

Extensible Markup Language (XML) is the universal format for data on the Web. XML Foundations for Developers is a basic general course for application developers, Web site builders, database administrators or anyone who needs to learn more about XML. Expert instructor Martin Schaeferle begins with XML basics and proceeds step-by-step to more advanced topics. At the conclusion of this course you'll be able to make more informed decisions about how to solve business problems with XML.

Prerequisites: No XML experience is needed, but previous programming experience will be helpful.

### **CD Bonus: Electronic Study Guide Included**

#### **Session 1**

Section A: Introduction

- What is XML?
- B2B & B2C Solutions
- XML Standard
- HTML & XML
- HTML vs. XML Code
- HTML Pros & Cons
- Business Values

Section B: XML Data & Documents

- XML & Data Formats
- Documents
- DataBase
- Object & Code
- XML
- XML Goals
- Parsing Data
- Formatting & Transforming

Section C: Well-formed XML

- XML Declaration
- Elements
- Root Elements
- Content
- Empty Content

Section D: Attributes & Content Model

- Attributes
- Elements vs. Attributes
- Quotes & Double Quotes
- Comments
- Entities & Entity References
- Whole Space
- Language
- Processing Instructions

Section E: Validating with DTDs

- Validation Process
- Validation Example
- DTD Repositories
- DTD Structure
- External Definitions
- Create DTD
- Combine DTDs

#### **Session 2**

Section A: DTD Definitions

- XML Elements
- Valid Elements

- Zero or One
- One or More
- Optional Children
- Nested Definitions
- Option Groups
- Section B: Attributes in DTD
- Mixed Content
- Defining Attributes
- Enumeration
- ID, IDREF, & IDREFS
- Other Attributes
- Attribute Modifiers
- Custom Entities
- DTD Problems
- Section C: Schema Building Blocks
- Schema Structure
- Schema Documentation
- Schema Specification
- DTD vs. Schema
- Built-in Data Types
- Primitive vs. Derived
- Data-type Hierarchy
- Section D: Schema Construction
- Content Model
- Anonymous Complex Type
- Named Complex Types
- Cardinality
- Compositors
- Model Group Definition
- Element Content Specs
- Section E: Advanced Validation
- Using Attributes
- Deriving Simple Types
- List
- Union
- Deriving Complex Types
- XML Namespaces
- XML Schema Namespaces

### **Session 3**

- Section A: DOM Model
- Hierarchy
- Levels of DOM
- Using XML with VB
- Build DOM Tree
- IDL
- Section B: DOM Interfaces & SAX
- DOM Types
- DOM Interfaces
- Document Interface
- Interfaces
- SAX
- Using SAX
- Section C: XSLT
- Transformation
- XSLT History
- Building Stylesheets
- Processor Instructions

- XSLT Language
- Section D: Transformation Types
  - Simple Stylesheets
  - Rule-based Stylesheets
  - Navigational Stylesheets
  - Computational Stylesheets
  - Processing XSLT
  - XPath
- Section E: XSLT Simplified Stylesheets
  - The Essential Stylesheet
  - XSLT Example
    - <value-of>
    - <for-each>
    - <if>
    - <sort>

## **Session 4**

### Section A: Web Services & WSDL

- History
- Problems
- Web Services
- Technologies
- WSDL
- Namespace
- Child Elements

### Section B: SOAP

- SOAP Advantages
- The SOAP Structure
- Stateless Components
- Client Post
- Server Response
- Programming SOAP
- SOAP Server
- SOAP Client

### Section C: UDDI

- UDDI Catalogs
- How UDDI Works
- Find UDDI
- Programming UDDI
- UDDI APIs

### Section D: XML Query

- Existing Technologies
- XML vs. Relational
- XQuery
- XQuery Specifications
- XQuery Formats

### Section E: XQuery Expressions

- Operators
- Path Expressions
- Element Constructors
- FLWR Expressions
- Conditional Expressions
- Quantified Expressions
- Sorting & Functions
- XQueryX

## **Session 5**

## Section A: Scalable Vector Graphics

- Graphic Images
- Create SVG Document
- ViewPort & Coordinates
- Basic Shapes
- Displaying the Result
- Reusable Shapes
- More Shapes
- Beyond the Basics

## Section B: XML Security

- Security Activities
- HTTP Security
- XML Signature
- Signature Elements
- XML Encryption

## Section C: RDF

- The Semantic Web
- Semantic Web Uses
- What is RDF
- RDF Tools
- Writing RDF
- RDF Notation
- RDF XML Notation

## Section D: RDF Vocabulary

- Identifying Resources
- Resources as Values
- Anonymous Resources
- RDF Abbreviated Format
- RDF Schemas
- RDF Vocabularies