#)
- [Data redundancy - Azure Storage | Microsoft Docs](#)
- [High availability in Azure Cosmos DB | Microsoft Docs](#)

Recommend a high availability solution for relational data storage

- [Build solutions with availability zones - Azure Architecture Center | Microsoft Docs](#)
- [High availability - Azure SQL Database and SQL Managed Instance | Microsoft Docs](#)
- [High availability in Azure Cosmos DB | Microsoft Docs](#)

Design Infrastructure Solutions (25-30%)

Design a compute solution

Recommend a virtual machine-based compute solution

- [Virtual machines in Azure - Azure Virtual Machines | Microsoft Docs](#)
- [What is Azure Virtual Desktop? - Azure | Microsoft Docs](#)

Recommend an appropriately sized compute solution based on workload requirements

- [Virtual machines in Azure - Azure Virtual Machines | Microsoft Docs](#)

Recommend a container-based compute solution

- [Choose an Azure compute service - Azure Architecture Center | Microsoft Docs](#)
- [Azure App Service documentation - Azure App Service | Microsoft Docs](#)
- [Introduction to Azure Kubernetes Service - Azure Kubernetes Service | Microsoft Docs](#)
- [Serverless containers in Azure - Azure Container Instances | Microsoft Docs](#)
- [Managed container registries - Azure Container Registry | Microsoft Docs](#)

Recommend a serverless-based compute solution

- [Azure Functions Overview | Microsoft Docs](#)

Design an application architecture

Recommend a caching solution for applications

- [Caching guidance - Azure Architecture Center | Microsoft Docs](#)
- [Azure Front Door and CDN Documentation | Microsoft Docs](#)
- [CDN guidance - Azure Architecture Center | Microsoft Docs](#)
- [Create an Azure CDN endpoint | Microsoft Docs](#)
- [Azure Front Door | Microsoft Docs](#)
- [What is Azure Cache for Redis? | Microsoft Docs](#)

Recommend a messaging architecture

- Compare Azure messaging services - Azure Event Grid | Microsoft Docs
- Azure Service Bus messaging overview - Azure Service Bus | Microsoft Docs
- Use the Azure portal to create a Service Bus queue - Azure Service Bus | Microsoft Docs
- Get started with Azure Service Bus queues (.NET) - Azure Service Bus | Microsoft Docs

Recommend an event-driven architecture

- What is Azure Event Grid? - Azure Event Grid | Microsoft Docs
- Azure - Event-Driven Architecture in the Cloud with Azure Event Grid | Microsoft Docs
- Send custom events to web endpoint - Event Grid, Azure portal - Azure Event Grid | Microsoft Docs
- Monitor virtual machines changes with Azure Event Grid - Azure Event Grid | Microsoft Docs
- Overview of features - Azure Event Hubs - Azure Event Hubs | Microsoft Docs
- Tutorial: Stream data into Azure Databricks using Event Hubs | Microsoft Docs

Recommend an automated deployment solution for your applications

- Use infrastructure automation tools - Azure Virtual Machines | Microsoft Docs

Recommend an application configuration management solution

- Azure Automation State Configuration - Azure Architecture Center | Microsoft Docs
- Use infrastructure automation tools - Azure Virtual Machines | Microsoft Docs

Recommend a solution for API integration

- Azure API Management overview and key concepts | Microsoft Docs

Design migrations

Evaluate a migration solution that leverages the Cloud Adoption Framework for Azure

- Cloud migration - Cloud Adoption Framework | Microsoft Docs

Assess and interpret on-premises servers, data, and applications for migration

- About Azure Migrate - Azure Migrate | Microsoft Docs

Recommend a solution for migrating applications and virtual machines

- About Azure Migrate - Azure Migrate | Microsoft Docs

Recommend a solution for migrating databases

- About Azure Migrate - Azure Migrate | Microsoft Docs
- Migrate a SQL Server database to Azure | Microsoft Docs
- What is Azure Database Migration Service? | Microsoft Docs

Recommend a solution for migrating unstructured data

- About Azure Migrate - Azure Migrate | Microsoft Docs
- Storage Migration Service overview | Microsoft Docs
- Microsoft Azure Data Box overview | Microsoft Docs

Design network solutions

Recommend a network architecture solution based on workload requirements

- Azure Networking architecture documentation | Microsoft Docs

Recommend a connectivity solution that connects Azure resources to the internet

- What is Azure Firewall? | Microsoft Docs
- Azure Front Door | Microsoft Docs

Recommend a connectivity solution that connects Azure resources to on-premises networks

- About Azure VPN Gateway | Microsoft Docs
- Azure ExpressRoute Overview: Connect over a private connection | Microsoft Docs

Optimize network performance for applications

- Optimize VM network throughput | Microsoft Docs

Recommend a solution to optimize network security

- What is Azure Firewall? | Microsoft Docs
- Azure network security groups overview | Microsoft Docs
- What is Azure Web Application Firewall on Azure Application Gateway? - Azure Web Application Firewall | Microsoft Docs
- Azure Application Gateway configuration overview | Microsoft Docs
- What is Azure Firewall Manager? | Microsoft Docs
- Azure Front Door | Microsoft Docs
- Tutorial: Deploy Bastion using manual settings: Azure portal | Microsoft Docs
- Azure security baseline for Virtual Network | Microsoft Docs
- Virtual network integration of Azure services for network isolation | Microsoft Docs
- Azure application security groups overview | Microsoft Docs
- Azure DDoS Protection Standard Overview | Microsoft Docs
- Azure virtual network TAP overview | Microsoft Docs

Recommend a load balancing and routing solution

- Quickstart: Create an internal load balancer - Azure portal - Azure Load Balancer | Microsoft Docs
- Quickstart: Create an internal load balancer - Azure PowerShell - Azure Load Balancer | Microsoft Docs
- Quickstart: Create a public load balancer - Azure portal - Azure Load Balancer | Microsoft Docs
- Azure Front Door | Microsoft Docs
- Quickstart: Set up high availability with Azure Front Door Service - Azure portal | Microsoft Docs
- Azure Traffic Manager | Microsoft Docs
- What is Azure Route Server? | Microsoft Docs
- Azure virtual network traffic routing | Microsoft Docs