

Oracle Data Integrator: Administration and Development

What you will learn:

In this course you will get an overview of the Active Integration Platform Architecture, and a complete-walk through of the steps required to set up a Oracle Data Integrator topology. You will learn how to use Oracle Data Integrator Topology Manager to define these context and logical schema objects according to current best practices. You will learn how to use manage projects in Oracle Data Integrator to develop interfaces and other objects. Oracle Data Integrator has an advanced metadata system which can store many types of information about your data, including constraints and Slowly-Changing Dimension information. You will also learn about the types of metadata, and how to retrieve it automatically from your database.

Next, you will learn how to enrich your Oracle Data Integrator data models with more metadata that cannot be determined automatically and how to build an Active Integration Hub by using some advanced optional features. You will learn how to create an integration process, using Oracle Data Integrator packages. This course takes you through some of the more advanced features and uses of Oracle Data Integrator interfaces. You will also learn how to use Operator to stop, start and track the execution of Oracle Data Integrator sessions.

Learn to:

- Define Physical and Logical Architecture
- Create and reverse-engineer models
- Manage Projects
- Define Simple Integration Processes

Audience:

- Business Intelligence Developer
- Data Warehouse Administrator
- Data Warehouse Analyst
- Data Warehouse Developer
- Technical Administrator

Course Objectives:

- Overview of the architecture of the complete Oracle Data Integrator system
- Define the Information System architecture
- Get started with projects in Oracle Data Integrator and release your work for deployment
- An overview of models, reverse-engineering model metadata from your database, and how and why to flesh out models with missing metadata
- Manage metadata in Oracle Data Integrator: models and data quality

- Create simple interfaces and add multiple sources to an interface
- Launch a session to run an interface
- Enforce data quality constraints in an interface
- Manage packages
- Add more advanced integration components
- Customize data flow and get the best performance out of your system
- An overview of sessions, use Operator to monitor, stop and start sessions, and basic troubleshooting

Course Topics:

Oracle Data Integrator

- Architecture
- Architecture Overview
- What Is Oracle Data Integrator?
- The Oracle Data Integrator Architecture
- Components
- Graphical Modules
- Run-Time Components
- Metadata Navigator

Topology Concepts

- Overview of the Topology
- What Is the Topology?
- Data Servers and Physical Schemas
- What Is a Data Server?
- Important Note
- What Is a Physical Schema?
- Properties of Physical Schemas
- The Physical Architecture in Oracle Data Integrator

Connecting to Your Data

- Topology Manager
- What Is the Topology?
- What Topology Manager Contains
- The Physical Architecture View
- Data Servers and Physical Schemas
- Prerequisites for Connecting to a Server
- Creating a Data Server
- Some Examples of Drivers and URLs

Defining the Logical Architecture

- Topology Manager
- Overview of Topology Manager
- Logical Architecture/Context Views

- Defining Contexts
- Defining a Context
- Declaring Logical Schemas and Agents
- Creating a Logical Schema
- Linking the Logical and Physical Architecture

Setting Up a New Project

- What Is a Project?
- Overview of Oracle Data Integrator Projects
- What Does a Project Represent?
- Creating a New Project
- Folders
- What Is a Folder?
- What Is a Knowledge Module?
- Exporting and Importing

Releasing Projects

- What Is a Scenario?
- Properties of Scenarios
- Managing Scenarios
- Generating a Scenario
- Generation Versus Regeneration
- Executing a Scenario from the GUI
- Executing a Scenario from a Project
- Preparing Scenarios for Deployment

Oracle Data Integrator Model Concepts

- What Is a Model?
- The Relational Paradigm
- Relational Model Support in Oracle Data Integrator
- Additional Metadata in Oracle Data Integrator
- Reverse-Engineering
- What Is Reverse-Engineering?
- Methods for DBMS Reverse-Engineering
- Standard Versus Customized Reverse-Engineering

Creating and Reverse-Engineering Models

- What Is a Model?
- What Is Reverse-Engineering?
- Methods for DBMS Reverse-Engineering
- How to Create a Model by Reverse-Engineering
- How to Start the Reverse-Engineering Process
- Selective Reverse-Engineering

Fleshing Out Data Models

- Organizing Models
- What Is a Model Folder?
- Creating a Model Folder
- Organizing Datastores into Sub-Models
- Setting Up Automatic Distribution
- Creating a Datastore in a Model
- Adding Columns to a Datastore
- Constraints in Oracle Data Integrator

Enforcing Data Quality with Oracle Data Integrator

- Why Data Quality
- When to Enforce Data Quality
- Data Quality in the Source Applications
- Data Quality Control in the Integration Process
- Data Quality in the Target Applications
- Business Rules for Data Quality
- From Business Rules to Constraints
- Overview of the Data Quality System

Exploring and Auditing Your Data

- Exploring Your Data
- Displaying the Contents of a Datastore
- Viewing the Distribution of Values
- Analyzing the Contents of a Datastore
- Constructing Business Rules
- Defining Business Rules in Oracle Data Integrator
- Deducing Constraints from Data Analysis
- Auditing Data Quality

Building an Active Integration Hub

- The Active Integration Hub
- What Is an AIH?
- The Active Integration Hub
- How to Create an AIH
- Creating and Naming the New Diagram
- How to Design the Diagram
- Implementing the AIH
- Merging Data and Events into the AIH

Interface Design: One-to-one Interfaces

- Creating a One-to-One Interface
- Creating and Naming a New Interface
- Defining the Target Datastore
- Defining the Source Datastore
- What Is a Mapping?

- Defining the Mappings
- Valid Mapping Types
- Saving the Interface

Interface Design 2

- Multiple Sources & Joins
- Multiple Source Datastores
- Manually Creating a Join
- Advanced Joins
- Types of Joins & Setting Up a Join
- Filtering Data
- Filters in Oracle Data Integrator
- Defining a Filter Manually

Executing and Debugging Interfaces

- How to Execute an Interface
- What Happens at Run Time
- Monitoring Interfaces
- Operator: Viewing the Log
- Sessions, Steps, Tasks: The Hierarchy
- Viewing Sessions and Tasks
- How to Monitor Execution of an Interface
- Troubleshooting a Session

Interface Design

- Essential Concepts in Data Quality
- What Is a Constraint?
- Defining and Enforcing Data Quality
- Overview of the Data Quality System
- Properties of Data Quality Control
- Static/Flow Control Differences
- How to Enforce Data Quality for an Interface
- Differences Between Control Types

Defining Simple Procedures

- What Is a Procedure? & Procedure Examples
- Using Procedures: Overview
- How to Create a New Procedure
- Creating a New Command
- Arranging Steps in Order
- Which Parameters Should be Set?
- Valid Types of Commands
- Types of Options

Package Design 1

- What Is a Package?
- How to Create a Package
- Package Diagram Toolbar
- How to Create an Interface Step
- How to Create an Oracle Data Integrator Tool Step
- A Simple Package
- How to Sequence Package Steps
- Executing a Package

Variables and Sequences

- What Is a Variable?
- Variable Scope
- Value Persistence: Action Types
- Refreshing a Variable with SQL
- Binding Versus Substitution
- How to Create a Variable Step
- Properties of Sequences
- Using Oracle Data Integrator Sequences in Mappings

User Functions

- What Is a User Function?
- Creating User Functions
- Properties of User Functions
- How to Create a User Function
- Defining an Implementation
- Syntax and Implementations
- Using User Functions
- User Functions at Design Time & Run Time

Package Design

- Types of Package Steps
- Basic & Advanced Step Types
- How to Create a Procedure Step
- Model, Sub-Model and Datastore Steps
- Models, Sub-Models, and Datastore Steps
- How to Create a Variable Step
- Controlling the Execution Path
- Controlling Execution

Interface Concepts

- Business Rules for Interfaces
- Where Are the Rules Defined?
- Behind the Rules
- How Is Oracle Data Integrator Different?
- A Business Problem

- Implementing the Rules
- What Is the Staging Area?
- Knowledge Modules