

XML Programming Using Java

Course Summary

Description

This course focuses on XML application development. This class provides a thorough explanation of the Extensible Stylesheet Language for Transformations (XSLT) and the two API's for XML including the Document Object Model (DOM) and the Simple API for XML (SAX).

Objectives

At the completion of this course, the student will be able to:

- Transform XML into modified formats using XSLT
- Create producer applications which construct XML from a relational database
- Create and process XML documents using the DOM and SAX APIs

Topics

- Overview
- XML Transformations (XSLT)
- Producer Applications using JDBC
- The Simple API for XML (SAX)
- The Document Object Model
- Processing XML documents using the DOM

Audience

This course is designed for Application Developers who have a working knowledge of Java and require in-depth knowledge of how to create and process XML documents within their XML applications.

Prerequisites

The student should have attended ProTech's Introduction to Java and Introduction to XML courses or have equivalent experience.

Duration

Three days

XML Programming

Course Outline

I. Overview

- A. Languages for processing XML documents
- B. Why Java works well with XML
- C. Components of an XML application
- D. XML parsers
 - i. IBM's XML parser
 - ii. Oracle's XML parser
- E. Document-oriented vs. Event driven document processing

II. XML Transformations

- A. Using XSL sheets to transform an XML document
- B. Invoking the XSLT component of the parser
- C. The XSLT classes and interfaces
- D. Key XSLT methods
- E. Modifying an XML document into different formats

III. The Simple API for XML (SAX)

- A. The types of events generated
- B. The org.xml.sax and org.xml.sax.helpers packages
- C. The interfaces and classes in the SAX API
- D. Key SAX methods
- E. The IBM SAX parser
- F. The Oracle SAX parser
- G. Ordering of events when a document is parsed
- H. Parsing an XML document using SAX

III. The Document Object Model

- A. The Document Object Model (V1.0 and V2.0)
- B. The org.w3c.dom package
- C. The DOM interfaces and classes
- D. Key DOM methods
- E. IBM's DOM parser
- F. Oracle's DOM parser

IV. Processing XML Documents Using the DOM

- A. Reading vs. Parsing an XML document
- B. Parsing XML documents with the DOM
- C. Printing from a parsed structure
- D. Displaying an XML document in a JTree control
- E. Creating an XML document from scratch
- F. Adding and deleting nodes from a document
- G. Manipulating DOM structures
- H. Searching XML documents

V. Integrating XML with Databases

- A. Storing XML documents in a database column
- B. Creating XML documents from a database table
- C. Inputting data into tables from XML documents
- D. The XML schema proposal vs. DTDs

VI. Integrating XML with Servlets

- A. Brief servlet overview
- B. Servlets for creating and processing XML documents
- C. Oracle's XSQL servlet for handling queries