

## XML PROGRAMMING USING JAVA

### Course Description

In this course, Java programmers will learn the basics of XML form and syntax. They will use Java to implement XML web applications, as well as learning how to use XML to pass data between distributed Java applications. Emphasis is placed on writing well-formed and valid XML, parsing techniques and converting Legacy data with XML.

Course Length: 3 Days

Course Tuition: \$750 (US)

### Prerequisites

Familiarity with Web and data processing concepts. Fundamentals of XML. Java programming experience is required.

### Course Outline

- XML and Java
  - Java and XML
  - XML Syntax
  - Document Type Definition
  - Parsers
  - Building Your Own Parser
  - SAX Parsers
  - DOM Parsers
  - SAX vs DOM
  - Validating vs Non-Validating
  - Parsing XML with SAX
    - SAX Basics
    - Parsing with SAX
    - SAX Event Methods
    - ContentHandler
    - Parsing Elements
    - Parsing Characters and Whitespace
    - Error Handling
    - SAX Parser Usage
  - Parsing XML with DOM
    - Basic SOAP
    - SOAP Overview
    - The SOAP Envelope
    - SOAP Over HTTP
    - A SOAP Server
    - The Deployment Descriptor
    - A SOAP Client
    - Complex Data Types
    - Complex Data Types: Client Code
    - Industrial Strength SOAP
      - SOAP Messaging
      - The Messaging Server
      - Deployment
      - The Messaging Client
      - Web Services
      - WSDL
      - UDDI
    - XML Transformations with XSLT
      - XML Transformations
      - XSLT Stylesheets

Document Object Model  
Document Object  
Parsing with DOM  
Key DOM Interfaces  
Node  
Elements  
NodeList and NamedNodeMap  
Text Nodes  
• Building XML with DOM  
Creating an Empty DOM Object  
Building the Tree  
Cloning Nodes  
Combining Document Objects  
Writing DOM to XML  
• Validating XML  
Validation in XML  
Validation with DTDs  
Whitespace with Validation  
Validation with XML Schemas  
Schema Datatypes  
Validating with SAX  
Whitespace and Validation  
Validating with DOM  
Parser Errors  
JAXP and XML Schemas

TrAX  
XSLT Processors  
XSLT in Servlets  
XSL Formatting Objects  
• Distributed Applications with XML  
Distributed Applications Overview  
Socket Programming with XML  
Servlets and JavaServer Pages  
Creating XML from Textual Data  
Creating XML from Relational Data  
JDBC  
Extracting XML from a ResultSet  
Inserting XML Into an RDBMS  
• Appendix A: JDOM  
Why JDOM?  
JDOM Packages  
Getting Started with JDOM  
JDOM Parsing  
Elements and Attributes  
Outputting from JDOM  
Transforming JDOM using XSLT  
• Appendix B: Java Advanced Topics  
Event Handling  
Sockets  
Servlets  
JDBC