Price:	$2,295
Length:	35 Hours (5 days)

Introduction: This five-day instructor-led course is intended for students who have experience building vertically scaled applications. Students should also have experience with the Microsoft Azure platform and a basic understanding of the services offered in Azure. This course offers students the opportunity to take an existing web application and expand its functionality as part of moving it to Azure. The course does not require any existing experience with the ASP.NET platform. This course focuses on the architectural considerations and decisions necessary when building a highly available solution in the cloud. This course also prepares the students for the 70-532: Developing Microsoft Azure Solutions certification exam.

Target Audience: The primary audience for this course is individuals who have basic experience in implementing and monitoring Microsoft Azure solutions. Candidates should also be proficient with the development tools, techniques and approaches used to build application solutions.

Prerequisites: Before attending this course, students must be able to:
- Compare the services available in the Azure platform.
- Configure and deploy web applications.
- Create Azure WebSites using the gallery.
- Deploying and monitoring Azure WebSites.
- Create and configure Azure Virtual Machines.
- Describe the relationship between Cloud Services and Virtual Machines.
- Deploy existing Cloud Service packages.
- Create and manage a Storage account.
- Manage blobs and containers in a Storage account.
- Create, configure and connect to a SQL Databases instance.
- Identify the implications of importing a SQL Standalone database.
- Manage users, groups and subscriptions in an Azure Active Directory instance.
- Create a virtual network.
- Implement a point to site network.

Objectives: At the end of the course, students will be able to:
- review the services available in the Azure platform and the Management Portals used to manage the service instances.
- create a Virtual Machine using the Azure Management Portal and create an image of the VM.
- create an Azure Web Site and publish an existing ASP.NET web application to the site.
- create an Azure SQL server and database.
- describe and identify the common practices and patterns for building resilient and scalable web applications that will be hosted in Azure.
- create an Azure Cloud Service project in Visual Studio 2013 and debug locally.
- create a background process using a Azure Worker Role.
- create an Azure Table Storage table and manage the table data using the .NET API for Azure Storage.

Objectives: (continued)

- create Azure Files SMB file share and store documents.
- create an Azure Storage Queue instance to store requests.
- create an Azure Service Bus queue instance to store requests.
- create an Azure Service Bus namespace and use the namespace to connect a cloud web application to the local WCF service.
- create a Virtual Machine using the existing SQL template and connect this Virtual Machine to the existing application.

- create a test environment using PowerShell and the Azure Service Management CmdLets.
- integrate ASP.NET Identity for the administration portal with Azure Active Directory.
- deploy the web application projects to Azure.

Course Outline

I. **Overview of the Microsoft Azure Platform**
   A. Azure Services
   B. Management Portals

II. **Establishing a Development Environment using Azure Virtual Machines**
   A. Constructing Azure Virtual Machines
   B. Azure Virtual Machine Workloads
   C. Migrating Azure Virtual Machine Instances
   D. Using Remote Desktop Protocol (RDP) to Connect to a Virtual Machine

III. **Hosting Web Applications on the Azure Platform**
   A. Azure Web Sites
   B. Hosting Web Applications in Azure
   C. Configuring an Azure Web Site
   D. Publishing an Azure Web Site
   E. Monitoring and Analyzing Running Azure Web Sites

IV. **Storing SQL Data in Azure**
   A. Azure SQL Database Overview
   B. Managing SQL Databases in Azure
   C. Using Azure SQL Databases with SQL Server Data Tools
   D. Migrating Data to Azure SQL Databases
   E. Replication and Recovery of Azure SQL Database Instances

V. **Designing Cloud Applications For Resiliency**
   A. Design Considerations for Scale with Cloud Applications
   B. Application Design Practices for Highly Available Applications
   C. Building High Performance Applications using ASP.NET
   D. Common Cloud Application Patterns
   E. Application Analytics
   F. Caching Application Data

VI. **Managing Cloud Services in Azure**
   A. Overview of Cloud Services
   B. Cloud Service Web Roles
   C. Customizing Cloud Service Configurations
   D. Updating and Managing Cloud Service Deployments
   E. Cloud Service Worker Role
   F. Cloud Service Worker Role Processing
   G. Analyzing Application Cloud Service Role Instances

VII. **Storing NoSQL Data in Azure**
   A. Azure Storage Overview
   B. Azure Storage Tables Overview
   C. Table Entity Transactions
   D. Azure DocumentDB

VIII. Storing and Consuming Files from Azure Storage
- A. Azure Storage Blobs
- B. Controlling Access to Storage Blobs & Containers
- C. Monitoring Storage Blobs
- D. Configuring Azure Storage Accounts
- E. Azure Files
- F. Uploading and Migrating Storage Data

IX. Designing a Communication Strategy using Queues and Service Bus
- A. Queue Mechanisms in Azure
- B. Azure Storage Queues
- C. Handling Storage Queue Messages
- D. Azure Service Bus
- E. Azure Service Bus Queues
- F. Azure Service Bus Relay
- G. Azure Service Bus Notification Hubs

X. Managing Infrastructure in Azure
- A. Azure Virtual Networks
- B. Highly Available Azure Virtual Machines
- C. Customize Azure Virtual Machine Networking

XI. Automating Integration with Azure Resources
- A. Azure SDK Client Libraries
- B. Virtual Machine Configuration Management
- C. Scripting Azure Service Management using PowerShell
- D. Azure REST Interface
- E. Azure Resource Manager

XII. Securing Azure Web Applications
- A. Azure Active Directory
- B. Introduction to Identity Providers
- C. Azure AD Directories
- D. Azure AD Multi-Factor Authentication
- E. Azure Role-Based Access Control

XIII. Maintaining and Monitoring Web Solutions in Azure
- A. Deployment Strategies for Web Applications
- B. Deploying Azure Services
- C. Continuous Integration
- D. Monitoring Cloud Applications