

## **.NET 3.0/3.5 Overview: Hands-On - 4 Days**

### *Course 976 Overview*

- You Will Learn How To**
- Integrate the features of .NET 3.0/3.5 to simplify complex, multitier application architectures
  - Automate and optimise database access with LINQ to SQL and LINQ to Objects
  - Design modern graphical applications with Windows Presentation Foundation
  - Distribute applications over multiple channels with Windows Communication Foundation
  - Orchestrate business processes using Windows Workflow Foundation
  - Develop browser-based applications using Silverlight and ASP.NET Ajax
- Course Benefits** The .NET Frameworks 3.0 and 3.5 introduced a range of technologies that can greatly simplify the creation of complex distributed applications. In order to take advantage of these technologies, it is necessary to understand them both individually and as an integrated whole. In this course, you gain an understanding of LINQ, WPF, WCF, WF and other .NET technologies, and how they can be used to build sophisticated modern applications.
- Who Should Attend** Experienced .NET 2.0 developers interested in utilising the features of .NET 3.0/3.5. Programming experience at the level of Course 503, "Visual Basic Programming for .NET", or Course 419, "C# Programming", is assumed.
- Hands-On Training** Hands-on exercises provide you with practical experience developing .NET 3.0/3.5 applications. Exercises, presented in Visual Basic or C#, include:
- Retrieving and updating data with LINQ
  - Creating WPF-user interfaces
  - Building and consuming WCF services
  - Orchestrating long-running business processes with persistent state machine workflows
  - Calling WCF workflow services from Silverlight
  - Animating Silverlight with XAML

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### *Course 976 Outline*

#### **Introducing .NET 3.0/3.5**

- Exploring .NET 3.0/3.5 architecture
- LINQ
- WPF
- WCF
- WF
- ASP.NET Ajax
- Silverlight

#### **Language Integrated Query (LINQ)**

##### **Developing LINQ queries**

- Investigating LINQ syntax
- Inferring data types at design time

#### **Object relational mapping with LINQ to SQL**

- Querying a database
- Returning LINQ Entities

#### **Working with the LINQ designer**

- Controlling how data is loaded with lambda expressions
- Promoting entity changes to databases via the DataContext
- Managing the DataContext in an n-tier environment
- Adding stored procedures to the DataContext

#### **Manipulating data with LINQ to Objects**

- Sorting and filtering objects
- Aggregating object data
- Working with anonymous types

#### **Windows Presentation Foundation (WPF)**

##### **Building a XAML presentation layer**

- Designing a UI with XAML
- Utilising common XAML controls and properties
- ComboBox
- Label
- TextBox

##### **Generating sophisticated layouts**

- Positioning controls using Canvas and Grid
- Organising controls with StackPanel and DockPanel
- Enhancing control appearance with colour and opacity
- Applying gradient brushes with style setters
- Binding controls to styles

##### **Activating WPF applications**

- Handling events
- Showing windows and dialogs

- Streamlining the UI with Model-View-ViewModel
- Binding controls to ObservableCollection
- Deploying with ClickOnce

#### **Windows Communication Foundation (WCF)**

##### **Programming distributed applications with WCF**

- Defining and implementing WCF interfaces
- Configuring binary and HTTP channels
- Serialising business entities for WCF
- Controlling WCF behaviours

##### **Consuming WCF services**

- Setting a service reference
- Configuring WCF clients
- Building WPF clients
- Managing transport and message security

#### **Windows Workflow Foundation (WF)**

##### **Modelling business processes with WF**

- Composing sequential workflow with the visual designer
- Adding and implementing Activities
- Hosting the workflow runtime

##### **Applying logic to a workflow**

- Directing program flow with IfElse and While
- Setting declarative and code conditions

##### **Representing long-running business processes**

- Designing state machine workflows
- Employing the State, EventDriven and SetState activities
- Persisting workflow with SQL Server

##### **Integrating WF and WCF**

- Leveraging System.WorkflowServices
- Passing data to the workflow with the ReceiveActivity
- Returning data from workflow

#### **Silverlight and ASP.NET Ajax**

##### **Creating cross-platform Silverlight UIs**

- Working with the UserControl object
- Converting XAML from WPF to Silverlight
- Accessing the QueryString
- Invoking JavaScript from Silverlight
- Enriching the UI with XAML animations

##### **Combining Silverlight with WCF**

- Making asynchronous calls to WCF
- Wrapping a workflow service

#### **Enhancing the UI with ASP.NET Ajax**

- Comparing Ajax with Silverlight
- Calling WCF from ASP.NET Ajax