

#20487: DEVELOPING WINDOWS AZURE AND WEB SERVICES

Available Dates: **Call for Dates**

Class Length: **5 day**

Cost: **\$2,795**

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Class Outline:

Description:

In this course, students will learn how to design and develop services that access local and remote data from various data sources. Students will also learn how to develop and deploy services to hybrid environments, including on-premises servers and Windows Azure. This course helps people prepare for exam 70-487.

Course Outline:

Module 1: 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

Module 2: 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

Module 3: 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

Module 4: 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

Module 5: 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

Module 6: 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

Module 7: 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

Module 8: 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

Module 9: 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

Module 10: 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

Module 11: 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

Module 12: 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

Module 13: 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

Module 14: 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