

AZ-100: Azure Administrator, Deployment

Overview

This course teaches IT Professionals:

Manage their Azure subscriptions, including access, policies, and compliance, as well as how to track and estimate service usage and related costs.

At Course Completion

After completing this course, students will be able to:

Manage Azure subscriptions and billing, and implement Azure policies.

Implement access management with Azure users, groups, and role-based access control.

Use Azure Monitor to configure Azure alerts and review the Azure Activity Log.

Query and analyze Log Analytics data.

Deploy resources with ARM templates and organize Azure resources.

Optimize your use of Azure tools like the Azure portal, Azure PowerShell, Cloud Shell and the Azure CLI.

Create Azure storage accounts for different data replication, pricing, and content scenarios.

Implement virtual machine storage, blob storage, Azure files, and structured storage.

Secure and manage storage with shared access keys, Azure backup, and Azure File Sync.

Store and access data using Azure Content Delivery Network, and the Import and Export service.

Monitor Azure storage with metrics and alerts, and the Activity Log.

Explain virtual machine usage cases, storage options, pricing, operating systems, networking capabilities, and general planning considerations.

Create Windows virtual machines in the Azure Portal, with Azure PowerShell, or using ARM Templates.

Deploy custom server images and Linux virtual machines.

Configure virtual machine networking and storage options.

Implement virtual machine high availability, scalability, and custom scripts extensions.

Backup, restore, and monitor virtual machines.

Understand virtual networking components, IP addressing, and network routing options.

Implement Azure DNS domains, zones, record types, and resolution methods.

Configure network security groups, service endpoints, logging, and network troubleshooting.

Implement site connectivity schemas including VNet-to-VNet connections and virtual network peering.

Implement Azure Active Directory, Self-Service Password Reset, Azure AD Identity Protection, and integrated SaaS applications.

Configure domains and tenants, users and groups, roles, and devices.

Implement and manage Azure Active Directory integration options and Azure AD Application Proxy.

Course Outline

AZ-100T01: Manage Subscription and Resources

Module 1: Managing Azure Subscriptions

In this module, you'll learn about the components that make up an Azure subscription and how management groups are used to organize subscriptions into containers to allow you to control organizational governance and policy management across subscriptions. As well as learning about the different available types of subscription, you'll see how to apply tags to your Azure resources to logically organize them by categories.

Lessons

Overview of Azure Subscriptions

Billing

Azure Policy

Module 2: Access Management for Cloud Resources

In this module you will learn the basics of role-based access control as it applies to users and groups. Focus on the administrator role and how it used in Azure.

Lessons

Azure Users and Groups

Role-based Access Control

Module 3: Monitoring and Diagnostics

In this module, you learn about the Azure Monitor and the many capabilities to ensure your Azure architecture is working correctly. Monitoring skills are explained in this first course and then demonstrated in the following courses. The two main elements explained in this module are Azure Alerts and Azure Activity Log.

Lessons
Exploring Monitoring Capabilities in Azure
Azure Alerts
Azure Activity Log

Module 4: Log Analytics
In this module, you will focus on Log Analytics. Log Analytics provides a way for you to collect, analyze, and query all types of connected data. It is a very powerful tool.

Lessons
Introduction to Log Analytics
Querying and Analyzing Log Analytics Data

Module 5: Azure Resource Manager
In this module, you will learn about how resources are organized into resource groups and how ARM templates are used to deploy those resources. This module introduces the concepts and then they are applied in the other courses.

Lessons
ARM templates
Resource Groups

Module 6: Azure Tips, Tricks, and Tools
This module is provided to help you get the most from your administrative tools. This include the Azure Portal, Cloud Shell, Azure CLI, Azure PowerShell, and Resource Explorer.

Lessons
Azure Portal
Azure Tools and Environment

Course AZ-100T02: Implementing and Managing Storage

Module 1: Overview of Azure Storage
In this module, you'll learn about storage accounts – Standard and Premium – as well as storage endpoints and how to configure custom domain accounts. You'll have an opportunity to practice creating and managing storage accounts. The module also covers data replication and provides a comparison of the different available replication schemes. You'll be introduced to Azure Storage Explorer, a utility that lets you easily work with and manipulate Azure Storage data.

Lessons
Azure storage accounts
Data replication
Azure Storage Explorer

Module 2: Storage Services
In this module, you'll learn about the disks component of Azure Storage as it relates to virtual machines. Disks are how virtual machines store their VHD files. You will learn about the types of disks and storage and how Azure simplifies IaaS disk management by creating and managing the storage accounts associated with the virtual machine disks. You will also learn about how Azure blob storage stores unstructured data in the cloud as objects, or blobs (BLOB = binary large object). And you'll explore Azure Files, which offers fully managed file shares in the cloud that are accessible via the Server Message Block (SMB) protocol. The other file storage options covered in the module are Tables and Queues for structured storage.

Lessons
Virtual machine storage
Blob storage
Azure files
Structured storage

Module 3: Securing and Managing Storage
In this module, discover how a shared access signature (SAS) can be used to provide delegated access to resources in storage accounts, allowing clients access to those resources with sharing the storage account keys. You'll also learn how to use Azure backup as a cloud-based solution for an existing on-premises or off-site backup and data protection solution. This module also covers Azure File Sync as a way to centralize an organization's file shares in Azure Files, and using Windows Server to cache the

Azure file share locally, thus enabling scenarios such as “lift and shift,” backup and disaster recovery, and file archiving.

Lessons
Shared access keys
Azure backup
Azure File Sync

Module 4: Storing and Accessing Data

In this module, you’ll learn about using a content delivery network (CDN) to deliver cached content that is stored on a distributed network of edge servers closer to end-users. You’ll also learn how to transfer large amount of data to and from the cloud using the Azure Import/Export service.

Lessons
Azure Content Delivery Network
Import and Export service

Module 5: Monitoring Storage

In this module, you will learn techniques for monitoring the health of Azure storage. With metrics and alerts you can check a variety of performance metrics and send notifications to your system administrator team. With the Activity Log you can search and query for specific events, even across subscriptions

Lessons
Metrics and Alerts
Activity Log

Course AZ-100T03: Deploying and Managing Virtual Machines

Module 1: Overview of Azure Machines

In this module, you’ll will be introduced to Azure virtual machines. What are virtual machines and what operating systems are supported? How can you determine if your existing virtual machines can be supported in Azure? What pricing and sizing options are available?

Lessons
Azure Virtual Machines Overview
Planning Considerations

Module 2: Creating Virtual Machines

In this module, you will learn how to create and configure Windows virtual machines. You will practice in the Azure portal, in Azure PowerShell, and with ARM templates.

Lessons
Overview of the Virtual Machine Creation Overview
Creating Virtual Machines in the Azure Portal
Creating Virtual Machines (PowerShell)
Creating Virtual Machines using ARM Templates

Module 3: Deploying Virtual Machine Images

In this module, you will learn how to create custom virtual machines in Azure. For example, deploying a server image that is in your on-premises datacenter. You will also learn how to create and connect to Linux virtual machines.

Lessons
Deploying Custom Images
Deploying Linux Virtual Machines

Module 4: Configuring Virtual Machines

In this module, you will learn about the two main configuration areas for virtual machines: networking and storage. In the networking lesson, we will cover IP addressing, network interfaces, and network security groups. In the storage lesson, we will cover virtual machine disks, managed disks, attaching/detaching disks, and uploading disks.

Lessons
Overview of Virtual Machine Configuration
Virtual Machine Networking
Virtual Machine Storage

Module 5: Configuring Availability and Extensibility

In this module, you will learn how to keep your virtual machines highly available with update and fault domains, and availability sets. You will also learn how to use scale sets to increase and decrease the number of the virtual machines as the workload changes. Lastly, virtual machines can be extended through custom scripts and Desired State Configuration.

Lessons

- Virtual Machine Availability
- Virtual Machine Scalability
- Applying Virtual Machine Extensions

Module 6: Managing and Monitoring Virtual MachinesI

In this module, you will learn the very important tasks of backing up your virtual machines and monitoring their overall health. You will practice backing up and restoring virtual machines. You will learn about monitoring, diagnostics, and Azure Advisor.

Lessons

- Backup and Restore
- Monitoring Virtual Machines

AZ-100T04: Configuring and Managing Virtual Networks

Module 1: Azure Virtual Networks

In this module, you'll will be introduced to Azure virtual networks. What are virtual networks and how are they organized? How do you create and configure virtual networks with templates, PowerShell, CLI, or the Azure portal? What is the difference between public, private, static, and dynamic IP addressing? How are system routes, routing tables, and routing algorithms used?

Lessons

- Introducing Virtual Networks
- Creating Azure Virtual Networks
- Review of IP Addressing
- Network Routing

Module 2: Azure DNSI

In this module, you will learn about DNS basics and specifically implementing Azure DNS. In the DNS Basics lesson you will review DNS domains, zones, record types, and resolution methods. In the Azure DNS lesson, we will cover delegation, metrics, alerts, and DNS hosting schemes.

Lessons

- Azure DNS Basics
- Implementing Azure DNS

Module 3: Securing Virtual Network Resources

In this module, you will learn primarily about Network Security Groups (NSGs) including NSG rules and NSG scenarios. You will also learn how to implement NSGs considering service endpoints, logging, troubleshooting, and other network traffic.

Lessons

- Introduction to Network Security Groups
- Implementing Network Security Groups and Service Endpoints

Module 4: Connecting Virtual Networks

In this module, you will learn about two specific types of intersite connectivity: VNet-to-VNet connections and VNet Peering. In both cases, you will learn when to choose which connectivity method, and how to implement and configure the method.

Lessons

- Intersite Connectivity (VNet-to-VNet Connections)
- Virtual Network Peering

AZ-100T05: Manage Identities

Module 1: Managing Azure Active Directory

In this module, you'll be introduced to Azure Active Directory. What is Azure Active Directory and how is it different from Active Directory Domain Services? What is Self-Service Password Reset and how is it configured? How can Azure AD Identity protection improve your security posture? How do you integrate SaaS applications with Azure AD?

Lessons

- Azure Active Directory Overview
- Self-Service Password Reset
- Azure AD Identity Protection
- Integrating SaaS Applications with Azure AD

Module 2: Managing Azure Active Directory Objects

In this module, you will learn the basics of implementing Azure AD objects. These objects include domains and tenants, users and groups, roles, and devices. In each lesson you will practice how to configure these objects through the portal and with Azure PowerShell. The Azure roles lesson will be your introduction to role-based access control.

Lessons

- Azure Domains and Tenants
- Azure Users and Groups
- Azure Roles
- Managing Devices

Module 3: Implementing and Managing Hybrid Identities

In this module, you will learn how to integrate Active Directory with your existing infrastructure. You will learn about different authentication options like AD Connect, Single Sign On, and Pass-through authentication. You will also learn how to configure Azure AD Application Proxy and how it is used.

Lessons

- Azure Active Directory Integration Options
- Azure AD Application Proxy