

Module 1: Azure Fundamentals

Introduction to Microsoft Azure

- What is Cloud computing?
- What are the different Cloud service models?
- What are Cloud deployment models?
- What is Azure PowerShell and CLI?
- What is Azure Resource Manager (ARM)?
- What is the difference between ASM and ARM Deployment model?
- How can I create an Azure free trial subscription?

Governance and Compliance

- What is Azure Hierarchy?
- What is Azure RBAC (Role-Based Access Control)?
- How do I manage Users and Groups in Azure?
- What are Azure Policies?
- How can I manage Azure subscription costs?
- What is Azure Defender?

Module 2: Compute Services

Azure Virtual Machines and Scale set

- What should I consider when planning Virtual Machines?
- How do I create Windows and Linux Virtual Machines in Azure?
- What are Virtual Machine Availability options?
- How do I use Virtual Machine Extensions?
- What can I do for Virtual Machine troubleshooting?
- How can I add additional Data disks to a Virtual Machine?
- What are Virtual Machine Scale sets?

Azure App Service (Web Apps)

- What are App Service Environments (ASE)?
- What are App Service Plans?
- How can I integrate Virtual Networks with Azure App Service?
- What are Hybrid connections?
- How do I create an App Service Web App?

Module 3: Storage & Backup

Azure Storage

- What are Azure Storage Account types?
- What are Azure Storage service types?
- How do I work with Azure Blobs?
- What is Azure Files?
- What are Azure Queues?
- How does Azure Table work?
- How can I ensure Storage Security?
- What is Azure Storage Explorer?
- How do I use AzCopy?
- What is Azure CDN (Content Delivery Network)?

Azure Site Recovery

- Business Continuity and Disaster Recovery (BCDR)
- Replication of Azure VMs to different Regions
- Failover of Azure VMs
- Disaster Recovery for Apps

Migration (using ASR and Azure migrate)

- Onprem physical VM migration to Azure
- Onprem Hyper-V VM migration to Azure
- AWS to Azure

Module 4: Networking Essentials

Virtual Networking

- What is Basic Networking in Azure?
- What are Azure Virtual Networks (VNet)?
- How do I work with Azure Subnets?
- What are Service Endpoints and Private Endpoints?
- How does IP Addressing and Endpoints work?
- What is Azure DNS?
- How do I use Network Security Groups and NIC?

- How can I calculate CIDR?
- What is Public IP and Private IP in Azure?

InterSite Connectivity

- What is VNet Peering?
- How do VNet-to-VNet Connections work?
- What are ExpressRoute Connections?
- How can I set up Site-to-Site connections?
- What is Point-to-Site connection?

Network Traffic Management

- How does Network Routing work in Azure?
- What is Azure Load Balancer?
- How do I use Application Gateway in Azure?
- What is Azure Traffic Manager?
- What is Azure Front Door?

Module 5: Security & Identity

Azure Active Directory

- What is Azure Active Directory?
- How do I manage Azure AD users?
- How do I manage Azure AD groups?
- What is Multi-Factor Authentication (MFA)?
- How does Azure AD Identity Protection work?
- What is Self Service Password Reset (SSPR)?
- What are app registrations in Azure?
- How does Single Sign-On (SSO) work in Azure AD?
- How can I use Azure AD Connect to migrate On-prem AD users to Azure AD?

Authentication and Data Security

- Managed Identity (MI)
 - System managed identity vs User managed identity
 - Key Vault
 - Azure Disk Encryption
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Module 6: Monitoring & Management

Monitoring

- What is Azure Monitor?
- How do Azure Alerts work?
- What is Log Analytics workspace?
- What is Network Watcher?
- How can I use Application Insights?

Azure Automation

- Automation Account
 - RunBooks
 - Update Management
 - Scheduling patching
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Module 7: Data Protection

Data Protection

- What is Data Replication?
 - How can I perform File and Folder Backups in Azure?
 - How do I back up Virtual Machines in Azure?
 - What about SQL DB in Azure VM Backup?
 - How can I perform Azure File share Backup?
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Module 8: Real-World Implementation & Hands-On

Real-World Implementation & Hands-On

- Integrating services across modules
 - End-to-end project on Azure setup
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*****Note:** This outline is comprehensive and can be tailored based on course duration, depth of coverage, and the participants expertise levels. As technology continues to evolve, it is crucial to review and update the content regularly to incorporate emerging tools, practices, and industry best standards.