

# Contents

<b>Acknowledgments</b>	<b>ix</b>
<b>Introduction</b>	<b>xix</b>
<b>Chapter 1: Introduction to Ajax on ASP.NET</b>	<b>1</b>
<b>Development Trends</b>	<b>1</b>
<b>ASP.NET Development</b>	<b>2</b>
Design Methodology	2
Problems ASP.NET Solves	2
<b>So, What's the Problem?</b>	<b>4</b>
<b>Improving the User Experience</b>	<b>5</b>
<b>What Is Ajax?</b>	<b>6</b>
Advantages of Ajax	6
History of Ajax	7
Technologies That Make Up Ajax	8
Running Ajax Applications	8
<b>Who's Using Ajax?</b>	<b>9</b>
<b>Problems Ajax Won't Solve</b>	<b>9</b>
<b>Summary</b>	<b>10</b>
<b>Chapter 2: Introduction to DHTML</b>	<b>11</b>
<b>What JavaScript Is, and What It Isn't</b>	<b>11</b>
<b>General Rules of JavaScript</b>	<b>12</b>
<b>Writing Your First Block of JavaScript Code</b>	<b>13</b>
document.write()	14
Using document.write() in Nested for() Loops	14
window.status and Events	16
<b>Getting Input from the User</b>	<b>17</b>
Security Concerns When Getting Text Input	18
Canceling the Normal Outcome of an Event	18
Causing an Event Not to "Bubble Up"	19
<b>Working with Images</b>	<b>19</b>
Working with the image src Attribute	20
Using Functions	20
Programmatically Populating the Options in <select>	21
Using the innerHTML Property	23

# Contents

---

<b>Manipulating the Style Sheet</b>	<b>24</b>
<b>Creating a Context Menu</b>	<b>26</b>
<b>Summary</b>	<b>27</b>
<b>Chapter 3: JavaScript and the Document Object Model</b>	<b>29</b>
<b>From Static to Dynamic — A Brief History</b>	<b>30</b>
<b>Attempts at Standardization</b>	<b>30</b>
<b>Digging into Some More JavaScript Basics</b>	<b>31</b>
Functions and Syntax	33
Event Handlers	34
<b>Core Language</b>	<b>35</b>
Variables	35
Comments	35
Datatypes	36
Operators and Expressions	39
Flow Control and Loops	40
More on Objects and Functions	43
Summary of Material So Far	51
<b>The Document Object Model</b>	<b>51</b>
Object Model Standardization (or Lack Thereof)	53
Working with the DOM	57
Manipulating Nodes	62
Properties of a Node	64
DOM Level 0 General Collections	69
The DOM, Styles, and CSS	70
<b>Summary</b>	<b>74</b>
<b>Chapter 4: The XMLHttpRequest Object</b>	<b>77</b>
<b>Code Examples for This Chapter</b>	<b>77</b>
<b>What Is the XMLHttpRequest Object?</b>	<b>78</b>
A Little History	78
Synchronous Requests	81
Asynchronous Requests	82
Dealing with Response Data	84
Enhancing Usability	88
Passing Parameters to the Server	93
What about Web Services?	97
<b>Summary</b>	<b>102</b>

---

<b>Chapter 5: Data Communication: XML, XSLT, and JSON</b>	<b>103</b>
<b>XML</b>	<b>104</b>
History of XML	104
XML Documents	105
Parsing XML	111
XML Summary	112
<b>XSLT</b>	<b>112</b>
How Processing Occurs	112
Built-In Functions	114
Processing with XSLT	116
Writing Functions in XSLT	120
<b>X Path</b>	<b>121</b>
<b>Integrating XML and Ajax</b>	<b>122</b>
<b>JSON</b>	<b>124</b>
Layout of JSON	124
JSON Example	125
<b>Summary</b>	<b>126</b>
<b>Chapter 6: What Is Built into ASP.NET</b>	<b>127</b>
<b>Out-of-the-Box Controls</b>	<b>127</b>
TreeView Control	128
GridView Control	129
DetailsView Control	132
<b>Browser Compatibility</b>	<b>132</b>
<b>The Framework</b>	<b>133</b>
ICallbackEventHandler Interface	133
Page.ClientScript — System.Web.UI.ClientScriptManager	134
<b>Making All the Moving Parts Work Together</b>	<b>135</b>
Obtaining a Callback Reference	135
Implementing the ICallbackEventHandler Interface	136
Initiating the Asynchronous Process from the Browser	138
Handling the Result of Asynchronous Server-Side Call on the Client	138
Handling Errors in the Asynchronous Process	141
<b>Dealing with Complex Data</b>	<b>144</b>
Enabling the Page for Asynchronous Callbacks	145
Obtaining the Data — Implementing the ICallbackEventHandler interface	146
Dealing with the Returned Data on the Client	149
Limitations on Returning Complex Data in XML	154
ICallbackContainer Interface	154
<b>Summary</b>	<b>156</b>

<b>Chapter 7: Ajax.NET Professional Library</b>	<b>159</b>
<b>Acquiring Ajax.NET Pro Version 6.4.16.1</b>	<b>160</b>
<b>Preparing Your Application</b>	<b>160</b>
<b>Using the Ajax.NET Pro Library</b>	<b>161</b>
Registering Your Page for Ajax.NET Pro	163
Registering Your Methods for Ajax.NET Pro	163
Examining the Request Object	164
Executing Your Ajax on the Client	165
Digging into response.value	167
Returning Custom Objects	169
More Advanced Callbacks and Context	170
Ajax.NET Pro Request Events — Keeping Your Users Updated	172
Errors, Errors, Errors. They Happen, You Trap 'em.	173
<b>Using the Ajax.NET Pro Library — Looking under the Hood</b>	<b>174</b>
When Is the Proxy JavaScript Created?	175
What Does the JavaScript Do?	176
What Happens on the Server after the Proxy JavaScript Has Been Fired?	176
How Is the Method in the Code-Behind Actually Executed and	
How Is the Page Actually Created?	177
What Is Really Being Sent Back to the Client	177
<b>Summary</b>	<b>177</b>
<b>Chapter 8: Anatomy of Ajax.NET Pro Library</b>	<b>179</b>
<b>Getting the Ajax.NET Pro Code</b>	<b>180</b>
<b>What Do the Ajax.NET Pro Web.Config Settings Accomplish?</b>	<b>182</b>
<b>What Happens When You Register the Page Class?</b>	<b>183</b>
<b>What Role Does the Ajax.AjaxMethod() Attribute Play?</b>	<b>191</b>
<b>How Does the JavaScript Call Get to the Server and Back?</b>	<b>192</b>
<b>What Is an Ajax.NET Pro Converter?</b>	<b>193</b>
<b>Summary</b>	<b>194</b>
<b>Chapter 9: Other Ajax Frameworks for .NET</b>	<b>195</b>
<b>Client-Side Frameworks</b>	<b>195</b>
Sarissa	196
HTMLHttpRequest	199
MochiKit	201
<b>Server-Side Frameworks</b>	<b>203</b>
Architectural Distinctions	203
<b>Introduction to the Frameworks</b>	<b>207</b>

<b>ComfortASP.NET</b>	<b>208</b>
Setup	208
Using ComfortASP.NET	209
What You Have Learned	219
<b>MagicAjax</b>	<b>219</b>
Setup	219
Using MagicAjax	220
What You Have Learned	231
<b>Anthem.NET</b>	<b>231</b>
Setup	231
Using Anthem.NET	232
What You Have Learned	246
<b>Summary</b>	<b>246</b>
<b>Chapter 10: Atlas Client Script</b>	<b>249</b>
<b>Introduction to Atlas</b>	<b>249</b>
Major Components	250
Ajax Support	251
Asynchronous Communication Only	251
<b>Adding Atlas Support with the ScriptManager Control</b>	<b>252</b>
<b>Communicating with Web Services</b>	<b>253</b>
Generating the JavaScript Proxies	253
Calling Out to Web Services	255
<b>Passing Types</b>	<b>257</b>
Simple Data Types	257
Complex Data Types	258
<b>Caching Web Services</b>	<b>263</b>
<b>Exposing Web Services from a Web Form</b>	<b>265</b>
<b>Atlas Extensions to JavaScript</b>	<b>267</b>
Language Enhancements	267
Registering Namespaces and Classes in Atlas	273
Namespaces and Classes	274
Inheritance	276
Interfaces	277
Enumerations	280
<b>Debugging</b>	<b>281</b>
Debugging Using debug.dump	281
Debugging Using for() loop	283
<b>Special Notes Concerning Atlas Client-Side Script</b>	<b>283</b>
<b>Resources Used</b>	<b>283</b>
<b>Summary</b>	<b>284</b>

# Contents

---

<b>Chapter 11: Atlas Controls</b>	<b>285</b>
<b>Controls</b>	<b>285</b>
Buttons	285
Sys.UI.Data Controls	286
Server Controls	287
<b>Data Binding</b>	<b>295</b>
Declarative Data Binding	295
Programmatic Data Binding	297
Binding Directions	300
Binding Transformations	300
Validation	300
Behaviors	307
<b>Resources Used</b>	<b>309</b>
<b>Summary</b>	<b>309</b>
<b>Chapter 12: Atlas Integration with ASP.NET Services</b>	<b>311</b>
<b>Examining ASP.NET Services</b>	<b>312</b>
Authentication	312
Authorization/Roles	313
Membership	314
Profiles	314
Web Part Personalization	314
<b>Using Atlas to Integrate with ASP.NET Services</b>	<b>314</b>
Authentication	314
Authorization/Roles	318
<b>Accessing Profiles via Atlas</b>	<b>320</b>
Profile Property Names	320
Loading Profile Data	322
Save Profile Data	323
Avoiding Profile Service Gotchas	324
<b>Implementing Drag and Drop via Atlas</b>	<b>325</b>
<b>Summary</b>	<b>328</b>
<b>Chapter 13: Debugging</b>	<b>329</b>
<b>Server-Side Debugging</b>	<b>329</b>
Enabling Debugging Support	330
Setting Breakpoints	331

<b>JavaScript and Client-Side Debugging</b>	<b>332</b>
Tools and Techniques of the Trade	332
Other Ways of Invoking the Debugger	342
Other Ways of Inspecting the Value of Variables	344
Script Debugging So Far	347
Browser Debugging Tools	347
The Man in the Middle	351
<b>Summary</b>	<b>361</b>
<b>Appendix A: XSLT Commands</b>	<b>363</b>
<b>Index</b>	<b>373</b>

