

# AZ-900 | AZ-104 | AZ-400

Azure Fundamentals | Azure Administrator |

Design, Implement Azure DevOps Solutions

## Topics Covered as Follows

### Describe Core Concepts of Azure

- Introduction of Azure Fundamentals.
- Azure Fundamental Concepts
- Describe Core Azure Architectural Concepts

### Describe Core Azure Services

- Explore Azure Compute Services
- Explore Azure Networking Services
- Explore Azure Storage Services
- Explore Azure Database and Analytics Services

### Describe and Manage Azure Compute Resources

- Configure Virtual Machines
- Configure Virtual Machine Availability
- Configure Virtual Extensions
- Configure App Services Plans
- Configure Azure App Services
- Configure Azure Container Instances
- Configure Azure Kubernetes Services

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- Manage Virtual Machine with Azure CLI
  - Create a Windows Virtual Machine in Azure
  - Host a Web Application with Azure App Service
  - Protect your Virtual Machine settings with Azure Automation State Configuration

## **Implement and Manage Storage in Azure**

- Configure Storage Account
- Configure blob Storage
- Configure Storage Security
- Configure Azure Files and Azure File Sync
- Configure Storage with tools
- Create an Azure Storage account
- Control access to Azure Storage with Shared Access Signatures
- Upload, download and manage data with Azure Storage Explorer

## **Configure and Manage Virtual Network for Azure Administrators**

- Configure Virtual Networks
- Configure Network Security Groups
- Configure Azure Firewall
- Configure Azure DNS
- Configure Virtual Network Peering
- Configure VPN Gateway
- Configure Express Route and Virtual WAN
- Configure Network Routing and Endpoints
- Configure Azure Load Balancer
- Configure Azure Application Gateway
- Design an IP Addressing Schema for your Azure Deployment
- Distribute your services across Azure Virtual Networks and integrate them by using Virtual Network Peering

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- Host your domain on Azure DNS
  - Manage and Control traffic flow in your Azure deployment with routes
  - Improve Application scalability and resiliency by using Azure Load Balancer.

## Manage Identities and Governance in Azure

- Configure Azure Active Directory
- Configure User and Groups accounts
- Configure Subscriptions
- Configure Azure Policy
- Configure Role-Based Access Control
- Create Azure users and groups in Azure Active Directory
- Secure your Azure Resources with Azure Role-Based Access Control
- Allow users to reset their password with Azure Active DirectorySelf-Service password reset.

## Additional Resources of Azure Administrator

- Configure Azure Resources with tools
- Use Azure Resource Manager
- Configure Resources with ARM Templates
- Automate Azure Tasks using Scripts with Powershell
- Control Azure Services with the CLI
- Deploy Azure Infrastructure by using JSON ARM Templates.

## Monitor and Backup Azure Resources

- Configure File and Folder backups
- Configure Virtual Machine backups
- Configure Azure Monitor
- Configure Azure alerts
- Configure Log Analytics

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- Configure Network Watcher
  - Improve incident response with alerting on Azure
  - Analyze your Azure infrastructure by using Azure monitor logs
  - Monitor Performance of virtual machines by using Azure monitor VM insights.

## **Describe Identity, Governance, Privacy and Compliance Features**

- Secure access to your applications by using Azure identity services
- Build a cloud governance strategy on Azure
- Examine privacy, compliance and data protection standards on Azure

## **Describe general Security and Network Security**

- Protect against security threats on Azure
- Secure network connectivity on Azure

## **Describe Core Solutions and Management tools on Azure**

- Choose the best Azure IoT service for your applications
- Choose the best AI Service for your needs.
- Choose the best Azure Serverless technology for your business scenario
- Choose the best tools to help organizations build better solutions
- Choose the best tools for managing and configuring your Azure environments
- Choose the best monitoring service for visibility, insight, and outage mitigation.

## **Get Started on a DevOps transformation journey**

- Introduction to DevOps
- Choose the right project
- Describe team structures
- Migrate to DevOps

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- Introduce to Source Control
  - Describe types of Source Control System
  - Work with Azure Repos and GitHub

## Work with Git for enterprise DevOps

- Structure of Git Repo
- Manage Git branches and workflows
- Collaborate with pull requests in Azure Repos
- Explore Git hooks
- Plan foster inner source
- Manage Git Repositories

## Implement Continuous Integration with Azure Pipelines and Github Actions

- Explore Azure Pipelines
- Manage Azure Pipelines agents and pools
- Describe Pipelines and Concurrency
- Explore Continuous Integration
- Implement a Pipeline strategy
- Integrate with Azure Pipelines
- Introduction to Github Actions
- Learn Continuous Integration with GitHub Actions

## Design and Implement a release strategy

- Introduction to continuous delivery
- Explore release strategy recommendations
- Build a high-quality release Pipeline
- Introduction to deployment patterns
- Implement blue-green deployment and feature toggles
- Implement canary releases and dark launching

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- Implement A/B testing and progressive exposure deployment

## **Implement a secure continuous deployment using Azure Pipelines**

- Create a release Pipeline
- Configure and Provision environments
- Manage and modularize tasks and templates
- Automate inspection of health
- Introduction to security development process
- Manage application configuration data
- Integrate with identity management systems
- Implement application configuration

## **Manage Infrastructure as code using Azure Desired State Configuration and Third Party Tools**

- Explore infrastructure as code and Configuration Management
- Create Azure Resource using Azure Resource Manager Templates
- Create Azure Resources by using Azure CLI
- Explore Azure Automation with DevOps
- Implement Desired State Configuration
- Introduction to Chef and Puppet
- Implement Ansible
- Implement Terraform

## **Design and Implement a dependency management Strategy**

- Explore package dependencies
- Understand package management
- Migrate consolidating and secure artifacts
- Implement a versioning strategy

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## Create and Manage containers using Docker and Kubernetes

- Design a Container build strategy
- Implement Docker multi-stage builds
- Implement Azure Kubernetes Services
- Explore Kubernetes Tooling
- Integrate Azure Kubernetes Services with Pipelines

## Implement Continuous Feedback

- Implement tools to track usage and flow
- Implement route for mobile application crash report data
- Develop monitor and status dashboards
- Share knowledge within teams
- Explore SRE and design practices to measure end-user satisfaction
- Design processes to capture and analyze user feedback
- Design processes to automate application analytics
- Manage alerts, blameless retrospectives and a just culture

## Implement security and validate code bases of compliance

- Understand Security in the Pipeline
- Introduction to Azure Security Center
- Implement Open-Source software
- Manage anti-malware and anti-spam policies
- Integrate license and vulnerability scans
- Identify technical debt

Source (Microsoft official Certification Site)