Introduction to XML

Course Summary

Description

This course provides the student with a rigorous overview of the new language of the Web: Extensible Markup Language. Better known as XML, it is fast becoming the de facto business language of the Internet, allowing powerful and ubiquitous B2B and B2C business solutions to be created, implemented, and maintained. This course explores XML and related technologies, such as Document Type Definitions (DTDs), XML Schema, XML namespace, XSL, XSLT, and XHTML.

Objectives

At the completion of this course, the student will be able to develop XML documents using:

- Well-formed and valid XML
- Document Type Definitions (DTDs)
- XML elements, attributes, and entities
- XML schema
- XML namespaces
- Extensible Stylesheet Language Transformations (XSLT)
- Extensible Hypertext Markup Language (XHTML)

Topics

- What is XML?
- Well-formed XML
- Valid XML
- Introducing the Document Type Definition
- Introducing XML Schemas
- XML elements
- XML attributes
- XML entities
- XML namespaces
- XSLT
- XSL
- XHTML

Audience

This course is designed for those who need to write XML documents and schema.

Prerequisites

HTML is a very helpful prerequisite, although not mandatory. Programming experience is also helpful, but not required.

Duration

Three days

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Course Outline

I. What is XML?
- A. XML Introduction and overview
- B. HTML document anatomy
- C. XML document anatomy
- D. Benefits of XML
- E. XML Case Study

II. Well-Formed XML
- A. What is well-formed XML?
- B. XML document structure
- C. Understanding the XML recommendation

III. Introducing the Document Type Definition
- A. What is valid XML?
- B. The document type declaration
- C. The internal DTD
- D. The external DTD
- E. Element structure in the DTD
- F. The CDATA section

IV. XML Elements
- A. What is an element?
- B. Element declarations
- C. The element content model

V. XML Attributes
- A. What is an attribute?
- B. Attribute declarations
- C. Attribute types
- D. Attribute defaults
- E. Enumerated attributes
- F. Additional XML declaration attributes

VI. XML Entities
- A. What is an entity?
- B. Character references
- C. Entity declarations
- D. Parameter entities

VII. XML Namespaces
- A. What is an XML namespace?
- B. The need for namespaces
- C. The namespace myth
- D. Multiple namespaces

VIII. XML Schema
- A. What is XML schema?
- B. The simple element type
- C. Complex type elements
- D. Annotations in schema
- E. Attributes in schema
- F. Occurrence constraints
- G. Content models in schema
- H. Other XML schema features

IX. XSLT
- A. Transforming XML documents
- B. Creating templates
- C. Matching patterns
- D. The source and the result
- E. Creating an HTML result from an XML source
- F. More template rules
- G. Adding results to a result tree

X. XHTML
- A. What is XHTML?
- B. HTML and XML
- C. Conforming HTML
- D. Well-formed XHTML
- E. HTML in XHTML
- F. XML in XHTML

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