

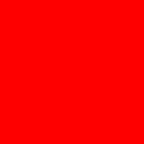
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SQL Developer Data Modeler: A Top-Down Product Overview

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Senior Principal Product Manager



The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

Agenda

- Pricing News
- Why Model?
- What is SQL Developer Data Modeler?
- Features
 - Feature Demonstration
- Future Direction
 - SQL Developer Data Modeler 3.0
- Finding out more...
- Q&A



PRICING NEWS...



Why Model?

**SOFTWARE.
HARDWARE.
COMPLETE.**

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Why Do You Need to Model Today?

- A diagram is a powerful communication tool
- Different models provide different solutions
 - Logical Model (Conceptual model) for architects and users
 - Relational Model (Schema or Data Design) for developers
 - Physical model for database administrators
 - Viewer for all users
- Data models improve application development
- Maintenance is easier
- Quality is improved
- Drive standards

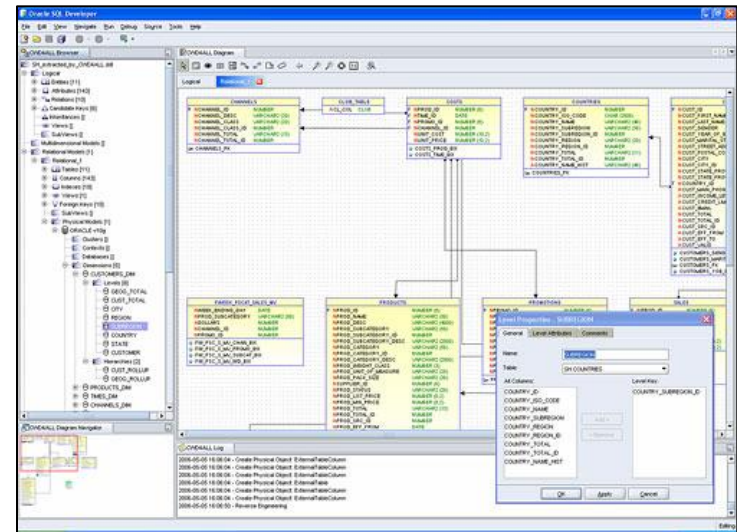


Overview

**SOFTWARE.
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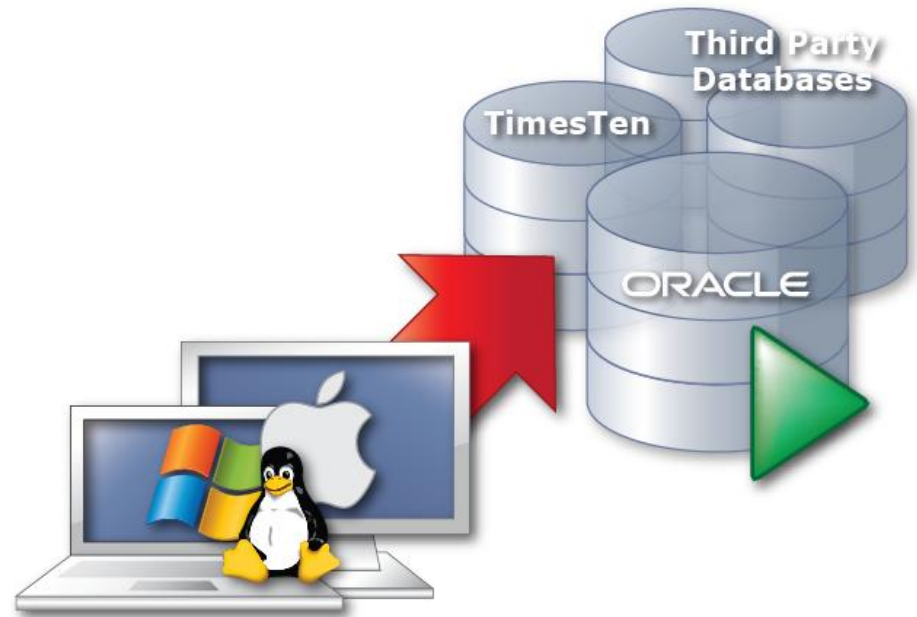
Oracle SQL Developer Data Modeler - Overview

- A **no cost** diagramming and data modeling tool
- A single tool for different users and functionality
 - Data Architect builds logical data models
 - Database Developer models relational models (tables and columns)
 - DBA adds tablespaces, partitions
- Use data models to
 - Verify accuracy and completeness of data requirements and business rules with customers
 - Build standards-driven DDL scripts
- Metadata is stored in XML files



Technology and Architecture

- Technology and Architecture
 - Java based
 - Implemented as independent, standalone product
- Database support
 - Oracle 9i, 10g, and Oracle 11g
 - Third-party databases
 - Microsoft SQL Server
 - DB2 UDB
- Platform support
 - Windows
 - Linux
 - Mac OSX



Packaging Choices

- SQL Developer Data Modeler
 - Free, independent standalone product
 - File based
- SQL Developer Data Modeler Viewer
 - Free standalone viewer
- SQL Developer Data Modeler Viewer extension
 - Integrated into Oracle SQL Developer 2.1

SQL Developer Data Modeler 3.0

Download Data Modeler 3.0 Early Adopter 2

- SQL Developer Data Modeler 3.0
 - Integrated version control (Subversion) for collaborative development
 - Integrated reports
 - Incremental Oracle Database 11g features
 - Support for multiple open designs
 - Import and export packages, and functions
 - Addition of custom Design Rules and transformations
 - Import from CA ERwin Data Modeler Release 7
 - Various enhancement requests and feature updates
- Future Release Plans
 - Extend the import support from Oracle Designer
 - Additional new database support: MySQL, Sybase, TimesTen
 - Updated diagramming and layout
 - Increased database support for SQL Server 2008

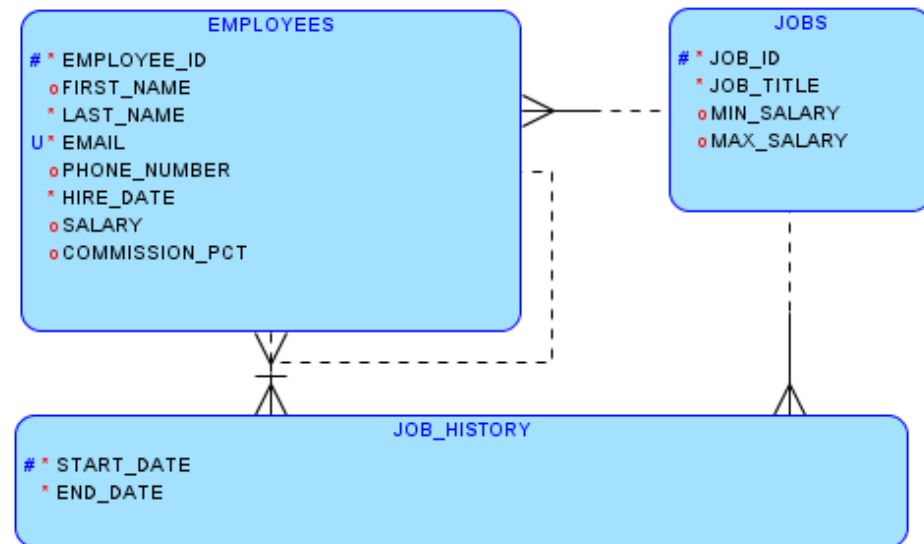


Demonstration

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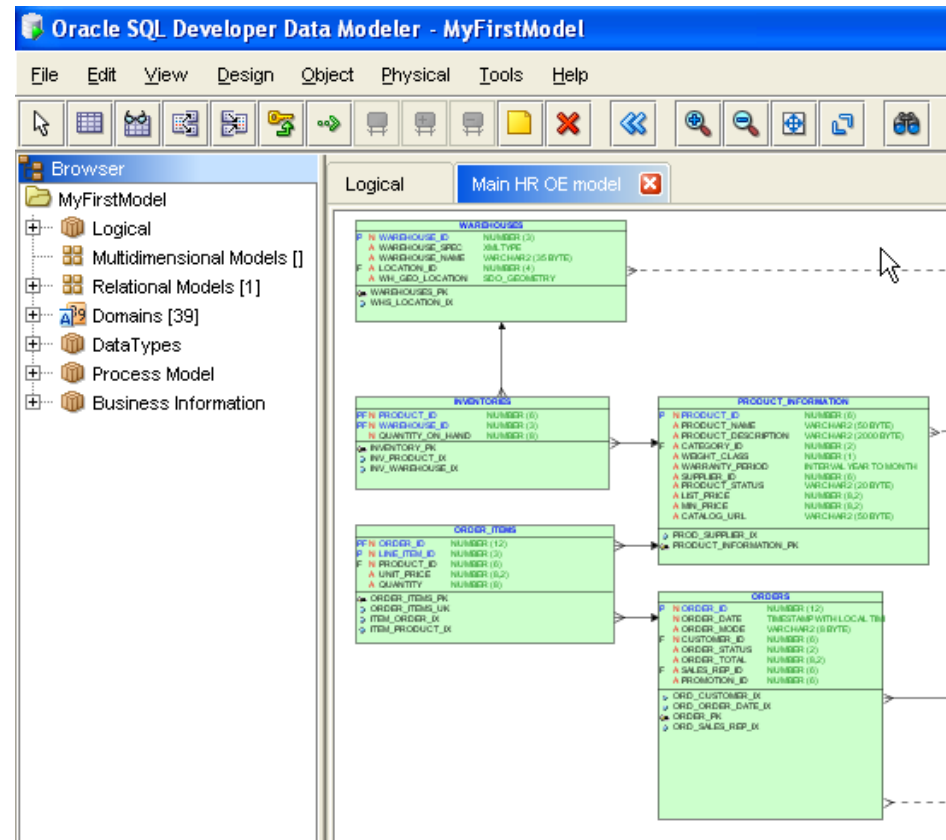
Logical Modeling

- Model entities, attributes and relations
- Support for
 - Super type
 - Sub types
- Transform one logical to many relational and multi-dimensional models
- Support for configurable forward and reverse engineering



Relational Modeling

- Model tables, columns and FKs
- Create one logical for one or more relational models
- Support configurable forward and reverse engineering



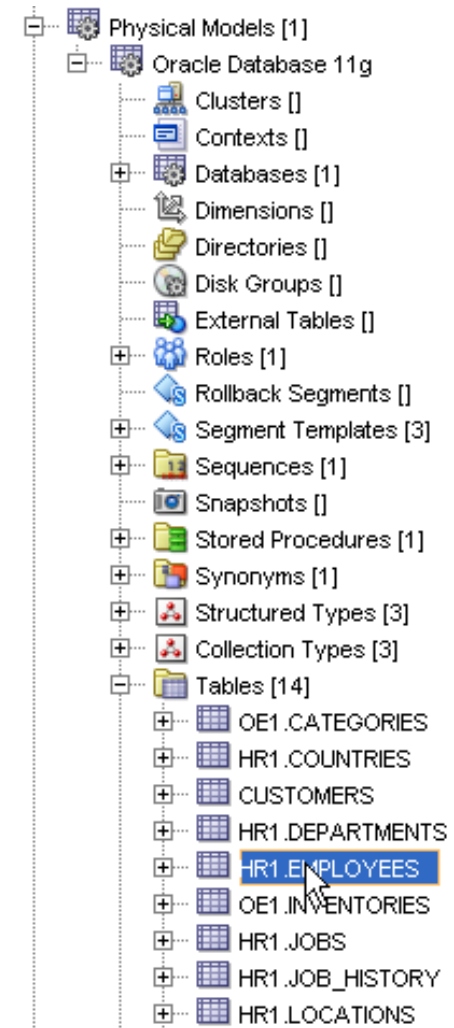
Forward and Reverse Engineering (Transformation)

- Engineer any logical model to maps to one or more relational models
- Engineer from any relational model back to a logical model
- Each relational model maps to one or more physical models
- Engineering options
 - General
 - Compare/copy
 - Synchronization
- Include design glossary and naming standards

Property	Selected	DEPARTMENTS.MANAGER_ID
Name	<input type="checkbox"/>	MANAGER_ID
Name Translation	<input type="checkbox"/>	MANAGER_ID
Data Type	<input type="checkbox"/>	NUMBER (6)
Data Type Kind	<input type="checkbox"/>	Logical Type(NUMERIC)
Mandatory	<input type="checkbox"/>	false
Default Value	<input type="checkbox"/>	

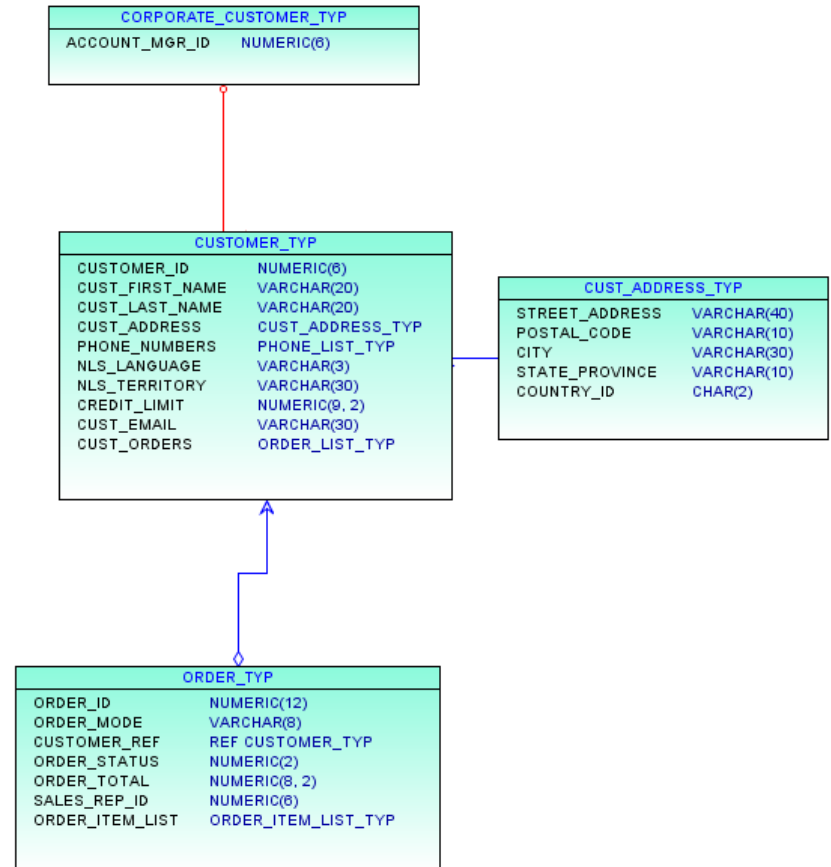
Physical Modeling

- One relational model for many physical models
- Add support for
 - Tablespaces
 - Users
 - Roles
 - Stored procedures, triggers and functions
- Propagate properties
 - Apply properties to many elements at once
- Supports
 - Oracle Database 10g and Oracle Database 11g
 - Microsoft SQL Server 2000 and 2005
 - IBM DB2/390 and DB2 LUW



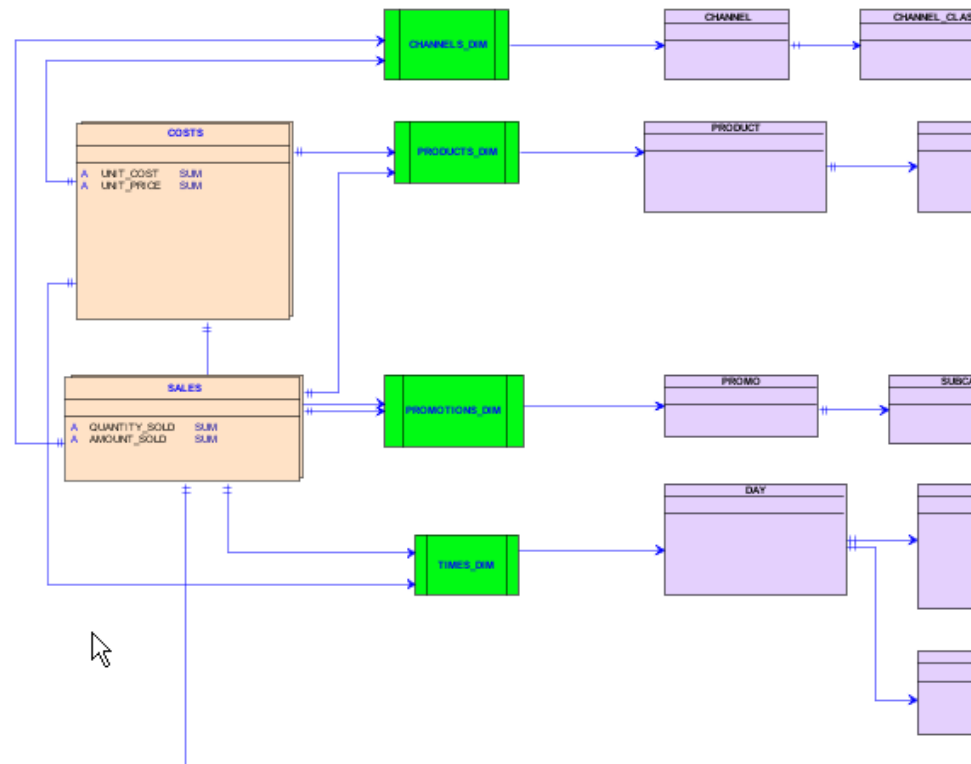
Modeling DataTypes

- Support for SQL99 (Object Relational Modeling)
 - Distinct Types
 - (Predefined) Structured Types
 - (Predefined) Collection Types
- Used in logical models
- Used in relational models
- Included on import
- Generated in DDL



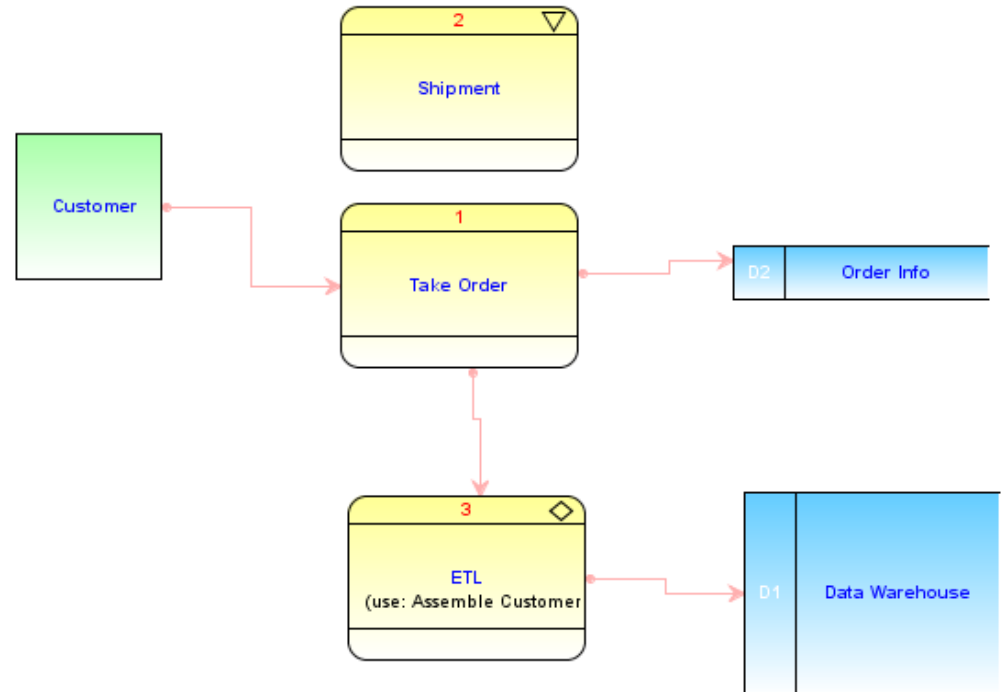
Multi-Dimensional Modeling

- Modeling of Cubes, Dimensions, Levels and Hierarchies, Measures and slices
- Start from ROLAP, XMLA or from scratch
- Generate Oracle Analytical Workspaces



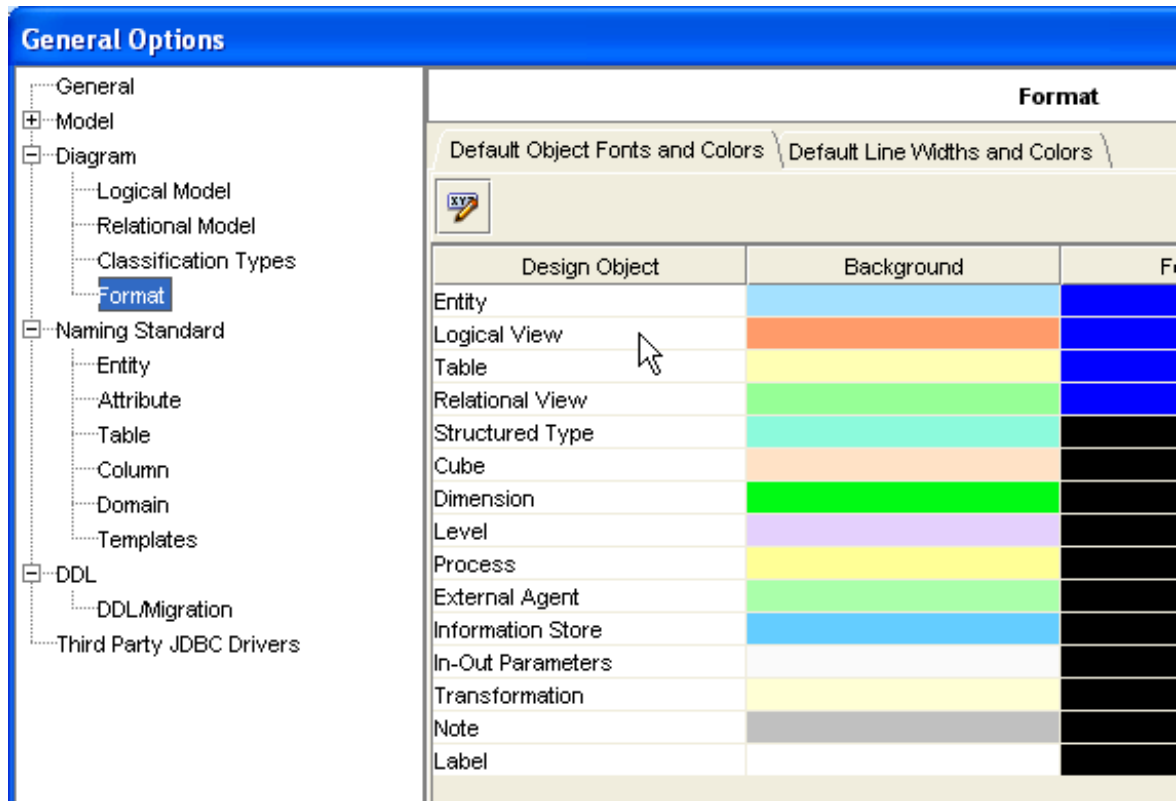
Working with Data Flow Diagrams

- Data Flow
 - External Agents
 - Primitive
 - Composite
 - Transformation
 - Information Flow
 - Information Store



Formatting and General Appearance

- Granular and general control
- Set per item type
- Synchronize tree with diagram
- Set notation



General Options

General
Model
Diagram
 Logical Model
 Relational Model
 Classification Types
 Format
Naming Standard
 Entity
 Attribute
 Table
 Column
 Domain
 Templates
DDL
 DDL/Migration
Third Party JDBC Drivers

Format

Default Object Fonts and Colors | Default Line Widths and Colors

Design Object	Background	Font
Entity	Light Blue	Blue
Logical View	Orange	Blue
Table	Yellow	Blue
Relational View	Light Green	Blue
Structured Type	Cyan	Black
Cube	Light Orange	Black
Dimension	Bright Green	Black
Level	Light Purple	Black
Process	Yellow	Black
External Agent	Light Green	Black
Information Store	Light Blue	Black
In-Out Parameters	White	Black
Transformation	Yellow	Black
Note	Grey	Black
Label	White	Black

Controlling the Design Environment

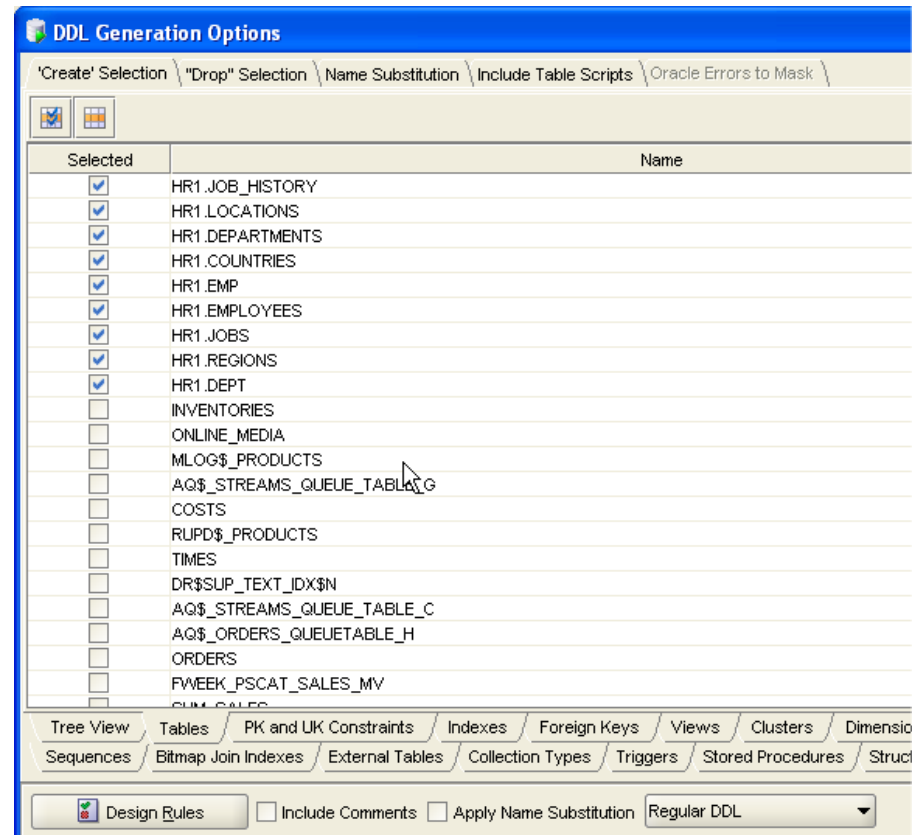
- Selection of tools available
 - Domain definition (data types)
 - Name abbreviation in the relational model (Customer to CUST)
 - Compare and merge facilities
 - Design Rules
- Tools Options
 - Naming standards
 - Specify default database
 - Controlling constraints
 - Physical properties
 - Notations (Barker, Bachman)

The screenshot shows a 'Templates' dialog box with three sections: 'Table constraints', 'Entity identifier', and 'Example'. Each section contains a list of templates with text input fields and 'Add Variational' buttons.

Templates		
Table constraints		
Primary Key:	{table}_PK	Add Variational
Foreign Key:	{child}_{parent}_FK	Add Variational
Check Constraint:	{table}_CK	Add Variational
Unique Constraint:	{table}_{column}_UN	Add Variational
Index:	{table}_{column}_IDX	Add Variational
Column Check Constraint:	CK_{table}_{column}	Add Variational
Entity identifier		
Primary Identifier:	{entity}_PK	Add Variational
Example		
Example:		Primary Key

Exporting and Code Generation

- DDL file editor supports
 - Design Rules
 - Object selection
 - Drop objects
 - Table scripts
- Standard database DDL scripts
 - Oracle
 - IBM DB2 and UDB
 - Microsoft SQL Server
- Multi-Dimensional Oracle AW, Cube Views and XMLA
- CSV export



Importing Metadata

- Oracle Database
- Microsoft SQL Server
- IBM DB2 and UDB
- Generic JDBC based dictionary
 - Examples: MySQL, Teradata
- Oracle Designer repository
- Other Modeling tools
 - CA ERwin
 - Bachman
- Multi-Dimensional
 - Cube views
 - XMLA

Database Name: Oracle

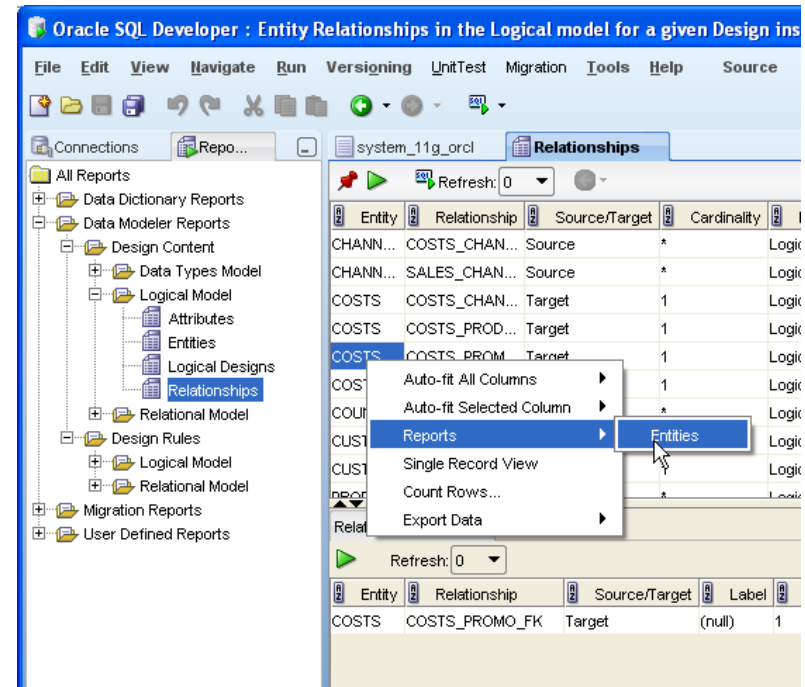
Database Version: Oracle Database 11g Enterprise Edition Release 11.1.0.6.0 - Production

DB Objects that will be imported:

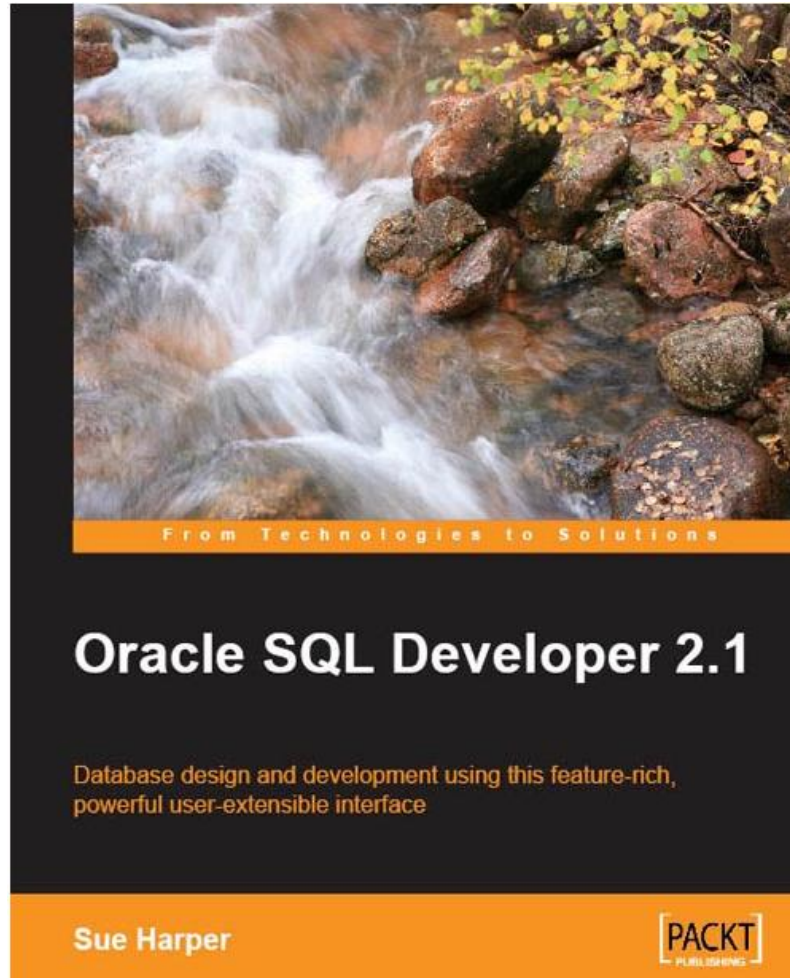
DIRECTORY	15
PROCEDURE	2
ROLE	64
SEQUENCE	3
SYNONYM	12
TABLE	9
TABLESPACE	11
TEMP TABLESPACE	1
UNDO TABLESPACE	1
USER	92
VIEW	1

Reporting Repository

- Create repository user
- Export design to repository
 - Initial export creates repository
 - Exports initial version to repository
- SQL Developer support
 - Browse repository
 - Import reports
 - Run shipped reports
 - Create your own reports



Finding More Detail



Finding More Detail

www.oracle.com/technetwork/developer-tools/datamodeler/

- SQL Developer Data Modeler on OTN
 - White papers, Oracle by Example (OBE), online demos, models and scripts
 - www.oracle.com/technetwork/developer-tools/datamodeler/
- SQL Developer Exchange
 - Add feature requests: sqldeveloper.oracle.com
- Forums
 - SQL Developer
forums.oracle.com/forums/forum.jspa?forumID=260
- Book
 - Oracle SQL Developer 2.1

Summary

- Oracle SQL Developer Data Modeler provides
 - Logical modeling
 - Relational modeling
 - Physical modeling
 - Forward and reverse engineering
 - Data types modeling
 - Multi-dimensional modeling
 - Data flow diagrams
 - Importing and exporting
 - Providing control of the design environment
 - Exporting design for reporting

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Hardware and Software Engineered to Work Together