

# Windows® Azure™ Platform Introduction: Programming Cloud-Based Applications - 4 Days

*Course 2602 Overview*

- You Will Learn How To**
- Build scalable, fault-tolerant and secure cloud-based applications using the Windows Azure Platform
  - Leverage existing knowledge of Visual Studio and .NET to develop applications for the cloud
  - Create, deploy, configure and monitor ASP.NET applications that run in the Azure cloud
  - Host Windows Communication Foundation (WCF) services using Azure
  - Employ worker roles and queues for asynchronous processing
  - Create and access SQL Azure databases for cloud-based storage
- Course Benefits** The Windows Azure Platform is the Microsoft solution for cloud computing. The Azure Platform provides operating system, database and application services that simplify administration, streamline maintenance and reduce costs. This course provides the knowledge to build and deploy applications that utilize the Windows Azure Platform using Visual Studio and .NET.
- Who Should Attend** Programmers, architects and application designers who would like to take advantage of Microsoft Azure services to create scalable, secure and affordable cloud-based applications. .NET programming experience is assumed.
- Hands-On Training** Exercises provide practical experience building and deploying Azure applications using Visual Studio and .NET. Exercises include:
- Creating a Windows Azure account
  - Testing Azure applications with the development fabric
  - Uploading an ASP.NET application to the cloud
  - Storing data in blobs and tables
  - Enabling Web Forms authentication, sessions and profiles for Azure applications
  - Hosting a WCF service within the cloud
  - Utilizing Azure queues for asynchronous processing
  - Saving relational data in the cloud with SQL Azure

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## Course 2602 Outline

### Introduction to Azure Features and Services

- Scalability
- Fault tolerance
- Security
- Affordability
- Cloud-based storage
- AppFabric
- SQL Azure

### Developing Azure Applications with Visual Studio

#### Creating a Windows Azure program

- Registering a Windows Azure account
- Building Azure projects in Visual Studio
- Adding web and Worker roles
- Programming ASP.NET applications for Azure

#### Uploading and testing Azure applications

- Testing applications using the development fabric
- Publishing an Azure application
- Configuring Azure applications

#### Saving data with Azure blob storage

- Configuring blob storage locally and for the cloud
- Adding blob containers
- Saving, listing, accessing and deleting blobs

#### Storing structured data using Azure tables

- Configuring table storage
- Creating entities
- Controlling concurrency and transactions

### Migrating ASP.NET Applications to Azure

#### Deploying Azure applications to production

- Monitoring and debugging cloud-based applications
- Scaling Azure applications
- Reconfiguring Azure applications

#### Customizing Web Forms security for Azure

- Employing Azure-enabled membership and role providers
- Configuring access rules and roles
- Leveraging ASP.NET login controls within Azure
- Implementing transport security with SSL

### Enabling ASP.NET sessions and profiles for Azure

- Investigating design considerations for Azure web applications
- Writing sessions to Azure storage
- Modifying profile configuration for Azure

### Building Service-Oriented Azure Applications

#### Hosting WCF services with Azure

- Adding WCF services to an ASP.NET application
- Creating a WCF Service Web Role
- Programming WCF interfaces, attributes and configuration
- Implementing a WCF service

#### Building interoperable Azure services

- Locating Azure services
- Adding service references
- Setting WCF bindings
- Accessing Azure services using SOAP or REST
- Employing Azure services from WPF, Silverlight and non-.NET environments

### Leveraging Azure for Asynchronous Computing

#### Adding worker roles to Visual Studio projects

- Asynchronous background processing
- Communicating between roles
- Polling for worker completion using Ajax

#### Implementing queue storage for messaging

- Sending messages to queues
- Serializing objects for queues
- Reading queued messages

### SQL Azure Cloud-Based Storage

#### Overview of SQL Azure

- Creating a SQL Azure account
- Identifying the differences between SQL Azure and SQL Server
- SQL Azure tool support

#### Migrating to a SQL Azure database

- Building tables
- Consuming SQL Azure data
- Synchronizing data sources with Microsoft Sync Framework

### Implementing AppFabric

### Distributing applications with the service bus

- Registering services via the service bus
- Sending messages using the service bus

### Controlling access using AppFabric

- Supported standards
- Authenticating and authorizing users