XML Fundamentals

Duration: 2 Days

What you will learn

This course introduces students to the basics of XML. Students learn to create an XML document and format it using XML Stylesheet Language for transformations (XSL). Students learn about XML Namespaces that are used to apply uniqueness to elements. Students also learn to use XML editor in Oracle JDeveloper.

This course covers the components of an XML Schema, how to create an XML Schema document, and validate XML documents using XML Schema. Document Type Definitions (DTDs) are discussed in this course. The course discusses XPath expressions and how to use XPath expressions in XSL to select parts of an XML document to be transformed. Additionally, students are introduced to the support for XML offered in various Oracle products, such as, the Oracle XML DB, Oracle XML Developer's Kit, and Oracle JDeveloper. Students become familiar with the terminology of XQuery, its data model and type system, and various expressions and functions. Students gain an understanding of using the XML concepts in Service-Oriented Architecture.

Learn To:

Create well-formed and valid XML documents

Use XML Namespaces in an XML document

Create and use an XML Schema document

Validate XML documents by using standard XML techniques

Use XPath expressions and functions

Transform XML documents by using stylesheets and XPath expressions

Audience

Application Developers

Business Intelligence Developer

Database Administrators

Developer

Forms Developer

Java Developer

Support Engineer

System Analysts

Prerequisites

Required Prerequisites

Basic experience with writing HTML documents

Familiarity with Oracle JDeveloper

Familiarity with SQL*Plus

Knowledge of SQL

Course Objectives

Create well-formed and valid XML documents
Use XML Namespaces in an XML document
Create and use an XML Schema document
Validate XML documents by using standard XML techniques
Use XPath expressions and functions
Transform XML documents by using stylesheets and XPath expressions
List the XML features in the database
Explain the architecture of Oracle XML DB
Use the XQuery language

Course Topics

Introduction
Course Objectives
Extensible Markup Language
Advantages of Using XML
XML Standards
Document Object Model
Using XML in Oracle JDeveloper
Building XML Applications with Oracle Technology
Course Environment and Data

Introducing the XML Document
Example: A Simple XML Document
XML Document Structure
The XML Declaration
Components of an XML Document
A Well-Formed XML Document
Comparing XML and HTML
XML Development
Creating and Editing XML Documents in JDeveloper

Validating XML with a Document Type Definitions (DTDs)
What Is a Document Type Definition?
Why Validate an XML Document?
General DTD Rules
The Contents of a DTD
Referencing the DTD
Element, Attribute, and Entities Declarations
Complete DTD: Example
Validating XML Against a DTD

Modularizing XML with Namespaces
What Is an XML Namespace?
Why Use XML Namespaces
Declaring XML Namespaces
XML Namespace prefixes
Example of XML Namespace Declarations
Scope of XML Namespace Declarations
Invoking the ShowXmlNS Tool

Validating XML by Using XML Schema
What is an XML Schema?
The Benefits of XML Schemas
XML Schema Versus DTD
Validating an XML Document with an XML Schema Document
Referencing an XML Schema with the schemaLocation Attribute
Components of an XML Schema
Creating an XML Schema Document in JDeveloper
Creating an XML Document from an XML Schema

Navigating XML Documents by Using XPath
What Is XML Path Language?
The XPath Model
XPath Expressions
The Location Path Expression
Location Steps in XPath Expressions
XPath Axes and Node Test Types
XPath Functions
Testing XPath Expressions

Transforming XML by Using XSL Transformations
What Is XSL?
XSL Transformations
The XSLT Stylesheet
Using an XSLT Stylesheet with an XML Document
Viewing the Transformed Document
Creating and Applying Template Rules
Conditional Processing with and
Using Modes

Introduction to Oracle XML DB (XML DB)
What Is Oracle XML DB?
When to Use Oracle XML DB?
How Is Oracle XML DB Implemented?
Oracle XML DB: Features
Using the XMLType
XML Schema Support in Oracle Database 11g
Overview of XML DB Repository
Benefits of Oracle XML DB

XQuery
What is XQuery?
Applications of XQuery
XQuery Terminology and Data Model
Conversion of XML into a Query Data Model
XQuery Syntax Rules
XQuery Support in JDeveloper
XQuery Expressions, Functions, and Operators
XQuery Support in Oracle XML DB