

Developing Windows Azure and Web Services (20487)

- **Formato do curso:** Presencial
- **Localidade:** Lisboa
- **Com certificação:** Microsoft Certified Solutions Developer (MCSD)
- **Data:** 25 Jun. 2019 a 16 Jul. 2019
- **Preço:** 1670€
- **Promoção:** -415€
- **Horário:** Pós-laboral e Sábados - 3ª e 5ª, 18h45 às 22h15; Sábados, 9h30 às 13h00
- **Nível:** Avançado
- **Duração:** 35 horas

Neste curso, os formandos aprenderão como desenhar e desenvolver serviços que acedem a dados locais ou remotos de diversas fontes de dados. Os formandos irão aprender também como desenvolver e instalar serviços em ambientes híbridos, incluído em servidores locais e em Windows Azure.

Destinatários

- Programadores .NET
- Quem esteja interessado em fazer o exame 70-487

Pré-requisitos

- Experiência na linguagem de programação C#.
- Conceitos de expressões Lambda, LINQ e tipos anónimos.
- Conceitos de aplicações distribuídas e N-Tier.
- Experiência em pesquisas e manipulação de dados com ADO.NET.
- Conhecimento em estruturas de dados em XML.

Objectivos

- Pesquisar e manipular dados com Entity Framework.
- Usar ASP.NET Web API para criar serviços HTTP e consumi-los quer em clientes .NET e não-.NET.
- Expandir os serviços ASP.NET Web API com message handlers, model binders, action filters e media type

formatters.

- Criar serviços SOAP com Windows Communication Foundation (WCF) e consumi-los em aplicações cliente .NET.
- Aplicar princípios de desenho aos service contracts e expandir os serviços WCF com runtime componentes customizados e behaviors.
- Criar serviços WCF seguros com segurança ao nível do transporte e ao nível da mensagem.
- Utilizar o Windows Azure Service Bus para relayed messaging e brokered messaging com queues e topics.
- Alojjar serviços em servidores locais e em Windows Azure, tais como, Web Roles, Worker Roles e Web Apps.
- Armazenar e aceder a dados alojados no Windows Azure Storage e configurar as permissões de acesso.
- Monitorizar e registar atividade dos serviços.
- Implementar federated authentication com ACS através de serviços ASP.NET Web API.
- Criar serviços com escalabilidade e balanceamento de carga.

Metodologia

Pode assistir a este curso de forma:

- Presencial

Programa

Overview of service and cloud technologies

This module provides an overview of service and cloud technologies using the Microsoft .NET Framework and the Windows Azure cloud.

- Lessons Key Components of Distributed Applications Data and Data Access Technologies Service Technologies Cloud Computing Exploring the Blue Yonder Airlines Travel Companion Application
- Lab : Exploring the work environment Creating a Windows Azure SQL Database Creating an Entity Data model Managing the Entity Framework Model with an ASP.NET Web API Project Deploying a web application to Windows Azure

Querying and Manipulating Data Using Entity Framework

This module Describes the Entity Framework data model, and how to create, read, update, and delete data.

- Lessons ADO.NET Overview Creating an Entity Data Model Querying Data Manipulating Data
- Lab : Creating a Data Access Layer by Using Entity Framework Creating a Data Model Querying and Manipulating Data

Creating and Consuming ASP.NET Web API Services

This module describes HTTP-based services that are developed, hosted, and consumed by using ASP.NET Web API.

- Lessons HTTP Services Creating an ASP.NET Web API Service Handling HTTP Requests and Responses Hosting and Consuming ASP.NET Web API Services
- Lab : Creating the Travel Reservation ASP.NET Web API Service Creating an ASP.NET Web API Service Consuming an ASP.NET Web API Service

Extending and Securing ASP.NET Web API Services

This module describes in detail the ASP.NET Web API architecture and how you can extend and secure ASP.NET Web API services.

- Lessons The ASP.NET Web API Pipeline Creating OData Services Implementing Security in ASP.NET Web API Services Injecting Dependencies into Controllers
- Lab : Extending Travel Companion's ASP.NET Web API Services Creating a Dependency Resolver for Repositories Adding a New Media Type for RSS Requests Adding OData Capabilities to the Flight Schedule Service Applying Validation Rules in the Booking Service Secure the communication between client and server

Creating WCF Services

This module introduces Windows Communication Foundation (WCF) and describes how to create, host, and consume a WCF service.

- Lessons Advantages of Creating Services with WCF Creating and Implementing a Contract Configuring and Hosting WCF Services Consuming WCF Services
- Lab : Creating and Consuming the WCF Booking Service Creating the WCF Booking Service Configuring and Hosting the WCF Service Consuming the WCF Service from the ASP.NET Web API Booking Service

Hosting Services

This module describes how to host web services both on-premises and in Windows Azure. It explains various components of Windows Azure Cloud Services: Web Role, Worker Role, and Windows Azure Web Sites.

- Lessons Hosting Services On-Premises Hosting Services in Windows Azure
- Lab : Hosting Services Hosting the WCF Services in IIS Host the ASP.NET Web API Services in a Windows Azure Web Role Host the Flights Management Web Application in a Windows Azure Web Site

Windows Azure Service Bus

This module describes web-scale messaging patterns, and the infrastructures provided by Windows Azure Service Bus.

- Lessons What Are Windows Azure Service Bus Relays? Windows Azure Service Bus Queues Windows Azure Service Bus Topics
- Lab : Windows Azure Service Bus Use a Service Bus Relay for the WCF Booking Service Publish Flight Updates to Clients by Using Windows Azure Service Bus Queues

Deploying Services

This module describes different techniques for deploying web applications.

- Lessons Web Deployment with Visual Studio 2012 Creating and Deploying Web Application Packages Command-Line Tools for Web Deploy Deploying Web and Service Applications to Windows Azure Continuous Delivery with TFS and Git Best Practices for Production Deployment
- Lab : Deploying Services Deploying an Updated Service to Windows Azure Exporting and importing an IIS deployment package

Windows Azure Storage

This module Describes Windows Azure Storage, the services it provides, and the best way to use these services.

- Lessons Introduction to Windows Azure Storage Windows Azure Blob Storage Windows Azure Table Storage Windows Azure Queue Storage Restricting Access to Windows Azure Storage
- Lab : Windows Azure Storage Storing Content in Windows Azure Storage Storing Content in Windows Azure Table Storage Creating Shared Access Signatures for Blobs

Monitoring and Diagnostics

This module describes how to perform monitoring and diagnostics in Windows Azure services.

- Lessons Performing Diagnostics by Using Tracing Configuring Service Diagnostics Monitoring Services Using Windows Azure Diagnostics Collecting Windows Azure Metrics
- Lab : Monitoring and Diagnostics Configuring WCF Tracing and Message Logging Configuring Windows Azure Diagnostics

Identity Management and Access Control

This module describes the basic principles of modern identity handling and demonstrates how to use infrastructures such as Windows Azure Access Control Service (ACS) to implement authentication and authorization with claims-based identity in Windows Communication Foundation (WCF).

- Lessons Claims-based Identity Concepts Using the Windows Azure Access Control Service Configuring Services to Use Federated Identities Handling Federated Identities on the Client Side
- Lab : Identity Management and Access Control Configuring Windows Azure ACS Integrating ACS with the ASP.NET Web API Project Deploying the Web Application to Windows Azure and Configure the Client App

Scaling Services

This module describes the ways in which you can ensure services can handle increasing workloads and user demand.

- Lessons Introduction to Scalability Load Balancing Scaling On-Premises Services with Distributed Cache Windows Azure Caching Caveats of Scaling Services Scaling Globally
- Lab : Scalability Use Windows Azure Caching

Appendix A: Designing and Extending WCF Services

This module covers designing Windows Communication Foundation (WCF) service contracts, creating services that support distributed transactions, and extending the WCF pipeline with custom runtime components and custom behaviors.

- Lessons Applying Design Principles to Service Contracts Handling Distributed Transactions Extending the WCF Pipeline
- Lab : Designing and Extending WCF Services Create a Custom Error Handler Runtime Component Add Support for Distributed Transactions to the WCF Booking Service

Appendix B: Implementing Security in WCF Services

This module deals with the various considerations you have to take into account when designing a secure web service, such as encryption, input validation, authentication, and authorization, and the techniques to use while applying these considerations to services developed with WCF.

- Lessons Introduction to Web Services Security Transport Security Message Security Configuring Service Authentication and Authorization
- Lab : Securing a WCF Service Securing the WCF Service Using authorization rules to validate the client's requests Configure the ASP.NET web API booking service for secured communication