

# Next Generation Web Applications: Patterns, Practices and Technologies to Build Richer Web Solutions on the Microsoft Platform

## **Duration**

5 days

In 2005, AJAX was introduced as “the next big thing” for developers and architects of Web solutions. AJAX initially meant just a particular ability of Web pages to refresh their content partially without a full reload; more recently, however, there has been a natural selection of frameworks and tools.

## **Instructor**

Dino Esposito

AJAX applications are highly interactive, responsive and easy to use. They are also quite efficient from a network perspective. The real problem, however, is the difficulty most professionals encounter when architecting and implementing these applications.

## **Class Limit**

30 students

In five days of intense training, seminar participants will explore in detail the challenge of AJAX architectures and the Web, and identify an *easy* and a *not-so-easy* way to AJAX with their positives and negatives, features and drawbacks. They will also devise an AJAX presentation layer as a two-tier model with a JavaScript-powered front-end and a multi-layer service-based back-end communicating over HTTP and using JSON feeds.

## **Price**

On-site

Please contact SPC  
for pricing (contact  
information on page 2)

Public Training

\$3,250 (5 days)

\*Discount available for  
early registration

Additional discussion topics include:

- Which services should be used? REST, WS-\*, WCF, or just a remote API?
- Should the user interface be created programmatically in JavaScript or have it generated as markup on the server?
- Is it worth considering client technologies more powerful than JavaScript? And a delivery format for the application that is more descriptive than HTML?

## **Materials Provided**

- Student manual containing the course slides
- Student handouts with class exercises

## **Intended Audience & Prerequisites**

The workshop is ideal for developers and architects of Web solutions. Familiarity with ASP.NET programming is required, as well as a strong knowledge of the ASP.NET internal architecture. Experience with dynamic HTML, JavaScript, NET 3.x, WPF and WCF is highly beneficial.

## **Instructor**

Dino Esposito is one of the world’s authorities on web technology and software architecture. His extensive hands-on experience includes architecting and building distributed systems for leading banking and insurance companies.

A popular author, Dino’s articles are published monthly on at least five different magazines and Web sites. His most recent books include *Programming ASP.NET 3.5—Core Reference* (Microsoft Press, 2008), *Introducing Microsoft ASP.NET AJAX* (Microsoft Press, 2007), and *Programming Microsoft ASP.NET 2.0 Applications — Advanced Topics* (Microsoft Press, 2005).

TRAINING

## Next Generation Web Applications - Outline

### ASP.NET AJAX—The Easy Way

- AJAX: Facts and the Classic Web Architecture
  - *AJAX to revitalize the Web*
  - *AJAX and smart-client solutions*
  - *Scenarios and products*
- Orchestrating AJAX in ASP.NET
  - *The Script Manager*
  - *Managing script files and auxiliary resources*
- Adding AJAX Capabilities to ASP.NET
  - *Partial Rendering*
  - *Practical rules for a partial rendering that rocks*
  - *Functionality and additional components*
- Real-world Partial Rendering
  - *Optimization and rationalization*
  - *The Single-Page Interface Model*
  - *Structural limitations (simultaneous calls, polling)*
  - *Considerations on viewstate, partial viewstate, and application models*

### ASP.NET AJAX—The Not-So-Easy Way

- Power to the Client
  - *The Microsoft AJAX library for JavaScript*
  - *Managing script files and auxiliary resources*
- Aspect-oriented AJAX
  - *Extenders: AJAX Control Toolkit & other products*
  - *Rethinking input forms*
  - *Adding modality to AJAX pages*
- Common Problems and AJAX Patterns
  - *Browser-side Templating & Timeout*
  - *Predictive Fetch & On-demand JavaScript*
  - *Progress Refresh & Unique URLs*
- The Service Layer
  - *Script services*
  - *WCF services*
- WCF services within the ASP.NET runtime
  - *Security and performance considerations*

### ASP.NET State-Of-The-Art

- LINQ at a Glance
  - *Integrated Query Language on query-able types*
  - *Focus on LINQ-to-SQL*
  - *Data source models in .NET & Visual Studio*
- LINQ for (ASP.NET) Architects
  - *Data source patterns*
  - *Middle-tier vs. Data-tier*
  - *LINQ-to-Entities*
- ASP.NET 3.5—What's New
  - *List View control & trends in Web controls*
  - *New approach to paging & page-able controls*
  - *Building hierarchical views*
- ASP.NET 3.5 Service Pack 1
  - *The ASP.NET MVC Framework*
  - *MVC vs Web Forms*
  - *Scaffolding data with dynamic data controls*

### The (Deep) Impact of Silverlight

- Silverlight and AJAX
  - *Silverlight is ActiveX done properly*
  - *Hosting Silverlight in Web pages*
- Essential WPF
  - *Graphics, Data Binding, Layout*
  - *Input, Styling & Skinning*
- Scripting the Silverlight Engine
  - *JavaScript as glue for XAML elements*
  - *Using JavaScript to expose XAML content to the HTML page*
  - *Exploring media capabilities*
  - *Silverlight w/o AJAX*
- Silverlight 2.0
  - *From script-behind to code-behind*
  - *Silverlight as a standalone development platform for RIA*

### Building RIA with Silverlight

- Fundamentals of RIA with Silverlight
  - *Container elements & the WPF UI framework*
  - *Layout capabilities*
  - *Input and commands*
  - *Grid and other common controls*
  - *Rich and scrollable views*
- Networking and I/O
  - *Connecting to remote WCF services*
  - *Simple HTTP endpoints*
  - *File download and XML manipulation*
  - *Isolated storage*
- Architecture and Programming Model
  - *The embedded CLR and dynamic languages*
  - *Packaging and performance*
  - *Custom assemblies*
  - *The security model*
  - *Application code vs Platform code*
- One XAML Fits All
  - *Sharing XAML-based user interface*
  - *The need for GUI patterns in Silverlight*
  - *MVP vs M-V-VM*

For more information on this or other SPC Springboard courses, please visit [www.spcspringboard.com](http://www.spcspringboard.com) or e-mail SPC at [info@spc.ca](mailto:info@spc.ca)

Software Productivity Center Inc.  
Suite 2000 – 1066 West Hastings Street  
Vancouver, BC V6E 3X2

Vancouver: 604.662.8181      Toll Free: 1.877.548.1948

Fax: 604.689.0141



TRAINING