

Developing Applications Using Visual C# 2008

Advanced Topics

Duration: 5 days

This course covers advanced topics of Visual C# in which the student learn how to:

- Interoperate between managed code and COM components.
- Communicate using XML Web services, and Windows Communication Foundation (WCF).
- Install applications using ClickOnce technology.
- Save and restore nearly any object to a stream, using serialization
- Create and execute workflows, using Windows Workflow Foundation (WF).
- Take advantage of Windows Management Instrumentation (WMI) to add features to the .NET Framework.
- Create MDI applications.
- Learn to manage printers, and create free-form documents.
- Display and edit data using the DataGridView control.
- Create owner-drawn controls and non-rectangular forms using the GDI+ and the System.Drawing namespace.
- Create managed applications for Office 2007 using Visual Studio Tools for Office (VSTO).
- Extend the functionality of Visual Studio 2008.
- Handle versioning issues with multiple assemblies or applications.
- Create and debug Windows services.
- Build and test mobile applications.
- Read and write XML data using the DOM, and XML readers and writers.
- Perform cascading updates in joined data.
- Easily convert data projects to n-tier distributed applications.
- Create custom and user controls.
- Correctly secure Windows applications.
- Build setup applications.
- Examine existing code using reflection.
- Use distributed client settings in a Windows application.

Audience

Developers interested in learning about the advanced features of Visual C#.

Prerequisites

Prior experience working with the .NET Framework using Visual C#, or have taken a beginning programming course using Visual C#.

Topics:

WORKING WITH TOOLBOX COMPONENTS

- Introducing Components
- Timer Component
- BackgroundWorker Component

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- FileSystemWatcher Component
- Process Component
- ServiceController Component
- EventLog Component
- WMI Server Explorer Extensions

WINDOWS COMMUNICATION

FOUNDATION

- What is Windows Communication Foundation?
- WCF Building Blocks
- Hosting a WCF Service
- Self-Hosting the WCF Service
- Configuring WCF Services

SERIALIZATION

- Introducing Serialization
- Serializing Complex Objects
- Customizing the Serialization Process

CREATING AND DISPLAYING REPORTS

- Reports in Data Applications
- Using the Report Designer
- Grouping and Filtering Reports
- One-to-Many Relationships in Reports

WINDOWS WORKFLOW FOUNDATION

- What is Windows Workflow Foundation?
- Creating Your First Workflow Activates
- Using Rules in Workflows
- Hosting a Workflow in a Windows Applications
- Host/Workflow Communication
- State Machine Workflows

FILLING THE .NET GAPS WITH WMI

- Introducing WMI
- Getting Started with WMI
- WMI Queries, Properties and Methods

WMI EVENTS AND ASYNCHRONOUS HANDLING

- Creating WMI Event Handlers
- Working with WMI Asynchronously
- WMI Server Explorer Extensions and Events

CREATING MDI APPLICATIONS

- MDI Applications
- MDI Parent and MDI Child Forms
- Managing Open Windows
- Manage Menus
- Working with Open Forms

PRINTERS AND PRINTING

- The PrintDocument Class
- The PageSettings Class
- The PrinterSettings Class
- Working with Print-Related Controls
- A More Complex Report

EXAMINING THE DATAGRIDVIEW

- Controlling Appearance in Grids
- Work with Data in Grids

CREATING RICH USER INTERFACES WITH GDI+

- Introducing Drawing in the .NET Framework
- Creating Owner-Drawn Controls
- Creating Non-Rectangular Forms
- Creating a Custom DataGridView Control Column

CREATING OFFICE APPLICATIONS USING VISUAL STUDIO 2008

- Introducing Office Projects in Visual Studio 2008
- Ribbon Customization and Custom Task Panes

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- Work with Word 2007's Content Controls
- Create an Outlook Form Region

EXTENDING VISUAL STUDIO 2008

- Getting Started
- Creating Your Own Item Templates
- Creating Your Own Project Templates
- Using and Creating Code Snippets
- Using Macros to Automate the IDE

HANDLING VERSIONING ISSUES

- Before You Begin
- Assemblies
- Private Assemblies
- Shared Assemblies

CREATING WINDOWS SERVICES

- Introducing Windows Services
- Build Your First Windows Service
- The FileWatcher Service

BUILDING MOBILE APPLICATIONS

- .NET Compact Framework
- Developing for Devices
- WindowsMobile Class Library
- Mobile Database Applications

READING AND WRITING XML USING THE XML DOM

- Getting Started
- Reading XML
- Working with Nodes
- Creating and Modifying XML
- Dealing with Errors

USING THE XMLREADER, XMLWRITER AND XPATH TO WORK WITH XML

- Getting Started
- Reading XML with XMLReader
- Writing XML with XMLWriter
- Searching XML with XPath

DATA IMPROVEMENTS

- Hierarchical Updates
- Caching Data Locally
- Creating N-Tier Data Applications
- Building Data Applications with LINQ to SQL

CREATING CUSTOM CONTROLS

- Control Creation in Windows Forms
- Drawing Your Own Custom Controls
- Creating Composite Controls

SECURING WINDOWS APPLICATIONS

- Security in the .NET Framework
- Code Access Security
- Checking for Permissions
- Role-Based Security

BUILDING SETUP APPLICATIONS

- Windows Installer Deployment
- Creating a Setup Project
- Customizing a Setup Project

ATTRIBUTES AND REFLECTION

- Introducing Attributes
- Creating and Using Custom Attributes
- Introducing Reflection
- Using Reflection to Perform Late Binding

CLIENT APPLICATION SERVICES

- Membership, Roles and Profiles on the Web
- Client Application Services