Data Integration and ETL with Oracle Warehouse Builder: Part 1

Duration: 3 Days

What you will learn

This Data Integration and ETL with Oracle Warehouse Builder: Part 1 training teaches you how to load data by executing the mappings or the process flows. Explore the integration of Warehouse Builder with OBI EE, along with the Warehouse Builder architecture and configuration.

Learn To:

Load data by executing the mappings or the process flows.
Use OWB features to manage metadata changes, debug mappings, backup metadata, manage security and tune the ETL mappings for better performance.
Integrate Warehouse Builder with OBI EE.
Explain the Warehouse Builder architecture and configuration.
Retrieve data from different types of sources, including flat files or relational schemas.
Use the different transformation operators to design an ETL task.

Please Note:

This course serves as the prerequisite for the 2-day instructor-led course, Data Integration and ETL with Oracle Warehouse Builder: Part 2. The Part 2 course covers advanced Warehouse Builder functionality, including slowly changing dimension loading, heterogeneous connectivity, fast bulk data loads, changing data capture and real-time data integration.

Audience
Business Intelligence Developer
Data Warehouse Administrator
Data Warehouse Analyst
Data Warehouse Developer
Developer
Support Engineer

Related Training

Required Prerequisites

Experience in basic use of Oracle RDBMS, including SQL DDL and DML, and PL/SQL;

Suggested Prerequisites
Introduction to Business Intelligence Products (eStudy)

Oracle BI Warehouse Builder 11g R2: Getting Started (OBE)

Oracle Database 11g: Data Warehousing Fundamentals

Course Objectives

Define a process flow for a set of simple mappings

Use OWB tools to deploy tables, mappings, and related objects

Load tables and view the resulting data

Use the Mapping Debugger to debug mappings

Apply performance enhancement methods in the mappings

Backup the OWB Projects using the MDL Export/Import and create snapshots to manage metadata changes

Report on the ETL Jobs using the Repository Browser

Describe the OBI EE integration

Use OWB to define, deploy, and execute basic source to relational target ETL programs

Describe the Name and Address cleansing and Match-merging

Define metadata representing flat file and relational sources, and relational table targets

Create simple mappings from flat file and relational sources to relational targets

Explain the use of different Mapping Editor operators

Course Topics

Installing and Setting Up the Warehouse Builder Environment
What Is Oracle Warehouse Builder?
Basic Process Flow of Design and Deployment
Oracle Warehouse Builder Licensing and Connectivity Options
Installing Oracle Warehouse Builder 11.2
OWBSYS Schema
Using OWB 11.2 with Database 10g R2
Using the Repository Assistant to Manage Workspaces
Supported operating systems (OS), sources, targets, and optional components

Getting Started with Warehouse Builder
Logging In to OWB Design Center
Overview of the Design Center
OWB Projects
Overview of Objects within a Project

Overview of Objects within an Oracle Module
Organizing Metadata Using Foldering
Locations Navigator and Globals Navigator panels
Setting Projects Preferences: Recent Logons

Understanding the Warehouse Builder Architecture
Warehouse Builder Development Cycle
Overview of the Architecture for Design, Deployment, Execution
Overview of Configurations, Control Centers, and Locations
Creating Target Schemas
Registering DB User as an OWB User
Roles and Privileges of Warehouse Builder Users
Registering an Oracle Workflow User

Defining Source Metadata
Data warehouse implementation: Typical steps
Difference Between Obtaining Relational and Flat File Source Metadata
Creating Flat File Module
Sampling Simple Delimited File
Sampling Multi-record Flat File
Creating an Oracle Module
Selecting the Tables for Import

Defining ETL Mappings for Staging Data
Purpose of a Staging Area
Define OWB Mappings
Mapping Editor Interface: Grouping, Ungrouping, and Spotlighting
Creating External Tables
Create and Bind process
Levels of Synchronizing Changes
Using the Automapper in the Mapping Editor
Set loading type and target load ordering

Using the Data Transformation Operators
Component Palette
Using a Joiner
Lookup Operator: Handling Multiple Match Rows
Using the Subquery Filter Operator
Using the Set, Sequence, and Splitter Operators
Pivot and Unpivot Operators
Using the Aggregator, Constant, Transformation, and Pre/Post Mapping Operators
Deploying and Executing in Projects Navigator Panel

Cleansing and Match-Merging Name and Address Data
Integrating Data Quality into ETL
Name and Address Data Cleansing
Name and Address Server
Name and Address Software Providers
Settings in the Name and Address Operator
Reviewing a Name and Address Mapping
Consolidating Data Using the Match Merge Operator
Using the Match Merge Operator in a Mapping

Using Process Flows
Process Flow Concepts
Creating a Process Flow Module, a Process Flow Package and a Process Flow
Types of Activities: Fork, And, Mapping, End Activity
Creating Transitions Between Activities
Some More Activities: Manual, SQLPLUS, Email
Generating the Process Flow Package

Deploying and Reporting on ETL Jobs
Logical Versus Physical Implementation
Setting Object Configuration
Deployment Concepts
Invoking the Control Center Manager
Deploy Options and Preferences
Repository Browser
Starting OWB Browser Listener and the Repository Browser
Browsing Design Center and Control Center Reports

Using the Mapping Debugger
Overview of the Mapping Debugger
Initializing a Mapping Debugging Session
Preparing the testing environment and test data
Setting breakpoints and watch points
Evaluating the flow of data to detect mapping errors

Enhancing ETL Performance
Performance Tuning at Various Levels
Performance-Related Parameters in ETL Design
Configuring Mappings for Operating Modes, DML Error Logging, Commit Control, and Default Audit Levels
Enabling Partition Exchange Loading (PEL) for Targets
Performance-Related Parameters in Schema Design
Configuring Indexes, Partitions, Constraints
Enabling Parallelism and Parallel DML
Setting Tablespace Properties and Gathering Schema Statistics

Managing Backups, Development Changes, and Security
Overview of Metadata Loader Utilities (MDL)
Managing Metadata Changes by Using Snapshots
Using Change Manager
Version Management of Design Objects
Graphical UI for Security Management
Object-Level Security
Setting Security Parameters

Integrating with Oracle Business Intelligence Enterprise Edition (OBI EE)
Business Justification: Tools Integration
Integrating with OBI EE and OBI SE
Transferring BI Metadata to OBI EE Server
Setting Up the UDML File Location
Deriving the BI Metadata (OBI EE)
Deploying the BI Module
Converting the UDML File for OBI EE

Oracle BI Admin and Answers Tool

Appendix B: Creating Experts
Harnessing OWB Power and Complexity for New Users
OWB "Experts" : Directed Guidance and Knowledge Management
Creating an Expert
Starting an Expert
Creating Your Own Custom Dialog
Scenario: ROLAP to MOLAP in Five Easy Steps
Scenario: Expert for Creating External Table

Appendix C: Using Diagnosis and Debugging Techniques
Collecting Information Before Contacting Oracle Support
Sequence Used by Oracle Support Representatives to Process Calls
Activating Debugging and Logging for Full Java Debug Trace
Activating Tracing
Using the Service_Doctor.sql Script
Troubleshooting and Diagnosing Errors in Control Center Agent (CCA)
Run-Time Views and Utilities
Online Warehouse Builder Resources