Training: Microsoft
# WS-012T00 Windows Server 2019 Hybrid and Azure IaaS

## TRAINING GOALS:

This three-day course is intended primarily for IT Professionals who have experience with managing an on-premises Windows Server environment. Its purpose is to prepare professionals for planning, implementing, and managing environments that include Azure IaaS-hosted Windows Server-based workloads. The course covers how to leverage the hybrid capabilities of Azure, how to migrate virtual and physical server workloads to Azure IaaS, and how to manage and secure Azure VMs running Windows Server 2019.

Audience profile:

This three-day course is intended primarily for Windows Server administrators and system engineers, preparing for transitioning from on-premises to hybrid and cloud only environments. Secondarily, this course benefits any role that involves administrative and operational tasks targeting Microsoft Azure IaaS workloads.

Skills gained:

- Describe the foundational principles of Azure IaaS, including compute, storage, and networking.
- Identify tools used to implement hybrid solutions, including Windows Admin Center and PowerShell.
- Implement identity in Hybrid scenarios, including AD DS on Azure IaaS and managed AD DS.

## CONSPECT:

- Introducing Azure Hybrid IaaS with Windows Server 2019
  - Overview of Azure IaaS
  - Overview of the Azure Hybrid Model
  - Using hybrid admin tools
  - Implementing Identity in Hybrid Scenarios
  - Implementing AD DS on Azure IaaS
  - Integrating AD DS with Azure AD
  - Implementing managed AD DS environments
  - Lab : Implementing integration between AD DS and Azure AD
    - Preparing Azure AD for integration with AD DS
    - Preparing on-premises AD DS for integration with Azure AD



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        - Downloading, installing, and configuring Azure AD Connect
        - Verifying integration between AD DS and Azure AD
        - Implementing Azure AD integration features in AD DS
    - Facilitating hybrid management and operational monitoring in hybrid scenarios
        - Windows Admin Center
        - Azure Arc
        - Azure Monitor
        - Azure Automation
        - Lab : Using Windows Admin Center in hybrid scenarios
            - Provisioning Azure VMs running Windows Server 2019
            - Testing hybrid connectivity via Azure Network Adapter
            - Deploying Windows Admin Center gateway in Azure
            - Verifying functionality of Windows Admin Center gateway in Azure
    - Implementing security solutions in hybrid scenarios
        Azure Security Center
        - Azure Sentinel
        - Managing Windows Updates
        - Lab : Using Azure Security Center in hybrid scenarios
            - Provisioning Azure VMs running Windows Server 2019
            - Configuring Azure Security Center
            - Onboarding on-premises Windows Server 2019 into Azure Security Center
            - Verifying the hybrid capabilities of Azure Security Center
    - Implementing File Services in hybrid scenarios
        Implementing Azure Files
        - Implementing Azure File Sync
        - Lab : Implementing Azure File Sync
            - Implementing DFS Replication in your on-premises environment
            - Creating and configuring a sync group
            - Replacing DFS Replication with File Sync–based replication
            - Verifying replication and enabling cloud tiering
            - Troubleshooting replication issues
    - Deploying and configuring Azure VMs
        - Deploying Azure VMs
        - Configuring Azure VM networking
        - Configuring Azure VM storage
        - Configuring Azure VM security
        - Lab : Deploying and configuring Windows Server 2019 on Azure VMs



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        - Authoring ARM templates for Azure VM deployment
        - Modifying ARM templates to include VM extension-based configuration
        - Deploying Azure VMs running Windows Server 2019 by using ARM templates
        - Configuring administrative access to Azure VMs running Windows Server 2019
        - Configuring Windows Server 2019 security in Azure VMs
    - Managing and maintaining Azure VMs
        - Managing Azure VMs running Windows Server 2019
        - Maintaining Azure VMs running Windows Server 2019
        - Lab : Managing Azure VMs running Windows Server 2019
            - Provisioning Azure VMs running Windows Server 2019
            - Managing Windows Server 2019 in Azure VMs by using Windows Admin Center
            - Managing Windows Server 2019 in Azure VMs from Cloud Shell by using PowerShell Remoting
            - Managing Windows Server 2019 in Azure VMs by using Run Command
            - Managing Windows Server 2019 in Azure VMs by using Run Command
            - Managing Windows Server 2019 in Azure VMs by using Azure Policies via Guest Configuration extension
    - Planning and implementing migration and recovery services in hybrid scenarios
        - Azure Migrate
        - Storage Migration Server
        - Azure Site Recovery
        - Storage Replica
        - Azure Backup
        - Lab : Implementing Azure-based recovery services
            - Provisioning Azure VMs running Windows Server 2019
            - Implementing Azure Site Recovery
            - Implementing Azure Backup
        - Lab : Testing Azure-based recovery services
            - Testing Azure Backup–based backup and restore
            - Testing Azure Site Recovery failover

## REQUIREMENTS:

- Experience with managing Windows Server operating system and Windows Server workloads in on-premises scenarios, including AD DS, DNS, DFS, Hyper-V, and File and Storage Services
- Experience with common Windows Server management tools (implied by the first prerequisite).
- Basic knowledge of core Microsoft compute, storage, networking, and virtualization



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technologies (implied by the first prerequisite).

- Basic knowledge of on-premises resiliency Windows Server-based compute and storage technologies (Failover Clustering, Storage Spaces).
- Basic experience with implementing and managing IaaS services in Microsoft Azure.
- Basic knowledge of Azure Active Directory.
- Basic understanding security-related technologies (firewalls, encryption, multi-factor authentication, SIEM/SOAR).
- Basic knowledge of PowerShell scripting.

An understanding of the following concepts as related to Windows Server technologies:

- High Availability and Disaster Recovery
- Automation
- Monitoring

## Difficulty level

## CERTIFICATE:

The participants will obtain Microsoft certificates.

## TRAINER:

Microsoft Certified Trainer.



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