

Introduction to Web Development and HTML

Table of Contents

INTRODUCTION	INTRO-1
Courseware Conventions	INTRO-2
The Practice Files.....	INTRO-3
The Shark Doll Corporation	INTRO-3
Installing the Practice Files	INTRO-3
Using the Lab Exercises.....	INTRO-4
Software Needed to Complete the Labs	INTRO-4
Do I Have to Type All That Code?	INTRO-4
Lab Solutions.....	INTRO-4
About the Author	INTRO-5
AN INTRODUCTION TO WEB DEVELOPMENT	1-1
The World Wide Web	1-3
How the Web Works	1-3
HTTP and HTML.....	1-4
HTML: The Language of the Web	1-6
A Simple HTML Example.....	1-6
HTML Version 3.2.....	1-7
What About HTML 4.0?	1-8
Cascading Style Sheets.....	1-8
Dynamic HTML.....	1-8
HTML Extensions	1-9
XML: eXtensible Markup Language	1-9
Web Development Software.....	1-11
HTML Editors.....	1-11
Web Site Development Tools.....	1-11
Web Application Development Tools	1-12
Additional Thoughts	1-12
HTML BASICS.....	2-1
Web Page Basics	2-2
The Layout of a Web Page	2-2
Insensitive to Case	2-3
Structural Tags	2-3
Tag Attributes	2-4
The <Head> Tag.....	2-6

Table of Contents

The <Body> Tag	2-6
Document Formatting Tags	2-11
Using the Header Tags	2-12
Using the Text Formatting Tags	2-13
The <BASEFONT> Tag	2-15
The Tag	2-16
Relative Fonts and the <BIG> and <SMALL> Tags	2-17
Creating Lists	2-21
Unordered List TYPE Attribute.....	2-23
Ordered List Attributes	2-24
Hyperlinks	2-25
Using Named Anchors	2-27
Using Graphics in Your Web Pages	2-30
Using the Tag.....	2-30
Image Formats.....	2-31
IMG Tag Attributes.....	2-32
Images and Hyperlinks	2-37
LAB 2: HTML BASICS	2-43
Lab 1 Overview	2-44
Creating a Simple Web Page	2-45
Using HTML Formatting Tags.....	2-48
Creating Hyperlinks	2-54
Using Graphics in Your Web Pages	2-58
ADVANCED HTML	3-1
Creating Tables	3-2
A Simple Example	3-2
The <TABLE> Tag.....	3-5
The <TR> Tag	3-7
The <TH> and <TD> Tags.....	3-7
Using Tables for Two-Dimensional Positioning	3-9
Using Frames.....	3-13
The <FRAMESET> Tag.....	3-13
The <FRAME> Tag.....	3-14
An Example	3-15
A More Elaborate Example	3-16
Using the Anchor Tag's TARGET Attribute	3-18
Creating a Framed Web Site.....	3-19
The <NOFRAMES> Tag	3-23

HTML Forms	3-24
The <FORM> Tag.....	3-24
Control Types	3-24
A Form Example.....	3-28
LAB 3: ADVANCED HTML.....	3-35
Lab 3 Overview	3-36
Create an HTML Table.....	3-37
Create an HTML Form	3-42
Create a Framed Web Site.....	3-46
CASCADING STYLE SHEETS	4-1
What Is a Style?	4-2
Why Do I Need CSS?.....	4-4
Element, Page, and Site Styles	4-6
Element Style	4-6
Page Style	4-8
Pseudo-Elements	4-12
Site Style	4-14
Managing Tables, Hyperlinks, and Forms	4-18
Tables.....	4-18
Hyperlinks.....	4-21
Forms	4-24
For More Information.....	4-28
Suggested Links	4-28
MSDN Online Documentation.....	4-28
LAB 4: CASCADING STYLE SHEETS.....	4-33
Lab 4 Overview	4-34
Create an HTML Form with In-line Styles	4-35
Create an HTML Table with Global Styles.....	4-37
Create an HTML Table with Linked Styles.....	4-41
CREATING WIRELESS APPLICATIONS USING WML.....	5-1
Writing Applications for Wireless Devices.....	5-2
Before You Get Started.....	5-2
How Does WAP Work?.....	5-3
What Is WML?	5-5
Consider the Device	5-6
A Simple WML Deck.....	5-7

Table of Contents

Working with Decks and Cards.....	5-9
Formatting Text.....	5-9
Using Multiple Cards in a Deck	5-10
Setting Up Templates for a Deck	5-13
Accepting User Input	5-17
Where Do You Put the Input?	5-17
Allowing Users to Enter Text.....	5-18
Allowing Users to Select Text	5-21
Handling Events.....	5-26
What's Next?	5-27
LAB 5: CREATING WIRELESS APPLICATIONS USING WML	5-33
Lab 5 Overview	5-34
Create a Single Card.....	5-35
Use the <i>Select</i> Element to Make a Choice	5-37
Use the <i>Input</i> Element to Enter Text.....	5-41
Add the Final Card and Hook Up the Plumbing	5-44
INDEX.....	INDEX-1

Scripting Client and Active Server Pages

Table of Contents

INTRODUCTION	INTRO-1
Courseware Conventions	INTRO-2
The Practice Files.....	INTRO-3
The Shark Doll Corporation	INTRO-3
Installing the Practice Files	INTRO-3
The SQL Server and Access Sample Databases.....	INTRO-3
Setting Up the Shark Web Site	INTRO-4
Choosing an Editor	INTRO-5
Using the Lab Exercises.....	INTRO-8
Software Needed to Complete the Labs	INTRO-8
Do I Have to Type All That Code?	INTRO-8
Lab Solutions.....	INTRO-8
About the Author	INTRO-9
INTRODUCTION TO VBSCRIPT.....	6-1
Beyond Static HTML	6-2
Client-Side HTML Extensions	6-2
Server-Side HTML Extensions.....	6-2
Client vs. Server-Side Extensions	6-3
Visual Basic, Scripting Edition	6-4
A Simple Example	6-4
Taking a Look at the Details	6-6
VBScript Essentials	6-8
Statements and Lines	6-8
Variables.....	6-9
Comments	6-9
Capitalization and Case Sensitivity	6-10
Expressions and Operators.....	6-10
Mathematical Operators.....	6-11
String Operators	6-13
Assignment and Comparison	6-13
Other Operators.....	6-14
Procedures.....	6-16
Making Your Code Easier to Maintain.....	6-16
Reusable Components	6-16
Two Types of Procedures	6-16

Table of Contents

Subroutines	6-17
Functions.....	6-19
VBScript's Built-in Functions	6-21
Where Do You Put Your Scripts?	6-23
Immediate Scripts	6-23
Global Procedure Scripts	6-23
Event Procedure Scripts	6-23
Multiple Script Blocks.....	6-24
MORE ON VBSCRIPT	7-1
Variables and Constants	7-2
Give Your Variables Meaningful Names	7-2
Data Types and Conversion Functions	7-3
Implicit Declaration and Why It's Bad!.....	7-4
Constants	7-7
Using MsgBox	7-8
Scope	7-10
Controlling the Flow.....	7-11
Branching Structures	7-11
Looping Structures.....	7-15
Do...Loop	7-15
Arrays.....	7-19
More on Arrays	7-21
LAB 7: MORE ON VBSCRIPT (INCLUDES LAB 6).....	7-25
Lab 7 Overview	7-26
Create Your First VBScript Page	7-27
Create a Latte Price Calculator.....	7-30
Add a Time-Sensitive Greeting to a Page.....	7-34
Create an Advertisement Randomizer.....	7-37
INTRODUCTION TO JAVASCRIPT.....	8-1
JavaScript and JScript.....	8-2
A Simple Example	8-4
Taking a Look at the Details	8-6
JavaScript Essentials	8-9
Statements and Lines	8-9
Variables.....	8-10
Comments	8-11
Capitalization and Case Sensitivity	8-11

Expressions and Operators.....	8-12
Binary Mathematical Operators.....	8-12
Unary Mathematical Operators	8-14
The String Concatenation Operator	8-16
The Assignment Operator.....	8-16
Comparison Operators.....	8-16
Other Operators.....	8-17
Functions	8-19
Making Your Code Easier to Maintain.....	8-19
Creating a Function	8-19
Calling a Function	8-20
Parameters and Arguments	8-21
JavaScript's Built-In Functions, Methods, and Properties.....	8-22
Where Do You Put Your Scripts?	8-23
Immediate Scripts	8-23
Functions.....	8-23
Event Handlers	8-23
Can I Have More Than One?.....	8-23
 MORE ON JAVASCRIPT.....	9-1
Variables	9-2
Give Your Variables Meaningful Names	9-2
Data Types and Conversion Functions	9-3
Implicit vs. Explicit Variable Declaration.....	9-4
Scope	9-6
Controlling the Flow.....	9-7
Branching Structures	9-7
Looping Structures.....	9-11
JavaScript Objects	9-15
The New Operator	9-15
Arrays	9-15
Other Object Examples.....	9-18
 LAB 9: MORE ON JAVASCRIPT (INCLUDES LAB 8)	9-25
Lab 9 Overview	9-26
Create Your First JavaScript Page	9-27
Create a Latte Price Calculator.....	9-30
Add a Time-Sensitive Greeting to a Page.....	9-34
Create an Advertisement Randomizer.....	9-37

Table of Contents

SCRIPTING OBJECTS AND EVENTS	10-1
Programming Objects and Events	10-2
What's an Object Model?.....	10-2
Objects	10-2
Properties	10-2
Methods.....	10-3
Events	10-3
The Document Object Model	10-4
Overview of the Objects of the HTML 3.2 Document Object Model	10-4
VBScript, JavaScript, and the Capitalization of References	10-5
Referencing Objects	10-6
Drilling Down	10-7
Form Validation	10-11
A Validation Example.....	10-11
The HTML Form	10-18
Hooking into the OnClick Event	10-19
The Validation Code	10-20
Extra E-Mail Address Validation.....	10-22
Using Object Variables	10-23
Hooking into Object Events	10-25
Hooking in with VBScript.....	10-25
Hooking in with JavaScript.....	10-27
So Many Objects and Events, So Little Time	10-28
An Improved Form Validation Example	10-30
Problem	10-30
Solution	10-30
A Better Customer Add Form	10-31
Scripting Select Controls	10-33
Extracting the Value From a Drop-Down Style Select Control	10-33
Extracting the Value from a List Box Style Select Control	10-33
An Example	10-34
Comparing VBScript and JavaScript.....	10-39
Decisions, Decisions.....	10-39
Question #1: What's Your Target Platform?.....	10-39
Question #2: Where's Your Current Language Expertise?	10-40
Using Both Languages.....	10-40
LAB 10: SCRIPTING OBJECTS AND EVENTS.....	10-45

Lab 10 Overview	10-46
Add Validation Code to the VBScript Latte Cost Calculator	10-47
Add Validation Code to the JavaScript Latte Cost Calculator	10-51
Create a Form with Client-Side VBScript Validation Code That Degrades Gracefully.....	10-55
Create a Form with Client-Side JavaScript Validation Code That Degrades Gracefully.....	10-62
 SCRIPTING ACTIVEX AND JAVA.....	11-1
Using Components in Your Web Pages	11-2
Web Page Components.....	11-2
The Component Advantage	11-3
Working with Java Applets	11-4
The <APPLET> Tag	11-4
A Java Applet Example.....	11-5
An Example: Adding the UsMortgage Java Applet to a Page	11-7
Scripting Java Applets	11-8
Scripting a Java Applet	11-9
Employing ActiveX Controls	11-12
The <OBJECT> Tag	11-12
Figuring Out a Control's Class ID.....	11-13
Scripting ActiveX Controls	11-15
 LAB 11: SCRIPTING ACTIVEX AND JAVA	11-23
Lab 11 Overview	11-24
Script a Java Applet	11-25
Script an ActiveX Control Using VBScript.....	11-30
 DYNAMIC HTML AND CASCADING STYLE SHEETS.....	12-1
Cascading Style Sheets	12-2
Style Properties	12-2
Using Style Sheets	12-3
In-Line Styles.....	12-3
Global Style Sheets	12-4
Linked Style Sheets	12-8
Cascading Styles	12-9
Creating Dynamic HTML Web Pages	12-10
Microsoft vs. Netscape.....	12-10
Expanded DHTML Object Model	12-10

Table of Contents

Dynamic Styles	12-11
Hovering Around.....	12-13
This and Me.....	12-15
Graceful Degradation.....	12-15
Event Bubbling and the Event Object.....	12-17
Dynamic Classes	12-20
Dynamic Contents	12-27
Using DHTML Filters	12-29
A Filtering Example.....	12-29
DHTML Positioning and Animation.....	12-31
Animating Elements.....	12-33
LAB 12: DYNAMIC HTML AND CASCADING STYLE SHEETS	12-40
Lab 12 Overview	12-41
Use Cascading Style Sheets	12-42
Create a Hover Effect.....	12-46
Take Advantage of Event Bubbling	12-51
INTERNET INFORMATION SERVICES (IIS) 5.0.....	13-1
What Is IIS?.....	13-2
Web Server Basics	13-2
Simulating HTTP Using TELNET	13-2
The Microsoft Web Server Family	13-4
Configuring a Web Site	13-6
Web Site.....	13-8
Performance	13-11
Home Directory.....	13-13
Application Configuration.....	13-16
Directory Security	13-21
LAB 13: INTERNET INFORMATION SERVICES (IIS) 5.0	13-29
Lab 13 Overview	13-30
Configure the Description of Your Web Site	13-31
Configure JavaScript as the Default ASP Language.....	13-35
SCRIPTING THE SERVER SIDE USING ASP	14-1
Client vs. Server-Side Extensions	14-2
Client-Side Extensions.....	14-2
Server-Side Extensions	14-2
Client vs. Server-Side Extensions	14-2

Active Server Pages.....	14-4
Why Use Active Server Pages?	14-4
Getting Active Server Pages.....	14-5
Setting Up the Web Server for ASP	14-6
Understanding ASP	14-8
Server-Side Scripting	14-9
Using the ASP Script Tags	14-9
Returning a Value	14-9
A Simple Example	14-10
A Second Example	14-13
Immediate Scripts vs. Procedures.....	14-15
Changing the Web Server's Default Scripting Language.....	14-17
Using the <SCRIPT> Tag	14-18
VB Script and Option Explicit	14-20
ASP Objects.....	14-22
Server-Side Includes	14-23
 LAB 14: SCRIPTING THE SERVER SIDE USING ASP.....	14-29
Lab 14 Overview	14-30
Create the JavaStop Web Site	14-31
Display the Current Date & Time on a Page Using Server-Side VBScript	14-34
Display the Current Date & Time on a Page Using Server-Side JavaScript	14-36
Call a VBScript Function from an ASP Page	14-39
Call a JavaScript Function from an ASP Page.....	14-43
Use a Server-Side Include File	14-47
 ASP REQUEST AND RESPONSE OBJECTS.....	15-1
Introduction	15-2
The Request Object	15-3
Using the Request Object's Form Collection.....	15-3
Using the Request Object's QueryString Collection	15-8
Looking at Server Variables	15-10
The Response Object.....	15-13
Using the Response Object's Write Method.....	15-14
Reading and Writing Cookies	15-17
What's a Cookie?.....	15-17
The Cookies Collections	15-17

Table of Contents

Writing Cookies with the Response Object	15-17
Reading Cookies with the Request Object.....	15-20
LAB 15: ASP REQUEST AND RESPONSE OBJECTS	15-25
Lab 15 Overview	15-26
Retrieve Form Data Using the Request Object.....	15-27
Return Information to the User Using the Response Object	15-30
Read and Write Cookies.....	15-33
ASP SESSION AND APPLICATION OBJECTS.....	16-1
Introduction	16-2
Using the Application Object	16-3
Application Variables	16-3
Application Methods	16-3
An Example	16-4
Using the Session Object	16-6
The Session.....	16-6
How Sessions Work.....	16-6
Session Properties and Methods	16-7
Session Variables	16-7
An Example: Remembering User Preferences.....	16-8
To Session or Not to Session.....	16-9
Using Global.asa.....	16-11
Forcing Users Through Your Home Page.....	16-13
The Steps	16-13
An Example	16-13
Trying Out the Example	16-14
LAB 16: ASP SESSION AND APPLICATION OBJECTS	16-19
Lab 16 Overview	16-20
Create a Hit Counter Using the Application Object	16-21
Save User Preferences Using the Session Object.....	16-25
APPENDIX A: VBA VS. VBSCRIPT	A-1
How VBScript Differs From VBA.....	A-2
APPENDIX B: USEFUL VBSCRIPT BUILT-IN FUNCTIONS	B-1
Lots of Functions to Choose from.....	B-2
Strings	B-2
Dates and Times.....	B-3
Conversion	B-3

Other	B-4
APPENDIX C: USEFUL JAVASCRIPT BUILT-IN FUNCTIONS, PROPERTIES, AND METHODS.....	C-1
Lots to Choose From.....	C-2
Strings	C-2
Dates and Times.....	C-2
Conversion	C-3
Other	C-4
APPENDIX D: HTML 3.2 DOCUMENT OBJECT MODEL.....	D-1
The Document Object Model.....	D-2
Scripting Languages and the Capitalization of References	D-2
Referencing Objects	D-3
Referencing Shortcuts	D-3
The Objects Detailed	D-4
Object Quick Reference Table.....	D-5
Window Object	D-7
Properties	D-7
Objects	D-8
Methods.....	D-10
Events	D-13
History Object.....	D-15
Properties	D-15
Methods.....	D-15
Events	D-16
Location Object	D-17
Properties	D-17
Methods.....	D-19
Events	D-19
Navigator Object	D-20
Properties	D-20
Methods.....	D-21
Events	D-21
Document Object.....	D-22
Properties	D-22
Objects	D-24
Methods.....	D-25
Events	D-27
Anchor Object	D-28

Table of Contents

Properties	D-28
Methods.....	D-28
Events	D-28
Link Object	D-29
Properties	D-29
Methods.....	D-31
Events	D-31
Form Object	D-34
Properties	D-34
Objects	D-35
Methods.....	D-35
Events	D-36
Element Object.....	D-37
Properties	D-37
Methods.....	D-39
Events	D-40
INDEX.....	INDEX-1

Programming Data-Driven ASP Web Sites

Table of Contents

INTRODUCTION	INTRO-1
Courseware Conventions	INTRO-2
The Practice Files.....	INTRO-3
The Shark Doll Corporation	INTRO-3
Installing the Practice Files	INTRO-3
The SQL Server and Access Sample Databases.....	INTRO-3
Setting Up the Shark Web Site	INTRO-4
Choosing an Editor	INTRO-5
Using the Lab Exercises.....	INTRO-8
Software Needed to Complete the Labs	INTRO-8
Do I Have to Type All That Code?	INTRO-8
Lab Solutions.....	INTRO-8
About the Author	INTRO-9
ASP SERVER OBJECTS.....	17-1
Understanding the Server Object	17-2
Server Object Properties and Methods	17-2
An Example	17-3
ASP Server-Side Components	17-6
Additional Components.....	17-8
Instantiating Server Objects.....	17-8
Using the Browser Capabilities Component.....	17-10
Using the File System Component	17-14
Using the Ad Rotator Component.....	17-17
LAB 17: ASP SERVER OBJECTS	17-25
Lab 17 Overview	17-26
Encode a URL Using URLPathEncode.....	17-27
Use the Browser Capabilities Component	17-30
Use the Ad Rotator Component.....	17-34
INTRODUCTION TO ACTIVEX DATA OBJECTS.....	18-1
What Are ActiveX Data Objects?	18-2
OLE DB Data Providers	18-2
Technologies at Work	18-3

Table of Contents

ADO Object Hierarchy	18-4
The Connection Object.....	18-6
The Connection Object's Open Method	18-6
A Simple ADO Example.....	18-9
Taking a Look at the Example Code	18-12
The Recordset Object	18-20
Creating Recordsets	18-20
Using ADO Constants.....	18-22
Recordset Properties and Methods.....	18-23
The Show Employees Example	18-24
The ShowEmp1.asp Page	18-24
ShowEmp2.asp Page	18-28
Using Arguments vs. Properties.....	18-31
LAB 18: INTRODUCTION TO INTRODUCTION TO ACTIVEX DATA OBJECTS.....	18-37
Lab 18 Overview	18-38
Create a Connection String Include File	18-39
Retrieve a Single Product Record Using the ADO Recordset Object.....	18-41
Create a Products Table Using ADO Recordset and Connection Objects.....	18-46
ADO RECORDSETS AND ERROR HANDLING.....	19-1
Updating Recordset Data	19-2
Updating Records	19-2
An Example of Updating Records	19-3
Adding Records	19-8
An Example of Adding Records	19-9
Deleting Records	19-14
An Example of Deleting Records	19-14
Multiple Resultset Recordsets	19-17
An Example	19-17
Error Handling	19-25
Default Behavior	19-25
What VBScript Has to Offer	19-26
What JavaScript Has to Offer.....	19-29
More than Reporting	19-33
LAB 19: ADO RECORDSETS AND ERROR HANDLING	19-37
Lab 19 Overview	19-38

Create the First of Three Pages Used to Update JavaStop Product Records	19-39
Create the Second of Three Pages Used to Update JavaStop Product Records	19-46
Create the Third of Three Pages Used to Update JavaStop Product Records	19-54
ADO COMMAND OBJECTS AND STORED PROCEDURES.....	20-1
The Command Object	20-2
Creating a Command Object.....	20-2
Command Object Properties.....	20-2
The Command.Execute Method	20-3
Using Stored Procedures	20-5
Stored Procedures that Don't Return Records	20-5
Stored Procedures that Return Records	20-6
Passing Parameters to Stored Procedures.....	20-9
Dealing with Parameters.....	20-9
The procDeleteCustomer Stored Procedure	20-9
Using the Parameters Argument.....	20-10
Using the Refresh Method	20-11
Using the CreateParameter Method.....	20-12
Adding a New Record Using a Stored Procedure	20-14
LAB 20: ADO COMMAND OBJECTS AND STORED PROCEDURES	20-23
Lab 20 Overview	20-24
Create a Recordset Based on a Stored Procedure.....	20-25
Use a Stored Procedure to Perform a Batch Update	20-32
Execute a Stored Procedure with Parameters	20-36
SECURITY AND SSL	21-1
Why Bother with Security?	21-2
What Do Hackers Want?	21-2
Your Defenses	21-3
Security Is a Combination of Policy and Technology	21-5
Security Through Policy	21-5
Security Through Technology	21-6
Secure Your Windows NT/2000 Server	21-7
Use a Different Server for Development and Production.....	21-7
Change the Windows NT/2000 Administrator Account.....	21-8
Remove Any Non-Necessary Users.....	21-8

Table of Contents

Block Non-Essential Inbound TCP/IP Ports	21-8
Disable NetBIOS Over TCP/IP.....	21-9
Revoke "Access From Network" Right	21-10
Turn On Logging.....	21-11
Making Internet Information Server (IIS) Secure.....	21-12
Turn Off Directory Browsing.....	21-12
Give Appropriate NTFS File Permissions to Web Folders	21-14
Authentication and the Anonymous User.....	21-16
Setting Up Authentication Schemes.....	21-16
Anonymous Access	21-18
Basic Authentication	21-23
Windows NT Challenge/Response (or Integrated Windows Authentication).....	21-25
The Problem with Delegation	21-26
Secure Transmissions Using SSL	21-28
What Is Secure Sockets Layer (SSL)?.....	21-28
Why Use SSL?	21-29
Why Not Use SSL?.....	21-29
How to Use SSL	21-29
Before You Start	21-30
Five Basic Steps to Using SSL	21-30
A Couple of Suggestions for Using SSL.....	21-37
 ASP TIPS AND TRICKS	22-1
Introduction	22-2
What's New for ASP 3.0 and IIS 5.0.....	22-3
Improved Processing of Scriptless Pages	22-3
New Server Methods	22-3
Buffering Now On	22-11
Scripting Language Changes.....	22-12
ASP Error Handling	22-15
Other Changes	22-19
Tips and Tricks.....	22-20
Using the Dictionary Object.....	22-20
Sending E-mail Using CDONTS	22-23
Keeping Content Current	22-26
Working with Radio Button and Check Box Controls.....	22-26
Checking for SSL.....	22-31
Improving the Performance and Scalability of ASP Applications.....	22-32
Avoid Using the Visual InterDev DTCs.....	22-32

Context Switching	22-32
Creating Objects	22-34
Using Components	22-35
ADO Tips.....	22-35
Using Cached Content.....	22-36
Threading, Components, and Scope.....	22-36
Session and Scalability	22-38
More Ideas.....	22-38
Stress Testing.....	22-39
Other Resources.....	22-39
 LAB 22: ASP TIPS AND TRICKS.....	22-43
Lab 22 Overview	22-44
Use Server.Transfer	22-45
Send an E-mail Confirmation Using CDONTS	22-48
Reduce HTML/Script Context Switching	22-51
 EXTENSIBLE MARKUP LANGUAGE (XML)	23-1
XML Defined	23-2
What XML Is	23-2
What XML Isn't	23-2
So Why Do I Care About XML?	23-3
Working with XML	23-4
An XML Example	23-4
The XML Declaration	23-5
XML Elements	23-5
A Second Example	23-8
Attributes	23-8
Comments	23-9
Namespaces.....	23-9
Processing Instructions.....	23-11
XML Browser Support.....	23-11
DTDs and XML-Data Schemas	23-12
Document Type Definition (DTD)	23-12
Valid and Well-Formed Documents.....	23-14
XML-Data and Schema.....	23-14
Document Validity—Is It Necessary?	23-16
XML Document Object Model.....	23-17
XML DOM Object Hierarchy.....	23-17
The XML DOM Objects.....	23-17

Table of Contents

A DOM Example	23-18
Displaying the XML on the Page.....	23-22
Iterating Through a Document's Nodes.....	23-23
Retrieving a Particular Node or Set of Nodes.....	23-28
Retrieving Attributes	23-30
Just Scratching the Surface	23-32
XML on the Server	23-33
An ASP Example	23-33
LAB 23: EXTENSIBLE MARKUP LANGUAGE (XML)	23-41
Lab 23 Overview	23-42
Create the LatteRecipe XML Document	23-43
Create an HTML Page to Display the LatteRecipe Document	23-46
Create an ASP Page to Display the LatteRecipe Document.....	23-50
TRANSFORMING XML WITH XSL.....	24-1
Extensible Stylesheet Language (XSL)	24-2
XSL: Giving Style to XML.....	24-2
An XSL Style Sheet Example.....	24-2
XSL Elements.....	24-7
Matching Patterns	24-9
Matching By Element Value.....	24-12
Sorting in XSL.....	24-14
XSL on the Server.....	24-17
An ASP XSL Example.....	24-17
LAB 24: TRANSFORMING XML WITH XSL	24-23
Lab 24 Overview	24-24
Transform Products.xml Using an XSL Style Sheet.....	24-25
Sort and Filter Using an XSL Style Sheet	24-31
EXTENDING ASP PAGES WITH CUSTOM ACTIVEX SERVERS	25-1
What Are ActiveX Servers?	25-2
Why Do You Want to Use ActiveX Servers?	25-2
Using the Server Object.....	25-3
Using Server.CreateObject	25-3
In-Process vs. Out-of-Process Servers	25-3
Cleaning Up after Yourself.....	25-5
Creating an ActiveX Server with Visual Basic.....	25-7
The Scenario	25-7

Creating the Server.....	25-7
Installing the ActiveX Server	25-8
Adding the ActiveX Server to Your Page	25-9
Uses for ActiveX Servers	25-11
 LAB 25: EXTENDING ASP PAGES WITH CUSTOM ACTIVEX SERVERS	25-15
Lab 25 Overview	25-16
Create a VB Mortgage Calculator ActiveX Server.....	25-17
Use the Mortgage Calculator ActiveX Server from an ASP Page	25-20
 CREATING N-TIER WINDOWS ASP APPLICATIONS.....	26-1
Understanding Multi-Tier Architectures.....	26-2
Application Layers and Application Architectures.....	26-2
Distributed interNet Applications (DNA) Architecture	26-5
Wrapping Up Application Logic in Components.....	26-6
Adding a Tier	26-6
Two-Tier Shark Example	26-6
Three-Tier Shark Example.....	26-9
The SharkData Component	26-11
So, What Have You Gained?	26-14
Passing Multiple Records Back to the Presentation Tier.....	26-16
Using Arrays	26-16
Using Disconnected Recordsets	26-18
Using XML.....	26-22
Three-Tier ASP Development Tips.....	26-32
 LAB 26: CREATING N-TIER WINDOWS ASP APPLICATIONS	26-37
Lab 26 Overview	26-38
Create the Middle Tier of a Three-Tier JavaStop Application.....	26-39
Create the Presentation Tier of a Three-Tier JavaStop Application ...	26-46
Modify the Three-Tier JavaStop Application to Take Advantage of MTS or COM+	26-51
 CREATING SCALABLE, N-TIER APPLICATIONS WITH MTS AND COM+ ...	27-1
Managing Concurrency	27-2
Avoiding Write Conflicts	27-2
Implementing a Concurrency Check	27-2
Using Microsoft Transaction Server and COM+ Services	27-17
How MTS/COM+ Works.....	27-17

Table of Contents

Modifying Components to Take Advantage of MTS/COM+	27-18
Three-Tier Shark Example with MTS/COM+	27-18
Using MTS Explorer/Component Services	27-22
The Modified ASP Pages.....	27-28
Connection Pooling.....	27-31
More on Scalability	27-32
 APPENDIX A: VBA VS. VBSCRIPT	A-1
How VBScript Differs From VBA.....	A-2
 APPENDIX B: USEFUL VBSCRIPT BUILT-IN FUNCTIONS	B-1
Lots of Functions to Choose from.....	B-2
Strings	B-2
Dates and Times.....	B-3
Conversion	B-3
Other	B-4
 APPENDIX C: USEFUL JAVASCRIPT BUILT-IN FUNCTIONS, PROPERTIES, AND METHODS.....	C-1
Lots to Choose From.....	C-2
Strings	C-2
Dates and Times.....	C-2
Conversion	C-3
Other	C-4
 APPENDIX D: ELECTRONIC COMMERCE	D-1
Why Electronic Commerce?	D-2
Electronic Commerce Is Cost Effective	D-2
Electronic Commerce Is Convenient	D-3
Electronic Commerce Is Competitive	D-4
Coming Back to Reality	D-6
Dispelling Myths.....	D-6
Creating a Truly Commercial Web Site	D-6
Utilize the Potential of the Technology	D-7
Making a Profit.....	D-7
Security Issues in Electronic Commerce	D-9
General Web Security Issues.....	D-9
Security Over Speed.....	D-13
Securing Only the Essentials	D-14
Maintaining State.....	D-15
The Customer.....	D-15
The Shopping Cart.....	D-16

Connecting the Database to the Web Site.....	D-19
The Catalog	D-19
Customer Information	D-21
Placing the Order.....	D-22
Collecting the Payment	D-23
Payment Technologies	D-23
Other Final Purchase Options.....	D-24
INDEX.....	INDEX-1

Table of Contents
