

**OD-XMLF: Oracle Database: XML Fundamentals**

Course Code: OD-XMLF

Duration: 2 days

Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

**OVERVIEW**

This XML Fundamentals training introduces you to the basics of XML. In this 2 day hands on course, you will learn the central XML technologies, including writing well formed and valid XML, creating Document Type Definitions (DTDs) and XML schema documents and using XPath and XQuery.

**Learn To:**

- Create well-formed and valid XML documents.
- Use XML Namespaces in an XML document to resolve name ambiguities in XML documents.
- Create Document Type Definition and XML schema documents to validate XML documents.
- Use XPath expressions and functions to find and select nodes in XML documents.
- Transform XML documents by using stylesheets and XPath expressions.
- Use Oracle JDeveloper to view, create, edit, and test XML and other XML-related documents.
- Use XQuery to query, generate, and transform XML content.
- Identify the features and benefits of Oracle XML DB

**SKILLS COVERED**

Upon completing this course, the learner will be able to meet these overall objectives:

- Learn the basics of XML and create well-formed and valid XML documents
- Learn about XML namespaces
- Create document type definitions (DTDs) to validate XML documents
- Create XML schema documents (XSDs) to validate XML documents
- Learn to use the XPath language, XPath expressions, and XPath functions to find and select nodes in XML documents
- Discover the support for XML offered in various Oracle products such as Oracle JDeveloper and Oracle XML DB
- Use JDeveloper to view, create, and edit XML and other XML-related documents
- Use JDeveloper to test XPath expressions and to create and execute XQuery files
- Use Extensible Stylesheet Language (XSL) Transformations (XSLT) to transform one XML document into another XML document
- Use the XQuery XML query language, which is built on XPath expressions, to query, generate, and transform XML content
- Learn about the XML features in the Oracle database and explain the architecture of the Oracle XML DB components and the benefits of such components
- Describe the Oracle XML DB support for XQuery

**WHO SHOULD ATTEND?**

- Application Developers
- Database Administrators
- System Analysts
- Forms Developer
- Java Developers
- Developer
- Support Engineer
- Business Intelligence Developer

**PREREQUISITES**

- Knowledge of SQL
- Familiarity with Oracle JDeveloper
- Basic experience with writing HTML documents
- Familiarity with SQL\*Plus

**COURSE CONTENTS****Introduction**

Course Objectives

Course Goals

Database schemas used in this course

The Purchase Order XML schema purchase  
orderxsd used in the XML DB Course

Appendices Used in This Course

Class Account Information

Course Environment

Entering SQL Statements Using

**Introducing the XML Document**

Extensible Markup Language

Advantages of Using XML

XML Standards

Document Object Model

Oracle XML Support

Using XML in Oracle JDeveloper

Building XML Applications with Oracle  
Technology

Creating an Application and Project 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

Copyright © 2017, Oracle. All rights reserved.

Page 3

Declaring XML Namespaces

XML Namespace prefixes

Example of XML Namespace Declarations

Scope of XML Namespace Declarations

Invoking the ShowXmlNS Tool

**Validating XML Documents**

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

### **Working With 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  
Using FLWOR Expressions

### **Introduction to Oracle XML DB**

What Is Oracle XML DB?  
Oracle XML DB Benefits  
When to Use Oracle XML DB?  
How Is Oracle XML DB Implemented?  
Oracle XML DB: Features  
Copyright © 2017, Oracle. All rights reserved.  
Page 4  
Using the XMLType  
XMLType Storage Models  
XML Schema Support in Oracle Database 12c

**END OF PAGE**