

# Sela.

20533D

## Implementing Microsoft Azure Infrastructure Solutions

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# Implementing Microsoft Azure Infrastructure Solutions

20533D - Version: 1

 5 days Course

## Description:

This course teaches IT professionals how to provision and manage services in Microsoft Azure. Students will learn how to implement infrastructure components such as virtual networks, virtual machines, containers, web and mobile apps, and storage in Azure. Students also will learn how to plan for and manage Azure AD, and configure Azure AD integration with on-premises Active Directory domains.

## Intended audience:

This course is intended for IT professionals who have some knowledge of cloud technologies and want to learn more about Azure.

This course is intended for:

IT professionals who want to deploy, configure, and administer services, containers, and virtual machines (VMs) in Azure.

IT professional who use Microsoft System Center to manage and orchestrate server infrastructure.

Windows Server administrators who are looking to evaluate and migrate on-premises Active Directory roles and services to the cloud.

IT professionals who want to use Azure to host websites and mobile app back-end services.

IT professionals who are experienced in other non-Microsoft cloud technologies, meet the course prerequisites, and want to cross-train on Azure.



IT professionals who want to take the Microsoft Certification Exam 70-533: “Implementing Microsoft Azure Infrastructure Solutions.”

## Prerequisites:

Completed the Microsoft Certified Systems Administrator (MCSA) certification in Windows Server 2012 or Windows Server 2016.

Understanding of on-premises virtualization technologies, including: VMs, virtual networking, and virtual hard disks.

Understanding of network configuration, including: TCP/IP, Domain Name System (DNS), virtual private networks (VPNs), firewalls, and encryption technologies.

Understanding of websites, including: how to create, configure, monitor and deploy a website on Internet Information Services (IIS).

Understanding of Active Directory concepts, including: domains, forests, domain controllers, replication, Kerberos protocol, and Lightweight Directory Access Protocol (LDAP).

Understanding of resilience and disaster recovery, including backup and restore operations.

## Objectives:

Describe Azure architecture components, including infrastructure, tools, and portals.

Implement and manage virtual networking within Azure and configure cross-premises connectivity.

Plan and create Azure VMs.

Configure, manage, and monitor Azure VMs to optimize availability and reliability.

Implement Azure App Service.

Plan and implement storage, backup, and recovery services.

Implement container-based workloads in Azure.

Deploy, configure, monitor, and diagnose cloud services.

Implement Azure AD.

Manage an Active Directory infrastructure in a hybrid environment.

Automate operations in Azure by using Azure Automation runbooks.

## Topics:



## Introduction to Azure

- Cloud technology overview
- Overview of Azure
- Managing Azure with the Azure portal
- Managing Azure with Windows PowerShell
- Managing Azure with Azure CLI
- Overview of Azure deployment models
- Managing and monitoring Azure resources
- Lab : Managing Microsoft Azure
  - Using the Azure portals
  - Using the Azure Resource Manager features in the Azure portal
  - Using Azure PowerShell
  - Using Azure CLI

## Implementing and managing Azure networking

- Overview of Azure networking
- Implementing and managing virtual networks
- Configuring an Azure virtual network
- Configuring virtual network connectivity
- Overview of Azure classic networking
- Lab : Using a deployment template and Azure PowerShell to implement Azure virtual networks
  - Creating an Azure virtual network by using a deployment template
  - Creating a virtual network by using Azure PowerShell
  - Creating a virtual network by using Azure CLI
- Lab : Configuring VNet peering
  - Using the Azure portal to configure VNet peering



- Configuring VNet peering–based service chaining
- Validating virtual network connectivity

## Implementing virtual machines

- Overview of Azure VMs
- Planning deployment of Azure VMs
- Deploying Azure VMs
- Overview of classic Azure VMs
- Lab : Deploying Azure VMs
  - Creating Azure VMs by using the Azure portal, Azure PowerShell, and Azure CLI
  - Validating Azure VM deployment
- Lab : Deploying Azure VMs by using Azure Resource Manager templates
  - Using Visual Studio and an Azure Resource Manager template to deploy Azure VMs
  - Using Azure PowerShell and an Azure Resource Manager template to deploy Azure VMs
  - Using Azure CLI and an Azure Resource Manager template to deploy Azure VMs

## Managing Azure VMs

- Configuring Azure VMs
- Managing disks of Azure VMs
- Managing and monitoring Azure VMs
- Managing classic Azure VMs
- Lab : Managing Azure VMs
  - Implementing Desired State Configuration (DSC)
  - Implementing Storage Spaces–based volumes

## Implementing Azure App Service

- Introduction to App Service



- Planning app deployment in App Service
- Implementing and maintaining web apps
- Configuring web apps
- Monitoring web apps and WebJobs
- Implementing mobile apps
- Implementing Traffic Manager
- Lab : Implementing web apps
  - Creating web apps
  - Deploying web apps
  - Managing web apps
  - Implementing Traffic Manager

## Planning and implementing storage, backup, and recovery services

- Planning storage
- Implementing and managing Azure Storage
- Implementing Azure CDNs
- Implementing Azure Backup
- Planning and implementing Azure Site Recovery
- Lab : Planning and implementing Azure Storage
  - Creating and configuring Azure Storage
  - Using Azure File storage
  - Protecting data with Azure Backup

## Implementing containers in Azure

- Implementing Windows and Linux containers in Azure
- Implementing Azure Container Service
- Lab : Implementing containers on Azure VMs
  - Implementing Windows and Linux containers in Azure



- Deploying containers to Azure VMs
- Deploying multicontainer applications with Docker Compose to Azure VMs
- Implementing Azure Container Registry
- Lab : Implementing Azure Container Service
  - Creating an ACS cluster
  - Managing an ASC cluster

## Implementing Azure Cloud Services

- Planning and deploying Azure Cloud Services
- Managing and maintaining Azure Cloud Services
- Lab : Implementing Azure Cloud Services
  - Deploying a cloud service
  - Configuring deployment slots and Remote Desktop Protocol (RDP)
  - Monitoring cloud services

## Implementing Azure Active Directory

- Creating and managing Azure AD tenants
- Configuring application and resource access with Azure AD
- Overview of Azure AD Premium
- Lab : Implementing Azure AD
  - Administering Azure AD
  - Configuring SSO
  - Configuring Multi-Factor Authentication
  - Configuring SSO from a Windows 10–based computer

## Managing an Active Directory infrastructure in a hybrid environment

- Extending an on-premises Active Directory domain to Azure IaaS

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- Implementing directory synchronization by using Azure AD Connect
- Implementing SSO in hybrid scenarios
- Lab : Implementing and managing Azure AD synchronization
  - Configuring directory synchronization
  - Synchronizing directories

## Implementing Azure-based management and automation

- Implementing OMS
- Implementing Azure Automation
- Implementing Automation runbooks
- Implementing Azure Automation–based management
- Lab : Implementing Automation
  - Configuring Automation accounts
  - Creating runbooks