



20487: Developing Microsoft® Azure® and Web Services

Duration: 5 Days

Method: Instructor-Led Training (ILT) | Live Online Training

Course Description

In this course, participants will learn how to design and develop services that access local and remote data from various sources. They will also learn how to develop and deploy services to hybrid environments, including on-premises servers and Microsoft Azure.

Target Audience

This course is intended for:

- .NET developers who want to learn how to develop services and deploy them to hybrid environments.
- .NET developers with Web application development experience who are exploring developing new applications or porting existing applications to Microsoft Azure.

Prerequisites

To attend this course, candidates must have:

- Experience with C# programming, and concepts such as lambda expressions, LINQ, and anonymous types.
- Understanding of the concepts of n-tier applications.
- Experience with querying and manipulating data with ADO.NET.

Course Objectives

Upon successful completion of this course, attendees will be able to:

- Describe the basic concepts of service development and data access strategies using the .NET platform.
- Describe the Microsoft Azure cloud platform and its compute, data, and application hosting offerings.
- Design and develop a data-centric application using Visual Studio® 2017 and Entity Framework Core.
- Design, implement and consume HTTP services using ASP.NET Core.
- Extend HTTP services using ASP.NET Core.



Course Objectives *Continued*

- Host services on-premises and in Microsoft Azure.
- Deploy services to both on-premises and cloud environments and manage the interface and policy for their services.
- Choose a data storage solution, cache, distribute, and synchronize data.
- Monitor, log, and troubleshoot services.
- Describe claims-based identity concepts and standards and implement authentication and authorization with Azure Active Directory®.
- Create scalable service applications.

Course Topics

Module 1: Overview of Service and Cloud Technologies

- Key Components of Distributed Applications
- Data and Data Access Technologies
- Service Technologies
- Cloud Computing
- Manipulating Data

Module 2: Querying and Manipulating Data Using Entity Framework

- ADO.NET Overview
- Creating an Entity Data Model
- Querying Data

Module 3: Creating and Consuming ASP.NET Core Web APIs

- HTTP Services
- Creating an ASP.NET Core Web API
- Consuming ASP.NET Core Web APIs
- Handling HTTP Requests and Responses
- Automatically Generating HTTP Requests and Responses

Module 4: Extending ASP.NET Core HTTP Services

- The ASP.NET Core Request Pipeline
- Customizing Controllers and Actions
- Injecting Dependencies into Controllers



Course Topics *Continued*

Module 5: Hosting Services On-Premises and In Azure

- Hosting Services on-premises
- Hosting Services in Azure App Service
- Packaging Services in Containers
- Implementing Serverless Services

Module 6: Deploying and Managing Services

- Web Deployment with Visual Studio 2017
- Continuous Delivery with Visual Studio Team Services
- Deploying Applications to Staging and Production Environments
- Defining Service Interfaces with Azure API Management

Module 7: Implementing Data Storage in Azure

- Choosing a Data Storage Mechanism
- Accessing Data in Azure Storage
- Working with Structured Data in Azure
- Geographically Distributing Data with Azure CDN
- Scaling with Out-of-Process Cache

Module 8: Diagnostics and Monitoring

- Logging in ASP.NET Core
- Diagnostic Tools
- Application Insights

Module 9: Securing Services On-Premises and In Microsoft Azure

- Explaining Security Terminology
- Securing Services with ASP.NET Core Identity
- Securing Services with Azure Active Directory

Module 10: Scaling Services

- Introduction to Scalability
- Automatic Scaling
- Azure Application Gateway and Traffic Manager

LABS INCLUDED

