

Web Developer Series:

XML Document Design (November 2002)

XML Document Design teaches you how to create intelligent structured documents using the Extensible Markup Language (XML). You will study the functions and relationships between XML and other members of the XML family of technologies, including Extensible Hypertext Markup Language (XHTML), Extensible Stylesheet Language (XSL), XPath, XLink, namespaces, schemas, and Extensible Stylesheet Language Transformation (XSLT). You will create and apply styling to XML documents in a series of hands-on labs that focus on the development of coding conventions and compliance with the rules for well-formed XML.

Topics

Introduction to XML

- What Is XML?
- Markup Languages
- SGML Roots
- XML Directives
- XHTML, XML and HTML
- XML Development Organizations
- XML Parsers
- XML Browsers
- XML Alone Is Insufficient
- Implementing XML
- Benefits of XML

Well-Formed XML Documents

- What Is an XML Document?
- Tags and Elements in XML
- Rules for Well-Formed XML
- Discerning Structure
- Working with Mixed Content
- Adding Comments to XML Documents
- XML Encoding
- Balkanization of the Web?

Creating a Valid XML Document

- Beyond Well-Formedness: Valid XML Documents
- Document Object Model (DOM)
- Document Type Definition (DTD)
- Referencing DTD Definitions in XML
- Creating a DTD for an Existing XML File
- Creating a DTD for Mixed Content
- Declaring Attributes in a DTD
- Creating XML Documents from a DTD
- Pre-Existing DTDs

XML Parsers

- Parsers
- Object-based and Event-based Parsers
- Validating and Non-Validating Parsers
- Online XML Parsers
- Command-Line Parsing
- GUI Parser Applications

The XML Family of Technologies

- The XML Family
- Namespaces in XML
- XPath
- XPath Expressions
- XLink
- XPointer
- XForms
- XML Query
- Resource Description Framework (RDF)

XSL Transformation

- XSL, XSLT and Style Sheets
- XSLT Document Structure
- XSLT Templates
- Transforming Data: XML to XML
- Saxon XSLT Processor
- Transforming Data: XML to HTML
- Multiple Document Sources

XML Formatting

- XML Styling
- XML and CSS
- CSS Syntax
- XML and XSL

- Formatting Objects
- XSL Page Layout
- XML, XSL and Formatting Objects
- XSL/XSLT Processing
- Converting XSL Flow Objects to PDF

XML Schemas

- Schemas
- Components
- Data Types
- Document Instance Schema Reference
- Schema Element
- SimpleType vs. ComplexType
- Attributes
- Facets
- Grouping

Extensible Hypertext Markup Language (XHTML)

- XHTML Roadmap
- HTML vs. XML
- XHTML Definition Variations
- XHTML Conformance Requirements
- XHTML 1.1 and Modules

XML Tools

- XML Tools
- Tool Types
- HTML to Well-Formed XML
- Creating a DTD
- Creating a Schema
- Importing Database Information
- XML Project Management Guidelines
- XML-Driven Technologies

Target Audience

Webmasters, software developers, application programmers, client/server developers, and desktop publishers.

Job Responsibilities

Implement and maintain hypertext-based Web sites using authoring and scripting languages; apply human-factors principles to design; create Web content; and use Web management tools and digital media tools.

Prerequisites

Before taking this course, students should take the *Web Page Authoring Fundamentals* course or be able to demonstrate basic HTML and Internet knowledge.

Duration

18 hours