ProTech Professional Technical Services, Inc.

MOC 10979 F: Introduction to Microsoft Azure for IT Professionals

Course Summary

Description

This course provides the underlying knowledge required by ITPros/Devs who will be evaluating Microsoft Azure, whether they are administrators, developers, or database administrators.

This course introduces students to the principles of cloud computing. Students will become familiar with how these principles have been implemented in Microsoft Azure. In addition, this course explains how to implement the core Azure infrastructure, consisting of virtual networks and storage. With this foundation, students will be able to create the most common Azure services, including Azure Virtual Machines, Web Apps, and Azure SQL Database. The students will also learn about container-based Azure services and the most prominent examples of serverless computing. The course concludes by describing features of Azure Active Directory (Azure AD).

Objectives

After taking this course, students will be able to:

- Describe cloud computing, Azure, and Azure subscriptions.
- Use Azure PowerShell, the Azure Software Development Kit (SDK), and the Azure command-line interface (CLI) to manage Azure subscriptions.
- Create and configure virtual machines in Azure, and manage their disks.
- Create, configure, and monitor web apps in Azure and deploy Azure
- platform as a service (PaaS) cloud services.
- Create and configure Azure virtual networks.
- Create, manage, and configure cloud storage in Azure.
- Use Azure SQL Database to create, configure, and manage SQL databases.
- Create and manage Azure AD.

Topics

- Getting started with Microsoft Azure
- Microsoft Azure management tools
- Virtual machines in Microsoft Azure
- Azure Web Apps
- Implementing Azure networking
- Introduction Azure Storage and Data Services
- Introduction to containers and serverless computing in Azure
- Configuring and managing Azure AD

Audience

This course is intended for individuals who want to evaluate deploying, configuring, and administering services and virtual machines (VMs) by using Azure. This includes:
- Developers who want to evaluate creating Azure solutions.
- Windows Server administrators who want to evaluate the migration of on-premises Active Directory roles and services to the cloud.
- IT professionals who want to evaluate the use of Azure to host websites and mobile app back-end services.
- Database administrators who want to evaluate the use of Azure to host SQL databases

Course Outline

Course Summary (cont.)

Prerequisite

Before attending this course, students must have a background in IT. In addition to their professional experience, students who attend this training should already have the following technical knowledge:

- Understanding of how to deploy websites
- A basic understanding of virtualization
- A basic understanding of Active Directory concepts, including domains, users, and domain controllers
- A basic understanding of database concepts, including tables and simple queries

Duration

Two Days

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Course Outline

I. *Getting started with Microsoft Azure*
This module introduces students to cloud services and the various Azure services. It describes how to use the Azure portal to access and manage Azure services, and to manage Azure subscription and billing.
   A. What is cloud computing?
   B. What is Azure?
   C. Managing Azure
   D. Subscription management, support, and billing
   - Lab : Using the Azure portals
     - Customizing the Azure portal interface
     - Viewing billing, usage, and quotas data

II. *Microsoft Azure management tools*
This module explains Azure PowerShell and its use in managing Azure subscriptions. It also describes how to use the Azure SDK and the Azure CLI to manage Azure subscriptions
   A. What is Azure PowerShell?
   B. Azure SDK and Azure CLI
   - Lab : Using Microsoft Azure management tools
     - Using the Azure PowerShell modules
     - Using the Azure CLI

III. *Virtual machines in Microsoft Azure*
This module explains how to create and configure virtual machines in Azure and how to manage disks for virtual machines.
   A. Creating and configuring Azure VMs
   B. Configuring Azure VM storage
   - Lab : Creating a VM in Azure
     - Creating a VM from the Azure portal by using an Azure Marketplace image
     - Verifying the functionality of the VM
     - Configuring storage of a VM

IV. *Azure Web Apps*

This module explains how to create, configure, and monitor web apps in Azure.
   A. Creating and configuring Azure web apps
   B. Deploying and monitoring Azure web apps
   - Lab : Creating and managing Azure web apps
     - Creating and configuring an Azure web app

V. *Implementing Azure networking*
This module explains how to create and implement Azure networks and how to use their components to enhance the resiliency and availability of virtual machines.
   A. Getting started with Azure networking
   B. Getting started with Azure Load Balancer
   - Lab : Creating and configuring virtual networks
     - Creating a virtual network
     - Creating an Azure load balancer

VI. *Introduction Azure Storage and Data Services*
This module explains the features and benefits of Azure storage and data services.
   A. Understanding Azure Storage options
   B. Creating and managing storage
   C. Understanding options for relational database deployments
   D. Creating and connecting to Azure SQL databases
   - Lab : Configuring Azure Storage
     - Creating and configuring an Azure Storage account
     - Creating and managing blobs
   - Lab : Creating a SQL Database in Azure
     - Creating a new Azure SQL database in Azure and configuring SQL Server firewall rules

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- Managing content of an Azure SQL database by using SQL Server Management Studio

VII. *Introduction to containers and serverless computing in Azure*
This module explains the options for implementing containers and describes the serverless technologies available in Azure.
  A. Implementing Windows and Linux containers in Azure
  B. Introduction to Azure serverless computing
  - Lab : Implementing containers on Azure VMs
    - Implementing Docker hosts on Azure VMs
    - Deploying containers to Azure VMs
    - Deploying multicontainer applications with Docker Compose to Azure VMs

VIII. *Configuring and managing Azure AD*
This module explains how to create users, domains, and directories in Azure AD, integrate applications with Azure AD, and use Multi-Factor Authentication.
  A. Overview of Azure AD
  B. Manage Azure AD authentication and authorization
    - Lab : Create and manage Azure Active Directory