

# Technical Training Solutions



## ASP .NET AJAX BOOT CAMP (USING VB .NET) (3 Day Course)

Technical  
Course  
Outline

### Course Summary

AJAX ("Asynchronous JavaScript and XML") is an exciting web application technology that, along with a rich set of development tools, is becoming an indispensable element for providing the basis for a new generation of Rich Internet Applications (RIAs).

This course provides hands-on experience working with Microsoft's ASP.NET AJAX Script Library, Extensions, & Toolkit. Students will learn about the fundamental technologies required to build custom AJAX applications, how to debug AJAX application code, how to use various ASP.NET AJAX controls & scripts, how to incorporate AJAX into Web Services and much more.

### Intended Audience:

AJAX relies heavily upon client-side scripting and an understanding of the request/response nature of the web. As a consequence of this, this course is geared towards **current web developers who have a solid understanding of client-side web development technologies such as: HTML, XHTML, JavaScript and CSS as well as ASP .NET and VB .NET programming experience using Visual Studio.**

While exercises and labs will be taught using VB .NET, this course is also open and applicable to C# developers. Finished code in both languages will be provided.

### Prerequisites:

To ensure the best learning experience for all participants, the following pre-requisites **must be met** in order to participate in this course:

- Successful completion of **or** proficiency with the topics from all of the following courses:
  - **Advanced XHTML, HTML & CSS**
  - **Introduction JavaScript**
  - **"VB .NET Fundamentals" or "C# .NET Fundamentals"**
  - **"ASP .NET Fundamentals"**

### Course Contents:

#### Life Before AJAX (Overview/Demonstration/Discussion)

- HTTP Request/HTTP Response & HTML
- The W3C Document Object Model (DOM) Standard
- XHTML, CSS & DHTML
- JavaScript & ECMAScript

#### Understanding AJAX Technologies & Architectures

- The XmlHttpRequest Control
- Microsoft AJAX Script Library
  - Cross-Browser Issues
- ASP .NET AJAX Extensions
- ASP .NET AJAX Control Toolkit
  - ASP .NET AJAX Control Extenders
- JavaScript in Assemblies
- Providing a ScriptReference
- Embedded JavaScript Files

#### The ASP.NET AJAX Script Library

- What Is The AJAX Library?
- The AJAX Library Namespaces
- Implementing Global Shortcut Functions
- Canceling Duplicate Asynchronous Requests
- Aborting In-Process Asynchronous Requests
- Writing Custom AJAX Scripts

#### Microsoft's ASP.NET AJAX Extensions

- Microsoft's Core vs. Extended AJAX Technologies
- AJAX Assemblies Installed In The GAC
- Managing AJAX Scripts With The ScriptManager
- Partial Page Rendering
  - The UpdatePanel Control
    - Properties & Methods
    - UpdatePanel Request Stages
      - Initializing, Loading, Completing
    - Using Triggers
    - The PageRequestManager Class
- Partial-Page Update Notifications With UpdateProgress
- Implementing Timers To Automatically Refresh Data

#### Debugging ASP.NET AJAX Applications

- Understanding Different Debugging Tools
- Debugging Inline & External Scripts
- Viewing Request & Response Messages Using Fiddler
- Working With The Sys.Debug Client-Side Class

#### The ASP.NET AJAX Control Toolkit (ACT)

- Installing & Configuring The ASP.NET AJAX Control Toolkit
  - AjaxControlToolkit.dll
- Perform Advanced AJAX Functionality Using Toolkit Controls
  - Controls vs. Control Extenders
  - The TabBrowser Control
  - The Accordion Control
  - The CollapsePanel Control
  - The ModalPopUp Extender Control
  - The CascadingDropDown Control Extender
  - The UpdateProgress Control
  - The MaskedEdit Control
  - The History Control
  - The Calendar Control

#### Calling Web Services Using ASP.NET AJAX

- Web Service Architecture & Key Technologies
- Creating ASP.NET Web Services
- Applying AJAX Web Service Attributes To Web Services
  - ScriptMethod Attribute
- JavaScript Web Service Proxy Objects Using ScriptManager
  - Calling Web Services Using Proxies
- Creating & Calling Page Methods
- JavaScript Object Notation
  - Comparing JSON and SOAP
  - JSON Data Types
  - JSON Request/Response Messages