

MS 460 Cloud Computing Technologies

Course Description

In this course students will learn about the business imperatives that are driving current interest and movement towards cloud computing solutions, and will learn how to develop and deploy applications and databases to the Windows Azure cloud utilizing a variety of Azure solutions, features and techniques

Prerequisites:

Programming Level 1 Exam

Data Base Level 1 Exam

Required Software Tools

Computer running Windows 7 Home Premium, Enterprise or Ultimate

Visual Studio 2010 Professional or Ultimate

[Windows Azure SDK 1.2 \(June 2010\)](#)

[Windows Azure Platform Training Kit \(June 2010\)](#)

Windows Azure Account (trial, DreamSpark, MSDNAA, or MSDN Premium)

Textbooks

Cloud Computing with the Windows Azure Platform Publisher: Wrox (October 5, 2009) ISBN-10: 0470506385 ISBN-13: 978-0470506387 Roger Jennings (Author)

Dot Cloud: The 21st Century Business Platform Built on Cloud Computing Publisher: Meghan-Kiffer Press; 1 edition (February 18, 2009) ISBN-10: 0929652495 ISBN-13: 978-0929652498 Peter Fingar (Author)

Projects:

Project 1: Windows Azure Virtual Lab (two hours)

Project 2: Deploying a web application to the Azure Service

Project 3: Designing scalability into your Web Application

Project 4: SQL Azure Deployment

Project 5: Authenticating Users with .NET Access Control Services

Module One

Lecture: Intro to Cloud Computing – Lecture/PowerPoint Part I

Reading: Fingar: Chapter 1

Hands-on Assignment: Introduction to Windows Azure (Azure Platform Training Kit)
Quiz: Cloud Fundamentals

Module Two

Lecture: Intro to Cloud Computing – Lecture/PowerPoint Part II
Reading: Finger: Chapter 2
Hands-on Assignment: Deploying and Monitoring Applications in Windows Azure (APTK)
Quiz: The Business Case for the Cloud

Module Three

Lecture: [Building Applications for the Cloud \(Level 200\)](#)
Reading: Finger Chapter 3, Jennings Chapter 1,2
Hands-on Assignment: [Azure Virtual Lab](#)
Quiz: Azure Overview

Module Four

Lecture: [Visual Studio 2010 Simulcast \(Part 5 of 6\): Web and Cloud Development \(Level 200\)](#)
Reading: Finger Chapter 4
Hands-on Assignment: Project 2
Quiz: Building Your Azure Application

Module Five

Lecture: Project 2 Demo¹
Reading: Jennings Chapter 3
Hands-on Assignment: Building ASP.NET Web Form Applications
Quiz: Azure Wrap Up

Module Six

Lecture: [Windows Azure Storage](#)
Reading: Jennings Chapter 4
Hands-on Assignment: Introduction to SQL Azure (APTK)
Quiz: Azure Storage

Module Seven

Lecture: [SQL Azure](#)
Reading: Jennings Chapter 12, 13

¹ Custom developed screen cast demo specific for student project assignment

Hands-on Assignment: Demo – Building a Simple SQL Azure App (APTK)

Quiz: SQL Azure Overview

Module Eight

Lecture: Windows Azure Dynamic Scaling²

Reading: Finger Chapter 5

Hands-on Assignment: TBD

Quiz: Dynamic Scaling Principles

Module Nine

Lecture: [How Do I Get Started with Access Control Services?](#)

Reading: Jennings Chapter 9, 10

Hands-on Assignment: HOL - Web Services and Identity in the Cloud (APTK)

Quiz: Cloud Computing Security

Module Ten

Lecture:

Reading: Finger Chapter 6

Hands-on Assignment:

Quiz:

Module Eleven

Lecture:

Reading: Finger Chapter 7

Hands-on Assignment:

Quiz:

Module Twelve

Lecture:

Reading:

Hands-on Assignment: HOL - Introduction to Dallas for Visual Studio 2010 Developers (APTK)

Quiz:

Module Thirteen

Lecture: Open Source Tools and Windows Azure Part I

Reading:

Hands-on Assignment: HOL - Windows Azure on PHP (APTK)

Quiz:

² Custom lecture content created especially for this course

Module Fourteen

Lecture: [Developing Azure Applications for PHP, Ruby and Java using Eclipse](#)

Reading:

Hands-on Assignment:

Quiz: Open Source Tools and Azure

Additional Information

<http://msdn.microsoft.com/en-us/azure/dd439432.aspx>

<https://partner.microsoft.com/global/productssolutions/psazure>

Advisory Board³:

Dr. Randy Guthrie, Microsoft

Dr. Juan Vargas, Microsoft Research

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³ The advisory board and contributor list is hypothetical but realistic; the persons named are real and have appropriate credentials for this course but they were not consulted in the creation of this sample