

MVS3-7 - MOC 20487 - DEVELOPING WINDOWS AZURE AND WEB SERVICES

Categoria: **Visual Studio**

INFORMAZIONI SUL CORSO



Durata:
5 Giorni



Categoria:
Visual Studio



Qualifica Istruttore:
**Microsoft Certified
Trainer**



Dedicato a:
Sviluppatore



Produttore:
Microsoft

OBIETTIVI

After completing this course, students 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.
- 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 claim-based identity concepts and standards, and implement authentication and authorization with Azure Active Directory.
- Create scalable service applications.

PREREQUISITI

Before attending this course, students must have:

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

CONTENUTI

Module 1: Overview of service and cloud technologies

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

Lab : Exploring the Work Environment

- Creating an ASP.NET Core project
- Create a simple Entity Framework model
- Create a web API class
- Deploy the web application to Azure

Module 2: Querying and Manipulating Data Using Entity Framework

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

Lab : Creating a Data Access Layer using Entity Framework

- Creating a data model
- Query the Database

Lab : Manipulating Data

- Create repository methods
- Test the model using SQL Server and SQLite

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

Lab : Creating an ASP.NET Core Web API

- Create a controller class
- Use the API from a browser
- Create a client

Module 4: Extending ASP.NET Core HTTP Services

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

Lab : Customizing the ASP.NET Core Pipeline

- Use Dependency Injection to Get a Repository Object
- Create a Cache Filter
- Create a Debugging Middleware

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

Lab : Host an ASP.NET Core service in a Windows Service

- Creating a new ASP.NET Core Application
- Registering the Windows Service

Lab : Host an ASP.NET Core Web API in an Azure Web App

- Create a Web App in the Azure portal
- Deploy an ASP.NET Core Web API to the Web App

Lab : Host an ASP.NET Core service in Azure Container Instances

- Publish the service to a Docker container

- Host the service in Azure Container Instances

Lab : Implement an Azure Function

- Develop the service locally
- Deploy the service to Azure Functions

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

Lab : Deploying an ASP.NET Core web service on Linux

- Publish the ASP.NET Core web service for Linux
- Configure Nginx as a reverse proxy

Lab : Deploying to Staging and Production

- Deploy the application to production
- Create a staging slot
- Swap the Environments

Lab : Publishing a Web API with Azure API Management

- Creating an Azure API Management instance
- Testing and managing the API

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

Lab : Storing Files in Azure Storage

- Store publicly accessible files in Azure Blobs
- Generate and store private files in Azure Blobs

Lab : Querying Graph Data with CosmosDB

- Create the CosmosDB graph database
- Query the CosmosDB database

Lab : Caching out-of-process with Azure Redis cache

- Create the Azure Redis Cache service
- Access the cache service from code
- Test the application

Module 8: Diagnostics and Monitoring

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

Lab : Monitoring ASP.NET Core with ETW and LTTng

- Collect and view ETW events
- Collect and view LTTng events

Lab : Monitoring Azure Web Apps with Application Insights

- Add the Application Insights SDK
- Load test the web service
- Analyze the performance results

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

Lab : Using ASP.NET Core Identity

- Add ASP.NET Core Identity middleware
- Add authorization code
- Run a client application to test the server

Lab : Using Azure Active Directory with ASP.NET Core

- Authenticate a client application using AAD B2C and MSAL.js

Module 10: Scaling Services

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

Lab : Load Balancing Azure Web Apps

- Prepare the application for load-balancing
- Test the load balancing with instance affinity
- Test the load balancing without affinity

Lab : Load Balancing with Azure Traffic Manager

- Deploy an Azure Web App to multiple regions
- Create an Azure Traffic Manager profile

INFO

Materiale didattico: Materiale didattico in formato digitale

Costo materiale didattico: incluso nel prezzo del corso a Calendario

Natura del corso: Operativo (previsti lab su PC)