



Introduction to XML and XSLT

Course ISI-1136B - 3 Days - Instructor-led, Hands-on

Course Description

In this three-day course students will learn how to create well-formed XML documents. In addition, they will learn about the most important supplementary technologies that support XML, including DTDs and XML Schema for validation as well as XSLT for transformation

Audience

Application developers, Web developers and administrators and XML authors.

At Course Completion

Upon successful completion of this course, students learn:

- How to create well-formed XML documents
- Supplementary technologies that support XML
- DTDs
- XML Schema for validation
- XSLT for transformation

Prerequisites

Students should have experience programming with HTML and familiarity with web and data processing concepts. Programming experience is helpful, but not necessary.

Course Outline

Module 1: Getting Started with XML

- Data and Document Structure
- XML
- Well-Formed XML
- Valid vs. Well-Formed XML
- XML Schema
- Presentation Style
- XSL-FO and XSLT
- Using XML

Module 2: Writing Well-Formed XML

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- XML Fundamentals
- Tag Attributes
- Naming Rules
- Empty and Non-Empty Elements
- Nesting and Hierarchy of Tags
- Processing Instructions and the XML Declaration
- Other XML Constructs
- Entity and Character References

Module 3: Namespaces

- Why Namespaces?
- Namespace Prefixes and Declaration
- Multiple Namespace Declarations
- Declaring Namespaces in the Root Element
- Default Namespaces

Module 4: Validating XML with DTDs

- Schema Overview
- Associating XML with a Schema

Module 5: Validating XML with XML Schemas

- Schema Overview
- A Minimal Schema
- Associating XML With a Schema
- Simple and Built-in Types
- Complex Types
- Element Declarations
- Attribute Declarations
- Choices
- Named Type and Anonymous Types

Module 6: Intro to XSLT

- Stylesheet, Source, and Result
- XSLT Processors
- Processor Implementations
- XPath Basics
- `xsl:stylesheet`
- `xsl:template`
- `xsl:value-of`
- `xsl:apply-templates`
- `xsl:output`

Module 7: XPath Nodetypes

- XPath Expressions
- XPath Context

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- XPath Location Steps
- Element and Root Nodes
- Text and Attribute Nodes
- Comment and Processing Instruction Nodes
- Namespace Nodes
- Wildcards
- Whitespace
- Default Template Rules

Module 8: XPath Axes and Predicates

- Location Paths and Location Steps
- Peer Axis Types
- More Peer Axis Types
- Descendant Axis Types
- Ancestor Axis Types
- Node Tests
- Predicates
- Functions

Module 9: XSLT Flow Control

- xsl:if
- xsl:choose
- xsl:for-each
- xsl:sort
- Named Templates
- Mode

Module 10: XML in Applications

- Reasons and Places for Using XML
- DOM Parsers
- SAX Parsers
- Web Services

Appendix A – Using XML Schema and Namespaces

- Qualified and Unqualified XML
- Associating Qualified XML with a Schema
- Associating a Schema with a Namespace
- Controlling Element and Attribute Qualification
- Merging Schema with the Same Namespace
- Merging Schema with Different Namespaces

Appendix B: Validating XML with DTDs

- XMI DTDs
- DOCTYPE
- Element Conditions and Quantifiers
- Attributes

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- Attribute Types
- REQUIRED, IMPLIED and FIXED
- Parsed Parameterized Entities
- DTDs and Namespaces

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