



Mildain Solutions

Implementing Microsoft Azure Infrastructure Solutions - 20533 Course Outline

(5 days)

Overview

This course is aimed at experienced IT Professionals who currently administer their on-premise infrastructure. The course introduces the student to Microsoft Azure and then teaches them how to manage their infrastructure in Azure rather than on premise.

***** NOTE: This class also available in On-Demand, eLearning Format *****

Too busy at work to miss 5 days out of the office to take this class? Consider the MOC On-Demand version of this course. Watch videos developed by Microsoft, take the same hands-on labs, access an online expert 24/7, and study at on your own time, at your own pace.

Audience Profile

Primary audience

This course is intended for:

- Information Technology (IT) professionals who have some knowledge of cloud technologies and want to learn more about Microsoft Azure.
- IT professionals who want to deploy, configure, and administer services and virtual machines in Microsoft Azure.
- IT professional who have used Microsoft System Center to manage and orchestrate a Microsoft 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 Windows Azure to host web sites and mobile app back-



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end services.

- IT professionals who are experienced in other non-Microsoft cloud technologies, who meet the course prerequisites, and are looking to cross-train on Microsoft Azure.
- IT professionals who want to take the Microsoft Certification exam, 70-533, Implementing Microsoft Azure Infrastructure Solutions.

Secondary audience

Engineers who have used DevOps approaches to optimize the management and lifecycle of the software in their organization.

Prerequisites

In addition to their professional experience, students who attend this training should already have the following technical knowledge:

- Understanding of on-premises virtualization technologies including: virtual machines, virtual networking, and virtual hard disks.
- Understanding of network configuration including: TCP/IP, DNS, virtual private networks, firewalls, and encryption technologies.
- Understanding of websites including: create, configure, monitor and deploy a website on Internet Information Services (IIS).
- Understanding of Active Directory concepts including: Domains, Forests, Domain Controllers, replication, Kerberos, and LDAP.
- Understanding of database concepts including: Tables, queries, Structured Query Language (SQL), and database schemas
- Understanding of resilience and disaster recovery including: backup and restore operations.

Students who attend this training can meet the prerequisites by attending the following course, or obtaining equivalent knowledge and skills:

- Completing the MCSA certification in Windows Server 2012.
- Completing the 10979 Azure Essentials course.



At Course Completion

After completing this course, students will be able to:

- Describe Azure architecture components including infrastructure, tools, and portals.
- Implement and manage virtual networking within Azure and to connect to on-premises environments.
- Plan and create Azure virtual machines.
- Configure, manage, and monitor Azure virtual machines to optimize availability and reliability.
- Implement, manage, backup and monitor storage solutions.
- Plan and implement data services based on SQL Database to support applications.
- Deploy and configure websites.
- Deploy, configure, monitor, and diagnose cloud services.
- Publish content through CDNs and publish videos by using Media Services.
- Create and manage Azure AD directories, and configure application integration with Azure AD.
- Integrate on-premises Windows AD with Azure AD.
- Automate operations in Azure management by using PowerShell runbooks.

Course Outline

Module 1: Introduction to Azure

This module provides the students a high level introduction to Azure.

Lessons

- Cloud Technology Overview
- Microsoft Azure
- Azure Portals
- Managing Azure with Windows PowerShell

Lab : Introduction to Azure

- Navigating the Portals
- Installing and Using Windows Azure PowerShell



- Planning Hosting in Azure

Module 2: Implementing and Managing Virtual Networks

In this module students will learn how to Implement Virtual Networks, why they are important and how to manage them post-implementation.

Lessons

- Planning Virtual Networks
- Administering Virtual Networks
- Inter-Site Connectivity

Lab : Implementing and Managing Virtual Networks

- Designing the Sub-Nets
- Creating the Virtual Network
- Connecting the Virtual Networks
- Validating Connectivity
- Configuring a Point-to-Site VPN

Module 3: Implement Virtual Machines

In this module students will learn how to plan and implement virtual machines, including use of the Microsoft Assessment and Planning (MAP) for Azure toolkit. Students will learn about the differences between on-premise and Azure virtual machines, and of different ways to implement VMs.

Lessons

- Planning Virtual Machine Workloads
- Using the Microsoft Assessment and Planning Toolkit for Azure
- Creating Virtual Machines

Lab : Implementing Virtual Machines

- Planning Virtual Machines
- Deploying Windows Virtual Machines
- Deploying Linux Virtual Machines



Module 4: Managing Virtual Machines

Having previously learnt how to implement virtual machines students will now learn how to manage the machines they have implemented.

Lessons

- Configuring Virtual Machines
- Managing and Monitoring Virtual Machines

Lab : Managing Virtual Machines

- Configuring Virtual Machine Storage
- Exploring Availability

Module 5: Implementing Websites

In this module students will learn how to plan for website deployment, covering different levels of website and differing deployment models. They will then learn how to deploy a website, how to configure the site, how to monitor the performance of the site, what Webjobs are and how to use them and finally what Traffic Manager is and how it is used.

Lessons

- Planning for Website Deployment
- Deploying Websites
- Configuring Websites
- Monitoring Websites and WebJobs
- Traffic Manager

Lab : Implementing Websites

- Creating Websites
- Deploying a Website
- Managing Websites
- Implementing Traffic Manager

Module 6: Planning and Implementing Storage

In this module students will look at types of storage, how to choose/plan storage, storage accounts, and affinity groups. They will move on to learn how implement BLOBs and azure files, recovery services and backup, diagnostics, monitoring, and analytics.



Lessons

- Planning Storage
- Implementing and Managing Storage
- Backing up and Monitoring Storage

Lab : Planning and Implementing Storage

- Creating and Configuring Storage
- Using Azure File Storage
- Protecting Data with Azure Backup

Module 7: Planning and Implementing Data Services

In this module students will look at the differences between SQL databases on-premise and Azure SQL databases. They will learn how to implement Azure SQL databases, how to migrate data to SQL Azure, how to monitor the databases once created in Azure and about business continuity using database copy and export, Self-service restore and Geo-replication.

Lessons

- Data Services in Microsoft Azure
- Implementing Azure SQL Database
- Managing Azure SQL Database Security
- Monitoring Azure SQL Database
- Managing Azure SQL Database Business Continuity

Lab : Planning and Implementing Data Services

- Configuring Azure SQL Database
- Migrating a Database to SQL Database
- Restoring a Database

Module 8: Implementing Cloud Services and Mobile Services

In this module students will look at cloud services and how they compare to VM and website execution models. They will also look at Web roles and worker roles. They will then move onto learn about deploying and configuring cloud services. They will also look a mobile services, at how to create, deploy and configure. Finally they will learn about monitoring and diagnostics



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Lessons

- Planning for Cloud Service Deployment
- Deploying Packages
- Configuring Cloud Services
- Implementing Mobile Services
- Monitoring and Diagnostics

Lab : Implementing Cloud Services

- Deploying a Cloud Service
- Configuring Cloud Services Networking
- Monitoring Cloud Services

Module 9: Implementing Content Delivery Networks and Media Services

In this module students learn what a content delivery network is and how to implement one. They then move on to look at Azure Media Services, and how to utilize media in Azure.

Lessons

- Implementing Azure Content Delivery Networks
- Publishing Content with Azure Media Services

Lab : Implementing Content Delivery Networks and Cloud Services

- Configuring a Content Delivery Network
- Adding Content to the Source Service
- Creating a Media Services Account and Upload Content
- Publishing and Scaling Media Content
- Accessing Content Delivery Network and Media Services Content

Module 10: Implementing Azure Active Directory

In this module students will learn how to implement Azure Active directory, and then manage users within the directory. They will also look at adding customer domains, at multi-factor authentication and at application integration with Azure active Directory. Finally they will learn about the features and benefits offered by Azure Active Directory Premium.

Lessons

- Creating and Managing Azure Directories



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- Configuring Application Integration with Azure Active Directory
- Overview of Azure Active Directory Premium

Lab : Implementing Azure Active Directory

- Administering Active Directory
- Configuring Single Sign-On

Module 11: Managing Active Directory in a Hybrid Environment

In this module students learn about managing Active Directory in a Hybrid environment. They start by looking at extending the on-premises active directory into the cloud, and how to manage Office 365 users. They then move on to learn about Directory Synchronization (Dir Synch) and federation (AD FS).

Lessons

- Extending On-Premises Active Directory into Azure
- Directory Synchronization
- Implementing Federation

Lab : Managing an Active Directory Hybrid Environment

- Determining Integration Requirements
- Synchronizing Directories

Module 12: Implementing Automation

This module starts with an introduction to automation and the components. The student then moves on to look at PowerShell Workflows, particularly the move from PowerShell scripts to worklows and finally looks at managing automation through creating and publishing runbooks, creating and scheduling jobs and monitoring job execution.

Lessons

- Overview of Automation Components
- PowerShell Workflows
- Managing Automation

Lab : Implementing Automation

- Configuring Automation Accounts
- Creating Runbooks