

Introduction to XML Schema Courseware (XSD101)

Length: 2 days

The Introduction to XML Schema course is designed to provide a solid understanding of XML Schema and its fundamental concepts. Throughout the course, students will learn about XML Schema basics, Simple-Type Elements, Complex-Type Elements, Attributes, Reusing Schema Components, Schema Keys, Annotating XML Schemas, and Namespaces. By engaging with real-world examples and hands-on exercises, students will develop the skills needed to create, validate, and manipulate XML schemas effectively.

Benefits

1. **Comprehensive Coverage:** The course covers essential XML Schema topics, ensuring a strong foundation in the subject.
2. **Practical Examples:** The course uses real-world examples to illustrate concepts and reinforce learning.
3. **Hands-on Learning:** Students will actively engage with the material through hands-on exercises, developing practical skills that can be applied immediately.

Outline

1. **XML Schema Basics**
 - A. The Purpose of XML Schema
 - B. The Power of XML Schema
 - C. A First Look
 - D. Validating an XML Instance Document
2. **Simple-Type Elements**
 - A. Overview
 - B. Built-in Simple Types
 - C. Building a Simple Schema (Exercise)
 - D. User-derived Simple Types
 - E. Restricting Element Content (Exercise)
 - F. Specifying Element Type Locally
 - G. Nonatomic Types
 - H. Adding Nonatomic Types (Exercise)
 - I. Declaring Global Simple-Type Elements
 - J. Converting Simple-Type Element Declarations from Local to Global (Exercise)
 - K. Default Values
 - L. Fixed Values
 - M. Nil Values
3. **Complex-Type Elements**
 - A. Overview
 - B. Content Models
 - C. Complex Model Groups
 - D. Occurrence Constraints
 - E. Adding Complex-Type Elements (Exercise)
 - F. Declaring Global Complex-Type Elements
 - G. Converting Complex-Type Elements from Local to Global (Exercise)

- H. Mixed Content
- I. Defining Complex Types Globally
- 4. Attributes**
 - A. Empty Elements
 - B. Adding Attributes to Elements with Complex Content
 - C. Adding Attributes to Elements with Simple Content
 - D. Restricting Attribute Values
 - E. Default and Fixed Values
 - F. Requiring Attributes
 - G. Adding Attributes to Elements (Exercise)
- 5. Reusing Schema Components**
 - A. Overview
 - B. Groups
 - C. Extending Complex Types
- 6. Schema Keys**
- 7. Annotating XML Schemas**
 - A. Overview
 - B. Annotating a Schema
 - C. Annotating an XML Schema (Exercise)
- 8. Namespaces**
 - A. Overview
 - B. Purpose of Namespaces
 - C. Target Namespaces
 - D. Default Namespaces
 - E. Qualified Locals
 - F. Using Multiple Namespaces
 - G. Locally Declared Elements and Attributes
 - H. The XMLSchema-instance Namespace
- 9. Tying It All Together - XSD**
 - A. Tying It All Together (Exercise)
 - B. Tying it all Together

Required Prerequisites

- Basic XML