

40 HORAS

## AUDIENCIA

This course is for Azure Administrators. Azure Administrators manage the cloud services that span storage, networking, and compute cloud capabilities, with a deep understanding of each service across the full IT lifecycle. They take end-user requests for new cloud applications and make recommendations on services to use for optimal performance and scale, as well as provision, size, monitor and adjust as appropriate. This role requires communicating and coordinating with vendors. Azure Administrators use the Azure Portal and as they become more proficient they use PowerShell and the Command Line Interface.

## PREREQUISITES

Successful Cloud Administrators start this role with experience on operating systems, virtualization, cloud infrastructure, storage structures, and networking.

## AZ-100T1-A: Managing Subscriptions and Resources

## INTRODUCTION

This course teaches IT Professionals how to manage their Azure subscriptions, including access, policies, and compliance, as well as how to track and estimate service usage and related costs. Students also learn how cloud resources are managed in Azure through user and group accounts. Students learn how to grant appropriate access to Azure AD users, groups, and services through Role-based access control (RBAC). Students also discover the core monitoring tools and capabilities provided by Azure, including Azure Alerts and Activity Log. Students are then introduced to Log Analytics as a broad data analytics solution, and use this service to query and analyze operational data. Students then learn about the Azure Resource Manager deployment model, and how to work with resources, resource groups and ARM templates. Because this course is the first course in the series for the Azure Administrator exams, there is a considerable amount of foundational content that is covered here in order to prepare students for the remaining courses in the curriculum. So students are provided with a lesson that covers tips and tricks for working in the Azure portal, as well as an introduction to key tools used in the Azure environment, such as the Cloud Shell and Resource Explorer. Emphasis is laid on PowerShell and the command line interface (CLI) as important skills to acquire not only in preparation for the exam but for the job role itself.

## 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.

## COURSE OUTLINE

### Module 1: Managing Azure Subscriptions

- Overview of Azure Subscriptions
- Billing
- Azure Policy

### Module 2: Access Management for Cloud Resources

- Azure Users and Groups
- Role-based Access Control

### Module 3: Monitoring and Diagnostics

- Exploring Monitoring Capabilities in Azure
- Azure Alerts
- Azure Activity Log

### Module 4: Log Analytics

- Introduction to Log Analytics
- Querying and Analyzing Log Analytics Data

### Module 5: Azure Resource Manager

- ARM templates
- Resource Groups

### Module 6: Azure Tips, Tricks, and Tools

- Azure Portal
- Azure Tools and Environment

### Module 7: Lab-Manage Azure Subscriptions and Resources

- Configure delegation of provisioning and management of Azure resources.
- Verify delegation by provisioning Azure resources.

## AZ-100T2-A: Implementing and Managing Storage

### INTRODUCTION

This course teaches IT Professionals how to implement Azure storage solutions for a variety of scenarios. Students learn about the different storage accounts and services as well as basic data replication concepts and available replication schemes. Students are also introduced to Storage Explorer as a convenient way to work with Azure storage data. Students also learn the types of storage and how to work with managed and custom disks. Azure blob storage is how Azure stores unstructured data in the cloud, and students learn how to work with blobs and blob containers. They also learn how to use Azure Files to work with file shares that are accessed via the Server Message Block (SMB) protocol. In addition to blob storage, the course covers Table and Queue storage as storage options for structured data. Students then learn how to secure and manage storage using Shared Access Signatures (SAS) and Azure Backup, using Recovery Services Vault. Next, students learn how to use Azure File Sync to centralize an organization's file Shares in Azure Files. Content Delivery Network (CDN) is used to store cached content on a distributed network of servers that are close to end users. Students learn how to optimize content delivery with Azure CDN, as well as how to transfer large amounts of data using the Azure Import/Export service. Lastly, students learn how to monitor Azure storage by configuring metrics and alerts and using the Activity Log. Students learn how to analyze usage trends, trace requests, and diagnose issues with a storage account.

### AT COURSE COMPLETION

After completing this course, students will be able to:

- 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.

### COURSE OUTLINE

#### Module 1: Overview of Azure Storage

- Azure storage accounts
- Data replication

- Azure Storage Explorer

#### Module 2: Storage Services

- Virtual machine storage
- Blob storage
- Azure files
- Structured storage

#### Module 3: Securing and Managing Storage

- Shared access keys
- Azure backup
- Azure File Sync

#### Module 4: Storing and Accessing Data

- Azure Content Delivery Network
- Import and Export service
- Data Box

#### Module 5: Monitoring Storage

- Metrics and Alerts
- Activity Log

#### Module 6: Lab-Implement and Manage Storage

- Prepare the lab environment.
- Implement and use Azure Blob storage.
- Implement and use Azure File storage.

## AZ-100T03-A: Deploying and Managing Virtual Machines

### INTRODUCTION

This course teaches IT Professionals how to create and manage virtual machines as part of an Infrastructure as a Service (IaaS) computing infrastructure. Students learn how to assess their on-premises environment for virtual machine readiness in preparation for moving resources to the cloud, including sizing, pricing, and design considerations. Students also learn how to create and deploy virtual machines in Azure, using the Azure portal, PowerShell, and ARM templates. The course includes instruction on deploying custom images and Linux virtual machines. Students also learn how to configure the networking and storage components of virtual machines. Deploying highly available virtual machines is critical in the light of planned and unplanned events, and students learn how to use availability sets to ensure that virtual machine resources are available during downtime. Students also learn how to use extensions and Desired State Configuration (DSC) for post deployment automation and configuration tasks. Finally, students learn how to perform virtual machine backups, and to use Azure's monitoring capabilities to

collect, view, and analyze virtual machine diagnostic and log data.

## AT COURSE COMPLETION

After completing this course, students will be able to:

- 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.

## COURSE OUTLINE

### Module 1: Overview of Azure Machines

- Azure Virtual Machines Overview
- Planning Considerations

### Module 2: Creating Virtual Machines

- 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

- Deploying Custom Images
- Deploying Linux Virtual Machines

### Module 4: Configuring Virtual Machines

- Overview of Virtual Machine Configuration
- Virtual Machine Networking
- Virtual Machine Storage

### Module 5: Configuring Availability and Extensibility

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

### Module 6: Managing and Monitoring Virtual Machines

- Backup and Restore
- Monitoring Virtual Machines

## Module 7: Lab - Deploy and Manage Virtual Machines

- Deploy virtual machines.
- Configure networking setting for virtual machines.
- Configure Azure virtual machine scale sets.

## AZ-100T04-A: Configure and Manage Virtual Networks

### INTRODUCTION

This course teaches IT Professional how to configure and manage Azure virtual networks (VNETs). The benefits of moving an infrastructure to the cloud, removing the need to maintain expensive datacenters are an appealing proposition for many small and medium-sized companies. Regardless, once resources are moved to Azure, they require the same networking functionality as an on-premises deployment, and this course deals with the basic network configuration tasks.

Students review the basis of IP addressing, with specific emphasis on how public and private IP addressing works in the cloud. Students learn how to configure network routing and how to implement Azure DNS.

Securing the network infrastructure is of key importance and students learn how to use Network Security Groups (NSGs) to limit network traffic to resources in a virtual network, by creating security rules that allow or deny inbound or outbound traffic. Students also learn how to use NSG logging to diagnose and troubleshoot network connectivity problems.

The course also covers different connectivity scenarios for Azure virtual networks and students learn how to connect virtual networks with VNet-to-VNet VPN gateways and virtual network peering.

### AT COURSE COMPLETION

After completing this course, students will be able to:

- 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.

## COURSE OUTLINE

### Module 1: Azure Virtual Networks

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

- Network Routing

## Module 2: Azure DNS

- Azure DNS Basics
- Implementing Azure DNS

## Module 3: Securing Virtual Network Resources

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

## Module 4: Connecting Virtual Networks

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

## Module 5: Lab - Configure and Manage Virtual Networks

- Prepare the lab environment.
- Configure VNet peering.
- Implement custom routing.
- Validating service chaining.

## AZ-100T05-A: Manage Identities

### INTRODUCTION

This course teaches IT Professional how to use Azure Active Directory (AD) to provide employees and customers with a multi-tenant cloud-based directory and identity management system. Students will learn the differences between Azure AD and Active Directory Domain Services (AD DS), as well the differences in functionality offered by the different editions of Azure AD. Students also learn how to configure self-service password reset, or to use the option of password writeback to reset user passwords regardless of their location. Students are then introduced to Azure AD Identity Protection and learn how they can use it to protect their organizations from compromised accounts, identity attacks, and configuration issues. Students also learn how to integrate Azure AD with the many Software as a Service (SaaS) applications that are used, in order to secure user access to those applications.

Next, the concepts of Azure domains and tenants, and users and groups are explained and students learn how to work with the various Azure AD objects. Students are introduced to Azure role-based access control to be able to provide a more granular access based on the principle of least privilege. An administrator, or user, can do exactly the task they need to accomplish; no more, no less. Students also learn how to work with Azure joined devices and Hybrid AD joined devices, enabling their users to be productive wherever and whenever – but ensuring that corporate

assets are protected and that devices meet security and compliance standards.

Students learn how to use Azure AD Connect to integrate their on-premises directories with Azure AD, providing a common identity for their users of Office 365, Azure, and SaaS applications integrated with Azure AD. Lastly, students also learn how to use Azure AD Application Proxy to be able to provide their users with remote access to web application that are published on-premises, such as SharePoint sites, Outlook Web Access, or any other line of business (LOB) applications the organization has.

### AT COURSE COMPLETION

After completing this course, students will be able to:

- 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

#### Module 1: Managing Azure Active Directory

- 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

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

#### Module 3: Implementing and Managing Hybrid Identities

- Azure Active Directory Integration Options
- Azure AD Application Proxy

#### Module 4: Lab - Implement and Manage Hybrid Identities

- Deploy a VM with an AD domain controller
- Create and configure an Azure AD tenant
- Synchronize an AD forest with an Azure AD tenant