



data directions inc.

Introduction to ***XML***

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COURSE OVERVIEW

Course Description:

This course is designed to give students an introduction to XML and supporting technologies. It is intended for those who need to work with XML documents and applications. The course will cover the fundamentals of XML, its structure and purpose. It will cover how XML is used on web applications for data storage and transmission and transaction processing. It will cover XML and how it relates to XSL, XPath, SOAP, DOM, and other supporting technologies. Exercises to demonstrate XML and its usage are part of this class.

Course Duration:

1 Day - This is a lecture and hands-on workshop class.

Course Prerequisites:

Students should be familiar with Internet concepts and use of a browser.

Course Materials:

- ✍ Class notes will be provided.
- ✍ Each student will receive a copy of Essential XML Quick Reference by Skonnard & Gudgin (ISBN 0201740958) or a similar text.

Course Objectives:

The student will become familiar with XML technology, language syntax, construction, coding and usage. The student will become familiar with XSL transformations, Xpath lookup and SOAP and DOM concepts. The student will understand how to design and code an XML document and test it for correct structure.



COURSE OUTLINE

I) Course Overview and Review of Objectives

II) XML Overview

- A) What is XML?
- B) How did we get here?
- C) What is XML good for?
- D) Why maybe not XML?

III) XML Documents

- A) The XML Declaration
- B) Rules for document markup
 - 1) Well-Formedness
 - (1) Elements
 - (2) Attributes
 - 2) Validity
 - (1) DTD's
 - (2) DTD's - The Document Type Declaration
 - (3) DTD's - Elements
- C) Namespaces
- D) XML Schemas
 - 1) XML Schema languages
 - 2) Schemas vs DTDs
 - 3) Validation using XSD Schemas
- E) What is XHTML

IV) Querying XML

- A) XPath – What is it?
- B) XPath location paths
- C) XPath predicates
- D) XPath functions
- E) XQuery
- F) XPointer, XLink, XInclude

V) Extensible Stylesheet Language Transformations (XSLT)

- A) The need for transformations
- B) Applying XSLT transformations
- C) Stylesheet structure
- D) How XSLT Template processing works
- E) Push vs. Pull processing
- F) XSLT functions (conditional, looping, sorting, etc.)



COURSE OUTLINE

VI) Processing and Working with XML Documents

- A) Document Object Model (DOM)
- B) Simple API for XML (SAX)
- C) Getting XML from relational databases
- D) Web services technologies: SOAP, WSDL, and UDDI

VII) References

- A) W3C
- B) Books
- C) Useful Internet sites