

# Table of Contents

<b><i>Introduction</i></b> .....	<b>1</b>
I Know Who You Are . . .	1
About This Book.....	2
About ASP.NET 2.0 .....	2
How This Book Is Organized.....	2
Part I: Getting Started .....	3
Part II: Introducing ASP.NET 2.0.....	3
Part III: Speaking the Language.....	3
Part IV: Classy Objects and Methodical Properties .....	3
Part V: Creating Interactive Web Applications .....	4
Part VI: Casting a Wider ASP.NET 2.0.....	4
Part VII: Tapping the Database .....	4
Part VIII: Exploring New ASP.NET 2.0 Features .....	5
Part IX: The Part of Tens .....	5
Appendix .....	5
Napoleon Bonus Part (Get It?) — On the CD .....	6
Conventions Used In This Book .....	6
Icons Used In This Book.....	7
Where to Go from Here.....	8
ASP Me, I Might Answer .....	9
Help! It Doesn't Work! .....	10
<b><i>Part I: Getting Started</i></b> .....	<b>11</b>
<b>Chapter 1: ASP.NET 2.0 — Just Do It!</b> .....	<b>13</b>
Do I Need a Development Environment?.....	13
Everything You Need to Get Started.....	14
Watch Your Language! .....	16
Understanding the Development and Testing Process .....	16
Choosing an ASP.NET Web server .....	16
Understanding where IIS looks for your pages.....	17
Saving your page with the .aspx extension.....	17
Testing your pages .....	18
Getting Your ASP in Gear: Creating an ASP.NET Page.....	18
Understanding How This Example Works.....	20
Modifying, Retesting, and Creating Pages.....	22
Modifying and retesting pages.....	22
Creating new pages .....	23
Converting HTML pages to ASP.NET pages.....	23

<b>Chapter 2: Putting ASP.NET 2.0 in Its Place</b> .....	<b>25</b>
Understanding Simple, Static HTML.....	25
Exploring How JavaScript Makes Your Pages More Interactive.....	26
So How Does ASP.NET Work? How is it Different?.....	27
The ASP.NET advantage — faster, simpler, smaller .....	28
And now, presenting ASP.NET 2.0.....	29
The Bigger Picture: The .NET Framework.....	29

## ***Part II: Introducing ASP.NET 2.0*** ..... **31**

### **Chapter 3: Exciting New ASP.NET 2.0 Features** .....

**33**

Discovering the Big, New Features .....	33
Being the master of your domain with the Master Pages feature.....	34
Using themes and skins .....	34
Parts is Web Parts .....	35
Exploring the Faster, Better Features .....	35
Dancing with the database.....	36
New server controls make your user interface sing!.....	36
Increased security that doesn't require you to remove your shoes .....	37
ASP.NET 2.0: The configurator!.....	37
Navigating the Choppy Seas of Your Web Site.....	38

### **Chapter 4: Introducing Visual Web Developer 2005 Express** .....

**39**

Visual Web Developer 2005 Express:	
What Is It (Besides a Mouthful)? .....	39
Accessing Resources from the Start Page.....	40
Creating a New Web Site.....	41
Choosing a template .....	42
Selecting the location and language .....	43
Getting to Know Your Workspace .....	44
The Toolbox window .....	44
The Document window.....	45
The Solution Explorer window .....	46
The Properties window .....	46
The Task window.....	47
Adding Pages to Your Site.....	47
Creating Your User Interface with Server Controls .....	48
Adding server controls.....	48
Setting control properties .....	49
Writing Code in Response to Events.....	51
Debugging, Compiling, and Running Your Web Application.....	52
Using VWDE to Run the Examples in This Book .....	54
Single-File Versus Code-Behind Pages .....	55

**Part III: Speaking the Language.....57**

**Chapter 5: Juggling Information and Firing Off Functions . . . . .59**

- Getting Started with Programming .....60
  - What is a programming language? .....60
  - Compiling and running a program .....60
- Looking at the ASP.NET Process .....61
- Understanding Web Applications .....61
- Keeping Your Tags and Code Apart with Delimiters .....62
- Using the ASP.NET Page Directive.....63
- Creating and Using Variables.....63
  - Creating variables.....63
  - Displaying variable values .....65
  - Can you use a variable you didn't declare? .....66
  - Vee have VAYS of making you declare . . . . .67
  - She's not my data type .....67
  - Don't string me along . . . . .69
  - Giving a variable a value when you create it .....70
- Controlling Cantankerous Constants.....70
- Keeping Your Comments to Yourself.....71
- Understanding How Functions Function.....72
  - Getting a date.....72
  - Let the arguments commence!.....73

**Chapter 6: Asking Questions and Jumping Through Loops . . . . .75**

- Decisions, Decisions, Decisions: Using If...Then .....75
  - IF you want cool Web pages, THEN use conditionals .....76
  - Using Boolean variables with conditions .....78
  - Accepting inequalities as a fact of life .....79
  - Creating a compound If...Then .....80
  - Lies! All lies! Or, what to do if the condition isn't true .....81
  - Handling multiple conditions .....82
  - Developing your nesting instincts.....84
- Get off My Case!.....85
  - Counselor, present your case . . . . .86
  - Cracking a tougher case .....87
- Loop the Loop .....88
  - Counting with For...Next .....89
  - Watching where you Step .....90
  - Nesting loops .....91
  - Doobee-Doobee-Do...Loop.....93
  - Exit, stage left.....95
  - Before you Continue . . . . .96
- Juggling Information with Arrays.....96
  - Creating and using arrays .....96
  - Using For Each...Next with arrays .....98

**Chapter 7: Divide and Conquer: Structured Programming . . . . . 99**

Simplifying Your Life: Structured Programming and Functions .....	100
Giving Your Functions a Place to Live: The Script Tag .....	100
Creating Functions .....	101
Calling Functions .....	102
Opening Arguments .....	104
Functions in All Shapes and Sizes .....	106
Creating and Using Subroutines .....	107
Making a Quick Exit .....	108
Oh, the Places Your Variables Will Go! .....	108
Three kinds of variables .....	108
Two places you can use variables .....	110
Understanding how scope impacts your ASP.NET pages .....	110

**Part IV: Classy Objects and Methodical Properties ..... 113****Chapter 8: OOPs — No Mistake Here! . . . . . 115**

Looking at a Real-World Example: My Car .....	116
Programming Objects .....	117
Creating a Class .....	118
Using the Class to Make an Object .....	119
Using the Properties and Methods in an Object .....	120
Creating Multiple Instances .....	120
Get Out! This Is Private Property .....	122
Objects inside Objects inside . . . ..	124
Why OOP? Answer: The .NET Framework Class Libraries .....	125

**Chapter 9: Cool Stuff You Can Do with ASP.NET 2.0 Objects . . . . . 127**

ArrayList: The Super, Handy-Dandy, Array-Type Thingy .....	127
Working over your friends .....	128
Exploring additional ArrayList features .....	129
Using Automatically Created Objects .....	131
The Input and Output Objects: Request and Response .....	131
Scribbling with Response.Write .....	131
Sending the user to another page with Response.Redirect .....	132
Going long for the pass with Request.QueryString .....	132
The Application and Session Objects:	
More Variable Scope Options .....	135
The application versus the session .....	135
It's a bird. It's a plane. No, it's a super-global	
Session variable! .....	136
Using even-more-super Application variables .....	136
Understanding the difference between session-level	
and application-level variables .....	138

---

## ***Part V: Creating Interactive Web Applications..... 139***

### **Chapter 10: Interfacing with Your Users .....141**

Examining Web Forms and Server Controls .....	141
Creating a simple form.....	142
Capturing events and changing properties.....	144
Manipulating Server Control Properties .....	147
Changing properties in code and in the tag.....	147
Using enumeration properties to assign values.....	148
Using enumeration object methods.....	149
Working with subobject properties .....	149

### **Chapter 11: Turning the Page .....151**

Page Me! .....	151
The problem: Initializing controls with a function.....	152
The solution: Using the Page_Load event .....	153
Page_Load: Is it triggered the first time or every time? .....	154
Making Your Head Spin with Server Round-Trips.....	157
A puzzling example: The no-count counter .....	157
Discovering the answer to the mystery .....	159
ViewState to the rescue .....	159
An easier way to store and retrieve page variables in ViewState.....	161

### **Chapter 12: Basic Server Controls: Labels, Text Boxes, and Buttons .....165**

Don't Label Me!.....	165
Adding a splash of color .....	165
Settling a border dispute.....	167
Finding the font of youth.....	168
Sizing up your label with the Height and Width properties .....	170
ToolTip: Don't run with scissors .....	170
The Enabled and Visible properties.....	171
Shadowboxing? No, Text Boxing! .....	171
He's only half illiterate — He's ReadOnly.....	171
Put TabIndex A in SlotIndex B.....	172
The many faces of the TextMode property.....	172
The TextBox's TextChanged event and AutoPostBack property .....	174
Button, Button — Who's Got the Button? .....	177



**Chapter 13: Making a List Control (And Checking It Twice) . . . . .179**

- Checking for Check Boxes.....179
  - A CheckBoxList example: Know your primes.....180
  - Responding to the user's answer .....183
  - Using common CheckBoxList properties.....184
  - The CheckBox control .....188
  - Using common CheckBox properties .....189
- Radio for Help on Radio Buttons .....190
  - A RadioButtonList example: More gazillionaire trivia.....191
  - A RadioButton example: Notification options .....193
  - Using common RadioButtonList and RadioButton properties.....194
- Your Kiss Is on My ListBox .....195
  - A ListBox example: The Personalize Your PC page .....195
  - Using common ListBox properties.....198
  - Using common ListBox.Items methods .....199
  - An Add/Remove/Clear example: The Grocery List page.....201
  - Searching the grocery list with FindByText .....203
- Dropping In on the DropDownList .....204
  - A DropDownList example: Site navigation .....204
  - Using common DropDownList properties and methods.....206

**Chapter 14: More User Interface Goodies (And How to Make Your Own!) . . . . .207**

- A Few Image, Link, and Button Controls .....207
  - Your image consultant .....208
  - Click me, I'm beautiful: ImageButton .....209
  - A button disguised as a link: LinkButton.....211
  - Handling the hysterical HyperLink .....213
- Marking Time with the Calendar Control.....215
  - A Calendar example: Unborn Baby Age Calculator.....215
  - Using common Calendar members .....217
- Doing It Yourself: User Controls .....220
  - Creating a reusable page header .....220
  - Using the page header .....222
  - Rolling your own dice .....223
  - Yacht. See?.....226

**Chapter 15: Getting It Right: Validating User Input . . . . .229**

- Putting RequiredFieldValidator to Work .....230
  - Using RequiredFieldValidator with a text box .....230
  - Using RequiredFieldValidator with a drop-down list .....231
- Using CompareValidator .....232
  - Comparing with a value .....232
  - Comparing with another control.....234
- Keeping the User in Range with RangeValidator .....235
  - Checking the range with two values .....235
  - Checking the range with other controls .....236

Displaying the Results with ValidationSummary .....236  
 Using Page.IsValid to ensure that all is well.....239  
 Using the ValidationSummary to clean up the page .....239  
 Client Versus Server Validation .....240  
 I Want More! .....240

***Part VI: Casting a Wider ASP.NET .....241***

**Chapter 16: Variable Data Types: Preaching to the Converted . . . .243**

Meeting the Elementary Data Types.....243  
 Storing whole numbers.....244  
 Storing numbers with a decimal point .....244  
 Storing values other than numbers .....245  
 Using Automatic and Explicit Type Conversion.....247  
 Amassing Your Conversion Function Arsenal .....249  
 Standard conversion functions.....249  
 The CType conversion function .....250  
 Using the Int, Val, and Str conversion functions .....251  
 Be Strict: Spare the Rod, Spoil the Programmer .....251

**Chapter 17: My, What Big Namespaces  
 You Have, Mr. Framework . . . . .253**

The Great Organizer: Namespaces .....253  
 Sending E-Mail from Your ASP.NET 2.0 Page.....254  
 Finding Your Way through the Forest of Namespaces .....255  
 ASP.NET 2.0 — It’s in There!.....257  
 My Keyword! You Can’t Have Any . . . . .257  
 Creating and deleting files.....258  
 Copying and moving files .....259

**Chapter 18: Real-World Web Application Issues . . . . .261**

What’s a Web Application?.....261  
 Creating a Virtual Folder for Your Web Application .....262  
 The Global.asax File.....264  
 Application and Session object events.....265  
 Global directives: @ Import.....267  
 The Configuration File .....267  
 The machine.config versus web.config .....267  
 How does XML work?.....268  
 The web.config file .....269  
 Another way to change your configuration .....273  
 Storing your application settings in the web.config file.....274

**Part VII: Tapping the Database .....277****Chapter 19: Accessing a Database with Simple Queries .....279**

Building Classy Classifieds 1.0: AllAds.aspx.....	279
The Import of Database Access Libraries.....	280
Cool Database-Access Server Controls .....	281
Getting Ready to Access the Database.....	282
Getting the database.....	282
Creating a home for your application.....	283
Web.config and the connectionStrings .....	283
Retrieving and Displaying Data .....	284
The SqlDataSource control and its properties .....	286
The GridView control and its properties .....	287
Identifying the columns to display.....	287
Using GridView beautification properties.....	289
Sorting out the grid .....	290
Paging Dr. GridView . . . . .	292

**Chapter 20: Using Sophisticated Queries  
and Updating the Database .....295**

Using Select Parameters to Narrow Your Query.....	296
There's no place like home .....	296
Using the QueryStringParameter .....	297
Using the ControlParameter tag.....	301
Using DetailsView.....	305
Binding in New Ways: Alternatives to BoundField.....	308
Retrieving and Working with Data from Code .....	311
Allowing the User to Update the Database.....	314
Letting the User Insert a New Row .....	315
Allowing the User to Edit or Delete a Selected Row .....	320

**Part VIII: Exploring New ASP.NET 2.0 Features.....327****Chapter 21: Mastering Master Pages .....329**

Getting to Know Master Pages and Content Pages.....	329
Making Your Master Page.....	331
The Content Page: Jack of All Trades, Master of None .....	332
Running and Testing Your Pages.....	333
No Content Page Can Serve Two Masters . . . . .	334

**Chapter 22: Security: The Basics . . . . .335**

- ASP.NET TipVault: For Registered Users Only!.....335
- Creating the Folder, Application, and web.config.....336
  - Authentication .....338
  - Authorization .....339
    - The automatically created authorization database.....339
- Creating the Public Welcome Page .....340
- Registration, Please!.....341
- Whooo Are You? Whooo, Whooo .....343
- Enforcing Security on Private Content.....344
- Putting a Sniffer’s Nose out of Joint with SSL.....345
- More — MUCH More.....345

**Chapter 23: Themes and Skins . . . . .347**

- Do You See a Theme Here? .....347
  - Creating a theme.....348
  - Using a theme .....349
- Beauty Really Is Skin Deep.....350
  - Creating skins.....351
  - Using skins .....352
  - Providing alternate skin definitions .....353
- Applying Global Themes .....355

**Chapter 24: Your Portal to Web Parts and Web Services . . . . .357**

- Taking the MyNewsNow Portal Test Drive.....358
- Building Your First Web Portal Application.....360
  - Making Web parts out of user controls .....361
  - Managing and zoning the portal page .....361
  - Placing your parts .....362
  - The first run done .....365
- Getting in the Mode for Customization .....365
  - Adding the mode drop-down list.....366
  - Ready, set, run in Design mode!.....367
  - Customizing parts with the EditorZone .....368
  - Ready, set, run in Edit mode! .....368
- Exploring more editors, more zones .....369
- Calling Web Services.....370
  - What’s so exciting about Web services? .....370
  - SOAP: Sliding into the next century with Web services.....371
  - Finding Web services .....372
  - Adding a Web reference.....373
  - Creating the quote-of-the-day Web part .....374

**Part IX: The Part of Tens .....377****Chapter 25: The Ten Best Places to Get ASP.NET 2.0 Answers . . . .379**

RTFM: Read the Flippin' Manual!.....	379
Visit the Bookstore .....	380
Review Technical Journals and Magazines .....	380
Strike Up a Discussion at Online Forums and Newsgroups.....	381
Browse Blogs by the Brightest and Best .....	382
Stay Up for Popcorn and a Movie: ASP.NET Webcasts .....	384
Wander the World Wide Web .....	384
Call Microsoft Web Technical Support.....	384
Make Friends with ASP.NET Geeks and Visit Their User Groups .....	385
Cavort at Conferences .....	385
Microsoft Tech-Ed .....	385
Microsoft Professional Developers Conference (PDC).....	386
VSLive!.....	386
ASP.NET Connections.....	386
Others .....	386

**Chapter 26: The Ten Coolest Web Sites  
for ASP.NET 2.0 Developers . . . . .387**

It's Official: Microsoft's MSDN ASP.NET Developer Center .....	387
Microsoft's ASP.NET.....	388
Microsoft's GotDotNet.com .....	388
DotNetJunkies.com .....	388
.netWire .....	388
Tek-Tips ASP.NET Forum.....	389
ASP.NET at 4GuysFromRolla .....	389
developer.com .....	389
DevX.com .....	389
ASPAlliance.com.....	390

**Appendix: About the CD.....391**

System Requirements .....	391
Using Visual Web Developer 2005 Express' built-in Web server .....	392
Using IIS on your machine.....	392
Using IIS on a corporate or hosted machine.....	393
How do I choose? .....	393
Using the CD .....	394
What You Can Find on the CD.....	395
Napoleon Bonus Part (Get It?).....	395
Source code from the book .....	395
Troubleshooting.....	397

*Index*.....399

***Bonus Part: Napoleon Bonus Part (Get It?)*** .....B1

**Bonus Chapter 1: The Café Chat Room** ..... B3

The Café Entrance .....B4  
 The Chat Room’s Primary Page .....B4  
 Brushing Up Before You Start Making Your Own Café .....B6  
 What Techniques Does the Café Demonstrate?.....B7  
 The Blueprint for the Café.....B7  
 Building the Café, Brick by Brick.....B10  
 Knocking on the Café Door: Default.aspx.....B10  
 Framing Your Café: Cafe.aspx.....B14  
 Speaking Your Mind: Say.aspx.....B14  
 Sharing in the Conversation: CafeConvo.aspx.....B16  
 Getting a Head Count: Users.aspx.....B17  
 Improving the Café .....B22

**Bonus Chapter 2: Classy Classifieds** ..... B23

Why Classifieds? .....B24  
 Classy 1.0 and Classy 2.0 .....B24  
 Your Classy Home.....B24  
 Picking Your Category.....B26  
 Devilish Details .....B27  
 Is It Really You?!?.....B28  
 Just a Quick Edit — It Won’t Hurt.....B29  
 Nice Place .....B29  
 Now Where Did I Put That Ad?.....B30  
 Before You Start .....B31  
 What Techniques Does Classy Demonstrate?.....B32  
 Planning to Create Classy Classifieds .....B32  
 Getting Ready .....B36  
 Beginning with a Masterful Performance .....B36  
 Home, Home on the Web: Default.aspx.....B37  
 I Categorically Deny It: Category.aspx .....B38  
 Delegate the Detail: Detail.aspx .....B40  
 Simple Authentication.....B42  
 Confirmation Required: Confirm.aspx .....B43  
 The Creator: PlaceAd.aspx .....B44  
 The Editor: EditAd.aspx.....B45  
 Have You Seen This Ad? Search.aspx.....B45  
 Making It Better!.....B46

**Bonus Chapter 3: Collecting Visitor Feedback  
with the VB 2005 My.Computer.FileSystem . . . . . B47**

Kicking Off the Guestbook.....	B47
Signing In.....	B48
Viewing the Guestbook's Roster.....	B50
Maintaining Your Guestbook.....	B52

**Bonus Chapter 4: More Cool ASP.NET Features and Capabilities . . . B57**

There's Nothing Illegal about the HashTable.....	B57
Making Cookies with the System.Web .....	B60
Okay, Mr. Browser, Who Are You and What Can You Do?.....	B65
Asking Nicely with Request Properties.....	B67
Playing with VB 2005 String and Date Functions.....	B68
Doing Higher Math Simply.....	B74

**Bonus Chapter 5: Taking Validation to the Next Level . . . . . B77**

Getting the Formatting Right: RegularExpressionValidator .....	B77
CustomValidator: The Mod Squad Buys Soda.....	B81
Monkeying Around with Validation Controls from Code.....	B86
Summing Up Validation Controls and Their Properties .....	B88

**Bonus Chapter 6: ASP.NET 2.0 for Classic ASP Developers . . . . . B95**

To Migrate or Not to Migrate . . . ..	B96
The Overview: What's New?.....	B96
Going Over the Sequence of Events .....	B97
Setting Up Your Page Structure.....	B97
Making User Interaction Easy .....	B99
Changing Your Language .....	B100
Going to the .NET Framework Class Library to find ASP Objects .....	B105
Configuring Your Applications.....	B105
Classic ASP Developer's Road Map to This Book.....	B106

**Bonus Chapter 7: A Crash Course in Database Basics . . . . . B113**

What's a DBMS? What's a Database?.....	B113
Filing Your Database Info in Tables, Rows, and Columns.....	B115
Putting Primary Keys and Surrogate Keys to Work.....	B115
Giving Your Tables Healthy Relationships .....	B116
Understanding the SQL SELECT Statement.....	B117