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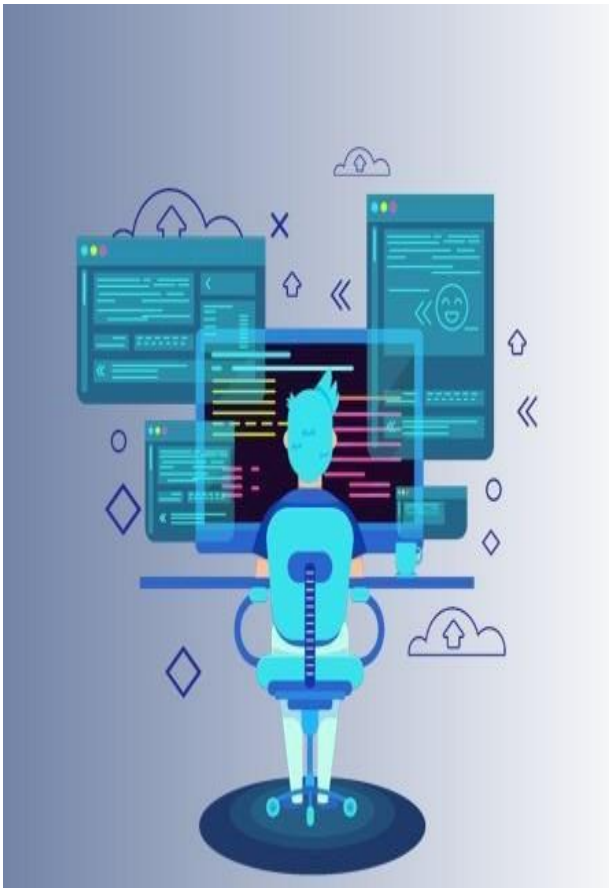

Azure Admin + Powershell Scripting

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Azure Administrator + Windows Powershell Scripting Combo Course

Course Overview:

This course provides students with the fundamental knowledge and skills to use Windows PowerShell for administering and automating administration of Windows servers. This course provides students the skills to identify and build the command they require to perform a specific task. In addition, students learn how to build scripts to accomplish advanced tasks such as automating repetitive tasks and generating reports. This course provides prerequisite skills supporting a broad range of Microsoft products, including Windows Server, Windows Client, Microsoft Exchange Server, Microsoft SharePoint Server, Microsoft SQL Server, System Center, and more. In keeping with that goal, this course will not focus on any one of those products, although Windows Server, which is the common platform for all of those products, will serve as the example for the techniques this course teaches.

Course Outline:

Azure Administrator

Manage Azure identities and governance

1. Manage Azure AD objects

- create users and groups
- manage user and group properties
- manage device settings
- perform bulk user updates
- manage guest accounts
- configure Azure AD Join
- configure self-service password reset
- NOT: Azure AD Connect; PIM

2. Manage role-based access control (RBAC)

- create a custom role
- provide access to Azure resources by assigning roles
  - subscriptions
  - resource groups

    - resources (VM, disk, etc.)
- interpret access assignments
- manage multiple directories

3. Manage subscriptions and governance

- configure Azure policies
- configure resource locks
- apply tags
- create and manage resource groups
    - move resources
    - remove RGs
- manage subscriptions
- configure Cost Management
- configure management groups

Implement and manage storage

1. Manage storage accounts

- configure network access to storage accounts
- create and configure storage accounts
- generate shared access signature
- manage access keys
- implement Azure storage replication
- configure Azure AD Authentication for a storage account

2. Manage data in Azure Storage

- export from Azure job
- import into Azure job
- install and use Azure Storage Explorer
- copy data by using AZCopy

3. Configure Azure files and Azure blob storage

- create an Azure file share
- create and configure Azure File Sync service
- configure Azure blob storage

- configure storage tiers for Azure blobs

Deploy and manage Azure compute resources

1. Configure VMs for high availability and scalability

- configure high availability
- deploy and configure scale sets

2. Automate deployment and configuration of VMs

- modify Azure Resource Manager (ARM) template
- configure VHD template
- deploy from template
- save a deployment as an ARM template
- automate configuration management by using custom script extensions

3. Create and configure VMs

- configure Azure Disk Encryption
- move VMs from one resource group to another
- manage VM sizes
- add data discs
- configure networking
- redeploy VMs

4. Create and configure containers

- create and configure Azure Kubernetes Service (AKS)
- create and configure Azure Container Instances (ACI)
- NOT: selecting an container solution architecture or product; container registry settings

5. Create and configure Web Apps

- create and configure App Service
- create and configure App Service Plans
- NOT: Azure Functions; Logic Apps; Event Grid

Configure and manage virtual networking

1. Implement and manage virtual networking

- create and configure VNET peering
- configure private and public IP addresses, network routes, network interface, subnets, and virtual network

2. Configure name resolution

- configure Azure DNS
- configure custom DNS settings
- configure a private or public DNS zone

3. Secure access to virtual networks

- create security rules
- associate an NSG to a subnet or network interface
- evaluate effective security rules
- deploy and configure Azure Firewall
- deploy and configure Azure Bastion Service
- NOT: Implement Application Security Groups; DDoS

4. Configure load balancing

- configure Application Gateway
- configure an internal load balancer
- configure load balancing rules
- configure a public load balancer
- troubleshoot load balancing
- NOT: Traffic Manager and FrontDoor and PrivateLink

5. Monitor and troubleshoot virtual networking

- monitor on-premises connectivity
- use Network Performance Monitor
- use Network Watcher
- troubleshoot external networking

- troubleshoot virtual network connectivity

6. Integrate an on-premises network with an Azure virtual network

- create and configure Azure VPN Gateway
- create and configure VPNs
- configure ExpressRoute
- configure Azure Virtual WAN

Monitor and back up Azure resources

1. Monitor resources by using Azure Monitor

- configure and interpret metrics
  - analyze metrics across subscriptions
- configure Log Analytics
  - implement a Log Analytics workspace
  - configure diagnostic settings
- query and analyze logs
  - create a query
  - save a query to the dashboard
  - interpret graphs
- set up alerts and actions
  - create and test alerts
  - create action groups
  - view alerts in Azure Monitor
  - analyze alerts across subscriptions
- configure Application Insights
- NOT: Network monitoring

2. Implement backup and recovery

- configure and review backup reports
- perform backup and restore operations by using Azure Backup Service
- create a Recovery Services Vault

- use soft delete to recover Azure VMs
- create and configure backup policy
- perform site-to-site recovery by using Azure Site Recovery
- NOT: SQL or HANA

Automating Windows Administration using Powershell

Course Outline:

1. Introduction:

- Getting to know about Windows PowerShell
- Command Line Interface, Capabilities of PowerShell
- Basic commands and Command design structure
- Understanding the get-help in PowerShell
- Understanding the basic Syntax for PowerShell.

2. Getting started with Technical commands:

- Understanding the Headers
- Working with Pipeline Operator, Where-object and Syntax
- Working with Operators: Arithmetic Operators, Comparison Operators & Logical Operators

3. Working with Multiple Operators

- Designing a single liner Powershell command
- Formatting Options: Format-Table vs Select Object vs Format-list
- Sort-object & Common Parameters

4. Scripting:

- Creating your First Script file/Multiple liner.
- Input statement & Output statements in Powershell
- Understanding Variables and Variable Types in Powershell
- Working with Static and Dynamic Variable
- Importing contents from a File / Exporting the result to a file.
- If, Elseif, Else statement
- Do-while & Do-Until Statement

5. Looping Statements:

- For Statement
- Switch Statements
- For Each statements
- While Statements
- Try Catch Finally statement
- Break and Continue statements
- Throw and Trap Statements

6. Functions and Parameters

- Understanding the Powershell Functions
- Implementing Functions and calling the Function
- Understanding the Parameters
- Passing parameters while Script execution
- Usage of Parameters in Scheduled Scripts

7. Remote Management

- Understanding the Powershell Modules.
- Understanding the PowershellPSSession
- Importing a PSSession from Remote server.
- Finding a Module from Internet.
- Installing and Importing a Module from PSGallery source.
- Downloading and Installing PS Modules for Cloud Technologies like Office 365, Azure and Sharepoint.
- Connecting to the PowerCLI Module and create Simple VMs.
- Remote Command Triggering
- Remote Script Triggering

8. Security

- Securing the Passwords
- Embedding the Passwords in the Script.

9. WMI (Windows Management Instrumentation)

- Understanding WMI&WMI Classes
- WMI vs CIM Classes
- Scripting &Windows Remote Management using WMI.
- Custom Health Report generation using WMI and PSObject.
- Disk Management
- Value conversions

10. DSC:

- Overview and Introduction to Push method and Pull Method.

11. Windows Forms:

- Developing small GUI based applications on Powershell using Windows Forms.

Prerequisites:

- Experience with Windows networking technologies and implementation.
- Experience with Windows Server administration, maintenance, and troubleshooting.
- Experience with Windows Client administration, maintenance, and troubleshooting
- Students who attend this training can meet the prerequisites by obtaining equivalent knowledge and skills through practical experience as a Windows system administrator. No prerequisite courses are required.

Who Should Attend:

- Those who want to pursue the Azure Administrator certification
- This course is intended for IT Professionals who are already experienced in general Windows Server and Windows Client administration, and who want to learn more about using Windows PowerShell for administration.
- The Azure Administrator course is best suited for Azure administrators and engineers, system administrators looking to expand into Azure, and IT professionals.
- No prior experience with any version of Windows PowerShell, or any scripting language, is assumed. This course is also suitable for IT Professionals already experienced in server administration, including Exchange Server, SharePoint Server, SQL Server, System Center, and others.

Number of Hours: 70hrs

Certification: AZ-104

Key Features:

- One to One Training
- Online Training
- Fastrack & Normal Track

- Resume Modification
- Mock Interviews
- Video Tutorials
- Materials
- Real Time Projects
- Virtual Live Experience
- Preparing for Certification