



### Description:

This course is intended for developers who have responsibility for designing and implementing J2EE based web applications and who wish to enhance the usability and performance of their sites using a number of techniques which have been broadly described with the term AJAX. Attendees will learn how to communicate with the server directly from inside a web page using the XMLHttpRequest object without having to do a full page refresh with each request. The attendees will also learn how to pass objects back and forth between the browser and the server and to understand the performance and architectural implications of these techniques. The course also includes topics on writing JavaScript and on generating JavaScript automatically from the server.

### Requirements:

Attendees should be familiar with web site development in the J2EE environment including a knowledge of JavaServer pages and the Java programming language. They should also be able to read and write basic HTML. No knowledge of JavaScript is required.

### Outline:

1. What is AJAX?
  - a. XMLHttpRequest Object
  - b. Rich Web Applications
2. AJAX Design Principals
  - a. Classic Web Architecture
  - b. Client-side JavaScript and CSS
  - c. Modifying Web Pages
  - d. Retrieving Data from the Server
3. Introduction to JavaScript and CSS
  - a. JavaScript Programming Model
  - b. Basic Syntax
  - c. Cascading Style Sheets (CSS)
4. Detailed Analysis of the XMLHttpRequest Object
5. AJAX Client-side Frameworks
  - a. dojo
  - b. Prototype
6. AJAX on the server side
  - a. Generating JavaScript on the server
  - b. AXAJ JSP Tag Libraries
7. Remoting in AJAX
  - a. JavaScript Object Notation (JSON)
  - b. Direct Web Remoting (DWR)
8. Debugging AJAX Applications
  - a. Inspecting the Document Object Model (DOM)
  - b. JavaScript Debugging
9. Future Considerations