

Oracle Database 12c: Use XML DB

Duration: 5 Days

What you will learn

This Oracle Database 12c: Use XML DB training allows you to deep dive into the key features of Oracle XML DB. Through interactive instructions and hands-on exercises, expert Oracle University instructors will teach you how to use Oracle XML DB to store, access, manipulate, validate, search, update, annotate, transform, generate, import and export XML data.

Learn To:

- Manage XML storage in Oracle XML DB.
- Retrieve XML data in Oracle XML DB.
- Create and use indexes on XML data.
- Generate and manipulate XML in Oracle XML DB.
- Use the Oracle XML DB Repository.
- Manage changes in an XML schema.
- Import and export XML data.
- Update XML content using XQuery update.
- Search XML content using XQuery Full-Text search.

Benefits to You

Oracle provides developers and other users with XML tools, which work inside the Oracle Database. By enrolling in this course, you'll develop the skills to use XML DB technology with SQL and PL/SQL for application development. This course covers the XML DB features and utilities available for the Oracle Database that can be used to develop SQL and PL/SQL applications.

Oracle XML DB

The focus of this hands-on training is Oracle XML DB, which includes packages supporting Oracle XML DB. You'll learn to store, retrieve, search, generate and manipulate XML data in the Oracle Database. Expert instructors will also focus on the XQuery language, which is designed to query XML data from both XML files stored in the database and from relational databases.

Related Training

Required Prerequisites

Basic experience with SQL and PL/SQL

XML Fundamentals Ed 1.1

Oracle Database: Develop PL/SQL Program Units

Suggested Prerequisites

Familiarity with Oracle SQL Developer

Familiarity with PL/SQL

Familiarity with SQL*Plus

Course Objectives

Use XQuery Update

Use PL/SQL APIs for XML

Import and Export XML data

Use Full-Text Search

Use the Oracle XML DB Repository

Annotate XML Schemas

Generate XML Data from the Database

Explain the basic concepts of Oracle XML DB

Store XML Data in Oracle XML DB

Retrieve XML Data in Oracle XML DB

Create and use XMLIndex index

Manipulate XML data

Generate XML data

Create and use XMLType views

Manage and Modify Storage After XML Schema Registration

Use XQuery with Oracle XML DB

Course Topics

Introduction

- Questions About You
- Course Objectives
- Course Prerequisites
- Suggested Course Agenda
- Database Schema
- Appendixes
- Class Account Information
- Course Environments

Introduction to Oracle XML

- What is XML?
- Example: A Simple XML Document
- Markup Rules for Elements
- XML Attributes
- Well-Formed XML Documents
- Document Type Definitions (DTD) and XML Schemas
- Why Validate an XML Document
- XPath and XQuery

Introduction to Oracle XML DB

- Oracle XML DB
- Oracle XML DB: Benefit
- Oracle XML DB: Features

Storing XML Data in Oracle XML DB

- XMLType: Overview

- Describe XMLType storage options
- Create objects of XMLType
- Declaring an XMLType
- Insert data into XMLType
- XMLType Storage Characteristics
- XMLType Storage Models
- Specifying SQL Constraints

Using XML Schema with Oracle XML DB

- Using XML Schema with Oracle XML DB: Overview
- XMLType and XML Schema
- XML Schema Management
- Creating XML Schema-Based XMLType Tables and Columns
- Specifying Unstructured Storage of XML Schema-Based Data
- Managing Changes in an XML Schema

Oracle XML DB Manageability

- Oracle XML Schema Annotations
- Common Uses of XML Schema Annotations
- Annotations Methods
- Purchase-Order XML Schema: purchaseOrder.xsd
- Annotated Purchase-Order XML Schema: purchaseOrder.xsd
- Annotating an XML Schema by Using DBMS_XMLSCHEMA_ANNOTATE
- Annotation Subprogram Parameters
- Some of the Available Oracle XML DB XML Schema Elements Annotations

Partitioning XMLType Tables

- Partitioning concepts
- Ordered collection tables
- Partitioning XMLType tables and columns stored object-relationally
- Specifying partitioning information for an XMLType base table
- Partition maintenance
- Online partition redefinition for ordered collection tables
- Partitioning Binary XML Tables

Using XQuery to Retrieve XML Data in Oracle XML DB

- Retrieving XML content
- Using FLWOR expressions: review
- XQuery support in Oracle Database
- Querying the database: relational data
- Querying the database: XMLType data
- Querying XMLType data by using SQL/XML standard functions

Querying XMLType data by using SQL/XML standard functions

- Migrating from Oracle Functions for Updating XML Data to XQuery Update
- XQuery Update Snapshots
- Updating XML Data
- Updating an Entire XML Document
- General Syntax for an XQuery Update
- Replacing XML Nodes (Current State)
- Replacing XML Nodes (Updated State)
- Updating XML Data to NULL Values Considerations

Search XML Content Using XQuery Full-Text

Full-Text Search Capabilities

Available Documentation

Full-Text contains Expression

Indexing for XQuery Full Text

Requirements for Creating XQuery Full Text Index

Indexing for XQuery Full Text: Best Performance

Using XML Schema-Based Data with XQuery Full Text

Error ORA-18177: Using XML Schema-Based Data with XQuery Full Text

Indexing XMLType Data

Indexing XMLType data

Using XMLIndex index

What is XMLIndex?

XMLIndex Unstructured Component

New: XMLIndex Structured Component

Guidelines

Generating XML Data

Generating XML data by using XQuery

Generating XML data by using the SQL/XML standard functions

Generating XML data by using the DBMS_XMLGEN PL/SQL package

Transforming XML Data

Creating XMLType views

Transforming XML

Use XQuery to transform XML

Creating Relational Views over XML Data

Introduction to Creating and Using Relational Views over XML Data

Creating a Relational View over XML: One Row for Each XML Document

Creating a Relational View over XML: Mapping XML Nodes to Columns

Examining the View in Oracle SQL Developer

Indexing Binary XML Data Exposed Using a Relational View

Querying XML Content As Relational Data

Accessing Resources in Oracle XML DB Repository

XML DB Repository: overview

Creating folders and resources using PL/SQL

Accessing resources

Access control lists

Compound documents

Repository events

Using Native Oracle XML DB Web Services

Overview of Web Services

Overview of Native Oracle XML DB Web Services

Configuring Web Services for Oracle XML DB

Enabling Web Services for Oracle XML DB

Querying Oracle XML DB using a Web Service

Accessing PL/SQL Stored Procedures using a Web Service

Exporting and Importing XML Data

SQL*Loader

Loading XMLType data

Oracle Data Pump