Microsoft Azure Administrator (AZ-104T00)

Duration: 4 days
Audience: Professionnel TI

Who is this training for?

This training is intended for Azure administrators. Azure administrators implement, manage, and monitor identity, governance, storage, compute, and virtual networks in a cloud environment. Azure administrators provision, scale, monitor, and adjust resources as appropriate.

Training objectives

- Manage subscriptions, accounts, Azure policies, and role-based access control.
- Implement and manage Azure storage.
- Deploy, manage, and scale Azure VMs.
- Configure and manage Azure virtual networks.
- Configure and manage traffic management.
- Manage and secure identities with Azure Active Directory and users and groups.
- Administer Azure using Resource Manager, Azure portal, Cloud Shell, Azure PowerShell, CLI, and ARM templates.
- Configure virtual networks, including scheduling, IP addressing, Azure DNS, network security groups, and Azure Firewall.
- Configure cross-site connectivity solutions such as virtual network peering, virtual network gateways, and site-to-site VPN connections.
- Manage network traffic using network routing and service endpoints, Azure load balancer, and Azure Application Gateway.
- Implement, manage, and secure Azure storage accounts, blob storage, and Azure files with File Sync.
- Administer Azure App Service, Azure Container Instances, and Kubernetes.
- Back up files, folders, and virtual machines.
- Monitor Azure infrastructure with Azure Monitor, Azure alerts, Log Analytics, and Network Watcher.

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Summary

This course enables IT professionals to manage their Azure subscriptions, secure identities, administer infrastructure, configure virtual networking, connect Azure and on-premises sites, manage network traffic, implement storage solutions, create and scale virtual machines, implement web applications and containers, back up and share data, and monitor your solution.

Course outline

Module 1: Identity

In this module you'll learn how to secure identities with Azure Active Directory and add users and groups.

Lessons:

- Azure Active Directory
- Users and groups Lab: Manage Azure Active Directory identities.

After completing this module, you will be able to:

- Secure and manage identities with Azure Active Directory.
- Implement and manage users and groups.

Module 2: Governance and compliance

In this module, you'll learn how to manage your subscriptions and accounts, implement Azure policies, and use role-based access control.

Lessons:

- Subscriptions and accounts
- Azure Policy • Role-based access control (RBAC)

Labs:

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- Manage subscriptions and RBAC.
- Manage governance through Azure policy.

After completing this module, you'll be able to:

- Register and manage Azure subscriptions and accounts.
- Implement Azure policy, which includes custom policies.
- Use RBAC to assign permissions.

Module 3: Administering Azure

In this module, you'll learn about the tools that an Azure administrator uses to manage their infrastructure. This includes the Azure portal, Cloud Shell, Azure PowerShell, CLI, and resource manager templates.

This module includes:

Lessons:

- Azure Resource Manager
- Azure Portal and Cloud Shell
- Azure PowerShell and CLI
- ARM Templates labs:
- Manage Azure resources using the Azure portal.
- Manage Azure resources using ARM templates.
- Manage Azure resources using Azure PowerShell.
- Manage Azure resources using the Azure CLI.

After completing this module, you'll be able to:

- Leverage the Azure Resource Manager to organize resources.
- Use the Azure portal and Cloud Shell.
- Use Azure PowerShell and CLI.
- Use ARM templates to deploy resources.

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Module 4: Virtual Networking

In this module, you will learn about basic virtual networking concepts such as virtual networks and subnets, IP address, network security groups, Azure Firewall, and Azure DNS.

Lessons:

- Virtual Networks
- IP Addressing
- Network Security Groups
- Azure Firewall
- Azure DNS

Lab: Install a Virtual Network.

After completing this module, you will be able to:

- Install virtual networks and subnets.
- Configure public and private IP addresses.
- Configure network security groups.
- Configure Azure Firewall.
- Configure private and public DNS zones.

Module 5: Cross-Site Connectivity

In this module, you will learn about the features of cross-site connectivity, including VNet Peering, Virtual Network Gateways, and Site-to-Site Connections.

Lessons:

- VNet Peering
- VPN Gateway Connections
- ExpressRoute and Virtual WAN

Lab: Installing Cross-Site Connectivity.

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After completing this module, you will be able to:

- Connect VNet Peering.
- Configure VPN gateways.
- Choose the right inter-site connectivity solution.

Module 6: Managing Network Traffic

In this module, you'll learn about policies related to network traffic, which includes network routing and service endpoints, Azure Load Balancer, Azure Application Gateway, and Traffic Manager.

Lessons:

- Network and Endpoint Routing
- Azure Load Balancer
- Azure Application Gateway
- Traffic Manager

Lab: Traffic Management.

After completing this module, you will be able to:

- Configure network routing, including custom routes and service endpoints.
- Set up an Azure load balancer.
- Set up an Azure application gateway.
- Choose the appropriate network traffic solution.

Module 7: Azure Storage

In this module, you'll learn about basic storage features, including storage accounts, blob storage, Azure files and File Sync, storage security, and storage tools.

Lessons:

- Storage accounts
- Blob storage
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Storage security

- Azure files and File Sync
- Storage management

Lab: Manage Azure storage.

After completing this module, you will be able to:

- Create Azure storage accounts.
- Configure blob containers.
- Secure Azure storage.
- Configure Azure and File Sync files.
- Manage storage with tools such as Storage Explorer.

Module 8: Azure Virtual Machines

In this module, you'll learn about Azure Virtual Machines, including scheduling, building, availability, and extensions.

Lessons:

- Planning Virtual Machines
- Creating Virtual Machines
- Availability of Virtual Machines
- Virtual Machine Extensions

Lab: Managing Virtual Machines.

After completing this module, you will be able to:

- Plan the configuration of virtual machines.
- Create virtual machines.
- Configure VM availability, including scaling sets.
- Use virtual machine extensions.

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Module 9: Serverless Computing In this module, you will learn how to administer serverless computing features such as Azure App Service, Azure Container Instances, and Kubernetes.

Lessons:

- Azure App Service Plans
- Azure App Service
- Container Services
- Azure Kubernetes Service

Labs:

- Install web apps.
- Install Azure Container Instances.
- Install Azure's Kubernetes service.

After completing this module, you will be able to:

- Create a service plan for an application.
- Create a web application.
- Integrate Azure Container Instances.
- Integrate Azure's Kubernetes service.

Module 10: Data Protection

In this module, you will learn about backing up files and folders and backing up virtual machines.

Lessons:

- Backing up files and folders
- Backing up virtual machines

Lab: Implement data protection.

After completing this module, you will be able to:

- Backup and recover files and folders.

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- Back up and recover virtual machines.

Module 11: Monitoring In this module, you'll learn about monitoring your Azure infrastructure, including Azure Monitor, alerting, and log analysis.

Lessons:

- Azure Monitor
- Azure Alerts
- Log Analysis
- Network Watcher

Lab: Install Monitoring.

After completing this module, you will be able to:

- Use Azure Monitor.
- Create Azure alerts.
- Perform queries using log analysis.
- Use Network Watcher.

Approach and methodology

Practical and structured approach combining focused theory and guided workshops. Participants gradually administer Microsoft Azure through real-world exercises inspired by professional scenarios, promoting immediate application of learnings. They learn how to manage identities, deploy and configure resources, administer networks, monitor performance, and ensure the security of Azure environments. Led by a Microsoft certified trainer, the training focuses on interactivity and the development of directly transferable technical skills to effectively manage cloud infrastructures in a professional context.

Prerequisites

Azure administrators have experience in operating systems, virtualization, cloud infrastructure, storage fabrics, and networking. • Understand on-premises virtualization technologies, including: virtual

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machines, virtual networking, and virtual hard disks. • Understand network configuration, including TCP/IP, Domain Name System (DNS), Virtual Private Networks (VPNs), firewalls, and encryption technologies. • Understand Active Directory concepts, including domains, forests, domain controllers, replication, Kerberos, and Lightweight Directory Access Protocol (LDAP). • Understand resiliency and disaster recovery, which includes backup and recovery operations.

Recommendations

Basics in system administration (Windows/Linux) Knowledge of network concepts (IP, DNS, VPN) Understanding of cloud environments and virtualization Notions of identity management (Microsoft Entra ID) Experience in IT administration or technical support (asset)

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