A comprehensive study guide that will provide you with great preparation tools for the AZ-303 Microsoft Azure Architect Technologies exam

# AZ-303 Official Course Study Guide

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# Introduction

Welcome to the AZ-303 Study Guide. This guide will go over each topic of the skills outline, provided by Microsoft for the AZ-303: Microsoft Azure Architect Technologies exam.

Candidates for this exam should have subject matter expertise in designing and implementing solutions that run on Microsoft Azure, including aspects like compute, network, storage, and security. Candidates should have intermediate-level skills for administering Azure. Candidates should understand Azure development and DevOps processes.

Responsibilities for an Azure Solution Architect include advising stakeholders and translating business requirements into secure, scalable, and reliable cloud solutions.

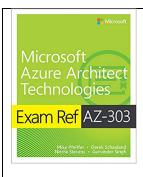
An Azure Solution Architect partners with cloud administrators, cloud DBAs, and clients to implement solutions.

A candidate for this exam should have advanced experience and knowledge of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platform, budgeting, and governance—this role should manage how decisions in each area affect an overall solution. In addition, this role should have expert-level skills in Azure administration and have experience with Azure development and DevOps processes.

#### About the exam:

- Taking the exam will cost you \$165 US dollars.
- Microsoft certification exams are scored out of 1000 points. You need 700 points or higher to pass the AZ-303 exam and gain your Azure Administrator Badge.
- The AZ-303 exam 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-300) when Microsoft changes the curriculum substantially for the certification.
- The exam will have around 55 questions for which you have 3h to answer.
- As of this moment of writing, there're no labs.

#### Book/e-book:



# **Exam Ref AZ-303 Microsoft Azure Architect Technologies**

Prepare for Microsoft Exam AZ-303--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-303

Amazon Canada: Exam ref AZ-303

Amazon UK: Exam ref AZ-303

Amazon FR: <u>Exam ref AZ-303</u>

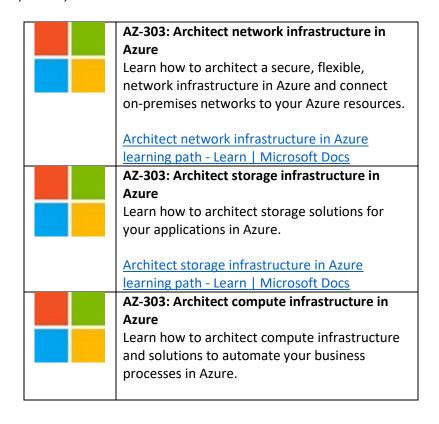
Amazon DE: <u>Exam ref AZ-303</u>

#### **Video training:**

| <b>1</b> Udemy | This course goes through all of the skills needed to take and pass the AZ-303 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-303 Azure Architecture Technologies Exam Prep 2021   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-303) Path   Pluralsight  |
| W              | Whizlabs' Microsoft Azure Exam AZ-303 Online Course helps Professionals to prepare themselves for the actual certification exam.  Microsoft Azure Exam AZ-303 Certification   Online Course   Whizlabs  |

#### 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.



| <b>-</b> |   |
|----------|---|
|          | Architect compute infrastructure in Azure   |
|          | <u>learning path - Learn   Microsoft Docs</u>                                     |
|          | AZ-303: Architect infrastructure operations in                                    |
|          | Azure   |
|          | Learn how to monitor, analyze, and manage the                                     |
|          | ongoing operation of your infrastructure in                                       |
|          | Azure.  |
|          |   |
|          | Architect infrastructure operations in Azure                                      |
|          | learning path - Learn   Microsoft Docs  |
|          | AZ-303: Architect a data platform in Azure  |
|          | Learn how to architect a data platform in Azure                                   |
|          | and build solutions to store relational and                                       |
|          | NoSQL data.   |
|          | NOSQL data.   |
|          | Architect a data platform in Azura learning path                                  |
|          | Architect a data platform in Azure learning path                                  |
|          | - Learn   Microsoft Docs  |
|          | AZ-303: Architect message brokering and   |
|          | serverless applications in Azure  |
|          | Learn how to create reliable messaging for your                                   |
|          | applications, and how to take advantage of  |
|          | serverless application services in Azure.   |
|          |   |
|          | Architect message brokering and serverless  |
|          | applications in Azure learning path - Learn                                       |
|          | Microsoft Docs  |
|          | AZ-303: Architect modern applications in Azure                                    |
|          | Learn how to build modern applications using                                      |
|          | PaaS services for applications, caching,  |
|          | containers and Kubernetes in Azure.   |
|          |   |
|          | Architect modern applications in Azure learning                                   |
|          | path - Learn   Microsoft Docs   |
|          | AZ-303: Architect API integration in Azure  |
|          | Learn how to architect API integration in Azure,                                  |
|          |   |
|          | and provide secure, scalable API access for your                                  |
|          | applications.   |
|          | Architect modern applications in Agure Jeagning                                   |
|          | Architect modern applications in Azure learning                                   |
|          | path - Learn   Microsoft Docs   |
|          | AZ-303: Architect migration, business   |
|          | continuity, and disaster recovery in Azure  |
|          | Learn how to migrate resources to Azure, how                                      |
|          | to provide site recovery for your applications in                                 |
|          | Azure and on-premises, and how to your  |
|          | applications are available through service  |
|          | applications are available through service  |
|          | interruptions and changes in load.  |
|          | interruptions and changes in load.  |
|          | interruptions and changes in load.  Architect migration, business continuity, and |
|          | interruptions and changes in load.  |

#### **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-303 Practice Tests

AZ-303: Azure Architect Technologies exam is intended for the Solution Architects. Prepare with Azure AZ-303 training course and get ready to become a Microsoft Certified Azure Architect.

#### What's Inside:

- 3 Full-Length Mock Exams (165 Unique Questions)
- 1 Section Test (20 unique questions)
- Objective-based Practice Tests
- Exhaustive Explanation with every question
- Reports to assess strengths & weaknesses
- Unlimited Access

Microsoft Azure Exam AZ-303 Certification | Practice Tests | Whizlabs

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

- Implement and monitor an Azure infrastructure (50-55%)
- Implement management and security solutions (25-30%)
- Implement solutions for apps (10-15%)
- Implement and manage data platforms (10-15%)

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

Thank you,

Software Architect Team Jordi Koenderink

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# 1. Implement and Monitor an Azure Infrastructure (50-55%)

# 1.1 Implement cloud infrastructure monitoring

# Monitor security

Visualize your data using Azure Monitor Workbooks in Azure Sentinel | Microsoft Docs

What is Azure Security Center? | Microsoft Docs

What is Azure Sentinel? | Microsoft Docs

# Monitor performance

Configure diagnostic settings on resources

Cert Prep: Microsoft Azure Administrator Certification Transition Exam (AZ-102) (linkedin.com)

Create a performance baseline for resources

Cert Prep: Microsoft Azure Administrator Certification Transition Exam (AZ-102) (linkedin.com)

Monitor for unused resources

Finding Unused Resources Impacting Azure Costs (sqlshack.com)

Monitor performance capacity

How to chart performance with Azure Monitor for VMs - Azure Monitor | Microsoft Docs

Visualize diagnostics data using Azure Monitor

Visualizing data from Azure Monitor - Azure Monitor | Microsoft Docs

#### Monitor health and availability

Monitor networking

Azure Monitor for Networks - Azure Monitor | Microsoft Docs

Monitor service health

Service Health overview - Azure Service Health | Microsoft Docs

# Monitor cost

Monitor spend

Monitor usage and spending with cost alerts | Microsoft Docs

Report on spend

Download Azure billing invoice and daily usage data | Microsoft Docs

#### Configure advanced logging

Implement and configure Azure Monitor insights, including App Insights, Networks, Containers

What is monitored by Azure Monitor - Azure Monitor | Microsoft Docs

Configure a Log Analytics workspace

Create a Log Analytics workspace in the Azure portal - Azure Monitor | Microsoft Docs

<u>Lecture: Log Analytics | Skylines Academy</u>

# Configure logging for workloads

Monitor workload - Azure portal - Azure Synapse Analytics | Microsoft Docs

Azure Monitor Logs - Azure Monitor | Microsoft Docs

# Initiate automated responses by using Action Groups

<u>Create and manage action groups in the Azure portal - Azure Monitor | Microsoft Docs</u>

How to trigger complex actions with Azure Monitor alerts - Azure Monitor | Microsoft Docs

#### Configure and manage advanced alerts

Collect alerts and metrics across multiple subscriptions

Azure Monitor alerting just got better! | Azure Blog and Updates | Microsoft Azure

View Alerts in Azure Monitor logs

Create, view, and manage activity log alerts in Azure Monitor - Azure Monitor | Microsoft Docs

# 1.2 Implement storage accounts

# Select storage account options based on a use case

Introduction to Azure Storage - Cloud storage on Azure | Microsoft Docs

#### Configure Azure Files and blob storage

<u>Create an Azure file share - Azure Files | Microsoft Docs</u>

#### Configure network access to the storage account

Configure Azure Storage firewalls and virtual networks | Microsoft Docs

#### Implement Shared Access Signatures and access policies

Grant limited access to data with shared access signatures (SAS) - Azure Storage | Microsoft Docs

<u>Define a stored access policy - Azure Storage | Microsoft Docs</u>

#### Implement Azure AD authentication for storage

<u>Azure Storage support for Azure Active Directory based access control generally available | Azure Blog and Updates | Microsoft Azure</u>

Authorize access to blobs and queues using Active Directory - Azure Storage | Microsoft Docs

#### Manage access keys

Manage account access keys - Azure Storage | Microsoft Docs

#### Implement Azure storage replication

Azure Storage Replication Explained — Skylines Academy

#### Implement Azure storage account failover

Azure Storage Replication Explained — Skylines Academy

#### <u>Initiate a storage account failover - Azure Storage | Microsoft Docs</u>

#### 1.3 Implement VMs for Windows and Linux

# Configure High Availability

Tutorial - High availability for Windows VMs in Azure - Azure Virtual Machines | Microsoft Docs

# Configure storage for VMs

Azure Disk Storage overview - Azure Virtual Machines | Microsoft Docs

#### Select virtual machine size

VM sizes - Azure Virtual Machines | Microsoft Docs

#### Implement Azure Dedicated Hosts

Deploy Azure dedicated hosts using the Azure portal - Azure Virtual Machines | Microsoft Docs

# Deploy and configure scale sets

<u>Quickstart - Create a virtual machine scale set in the Azure portal - Azure Virtual Machine Scale Sets |</u>
<u>Microsoft Docs</u>

# Configure Azure Disk Encryption

<u>Create and encrypt a Windows VM with the Azure portal - Azure Virtual Machines | Microsoft Docs</u>

# 1.4 Automate deployment and configuration of resources

#### Save a deployment as an Azure Resource Manager template

Download the template for an Azure VM - Azure Virtual Machines | Microsoft Docs

# Modify Azure Resource Manager template

404 - Content Not Found | Microsoft Docs

#### Evaluate location of new resources

Template resource location - Azure Resource Manager | Microsoft Docs

#### Configure a virtual disk template

Deploy Azure virtual machines from VHD templates - Learn | Microsoft Docs

# Deploy from a template

Create a Windows VM from a template in Azure - Azure Virtual Machines | Microsoft Docs

# Manage a template library

Templates overview - Azure Resource Manager | Microsoft Docs

#### Create and execute an automation runbook

<u>Deploy an Azure Resource Manager template in an Azure Automation PowerShell runbook | Microsoft Docs</u>

#### 1.5 Implement virtual networking

# Implement VNet to VNet connections

<u>Connect a VNet to another VNet using an Azure VPN Gateway VNet-to-VNet connection: PowerShell | Microsoft Docs</u>

# Implement VNet peering

Azure VNET Peering Demo (AZ-104/AZ-303 Azure Certificate Exam Objective) - YouTube

# 1.6 Implement Azure Active Directory

#### Add custom domains

Add your custom domain - Azure Active Directory | Microsoft Docs

# Configure Azure AD Identity Protection

Azure Active Directory Identity Protection notifications | Microsoft Docs

Configure the MFA registration policy - Azure Active Directory Identity Protection | Microsoft Docs

# Implement self-service password reset

Enable Azure Active Directory self-service password reset | Microsoft Docs

# Implement Conditional Access including MFA

Conditional Access - Require MFA for all users - Azure Active Directory | Microsoft Docs

#### Configure user accounts for MFA

Enable per-user Multi-Factor Authentication - Azure Active Directory | Microsoft Docs

#### Configure fraud alerts

Configure Azure AD Multi-Factor Authentication - Azure Active Directory | Microsoft Docs

#### Configure bypass options

Configure Azure AD Multi-Factor Authentication - Azure Active Directory | Microsoft Docs

#### **Configure Trusted Ips**

Configure Azure AD Multi-Factor Authentication - Azure Active Directory | Microsoft Docs

#### Configure verification methods

Configure Azure AD Multi-Factor Authentication - Azure Active Directory | Microsoft Docs

#### Implement and manage guest accounts

Quickstart: Add guest users in the Azure portal - Azure AD | Microsoft Docs

Manage guest access with access reviews - Azure AD | Microsoft Docs

#### Manage multiple directories

Characteristics of multiple tenant interaction - Azure AD | Microsoft Docs

# 1.7 Implement and manage hybrid identities

# Install and configure Azure AD Connect

Azure AD Connect: Getting Started using express settings | Microsoft Docs

# Identity synchronization options

How synchronization works in Azure AD Domain Services | Microsoft Docs

#### Configure and manage password sync and password writeback

Implement password hash synchronization with Azure AD Connect sync | Microsoft Docs

Enable Azure Active Directory password writeback | Microsoft Docs

# Configure single sign-on

Quickstart: View the list of applications that are using your Azure Active Directory (Azure AD) tenant for identity management | Microsoft Docs

# Use Azure AD Connect Health

Azure Active Directory Connect Health: Monitoring the sync engine (microsoft.com)

# 2. Implement management and security solutions (25-30%)

# 2.1 Manage workloads in Azure

Migrate workloads using Azure Migrate

#### Assess infrastructure

<u>Assess VMware VMs for migration to Azure VMs with Server Assessment in Azure Migrate - Azure Migrate | Microsoft Docs</u>

# Select a migration method

<u>Select a VMware migration option with Azure Migrate Server Migration - Azure Migrate | Microsoft Docs</u>

# Prepare the on-premises for migration

Prepare machines for migration with Azure Migrate - Azure Migrate | Microsoft Docs

# Recommend target infrastructure

Migrating Workloads to Microsoft Azure | Pluralsight

# Implement Azure Backup for VMs

Back up an Azure VM from the VM settings - Azure Backup | Microsoft Docs

# Implement disaster recovery

<u>Tutorial to set up Azure VM disaster recovery with Azure Site Recovery - Azure Site Recovery |</u>
Microsoft Docs

# Implement Azure Update Management

Manage updates and patches for your VMs in Azure Automation | Microsoft Docs

# 2.2 Implement load balancing and network security

#### Implement Azure Load Balancer

Tutorial: Load balance internet traffic to VMs - Azure portal - Azure Load Balancer | Microsoft Docs

# Implement an application gateway

Quickstart: Direct web traffic using PowerShell - Azure Application Gateway | Microsoft Docs

# Implement a Web Application Firewall

Tutorial: Create using portal - Web Application Firewall | Microsoft Docs

#### Implement Azure Firewall

Tutorial: Deploy & configure Azure Firewall using the Azure portal | Microsoft Docs

#### Implement the Azure Front Door Service

Create a Front Door with HTTP to HTTPS redirection using the Azure portal | Microsoft Docs

#### Implement Azure Traffic Manager

<u>Quickstart: Create a profile for HA of applications - Azure portal - Azure Traffic Manager | Microsoft</u>
Docs

# Implement Network Security Groups and Application Security Groups

Create, change, or delete an Azure network security group | Microsoft Docs

Azure application security groups overview | Microsoft Docs

# **Implement Bastion**

<u>Quickstart: Configure Azure Bastion and connect to a VM via private IP address and a browser - Azure Bastion | Microsoft Docs</u>

# 2.2 Implement and manage Azure governance solutions

Create and manage hierarchical structure that contains management groups, Subscriptions, and resource groups

Quickstart: Create a management group with portal - Azure governance | Microsoft Docs

# Assign RBAC roles

Tutorial: Grant a user access to Azure resources using the Azure portal - Azure RBAC | Microsoft Docs

#### Create a custom RBAC role

Tutorial: Create an Azure custom role with Azure PowerShell - Azure RBAC | Microsoft Docs

#### Configure access to Azure resources by assigning roles

Add or remove Azure role assignments using the Azure portal - Azure RBAC | Microsoft Docs

# Configure management access to Azure

Best practices for Azure RBAC | Microsoft Docs

# Interpret effective permissions

Quickstart - Check access for a user to Azure resources - Azure RBAC | Microsoft Docs

#### Set up and perform an access review

What are access reviews? - Azure Active Directory | Microsoft Docs

#### Implement and configure an Azure Policy

Tutorial: Build policies to enforce compliance - Azure Policy | Microsoft Docs

# Implement and configure an Azure Blueprint

Tip 210 - Working with Azure Blueprints | Azure Tips and Tricks (microsoft.github.io)

# 2.3 Manage security for applications

# Implement and configure KeyVault

Configuring and Managing Microsoft Azure Key Vault | Pluralsight

# Implement and configure Azure AD Managed Identities

<u>Tutorial</u>': <u>Use managed identity to access Azure Resource Manager - Windows - Azure AD |</u>
Microsoft Docs

#### Register and manage applications in Azure AD

Quickstart: Register an app in the Microsoft identity platform | Microsoft Docs

# 3 Implement solutions for apps (10-15%)

# 3.1 Implement an application infrastructure

Create and configure Azure App Service

Quickstart: Create a C# ASP.NET Core app - Azure App Service | Microsoft Docs

Create an App Service Web App for Containers

Quickstart: Run a custom container on App Service - Azure App Service | Microsoft Docs

Create and configure an App Service plan

App Service plans - Azure App Service | Microsoft Docs

Configure an App Service

Configure apps in the portal - Azure App Service | Microsoft Docs

Configure networking for an App Service

Integrate app with Azure Virtual Network - Azure App Service | Microsoft Docs

Create and manage deployment slots

Set up staging environments - Azure App Service | Microsoft Docs

Implement Logic Apps

Build schedule-based automation workflows with Azure - Azure Logic Apps | Microsoft Docs

**Implement Azure Functions** 

Create a function in Azure triggered by Blob storage | Microsoft Docs

# 3.2 Implement container-based applications

Create a container image

Tutorial - Quick container image build - Azure Container Registry | Microsoft Docs

Configure Azure Kubernetes Service

Create an AKS cluster in the portal - Azure Kubernetes Service | Microsoft Docs

Publish and automate image deployment to the Azure Container Registry

Push & pull Docker image - Azure Container Registry | Microsoft Docs

ACR Tasks overview - Azure Container Registry | Microsoft Docs

Publish a solution on an Azure Container Instance

<u>Quickstart - Deploy Docker container to container instance - Portal - Azure Container Instances |</u>
<u>Microsoft Docs</u>

# 4 Implement and manage data platforms (10-15%)

# 4.1 Implement NoSQL databases

# Configure storage account tables

Quickstart - Create an Azure Storage table in the Azure portal | Microsoft Docs

Azure Cosmos DB Table API using .NET Standard SDK | Microsoft Docs

# Select appropriate CosmosDB APIs

Choose the appropriate API for Azure Cosmos DB - Learn | Microsoft Docs

# Set up replicas in CosmosDB

Learning Azure Cosmos DB | Pluralsight

Learn how to manage database accounts in Azure Cosmos DB | Microsoft Docs

How to configure multi-region writes in Azure Cosmos DB | Microsoft Docs

# 4.2 Implement Azure SQL databases

# Configure Azure SQL database settings

<u>Create a server-level firewall rule - Azure SQL Database | Microsoft Docs</u>

# Implement Azure SQL Database managed instances

Getting started content reference - Azure SQL Managed Instance | Microsoft Docs

<u>Quickstart: Create an Azure SQL Managed Instance (portal) - Azure SQL Managed Instance |</u>
<u>Microsoft Docs</u>

# Configure HA for an Azure SQL database

High availability - Azure SQL Database and SQL Managed Instance | Microsoft Docs

# Publish an Azure SQL database

Deploy to Azure SQL Database - Azure Pipelines | Microsoft Docs

Tutorial: ASP.NET app with Azure SQL Database - Azure App Service | Microsoft Docs