

Microsoft Fundamentals

Azure Fundamentals – AZ-900

Microsoft

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Course Description

This course introduces learners to the Microsoft Azure cloud platform, which offers more than 200 products and services to customers. This course is also mapped to Certiport's certification exam objectives, a globally accepted, standard-based credential for validating skills.

Learners will begin with an introduction to computer concepts and understand the benefits of using cloud services. They will then progress to looking at the many services and solutions that Azure offers, and move to recognize how Azure handles security issues, governance, policy and compliance requirements. Learners will also have the opportunity to learn how to plan and manage costs when using Microsoft Azure.

Successful completion of the certification exam validates the knowledge and skill sets of individuals seeking employment or advancement in their careers.

Suggested Course Length: 40-70 Hours

Course Prerequisites

There are no prerequisites needed.

Unit 1: Cloud Concepts

Unit Objectives

Lesson 1: Computer Concepts

Lesson Objectives

Main Computer Components

Computer Servers

Web Servers

Databases

Virtual Machines

Networks

On-Premises

Lesson Summary

Practice Exercise 1

Practice Exercise 2

Practice Questions

Lesson 2: Cloud Computing

Lesson Objectives

The Cloud

Public Cloud

Private Cloud

Hybrid Cloud

Comparison of Cloud

Computing Models

Lesson Summary

Practice Exercise

Practice Questions

Lesson 3: Benefits and Considerations of Using Cloud Services

Lesson Objectives

Benefits of Cloud Computing

Capital Expenditure vs

Operational Expenditure

The Consumption-Based

Model

Lesson Summary

Practice Exercise 1

Practice Exercise 2

Practice Questions

Lesson 4: Categories of Cloud Services

Lesson Objectives

The Shared Responsibility Model

Types of Cloud Services

IaaS Use Cases

Lesson Summary

Practice Exercise

Practice Questions

Unit Summary

Key Terms

Unit Create Project

Unit Objective Assessment

Unit 2: Core Azure Services

Unit Objectives

Lesson 1: Core Azure Architectural Components

Lesson Objectives

Azure Resource

Management

Azure Resource Manager

Azure Regions and Zones

Lesson Summary

Practice Exercise 1

Practice Exercise 2

Practice Questions

Lesson 2: Azure Compute Services

Lesson Objectives

Azure Virtual Machines

Azure Containers

Azure App Services

Serverless Computing

Azure Virtual Desktop

Advantages of Using Azure

Virtual Desktop

Some Key Features for Azure

Desktop

Azure Virtual Desktop Saves

Money

Lesson Summary

Practice Exercise 1

Practice Exercise 2

Practice Exercise 3

Practice Exercise 4

Practice Exercise 5

Practice Exercise 6

Practice Exercise 7

Practice Questions

Lesson 3: Azure Networking Services

Lesson Objectives

Virtual Networks

Virtual Private Network

Gateway

ExpressRoute

Azure Firewall

Lesson Summary

Practice Exercise 1

Practice Exercise 2

Practice Questions

Lesson 4: Azure Storage Services

Lesson Objectives

Azure Container (Blob)

Storage

Azure Disk Storage

Azure File Storage

Azure Storage Tiers

Lesson Summary

Practice Exercise

Practice Questions

Lesson 5: Azure Database and Analytics Services

Lesson Objectives

Relational and Non-

Relational Databases

Azure Cosmos DB

Azure SQL Database Services

Azure Database for MySQL

Azure Database for

PostgreSQL

Azure Big Data and Analytics

Azure Marketplace

Lesson Summary

Practice Exercise

Practice Questions

Unit Summary

Key Terms

Unit Create Project

Unit Objective Assessment

Unit 3: Core Azure Solutions

Unit Objectives

Lesson 1: Azure Internet of Things Solutions

Lesson Objectives

Azure Internet of Things

Lesson Summary

Practice Exercise
Practice Questions

Lesson 2: Azure Artificial Intelligence Solutions

Lesson Objectives
Lesson Summary
Practice Exercise
Practice Questions

Lesson 3: Azure Serverless Computing Solutions

Lesson Objectives
Lesson Summary
Practice Exercise 1
Practice Exercise 2
Practice Questions

Lesson 4: Azure Cloud Applications Building Solutions

Lesson Objectives
Lesson Summary
Practice Exercise 1
Practice Exercise 2
Practice Questions

Lesson 5: Azure Management and Configuration Tools

Lesson Objectives
Azure Portal
Azure PowerShell
Azure Cloud Shell
Azure Command-Line Interface
Azure Mobile App
Azure Resource Manager
Templates
Lesson Summary
Practice Exercise
Practice Questions

Lesson 6: Azure Monitoring Tools

Lesson Objectives
Azure Advisor
Azure Monitor
Azure Service Health
Lesson Summary
Practice Exercise
Practice Questions
Unit Summary
Key Terms

Unit Create Project
Unit Objective Assessments

Unit 4: Azure Security

Unit Objectives

Lesson 1: Azure Security Features

Lesson Objectives
Microsoft Defender for Cloud
Policy and Compliance
Security
Azure Sentinel
Azure Sentinel Features
Azure Key Vault
Azure Key Vault Benefits
Azure Dedicated Hosts
Lesson Summary
Practice Exercise
Practice Questions

Lesson 2: Azure Network Security

Lesson Objectives
Defense in Depth
Defense-in-Depth Strategy
Security Posture
Azure Firewall
Azure Firewall Standard
Azure Firewall Premium
Azure Firewall Manager
Azure DDoS Protection
DDoS Attacks
DDoS Protection in Azure
Azure DDoS Protection
Features
Lesson Summary
Practice Exercise 1
Practice Exercise 2
Practice Questions
Unit Summary
Key Terms
Unit Create Project
Unit Objective Assessment

Unit 5: Azure Identity, Governance, Privacy and Compliance

Unit Objectives

Lesson 1: Core Azure Identity Services

Lesson Objectives
Authentication vs Authorization
Azure Active Directory Services by Azure Active Directory
Access Management in Azure AD
Single Sign-On
Multi-Factor Authentication
Conditional Access
Lesson Summary
Practice Exercise 1
Practice Exercise 2
Practice Questions

Lesson 2: Azure Governance

Lesson Objectives
Introduction to Governance
Role-Based Access Control
Scope
Role Assignment
Access Control (IAM) Pane
Resource Locks
Resource Lock Settings
Lock Inheritance
Tags
Azure Policy
Define Azure Policies
Azure Policy Initiatives
Azure Policy vs Azure RBAC
Azure Blueprints
Cloud Adoption Framework for Azure
Lesson Summary
Practice Exercise
Practice Questions

Lesson 3: Azure Policy & Compliance

Lesson Objectives
Azure Policy and Compliance
Introduction
Microsoft Core Tenets
Azure Trust Center
Azure Compliance
Documentation

- Azure Sovereign Regions
- Lesson Summary
- Practice Exercise
- Practice Questions
- Unit Summary
- Key Terms
- Unit Create Project
- Unit Objectives Assessment

Unit 6: Azure Cost Management

- Unit Objectives

Lesson 1: Plan and Manage**Costs**

- Lesson Objectives
- Cost Factors
- Resource Type
- Consumption
- Maintenance
- Geography
- Network Traffic
- Subscription Type
- Azure Market Place
- Pricing Calculator
- Total Cost of Ownership Calculator
- Cost Management Tool
- Lesson Summary
- Practice Exercise 1
- Practice Exercise 2
- Practice Questions
- Unit Summary
- Key Terms
- Unit Create Project
- Unit Objective Assessment

Appendices

- Courseware Mapping
- Glossary of Terms
- Index