Developing Applications Using Visual Basic 2008/2010: Vol 1

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Course description: Visual Studio 2008/2010 adds a large set of new functionality for the Visual Studio developer. From new language features, including LINQ (Language Integrated Query), to new client-side data support, Visual Studio 2008/2010 and the .NET Framework 3.5/4.0 make it easier than ever to create robust, enterprise-level applications. You will learn how to build solid applications using structured exception handling, how to use the Visual Studio debugging features, how to use MenuStrip and ToolStrip controls, and how to add unprecedented flexibility to your user interfaces using the container controls. As you continue through this course you will learn about important development topics that are not normally covered in a beginning Windows application programming course such as an introduction to .NET interoperability, using .NET Serialization, Windows Management Instrumentation (WMI), and drawing your own user interfaces using the System.Drawing namespace. You will dig deeper into the most complex of Visual Studio built-in controls, the DataGridView control, Windows Communication Foundation (WCF), using ClickOnce, Windows Workflow Foundation (WF), and many more topics that will extend your knowledge, your capabilities, and your value as a developer. This course now supports both Visual Basic 2008 and 2010.

Course outline:

Introduction to Winforms
- Introduction
- Demo: Create First Solution
- Work with Windows in VS
- Work with Form Properties
- Save Changes
- View Toolbox
- Add Controls to Form
- Investigate Snap Lines
- Adjust Ctl Size/Positions
- Control Tab Order
- Run the Project
- Peek behind the Scenes
- View the Designer Code
- Dispose()
- InitializeComponent()
- Summary

WinForms Events
- Introduction
- Add Event Handling Code
- Add Menu to the Form
- Add ShortcutKeys
- Non-Graphical Components
- ToolTip Component
- Form Opacity
- Timer Component
- Summary

Handle Events
- Introduction
- Overview: Handle Events
- Work with Events
- Demo: Events
- View Form Events
- Examine MouseClick()
- Work with Forms
- Forms as Dialog Boxes
- Retrieve Info
- React to Keystrokes
- Retrieve Return Value
- Starting the Application
- Demo: Dialog Form
- Demo: Start Up Form
- View Under Event Covers
- Delegates
- Click Event Declaration
- MouseClick Declaration
- Demo: Review Event Hookup
- Handle Multiple Controls
- Add/RemoveHandlers
- Handles vs AddHandler
- Demo: AddHandler
- Summary

Exploring Events
- Introduction
- Overview: Form/Control Events
- Form Events
- Demo: Explore Form Events
- Keyboard Events
- KeyPress vs KeyDown/Up
- KeyPress
- KeyUp/KeyDown Events
- Demo: Keyboard Events
- Mouse Events
- MouseMove Event
- MouseUp/MouseDown Events
- Demo: Mouse Events
- Validate User Input
- Validating Event
- ErrorProvider Component
- Create a Cancel Button
- Demo: Validate Data
- Demo: Validating Event
- Demo: Cancel Button
- Summary

Common Controls
- Introduction
- Label Control
- Demo: Label Control
- TextBox Control
- Demo: TextBox Control
- Button Control
- Demo: Button Controll
- Summary

More Common Controls
- Introduction

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- CheckBox Control
- RadioButton Control
- Demo: CheckBox/RadioButton
- ComboBox Control
- Demo: ComboBox Control
- ListBox Control
- Demo: ListBox Control
- CheckListBox Control
- Demo: CheckListBox Control
- Summary

Even More Common Controls
- Introduction
- LinkLabel Control
- NumericUpDown Control
- LinkLabel/NumericUpDown
- PictureBox Control
- ProgressBar Control
- PictureBox/ProgressBar
- Summary

Handling Exceptions
- Introduction
- Overview: Exception Handling
- Demo: No Exception Handling
- What User Sees
- Simple Try/Catch Block
- Unhandled Exceptions
- Exception Object
- Display Your Own Message
- Catching Specific Exceptions
- Multiple Exceptions
- Inheritance Hierarchy
- Demo: Multiple Exceptions
- Summary

Raising Exceptions
- Introduction
- Throw Keyword
- Search for Handlers
- Exception Handling Options
- Throwing Exceptions
- Demo: Pass Error Information
- Run Code Unconditionally
- Finally and/or Catch
- Demo: Finally / Catch
- Demo: Use a Using Block
- Unhandled Exceptions
- Demo: Unhandled Exceptions
- Create an Exception
- Demo: Create Exception Class
- Summary

Strings
- Introduction
- Overview: String Class
- Creating Strings
- Demo: Creating Strings
- String Properties
- Compare / CompareOrdinal
- Concat / Format
- IsNullOrEmpty
- Join / Split
- Instance String Methods
- Demo: String Methods
- Text w/StringBuilder
- StringBuilder Class
- Output Text w/Multiple Lines
- Investigate Stringbuilder Class
- Demo: StringBuilder Class
- Summary

Dates and Times
- Introduction
- Work with Dates and Times
- DateTime Constructors
- Demo: Dates / Times
- Shared Static Members
- Simple Properties
- Conversion Methods
- Calculation Methods
- Shared Static Methods
- Use the DateTime Type
- Localized Date Information
- Demo: Format Dates/Times
- TimeSpan Type
- Create TimeSpan Values
- Demo: TimeSpan Type
- Measure Elapsed Time
- Summary

Accessing Data
- Introduction
- Overview of ADO.NET
- ADO.NET Classes
- OleDb vs SqlClient
- ADO.NET Architecture
- DataTable Object
- Demo: Create DataTable
- Connect to Data Source
- Demo: Create Conn. String
- View app.config
- Use Connection String
- Exception Handling
- Use Using Block
- Overview: Commands
- Command Object
- Work w/Data Readers
- Close the Connection
- Work w/SQLDataReader
- Summary

Working with Data
- Introduction
- Overview: Work w/Data
- Use a Data Adapter
- Get Data into a DataSet
- DataSet Object
- Fill a DataSet
- Demo: OleDb DataSet
- Tables, Rows and Columns
- Use DataRows
- Data Columns and Schema
- Demo: SQL DataTable
- Choose ADO.NET Provider
- SQL .NET Data Provider
- OLE DB .NET Data Provider
- ODBC Data Provider
- Multiple Providers
- Demo: Multiple Providers
- Summary

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
- 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 tor XML
- Demo: LINQ to XML
- Transform XML
- Demo: Transform XML
- For More Information
- Summary

Data Binding
- Introduction
- Create a Data Source
- Configuration Wizard
- Data Sources Window
- Create Data Bound Form
- Demo: Data Bound Form
- Test Data Bound Form
- Data Binding Controls
- DataSet
- TableAdapter
- TableAdapterManager
- BindingSource Component
- BindingNavigator Control
- Demo: View DataSet
- Demo: TableAdapter
- Demo: BindingSource
- Demo: BindingNavigator
- Summary

Relationships / Lookup Tables
- Introduction
- Data from Related Tables
- Demo: One to Many Relations

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- Enforce Ref. Integrity
- Demo: Enforce Ref. Integrity
- Display from Lookup Tables
- Demo: Lookup Tables
- Add Search to a Form
- TableAdapter Queries
- Demo: Add Search to a Form
- TA Query Config Wiz
- Search Criteria Builder
- Filter by Values
- Demo: Filter by Values
- Summary

Data Validation
- Introduction
- Data Validation
- User Made Changes
- Validate at Form Level
- Validate Entered Data
- Demo: Validate Data
- Validate at Data Level
- Demo: Data Level Validation
- View DataSet Code
- ColumnChanging() Event
- ProductsRowChanging() Event
- TableNewRow() Event
- DataHasErrors() Procedure
- Work with Local Data
- Summary

Binding Navigator/Source
- Introduction
- BindingNavigator Control
- BindNav ToolStripItems
- Built-In/Custom Functionality
- Add a BindingNavigator
- Demo: BindingNavigator
- BindingSource Component
- Data Navigation
- Data Manipulation
- Sorting / Filtering
- Work w/Underlying Data
- Demo: BindingSource
- Demo: Sort/Filter
- Demo: Copying Data
- Summary

DataGridView
- Introduction
- DataGridView Control
- Customize Displayed Data
- Demo: Build a DataGridView
- Format Cells at Runtime
- Demo: Format at Runtime
- Display Calculated Values
- Demo: Calculated Values
- Demo: Add Columns
- Display Images
- Demo: Display Images
- Add Controls to DataGridView
- Demo: Adding Controls
- Summary

Report Viewer
- Introduction
- Create / View Reports
- Demo: Create New Report
- ReportViewer Control
- Demo: Use Report Wizard
- Summary

Introduction to WPF
- Introduction
- Overview: WPF
- View Example WPF App
- What"s Wrong w/Win 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 and 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
- Layout Controls on Form
- Add Second Grid
- Add Controls to Grid
- Save / Test Form
- MoviePlayer Control
- Demo: MoviePlayer Control
- Add Stack Panel
- Add Media Element Control
- Add a Slider
- Configure Buttons
- Configure Stack Panel
- Configure Slider
- Configure Column Sizes
- Summary

WPF Code
- Introduction
- Add Timer to User Control
- Add Constructor
- Event Handler/Button Code
- Hook Up Event Handlers
- Add the User Control
- Test the Application
- Create / Bind Data Source
- Create ThumbnailList Class
- 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
- Demo: Converter Resource
- Demo: Add Data Template
- Save / Test Application
- Summary

Files and Folders
- Introduction
- System.IO Namespace
- Selecting Files
- Filter Property
- More Properties
- Show Dialog Box
- Work with Multiple Files
- Events
- SaveFileDialog Control
- Demo: OpenFileDialog Ctrl
- Browse for Folder
- Using FolderBrowserDialog
- Demo: FolderBrowserDialog Ctrl
- Handle Path Information
- Demo: Display Path Info
- Summary

Directories and Files
- Introduction
- Overview: Directories / Files
- Why Two Sets of Classes
- Demo: FileInfo Classes
- Investigate the Objects
- FileSystemInfo Class
- Directory Class
- Display Sample Info
- Fill the TreeView
- Expand TreeView Node
- Polymorphism
- Demo: Directory Class Methods
- Demo: Fill TreeView
- Demo: Display Drive Info
- Demo: Display File Info
- Stream-Based Objects
- Demo: Stream Reader/Writer

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- Alternate Solutions
- Summary

Application Properties
- Introduction
- Project Designer
- App Props/Assembly Info
- App Framework Props
- Application Events
- Demo: Application Props
- Demo: Project Designer
- Demo: View Assembly.Info
- Demo: Solution/View Files
- Demo: App Framework Props
- Demo: Application Events
- View Splash Screen Code
- Compilation Properties
- Option Explicit / Option Strict
- Compiler Errors / Warnings
- Build Events
- Demo: Compile Properties
- Demo: Configuration Settings
- Demo: Output Path
- Demo: Option Explicit/Strict
- Demo: Compiler Warnings
- Demo: Build Events
- Demo: Adv. Compiler Options
- Debug Properties
- Start Action/Options
- Enable Debuggers & Demo
- Summary

Refs/Resources/Settings
- Introduction
- Overview: Project References
- References Page
- Demo: Project References
- Unused References
- Add Reference
- Add New Reference path
- Imported Namespaces
- Project Resources
- Demo: Project Resources
- Demo: Local Resources
- Resources at Runtime
- Project Settings
- Demo: Project Settings
- Summary

Break Points
- Introduction
- Debugging Applications
- Set Breakpoints
- Continue Program Execution
- Conditional Breakpoints
- Specify Breakpoint Hit Count
- Set Breakpoint on a Method
- Breakpoints Window
- Break on Exceptions
- Demo: Breakpoints
- Demo: Set Breakpoints
- Demo: Cont. Program Exec.
- Demo: Conditional Breakpoints
- Demo: Breakpoint Hit Count
- Demo: Breakpoints Window
- Demo: Break on Exceptions
- Summary

Expressions / Edit Continue
- Introduction
- Evaluate Expressions
- DataTips and Visualizers
- Debugging Windows
- Edit and Continue
- Demo: DataTips/Visualizers
- Watch Window/QuickWatch
- Demo: Locals Window
- Demo: Autos Window
- Demo: Immediate Window
- Demo: Edit / Continue
- Debug Code in Assembly
- Demo: Debug in Assemblies
- Summary

Tracing / Unit Tests
- Introduction
- Tracing Applications
- Trace Sources
- Trace Switches
- Trace Listeners
- Trace Filtering
- Tracing Config Files
- Demo: Trace Source/Switches
- Demo: Trace Listeners
- Demo: Trace Filtering
- Demo: Tracing Config Files
- Unit Tests
- Demo: Unit Testing
- Summary

Container Controls
- Introduction
- Overview: Container Controls
- GroupBox Control
- GroupBox Control Members
- Demo: GroupBox Control
- Panel Control
- Demo: Panel Control
- SplitContainer Control
- Demo: SplitContainer Control
- Demo: SplitContainer Events
- TabControl Control
- Demo: TabControl Control
- Demo: Work w/Tab Pages
- Demo: TabControl Events
- Summary

FlowLayout / TableLayout
- Introduction
- FlowLayoutPanel Control
- Work w/FlowLayoutPanel
- FlowDirection Property
- WrapContents Property
- AutoScroll / AutoScrollMargin
- FlowBreak Extender Property
- TableLayoutPanel Control
- Work w/TableLayoutPanel
- Set Row and Column Styles
- Position New Controls
- Add Controls Programmatically
- Work w/Other Properties
- Lay out Columns or Rows
- Extender Properties
- Control Methods
- Summary

Introducing Strips
- Introduction
- Overview: Strip Controls
- Demo: MenuStrip
- Add Menu Images
- Use VS Automatic Menus
- ToolStrip Control
- ToolStrip ItemClicked()
- StatusStrip Control
- Add StatusLabel
- ToolStripStatusLabel
- BorderStyle Property
- BorderSides Property
- Spring Property
- Demo: StatusStrip Appearance
- ContextMenuStrip Control
- ToolStripContainer Control
- Work w/ToolStripItem
- Item Collection Editor
- ToolStripItem Display Styles
- Runtime Customizations
- AllowItemReorder Issues
- Save/Restore Customizations
- Layout Issues / Overflow
- Summary

Using Strips
- Introduction
- RichTextBox Demo
- ZoomToolStripComboBox
- List of Font Sizes
- Add items Programmatically
- ModifySelectionFont()
- WebBrowser Demo
- Status Strip
- Navigating() Event
- StatusTextChanged()
- ProgressChanged()
- DocumentCompleted()
- Summary

Notify Icon / Web Browser
- Introduction
- NotifyIcon Control
- Demo: NotifyIcon
- NotifyIcon Properties
- Handle Form Closing
- Handle Events
- Handle Menu Items
- Display a Balloon
- WebBrowser Control
- Demo: WebBrowser
- WebBrowser Navigation
- Display Dialog Boxes
- React to Environment Changes
- Update Status Text
- Update Progress Bar
- Update Title Bar
- Update Address TextBox
- Enable Back / Forward
- Summary

Masked / RichTextbox
- Introduction
- MaskedTextBox Control
- Mask Characters
- Demo: MaskedTextBox
- TextMaskFormat
- CutCopyMaskFormat
- InsertKeyMode

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- MaskInputRejected Event
- Status Properties
- RichTextBox Control
- Demo: RichTextBox
- Handling State
- Undo and Redo
- Work w/Clipboard
- Work w/Fonts and Styles
- Toggle Font Styles
- Fore / Back Colors
- Modify Alignment
- Zoom / Links / SelectAll
- Summary

TreeView / MonthCalendar
- Introduction
- TreeView Control
- Style Properties
- Add Nodes
- Expand a Node
- ListView Control
- Set Up the Images
- Fill a List of Files
- Show Items in Groups
- Sort the Columns
- IComparer Interface
- ColumnClick Event
- DateTimePicker
- MonthCalendar Control
- Limit Input Dates
- Set First Day of the Week
- Format the MonthCalendar
- Modify Control"s Display
- Work w/Selected Dates
- Handle Bolded Dates
- DateTimePicker Control
- Control Date/Time Format
- Select Min and Max Dates
- Format the DateTimePicker
- Summary

My.Application
- Introduction
- My.Application
- My.Application.Info
- My.Application.Log
- Demo: My.Application.Info
- Demo: My.Application.Log
- Summary

My.Computer
- Introduction
- Overview: My.Computer
- My.Computer.Audio
- My.Computer.Clipboard
- My.Computer.Clock
- My.Computer.FileSystem
- Demo: My.Computer.Name
- Demo: My.Computer.Screen
- Demo: My.Computer.Audio
- Demo: My.Computer.Clipboard
- Demo: My.Computer.Clock
- Demo: My.Computer.FileSys
- My.Computer.Info
- My.Computer.Keyboard
- My.Computer.Network
- My.Computer.Registry
- Demo: My.Computer.Info
- Demo: My.Computer.Keyboard
- Demo: My.Computer.Network
- Demo: My.Computer.Registry
- Summary

Other Objects in My
- Introduction
- My.User
- Demo: My.User
- My.Forms
- Demo: My.Forms
- Forms Properties
- My.Resources
- My.Settings
- Demo: My.Resources
- Demo: My.Settings
- My.WebServices
- Demo: My.WebServices
- Summary