



Practical XML Schemas for Developers

Overview

Schemas provide a means for defining application-specific markup languages and for understanding industry-standard markup languages. The simple schema language of XML, DTDs, have been superseded by a new generation of more powerful schema languages for XML, notably W3C XML Schemas and ISO Schematron.

Objectives

On completion of this course, attendees will be able to:

- Understand schemas for XML and their major uses;
- Understand XML namespaces;
- Create and maintain XML schemas;
- Create and maintain Schematron schemas;
- Validate documents;
- Understand XML schema terminology.

Who should attend?

This course is primarily targeted at developers needing to understand the syntax and concepts behind XML Schemas.

This course is also for developers who want to learn how to use XML Schemas to define the structure of XML languages and how to validate XML documents against XML schemas.

Prerequisites:	This is a technical course. Attendees should have a sound understanding of basic XML concepts. Basic understanding of XML Namespaces, XPath or DTDs will be an advantage. Attendees with no programming experience may not get maximum value from the course.
Course tool:	The Topologi Markup Editor will be used for development of all schemas and instances as well as validation for most of the exercises.
Duration:	1 day
Fee:	\$550 + GST

Topics include:

Introduction to XML

- Overview of XML and related standards
- History and basic concepts
- How XML is being applied
- Industry vocabularies

XML Namespaces

- URIs and URLs
- XML's PUBLIC and SYSTEM identifiers
- What are XML namespaces?
- XML names can have three parts
- What you need to know
- Why are namespaces needed?
- How XML namespaces work
- Element name mapping
- Attribute name mapping
- Explicit declaration of namespaces
- Default declaration of namespaces

Systematic XML: Overview of Schemas for XML

- What are schemas?
- How schemas work
- Schema languages
- ISO DSDL
- Comparison
- W3C XML DTD
- W3C XML schema definition
- What is better in XSD than DTDs?
- RELAX NG
- Schematron
- Which schema language?

XML Schemas (XSD)

- What is XSD?
- XSD components
- XSD structure
- XSD processing
- XML Infoset
- XSD processing in the course
- Namespaces to schemas
- Linking schema to instance

Datatypes using XML Schemas

- Datatypes in XSD
- Simple types
- Different simple types in XSD
- Some types of facets
- Simple type definition
- List types
- Union types
- Complex type definition

Grammars using XML Schemas

- Element declaration
- Element type association
- Complex type definition
- Element content
- Text only content
- `<xs:simpleContent>`
- `<xs:complexContent>`
- `anyType`
- Attribute declaration
- Global and local declarations/definitions
- Declaration by reference
- Attribute groups
- Groups
- Element occurrence
- Un-named groups
- `<xs:sequence>`
- `<xs:choice>`
- `<xs:all>`
- Allowed element declarations
- Fixed and default values for elements
- Wildcards