

AJAX, or "Asynchronous JavaScript and XML," is a standards-based approach to building rich Internet applications that offer users a highly interactive user interface experience. Microsoft's ASP.NET AJAX, used in conjunction with Visual Studio, provides a productive environment for creating AJAX applications.

This three-day course provides a practical introduction to developing rich Internet applications using ASP.NET AJAX and C#. Because of the rich support provided by Microsoft's AJAX tools, an ASP.NET programmer can get up and running in this new environment quickly. This course shows the way. It is current to ASP.NET 4.0 and Visual Studio 2010. The course includes an introduction to the popular JavaScript library jQuery, which is now bundled with ASP.NET AJAX.

### Course Objectives:

- Gain a thorough understanding of the philosophy and implementation of rich Internet applications
- Use JavaScript and DHTML/CSS/DOM to add interactivity to Web applications
- Explain the benefits of AJAX in creating non-blocking and interactive Web applications
- Use ASP.NET AJAX and Visual Studio to easily implement AJAX applications
- Create visually rich and attractive Web applications with controls in the AJAX Control Toolkit

**Audience:** ASP.NET developers who wish to become productive in ASP.NET AJAX.

**Prerequisites:** A good working knowledge of Web application development using ASP.NET, Visual Studio and C#. The student should have a basic knowledge of HTML. Exposure to JavaScript would be helpful but not required. A basic knowledge of ADO.NET would be helpful for understanding the case study and some of the examples.

**Number of Days:** 3 days

<p><b>1 Rich Internet Applications and AJAX</b></p> <ul style="list-style-type: none"> <li>Desktop Applications</li> <li>Web Applications</li> <li>Plug-Ins</li> <li>Client-Side Scripting</li> <li>JavaScript Example</li> <li>Script Code</li> <li>JavaScript in ASP.NET</li> <li>Dynamic Pages</li> <li>Efficient Page Redraws</li> <li>AJAX</li> <li>Google Maps</li> <li>ASP.NET AJAX</li> <li>ASP.NET Enhancements</li> <li>ASP.NET AJAX Control Toolkit</li> <li>An ASP.NET AJAX-Enabled Website</li> </ul>	<p><b>2 Using JavaScript</b></p> <ul style="list-style-type: none"> <li>History and Standards</li> <li>Uses of JavaScript</li> <li>JavaScript in the Browser</li> <li>Embedded JavaScript</li> <li>.js Files</li> <li>JavaScript Language</li> <li>Variables</li> <li>Variables Example</li> <li>Reserved Words</li> <li>Types</li> <li>Strings</li> <li>Numbers</li> <li>Boolean</li> <li>Operators in JavaScript</li> <li>Logical Operators</li> </ul>
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<ul style="list-style-type: none"> <li>Bitwise and Assignment Operators</li> <li>Functions</li> <li>Scope</li> <li>Output from Scope Example</li> <li>Arrays</li> <li>Loops</li> <li>for/in Loops in Arrays</li> <li>Selection Structures</li> <li>Exceptions</li> <li>Error Object</li> <li>Objects in JavaScript</li> <li>Creating Your Own Objects</li> <li>Using Your Objects</li> <li>Dynamically Adding a Method</li> <li>for/in Loops with Objects</li> <li><b>3 DHTML, DOM and CSS</b></li> <li>What is DHTML ?</li> <li>DHTML Components</li> <li>XHTML</li> <li>Document Object Model</li> <li>Browser Objects</li> <li>Accessing DOM Nodes</li> <li>Using jQuery</li> <li>Manipulating Elements: Properties</li> <li>Creating and Inserting Nodes</li> <li>CSS (Cascading Style Sheets)</li> <li>CSS Syntax</li> <li>Style Sheets</li> <li>Output without the Style Sheet</li> <li>Output with the Style Sheet</li> <li>StyleSheet1.css</li> <li>Output with a Different Style Sheet</li> <li>StyleSheet2.css</li> <li>CSS Class Example</li> <li>Using a CSS Class</li> <li>jQuery Library</li> <li>jQuery and Visual Studio</li> <li>Selectors</li> <li>jQuery Wrapper</li> <li>CSS Manipulation</li> <li>Adding and Removing Class Name</li> <li>More about Selectors</li> <li>Animation</li> <li>Animation Effects</li> <li>Modifying the Document Structure</li> <li>Remove and Append Code</li> </ul>	<ul style="list-style-type: none"> <li style="text-align: right;"><b>4</b></li> <li style="text-align: right;"><b>5</b></li> <li style="text-align: right;"><b>5</b></li> </ul>	<ul style="list-style-type: none"> <li>Microsoft Content Delivery Network</li> <li><b>Microsoft AJAX Client Library</b></li> <li>Microsoft AJAX Components</li> <li>  AJAX Client Library</li> <li>  Using the Client Library</li> <li>  ScriptManager Control</li> <li>  Client Library Namespaces</li> <li>  Sys.Debug Tracing</li> <li>  AJAX Client Life Cycle Events</li> <li>  Enable Script Debugging</li> <li>  TraceConsole</li> <li>  Extending JavaScript Objects</li> <li>  Test Program for Array Extension</li> <li>  Test Program Code</li> <li>  Array Extensions in Client Library</li> <li>  Object-Oriented JavaScript</li> <li>  Class</li> <li>  Person Class</li> <li>  Account Class</li> <li>  Test Code</li> <li>  Namespaces</li> <li>  Inheritance</li> <li>  Book Class</li> <li>  Initialization</li> <li>  Other Functions</li> <li>  User Interface</li> <li>  Top-Level Function</li> <li>  Shortcut Methods</li> <li>  Populating a List Box</li> <li>  JavaScript in Assemblies</li> <li>  Providing a ScriptReference</li> <li>  Enhanced AcmeClass Application</li> <li><b>Partial Page Rendering</b></li> <li>  Partial Page Rendering</li> <li>  UpdatePanel Control</li> <li>  AJAX Extensions Controls</li> <li>  Controlling Updates</li> <li>  Triggers</li> <li>  Types of Triggers</li> <li>  Server Initiated Updates</li> <li>  A Challenge</li> <li>  Triggers Again</li> <li>  Timer Control</li> <li>  PageRequestManager Class</li> <li>  Customization Scenarios</li> <li>  PageRequestManager Event Handlers</li> </ul>
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	UpdateProgress Control	8	<b>Application Services</b>
	Factors Code		Using ASP.NET Application Services
	Canceling the Async Postback		Forms Authentication
	Limitations and Performance Issues		Authorization
6	<b>Remote Method Calls</b>		Built-in Authentication Service
	Why Remote Methods		ASP.NET Configuration Tool
	Designing Remote Methods		Login Page
	A Web Service in an .asmx File		Members Page
	Registering AJAX Web Services		Configuration Files
	Calling AJAX Web Services		JavaScript on Login Page
	Running the Application		JavaScript on Home Page
	Handling Errors		Profile Properties
	Context		Using ASP.NET Profile Properties
	Modified Web Service		Using Client-Side Profile Service
	Using Context		Profile JavaScript Code
	Method Parameter		Storing Profile Information
	Using Method Parameter		
	Page Methods		
	JavaScript Object Notation		
	JSON Data Types		
	Comparing JSON and SOAP		
	SOAP Serialization		
	ScriptMethod Attribute		
7	<b>AJAX Control Toolkit</b>		
	AJAX Control Toolkit		
	Install ACT in Visual Studio		
	ACT Controls in Visual Studio		
	Hello ACT		
	Intellisense for Properties		
	AjaxControlToolkit.dll		
	Registering AjaxControlToolkit.dll		
	Extender Controls		
	NumericUpDownExtender Control		
	Rating Control		
	Using a Style Sheet		
	MaskedEdit Control		
	PasswordStrength Control		
	Page Layout Controls		
	Tab Controls		
	Accordion Control		
	CollapsiblePanel Control		
	CollapsiblePanel Markup		
	Popup Controls		
	Modal Popup Visual Effects		
	ACT Controls and Web Services		
	DynamicPopulate		