

Developing Apps Using C# 2008: What's New

page 1

Meet the expert: Ken Getz is a featured instructor for several of our Visual Studio courses. He is a Visual Basic and Visual C# expert and has been recognized multiple times as a Microsoft MVP. Ken is a seasoned instructor, successful consultant, and the author or co-author of several best-selling books. He is a frequent speaker at technical conferences like Tech-Ed, VSLive, and DevConnections and he has written for several of the industry's most-respected publications including Visual Studio Magazine, CoDe Magazine, and MSDN Magazine.

Robert Green is a Visual Studio expert and a featured instructor for several of our Visual Basic and Visual C# courses. He is currently a Technical Evangelist in the Developer Platform and Evangelism (DPE) group at Microsoft. He has also worked for Microsoft on the Developer Tools marketing team and as Community Lead on the Visual Basic team. Robert has several years of consulting experience focused on developer training and is a frequent speaker at technology conferences including TechEd, VSLive, VSConnections, and Advisor Live.

Prerequisites: Before taking this course, students should have a good working knowledge of Visual Studio 2005 and the .NET Framework 2.0, or should have completed AppDev's Developing Applications Using Visual C# 2005 and Developing Applications Using Visual C# 2005: Additional Topics.

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Course description: Visual Studio 2008 adds a large set of new functionality for the Visual C# developer. From new language features, including LINQ (Language Integrated Query) to new client-side data support, Visual Studio 2008 and the .NET Framework 3.5 make it easier than ever to create robust, enterprise-level applications. This course, including full written courseware, demonstrations, and lab exercises, introduces the most important new features in Visual Studio 2008 for experienced Visual C# developers.

Course outline:

Introduction to LINQ

- Introduction
- Working with Data
- LINQ and VB/C#
- LINQ and Language Features
- LINQ Usages
- LINQ Overview
- LINQ Syntax
- Demo: Query Expressions
- Intellisense with LINQ
- Extension Methods
- Demo: Custom Extension
- More Complex Objects
- Object Initializers
- Demo: Object Initializers
- Query Extension Methods
- Lambda Expressions
- Demo: Lambda Expressions
- Anonymous Types
- Demo: Anonymous Types
- Interesting Examples
- Demo: List Processes
- Demo: Process a Text File

- LINQ and Delayed Execution
- Summary

LINQ to SQL

- Introduction
- Overview: LINQ to SQL
- Create Data Model
- Demo: Add LINQ to SQL Class
- Demo: View Data Model
- Demo: Query SQL Database
- Demo: Call Stored Proc
- Anonymous Types w/SQL
- Demo: Anonymous Types
- Modify SQL Data
- Demo: Modify SQL Data
- Summary

LINQ to DataSets / XML

- Introduction
- Overview: LINQ to DataSets
- LINQ to Typed DataSets
- Demo: Typed DataSets
- LINQ to Untyped DataSets
- Demo: Untyped DataSets
- LINQ to XML
- Demo: LINQ to XML
- Transform XML

- Demo: Transform XML
- For More Information
- Summary

Hierarchical Data / Caching

- Introduction
- Work with Related Data
- TableAdapterManager
- Demo: TableAdapterManager
- View DataSet
- View Relations
- AutoIncrement Properties
- Connected Scenarios
- Synch Local Data
- Synch Services for ADO.NET
- SQL Server Compact 3.5
- Set Up Synchronization
- Demo: ADO.NET Synch
- Add Local Database Cache
- Configure Tables
- Explore Solution Files
- Rebind Data Controls
- Synchronize Database
- Test Synch/Remote Data
- SynchStatistics Class

- SyncDirection Property
- Summary

N-Tier Data

- Introduction
- Overview: 2-Tier
- Overview: N-Tier
- Demo: Split DataSet Code
- Create N-Tier App
- Define 2-Tier DataSource
- DataSet Project Property
- Create Multi-Tier Form
- Define N-Tier DataSource
- Test N-Tier App
- LINQ to SQL
- LINQ to SQL Mappings
- DataContext Class
- Entity Classes
- Object Relational Designer
- Demo: LINQ to SQL
- View Designer Class
- Create Front End
- Configure Behavior
- Summary

Introduction to WPF

- Introduction

(Continued on page 2)

Developing Apps Using C# 2008: What's New

page 2

- Overview: WPF
- View Example WPF App
- Windows Forms
- What WPF Provides
- Graphics and Composition
- WPF Questions
- Family.Show App
- Inconvenient Truth
- WPF and XAML
- XAML /WPF Designer
- Demo: A Simple WPF App
- Explore WPF App Parts
- View XAML Markup
- Modify Properties
- Add Controls
- Handle Events
- Useful Project Tools
- Investigate Routed Events
- Properties of RoutedEventArgs
- Demo: Modify the App
- Summary

Content / Grid Controls

- Introduction
- Overview: Content Controls
- Add Image to ListBox
- Content Property
- Work w/Layout Controls
- StackPanel Control
- Add TextBox to StackPanel
- List Box as Container
- Grid Control
- Create Row/Column Definitions
- Specifying Column/Row Sizes
- Add Controls to Grid
- Dependency Properties
- DependencyObject Class
- Investigate Dependency Props
- Declare the Property
- In Constructor
- Property Wrapper
- Use Attached Properties
- Programming the Grid
- Summary

WPF Layout

- Introduction
- Examine Solution App
- Controls in App
- Create the Layout
- Create New Project
- Add Second Grid
- Add Controls to Grid

- Save / Test Form
- MediaPlayer Control
- Demo: MediaPlayer Control
- Add Stack Panel
- Add Media Element Control
- Add a Slider
- Configure Row Definitions
- Configure Buttons
- Configure Stack Panel
- Configure Slider
- Configure Column Sizes
- Summary

WPF Code

- Introduction
- Add Timer to User Control
- Add Constructor
- Event Handler Code
- Add Button Code
- Hook Up Event Handlers
- Add the User Control
- Test the Application
- Create / Bind Data Source
- Create ThumbnailList Class
- Set FolderName Property
- Demo: ThumbnailList Class
- Prepare Window1 Class
- Demo: Window1 Class
- Hook up Data Binding
- Demo: Data Binding
- Data Binding Syntax
- Display the Video
- Add Data Converter/Template
- Create a Type Converter
- IValueConverter Interface
- Demo: Type Converter
- Add Converter Resource
- Add Resources
- Create Data Template
- Save / Test Application
- Summary

Create a WCF Service

- Introduction
- Windows Comm. Foundation
- WCF / Web Services
- WCF / .NET Remoting
- Demo: Simple WCF Service
- WCF Building Blocks
- Services
- Service Contracts
- Data Contracts
- Endpoints

- Bindings
- WCF Provided Bindings
- Demo: Create WCF Service
- Create Connection String
- Examine Data Code
- View app.config
- Test Service
- Create a Host for Service
- Modify Web.config
- View Service in Browser
- Call Service w/Windows App
- Examine Windows Client
- Add Service Reference
- Bind the Data
- Test Client App
- Summary

Host a WCF Service

- Introduction
- Overview
- Hosting Options
- Host in IIS
- Host in Client App
- Channels
- Demo: Host a WCF Service
- Create Console App
- Add Reference
- Add ServiceHost Code
- Run the Service Host
- Create Client App
- Set Up Data Binding
- Add New DataSource
- Create an Endpoint
- ChannelFactory
- Set Start Up Projects
- Test the App
- Use NetTCPBinding
- Define Multiple Endpoints
- Multiple Listening Protocols
- Summary

Configuration

- Introduction
- ServiceModel Configuration
- <services> Element
- Configuration Example
- Multiple Endpoints
- Demo: Config WCF Services
- Service Config Editor
- Create New Service
- Create/Edit Endpoints
- Save config File
- Include in Project

- Test Service
- Create Client End Points
- View Client app.config
- Implement End Points
- Test App
- Edit Config File
- Summary

Introduction to Workflow

- Introduction
- Overview: WWF
- Demo: Simple Workflow
- Create Sequential Workflow
- Add Activities
- Test Workflow
- Debug Workflow
- Examine Startup Code
- Overview: Activities
- Conditional Activities
- IfElse Activity
- While Activity
- Demo: IfElse Activity
- Set Conditions
- Declarative Rule Condition
- Rule Expression Editor
- Add/Remove IfElse Branch
- Code Condition
- Test IfElse Workflow
- Demo: While Activity
- Add While Activity
- Add Sequence Activity
- Bind to a Property
- Test While Workflow
- Summary

WWF Decisions / Hosting

- Introduction
- Rules in Workflows
- Overview: RuleSet
- Overview: Policy Activity
- Demo: RuleSets/Policies
- Use a Policy Activity
- Create a RuleSet
- Add New Rules
- Call Methods in Rules
- Test Workflow
- Workflow Architecture
- Host Workflow in Windows App
- Pass Parameters
- Demo: Host Workflow in Form
- Set Workflow References
- Demo: Pass Parameters
- Test Host Workflow

(Continued on page 3)

Developing Apps Using C# 2008: What's New

page 3

- Summary

Comm. / State Machines

- Introduction
- Overview
- Demo: Call Methods in Host
- Create the Interface
- Call Methods
- Implement Interface
- Hook up Data Exchange
- Save/Build/Test Solution
- Handle Host Events
- Event Arguments
- State Machine Workflows
- State / SetState Activities
- Demo: State Machine WF
- Examine EventArgs Class
- Examine the Interface
- Examine Host Interface
- Create the Workflow States
- Modify State Activity
- Configure State Transitions
- Configure Workflow Events
- Test the Application
- Summary

Client App Services

- Introduction
- Manage Members / Roles
- Configure Web Site Security
- Demo: Web Site Security
- Run aspnet_regsql
- ASP.NET SQL Server Wizard
- Create Web Site
- Set Web Site Properties
- Set up Security
- Web Site Administration Tool
- Create Roles
- Add Users/Access Rules
- Manage Roles
- Windows Application Features
- Role Based Security
- Project Settings
- Client Application Services
- Authentication
- Demo: Remote Authentication
- Enable Client App Services
- Configure Web Site to Listen
- Use Authentication Service
- Modify Login Form
- Use Credentials Provider
- Code to Logout
- Summary

Roles/Settings/Cust. Providers

- Introduction

- Overview: Roles
- Overview: Settings
- Demo: Remote Roles/Profiles
- Use Roles Service
- Add/Define Settings
- Bind Settings
- Save Settings
- Run Application
- Use Profile Service
- Load Web Settings
- Test Web Settings
- Custom Membership Providers
- Custom Role Providers
- Demo: Membership/Role Prov.
- View User.xml/Roles.xml
- Create Membership Provider
- Create Role Provider
- Test the Providers
- Summary

VSTO Excel

- Introduction
- Office Projects VS 2008
- What Can Office Do
- What Kind of Apps
- Document vs. Application
- Excel Add-In
- Ribbon Customizations
- Demo: Create Excel Add-In
- Demo: Ribbon Customization
- Office Ribbon IDs
- Lay out Custom Tab/Group
- Add Data Source
- Add Data / Hook Events
- Create Custom Task Pane
- Program Custom Task Pane
- Manage Task Pane Display
- Task Pane/ToggleButton
- Test Excel Add-In
- Summary

VSTO Word

- Introduction
- Content Control Types
- Managed Wrappers
- Create Form
- Demo: Content Controls
- Create New Form
- Add New Data Source
- Add Content Controls
- Program Content Controls
- Enhance Data Binding
- Test Word Add-In

- Summary

VSTO Outlook

- Introduction
- Form Regions
- Four Types of Regions
- Create Form Region
- Create Office Add-in
- Add New Form Region
- Add New Data Source
- Lay out Form Contents
- Test the Form
- Populate the Mail Message
- Test Add-in
- Summary