



Introduction to Cloud Computing with Windows Azure

Course ISI-1423 - One Day - Instructor-led - Hands on

Introduction

This one day course is for architects and developers who are curious about developing for the cloud, are considering a move to the cloud, or are new to cloud development. They will find in this course a concise overview of the most important concepts and practices they need to know. The concepts are illustrated with concrete examples, and each module includes links to other resources that provide more in-depth information. The examples and the links to additional resources are for Microsoft frameworks and services, but the principles illustrated apply to other web development frameworks and cloud environments as well.

In addition, this course offers architects and developers who are already developing for the cloud, ideas that will help make them become more successful in integrating the cloud into their environment.

This course explains the Windows Azure Architecture with an emphasis on the Microsoft data centers and the hardware and software that host Windows Azure applications and data. The course also introduces the tools used to create and deploy Windows Azure services and data stores, different types of roles in Windows Azure (Web, worker, VM), and the types of storages provided by the Windows Azure Platform.

This course also covers Azure Web roles including web sites and http services and in particular how to create Web roles, how to configure a Web role, and the Windows Azure APIs

This course also covers the Azure Worker role and how to create a worker role to handle messages deposited into a Windows Azure Storage queue. Finally, the course introduces Azure Storage and in particular Azure storage queues, blobs, and tables.

At Course Completion

Students will learn to:

- What is a cloud computing platform in general and in particular the Windows Azure platform and describe the different services and types of solutions that this platform makes possible.
- How to execute applications running in the cloud and how to use the four different models windows Azure offers: Web Sites, Virtual Machines, Cloud Services, and Mobile Services.

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- What are the Windows Azure data services and how we can store, access, analyze, and protect data while making it available from anywhere and at any time and in particular how to store data in SQL databases in the cloud as well as how to perform analysis and reporting.
- How to run cloud applications and how to enable running your business applications in the cloud, Windows Azure provides services for managing user identity, enabling applications to interact with each other, push out notifications to users, deliver compelling media experiences, and more.
- How the Windows Azure network services provide the foundation for building hybrid cloud Solutions for your organization. Windows Azure Virtual Network lets you securely connect your cloud infrastructure to your on-premises datacenter.

Prerequisites

Experience developing web applications by using Visual Studio and ASP.NET and SQL Server. Familiarity with C# would be helpful in places.

Student Materials

The student kit includes a workbook and other necessary materials for this class.

Course Outline

Module 1: Understanding Cloud Computing and Windows Azure

- What is cloud computing?
- Understanding cloud service models
- Why use the cloud?
- Resisting the cloud
- The "DevOps" workflow
- Windows Azure under the hood
- Windows Azure services
- Windows Azure components

Module 2: Windows Azure data services

- Data Storage Options
- Data Management
- HDInsight
- Business Analytics
- Backup
- Recovery Manager
- Cache

Module 3: Windows Azure compute services

- Web Sites
- Virtual Machines
- Mobile Services

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Module 4: Windows Azure app services

- Windows Azure AD
- Multi-Factor Authentication
- Messaging
- BizTalk services
- Media Services

Module 5: Windows Azure network services

- Virtual Network
- Traffic Manager