

TestOut[®]

TestOut Hybrid Server Pro: Core – English 5.0.x

Objective Mappings:

TestOut Hybrid Server Pro: Core
Microsoft AZ-800

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Objective Mapping: LabSim Section to TestOut Hybrid Server Pro: Core Objective

The TestOut Hybrid Server Pro: Core course covers the following TestOut Hybrid Server Pro: Core exam objectives:

Section	Title	Objectives
1.0	Course Introduction	
1.1	Course Introduction	
1.2	Windows and Azure Simulator Interface	
2.0	On-Premise Windows Server	
2.1	Server Installation	
2.2	Windows Server Roles	2.1 Manage Windows Server 2.1.1 - Install and Configure the File Server role
2.3	PowerShell	
2.4	Windows Server Core	
2.5	Windows Server Configuration and Management	
2.6	Performance Monitor	
2.7	Remote Management Options	4.4 Manage Remote Access 4.4.2 - Allow Remote Desktop Connections
3.0	Cloud and Azure	
3.1	Cloud Concepts	2.1 Manage Windows Server

		2.1.2 - Add server endpoints
3.2	Azure Concepts	1.1 Manage Active Directory 1.1.1 - Integrate AD DS, Azure AD, and Azure AD DS 1.5 Manage Group Policy objects (GPOs) 1.5.3 - Implement Group Policy in Azure AD DS 2.4 Manage Azure Files and Folders 2.4.3 - Manage Azure Sync Groups
4.0	Manage IP Addressing	
4.1	IP Addressing	4.1 Manage Networking 4.1.3 - Manage IP Addressing 4.1.4 - Configure IP addresses
4.2	Troubleshoot IP Configuration Issues	4.1 Manage Networking 4.1.3 - Manage IP Addressing 4.1.5 - Troubleshoot IP configuration
4.3	Troubleshoot IP Communications	4.1 Manage Networking 4.1.3 - Manage IP Addressing 4.1.4 - Configure IP addresses 4.1.5 - Troubleshoot IP configuration
4.4	DHCP	4.1 Manage Networking 4.1.3 - Manage IP Addressing

		<p>4.3 Install and Configure DHCP</p> <p>4.3.1 - Configure a DHCP server and options 4.3.2 - Configure DHCP scopes and options 4.3.3 - Configure DHCP exclusions and reservations 4.3.6 - Troubleshoot DHCP</p>
4.5	DHCP Relay	<p>4.3 Install and Configure DHCP</p> <p>4.3.1 - Configure a DHCP server and options 4.3.4 - Set up a DHCP Relay Agent</p>
4.6	Advanced DHCP Management	<p>4.3 Install and Configure DHCP</p> <p>4.3.1 - Configure a DHCP server and options 4.3.2 - Configure DHCP scopes and options 4.3.3 - Configure DHCP exclusions and reservations 4.3.5 - Manage DHCP Failover</p>
4.7	Troubleshoot DHCP	<p>4.1 Manage Networking</p> <p>4.1.6 - Configure Alternate IP Addressing</p> <p>4.3 Install and Configure DHCP</p> <p>4.3.6 - Troubleshoot DHCP</p>
4.8	IP Version 6	<p>4.1 Manage Networking</p> <p>4.1.3 - Manage IP Addressing 4.1.7 - Configure an IPv6 Address</p> <p>4.3 Install and Configure DHCP</p> <p>4.3.1 - Configure a DHCP server and options</p>

4.9	IP Address Management (IPAM)	<p>1.1 Manage Active Directory</p> <p>1.1.7 - Create forest root, cross-forest, external, shortcut, and realm trusts</p> <p>4.2 Implement Domain Name System (DNS)</p> <p>4.2.1 - Create and configure DNS zones 4.2.4 - Configure DNS forwarders</p> <p>4.3 Install and Configure DHCP</p> <p>4.3.2 - Configure DHCP scopes and options 4.3.5 - Manage DHCP Failover</p>
4.10	NIC Teaming	<p>4.1 Manage Networking</p> <p>4.1.1 - Configure NIC teaming</p>
5.0	Implement DNS	
5.1	DNS	<p>4.2 Implement Domain Name System (DNS)</p> <p>4.2.1 - Create and configure DNS zones 4.2.2 - Create and configure DNS records 4.2.4 - Configure DNS forwarders 4.2.7 - Troubleshoot DNS records</p>
5.2	Name Resolution	<p>4.2 Implement Domain Name System (DNS)</p> <p>4.2.1 - Create and configure DNS zones 4.2.2 - Create and configure DNS records 4.2.4 - Configure DNS forwarders 4.2.6 - Create a Root Zone</p>
5.3	Zone Management	<p>4.2 Implement Domain Name System (DNS)</p> <p>4.2.1 - Create and configure DNS zones 4.2.3 - Create or convert an Active Directory-Integrated Zone</p>

		<p>4.2.4 - Configure DNS forwarders 4.2.6 - Create a Root Zone</p>
5.4	Troubleshoot DNS	<p>4.2 Implement Domain Name System (DNS)</p> <p>4.2.7 - Troubleshoot DNS records</p>
5.5	DNS Protection	<p>4.2 Implement Domain Name System (DNS)</p> <p>4.2.5 - Configure DNSSEC</p>
5.6	Implement Hybrid Name Resolution	<p>1.1 Manage Active Directory</p> <p>1.1.1 - Integrate AD DS, Azure AD, and Azure AD DS</p>
6.0	Active Directory	
6.1	Active Directory	<p>1.1 Manage Active Directory</p> <p>1.1.1 - Integrate AD DS, Azure AD, and Azure AD DS 1.1.4 - Deploy and manage Domain Controllers in Azure</p> <p>4.2 Implement Domain Name System (DNS)</p> <p>4.2.7 - Troubleshoot DNS records</p>
6.2	Azure Active Directory	<p>1.1 Manage Active Directory</p> <p>1.1.1 - Integrate AD DS, Azure AD, and Azure AD DS</p> <p>1.2 Implement user accounts</p> <p>1.2.1 - Create user accounts 1.2.2 - Manage user accounts</p> <p>1.3 Implement groups</p>

		<ul style="list-style-type: none"> 1.3.1 - Create global groups 1.3.2 - Create a distribution group 1.3.3 - Change the group scope
6.3	Read-Only Domain Controllers (RODCs)	<ul style="list-style-type: none"> 1.1 Manage Active Directory <ul style="list-style-type: none"> 1.1.5 - Manage a Read Only Domain Controller (RODC)
6.4	FSMO Roles and Global Catalog Servers	<ul style="list-style-type: none"> 1.4 Manage Flexible Single-Master Operation (FSMO) roles and global catalog services <ul style="list-style-type: none"> 1.4.1 - Configure global catalog servers 1.4.2 - Transfer RID and PDC masters 1.4.3 - Transfer infrastructure masters 1.4.4 - Troubleshoot operations masters 1.4.5 - Enable Universal Group Membership Caching (UGMC)
6.5	Active Directory Trusts	<ul style="list-style-type: none"> 1.1 Manage Active Directory <ul style="list-style-type: none"> 1.1.7 - Create forest root, cross-forest, external, shortcut, and realm trusts
6.6	Active Directory Sites	<ul style="list-style-type: none"> 1.1 Manage Active Directory <ul style="list-style-type: none"> 1.1.6 - Manage sites, subnets, and site links 1.1.7 - Create forest root, cross-forest, external, shortcut, and realm trusts
6.7	Active Directory Replication	<ul style="list-style-type: none"> 1.1 Manage Active Directory <ul style="list-style-type: none"> 1.1.6 - Manage sites, subnets, and site links 1.3 Implement groups <ul style="list-style-type: none"> 1.3.7 - Configure intrasite replication 1.3.8 - Configure intersite replication

6.8	Implement and Manage Hybrid Identities	<p>1.1 Manage Active Directory</p> <p>1.1.1 - Integrate AD DS, Azure AD, and Azure AD DS</p> <p>1.3 Implement groups</p> <p>1.3.6 - Implement Azure AD Connect Cloud Sync</p>
7.0	Active Directory Objects	
7.1	Active Directory Organizational Units	<p>1.1 Manage Active Directory</p> <p>1.1.2 - Create and delete organizational units (OUs)</p>
7.2	Active Directory Computers	<p>1.1 Manage Active Directory</p> <p>1.1.3 - Create computer accounts</p>
7.3	Active Directory Users	<p>1.2 Implement user accounts</p> <p>1.2.1 - Create user accounts</p> <p>1.2.2 - Manage user accounts</p> <p>1.2.3 - Configure and manage AD DS passwords</p>
7.4	Active Directory Groups	<p>1.3 Implement groups</p> <p>1.3.1 - Create global groups</p> <p>1.3.2 - Create a distribution group</p> <p>1.3.3 - Change the group scope</p> <p>1.3.4 - Implement a group strategy</p>
7.5	Active Directory Service Accounts	
7.6	Active Directory Bulk Operations	<p>1.2 Implement user accounts</p> <p>1.2.2 - Manage user accounts</p>

		<p>1.3 Implement groups</p> <p>1.3.1 - Create global groups 1.3.4 - Implement a group strategy</p>
7.7	Delegation of Control	<p>1.2 Implement user accounts</p> <p>1.2.1 - Create user accounts</p> <p>1.3 Implement groups</p> <p>1.3.1 - Create global groups</p> <p>1.7 Manage group policies</p> <p>1.7.1 - Delegate administrative control</p>
8.0	Group Policy	
8.1	Group Policy	<p>1.5 Manage Group Policy objects (GPOs)</p> <p>1.5.1 - Create and link a GPO 1.5.2 - Create a starter GPO 1.5.3 - Implement Group Policy in Azure AD DS</p>
8.2	Group Policy Management	<p>1.5 Manage Group Policy objects (GPOs)</p> <p>1.5.1 - Create and link a GPO</p>
8.3	Password Policies	<p>1.2 Implement user accounts</p> <p>1.2.3 - Configure and manage AD DS passwords</p> <p>1.5 Manage Group Policy objects (GPOs)</p> <p>1.5.4 - Configure a password replication policy</p>

8.4	Audit Policies	1.8 Manage security policies 1.8.2 - Configure audit policies
8.5	User Rights Assignment	1.2 Implement user accounts 1.2.4 - Configure user rights
8.6	Security Options	1.2 Implement user accounts 1.2.4 - Configure user rights 1.2.5 - Enforce User Account Control (UAC) 1.8 Manage security policies 1.8.1 - Configure security options
8.7	Restricted Groups	1.3 Implement groups 1.3.4 - Implement a group strategy 1.3.5 - Configure restricted groups
8.8	Application Restriction Policies	1.6 Deploy software using group policy 1.6.2 - Configure AppLocker
8.9	Group Policy Preferences	1.5 Manage Group Policy objects (GPOs) 1.5.3 - Implement Group Policy in Azure AD DS 1.6 Deploy software using group policy 1.6.1 - Deploy desktop shortcuts 1.7 Manage group policies

		<p>1.7.2 - Configure power options in a GPO</p> <p>1.8 Manage security policies</p> <p>1.8.1 - Configure security options</p>
9.0	Manage Servers and Workloads in A Hybrid Environment	
9.1	Windows Admin Center	
9.2	Windows PowerShell Remoting	
9.3	Azure Arc	<p>2.2 Implement Azure Arc</p> <p>2.2.1 - Use Azure Arc to manage Windows Servers</p>
9.4	Azure Automation	<p>2.2 Implement Azure Arc</p> <p>2.2.1 - Use Azure Arc to manage Windows Servers</p> <p>3.2 Implement a Virtual Environment</p> <p>3.2.1 - Manage IaaS Virtual Machines in Azure</p>
9.5	Azure Monitor	
9.6	Azure Security Center	<p>1.8 Manage security policies</p> <p>1.8.1 - Configure security options</p>
9.7	Azure Policy	<p>1.5 Manage Group Policy objects (GPOs)</p> <p>1.5.3 - Implement Group Policy in Azure AD DS</p> <p>2.2 Implement Azure Arc</p>

		2.2.2 - Use Azure Arc to assign an Azure Policy Guest Configuration
10.0	Manage Storage Service	
10.1	Configure Disk and Volumes	2.3 Manage Disks and Volumes 2.3.1 - Create and manage volumes
10.2	Configure and Manage Storage Spaces	2.1 Manage Windows Server 2.1.3 - Configure and manage Azure Storage Spaces
10.3	Storage Replica	
10.4	Data Deduplication	
10.5	Manage Storage and Data Performance	
10.6	Configure File Systems	2.5 Manage Shares, Quotas, Caching, and Permissions 2.5.1 - Manage SMB share and NTFS permissions 2.5.2 - Remove inherited permissions 2.5.3 - Enable quota restrictions 2.5.4 - Create quota restrictions and modify quota limits
10.7	NTFS Permission Troubleshooting	2.5 Manage Shares, Quotas, Caching, and Permissions 2.5.1 - Manage SMB share and NTFS permissions
11.0	Manage File Service	
11.1	SMB Shares	2.5 Manage Shares, Quotas, Caching, and Permissions 2.5.1 - Manage SMB share and NTFS permissions 2.5.2 - Remove inherited permissions 2.5.5 - Share a folder with a second name 2.5.6 - Manage share caching 2.5.7 - Configure share permissions

11.2	FSRM Quotas and File Screens	2.5 Manage Shares, Quotas, Caching, and Permissions 2.5.3 - Enable quota restrictions 2.5.4 - Create quota restrictions and modify quota limits
11.3	BranchCache Installation and Configuration	
11.4	Distributed File System (DFS) Namespaces	2.3 Manage Disks and Volumes 2.3.3 - Add Role Services for DFS and create a namespace
11.5	Configure and Manage Azure File Sync (Part 1)	2.1 Manage Windows Server 2.1.2 - Add server endpoints 2.4 Manage Azure Files and Folders 2.4.1 - Create an Azure storage account and file share 2.4.2 - Configure Azure File Sync Service 2.4.3 - Manage Azure Sync Groups 2.4.4 - Register Azure File Sync servers
11.6	Configure and Manage Azure File Sync (Part 2)	2.1 Manage Windows Server 2.1.2 - Add server endpoints 2.4 Manage Azure Files and Folders 2.4.2 - Configure Azure File Sync Service
12.0	Virtualization and Containers	
12.1	Virtualization Deployment	3.1 Manage Virtual Machines 3.1.1 - Create virtual machines 3.1.2 - Create virtual hard disks and volumes 3.1.3 - Create virtual switches

12.2	Virtual Machines	<p>3.1 Manage Virtual Machines</p> <p>3.1.1 - Create virtual machines</p>
12.3	Virtual Machine Storage	<p>3.1 Manage Virtual Machines</p> <p>3.1.1 - Create virtual machines</p> <p>3.1.2 - Create virtual hard disks and volumes</p> <p>3.2 Implement a Virtual Environment</p> <p>3.2.3 - Create parent and child virtual machines</p>
12.4	Virtual Networks	<p>3.1 Manage Virtual Machines</p> <p>3.1.1 - Create virtual machines</p> <p>3.1.3 - Create virtual switches</p>
12.5	Virtual Network Optimization	<p>3.2 Implement a Virtual Environment</p> <p>3.2.2 - Configure connections to virtual machines</p> <p>4.1 Manage Networking</p> <p>4.1.1 - Configure NIC teaming</p> <p>4.1.2 - Manage Azure VM network configuration</p> <p>4.1.3 - Manage IP Addressing</p>
12.6	Virtual Machine Movement	<p>3.1 Manage Virtual Machines</p> <p>3.1.1 - Create virtual machines</p> <p>3.1.2 - Create virtual hard disks and volumes</p>
12.7	VHD Storage	<p>3.1 Manage Virtual Machines</p> <p>3.1.2 - Create virtual hard disks and volumes</p>

12.8	Hyper-V Replication	
12.9	Hyper-V High Availability	
12.10	Manage Azure Virtual Machines That Run Windows Server	<p>3.1 Manage Virtual Machines</p> <p>3.1.2 - Create virtual hard disks and volumes 3.1.4 - Resize Azure virtual machines</p> <p>3.2 Implement a Virtual Environment</p> <p>3.2.2 - Configure connections to virtual machines</p> <p>4.1 Manage Networking</p> <p>4.1.2 - Manage Azure VM network configuration</p>
12.11	Containers	
13.0	On-Premises and Hybrid Network Connectivity	
13.1	Remote Access Role	<p>4.4 Manage Remote Access</p> <p>4.4.1 - Add the Routing and Remote Access Role 4.4.3 - Configure RADIUS</p>
13.2	Implement Azure Networking	<p>4.1 Manage Networking</p> <p>4.1.2 - Manage Azure VM network configuration</p>
13.3	Network Policy Server Role	<p>4.4 Manage Remote Access</p> <p>4.4.3 - Configure RADIUS</p>
13.4	Implement Web Application Proxy (WAP)	
13.5	Virtual Private Networks (VPN)	<p>4.4 Manage Remote Access</p> <p>4.4.2 - Allow Remote Desktop Connections</p>

		4.4.4 - Configure a VPN server for remote access
13.6	Implement Azure Virtual WAN	4.1 Manage Networking 4.1.2 - Manage Azure VM network configuration 4.4 Manage Remote Access 4.4.4 - Configure a VPN server for remote access
13.7	Implement Azure Ad Application Proxy	
A.0	TestOut Hybrid Server Pro: Core - Practice Exams	
A.1	Prepare for TestOut Server Hybrid Pro: Core Certification	
A.2	TestOut Hybrid Server Pro: Core Exam Domain Review	
B.0	Microsoft AZ-800 - Practice Exams	
B.1	Prepare for Microsoft AZ-800 Certification	
B.2	Microsoft AZ-800 Domain Review (20 Questions)	
B.3	Microsoft AZ-800 Domain Review (All Questions)	

Objective Mapping: TestOut Hybrid Server Pro: Core Objective to LabSim Section

The TestOut Hybrid Server Pro: Core course and certification exam cover the following TestOut Hybrid Server Pro: Core objectives:

#	Domain	Module.Section
1.0	Active Directory Domain Services	
1.1	Manage Active Directory <ul style="list-style-type: none"> 1.1.1 - Integrate AD DS, Azure AD, and Azure AD DS 1.1.2 - Create and delete organizational units (OUs) 1.1.3 - Create computer accounts 1.1.4 - Deploy and manage Domain Controllers in Azure 1.1.5 - Manage a Read Only Domain Controller (RODC) 1.1.6 - Manage sites, subnets, and site links 1.1.7 - Create forest root, cross-forest, external, shortcut, and realm trusts 	3.2 4.9 5.6 6.1, 6.2, 6.3, 6.5, 6.6, 6.7, 6.8 7.1, 7.2
1.2	Implement user accounts <ul style="list-style-type: none"> 1.2.1 - Create user accounts 1.2.2 - Manage user accounts 1.2.3 - Configure and manage AD DS passwords 1.2.4 - Configure user rights 1.2.5 - Enforce User Account Control (UAC) 	6.2 7.3, 7.6, 7.7 8.3, 8.5, 8.6
1.3	Implement groups <ul style="list-style-type: none"> 1.3.1 - Create global groups 1.3.2 - Create a distribution group 1.3.3 - Change the group scope 1.3.4 - Implement a group strategy 1.3.5 - Configure restricted groups 1.3.6 - Implement Azure AD Connect Cloud Sync 1.3.7 - Configure intrasite replication 1.3.8 - Configure intersite replication 	6.2, 6.7, 6.8 7.4, 7.6, 7.7 8.7

1.4	<p>Manage Flexible Single-Master Operation (FSMO) roles and global catalog services</p> <p>1.4.1 - Configure global catalog servers 1.4.2 - Transfer RID and PDC masters 1.4.3 - Transfer infrastructure masters 1.4.4 - Troubleshoot operations masters 1.4.5 - Enable Universal Group Membership Caching (UGMC)</p>	6.4
1.5	<p>Manage Group Policy objects (GPOs)</p> <p>1.5.1 - Create and link a GPO 1.5.2 - Create a starter GPO 1.5.3 - Implement Group Policy in Azure AD DS 1.5.4 - Configure a password replication policy</p>	3.2 8.1, 8.2, 8.3, 8.9 9.7
1.6	<p>Deploy software using group policy</p> <p>1.6.1 - Deploy desktop shortcuts 1.6.2 - Configure AppLocker</p>	8.8, 8.9
1.7	<p>Manage group policies</p> <p>1.7.1 - Delegate administrative control 1.7.2 - Configure power options in a GPO</p>	7.7 8.9
1.8	<p>Manage security policies</p> <p>1.8.1 - Configure security options 1.8.2 - Configure audit policies</p>	8.4, 8.6, 8.9 9.6
2.0	Windows Server File and Storage Services	
2.1	<p>Manage Windows Server</p> <p>2.1.1 - Install and Configure the File Server role 2.1.2 - Add server endpoints</p>	2.2 3.1 10.2

	2.1.3 - Configure and manage Azure Storage Spaces	11.5, 11.6
2.2	Implement Azure Arc 2.2.1 - Use Azure Arc to manage Windows Servers 2.2.2 - Use Azure Arc to assign an Azure Policy Guest Configuration	9.3, 9.4, 9.7
2.3	Manage Disks and Volumes 2.3.1 - Create and manage volumes 2.3.2 - Manage Azure data disks 2.3.3 - Add Role Services for DFS and create a namespace	10.1 11.4
2.4	Manage Azure Files and Folders 2.4.1 - Create an Azure storage account and file share 2.4.2 - Configure Azure File Sync Service 2.4.3 - Manage Azure Sync Groups 2.4.4 - Register Azure File Sync servers	3.2 11.5, 11.6
2.5	Manage Shares, Quotas, Caching, and Permissions 2.5.1 - Manage SMB share and NTFS permissions 2.5.2 - Remove inherited permissions 2.5.3 - Enable quota restrictions 2.5.4 - Create quota restrictions and modify quota limits 2.5.5 - Share a folder with a second name 2.5.6 - Manage share caching 2.5.7 - Configure share permissions	10.6, 10.7 11.1, 11.2
3.0	Virtualization	
3.1	Manage Virtual Machines 3.1.1 - Create virtual machines 3.1.2 - Create virtual hard disks and volumes 3.1.3 - Create virtual switches	12.1, 12.2, 12.3, 12.4, 12.6, 12.7, 12.10

	3.1.4 - Resize Azure virtual machines	
3.2	<p>Implement a Virtual Environment</p> <p>3.2.1 - Manage IaaS Virtual Machines in Azure 3.2.2 - Configure connections to virtual machines 3.2.3 - Create parent and child virtual machines</p>	<p>9.4 12.3, 12.5, 12.10</p>
4.0	Networking Services	
4.1	<p>Manage Networking</p> <p>4.1.1 - Configure NIC teaming 4.1.2 - Manage Azure VM network configuration 4.1.3 - Manage IP Addressing 4.1.4 - Configure IP addresses 4.1.5 - Troubleshoot IP configuration 4.1.6 - Configure Alternate IP Addressing 4.1.7 - Configure an IPv6 Address</p>	<p>4.1, 4.2, 4.3, 4.4, 4.7, 4.8, 4.10 12.5, 12.10 13.2, 13.6</p>
4.2	<p>Implement Domain Name System (DNS)</p> <p>4.2.1 - Create and configure DNS zones 4.2.2 - Create and configure DNS records 4.2.3 - Create or convert an Active Directory-Integrated Zone 4.2.4 - Configure DNS forwarders 4.2.5 - Configure DNSSEC 4.2.6 - Create a Root Zone 4.2.7 - Troubleshoot DNS records</p>	<p>4.9 5.1, 5.2, 5.3, 5.4, 5.5 6.1</p>
4.3	<p>Install and Configure DHCP</p> <p>4.3.1 - Configure a DHCP server and options 4.3.2 - Configure DHCP scopes and options 4.3.3 - Configure DHCP exclusions and reservations 4.3.4 - Set up a DHCP Relay Agent 4.3.5 - Manage DHCP Failover 4.3.6 - Troubleshoot DHCP</p>	<p>4.4, 4.5, 4.6, 4.7, 4.8, 4.9</p>

4.4	<p>Manage Remote Access</p> <ul style="list-style-type: none">4.4.1 - Add the Routing and Remote Access Role4.4.2 - Allow Remote Desktop Connections4.4.3 - Configure RADIUS4.4.4 - Configure a VPN server for remote access	2.7 13.1, 13.3, 13.5, 13.6
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Objective Mapping: LabSim Section to Microsoft AZ-800 Objective

The TestOut Hybrid Server Pro: Core course covers the following Microsoft AZ-800: Administering Windows Server Hybrid Core Infrastructure objectives:

Section	Title	Objectives
1.0	Course Introduction	
1.1	Course Introduction	
1.2	Windows and Azure Simulator Interface	2.2 Manage Windows Servers and Workloads by Using Azure Services 2.2.3 - Deploy Azure Services Using Azure Virtual Machine Extensions on Non-Azure Machines 2.2.4 - Manage Updates for Windows Machines
2.0	On-Premise Windows Server	
2.1	Server Installation	2.2 Manage Windows Servers and Workloads by Using Azure Services 2.2.4 - Manage Updates for Windows Machines
2.2	Windows Server Roles	2.2 Manage Windows Servers and Workloads by Using Azure Services 2.2.4 - Manage Updates for Windows Machines 4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios 4.2.2 - Implement and Configure the DHCP Server Role (On-Premises Only)
2.3	PowerShell	2.1 Manage Windows Servers in A Hybrid Environment 2.1.3 - Configure PowerShell Remoting

		<p>3.1 Manage Hyper-V and Guest Virtual Machines</p> <p>3.1.2 - Manage VM Using PowerShell Remoting, PowerShell Direct, and HVC.exe</p>
2.4	Windows Server Core	<p>2.2 Manage Windows Servers and Workloads by Using Azure Services</p> <p>2.2.1 - Manage Windows Servers by Using Azure Arc 2.2.4 - Manage Updates for Windows Machines</p> <p>3.1 Manage Hyper-V and Guest Virtual Machines</p> <p>3.1.2 - Manage VM Using PowerShell Remoting, PowerShell Direct, and HVC.exe</p>
2.5	Windows Server Configuration and Management	<p>2.2 Manage Windows Servers and Workloads by Using Azure Services</p> <p>2.2.1 - Manage Windows Servers by Using Azure Arc</p> <p>4.3 Implement On-Premises and Hybrid Network Connectivity</p> <p>4.3.1 - Implement and Manage the Remote Access Role</p>
2.6	Performance Monitor	<p>2.1 Manage Windows Servers in A Hybrid Environment</p> <p>2.1.2 - Configure A Target Machine for Windows Admin Center</p>
2.7	Remote Management Options	<p>4.3 Implement On-Premises and Hybrid Network Connectivity</p> <p>4.3.1 - Implement and Manage the Remote Access Role</p>
3.0	Cloud and Azure	
3.1	Cloud Concepts	<p>5.1 Configure and Manage Azure File Sync</p> <p>5.1.3 - Create Cloud Endpoints</p>

3.2	Azure Concepts	<p>1.3 Create and Manage AD DS Security Principals</p> <p>1.3.3 - Implement Group Managed Service Accounts (gMSAs)</p> <p>1.4 Implement and Manage Hybrid Identities</p> <p>1.4.7 - Manage Authentication in On-Premises and Hybrid Environments</p> <p>2.2 Manage Windows Servers and Workloads by Using Azure Services</p> <p>2.2.1 - Manage Windows Servers by Using Azure Arc 2.2.7 - Manage IaaS Virtual Machines (VMs) in Azure That Run Windows Server 2.2.8 - Implement Azure Automation for Hybrid Workloads</p> <p>4.3 Implement On-Premises and Hybrid Network Connectivity</p> <p>4.3.8 - Implement Azure Virtual WAN</p> <p>5.3 Configure Windows Server Storage</p> <p>5.3.7 - Configure File Systems</p>
4.0	Manage IP Addressing	
4.1	IP Addressing	<p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.3 - Resolve IP Address Issues in Hybrid Environments</p>
4.2	Troubleshoot IP Configuration Issues	<p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.3 - Resolve IP Address Issues in Hybrid Environments</p>
4.3	Troubleshoot IP Communications	<p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.3 - Resolve IP Address Issues in Hybrid Environments</p>

4.4	DHCP	<p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.2 - Implement and Configure the DHCP Server Role (On-Premises Only) 4.2.5 - Create and Manage Ip Reservations</p>
4.5	DHCP Relay	<p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.2 - Implement and Configure the DHCP Server Role (On-Premises Only)</p>
4.6	Advanced DHCP Management	<p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.2 - Implement and Configure the DHCP Server Role (On-Premises Only) 4.2.3 - Resolve IP Address Issues in Hybrid Environments 4.2.6 - Implement DHCP high availability</p>
4.7	Troubleshoot DHCP	<p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.2 - Implement and Configure the DHCP Server Role (On-Premises Only) 4.2.3 - Resolve IP Address Issues in Hybrid Environments 4.2.4 - Create and Manage Scopes</p>
4.8	IP Version 6	<p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.2 - Implement and Configure the DHCP Server Role (On-Premises Only) 4.2.3 - Resolve IP Address Issues in Hybrid Environments</p>
4.9	IP Address Management (IPAM)	<p>1.2 Configure and Manage Multi-Site, Multi-Domain, and Multi-Forest Environments</p> <p>1.2.1 - Configure and Manage Forest and Domain Trusts</p> <p>4.2 Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.1 - Implement and Manage IPAM</p>

		<p>4.2.2 - Implement and Configure the DHCP Server Role (On-Premises Only)</p> <p>4.2.4 - Create and Manage Scopes</p> <p>4.2.6 - Implement DHCP high availability</p>
4.10	NIC Teaming	<p>3.1 Manage Hyper-V and Guest Virtual Machines</p> <p>3.1.14 - Configure NIC Teaming</p>
5.0	Implement DNS	
5.1	DNS	<p>4.1 Implement On-Premises and Hybrid Name Resolution</p> <p>4.1.2 - Create and Manage Zones and Records</p> <p>4.1.3 - Configure DNS forwarding/Conditional Forwarding</p>
5.2	Name Resolution	<p>4.1 Implement On-Premises and Hybrid Name Resolution</p> <p>4.1.1 - Integrate DNS with AD DS</p> <p>4.1.2 - Create and Manage Zones and Records</p> <p>4.1.3 - Configure DNS forwarding/Conditional Forwarding</p>
5.3	Zone Management	<p>4.1 Implement On-Premises and Hybrid Name Resolution</p> <p>4.1.1 - Integrate DNS with AD DS</p> <p>4.1.2 - Create and Manage Zones and Records</p> <p>4.1.3 - Configure DNS forwarding/Conditional Forwarding</p>
5.4	Troubleshoot DNS	<p>4.1 Implement On-Premises and Hybrid Name Resolution</p> <p>4.1.2 - Create and Manage Zones and Records</p>
5.5	DNS Protection	<p>4.1 Implement On-Premises and Hybrid Name Resolution</p> <p>4.1.1 - Integrate DNS with AD DS</p> <p>4.1.5 - Implement DNSSEC</p>

5.6	Implement Hybrid Name Resolution	<p>4.1 Implement On-Premises and Hybrid Name Resolution</p> <p>4.1.4 - Integrate Windows Server DNS with Azure DNS Private Zones</p>
6.0	Active Directory	
6.1	Active Directory	<p>1.1 Deploy and Manage AD DS Domain Controllers</p> <p>1.1.1 - Deploy and Manage Domain Controllers On-Premises 1.1.2 - Deploy and Manage Domain Controllers in Azure</p> <p>1.2 Configure and Manage Multi-Site, Multi-Domain, and Multi-Forest Environments</p> <p>1.2.1 - Configure and Manage Forest and Domain Trusts</p> <p>1.3 Create and Manage AD DS Security Principals</p> <p>1.3.1 - Create and Manage AD DS Users and Groups 1.3.4 - Join Windows Servers to AD DS, Azure AD DS, and Azure AD</p> <p>4.1 Implement On-Premises and Hybrid Name Resolution</p> <p>4.1.2 - Create and Manage Zones and Records</p>
6.2	Azure Active Directory	<p>1.1 Deploy and Manage AD DS Domain Controllers</p> <p>1.1.1 - Deploy and Manage Domain Controllers On-Premises 1.1.2 - Deploy and Manage Domain Controllers in Azure</p>
6.3	Read-Only Domain Controllers (RODCs)	<p>1.1 Deploy and Manage AD DS Domain Controllers</p> <p>1.1.3 - Deploy Read-Only Domain Controllers (RODCS)</p>
6.4	FSMO Roles and Global Catalog Servers	<p>1.1 Deploy and Manage AD DS Domain Controllers</p> <p>1.1.1 - Deploy and Manage Domain Controllers On-Premises</p>

		1.1.4 - Troubleshoot Flexible Single Master Operations (FSMO) Roles
6.5	Active Directory Trusts	1.2 Configure and Manage Multi-Site, Multi-Domain, and Multi-Forest Environments 1.2.1 - Configure and Manage Forest and Domain Trusts
6.6	Active Directory Sites	1.2 Configure and Manage Multi-Site, Multi-Domain, and Multi-Forest Environments 1.2.2 - Configure and Manage Ad DS Sites
6.7	Active Directory Replication	1.2 Configure and Manage Multi-Site, Multi-Domain, and Multi-Forest Environments 1.2.2 - Configure and Manage Ad DS Sites 1.2.3 - Configure and Manage Ad DS Replication
6.8	Implement and Manage Hybrid Identities	1.4 Implement and Manage Hybrid Identities 1.4.1 - Implement Azure AD Connect 1.4.2 - Manage Azure AD Connect Synchronization 1.4.3 - Implement Azure AD Connect Cloud Sync 1.4.4 - Integrate Azure AD, AD DS, and Azure AD DS 1.4.5 - Manage Azure AD DS 1.4.6 - Manage Azure Ad Connect Health 1.4.7 - Manage Authentication in On-Premises and Hybrid Environments 1.4.8 - Configure and Manage AD DS Passwords
7.0	Active Directory Objects	
7.1	Active Directory Organizational Units	1.1 Deploy and Manage AD DS Domain Controllers 1.1.1 - Deploy and Manage Domain Controllers On-Premises 1.3 Create and Manage AD DS Security Principals

		1.3.1 - Create and Manage AD DS Users and Groups
7.2	Active Directory Computers	1.3 Create and Manage AD DS Security Principals 1.3.1 - Create and Manage AD DS Users and Groups
7.3	Active Directory Users	1.3 Create and Manage AD DS Security Principals 1.3.1 - Create and Manage AD DS Users and Groups
7.4	Active Directory Groups	1.3 Create and Manage AD DS Security Principals 1.3.1 - Create and Manage AD DS Users and Groups
7.5	Active Directory Service Accounts	1.3 Create and Manage AD DS Security Principals 1.3.1 - Create and Manage AD DS Users and Groups 1.3.3 - Implement Group Managed Service Accounts (gMSAs)
7.6	Active Directory Bulk Operations	1.3 Create and Manage AD DS Security Principals 1.3.1 - Create and Manage AD DS Users and Groups
7.7	Delegation of Control	1.3 Create and Manage AD DS Security Principals 1.3.1 - Create and Manage AD DS Users and Groups
8.0	Group Policy	
8.1	Group Policy	1.5 Manage Windows Server by using Domain-Based Group Policies 1.5.1 - Implement Group Policy in AD DS 1.5.3 - Implement Group Policy in Azure AD DS

8.2	Group Policy Management	1.5 Manage Windows Server by using Domain-Based Group Policies 1.5.1 - Implement Group Policy in AD DS
8.3	Password Policies	1.4 Implement and Manage Hybrid Identities 1.4.8 - Configure and Manage AD DS Passwords
8.4	Audit Policies	1.5 Manage Windows Server by using Domain-Based Group Policies 1.5.1 - Implement Group Policy in AD DS
8.5	User Rights Assignment	1.5 Manage Windows Server by using Domain-Based Group Policies 1.5.1 - Implement Group Policy in AD DS
8.6	Security Options	1.5 Manage Windows Server by using Domain-Based Group Policies 1.5.1 - Implement Group Policy in AD DS 1.5.3 - Implement Group Policy in Azure AD DS
8.7	Restricted Groups	1.3 Create and Manage AD DS Security Principals 1.3.1 - Create and Manage AD DS Users and Groups 1.5 Manage Windows Server by using Domain-Based Group Policies 1.5.1 - Implement Group Policy in AD DS 1.5.3 - Implement Group Policy in Azure AD DS
8.8	Application Restriction Policies	1.5 Manage Windows Server by using Domain-Based Group Policies 1.5.1 - Implement Group Policy in AD DS
8.9	Group Policy Preferences	1.5 Manage Windows Server by using Domain-Based Group Policies

		<p>1.5.1 - Implement Group Policy in AD DS</p> <p>1.5.2 - Implement Group Policy Preferences in AD DS</p>
9.0	Manage Servers and Workloads in A Hybrid Environment	
9.1	Windows Admin Center	<p>2.1 Manage Windows Servers in A Hybrid Environment</p> <p>2.1.1 - Deploy A Windows Admin Center Gateway Server</p> <p>2.1.2 - Configure A Target Machine for Windows Admin Center</p>
9.2	Windows PowerShell Remoting	<p>2.1 Manage Windows Servers in A Hybrid Environment</p> <p>2.1.3 - Configure PowerShell Remoting</p> <p>2.1.4 - Configure CredSSP or Kerberos Delegation for Second Hop Remoting</p> <p>2.1.5 - Configure JEA for PowerShell Remoting</p>
9.3	Azure Arc	<p>2.2 Manage Windows Servers and Workloads by Using Azure Services</p> <p>2.2.1 - Manage Windows Servers by Using Azure Arc</p>
9.4	Azure Automation	<p>2.2 Manage Windows Servers and Workloads by Using Azure Services</p> <p>2.2.1 - Manage Windows Servers by Using Azure Arc</p> <p>2.2.4 - Manage Updates for Windows Machines</p> <p>2.2.7 - Manage IaaS Virtual Machines (VMs) in Azure That Run Windows Server</p> <p>2.2.8 - Implement Azure Automation for Hybrid Workloads</p> <p>2.2.9 - Create Runbooks to Automate Tasks on Target VMs</p> <p>2.2.10 - Implement DSC to Prevent Configuration Drift in IaaS Machines</p>
9.5	Azure Monitor	<p>2.2 Manage Windows Servers and Workloads by Using Azure Services</p> <p>2.2.5 - Integrate Windows Servers with Log Analytics</p>

9.6	Azure Security Center	2.2 Manage Windows Servers and Workloads by Using Azure Services 2.2.6 - Integrate Windows Servers with Azure Security Center
9.7	Azure Policy	2.2 Manage Windows Servers and Workloads by Using Azure Services 2.2.2 - Assign Azure Policy Guest Configuration
10.0	Manage Storage Service	
10.1	Configure Disk and Volumes	5.3 Configure Windows Server Storage 5.3.1 - Configure Disks and Volumes
10.2	Configure and Manage Storage Spaces	5.3 Configure Windows Server Storage 5.3.2 - Configure and Manage Storage Spaces 5.3.3 - Configure and Manage Storage Replica
10.3	Storage Replica	5.3 Configure Windows Server Storage 5.3.3 - Configure and Manage Storage Replica
10.4	Data Deduplication	5.3 Configure Windows Server Storage 5.3.4 - Configure Data Deduplication
10.5	Manage Storage and Data Performance	5.3 Configure Windows Server Storage 5.3.5 - Configure SMB Direct 5.3.6 - Configure Storage Quality of Service (QoS)
10.6	Configure File Systems	5.3 Configure Windows Server Storage

		5.3.7 - Configure File Systems
10.7	NTFS Permission Troubleshooting	5.3 Configure Windows Server Storage 5.3.6 - Configure Storage Quality of Service (QoS) 5.3.7 - Configure File Systems
11.0	Manage File Service	
11.1	SMB Shares	5.2 Configure and Manage Windows Server File Shares 5.2.1 - Configure Windows Server File Share Access
11.2	FSRM Quotas and File Screens	5.2 Configure and Manage Windows Server File Shares 5.2.2 - Configure File Screens 5.2.3 - Configure File Server Resource Manager (FSRM) Quotas
11.3	BranchCache Installation and Configuration	5.2 Configure and Manage Windows Server File Shares 5.2.4 - Configure BranchCache
11.4	Distributed File System (DFS) Namespaces	5.2 Configure and Manage Windows Server File Shares 5.2.5 - Implement and Configure Distributed File System (DFS)
11.5	Configure and Manage Azure File Sync (Part 1)	5.1 Configure and Manage Azure File Sync 5.1.1 - Create Azure File Sync Service 5.1.2 - Create Sync Groups 5.1.3 - Create Cloud Endpoints 5.1.4 - Register Servers
11.6	Configure and Manage Azure File Sync (Part 2)	5.1 Configure and Manage Azure File Sync 5.1.1 - Create Azure File Sync Service

		<ul style="list-style-type: none"> 5.1.5 - Create Server Endpoints 5.1.6 - Configure Cloud Tiering 5.1.7 - Monitor File Sync 5.1.8 - Migrate DFS to Azure File Sync
12.0	Virtualization and Containers	
12.1	Virtualization Deployment	<p>3.1 Manage Hyper-V and Guest Virtual Machines</p> <ul style="list-style-type: none"> 3.1.1 - Enable VM Enhanced Session Mode 3.1.3 - Configure Nested Virtualization 3.1.4 - Configure VM Memory 3.1.5 - Configure Integration Services 3.1.12 - Manage VHD and VHDX Files
12.2	Virtual Machines	<p>3.1 Manage Hyper-V and Guest Virtual Machines</p> <ul style="list-style-type: none"> 3.1.1 - Enable VM Enhanced Session Mode 3.1.2 - Manage VM Using PowerShell Remoting, PowerShell Direct, and HVC.exe 3.1.5 - Configure Integration Services 3.1.6 - Configure Discrete Device Assignment 3.1.7 - Configure VM Resource Groups 3.1.8 - Configure VM CPU Groups 3.1.9 - Configure Hypervisor Scheduling Types
12.3	Virtual Machine Storage	<p>3.1 Manage Hyper-V and Guest Virtual Machines</p> <ul style="list-style-type: none"> 3.1.1 - Enable VM Enhanced Session Mode 3.1.10 - Manage VM Checkpoints 3.1.12 - Manage VHD and VHDX Files
12.4	Virtual Networks	<p>3.1 Manage Hyper-V and Guest Virtual Machines</p> <ul style="list-style-type: none"> 3.1.1 - Enable VM Enhanced Session Mode 3.1.5 - Configure Integration Services 3.1.13 - Configure Hyper-V Network Adapter

12.5	Virtual Network Optimization	3.1 Manage Hyper-V and Guest Virtual Machines 3.1.13 - Configure Hyper-V Network Adapter 3.1.14 - Configure NIC Teaming 3.1.15 - Configure Hyper-V Switch
12.6	Virtual Machine Movement	3.1 Manage Hyper-V and Guest Virtual Machines 3.1.11 - Implement High Availability for Virtual Machines 3.1.12 - Manage VHD and VHDX Files
12.7	VHD Storage	3.1 Manage Hyper-V and Guest Virtual Machines 3.1.12 - Manage VHD and VHDX Files
12.8	Hyper-V Replication	3.1 Manage Hyper-V and Guest Virtual Machines 3.1.11 - Implement High Availability for Virtual Machines
12.9	Hyper-V High Availability	3.1 Manage Hyper-V and Guest Virtual Machines 3.1.11 - Implement High Availability for Virtual Machines 3.1.12 - Manage VHD and VHDX Files
12.10	Manage Azure Virtual Machines That Run Windows Server	3.3 Manage Azure Virtual Machines That Run Windows Server 3.3.1 - Manage Data Disks 3.3.2 - Resize Azure Virtual Machines 3.3.3 - Configure Continuous Delivery for Azure Virtual Machines 3.3.4 - Configure Connections to VMs 3.3.5 - Manage Azure Virtual Machines Network Configuration
12.11	Containers	3.2 Create and Manage Containers 3.2.1 - Create Windows Server Container Images 3.2.2 - Manage Windows Server Container Images

		3.2.4 - Manage Container Instances
13.0	On-Premises and Hybrid Network Connectivity	
13.1	Remote Access Role	4.3 Implement On-Premises and Hybrid Network Connectivity 4.3.1 - Implement and Manage the Remote Access Role
13.2	Implement Azure Networking	4.3 Implement On-Premises and Hybrid Network Connectivity 4.3.2 - Implement and Manage Azure Network Adapter 4.3.3 - Implement and Manage Azure Extended Network
13.3	Network Policy Server Role	4.3 Implement On-Premises and Hybrid Network Connectivity 4.3.4 - Implement and Manage Network Policy Server Role
13.4	Implement Web Application Proxy (WAP)	4.3 Implement On-Premises and Hybrid Network Connectivity 4.3.5 - Implement Web Application Proxy
13.5	Virtual Private Networks (VPN)	4.3 Implement On-Premises and Hybrid Network Connectivity 4.3.6 - Implement Azure Relay 4.3.7 - Implement Site-To-Site Virtual Private Network (VPN)
13.6	Implement Azure Virtual WAN	4.3 Implement On-Premises and Hybrid Network Connectivity 4.3.8 - Implement Azure Virtual WAN
13.7	Implement Azure Ad Application Proxy	4.3 Implement On-Premises and Hybrid Network Connectivity 4.3.9 - Implement Azure Ad Application Proxy

A.0	TestOut Hybrid Server Pro: Core - Practice Exams	
A.1	Prepare for TestOut Server Hybrid Pro: Core Certification	
A.2	TestOut Hybrid Server Pro: Core Exam Domain Review	
B.0	Microsoft AZ-800 - Practice Exams	
B.1	Prepare for Microsoft AZ-800 Certification	
B.2	Microsoft AZ-800 Domain Review (20 Questions)	
B.3	Microsoft AZ-800 Domain Review (All Questions)	

Objective Mapping: Microsoft AZ-800 Objective to LabSim Section

The TestOut Hybrid Server Pro: Core course and certification exam cover the following Microsoft AZ-800 Administering Windows Server Hybrid Core objectives:

#	Domain	Module.Section
1.0	Deploy and Manage Active Directory Domain Services (AD DS) In On-Premises and Cloud Environments	
1.1	Deploy and Manage AD DS Domain Controllers 1.1.1 - Deploy and Manage Domain Controllers On-Premises 1.1.2 - Deploy and Manage Domain Controllers in Azure 1.1.3 - Deploy Read-Only Domain Controllers (RODCS) 1.1.4 - Troubleshoot Flexible Single Master Operations (FSMO) Roles	6.1, 6.2, 6.3, 6.4 7.1
1.2	Configure and Manage Multi-Site, Multi-Domain, and Multi-Forest Environments 1.2.1 - Configure and Manage Forest and Domain Trusts 1.2.2 - Configure and Manage Ad DS Sites 1.2.3 - Configure and Manage Ad DS Replication	4.9 6.1, 6.5, 6.6, 6.7
1.3	Create and Manage AD DS Security Principals 1.3.1 - Create and Manage AD DS Users and Groups 1.3.2 - Manage users and Groups in Multi-Domain and Multi-Forest Scenarios 1.3.3 - Implement Group Managed Service Accounts (gMSAs) 1.3.4 - Join Windows Servers to AD DS, Azure AD DS, and Azure AD	3.2 6.1 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7 8.7
1.4	Implement and Manage Hybrid Identities 1.4.1 - Implement Azure AD Connect 1.4.2 - Manage Azure AD Connect Synchronization 1.4.3 - Implement Azure AD Connect Cloud Sync 1.4.4 - Integrate Azure AD, AD DS, and Azure AD DS 1.4.5 - Manage Azure AD DS	3.2 6.8 8.3

	<p>1.4.6 - Manage Azure Ad Connect Health</p> <p>1.4.7 - Manage Authentication in On-Premises and Hybrid Environments</p> <p>1.4.8 - Configure and Manage AD DS Passwords</p>	
1.5	<p>Manage Windows Server by using Domain-Based Group Policies</p> <p>1.5.1 - Implement Group Policy in AD DS</p> <p>1.5.2 - Implement Group Policy Preferences in AD DS</p> <p>1.5.3 - Implement Group Policy in Azure AD DS</p>	8.1, 8.2, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9
2.0	Manage Windows Servers and Workloads in A Hybrid Environment	
2.1	<p>Manage Windows Servers in A Hybrid Environment</p> <p>2.1.1 - Deploy A Windows Admin Center Gateway Server</p> <p>2.1.2 - Configure A Target Machine for Windows Admin Center</p> <p>2.1.3 - Configure PowerShell Remoting</p> <p>2.1.4 - Configure CredSSP or Kerberos Delegation for Second Hop Remoting</p> <p>2.1.5 - Configure JEA for PowerShell Remoting</p>	2.3, 2.6 9.1, 9.2
2.2	<p>Manage Windows Servers and Workloads by Using Azure Services</p> <p>2.2.1 - Manage Windows Servers by Using Azure Arc</p> <p>2.2.2 - Assign Azure Policy Guest Configuration</p> <p>2.2.3 - Deploy Azure Services Using Azure Virtual Machine Extensions on Non-Azure Machines</p> <p>2.2.4 - Manage Updates for Windows Machines</p> <p>2.2.5 - Integrate Windows Servers with Log Analytics</p> <p>2.2.6 - Integrate Windows Servers with Azure Security Center</p> <p>2.2.7 - Manage IaaS Virtual Machines (VMs) in Azure That Run Windows Server</p> <p>2.2.8 - Implement Azure Automation for Hybrid Workloads</p> <p>2.2.9 - Create Runbooks to Automate Tasks on Target VMs</p> <p>2.2.10 - Implement DSC to Prevent Configuration Drift in IaaS Machines</p>	1.2 2.1, 2.2, 2.4, 2.5 3.2 9.3, 9.4, 9.5, 9.6, 9.7
3.0	Manage Virtual Machines and Containers	
3.1	Manage Hyper-V and Guest Virtual Machines	2.3, 2.4

	<ul style="list-style-type: none"> 3.1.1 - Enable VM Enhanced Session Mode 3.1.2 - Manage VM Using PowerShell Remoting, PowerShell Direct, and HVC.exe 3.1.3 - Configure Nested Virtualization 3.1.4 - Configure VM Memory 3.1.5 - Configure Integration Services 3.1.6 - Configure Discrete Device Assignment 3.1.7 - Configure VM Resource Groups 3.1.8 - Configure VM CPU Groups 3.1.9 - Configure Hypervisor Scheduling Types 3.1.10 - Manage VM Checkpoints 3.1.11 - Implement High Availability for Virtual Machines 3.1.12 - Manage VHD and VHDX Files 3.1.13 - Configure Hyper-V Network Adapter 3.1.14 - Configure NIC Teaming 3.1.15 - Configure Hyper-V Switch 	<p style="text-align: center;">4.10</p> <p style="text-align: center;">12.1, 12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 12.9</p>
3.2	<p>Create and Manage Containers</p> <ul style="list-style-type: none"> 3.2.1 - Create Windows Server Container Images 3.2.2 - Manage Windows Server Container Images 3.2.3 - Configure Container Networking 3.2.4 - Manage Container Instances 	12.11
3.3	<p>Manage Azure Virtual Machines That Run Windows Server</p> <ul style="list-style-type: none"> 3.3.1 - Manage Data Disks 3.3.2 - Resize Azure Virtual Machines 3.3.3 - Configure Continuous Delivery for Azure Virtual Machines 3.3.4 - Configure Connections to VMs 3.3.5 - Manage Azure Virtual Machines Network Configuration 	12.10
4.0	Implement and Manage an On-Premises and Hybrid Networking Infrastructure	
4.1	<p>Implement On-Premises and Hybrid Name Resolution</p> <ul style="list-style-type: none"> 4.1.1 - Integrate DNS with AD DS 4.1.2 - Create and Manage Zones and Records 4.1.3 - Configure DNS forwarding/Conditional Forwarding 	<p>5.1, 5.2, 5.3, 5.4, 5.5, 5.6 6.1</p>

	<p>4.1.4 - Integrate Windows Server DNS with Azure DNS Private Zones 4.1.5 - Implement DNSSEC</p>	
4.2	<p>Manage IP Addressing in On-Premises and Hybrid Scenarios</p> <p>4.2.1 - Implement and Manage IPAM 4.2.2 - Implement and Configure the DHCP Server Role (On-Premises Only) 4.2.3 - Resolve IP Address Issues in Hybrid Environments 4.2.4 - Create and Manage Scopes 4.2.5 - Create and Manage Ip Reservations 4.2.6 - Implement DHCP high availability</p>	<p>2.2 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9</p>
4.3	<p>Implement On-Premises and Hybrid Network Connectivity</p> <p>4.3.1 - Implement and Manage the Remote Access Role 4.3.2 - Implement and Manage Azure Network Adapter 4.3.3 - Implement and Manage Azure Extended Network 4.3.4 - Implement and Manage Network Policy Server Role 4.3.5 - Implement Web Application Proxy 4.3.6 - Implement Azure Relay 4.3.7 - Implement Site-To-Site Virtual Private Network (VPN) 4.3.8 - Implement Azure Virtual WAN 4.3.9 - Implement Azure Ad Application Proxy</p>	<p>2.5, 2.7 3.2 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7</p>
5.0	Manage Storage and File Services	
5.1	<p>Configure and Manage Azure File Sync</p> <p>5.1.1 - Create Azure File Sync Service 5.1.2 - Create Sync Groups 5.1.3 - Create Cloud Endpoints 5.1.4 - Register Servers 5.1.5 - Create Server Endpoints 5.1.6 - Configure Cloud Tiering 5.1.7 - Monitor File Sync 5.1.8 - Migrate DFS to Azure File Sync</p>	<p>3.1 11.5, 11.6</p>
5.2	Configure and Manage Windows Server File Shares	11.1, 11.2, 11.3, 11.4

	<p>5.2.1 - Configure Windows Server File Share Access 5.2.2 - Configure File Screens 5.2.3 - Configure File Server Resource Manager (FSRM) Quotas 5.2.4 - Configure BranchCache 5.2.5 - Implement and Configure Distributed File System (DFS)</p>	
5.3	<p>Configure Windows Server Storage</p> <p>5.3.1 - Configure Disks and Volumes 5.3.2 - Configure and Manage Storage Spaces 5.3.3 - Configure and Manage Storage Replica 5.3.4 - Configure Data Deduplication 5.3.5 - Configure SMB Direct 5.3.6 - Configure Storage Quality of Service (QoS) 5.3.7 - Configure File Systems</p>	<p>3.2 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7</p>