

## XML Fundamentals

### 2 Days Basic Level

#### Course Description:

In this course you will learn fundamentals necessary to use XML on the Web or in data processing applications. Through lecture and hands-on lab exercises, you will learn the essentials of data interoperability using XML, write well-formed XML documents, enforce document validity, use XSLT and stylesheets to transform XML documents, and get an introduction to XML programming APIs in languages such as Java and Perl.

#### Audience:

Anyone who needs an introduction to XML, including application developers, Web developers, XML document authors, and webmasters.

#### Prerequisites:

Familiarity with Web and data processing concepts. HTML and programming experience is helpful.

### Course Contents

#### Getting Started with XML

- Data and Document Structure
- XML
- Well-Formed XML
- Validity vs. Well-Formed XML
- Enforcing Valid Documents: DTDs
- Presentation Style
- XSL and XSLT
- Using XML

#### XML Syntax

- 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

#### Writing DTDs

- XML DTDs
- DOCTYPE
- Element Conditions and Quantifiers
- Attributes
- Attribute Default
- Parsed General Entities
- Parsed Parameterized Entities

#### Namespaces

- Why Namespaces?

- Namespace Prefixes and Declaration
- Multiple Namespace Declarations
- Declaring Namespaces in the Root Element
- Default Namespaces
- DTD's and Namespaces

### **Basic XML Schemas**

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

### **Transforming XML Using XSLT**

- Transformations
- Templates
- XPath: Selecting a Node
- XPath: Navigating the Tree

- Extracting Element Values
- Choosing Specific Cases
- Multiple Element Transformation
- Sorting Elements

### **XML in Applications**

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

### **Appendix A: Nameplaces and XML Schema**

- Associating Qualified XML with a schema

### **Appendix B: Presenting XML for the Web - CSS**

- Stylesheet Languages
- Formatting with Rules
- Defining Elements as Blocks
- Colors and Fonts
- Page Layout with CSS
- Lists

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