



## Microsoft Azure Architect Technologies

This course teaches Solutions Architects how to translate business requirements into secure, scalable, and reliable solutions. Lessons include virtualization, automation, networking, storage, identity, security, data platform, and application infrastructure. This course outlines how decisions in each these area affects an overall solution.

**Duration:** 5 days

### Audience

This course is for IT Professionals with expertise in designing and implementing solutions running on Microsoft Azure. They should have broad knowledge of IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platform, budgeting, and governance. Azure Solution Architects use the Azure Portal and as they become more adept they use the Command Line Interface. Candidates must have expert-level skills in Azure administration and have experience with Azure development processes and DevOps processes.

### Prerequisites

Successful Azure Architect students have prior experience with operating systems, virtualization, cloud infrastructure, storage structures, and networking:

- Understanding of on-premises virtualization technologies, including VMs and virtual networking
- Understanding of network configuration, including TCP/IP, Domain Name System (DNS), virtual private networks (VPNs), firewalls, and encryption technologies
- Understanding of Active Directory concepts, including domains, forests, and domain controllers

If you are new to Azure and cloud computing, consider one of the following resources:

- Free online: Azure Fundamentals (<https://docs.microsoft.com/learn/paths/azure-fundamentals/>)
- Instructor-led course: AZ-900: Azure Fundamentals (<https://docs.microsoft.com/learn/certifications/courses/az-900t01>)
- Prerequisites for Azure administrators (<https://docs.microsoft.com/learn/paths/az-104-administrator-prerequisites/>)

## Objectives

- Secure identities with Azure Active Directory and users and groups.
- Implement identity solutions spanning on-premises and cloud-based capabilities
- Apply monitoring solutions for collecting, combining, and analyzing data from different sources.
- Manage subscriptions, accounts, Azure policies, and Role-Based Access Control.
- Administer Azure using the Resource Manager, Azure portal, Cloud Shell, and CLI.
- Configure intersite connectivity solutions like VNet Peering, and virtual network gateways.
- Administer Azure App Service, Azure Container Instances, and Kubernetes.

## Topics

### **Module 1: Implement Azure Active Directory**

- Overview of Azure Active Directory
- Users and Groups
- Domains and Custom Domains
- Azure AD Identity Protection
- Implement Conditional Access
- Configure Fraud Alerts for MFA
- Implement Bypass Options
- Configure Guest Users in Azure AD
- Configure Trusted IPs
- Manage Multiple Directories

### **Module 2: Implement and Manage Hybrid Identities**

- Install and Configure Azure AD Connect
- Configure Password Sync and Password Writeback
- Configure Azure AD Connect Health

### **Module 3: Implement Virtual Networking**

- Virtual Network Peering
- Implement VNet Peering

### **Module 4: Implement VMs for Windows and Linux**

- Select Virtual Machine Size
- Configure High Availability
- Implement Azure Dedicated Hosts
- Deploy and Configure Scale Sets
- Configure Azure Disk Encryption

## **Module 5: Implement Load Balancing and Network Security**

- Implement Azure Load Balancer
- Implement an Application Gateway
- Understand Web Application Firewall
- Implement Azure Firewall
- Implement Azure Front Door
- Implementing Azure Traffic Manager
- Implement Network Security Groups and Application Security Groups
- Implement Azure Bastion

## **Module 6: Implement Storage Accounts**

- Storage Accounts
- Blob Storage
- Storage Security
- Managing Storage
- Accessing Blobs and Queues using AAD

## **Module 7: Implement NoSQL Databases**

- Configure Storage Account Tables
- Select Appropriate CosmosDB APIs

## **Module 8: Implement Azure SQL Databases**

- Configure Azure SQL Database Settings
- Implement Azure SQL Database Managed Instances
- High-Availability and Azure SQL Database
- In this module, you will learn how to
- Create an Azure SQL Database (single database)
- Create an Azure SQL Database Managed Instance
- Recommend high-availability architectural models used in Azure SQL Database

## **Module 9: Automate Deployment and Configuration of Resources**

- Azure Resource Manager Templates
- Save a Template for a VM
- Evaluate Location of New Resources
- Configure a Virtual Hard Disk Template
- Deploy from a template
- Create and Execute an Automation Runbook

## **Module 10: Implement and Manage Azure Governance**

- Create Management Groups, Subscriptions, and Resource Groups
- Overview of Role-Based Access Control (RBAC)
- Role-Based Access Control (RBAC) Roles
- Azure AD Access Reviews
- Implement and Configure an Azure Policy
- Azure Blueprints

## **Module 11: Manage Security for Applications**

- Azure Key Vault
- Azure Managed Identity

## **Module 12: Manage Workloads in Azure**

- Migrate Workloads using Azure Migrate
- VMware - Agentless Migration
- VMware - Agent-Based Migration
- Implement Azure Backup
- Azure to Azure Site Recovery
- Implement Azure Update Management

## **Module 13: Implement Container-Based Applications**

- Azure Container Instances
- Configure Azure Kubernetes Service

## **Module 14: Implement an Application Infrastructure**

- Create and Configure Azure App Service
- Create an App Service Web App for Containers
- Create and Configure an App Service Plan
- Configure Networking for an App Service
- Create and Manage Deployment Slots
- Implement Logic Apps
- Implement Azure Functions

## **Module 15: Implement Cloud Infrastructure Monitoring**

- Azure Infrastructure Security Monitoring
- Azure Monitor
- Azure Workbooks
- Azure Alerts
- Log Analytics
- Network Watcher
- Azure Service Health
- Monitor Azure Costs
- Azure Application Insights
- Unified Monitoring in Azure