5 Days

Oracle Database 12c: Use XML DB

The Oracle Database 12c: Use XML DB training helps participants to explore the key features of Oracle XML DB on the Oracle Database 12c platform. Through a combination of theory and hands-on labs, this course will equip participants to utilize the features of Oracle XML DB in storing, accessing, manipulating, validating, searching, updating, annotating, transforming, generating, importing and exporting XML data.

Completion of this training course will enable candidates in:

- Managing XML storage in Oracle XML DB.
- Retrieving XML data in Oracle XML DB.
- Creating and using indexes on XML data.
- Generating and manipulating XML in Oracle XML DB.
- Using the Oracle XML DB Repository.
- Managing changes in an XML schema.
- Importing and exporting XML data.
- Updating XML content using XQuery update.

Course Benefits:

Attaining certification of this course will help participants to develop the skills in deploying XML DB technology with SQL and PL/SQL for application development. Not only this, but this training will also emphasize on the XML DB features and utilities available for the Oracle Database that can be deployed in developing SQL and PL/SQL applications.

Course Details

Course Outline

1. Introduction

- Course Objectives
- Suggested Course Agenda
- Database Schema
- Appendixes
- Class Account Information
- Course Environments

2. Introduction to Oracle XML

- Define XML
- 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

3. Introduction to Oracle XML DB

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

4. Storing XML Data in Oracle XML DB

- Overview of XMLType
- Describe XMLType storage options
- Declare an XMLType
- Create objects of XMLType
- Insert data into XMLType
- XMLType Storage Characteristics
- XMLType Storage Models

5. Using XML Schema with Oracle XML DB

- Use XML Schema with Oracle XML DB: Overview
- XMLType and XML Schema
- XML Schema Management
- Create XML Schema-Based XMLType Tables and Columns
- Specify Unstructured Storage of XML Schema-Based Data
- Manage Changes in an XML Schema

6. Oracle XML DB Manageability

- Oracle XML Schema Annotations
- Common Uses of XML Schema Annotations
- Annotations Methods
- Purchase-Order XML Schema: purchaseOrder.xsd
- Annotate Purchase-Order XML Schema: purchaseOrder.xsd

- Annotation Subprogram Parameters

7. 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

8. Using XQuery to Retrieve XML Data in Oracle XML DB

- Retrieve XML content
- Use FLWOR expressions: review
- XQuery support in Oracle Database
- Query the database: Relational Data & XMLType data
- Query XMLType data by using SQL/XML standard functions

9. Querying XMLType data by using SQL/XML standard functions

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

10. 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

11. Indexing XMLType Data

- Indexing XMLType data
- Using XMLIndex index
- XMLIndex Unstructured Component
- XMLIndex Structured Component

12. Generating XML Data

- Generate XML data by using XQuery
- Generate XML data by using the DBMS_XMLGEN PL/SQL package
- Generate XML data by using the SQL/XML standard functions

13. Transforming XML Data

- Create XMLType views
- Transform XML
- Use XQuery to transform XML

14. Creating Relational Views over XML Data

- Creating and Using Relational Views over XML Data
- Create a Relational View over XML: Mapping XML Nodes to Columns
- Examine the View in Oracle SQL Developer
- Query XML Content as Relational Data
- Index Binary XML Data Exposed Using a Relational View

15. Accessing Resources in Oracle XML DB Repository

- Overview of XML DB Repository
- Create folders and resources using PL/SQL
- Access resources
- Access control lists
- Repository events
- Compound documents

16. Using Native Oracle XML DB Web Services

- Web Services: Overview
- Native Oracle XML DB Web Services
- Configure Web Services for Oracle XML DB
- Enable Web Services for Oracle XML DB
- Access PL/SQL Stored Procedures using a Web Service
- Query Oracle XML DB using a Web Service

17. Exporting and Importing XML Data

- Loading XMLType data
- SQL*Loader
- Oracle Data Pump

Who Should Attend

- PL/SQL Developer
- Database Administrators
- Business Intelligence Developer
- System Analysts
- J2EE Developer
- Application Developers
- Forms Developer
- Technical Consultant

Pre Requisite

- Basic knowledge and working experience of SQL and PL/SQL
- Should be familiar with XML Fundamentals Ed 1.1
- Should have an understanding of Oracle SQL Developer, SQL*Plus & PL/SQL

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