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

Categoria: **Visual Studio**

INFORMAZIONI SUL CORSO

Durata:	Categoria:	Qualifica Istruttore:	Dedicato a:	Produttore:
5 Giorni	Visual Studio	Microsoft Certified Trainer	Sviluppatore	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)