

3 Days

50466: Windows Azure Solutions with Microsoft Visual Studio 2010

Windows Azure Solutions with Microsoft Visual Studio 2010 Training is an introductory session to cloud computing and specifically to Microsoft's public cloud offering in Windows Azure.

Windows Azure is the prescribed operating system for "the cloud" in Microsoft. This class exposes the candidates to the cloud operating system and the learning enables them to write, deploy and monitor .net applications in Azure.

Course Details

Course Outline

Module 1: Cloud Computing

This module focuses on the What's and Why of Cloud Computing. It also introduces Microsoft's Windows Azure cloud computing product. What exactly is Windows Azure? How does the Microsoft solution compare to other cloud computing platforms?

Lessons

- Define cloud computing.
- Learn the benefits of cloud computing.
- Explore where computing clouds might exist.
- Place Windows Azure in light of general cloud computing.
- Know how Windows Azure compares to other cloud environments.
- Understand the different types of cloud computing services.

Module 2: Windows Azure Architecture

In this module, you get a glimpse of a Windows Azure and the components that make up the Windows Azure Platform.

Lessons

- Learn about the Microsoft data centers.
- See a simple Windows Azure application.
- Explore the hardware, servers and virtualization (the Fabric) that host cloud applications and data.
- Know the general architecture and components of the Windows Azure Platform.
- Understand the types of storages provided by the Windows Azure Platform (Azure Storage, SQL Azure, etc.)
- Understand the role of the Fabric Controller in managing the Windows Azure cloud.

Module 3: Windows Azure Web Roles

This module explores the details of Web roles introduced in the last module. Web roles are essentially Web sites or HTTP services running in the cloud.

Lessons

- Start exploring the Windows Azure API.
- See how to configure a Web role.
- Understand how to create Web roles in a cloud service project.
- Examine how to build Web roles with multiple Web sites.
- Explore the purpose of Windows Azure Web roles.
- Learn how to test Web roles run in the Compute Emulator.

Module 4: Local Storage

This module covers Windows Azure local storage. This section will also cover a number of limitations of using local storage as well as the good and bad uses of local storage.

Lessons

- Examine Windows Azure local storage.
- See how local storage differs from normal server file systems.
- Learn about Windows Azure Drive (formerly XDrive).
- Learn how to configure local storage.
- Explore the API to access local storage.
- Understand the limitations of local storage and where/when to use it.

Module 5: Windows Azure Administration

This chapter covers a number of miscellaneous administration tasks and items with regard to Windows Azure.

Lessons

- Explore the various Windows Azure subscription administrators.
- Learn how to define a startup task for a role.
- Understand Windows Azure OS Families and Guest OS Versions.
- See how to Remote Desktop to a Windows Azure virtual machine.

Module 6: Windows Azure Storage and Queues

Windows Azure Storage provides highly scalable and available data storage to both cloud and on premise services. In this module, you explore what Windows Azure Storage is, why you want to use, and how to access it.

Lessons

- Understand the purpose of Windows Azure Storage.
- Learn how to create a Windows Azure Storage account.
- Learn how to get messages in and out of Windows Azure Queues.

- See how to access Windows Azure Storage using the REST API and the Storage Client Library.
- Explore Windows Azure Storage costs.
- Examine Windows Azure Storage Queues.
- Understand the Storage Emulator, how to use it, and how it is different from Windows Azure Storage.

Module 7: Blob Storage

This module explains the second of three Windows Azure Storage data storage facilities called blob storage. Blob storage provides a place to store any type of data (MP3 file, PDF document, flat text, etc.).

Lessons

- Understand the rationale for using blob storage. Learn about the different types of blobs: block and page blobs.
- Examine blob storage containers and how they are used to organize and control access to blobs.
- Explore how to access blob storage with both the Storage Client and REST API.

Module 8: Table Storage

Table storage is the last of Windows Azure Storage data services explored in this class. Table storage provides structured storage similar, but not as a traditional database may offer.

Lessons

- Understand the reason for table storage.
- Learn how to access table storage with both the Storage Client and REST API.
- Examine the differences between table storage and traditional relational databases (as exhibited by SQL Azure).
- Understand entities as they relate to table storage.

Module 9: Worker Roles

In this module, you explore worker roles: their purpose, how to create and configure them, and how to communicate with them.

Lessons

- Learn how to test worker roles run in the Compute Emulator.
- Understand how to create worker roles in a cloud service project.
- See how to configure a worker role.
- Learn how to use Windows Azure Storage queues and messages to communicate with worker roles.
- Learn how to communicate with worker role internal and input endpoints.
- Explore the purpose of Windows Azure worker roles.

Module 10: SQL Azure Introduction

In this module, you will learn about SQL Azure. SQL Azure is a relational database in the cloud that is used to support applications in the cloud or on-premise.

Lessons

- Learn what SQL Azure is and why you want to use it.
- Learn how to provision a SQL Azure server and databases.
- Understand SQL Azure in comparison to SQL Server and Windows Azure table storage.

- See how to use familiar tools and APIs to work in SQL Azure.
- Examine costs associated with SQL Azure.
- Explore how to create and manage database objects in SQL Azure.
- Know how to limit SQL Azure access.

Module 11: Diagnostics

In this optional module, you learn about the Windows Azure Diagnostic Service that provides the means to move data to Windows Azure Storage so as to allow external access.

Lessons

- Learn how to accomplish debugging and logging in Windows Azure.
- Learn how to configure the diagnostic service.
- Examine Windows Azure Diagnostic Service.
- Understand the role of the Diagnostic Agent process in the diagnostic service.
- See how to transfer diagnostic data to Windows Azure Storage.

Who Should Attend

This class is intended for .net developers with Web application experience who are porting existing applications to Windows Azure.

Pre Requisite

Before attending this course, candidates must have:

- Knowledge and experience in a .net language (C# or VB)
- Experience with Visual Studio 2010 or better.
- Knowledge of ASP.NET is required.

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