ASP.NET Using Visual Basic 2008: Volume 1

Meet the expert: Don Kiely is a featured instructor on many of our SQL Server and Visual Studio courses. He is a nationally recognized author, instructor, and consultant specializing in Microsoft technologies. Don has many years of teaching experience, is the author or co-author of several programming books, and has spoken at many industry conferences and user groups. In addition, Don is a consultant for a variety of companies that develop distributed applications for public and private organizations.

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.

Prerequisites: Before taking this course, students should have a good working knowledge of Visual Studio 2005 or Visual Studio 2008 and the .NET Framework 2.0. Students should also have a good working knowledge of Visual Basic.

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Course description: In this course, you will learn how to use Visual Studio 2008 and Visual Basic 2008 to build ASP.NET 3.5 Web pages. You will gain an understanding of the architecture behind ASP.NET and how to use the various ASP.NET server controls. You will learn to create consistent web sites using Master Pages, add membership features, configure and deploy ASP.NET applications, to authenticate users and limit their access to resources, manage state, direct users using Site Navigation tools, debug .NET and JavaScript code, and to display and edit data using ASP.NET and ADO.NET. In addition, you will learn about new ASP.NET 3.5 features, such as support for LINQ (Language Integrated Query), CSS tools, nested master pages, and more.

Course outline:

Introduction to ASP.NET
• Introduction
• Dynamically Create Pages
• Demo: View Classic ASP Page
• ASP Object Model
• Demo: View Classic ASP Page
• Handle ASP Postbacks
• Demo: View Classic ASP Page
• Demo: View ASP Page Source
• ASP Shortcomings
• ASP.NET to the Rescue
• ASP.NET Web Apps
• Create New Web App
• Demo: Create ASP.NET App
• Summary

ASP.NET Controls
• Introduction
• Render HMTL w/Server Ctrls
• Types of Server Controls
• HTML Controls
• Demo: HTML vs Server Ctrls
• Web Server Controls
• Demo: Page w/HMTL Ctrls
• Demo: View Code Behind File
• Demo: Page_Load Event
• Demo: Retrieve Data
• Demo: Handle Postback
• View Client Source
• Demo: Build a Table
• Demo: Properties Window
• Demo: Modify Styles
• Browse Final Page
• ASP.NET Server Controls
• Demo: Page w/Server Ctrls
• AutoPostBack Property
• Demo: AutoPostBack Property
• Summary

Data Binding
• Introduction
• Demo: Data Binding
• Add/Config SqlDataSource
• Add/Config DropDownList
• Add Data Connection
• Add Products Table
• Refresh Gridview
• Config Gridview
• Browse the Page
• Web Development w/VS
• Code Behind vs Inline Code
• Web Sites and Applications
• Demo: Web Site Project
• Demo: Web App Project
• ASP.NET Development Server
• Demo: Development Server
• Demo: Web Site Properties
• Demo: Web App Properties
• Multi-Targeting Support
• Demo: Multi-Targeting
• Summary

Introduction to Controls
• Introduction
• Web Server Controls
• WebControl Class
• Browser Detection
• Label Control
• Demo: Label
• Simple Input Controls
• TextBox Control
• Demo: TextBox
• CheckBox Control
• RadioButton Control
• Demo: CheckBox/RadioButton
• GroupName Property
• Demo: GroupName Property
• Summary

Hyperlink Buttons
• Introduction
• Overview: HyperLink Control
• Postback Behavior
• Demo: HyperLink
• Overview: Button Controls
• Demo: Button
• Demo: LinkButton
• Demo: ImageButton
• Multi Events w/Single Handler
• Demo: Handle Multiple Events
• Display Images
• Demo: Image Control
• Demo: ImageMap
• Define Image Hotspots
• Demo: Image Hotspots
• Control Hotspot Behavior
• Image Alternate Text
• Summary

List Controls
• Introduction
• Overview: List Controls

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- Demo: List Controls
- Demo: Add Items to List
- Demo: Add Items at Runtime
- Demo: AutoPostBack
- Demo: Multiple Selections
- Demo: Selection List Location
- Demo: Clear Selections
- Control Focus
- Demo: Control Focus
- Form Defaults
- Demo: Focus Method
- Demo: Access Keys
- Demo: Associated Ctrl ID
- Demo: Default Buttons
- Summary

Calendar Control
- Introduction
- Overview: Rich Controls
- Overview: Calendar Control
- Demo: Calendar Control
- Graphics Instead of Text
- Demo: Style Properties
- Handle Calendar Events
- Demo: Calendar Events
- Code: SelectionChanged
- Code: VisibleMonthChanged
- Demo: DayRender
- Code: DayRender
- View Client-side Code
- Summary

AdRotator / XML Controls
- Introduction
- Overview: AdRotator
- Demo: AdRotator
- How AdRotator Works
- Advertisements File
- Set Target Frame
- Demo: Target Frame
- Keyword Filter
- Test AdRotator.aspx
- Overview: XML Control
- Demo: XML Control
- Setting Properties
- Summary

Retrieve Data
- Introduction
- Overview: ADO.NET
- ADO.NET Classes
- OleDb vs SqlClient
- ADO.NET Architecture
- DataTable Object
- Demo: Fill DataTable
- Connect to Data Source
- Set Up Connections
- Make the Connections
- The using statement
- Exception Handling
- Overview: Commands
- Overview: Command Object
- Overview: Read Data
- Demo: SqlDataReader
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Data Set and Providers
- Introduction
- Work with Data
- Get Data into DataSet
- DataSet Object
- Steps to Fill DataSet
- Demo: OleDb DataSet
- Rows and Columns
- Use DataRows
- DataColumns and Schema
- Demo: SqlClient DataSet
- Choose a Provider
- SQL Server Data Provider
- OLE DB Data Provider
- ODBC Data Provider
- Multiple Providers
- Demo: Multiple Providers
- Summary

Intro 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
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- Introduction
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- Demo: Add LINQ to SQL Class
- Demo: Add Stored Procedure
- Demo: Examine Data Model
- Demo: Query SQL Database
- Call Stored Procedures
- Demo: Call Stored Proc
- Anonymous Types w/SQL
- Demo: Anonymous Types
- Modify SQL Data
- Demo: Modify SQL Data
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LINQ to DataSets/XML
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- 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
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.NET Configuration
- Introduction
- Benefits
- Navigate Hierarchy
- machine.config
- Demo: config files
- Root web.config
- Application web.config
- Use location Element
- Config File Elements
- system.web Element
- Demo: web.config
- appSettings Section
- connectionStrings Section
- system.web Section
- ASP.NET Configuration Tools
- Config Security Features
- Web Site Admin Tool
- Demo: Web Site Admin Tool
- Unified Error Handling
- Summary

Programming Configuration
- Introduction
- Configuration APIs
- Demo: Configuration API
- Connection Strings/Providers
- Write to Config Files
- Demo: Write to Config Files
- Save appSettings
- Retrieve all appSettings
- Summary

External Files
- Introduction
- Overview: Exernal FIles
- Demo: External Config File
- Standard Config Sections
- Demo: Debug Setting
- Read from Standard Section
- Write to Standard Section
- Is There More to Config API?
- Encrypt Config Sections
- Protected Config Provider
- Demo: Protected Provider
- Demo: Encrypted Conn String
- Demo: Encrypt Data
- Retrieve Connection Strings
- Encrypt w/External FIle
- Move Encrypted Files
- Summary

SqlDataSource
- Introduction
- Data Binding
- Data Source Controls
- Data-Bound Controls
- SqlDataSource
- Demo: SqlDataSource
- Configue SqlDataSource
- Add/Configure DropDownList
- Run/View Source
- Use Stored Procedure
- Add/Config DetailsView Ctrl
- View in Browser
- Add/Configure Filtering
- Data Source Control Events
- Handle Delete Error
- Demo: Handle Delete Error
- Demo: Dropdown Refresh
- Demo: Item Updated Event
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- Introduction
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- Demo: ObjectDataSource
- LinqDataSource Control
- Demo: LinqDataSource

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- XmlDataSource Control
- Demo: XmlDataSource
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- Where Do They Work?
- Overview: Validation Ctrls
- Types of Validators
- Is a Page Valid
- RequiredFieldValidator
- Designer Markup
- Handle Initial Values
- Manage Screen Size
- Demo: RequiredFieldValidator
- RangeValidator
- Demo: RangeValidator
- CompareValidator
- Demo: CompareValidator
- View Client Source
- Summary

ComplexValidators
- Introduction
- RegularExpressionValidator
- Regular Expressions
- Regular Expression Editor
- Demo: RegExprValidator
- Combine Validators
- CustomValidator
- CustomValidator Props
- Validate on the Server
- When Does it Validate?
- Client Side Validation
- Demo: CustomValidator
- ValidationSummary
- Demo: ValidationSummary
- Validation Groups
- Demo: Validation Groups
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- Introduction
- Advantages of Styles
- Format Content w/HTML
- Styles on HTML Elements
- Demo: Add Inline Style
- Design Embedded Style Sheet
- Define a Style
- Demo: Define Styles
- Design Linked Style Sheet
- Linked Style Sheets
- Overview: CSS
- Cascading Order
- Investigating Styles
- Font Attributes/family
- Demo: font-family
- Font Styles-Decorations
- Demo: Font Styles
- Attributes
- Demo: Attributes
- DIV and SPAN Tags
- Demo: DIV and SPAN Tags
- Classes and IDs
- Group Attributes
- Consolidate Styles
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- Manage Styles Window
- Style Application Toolbar
- Style App - Auto Mode
- Style App - Manual Mode
- Style App - Reuse Exisitng
- Style App - Show Overlay
- Style Dialog Box
- Create Style Rules
- Create New Styles
- CSS Properties Window
- CSS Strike Through Examples
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Themes
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- Review: CSS
- Overview: ASP.NET Themes
- Themes vs CSS
- Themes, Folders and Skins
- Demo: Explore Themes
- Skins
- View Label Markup
- View Skin Markup
- Create a Theme
- Demo: Apply a Theme
- Demo: Create a Theme
- Organize Skins
- Work with Themes
- Deal with Conflicts
- Demo: Conflicts w/Themes
- Opt Out of Theme
- Create Named Skins
- Demo: Use Named Skins
- Images with Skins
- Demo: Use Images
- Combine CSS and Themes
- Apply Themes Globally
- Apply Themes at Runtime
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- Two New Page Types
- Demo: Create Master Page
- Demo: Create Content Page
- Convert to Content Page
- Add Default Content
- Demo: Convert Page
- Demo: Add Default Content
- Practical Master Pages
- Demo: Add Table Layout
- Nested Master Pages
- Demo: Nested Master Pages
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- Default XmlSiteMapProvider
- SiteMapDataSource Control
- Absolute / Relative URLs
- Relative URLs
- Absolute URLs
- URLs in Server-Side Controls
- Create XML Site Map
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- Site Navigation Controls
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- Demo: Child Site Map
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- Authentication/Authorization
- Website Admin Tool
- Configure Authentication
- Enable User Login
- Test the Application
- Set Up Roles
- Override Automatic Trimming
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- Configure the Gridview
- View the Source
- Filter Gridview Data
- Create a DropDownList
- Test the DropDownList
- Filter by Selection
- Add DropDownList to Grid
- Introducing Templates
- Convert into a Template
- Demo: Convert to Template
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- Display Filtered Info
- Add a Hyperlink
- View the Page
- Auto-generate Fields
- Make Hyperlink Editable
- Make Field Sortable
- Delete Rows / Handle Errors
- Add Delete Link
- Convert to Template Field
- Add Client-Side Alert
- Test Delete Link
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- Methods to Preserve State
- Page-Level State
- Dynamic Page Modifications
- Demo: Dynamic Modifications
- View State / Page Lifecycle
- Enable Change Events
- Demo: Enable Change Events
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- Custom Data Syntax
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- Demo: Cookies
- Using Cookies
- Demo: Work with Cookies
- Limits of Cookies
- ASP.NET Session State
- Problems in Classic ASP
- Demo: Default Session State
- Session Object
- Session Object Methods
- Store Objects in Session
- Demo: Store Objects
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- Introduction
- Session State Options
- Session State Mode Attribute
- Out-of-Proc State Server
- Demo: Config State Server
- Ensure Data Is Serializable
- Use DataViews/ DataTables
- Test StateServer Session
- Store Session in SQL Server
- Config SQL Server State
- SQL Server Objects
- Test SQL Server Session State
- Cookieless Session IDs
- Application State
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- Role Management
- Security Services Stack
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- Data Access Provider Model
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- Set Up Configuration
- Web-Based Config Tool
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- Set Up Security
- Create/Manage Roles
- Create/Manage User
- Examine web.config
- Examine aspnetdb.mdf
- Modify Provider Behavior
- Examine machine.config
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- Role Manager
- Create/Manage Access Rules
- Test Access Rule
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- Login Control
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- Demo: Login Control
- LoginView Control
- LoginName Control
- ChangePassword Control
- PasswordRecovery Control
- CreateUserWizard Control
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Membership API
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- Overview: Membership API
- MembershipUser Class
- Demo: Work with Users
- Add New User
- Delete a User
- Change Pasword Info
- Find Users by Email
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- Roles Class
- Demo: Work with Roles
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- Delete Roles
- Is User in Role
- Add User to Role
- Create Custom Provider
- Sample XML Provider
- Demo: Use Custom Provider
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Server Debugging
- Introduction
- Visual Debugger
- Demo: Configure Debugging
- Visual Studio Options
- Config Project-Level Debug
- Work with Breakpoints
- Breakpoints Window
- VS Stores Breakpoints
- Step through Code
- Debug Toolbar
- Customize Debug Toolbar
- Step Into/Step Over/Step Out
- DataTips and Visualizers
- Work With Data Tips
- Run to Cursor
- Work with Visualizers
- DataSet Visualizer
- Tracepoints
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Debugging Windows
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- Debugging Windows
- Locals Window
- Watch/Quick Watch Windows
- Call Stack/Threads Windows
- Debug Exceptions/Handle Errs
- The Exception Assistant
- Redirecting Users
- Custom Error Page
- aspxerrorpath query string
- Debug Stored Procedures
- Debug w/Database Project
- Work with Data Connections
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JavaScript Debugging
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- Overview: Debugging
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- Demo: Config Script Debug
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- Dynamic Debug Tab
- Data Visualizers
- Locals Window
- Immediate Window
- Breakpoints Saved
- Dynamic Resource Files
- Demo: Debug Menu Control
- Limits of Breakpoint Mapping
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- Custom Data Visualizers
- Demo: Create a Visualizer
- Build Custom Visualizer
- Demo: Create Interface
- Code: Create Interface
- Implement Client Visualizer
- Deploy Custom Visualizer
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