Document Generated: 09/20/2024

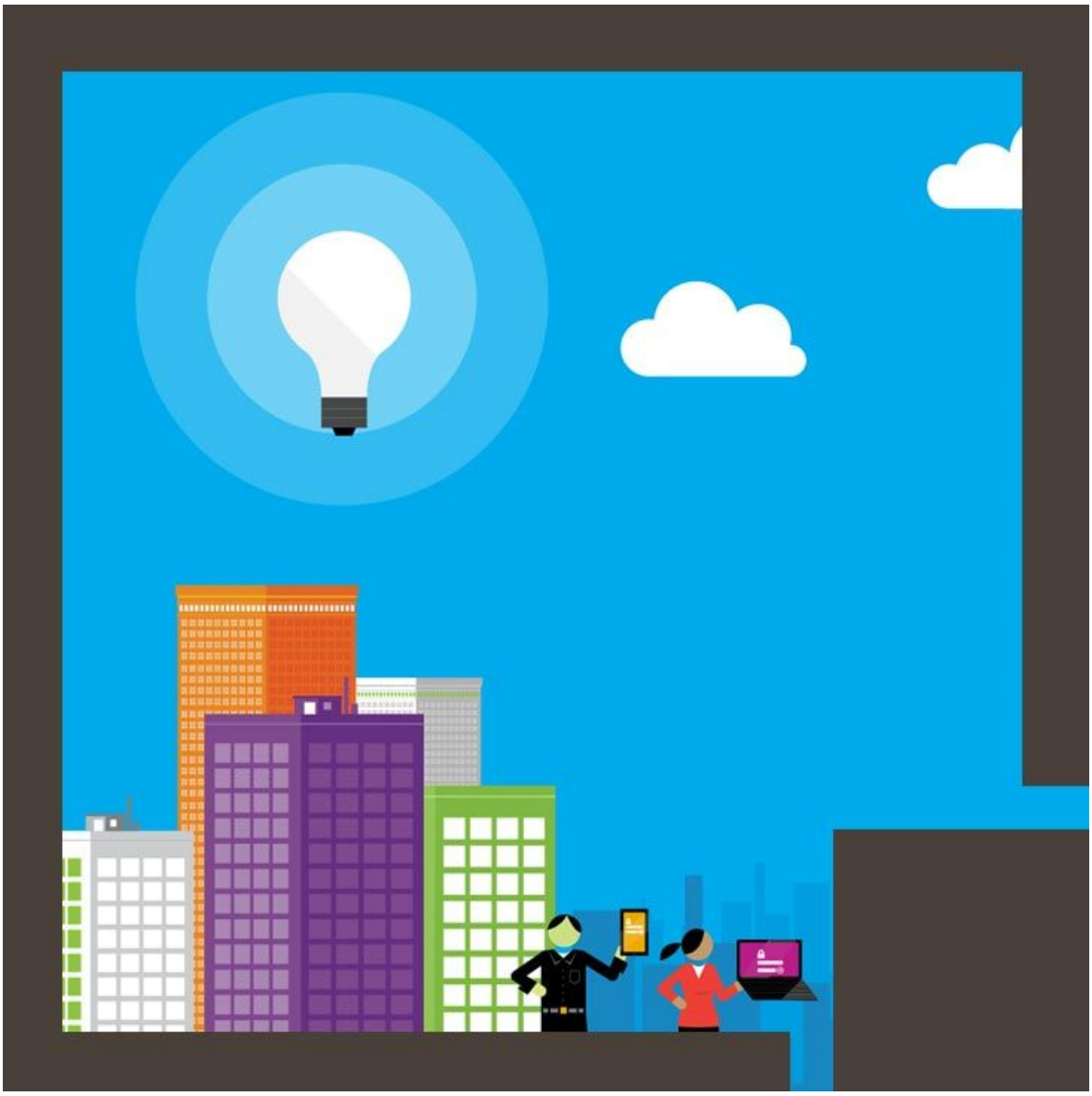
Learning Style: Virtual Classroom

Provider: Microsoft

Difficulty: Intermediate

Course Duration: 5 Days

Developing Windows Azure and Web Services (MS-20487)



About this course:

This online training program is suitable for those who want to use MS Azure Service Web Apps to build a host environment. It enables the developer to build and implement the host environment wherever they want, through software, applications, and platforms as the developer selects. It also automatically scales whenever needed. Anyone who has even had a fundamental programming background will join the professionals who will lead this Aztec course. With these courses, developers and programmers can use the MS Azure portal to create, deploy and manage Web Apps from the Azure App Service.

These sessions are planned to provide the expertise of the participants in the design and development of applications that access remote and local data from different sources of data. The participants will also enhance the ability to build and deploy hybrid applications systems such as Microsoft Azure and on-site servers. All participants hoping to take the MS 70-487 certification exam: By taking this training, they will be better equipped to build MS Azure and Web Services.

A Software Developer with MS Azure expertise on average will earn up to $118,500/- per annum.

Course Objectives:

· Apply ASP.NET Web Application Programming Interface services by action filters, message handlers, and model binders along with formatting media type

· Apply principles of design to service contracts and expand Windows Communication Foundation services with customized application activities and modules

· On-site management tools and Microsoft Azure environments, such as staff roles, User functions, and Web sites

· Query and manipulate data by using the Entity Framework

· Monitoring and logging services in MS Azure and on-premises

· Load-balanced services and develop scalably

· Build and extract HTTP-based services from .NET and non-.NET users through the ASP.NET Web Application Programming Interface

· Build Microsoft Azure Services and on-site Servers

· Messages relayed and brokered through Microsoft Azure Service Bus utilizing queues and topics

Audience:

· Participants with zero to minimal Windows experience and also. NET developers with a minimum of 6 months of programming experience will participate in this program with the aim to explore how to build and deploy hybrid application services.

Prerequisites:

· The Candidates must have a fundamental understanding of data structures in XML.

· Candidates must have a fundamental knowledge of applications at n-tier and of their concepts

· The candidates must have C # programming experience, and various concepts such as Lambda expressions, LINQ, and anonymous types.

· Candidates must have previous experience with ADO.NET's data manipulation and query.

Course Outline:

Module 1: Overview of service and cloud technologies

This module will consist of an overview of service and cloud technologies that utilize Windows Azure Cloud and Microsoft .NET Framework.

Lessons

- Distributed Applications and their key components
- Data and Data Access Technologies
- Cloud Computing
- Service Technologies
- Travel Companion App - Blue Yonder Airlines and their exploration

Lab: Work Environment and its exploration

Once the module is complete, students will gain the capabilities to:

- Understand and explain distributed applications and their key components
- Understand and explain data and data access technologies
- Understand and explain cloud computing along with it various features and their functionalities.
- Understand and describe service technologies
- Understand and explain the mechanism of Travel Companion Application by studying the Blue Yonder Airlines.

Module 2: The Use of Entity Framework for query and manipulation of data

This module consists of information regarding the Entity Framework Data model, and will explain the method of creating, reading, updating, and deleting data.

Lessons

- Overview of ADO.NET
- Entity Data Model and its creation
- Data Querying
- Data Manipulation

Lab: Use of Entity Framework to create a Data Access Layer

Once the module is complete, students will gain the capabilities to:

- Understand and define asynchronous operations along with ADO.NET's basic objects
- Develop a data model based on Entity Framework
- Use Entity Framework for querying data
- Use Entity Framework to add, remove, and update entities

Module 3: Developing and Extracting ASP.NET Web API Services

This module consists of information regarding HTTP- based services, which are created, hosted, and extracted with the use of ASP.NET Web API.

Lessons

- Services in HTTP
- Developing a service based on ASP.NET Web API
- Managing Requests and responses received via HTTP
- Hosting and extracting services based on ASP.NET API

Lab: Developing a Travel Reservation Service based on ASOP.NET Web API

Once the module is complete, students will gain the capabilities to:

- Understand and Use HTTP protocol to design services
- Understand and Use ASP.NET Web API to develop services
- Understand and use **HttpRequestMessage/HttpResponseMessage** lessons for controlling HTTP messages
- Host and extract services based on ASP.NET Web API

Module 4: Extend and Secure Services based on ASP.NET Web API

The module will consist on information regarding the architecture of ASP.NET Web API, and the methods of extending and securing services based on ASP.NET Web API.

Lessons

- Pipeline of ASP.NET Web API
- Developing Services based on OData

- Deploying Security in Services based on ASP.NET Web API
- Inserting dependencies in controllers

Lab: Enhancing Travel Companion's Services based on ASP.NET Web API

Once the module is complete, students will gain the capabilities to:

- Enhance the request and response pipeline of ASP.NET Web API
- Develop service of OData via ASP.NET Web API
- Secure ASP.NET Web API
- Insert dependencies in controllers based on ASP.NET Web API

Module 5: Developing WCF Services

This module consists of information on WCD (Windows Communication Foundation) and will explain the method of developing, hosting and extracting a WCF service.

Lessons

- Develop services with WCF and understand its advantages
- Developing and deploying a Contract
- Hosting and configuring WCF Services
- Extracting WCF services

Lab: Developing and Extracting the WCF Boking Service

Once the module is complete, students will gain the capabilities to:

- Explain when and why to utilize WCF in order to create services.
- Explain a service contract, and execute it.
- Hosting and configuring WCF Services
- Extracting WCF services from a client app.

Module 6: Hosting Services

This module will teach you the method of hosting web services in Windows Azure and on-premises. Different Components of Windows Azure Cloud Services will be explained in this module, including worker role, web role, and Windows Azure Web Sites.

Lessons

- On-Premises hosting services
- Windows Azure hosting services

Lab: Hosting Services

Once the module is complete, students will gain the capabilities to:

- Use Windows Services and IIS to host on-premises host services.
- Use Windows Azure Web sites and Cloud Services to host services in the cloud environment of Windows Azure.

Module 7: Windows Azure Service Bus

This module consists of information regarding infrastructures and messaging patterns on web-scale available in Windows Azure Service Bus.

Lessons

- Relays in Windows Azure Service Bus
- Queues in Windows Azure Service Bus
- Topics in Windows Azure Service Bus

Lab: Windows Azure Service Bus

Once the module is complete, students will gain the capabilities to:

- Explain the objective and functionality of buffered and relayed messaging.
- Deliver, configure, and extract the bus queues service.
- Expand the effectiveness communications based on queues with the use of subscriptions, topics, and filters.

Module 8: Installing and Implementing Services

This module consists of information regarding the various techniques used for implementing web applications.

Lessons

- Use of Visual Studio 2012 for web application installation
- Developing and implementing packages of web application
- Web Deploy Command Line Tools
- Implementing service and web applications in Windows Azure
- Use of Git and TFS for continuous delivery
- Product Implementation Best Practices.

Lab: Installing and Implementing Services

Once the module is complete, students will gain the capabilities to:

- Use of Visual Studio 2012 for web installation
- Use IIS Manager to develop and implement web applications
- Use command line to implement web applications
- Implement web applications in Windows Azure situations
- Use Git and TFS to implement continuous delivery.
- Understand best practices for implementing web application in Windows Azure and on-premises and apply them.

Module 9: Windows Azure Storage

This Module consists of information on Windows Azure Storage, the most effective way to utilize it and the various services it contains.

Lessons

- Windows Azure Storage and its introduction
- Blob Storage in Windows Azure
- Table Storage in Windows Azure
- Queue Storage in Windows Azure
- Windows Azure Storage and hoe to restore access to it

Lab: Windows Azure Storage

Once the module is complete, students will gain the capabilities to:

- Explain Windows Azure Storage and its design
- Deploy Blob Storage in different applications
- Implement Table Storage in different applications
- Explain the method of using Windows Azure Queues as a means of communication between different facets of the application.
- Control who gains access to storage items.

Module 10: Monitoring and Assessment of Results

This module contains information regarding the method used for monitoring and assessing the results in Windows Azure services.

Lessons

- Use tracing to analyze issues
- Configure service assessment
- Use Windows Azure Diagnostics to monitor services.
- Gathering data from Windows Azure Metrics

Lab: Monitoring and Assessment of Results

Once the module is complete, students will gain the capabilities to:

- Use the System.Diagnostics namespace to perform tracking in .NET framework
- Configure and explore IIS tracking and web services
- Use Windows Azure Diagnostics to monitor services.
- Use Windows Azure metrics to gather and analyze data in the management portal.

Module 11: Identity Management and Access Control

This module contains information regarding the basic principles that are used for

modern identity handling, and shows the best use of different infrastructures like Windows ACS (Access Control Service) in order to implement the authorization and authentication in WCF (Windows Communication Foundation using the claims-based identity.

Lessons

- Concepts regarding Claims based identity
- Learning the use of Windows Azure ACS
- Use Federated Identities by configuring services

Lab: Identity Management and Access Control

Once the module is complete, students will gain the capabilities to:

- Explain claims based identity's basic principles
- Use Windows Azure Access Control Service to develop a Security Token Service (STS)
- Use federated identity by configuring WCF

Module 12: Scaling Services

This module consists of information regarding the different manners in which the developer can ensure that the services can automatically adapt to increasing user demand and workloads.

Lessons

- Scalability and its introduction
- Balancing the Load
- Use of distributed cache to scale on-premises services
- Windows Azure Caching
- Global Scaling

Lab: Scalability

Once the module is complete, students will gain the capabilities to:

- Describe why there is a need for scalability
- Explain the method of scaling services by balancing the load.
- Explain the method of using distributed caching in Windows Azure Services and for on-premises services.
- Explain the optimum utilization of Windows Azure Caching
- Explain the method of scaling services on a global scale.

Module 13: Appendix A: Designing and Extending WCF Services

This module contains information regarding the WCF (Windows Communication Foundation), and how it is used to design service contracts. It also explains how to create services that support distributed transactions, and the optimum use of

custom behaviors and custom runtime components to extend the WCF pipeline.

Lessons

- Application of design principles to service contracts
- Distributed transactions and their management
- WCF Pipeline and its extension

Lab: Designing and Extending WCF Services

Once the module is complete, students will gain the capabilities to:

- Design and develop clients and services to implement various types of message patterns
- Support distributed transactions by configuring and effective service
- Use custom behaviors, runtime components, and extensible objects to extend the WCF pipeline.

Module 14: Appendix B: Deploying Security in WCF Services

This module consists of information regarding the different consideration that need to be taken when developing and designing a web service that is secure like input validation, encryption, authorization, and authentication. It also consists of the various techniques that should be used when these considerations are applied to WCF based services.

Lessons

- Web Services Security and its introduction
- Message Security
- Transport Security
- Configuring Service Authorization and Authentication

Lab: Deploying Security in WCF Services

Once the module is complete, students will gain the capabilities to:

- Explain security for web application
- Develop transport security service
- Develop message security service
- Deploy and develop authorization and authentication logic

Credly Badge:

Linkedin profile, Facebook page, or Twitter account to validate your professional and technical expertise. With badges issued and validated by Credly, you can:

- Let anyone verify your completion and achievement by clicking on the badge
- Display your hard work and validate your expertise
- Display each badge's details about specific skills you developed.

Badges are issued by QuickStart and verified through Credly.

Find Out More or See List Of Badges