

# XML Schema Design

## 1 day course

### Overview

This course introduces XML Schemas, the new and preferred way to design and validate XML documents and data. The XML Schemas specification is maintained by the W3C (World Wide Web Consortium) and achieved full Recommendation status in the spring of 2001. It is a core part of the growing family of XML technologies, and is set to replace the XDR (XML Data Reduced) and various other schema recommendations that had been used while the industry waited for the final recommendation. Students in this course will learn all the basic components of the XML Schemas recommendation, including its elements, attributes, data types, and facets. They will also learn techniques for XML document and data modeling, an essential aspect of Schema design. The MSXML 4.0 parser is used for document validation. A simple text editor, such as Notepad, is used for editing.

### Prerequisites

This course was designed for the student who already has a general knowledge of the concepts and technologies involved in XML programming. To ensure your success, we recommend you first take the Element K course or have equivalent knowledge XML An Introduction - Prior knowledge of XML DTDs is very helpful for this course. The following Systematix course is recommended, but not required. XML DTD Design - Prior knowledge of traditional Web development technologies, such as HTML and Web scripting, is helpful but not required.

### Benefits

Students will learn the basics of the XML Schemas recommendation, as well as techniques for XML document and data modeling.

### Target Student

This course is for anyone already introduced to the basics of XML and its related technologies, and who is interested in XML programming and data/document modeling. Knowledge of and experience with XML DTD design is preferable.

### What's Next

This course is a part of a series of courses that provide the foundation of XML technologies. After having learned about DTDs and Schemas, XSL/XSLT, XML DOM, and XLink/XPointer/XPath, students will be well-poised to start integrating XML support into their Web applications using ASP, ADO, Java, various database management systems, ColdFusion, JSP, and so on.

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## Course Content:

### XML and the Rise of Schemas

- The World of XML
- DTDs and the Role of Validation
- The Rise of XML Schemas

### XML Document and Data Modeling

- The Planning Stage
- Modeling Documents, Data, and the World

### Elements, Attributes, and Complex Types

- Schema Namespaces and Documentation
- Complex Type Definitions
- Element Declarations
- Attribute Declarations

### Occurrence and Identity Constraints

- Minimum and Maximum Occurrence Constraints
- Schema Keys and Data Uniqueness

### Data Types and Facets

- Data Typing and its Importance
- Explicit Simple Type Definitions
- XSD Facets

**Schema Modularity**

- Schema Modularity
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