

Course duration

- 0 to 5 days

Course Benefits

1. Learn the basics of XML - a skill that can be applied across many programming languages.
2. Learn to build XML Schema to validate XML documents.
3. Learn to write XSLTs to transform XML documents into any arbitrary format.

Course Outline

1. XML Basics
 1. What is XML?
 2. XML Benefits
 3. XML in Practice
 4. Why You'll Love XML
 5. XML Documents
 6. Examining an XML Document
 7. Creating a Simple XML File
 8. Creating a Simple XML File
 9. Editing an XML File
 10. Recognizing XML
 11. XML Basics Quiz
 12. Recognizing XML
2. DTDs
 1. Well-formed vs. Valid
 2. The Purpose of DTDs
 3. Creating DTDs
 4. Validating an XML Document with a DTD
 5. Analyzing a DTD Document
 6. Writing a DTD
 7. Exercise Solution: Writing a DTD
 8. DTDs Quiz
3. XML Schema Basics
 1. The Purpose of XML Schema
 2. The Power of XML Schema
 3. A First Look
 4. Validating an XML Instance Document
 5. XML Schema Demo
 6. XML Schema Quiz

7. Exercise Solution: creating an XML Schema
8. What Is an XML Schema?
9. Creating an XML Schema
10. XML Schemas vs. DTDs
4. Simple-Type Elements
 1. Overview
 2. Built-in Simple Types
 3. Building a Simple Schema
 4. Exercise Solution: Adding Simple-Type Elements to a Schema
 5. User-derived Simple Types
 6. Restricting Element Content
 7. Exercise Solution: Restricting Element Content
 8. Specifying Element Type Locally
 9. Nonatomic Types
 10. Adding Nonatomic Types
 11. Exercise Solution: Adding Nonatomic Types
 12. Declaring Global Simple-Type Elements
 13. Converting Simple-Type Element Declarations from Local to Global
 14. Exercise Solution: Converting Simple-Type Element Declarations from Local to Global
 15. Default Values
 16. Fixed Values
 17. Nil Values
 18. Reviewing Default, Fixed and Nil Values
 19. Simple-Type Elements Quiz
5. Complex-Type Elements
 1. Overview
 2. Content Models
 3. Complex Model Groups
 4. Occurrence Constraints
 5. Adding Complex-Type Elements
 6. Exercise Solution: Adding Complex-Type Elements
 7. Declaring Global Complex-Type Elements
 8. Converting Complex-Type Elements from Local to Global
 9. Exercise Solution: Converting Complex-Type Elements from Local to Global
 10. Mixed Content
 11. Defining Complex Types Globally
 12. Complex-Type Elements Quiz
6. Attributes
 1. Empty Elements
 2. Adding Attributes to Elements with Complex Content
 3. Adding Attributes to Elements with Simple Content
 4. Adding Attributes to Elements Demo
 5. Restricting Attribute Values
 6. Default and Fixed Values
 7. Requiring Attributes
 8. Reviewing Attributes

- 9. Adding Attributes to Elements
- 10. Attributes Quiz
- 11. Overview
- 7. Reusing Schema Components
 - 1. Overview
 - 2. Groups
 - 3. Extending Complex Types
- 8. Tying It All Together - XSD
 - 1. Tying It All Together
 - 2. Tying it all Together
- 9. Annotating XML Schemas
 - 1. Overview
 - 2. Annotating a Schema
 - 3. Annotating an XML Schema
- 10. Namespaces
 - 1. Overview
 - 2. Purpose of Namespaces
 - 3. Target Namespaces
 - 4. Default Namespaces
 - 5. Qualified Locals
 - 6. Using Multiple Namespaces
 - 7. Locally Declared Elements and Attributes
 - 8. The XMLSchema-instance Namespace
- 11. XSLT Basics 2.0
 - 1. eXtensible Stylesheet Language
 - 2. The Transformation Process
 - 3. An XSLT Stylesheet
 - 4. Output Types
 - 5. Elements and Attributes
- 12. XPath Features 2.0
 - 1. A Closer Look at the XPath Data Model
 - 2. XPath Built-in Functions
 - 3. XPath Operators
 - 4. Using XPath Functions and Operators
- 13. XPath Basics 2.0
 - 1. XPath in XSLT
 - 2. XPath Expression
 - 3. Path Expressions
 - 4. Node Test
 - 5. Axis
 - 6. Predicate
 - 7. Accessing Nodes
 - 8. Abbreviated Syntax
 - 9. Accessing Nodes with Abbreviated Syntax
- 14. Flow Control 2.0
 - 1. Looping and Sorting
 - 2. Looping in XSLT

3. Looping with xsl:for-each
4. Sorting with XSLT
5. Conditions with XSLT
6. Conditionals
15. Templates Parameters Variables 2.0
 1. xsl:apply-templates
 2. Using xsl:call-template
 3. Using xsl:apply-templates
 4. xsl:call-template
 5. Passing Parameters
 6. Removing Content
 7. Template Modes
 8. Template Priority
 9. XSLT Variables
16. Multiple Documents 2.0
 1. Including XSLTs
 2. Importing XSLTs
 3. Conflict Resolution
 4. Multiple input and output documents
 5. Reusing Templates
17. Grouping and Keys 2.0
 1. Grouping
 2. Grouping Songs By Artist
 3. Key Basics
 4. Creating a Simple Key
 5. Improving Performance with Keys
 6. Improving Performance with Keys
18. Regular Expressions 2.0
 1. Regular Expression Syntax
 2. Functions that Use Regular Expressions
 3. The xsl:analyze-string instruction
 4. Using xsl:analyze-string
19. User-defined Functions 2.0
 1. User-Defined Functions
 2. User-Defined Functions
20. Advanced XSLT Techniques 2.0
 1. Working with Namespaces
 2. Working with Numbered Lists
 3. Outputting Processing Instructions
 4. Copying Nodes
21. Tying It All Together - XSLT 2.0
 1. Tying it all Together Workshop
 2. Transforming the Business Letter

Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.