

## Oracle 11g: XML Fundamentals

**Duration:** 2 Days

### What you will learn

In this course students learn the basics of XML. Students learn to create an XML document, and format XML documents using XML Stylesheet Language for transformations (XSL). Students learn about XML Namespaces, and document type definitions. This course covers the components of an XML Schema, creating an XML Schema document, and validates XML documents using XML Schema.

The course discusses XPath expressions and how to use XPath expressions in XSL to select parts of an XML document to be transformed. In addition, 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. Additionally Students learn how to use XML editor in Oracle JDeveloper.

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

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### Audience

- Business Intelligence Developer
- Database Administrators
- Forms Developer
- System Analysts

### Related Training

#### *Required Prerequisites*

Oracle Database: SQL Fundamentals I

#### *Suggested Prerequisites*

Basic experience with writing HTML documents

Familiarity with SQL\*Plus

Knowledge of SQL

### **Course Objectives**

Describe XSL and XSL Transformations (XSLT)

Describe XML Path Language (XPath)

Define XML and the standards covered in the course

Use JDeveloper to create, open and edit an XML document

Describe the structure of an XML document

Create a well-formed XML document

Describe a DTD

Read and write a DTD

Validate XML documents by using an internal DTD, an external DTD, or their combination

Use XML Namespaces in an XML document

Create an XML Schema document

Validate XML documents

Use XPath expressions and functions

Transform an XML document using XSLT

List the XML features in the database

Explain the architecture of the database XML components

### **Course Topics**

#### **Introducing XML Terminology**

Extensible Markup Language

XML Standards

Document Object Model

Simple API for XML

Building XML Applications with Oracle Technology

XML in Service Oriented Architecture

Creating an Application and Project in JDeveloper

#### **Introducing the XML Document**

Extensible Markup Language

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

Creating XML Document in JDeveloper

## **Validating XML with a Document Type Definitions (DTDs)**

Understanding the Document Type Definition

General DTD Rules

The Contents of a DTD

Example of a Simple DTD Declaration

Referencing the DTD

Element Declarations

Attribute Declarations

Entities in XML

## **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

An Example XML Schema Document

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

## **Navigating XML Documents by Using XPath**

Defining XML Path Language

The XPath Model

XPath Expressions

The Location Path Expression

XPath Axes

Operators in XPath Expressions

XPath Functions

Testing XPath Expressions

## **Transforming XML by Using XSL Transformations**

Defining XSL

XSL Transformations

The XSLT Stylesheet

Using an XSLT Stylesheet with an XML Document

Creating an XSL File in JDeveloper

Creating Template Rules

Template Rules and Priorities

Specifying Output Formats

### **Introducing Oracle XML DB (XML DB)**

Defining Oracle XML DB

Using XML DB

Oracle XML DB Features

Understanding the XMLType

XML Schema Support in Oracle Database 11g

Overview of XML DB Repository