

# Azure Interview Prep: 50 Questions and Scenario-Based Q&A;

## Core Services

### 1. What is Microsoft Azure?

Answer: Azure is a cloud computing platform offering services like IaaS, PaaS, and SaaS.

*Example: Example: Hosting a web app using Azure App Service.*

### 2. Explain Azure Regions and Availability Zones.

Answer: Regions are geographic locations; Availability Zones provide redundancy within regions.

*Example: Example: Deploying VMs in multiple zones for high availability.*

### 3. What is Azure Resource Manager (ARM)?

Answer: ARM is the deployment and management service for Azure resources.

*Example: Example: Using ARM templates for infrastructure as code.*

### 4. Difference between IaaS, PaaS, and SaaS in Azure?

Answer: IaaS provides infrastructure, PaaS offers platform, SaaS delivers software.

*Example: Example: Azure VMs (IaaS), Azure App Service (PaaS), Microsoft 365 (SaaS).*

### 5. What is Azure Subscription?

Answer: A subscription is a logical container for resources and billing.

*Example: Example: Creating separate subscriptions for dev and prod environments.*

## Networking

## **6. What is Azure Virtual Network (VNet)?**

Answer: VNet enables secure communication between Azure resources.

*Example: Example: Connecting VMs and on-premises servers via VPN Gateway.*

## **7. Explain Network Security Groups (NSG).**

Answer: NSGs filter network traffic to and from Azure resources.

*Example: Example: Allowing HTTP traffic and blocking SSH using NSG rules.*

## **8. What is Azure Load Balancer?**

Answer: Distributes incoming traffic across multiple resources.

*Example: Example: Load balancing web servers for high availability.*

## **9. Difference between Azure Load Balancer and Application Gateway?**

Answer: Load Balancer works at Layer 4; Application Gateway at Layer 7.

*Example: Example: Using Application Gateway for SSL termination.*

## **10. What is Azure DNS?**

Answer: Azure DNS hosts DNS domains and provides name resolution.

*Example: Example: Managing custom domain names for web apps.*

# **Storage**

## **11. Explain Azure Blob Storage.**

Answer: Blob Storage stores unstructured data like images and videos.

*Example: Example: Storing backups and media files in Blob Storage.*

## **12. Difference between Blob, File, Queue, and Table Storage?**

Answer: Blob for unstructured, File for SMB shares, Queue for messaging, Table for NoSQL.

*Example: Example: Using Queue Storage for asynchronous processing.*

## **13. What is Azure Storage Account?**

Answer: A storage account provides access to Azure Storage services.

*Example: Example: Creating a storage account for app data.*

## **14. Explain Azure Disk Storage types.**

Answer: Types include Standard HDD, Standard SSD, Premium SSD.

*Example: Example: Using Premium SSD for high-performance workloads.*

## **15. What is Azure Data Lake Storage?**

Answer: A scalable data lake for big data analytics.

*Example: Example: Storing large datasets for machine learning.*

# **Security**

## **16. What is Azure Active Directory (AAD)?**

Answer: AAD is an identity and access management service.

*Example: Example: Implementing Single Sign-On for apps.*

## **17. Explain Role-Based Access Control (RBAC).**

Answer: RBAC manages access to resources based on roles.

*Example: Example: Assigning Contributor role to a developer.*

## **18. What is Azure Key Vault?**

Answer: Key Vault stores secrets, keys, and certificates securely.

*Example: Example: Storing API keys in Key Vault.*

## **19. Explain Managed Identities.**

Answer: Managed Identities provide Azure services with an identity for authentication.

*Example: Example: Using Managed Identity for VM to access Key Vault.*

## **20. What is Conditional Access in Azure AD?**

Answer: Conditional Access enforces policies based on conditions.

*Example: Example: Requiring MFA for external users.*

# **DevOps**

## **21. What is Azure DevOps?**

Answer: Azure DevOps provides CI/CD, version control, and agile tools.

*Example: Example: Automating deployments using Azure Pipelines.*

## **22. Explain Azure Repos.**

Answer: Azure Repos offers Git repositories for source control.

*Example: Example: Hosting code in Azure Repos for collaboration.*

## **23. What is Azure Pipelines?**

Answer: Pipelines automate build and release processes.

*Example: Example: Deploying an app to Azure App Service via pipeline.*

## **24. Explain Infrastructure as Code in Azure.**

Answer: IaC uses templates to manage resources.

*Example: Example: Deploying resources using ARM templates.*

## **25. What is Azure Boards?**

Answer: Boards provide agile planning tools.

*Example: Example: Managing sprints and tasks in Azure Boards.*

# **Monitoring**

## **26. What is Azure Monitor?**

Answer: Azure Monitor collects and analyzes telemetry data.

*Example: Example: Setting alerts for CPU usage on VMs.*

## **27. Explain Log Analytics.**

Answer: Log Analytics queries and analyzes logs from resources.

*Example: Example: Querying VM logs for troubleshooting.*

## **28. What is Application Insights?**

Answer: Application Insights monitors app performance and usage.

*Example: Example: Tracking response times for a web app.*

## **29. Explain Azure Service Health.**

Answer: Service Health provides alerts on Azure service issues.

*Example: Example: Receiving notifications for outages.*

### **30. What is Azure Advisor?**

Answer: Advisor gives recommendations for best practices.

*Example: Example: Suggesting cost optimization for VMs.*

## **Advanced Topics**

### **31. What is Azure Kubernetes Service (AKS)?**

Answer: AKS simplifies Kubernetes cluster management.

*Example: Example: Deploying microservices on AKS.*

### **32. Explain Azure Functions.**

Answer: Functions run code in response to events without servers.

*Example: Example: Processing files uploaded to Blob Storage.*

### **33. What is Azure Logic Apps?**

Answer: Logic Apps automate workflows across services.

*Example: Example: Automating email notifications on data updates.*

### **34. Explain Azure Synapse Analytics.**

Answer: Synapse is an analytics service for big data and data warehousing.

*Example: Example: Running complex queries on large datasets.*

### **35. What is Azure Cognitive Services?**

Answer: Provides AI capabilities like vision, speech, and language.

*Example: Example: Using Face API for identity verification.*

## **Scenario-Based Advanced Questions**

### **Scenario 1: Scenario: Migrate large on-prem SQL DB to Azure with minimal downtime.**

Answer: Use Azure Database Migration Service with online migration mode.

*Example: Configure DMS to replicate changes during migration.*

### **Scenario 2: Scenario: Design multi-region disaster recovery for a web app.**

Answer: Use Azure Traffic Manager with geo-routing and paired regions.

*Example: Deploy app in East US and West US with Traffic Manager failover.*

### **Scenario 3: Scenario: Implement zero-trust security.**

Answer: Use Conditional Access, MFA, and Just-In-Time VM access.

*Example: Enable JIT in Security Center and enforce MFA via Azure AD.*

### **Scenario 4: Scenario: Optimize cost for idle VMs.**

Answer: Use Azure Automation to shut down VMs during off-hours.

*Example: Schedule runbooks to deallocate VMs at night.*

### **Scenario 5: Scenario: Handle sudden traffic spikes for e-commerce app.**

Answer: Use Azure Autoscale with App Service Plan.

*Example: Configure autoscale rules based on CPU usage.*

### **Scenario 6: Scenario: Secure secrets for containerized app.**

Answer: Use Azure Key Vault with Managed Identity.

*Example: Grant AKS pod access to Key Vault via MSI.*

### **Scenario 7: Scenario: Monitor performance of distributed microservices.**

Answer: Use Application Insights and Log Analytics.

*Example: Enable distributed tracing in Application Insights.*

### **Scenario 8: Scenario: Implement CI/CD for .NET app.**

Answer: Use Azure DevOps Pipelines with stages for build, test, and deploy.

*Example: Configure YAML pipeline for automated deployment.*

### **Scenario 9: Scenario: Design secure hybrid network.**

Answer: Use ExpressRoute with VPN failover.

*Example: Configure ExpressRoute circuit and VPN Gateway.*

### **Scenario 10: Scenario: Enable real-time event processing.**

Answer: Use Azure Event Grid and Functions.

*Example: Trigger Functions on Blob upload events.*