

Building Web Services with .NET 2.0: Hands-On - 4 Days

Course 508 Overview

- You Will Learn How To**
- Develop highly scalable distributed applications with XML Web services
 - Build standards-driven SOAP and high-performing REST services
 - Process XML documents with System.Xml library classes
 - Describe and publish Web services using standard protocols (SOAP, WSDL)
 - Leverage Web, Windows and AJAX Web service client technologies
 - Secure XML Web services using encryption and authentication

Course Benefits XML Web services connect corporate applications in the same way that the Web connects people to information. The .NET Framework enables organizations to benefit from the service-oriented architecture of XML and Web services. This hands-on course provides the skills needed to build XML Web services and clients with .NET. You learn to rapidly create scalable and secure service-oriented applications as well as practical techniques for processing XML.

Who Should Attend Those who are or will be working with or evaluating Web services. Familiarity with the Visual Basic or C# programming languages is assumed.

Hands-On Training Exercises, presented in VB and C#, include:

- Creating scalable Web services using ASP.NET
- Deploying and configuring Web services
- Consuming Web services from Windows and Web clients
- Rapid application development with data binding
- Tracing SOAP messages
- Updating a database via Web services
- Automatic and custom serialization of objects
- Securing SOAP messages with authentication and encryption
- Processing XML data using .NET's class libraries

Building Web Services with .NET 2.0: Hands-On - 4 Days

Course 508 Outline

Introduction to Web Services

Web services in enterprise computing

- Architecture of distributed applications
- Interoperation with Java
- Web service facade applications

Web service capabilities of .NET

- ASP.NET as a platform for Web services
- Building and deploying a Web service
- Generating client proxies and clients

SOAP Essentials

Demystifying SOAP messaging

- Deconstructing and writing SOAP
- HTTP Transport
- Handling SoapExceptions
- SOAP Action
- SOAP faults
- Comparing RPC-encoded SOAP with document-literal SOAP

Monitoring and tracing Web services

- Invoking SOAP trace utility
- Debugging Web services

Marshaling and serialization

- Automatic and custom serialization
- Serializing value and reference types
- Marshaling with DataSets

XML Programming in .NET

Building XML in .NET

- XML essentials
- XML schema
- XML namespaces
- Supported types

Processing XML

- Generating XML using XmlTextWriter
- Converting DataSets to generic XML with XmlDocument
- Working with RSS feeds and Weblogs

Configuring Web Services

Programming with Attributes

- XML namespaces in Web services
- Adding documentation to WSDL
- Attributes and the proxy class

Configuration settings via web.config

- Customizing service help pages
- Locating the service endpoint

Service-Oriented Architecture (SOA)

- Orchestrating Web services
- Controlling the WSDL document
- Designing the message contract
- Producing RESTful services with HttpHandler

Constructing Scalable Web Services

Designing stateless components

- Advantages of a stateless model
- Storing state in a stateless architecture
- Boosting performance using caching
- Caching file-based data in the cache

Supporting transactions in Web services

- Starting and participating in transactions
- Transaction flow
- Developer's responsibilities
- Transaction mechanisms for .NET

Web Service Client Applications

Techniques for .NET clients

- Thin, Web and rich clients
- Data binding
- ClickOnce deployment

High-performance rich clients

- Threads and multithreading
- Calling Web services asynchronously
- Calling Web services with AJAX

Securing Web Services

Authentication options

- Applying IIS basic authentication
- Sending credentials to the service

Encryption in .NET

- Symmetric and asymmetric encryption
- Comparing encryption techniques
- Encrypting for best performance

Windows Communication Foundation (WCF)

- Implementing WS-Security
- Tracing WS-Secure messages