Training: Capstone Courseware
511 XML for the Enterprise

TRANING TERMS

2025-04-28 | 5 days | Virtual Classroom

TRAINING GOALS:

This comprehensive course provides a full tour of the most prevalent XML standards, and introductory-to-intermediate training in each: XML itself, XML Schema, XSLT, and XSLFO. This is a great fit for students who are planning to work extensively with XML in the near future, as it gives a good grounding in how to manage XML information, define XML models (using **XML Schema**), transform XML information to text, HTML, or other XML formats (using **XSLT**), or to print-ready PDFs (using **XSLFO**).

CONSPECT:

Module 1. Introduction to XML

- Chapter 1. A Brief History of XML
  - Birth of XML
  - Content vs. Presentation
  - Self-Describing Data
  - A Standard Document Format
  - Uses for XML
- Chapter 2. XML Grammar
  - Structure of an XML Document
  - Handling Whitespace
  - Character and Entity References
  - Well-Formed XML
  - Elements
  - Attributes
  - Processing Instructions
  - Comments
  - CDATA Sections
- Chapter 3. Valid XML

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- Document Types
- DTD Structure
- Defining Elements
- Cardinality
- Attributes
- Required, Implied, Default, and Fixed Attributes
- Enumerations
- XML Namespaces
- Limitations of DTDs
- XML Schema
- Advantages of XML Schema
- Data Types

- Chapter 4. Using XML in Applications
  - SAX and DOM Parsing
  - XSLT
  - XPath
  - XSL-FO
  - Web Services
  - SOAP

Module 2. XML Schema

- Chapter 1. Getting Started with XML Schema
  - What is an XML schema?
  - Schemas vs. DTDs
  - Structure of a Schema
  - Associating Schema with Documents
  - Types of Types
  - Defining Elements
  - Defining Complex Types
  - Validation
- Chapter 2. Simple Types
  - Simple and Atomic Types
  - Built-In Types
  - Primitives
  - Numeric Derived Types
  - String Derived Types

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- Simple Type Restriction
- Facets
- Enumerations
- Patterns
- Lists
- Unions
- Nillable Values

- Chapter 3. Complex Types
  - Model Groups
  - Sequences, Conjunctions, and Disjunctions
  - Particles
  - Occurrence Constraints
  - Global and Local Definitions
  - Defining Attributes
  - Empty, Any, and Mixed Content
  - Model Group Definitions
  - Attribute Group Definitions
  - Annotations

Module 3. XSLT

- Chapter 1. Getting Started with XSLT
  - XSL and XSLT
  - Rule-Based Transformations
  - Templates
  - Producing Text, HTML, and XML
- Chapter 2. XPath
  - Addressing XML Content
  - XPath in XSLT
  - Tree Structure
  - XPath Expressions
  - Type Model
  - Context
  - Axis, Node Test, and Predicate
  - Abbreviations
  - Proximity Position
  - XPath Functions

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- Comparisons Between Various Types
- Chapter 3. Templates and Production
  - Template Matching
  - Built-In Template Rules
  - Recursion Through Templates
  - Template Context
  - Output Methods
  - Controlling Whitespace
  - Literal Replacement Elements
  - Formalizing Text, Elements and Attributes
  - Defining Target Vocabulary
  - Generating Processing Instructions
- Chapter 4. Dynamic Content and Flow Control
  - Deriving Source Content
  - Getting Source Values
  - Attribute Value Templates
  - Copying Source Elements and Trees
  - Looping
  - Conditionals
- Chapter 5. Variables and Template Management
  - Variables
  - Using Variables to Capture Context Information
  - Result Tree Fragments
  - Parameters
  - Calling Templates Explicitly
  - Global Variables and Stylesheet Parameters
  - Template Modes

Module 4. XSLFO

- Chapter 1. Getting Started
  - Formatting XML
  - XSLT and XSLFO
  - Flow of Information
  - Formatting Objects
  - Properties
- Chapter 2. Page Masters

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- Pages and Areas
- The Page-Master Model
- Regions
- Writing Mode and Orientation
- The Page-Sequence Model
- Flows
- Page-Sequence Masters
- Properties and the Inheritance Model

- Chapter 3. Formatting
  - Flows
  - Blocks and Layout Options
  - Inlines and Layout Options
  - Lists
  - Tables
  - Controlling Pagination
- Chapter 4. Formatting
  - Page Numbering
  - Identifying Content
  - Page-Number Citations
  - Links
  - Tables of Contents

Appendix A. Learning Resources

Appendix B. Quick Reference: W3C Namespaces

REQUIREMENTS:

- None.

Difficulty level

CERTIFICATE:

The participants will obtain certificates signed by Capstone Courseware.

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TRAINER:

Authorized Capstone Courseware Trainer.

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